A GENERATIVE FRAMEWORK FOR
COMPUTER-BASED INTERACTIVE ART IN
MASS TRANSPORT SYSTEMS

-APPENDICES-

JIUN-JHY HER
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Introduction

“A pilot study is a small trial run of main study. The aim is to make sure that the proposed method is viable before embarking on a real study.” (Sharp, Rogers and Preece 2007 p.293) In order to define the parameters for the upcoming studies in the MRT stations and test the feasibility of the preliminary methodological strategy, two pilot studies were carried out at the Robert Gordon University. The objectives of the pilot studies were:

1) Develop an integrated and appropriate research methodology for the forthcoming case studies in the MRT stations

2) Verify the key methodological issues which may be encountered during the field studies in the MRT stations e.g. interviews, observation and data collection

3) Identify potential research questions in physical public spaces

These early studies were implemented based on the strategy of ‘exploratory research’ (e.g. Sarantakos 1994, Earl 2004, Schutt 2006) which facilitates the emergence of potential research issues and identifies any weaknesses in methodologies so that precautionary amendments can be taken. With the purpose of facilitating the observation of interactivity between participants and artworks in real settings (the MRT stations), I made an experimental interactive installation, *Event Horizon* (Figures 1-10), an instrumental element, at this early stage of the research. The installation was a screen based interactive installation equipped with an infrared-sensor that detects the presence of passers-by. The image patterns of the artwork change randomly and are dynamically triggered by the passerby’s movement. The outcome of the study underpinned subsequent research activities, particularly the way of approaching and interviewing the research participants as well as the selection of appropriate art installations for the case studies.
from the MRT stations. In order to select the suitable pilot sites, where conditions most resemble the real research context (the MRT stations) three pilot site selection criteria were drawn out:

1) It must be an open non-exhibition/art public space

2) It must be accessible to everyone

3) It must be a major route for everyday use
The First Piloting: Gray's School of Art

Based on the three criteria above, I decided to choose the main entrance of Gray’s School of Art as the first pilot site. A five-day pilot study began on Monday the 6th October 2008, which was the debut of the experimental installation Event Horizon. The study was carried out for three hours each day; 11:30am ~ 1:30pm, and 3:30pm ~ 4:30pm. The curtain above the main entrance to the school was used as the screen and the image pattern was projected onto it (see Figure 1). The changing of the image was defaulted to be triggered when observers moved through the corridor between the main door and the shelf that had been made to place the projector, sensor and computer equipment on (see Figure 1 left).

Methodology

Initially, I planned on adopting methodologies that broadly resembled those employed in ‘Beta-space’ For example, semi-structured interviews and video cue-recall, non-participant and participant observation and questionnaires were all initially planned to be implemented in the study. However, given ethical issues, the passengers’ activities and the nature of the MRT context, I decided not to employ video cue-recall. This was also influenced by the reasons this method was not utilised in the Tango Tangle pilot study carried out by Bilda (2007) in Federal Square, Melbourne (see Thesis p.102). Therefore, only the people who were attracted by the responsive effects would be selected as the research participants (e.g. people who stopped to watch the images or attempted to manipulate the changing of the patterns). In order to be able to perform non-participant observation and avoid impeding the participants from interacting with the art installation, in the majority of the occasions, I stood behind the door (position F, see Figure 13), which is near the school reception. From there I was able to observe people’s activities and their responses to the art installation through the glass door (the length between doors D and F is approximately seven metres).
Observation in the Field

As the image was projected onto the screen (the curtain) directly above door D, people were not able to see the projection at their normal eye level and they seemed unaware that the image was being projected onto the curtain, especially when they faced door F while walking towards the reception. However, although people could see the projection when they were moving from door F to door D, only a minority of them glanced at the screen, while no one ever stopped to watch the projection. Hence, at end of the first pilot study only non-participant observation was carried out. Due to the result, no other proposed methodologies were performed in the study.

As indicated by the review of the study, the partial failure of the first pilot was mainly attributed to five major issues:

1) The lack of sufficient stimulus, the observers seemed to be unaware of the projection. Thus no evident interactivity took place.

2) The projection was higher than usual eye level.

3) The participants’ line of sight was blocked by the shelf installed close to the middle of the corridor (see Figure 12 left). Only those passing underneath the shelf and walking towards door D had a chance to view the projection.

4) The projection was dim as the surrounding space was too bright.

5) The continuous people flow in the corridor triggered the constant changing of images and might have made the observer think that the changing image was a video projection rather than interactive images.

Both issues two and three, identified above, are also reflected in McClellan’s (2003 p.188) statement that “regular commuters seemed to notice it but never stopped to look. All commented on the pragmatic, crowded location; who, in the middle of a train station, has time or inclination to stop and look at the ceiling?” A similar situation was also recognised during informal field
studies in the Taipei MRT, Gongguan station, where most passengers did not watch the film projected on the screen hung beneath the ceiling of the station, directly above the platform (see Appendix i, Figure 2). Although the participants in the pilot study were not passengers, as with passengers in a station they might not anticipate seeing the projection high above them on the curtain. Additionally, even though there were a number of observers who glimpsed at the projection, they appeared to lack interest in the shifting of images, which may be ascribed to the fact that they did not know that the shifts were being activated and affected by their movement. The outcomes summarised in this study were taken into account on selection of the second pilot site and on the modification of the installation.
Figure 1: The first piloting

Figure 2: The first piloting

<table>
<thead>
<tr>
<th>Pilot one label indications</th>
</tr>
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<tbody>
<tr>
<td><strong>A</strong> Computer equipment</td>
</tr>
<tr>
<td><strong>D</strong> The main door</td>
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</tbody>
</table>

Figure 3: Pilot one label indications
The Second Piloting: Scott Sutherland School of Architecture

The second five-day pilot study was carried out in a public hallway of the Scott Sutherland School, this started on Monday 10 November 2008 from 11:30am~1:30pm, and 3:30pm~4:30pm. The space is one of the major thoroughfares leading to both the main exit and lecture rooms in the building. Details of the installation’s set up are indicated below (see Figures 4-6). As a result of the issues that were identified in the first pilot study, the experimental installation Event Horizon had several modifications in this second piloting:

1) Dynamic changing sound effects were added to the interactive mechanism, activated concurrently with the image’s changing effects.

2) The sensor detecting range was tuned to be triggered by movement within a radius of approximately two metres.

3) The projection was changed to a fluorescent image.

4) The projection was positioned at an appropriate eye level, which allowed the images to be viewed easily by passers-by.

5) The windows behind the projector were blocked in order to increase the visibility of the image.
Figure 4: The second piloting

Figure 5: The second piloting

Figure 6: Pilot two label indications

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<tbody>
<tr>
<td>A</td>
<td>B</td>
<td>C</td>
<td>D</td>
</tr>
<tr>
<td>The screen</td>
<td>Infrared-sensor</td>
<td>Projector</td>
<td>Computer equipment</td>
</tr>
<tr>
<td>E</td>
<td>F</td>
<td>G</td>
<td></td>
</tr>
<tr>
<td>Door leading to atrium</td>
<td>The elevator</td>
<td>To lecture theatres</td>
<td></td>
</tr>
</tbody>
</table>

Figure 6: Pilot two label indications
Methodology

The adjustment of the installation and presentation effectively caught the audience’s attention and stimulated different interactions between the observers and the art installation. This allowed the proposed methodologies to be successfully implemented in the second pilot study. As in the first piloting, non-participant observation was the first method applied at the very beginning of the study and was the sole method used on the first day of the second pilot study. In order to avoid interfering with the observers, I sporadically moved between door E and G and stood, either close to door G or behind door E to observe the space through the window of door E. This aided understanding of people’s behaviour and activities at the venue, in particular their actions and responses to the interactive effects. Moreover, the method allowed for participant learning and pinpointed suitable timing to undertake participant observation. The participant observation was conducted by talking with the participants and occasionally playing with the installation together with them. This intervention was only performed when the people were interacting with the installation or if they were standing beside the installation. The conversations conducted with the participants were mainly concerned with the mechanism of the interaction,
the equipment used in the creation of the artwork and the method of presenting the art installation. During the participation observation, the participants were asked to fill in questionnaires at the venue. In general, the participants agreed to do so, however many asked to take the questionnaires with them claiming they would answer the questions carefully and then bring them back later on. At the end of the five day second pilot study, although forty five questionnaires had been issued only twenty questionnaires were retrieved.

**Observation in the Field**

The image of the installation remained static and in silent mode when there was no movement within the sensor detecting area. The effects were activated instantly when people passed in front of the installation, thus an active physical intervention was not required to trigger an initial interaction (responsive effects). The changing images and sound effects attracted people’s attention immediately within the hallway.

Different forms of interaction occurred within the area, for instance, the participants were initially bewildered by the changing effects that were activated only when they stepped into the detection area. Several remained to explore the space, while a number of them waved hands, shook feet and moved back-and-forth with the intention of ascertaining if they were the stimulus to set off the images. As soon as the participants realised they were the trigger of the effects, they inspected the installation and its surroundings further and tried to figure out the mechanism hidden behind it. The participants discussed the installation with their friends, some played with or danced in front of it and others took pictures of themselves with it (see Figures 8-10). Nevertheless, a number of people clearly bypassed the installation in order to avoid triggering the effects. This suggests that those participants may have already understood how the installation worked, or they might not have liked the feeling of being detected.
Figure 8: The participants played with Event Horizon

Figure 9: The participants played with Event Horizon and with friends
The interactions created an interactive atmosphere in the space, which played an important role in terms of constructing a successful pilot study. Furthermore, the results being produced laid a foundation for further case studies in the MRT stations. They were particularly helpful in informing the techniques used to approach the participants, as well as discerning drawbacks of the methodology, as indicated below:

1) The technique of initiating conversation with the observers was identified: the majority of the participants were willing to discuss and complete the questionnaires when they were attracted or had interacted with the experimental art installation.

2) A disadvantage of employing questionnaires emerged: over 50 percent of interviewees did not return the questionnaires. This suggests that the way of applying this instrument needed to be altered.

3) E-mail interviewing was originally planned to be applied in this study, however I decided not to adopt it due to the low questionnaire retrieval rate, which implied that the email retrieval rate could be even lower.
In addition to the third issue, Graham (1997 pp.87-89) utilised this method in interviewing three artists. She indicates that the approach showed limited usefulness and one artist did not reply to several attempts at communication. After analysing the usage of email for the purpose of interviewing participants in her research, I ascribed the issues she described to the way of approaching the interviewees. The email recipients did feel obligated to spend time answering the questions unless there was an incentive. The outcome of this analysis was taken into account when deciding not to use the method.

**Dialogue with Participants**

(PL number): the interview content and the sequence of the participants being interviewed in the Scott Sutherland School, Robert Gordon University. The feedback noted in this section was selective responses. Nevertheless both general interactive patterns and diverse opinions were rigorously taken into consideration and revealed.

As soon as the participants realised that they were the stimulus to trigger the effects, they immediately got involved and enjoyed this explorative and playful interactivity. The participants were asked: *What did you feel when you learnt that your movement triggered the changing of the sound and image patterns?* Nineteen people gave positive responses (‘excited’ and ‘interested’) while some responded that the interaction had encouraged discussions with their friends.

Within the retrieved questionnaires, ninety-five percent reported that the interactions stimulated their curiosity and that the shifting sounds and image patterns, which were not repeated, caught their attention and made them want to explore and try to understand how it worked. The interviewees were asked to use a few sentences to describe: *Why the interactive effects attract their attention?*
I was fascinated at the way the patterns change. I had to stop [myself from spending too much time] trying to figure what it’s all about (PL1).

The patterns and sounds were not repeated and kept my attention each time I walked past (PL4).

By affecting the machine with my movement, I find it interesting (PL5).

Several interviewees reported the main source of initial attraction being the sound of the installation:

I was drawn in by the sound. I found it interesting and intriguing (PL12).

The display was interesting initially but the sound was the most interesting thing about it (PL11).

The participants were therefore curious about the interactive mechanism. Ninety percent of interviewees indicated that they were trying to discern how the installation worked and actively interacted with the installation.

I would like to know how it works (the inside work) (PL3).

How [does this computer know [I’ve passed] by? (PL6)

It is my nature to enquire how things work (PL7).
The participants were subsequently asked: *Their thoughts when they first saw the installation:*

[It] aroused and helped brighten what was a grey boring day, and even helped for a moment to think about different happy thoughts and possibility it would be song as I could dance to [sic] (PL1).

What is that, and why it is here. Then I stopped and read (PL5).

I have seen similar installations before but the new setting (at my university) added uniqueness and made it more exciting (PL9).

The participants’ attention was captured by the interactive effects and their physical involvement increased. Overall, they were able to describe what they saw, however they were unable to discern what was the meaning the artwork, for instance:

I do consider that [it’s] a work of art but unfortunately, couldn't figure out the message it gives me (PL2).

This may be the result of a lack of sufficient clues leading the observers to attain the meaning of the artwork.
Summary

Various explorative and playful interactions (e.g. responses of excitement, interest, intrigue as well as discussion and playing with the installations with friends) took place between the participants. Event Horizon was therefore successful in the second pilot study, particularly in light of the participants’ physical involvement. These phenomena reflected Huizinga’s ‘active principle’ and led to the emergence of an engaging characteristic: ‘Playfulness’.

There are two reasons why Playfulness was not previously identified with Dominance Transfer, Mind-Orientedness, and Accessible Challenge. Firstly, the wording of play and playful was not specifically indicated in the reviews of literature within the contiguous studies of interactive experience. This identification also suggests the importance of field studies, as hidden characteristics may not be revealed without conducting studies where the experience takes place. Secondly, I previously deemed ‘Playfulness’ to partially belong to Dominance Transfer and Accessible Challenge, particularly to Dominance Transfer. This was due to Dominance Transfer and Accessible Challenge both possessing ‘active principle’. However there are radical discrepancies between them. The comparison of a similar phenomenon with the idea of driving a car was raised in discussion of ‘control’ in Chapter 3 (see Thesis p. 50). The analogy of the car can be adopted in this scenario, for instance using a car for the purpose of daily transport and for racing are fundamentally different forms of use. The former use is an investment of effort to accomplish a routine, whereas the latter inherits the first condition of investing effort while also holding a sense of amusement and excitement. As diverse playful reactivity were discerned in the second pilot study, based on the findings Playfulness may be a key characteristic to prompt the participant to look closer and further engage with the art.
However, playful interactivity may appear differently or may not appear with other interactive artworks, hence, the significance of this newly uncovered characteristic demands further examination. In addition to the success of the piloting there are two issues which must be addressed. Firstly, in comparison with other freely accessible public environments, both pilot studies were carried out in fairly controllable settings, thus the participants were more likely to encounter and engage with the art installation. Thus, the outcomes may not be seen in other busier and more bustling public spaces e.g. the Taipei Main MRT station (see Figure 11). Secondly, the displays of experimental installation were new to the environments and, in general, people tend to be attracted to novelties. Nevertheless, how long this sense of novelty can be sustained for and under what conditions the audiences will develop their meaningful experiences through interactions with art installations, are indices of future research. Along with the analytical framework, these questions will be discussed in the subsequent sections.

Figure 11: A corner of the Taipei Main MRT station
Supplementary Studies: *Event Horizon and Wonderscope*

**Introduction**

The art installation *Event Horizon* was initially created for the pilot studies which had been carried out twice in a university context. The piece was subsequently invited to be exhibited at Limousine Bull Artists' Collective in Aberdeen (see Figures 1-3 and Appendix vi, pp.152-154), which offered an opportunity to examine the interaction using the same installation within a different public context. The exhibition was carried out for a period of seven days from 11~19 July 2009. Two artists had exhibitions under the theme UR-Reality. Nonetheless, as the exhibitions took place over different periods there were essentially two separate solo exhibitions.

![Figure 1: Event Horizon in Limousine Bull art gallery, Aberdeen](image)

**Event Horizon label indications**

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<table>
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<tbody>
<tr>
<td>A</td>
<td>The projection wall</td>
</tr>
<tr>
<td>B</td>
<td>Infrared video cam</td>
</tr>
<tr>
<td>C</td>
<td>Stereo system</td>
</tr>
<tr>
<td>D</td>
<td>Projector</td>
</tr>
<tr>
<td>E</td>
<td>Artwork introduction panel</td>
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</table>

![Figure 2: Label indications of Event Horizon](image)
The second experimental exhibition was carried out with the installation *Wonderscope* at Ardo Studio Gallery for a period of eight days from 12~20 September 2009. The exhibition was in conjunction with the NEOS2009¹ (see Figures 4-7 and Appendix vi, p.152). The art installation was a screen based interactive kaleidoscope. An infrared sensor was employed to detect the speed and direction of the audience members’ movement, exerting a direct influence on the changing patterns and sound effects. The idea was an analogy of the dynamics of a kaleidoscope. However, instead of the participants using their hands to initiate the twisting kaleidoscope movement, the interactive effects were activated when the participants moved within the detection area. Their body movements were the instigators of the changing effects, while the image remained still and the space silent when there was no movement within that area. In order to see the change of the image patterns, the participants were encouraged to act rather than merely pay visual appreciation.

¹ “North East Open Studios (NEOS) is Scotland’s Largest Open Studios event! An award winning, not for profit collective of artists, makers and galleries in the North East of Scotland who open their doors to the public yearly” (NEOS 2010).
This experimental art installation was created based on the theme of the exhibition ‘Scratching the Surface’. The idea expressed was that of ‘Scratching the surface of your everyday routine; regain your child-like wonder to explore this fantasy world’. Wonderscope was the only computer based interactive art installation within a total of twenty-three art pieces. It was displayed in an empty shed, the farthest exhibition space in the gallery. Although both exhibitions were group events, the two art installations Event Horizon and Wonderscope either took place at different times to other artists, or were displayed in a separate exhibition room which allowed implementation of the study in independent spaces.

![Figure 4: The exhibition space of the Wonderscope](image)

<table>
<thead>
<tr>
<th>Wonderscope label indications</th>
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<tbody>
<tr>
<td>A  The projection wall</td>
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<td>D  Projector</td>
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Figure 5: Label indications of Wonderscope
Figure 6: Wonderscope in the Ardo House art studio

Figure 7: Wonderscope in the Ardo House art studio (outside the exhibition room)
Methodology

Since a professional art exhibition space is not the major research setting in this study, only non-participant and participant observations were applied. However, these supplementary studies permitted observation of the participants’ response toward the interactive artworks in professional art exhibition spaces. These particularly informed: 1) how the audience start and navigate within the space 2) what their reactions and responses to the responsive effects are and 3) examination of the application of the four engaging characteristics (Dominance Transfer, Mind-Orientedness, Accessible Challenge, and Playfulness) within the space. The outcomes proved valuable in drawing a comparison of the participants’ reactivity towards interactive artwork in non-art public and professional exhibition spaces. This also revealed valuable information allowing examination of the specialities of the engaging characteristics.

Observations in the Field

Both interactive and explorative phenomena developed with the Event Horizon. These were found to be very distinct in the different public contexts of the pilot sites and the art gallery. The audience came to the gallery with the intention or anticipation of seeing an artwork. This appeared to reduce the participants’ curiosity and physical responses compared with the same artwork presented in a non-art space, for instance, in the university. The participants in these two supplementary studies often started engaging with the artworks by looking at a distant static image rather than being drawn in by unexpected responsive multimedia effects, as was the case with the participants in the University (the second pilot study) and the Fongsan West MRT station (the first case study).

Although the explorative phenomenon was identified during the studies in both art galleries, in contrast to those in the second pilot study, the level of physical interactivity in the gallery was surprisingly relatively reserved. In many cases it happened only when there were no other
audience member in the space, whereas when there were several people in the space at the same time, the participants tended to just watch the others interacting with the art installations (see Figures 8-9). After a momentary visual appreciation, a number of the participants repositioned themselves in front of the projection or turned to read the introduction of the artwork then returned to watch other participants interact with the art installations. In the meantime a number of them just left without experiencing the interactivity themselves. This implies that the participants might also be interested in knowing how the art installation worked or the artistic intent. However, they did not actively explore the mechanisms behind the interactive effects. Based on my observation, this may be a result of a number of factors:

1) People tend to act cautiously in public spaces in front of strangers
2) The artwork was designed for a single participant, though it also worked for multiple participants, the effects being produced were identical as when there was only a single participant
3) The participants easily saw the outcome of the interactions and that did not challenge them to further explore the installations

As a result of the issues pointed out above, the participants acted with a prior inclination of the interactive effects which they sought to confirm, rather than with the intent to explore. Many of them tended to be bystanders and discussed the interactive effects behind the participants who were playing with the installation rather than interactively experiencing it themselves. No obvious discrepancy was identified between the two experimental exhibitions in terms of the level of observers’ physical input.

Despite the fact that the installation *Wonderscope* required more evident body movement to trigger the transformable images and sound effects than *Event Horizon* the participants’ actions
remained relatively reserved in the Ardo Art Studio exhibition room. In addition to the three issues raised above, the exhibition room was a long-narrow and completely dark space which may also have hindered the audiences from moving to the projection. I overheard a couple of people saying that they did not like entering a dark room. When the participants entered the space only a handful of them had directly moved to the front of the projection or crossed to the other side of the room, where their movements activated the interactive effects and that stimulated the participants’ curiosity and prompted them to wonder about the interactive effects. However, in most cases, when the participants entered the space they just stood behind the curtain or leaned against the wall near the entrance to watch the static image. The projection stayed still and the space remained silent as the participants did not step into the detection area.

Despite the fact that the display of the artwork in a dark, remote location possibly deterred the audience from entering the space, the results of the observations suggests that Accessible Challenge was insufficient in both experimental art installations as the audience’s curiosity was obviously not sustained. However, although the participants might initially suspect that the projection was a static image, the majority of them made efforts to seek the artwork introduction and returned to the exhibition space. This spontaneous manner in appreciation of artwork was not seen in the first case study and the second pilot study, which might suggest that Mind-Orientedness may not be strongly required in a professional exhibition context. The way of initiating physical involvement with interactive art installations was also different from the methods exposed by participants’ reactions and responses in the previous studies. In general, the participants started with visual appreciation rather than being attracted by the unexpected responsive effects. This seemed to mitigate the possibility of evoking their curiosity and further influencing the development of Playfulness. Additionally, although the participants were aware of the interactive nature of the art installations, in general the participants were not physically as active as their counterparts in the second pilot study, with the exception of child participants.
This again eased the practicality of the Dominance Transfer, as although the interactive mechanism was clearly displayed, it did not function to urge the participants to engage with the artworks.

Figure 8: The participants watched the static projection (Event Horizon)

Figure 9: The participants watched other participants interacting with Wonderscope
Summary

The four characteristics were subsequently applied to the supplementary studies with *Event Horizon* and *Wonderscope*, which allowed examination and the drawing of comparisons of the participants’ activity within different public settings. The purpose of the studies with the two experimental artworks was by no means to form a comprehensive understanding of the participants’ interactive behavioural patterns in a professional exhibition space. However, the features of interactivity distinguished would, to some extent, attest the usability of the Analytical Framework as they were devised for examination interactivity in MRT (see Glossary, p.xv) like public spaces. Furthermore the nature of the participant in the exhibition spaces, in particular their way of engaging with interactive artworks, was revealed. Unlike the participants attracted by the unanticipated responsive multimedia effects in the MRT stations and the University context, the participants in the two exhibitions often began an appreciation process with distant, visual admiration rather than direct physical involvement. This, to some degree, mitigates unexpected impact and curiosity of the audience. Hence the feature of Playfulness was relatively reserved as was Dominance Transfer, since the participants tended to confirm rather than to explore the interactive mechanism. Nevertheless, this seems like it did not affect their apprehension of the messages embedded in the artworks because the majority of the participants made efforts to find the artwork introductions. This scenario was not seen in the previous case study and pilot studies. Additionally, this pervasive phenomenon seems to entail less Mind-Orientedness in such professional exhibition spaces in contrast with non-art public spaces.

The only functional characteristic of the study at this stage was Accessible Challenge, as it revealed the factors that prevented sufficient participant engagement.
Appendix iii

Profile of Interviewees and Resume of the Artists’ Creations and Artworks
Members of the MRT Artwork Selection Committee

Chen (Z.H) is both an educator and an artist specialising in stone sculpture. He has worked as a full-time professor teaching in universities for the past 15 years. Thus far he has had over 80 solo and group exhibitions in Europe Taiwan, and many other countries. He has produced several publications on the theories of sculpture creation and has often been commissioned to assess and select public artworks for various institutions.

Ji architectural career began in the mid 1980s. He was selected as one of the most innovative Asian architects in 1996. His architectural designs have won several international awards, meanwhile his art creations have been exhibited at a number of prestigious international events. Due to his cross-disciplinary success in both architecture and art, he has often been invited to give lectures in universities all over the world. Currently Nan serves as an invited professor in a prominent university in Europe and has an architectural office in China.

Chen (M.X) has extensive professional and academic experience, primarily in fine art. After completing her MFA in the mid 1960s, she remained in the USA and lectured in fine art in universities for over a decade. She has also had several solo exhibitions in the US and Taiwan and now serves as a museum director and also teaches painting in the university in Taiwan.

Hu gained substantial experience as an independent curator. Her professional career began around the mid 1990s and has curated exhibitions both national and internationally (e.g. Taiwan, Hong Kong, Rome). She was also requested to be the director of a national art museum in Mongolia in 2007. Currently Fan devotes herself to exhibitions and curating in Taiwan and China.
**Huang** runs an architectural office in Taiwan and also teaches part-time in universities. He completed postgraduate training in architecture from a prestigious university in the USA in the 1980s. Subsequently he worked in architectural fields in the USA for a decade. With an abundance of practical experience, he also dedicated himself to the research of art and architecture and had several publications. Additionally he has frequently been invited to examine and select artworks for public presentations.

**Yin** has devoted herself to the promotion of public art for the past decade and has several books published regarding public art in metro spaces. She was the commissioner of the first national legitimate public artwork in Taiwan. Her persistent dedication to the field of public art has often led to her invitation to examine artworks that are intended to exhibit various public spaces and to give seminars in universities.
Advisors in the Field of the Interactive Art

**Johnson** is a professor with a fine art background. Nevertheless, for the past twenty years his artistic practice and research has traversed art and science, where he has mainly been engaged in the areas of creative visual application in ‘real time’ and interactive based media, through which he interrogates the impact of human interaction against the development of computer-based artifacts. Nigel is currently the Chair of the interactive art sector and the research leader in a prominent university in the UK.

**Gillman** is a media based artist and theorist whose artworks has been shown in various public spaces permanently and internationally since the early 1980s. He has also taught in universities in his early professional art career. Since mid 2000s he has served as a director of one of the leading contemporary art centres in the UK. His art practice often crosses disciplines involving technology, internet culture and political infrastructure.

**Graham** possesses substantial professional and academic experience, particularly in the field of interactive art. She gained a PhD in interactive media art that was presented in art exhibition spaces in the 1990s and has had constant publications since. She has served as a professor in a university for the past decade and is frequently invited to be a panel member for international conferences or events e.g. ISEA. Beryl has recently published a book discussing the curating of interactive media art.
Artists of the Research Artworks were Studied

Hsiao works full-time teaching art modules in high school (secondary school) while he is also a media-based artist. His artworks often demand direct physical involvement of the viewers. His artworks have been invited to be exhibited not only in Taiwan but also internationally e.g. The USA, UK and China.

E-Chen an architectural artist completed his postgraduate in architecture in the USA. He has exhibited in such countries as the USA, Austria, Singapore Biennale and Taipei Biennale. Recently he has returned to Taiwan and been invited to an artist’s residential programme, given seminars in universities and had an exhibition in a national art museum, encompassing the epitome of his art creations and proposals of the past ten years.

Chiang an visual artists and also the founder of VERY Conception Corp., which is an art design company provides wide range services including; branding, visual, exhibition space plan and design. Chiang and his team have often been commissioned by governments for executing various public art projects and events in Taiwan.
Sheng-Chien Hsiao (the Legend of the Phoenix)

Solo and Group Exhibition (Gallery and Museum)

2010 Interactive art ‘Chinese Characteristic Festival’, Taiwan and China
2010 Interactive art ‘South Wave Society Annual Exhibition’, Kaohsiung Public Library, Taiwan
2009 Interactive art ‘48 hour Art Approval’, Taiwan Sugar Museum, Taiwan
2009 Interactive art ‘Free Technique’, Neo Kaohsiung Wave, Taiwan
2008 Interactive art ‘Footprints into the Future’, Kaohsiung Museum of Fine Art, Taiwan
2007 Video art ‘The beauty of Southern Wave – Kaohsiung Humanities Landscape’, Kaohsiung Museum of History, Taiwan
2007 Interactive art ‘Footprints into the Future’, Museum of Contemporary Art Donnaregina, Napoli, Italy
2007 Interactive art ‘Mechanical Art in Kaohsiung’, Kaohsiung Museum of Fine Art, Taiwan
2006 Interactive art ‘Terrifying’, Sin Pink Pier, Kaohsiung, Taiwan
2006 Interactive art ‘Watch’, Taishin Art Awards Finalist Exhibition, Taiwan
2006 Interactive art ‘Invisible Image’, Kaohsiung Museum of Fine Art, Taiwan
2006 Video art ‘Light’, Performing People B1, Kaohsiung, Taiwan
2006 Interactive art ‘Fake Decoration’, Performing People B1, Kaohsiung, Taiwan
2006 Interactive art ‘Time for Sculpting • Dream in the Making’, KYU Art Center, Kaohsiung, Taiwan
2005 Interactive art ‘Fruition-Garden Show’, private garden, Birmingham, UK
2005 Interactive art ‘Ping-Tung Peninsula Art Festival’, Kenting, Taiwan
2005 Interactive art ‘Intertidal Zone Art Monitoring Station’, Kaohsiung Museum of Fine Art, Taiwan
2004 Interactive art and documentary exhibition ‘International Reception Room’, Sin Pink Pier, Kaohsiung, Taiwan
2004 Interactive art ‘Hyper-tropical Art Land’, The Pier 2 Art Centre, Kaohsiung, Taiwan
2004 Interactive art ‘New Work’, Artist in Residence — Location One, New York, USA

2003 Interactive art ‘CO2 File Exhibition’, Taiwan

2003 Interactive art ‘Kaohsiung International Container Arts Festival’, Taiwan

2003 Interactive art ‘Try · Blurred, Instinct’, Sin Pink Pier, Kaohsiung, Taiwan

2002 Traditional Chinese Painting ‘48 Awards Tainan’, Tainan Municipal Cultural Center, Taiwan

2002 Interactive art ‘Taiwan Contemporary Sculpture Exhibition’, Huashan Creative Park, Taipei, Taiwan

2002 Interactive art ‘Nomads and Dissociation’, Huashan Creative Park, Taipei, Taiwan

2002 Interactive art ‘Very Fun Park’, Taipei East District Contemporary Art Exhibition, Taiwan

2002 Interactive art ‘Edge Blurring State, Me, Here and Now’, the Pier 2 Art Centre, Kaohsiung, Taiwan

2001 Interactive art ‘Neighbor Artist’, Sin Pink Pier, Kaohsiung, Taiwan

2001 Interactive art ‘Domination’, Wen Xian Paint House, Tainan, Taiwan

2001 Interactive art ‘Extremely Happy New Era’, Bamboo Curtain Studio, Taiwan

2000 Interactive art ‘Reset’, Taitung Cultural Centre, Taiwan

2000 Interactive art ‘Tainan Art Festival’, Tainan National University of the Arts, Taiwan

2000 Interactive art ‘1019 Group Exhibition’, Tainan National University of the Arts, Taiwan

2000 Traditional Chinese Painting ‘South Wave Society Annual Exhibition’, Kaohsiung Cultural Centre, Taiwan

1999 Interactive art ‘Paint House Opening Exhibition’, Wen Xian Paint House, Tainan, Taiwan

1998 Traditional Chinese Painting ‘A Dozen’, Kaohsiung Municipal Social Education Center, Taiwan
Public Art

2008 Interactive art ‘The Legend of the Phoenix’, Fongshan West MRT station, Kaohsiung, Taiwan

2006 Interactive art ‘Shouting’, Siangyang Tourist Service Center, Taitung, Taiwan

2006 Interactive art ‘Interweaving’, Children’s Art Museum, Kaohsiung, Taiwan

2001 Interactive art ‘Ripple’, 921 Earthquake Museum of Taiwan, Nantou, Taiwan
E- Chen (*Poetry on the Move*)

2010 Architecture and art installations ‘*WUNDERKAMMER*’, Taipei Fine Arts Museum, Taiwan

2008 Sculptural installations ‘*Wonder*’, Singapore Biennale, Singapore

2008 Sculptural installations ‘*Biennale Cuvée - Ok Space*’, Linz, Austria

2007 Sculptural installations ‘*Dirty Yoga*’, Biennale Taipei, Taipei Fine Arts Museum, Taiwan

2006 Sculptural installations ‘*One Thousand Year Bloom*’, Taipei Fine Arts Museum, Taiwan

2006 Architecture and sculptural installations ‘*Market Place*’, University of Iowa Museum of Art, USA

2005 Sculptural installation ‘*String of Time*’, Indianapolis Museum of Art, USA

2004 Sculptural installation ‘*Spin City*’, HuaShan Taipei, Taiwan

**2003 Interactive art ‘*Poetry on the Move*’, Taipei, Taiwan**

2002 Sculptural installation ‘*Taipei Art Awards*’, Taipei Museum of Fine Arts, Taiwan

2002 Sculptural installation ‘*FormaFormas*’, Kaohsiung Museum of Fine Arts, Taiwan

2001 Architectures and sculptural installations ‘*United Paper*’, Hammer Museum, Los Angeles, USA

2000 Architectures and sculptural installations ‘*No Strategy*’, Richard Telles Fine Arts, Los Angeles, USA

1999 Sculptural installation ‘*Cherry and Snow*’, Richard Telles Fine Arts, Los Angeles, USA

1998 Mural ‘*Titanica*’, Richard Telles Fine Arts, Los Angeles, USA
Chiang – Very Conception Cooperation Corp. *(We are One Family)*

2010 Interdisciplinary arts exhibition *The Ambience and Environmental Protection War 2061*, Taipei County Environmental Protection Department, Taiwan

2010 Public art instillation *Fruit • Fullness*, Taiwan Land Bank Exhibition Hall, The National Taiwan Museum, Taiwan

2010 Public art event and visual identity planning and design *A Good Time Arts Festival*, The National Taiwan Museum, Taiwan

2009 Arts display, event identity planning and design *Living World Series – Scientist*, Juming Museum, Taiwan

2008 Event planning and design *U19 Award*, industrial technology research institute, Taipei, Taichung and Kaohsiung cities, Taiwan

2008 Business space planning and design *GUNDAM base Taipei (GBT)*, Bandai, Taiwan

2007 Public art installation *City Bumper Cows – Very Fun Park*, Taipei East District Contemporary Art Exhibition, Taiwan

2007 Exhibition planning and arts display *Hospitality – Taiwan Hakka Expo*, Council for Hakka Affairs Executive Yuan, Taiwan

2007 Event and space planning, organizing and design *Takashi Murakami Art Forum*, Taipei Arena, Taiwan

2006 Exhibition planning and arts display *Hospitality – Taiwan Hakka Expo*, Council for Hakka Affairs Executive Yuan, Taiwan

2006 Exhibition and event visual identity planning and design *Taiwan International Orchid Show 2006: Orchid Crafts Exhibition*, Taiwan Orchid Growers’ Association, Taiwan

2006 Event, stage and visual planning and design *FIABCI-Taiwan Real Estate Excellence* The Real Estate Association of the Republic of China, Taiwan

2006 Conference space and visual identity planning and design *International Conference on Industrial Technology Innovation*, Taiwan Institute of Economic Research, Taiwan
2005 Temporary public art project ‘Mushroom : Fubon Art Buffet – Happy Broadcasting’, (collaborative project with Wei Tang) Fubon Art Foundation, Taiwan

2005 Exhibition and event visual identity planning and design ‘The Lake : Towards Cross-Cultural Dialogue’, Taipei Artists’ Village, Taiwan

2005 Eight main exhibition hall planning and design ‘Performance Art Expo’, Wei Wu Ying Art Centre, Kaohsiung, Taiwan

2005 Event hall display visual identity and space planning and design ‘NOKIA L’ Amour Fashion Party’, Nokia, Taiwan

2005 Public Art Project ‘The Friendly Fact: We Are Together’, Lan-Zhou Precient, Taipei City, Taiwan

2004 Event visual identity and art planning and design ‘Olympia Earth Games’, Wei Chuan Pushin Ranch, Taiwan

2004 Visual identity and art planning and design ‘Presidential Building Square’s Mid Autumn Festival Party’, Office of the President, Republic of China (Taiwan), Taiwan


2004 Public art planning and design ‘The Way to the Very Joyance’, Xiaobitan MRT station, Taipei Country, Taiwan

2001 Space and arts installation, planning and design ‘Deities’ Parade’, Taipei International Arts Festival, Taiwan

2000 Event visual identity, exhibition and installation planning and design ‘Centennial Wine Culture Festival ’, Taiwan Tobacco and Liquor Cooperation, Taiwan
Appendix iv

Dialogue with Members of the MRT Artwork Selection Committee, Passengers, Advisors and Artists
Members of the MRT Artwork Selection Committee

**Q1:** In addition to the different types of audience, what are the other possible major discrepancies between displaying artworks in professional art exhibition spaces and in the MRT stations?

**Chen (Z.H):** Indeed, artworks in the MRT stations often face passive audiences. You place things out there; you sort of force the passengers to engage with them, so that the passenger will not miss them when they pass by. Moreover, are these works approachable and can they be accepted by the audience in the space? Sometimes works are deemed unsuccessful as they aim too high; it’s like giving the general public caviar. […] I think in terms of functionality, this kind of artwork is usually more potent than those displayed in other places or on walls. It effectively shortens the distance between the passengers and the artworks; when the passengers sit on it, they may want to know more about it.

**Ji:** Artworks in MRT stations are deemed part of an essential component within the infrastructure; the concept is derived on the basis of ‘Percent for Art’, which originated in America around the 1960s. Everyone is sort of following the line. Presenting the artwork in the MRT stations is basically the same idea and implementation.

**Chen (M.X):** In fact, what concerns me the most is practicality. I mean, practicality means that it can be art, whilst, at the same time, it can be used. On top of that, it does not waste space. For instance, chairs, lamps and lanterns or doors. Like the famous entrances of the Paris Metro created in the 1930s by Hector Guimard. The work does not occupy extra space as the entrance is necessary for the station. Additionally, it does not affect the moving routes of the passengers and does not make the station crowded. I personally feel that this
kind of art is a perfect fit in the MRT environment. We do have some very good artworks along this line, but some, for example the one in NTU Hospital MRT station, are less successful. I am a regular MRT user and I feel that the work takes too much space and that it affects the passengers’ moving routes. An ideal MRT artwork is one that does not affect space and moving routes or takes up extra space.

**Hu**: Artists and artworks are the big brother in art galleries and museums. However, for those in non-art public spaces or spaces which are not purposefully designed for art displays, a certain degree of respectfulness [to the audience] is definitely needed. Artists have to be able to effectively employ resources to create a sort of natural encounter while provoking sensory responses of the general public to the artworks. An ‘artwork’ which walks out from art galleries to non-art public spaces has to be able to sustain, support, encourage or promote engagement, while allowing professional artists more opportunities to present their art as well as creating some sort of association with the general public.

**Huang**: Artworks in the MRT stations are different from art displayed in art galleries. In most cases they are made to conform to the designs of infrastructures. You cannot arbitrarily say you want to put something there and just do it. Also, artworks in the MRT space are ideally designed for long term display; which usually is not the case in art galleries. In a broad sense, artwork is part of the holistic structure that can be built within the MRT stations. In a narrow sense, artwork has its functions in the space. During the process of constructing the stations we suggest that the MRT Company add some artistic elements to the design of the station, which is if we have a hunch that those elements have the potential to enhance the atmosphere of the space. In essence there are three principals for the MRT art: 1) a high artistic standard 2) locality and 3) uniqueness.
Q2: To what extent is passengers’ experience and acceptance of the artworks taken into consideration during the artwork selection process?

Chen (Z.H): I think this question is related to a relatively broader idea. Personally, I feel locality and a sense of belonging are very important. The concept of community derived from the concept of locality is reflected by the MRT station itself, which reflects this concept of ‘community’, which means that anything within 10 minute walking distance can be considered a community. This notion can be expanded to include a whole city. People who live within the perimeters are considered frequent users and they have their mutual memories or stories connected/associated with the community; this is the concept that needs to be passed on. Novelty, sensory stimulation and fun are good, but not enough. It would be better if artwork was able to bring about this concept [community] and maybe engender resonance. I myself always stress this perspective during each artwork selection.

Ji: It is not so much about passengers’ experience or whether they are interested in art pieces or not. Being artists, they have to be capable of integrating their artistic creations with living experiences [audiences]. Therefore, when I examine the MRT artworks, I usually check whether this artwork has the potential to deliver natural interactions with people [the MRT passengers]. I mean natural, spontaneous interactions, which is not merely using special gadgets or effects to capture people’s attention, and that’s all, nothing else. Some of those interactive installations are made overpowering by the special effects; however they missed out on the arts purpose. I want to recapitulate the point ‘natural relationship/interaction, which is not so concerned with the passengers’ opinion, but it looks at a much bigger picture: their daily lives, when they pass by the place [the MRT stations], what relationship or connection may be generated. The reason why the passengers’ opinions are not much related to the issue is because the MRT station is a transport hub, it does not necessarily have
anything to do with art; after all, art is not its priority. The passengers are not coming for an art exhibition, you do not have to have expectations about whether they have any opinions or not.

Chen (M.X): Instead of considering the passengers’ experiences or encounters, I would lay emphasis on regions because we face a big group of people from specific areas; a community. Under this circumstance, uniqueness is very important so as to feature regions. However, in Taipei city, the distance between each MRT station is very short. Hence, we may expend this concept [uniqueness] to a larger region. On the Paris Metro, when you arrive at each station you know where you are, which is not indicated by texts or signs, but features of each station, which is linked to constructions on the ground levels (for example Musée du Louvre). We do have stations possessing this kind of quality, like Chiang Kai-Shek Memorial Hall Station. I would say a simple, appropriate sensory reminder would be enough; it does not necessarily have to be an arcane presentation or something requiring too much explanation. The passengers are passersby. They are not coming to an art gallery.

Hu: In public spaces, artists have to consider the psychological state of the general public. It should be artists’ intuition (evoking a sort of spontaneous interaction with their audiences) which is very important. I am very concerned about local humanity and physiography. The local humanity is a specific cultural background of specific places and mutual living experiences of residents, while physiography may include living conditions or production of surroundings; these are very different than in art galleries. However, it is important that we find a balance here. If art in public places only functions to be fawned upon or to cheer up the public, then it does not have a lot of artistic value.
Huang: Certainly, that’s the reason we mentioned ‘geographic locality’ before. It is important because artwork could trigger a sense of attachment to specific places. For example, in Xingtian Temple station, the artwork correlates with stories of the temple. Nonetheless, although it is important, it is not a compulsory requirement but a suggestive and essential condition. Because if artists have better ideas and they have confidence to deliver them, they are also very welcome.

Q3: What are the possible elements or interfaces used in effectively conveying artistic intent to the audiences in the MRT space?

Chen (Z.H): Material and media are not the prime concern, but the conveyance of ideas and connotations are rather important. It matters how you approach your audiences. I think that relatively strong and swift emotive elements embedded in the MRT art are required. However, this emotiveness has to be able to move people who have never come to the place before. Transportation is the reason that we come to the MRT station, and it is the priority. In this case art often becomes subordinate. Because of this subordination, people do not actively engage artwork, particularly if it fails to attract their attention in the first place. Meanwhile, we also have to consider those frequent MRT users from the community. Of importance is whether the artwork is capable of connecting with the passengers swiftly, while instilling a sense of belonging in them, as well as sustaining its artistic value. […] Indeed, the choice of location is vital: if you want to create an optimistic engagement, the venue of interaction with the audience should be considered carefully. As long as the artwork displayed meets safety standards, it would be better to install art pieces on main routes if possible, so they could accomplish the best effects.
Ji: Certainly, clear visual presentation and some evident visual impact. Nevertheless, visual is a basic but not the most important element, because if you cannot see or feel, then of course you do not know the existence of the object. I think I should not have said ‘visual’, it should be ‘conscious’. It has to be able to ‘tickle’ your consciousness. Apart from this, I think it must have something to do with societies, that is to say, the artwork has to have some relationship with their social contexts.

Chen (M.X): From what I have seen in many countries, because it is not an art gallery, with people rushing in and out, every minute counts. At most, an artwork introduction would be enough and it does not need to mention too much. Just simply let them see the artwork; that is the most important thing. What they see is what they get. If you say too much, they will not have time to read it. Moreover, people can have different comprehensions, that is one of the things which makes art interesting, isn’t it? A good artwork is one that everyone likes. I feel maybe a sense of humour; do not be too recondite, having humour that can be accepted and that everyone can remember; that can trigger resonance. Furthermore, it can create long lasting admiration.

Hu: Establishing connections between the audience and their own living experiences, and eliciting some kind of impact. I always wish I could come across a good artwork, that is, a piece of work that can remain with the artist for a long time. And the creations of this artist can be gradually accepted by societies, by art history, and to be further approved. At the end, the art piece can generate positive feedback which subsequently brings a sense of pride to people and a sense of belonging to a society.

Huang: I think facilitating dialogue is the priority, this may start from education, for example printing artworks’ introductory pamphlets. This education process takes time, but
you have to do it, the audience needs to be educated. There are four major courses in MRT artwork: 1) art presentation 2) civil participation 3) education and 4) maintenance, so gradually developing. Moving artworks out from art galleries allows them to enter our lives. I see one here [the interviewee pointed at a stainless sculpture in the lobby], however we do not know what that is, hence we need it [education/introduction]. First, you have to let the audience know about the existence of the artwork, and help them to read artworks, then the audience may do the rest themselves [to understand art piece].

**Q4**: Based on your experience in the selection and examination of the MRT artworks, what are the major concerns that often lead to the elimination of artworks?

**Chen (Z.H)**: I always insist that it does not matter how good an artwork is, if it raises a security concern… Safety is the first condition. If the security is not an issue, I will then carry on to see if it would quickly become outdated or not and then what materials are used, whether it is robust enough or whether it may cause any maintenance difficulties. Although there is a regulation that artwork can be removed or replaced after five years, it is at least important that the artwork would not cause too much trouble in terms of maintenance. If there is no concern with these points I will then look at the other parts which I have mentioned such as speciality, uniqueness, sense of belonging, community and locality. If I see a work that can be placed anywhere, at any station, I would not choose it.

**Ji**: Normally, those made by students or inexperienced artists could be spotted at the first sight. Generally, it was very easy to tell, and then a few pieces were pretty good. Because a lot of students submitted works, you could identify them fairly easily.
Chen (M.X): In most cases artworks were eliminated from the selection process due to lack of originality and artistic sense. On top of this, as we have mentioned before, those which were able to reflect local and cultural features were usually good artworks. However, sometimes they were eliminated as a result of security and maintenance concerns; that was a pity. Because of previous experiences, we are now quite anxious about choosing a work which may turn out to frequently break. Therefore we now ask artists to submit documents proving the structure is secure along with their artworks because this is not a short term piece. If this were the case, I would prefer to have a show or performance rather than an unreliable artwork.

Hu: I believe that artworks always happen to have some sort of relationship with living experiences of specific groups of people. Those which don’t comply with this notion are frequently removed from the candidates list. You mentioned maintenance issues. I don’t think it is necessary to discuss it here, because it should be the utmost essential condition. In fact, if there is one aspect that would never be ignored during the selection process, it is the way of maintenance. If it is an electronic or computer artwork, we always ask artists to submit a maintenance menu together with a three-year artwork warranty, which means the artists have to assure us that their works will not have any major problems within 3 years of display. […] I opined that the issue is not about whether it is electronic or computer based artworks. This type of work has concerns about default computer programs, chip and equipment rundown and electricity and operation. Therefore it is not about whether it is suitable for the MRT context or not, but simply because the maintenance technicians or units do not treat the artwork seriously. Their mindset and attitude are aimed towards maintenance issues. They do not perform repairs; as a result people wonder why these types of work always break down. However, the truth is not that the artwork breaks down frequently, but that they do not fix it when it does. If it is not an artwork, but something else, and if that
breakdown leads to operational income losses, I believe they would respond immediately. If they treated artwork in that same manner, people would not have this misconception.

**Huang:** We hope each station has its own features, a unique presentation. We do not want a template or replica, one copy to another. It has to be diverse, have its own story, which is different from other stations. Of course, you can make something on walls, but using different materials or techniques, say you use clay; you can present your artwork in several ways. Again, the same principles can be adopted in using enamel panels. For example, in Shuanglian station there is an art piece telling the history of the Shuanglian area. The piece is made of enamel panels, while one using the same material in Nangang station is Jimmy's picture book [the theme: underground].

**Q5:** Currently, there are a number of electronic and computer-based interactive artworks exhibited in Taipei MRT, however some have fallen into a state of malfunction. Can you discuss the possibility and further development of this kind of art installation in the MRT context?

**Chen (Z.H):** MRT art has its unique features; it does not ask you to buy tickets in order to look at it. It is there, sort of compelling you to engage in the aesthetic presentation. Under this environmental condition, sensory stimulation and sustainability become very important. The computer-based interactive artwork has its advantages and great potential in terms of the former condition. I do not reject its strength; in fact I consider it an advantage even though I was trained as a traditional sculptor. However, this sustainability consists of two dimensions and these two dimensions are closely tied to each other. The first is whether it is able to withstand being displayed long term in open public spaces, especially with some works being exhibited outside the stations. The second is whether the audiences would get
bored quickly with its invariable presentation, and same day-by-day interactive effects. This may be improved if there were more sophisticated or dynamic interactive presentations, rather than only mono-responsive effects. Certainly, the audiences also get bored with traditional, conventional, or as you call it, “static” artwork. Thus, the important thing is that we have to turn back to that essential concept of ‘community’ which I have just mentioned; that is a very crucial concept in this public context. However, if the art piece cannot meet the first condition, it is not necessary to discuss the second, because if it does not work the way it should, it cannot deliver its meaning.

**Ji:** It all depends on how artists work. I will not give up this type of artwork simply because of a few unsuccessful pieces. At least I will not, and at least we have learned from those experiences. In fact, repairing is not an issue for just artwork, as anything requires repair and maintenance. For example, houses need to be refurbished and maintained too; otherwise they leak or become dilapidated. Those are different matters, two parallel things, as it has nothing to do with whether it is a good house design or not. However, both are important, because whether art is able to stay in an ideal condition in the MRT space relies on appropriate maintenance. However, maybe because we have not done it yet, we have not paid attention to this matter. Sculpture, also needs to be maintained. It displays its meaning and qualities if it is well looked after, otherwise, it would look like rubbish after a while.

**Chen (M.X):** Artwork is considered to be installed there [the MRT space] long term, therefore, if does not meet security and reasonable maintenance standards, the candidate’s art piece will be abandoned. Therefore, now the MRT cooperation notifies artists that they must have at least a three-year warranty on their artwork, and they have to teach the maintenance technicians how to look after the artwork so as to guarantee there will not be major technical and security issues within three years.
**Hu:** I do not foresee any limitations. There are already gaps between my generation and yours, and the same logic applies when moving from your generation to the next. We learned about computers starting from DOS, however, those people were born in the 80s or 90s… In this Net era, they are very familiar with those computer generated virtual things. For instance, those high speed, fragment, non-linear, multiple, overlapped sensory experiences are very reasonable and common for them. To them, those are not stimulations, those are deemed normal. However, that amazed us, for us it is novelty; art can be made like that, whereas for them [younger generation] that is their language. It is natural to create arts by adopting materials used in daily life. Therefore I think more and more artists will utilise such materials in their artistic creations, thus you may see more and more of this type of artwork presented not only in the MRT space, but also in other public contexts. The malfunction issue arises again. I think if you, the artist, can be so irresponsible and careless as to make a piece that breaks down every day, I will then assess your malfunction rate within the warranty period and calculate how responsible you are for paying for these faults. In this case, do you think artists would still ignore that? No, I don’t think so.

**Huang:** If we look at Metro systems upon the world horizon; that is, this type of artwork [electronic/computer-based art installation], on the whole, art history is a vanguard and fairly contemporary. This type of artwork, which appears in the MRT space, has some sort of significance of demonstration and declaration, which allows people to have chances to access them in order to recognise them. However, I do not think this type of art will become the majority in the MRT space, because we have numerous art forms. For example people take photos. However, photography rarely has a chance to be presented in the MRT space. You see paintings and sculptures but no photographic pieces. On the contrary, you will notice that those so called “technological arts” have already received relatively high attention. However, the point is that you have to consider the three conditions:
1) Uniqueness 2) Locality and 3) Artistry. If your work fulfils these three conditions, it will increase your chances of being accepted.
**Advisors in the Field of Interactive Art**

**Q1: Can you elaborate on what you perceive to be an ideal artistic interaction?**

**Johnson:** That’s a big question. Maybe… it’s difficult. I think a lot of it depends on the context. There are sort of three basic issues that I always sort of raise when I deal with this notion of interaction: 1) one relates to the meaning. Is an artwork actually meaningful in terms of the user interaction experience? In other words, does the work have meaning in the sense that the participant or user understands the language that the artist used? In other words, does it interpret correctly? So there’s notion of meaning and communication, 2) what type of interface is being used to drive the interaction experience? Because it has a profound effect on how the user perceives the information that’s being presented to him, 3) is to do with cognition, in other words, how much emphasis is being placed on the experiential or knowledge base that’s embedded within the artwork itself. It can lift your mental activity to a different level simply through engagement with the artwork. It is similar to almost a state of dream, where you are turning into a different experience. When that experience occurs, when that connection takes place between the artists’ intent, the communication, the medium and the interactive experience, that to me is what the true meaning of interactivity is about.

**Gillman:** I suppose there are number of different levels, obviously, on which you can respond to that. The first one for me, I think, is that I hold on to the belief that art exists in a forward transaction. So that art doesn’t reside in objects, but that it exists in the process of people engaging with objects or in the process of people engaging with other people. So that art essentially is an element of a transaction and so, therefore, the ‘ideal artistic’ interaction probably doesn’t exist. But for me this condition of art is achieved through a process of
interaction. In a sense, the objects of art themselves are useless until they’re interacted with. They also have no purpose or significance. […] I think that some objects may be finely crafted and may be wonderful objects in themselves, but actually they have no meaning until they are acted upon. So the object can be a container of meaning. But that meaning is not activated until somebody engages with it and receives that meaning. That sense of being a transaction for me is significant. With an interactive art piece, the meaning should never exist completely within the object or within the computer as then it becomes a kind of personal issue to try and extract it. It should exist on all levels between the person and the computer.

**Graham:** I suppose I spent quite a long time sort of defining interaction. But I suppose I didn’t define ideal ‘interaction’. I suppose I settled on an area which I thought was the most interesting, which was artwork where the artwork was sort of acting as a host to interaction between people. It becomes more interesting where the artwork was acting as a host for interaction between people. I suppose it is most likely Rafael Lozano Hemmer’s *Body Movie*, where actually it’s people interacting with each other via his program. The shadows are interacting with each other, the artist has come up with that elegant shell for sort of hosting interaction between people. So that’s not an ideal, I don’t think, but I think that artworks which do include that can become richer, becoming interaction between people is always more complicated. I wouldn’t say that it was an ideal because ideals always change.

**Q2:** Based on your experience in both academic and practical perspectives, can you define the word ‘interactive’ in relation to the art form that we have been discussing?

**Johnson:** Well, ‘interactive’ is a very much a used and abused term. It means all sorts of different things to different people. I’ve stopped using the word ‘interactive’ or
'interactivity’ because…well, you still have to use it because there isn’t another term which can adequately describe some of the practices I’m engaged with. But ‘interactivity’ over the years has become much distorted. And again, it’s a context based issue. That’s another issue in terms of interactivity; it doesn’t actually have history in the same way that a painting may have a 200 or 300 year history. It is a fairly young area. It’s 50 years old, or 60 years old, which is ok but we don’t really have … it embedded in our culture in the same way that paintings are. I think that it’s been happening slowly, but we don’t actually have a, if you like, lexicon, a dictionary which can apply to interactive artworks, which people would understand. […] However, to me, it’s not a mechanical action; it is about the integration of the mental processes, the physical processes and the experience. Those three combined make, for me, the ideal interactive experience and true meaning of the ‘word’ interactive.

**Gillman:** I suppose what we call interactive art tends to define an area of practise in which an artist creates an object in which significance exists in a very active activation by an audience. But I think different people use different terms to define those different areas of practise because obviously a lot of people talk about new media, and then there is performative [sic] work where the audience does something within the space under the instruction of the artist. I must admit that I have never really had a very firm grasp on what side this definition occurs, and I’m quite happy with that. I think part of the process of art is that it always has to be available for discussion.

**Graham:** Interaction strictly means things acting upon each other. So actually a regular sort of responsive or reactive computer artwork isn’t strictly interactive, I would say. But common language used for the term is pretty broad and very inaccurate. So, if it is just reacting, I would call it a ‘reactive artwork’, rather than ‘interactive’. Because otherwise you get into the argument that people say: isn’t all art interactive because it’s acting upon you?
Look at the painting and it’s acting upon you. Actually, it’s not true; you are not literally acting upon the painting and the painting isn’t literally acting upon you. So it is just mentally kind of, if you use that definition, then everything in the world is interactive so it becomes a null definition. So, yes, I would call programs that react to you as ‘reactive’ and the ‘interaction’ I would reserve for the actual interaction between people, something that is a full conversation. But I realise that is not a common use of the term. People use it much more vaguely.

**Q3: In your opinion how does the interaction between conventional art and interactive art differ?**

**Johnson:** Well, interesting. That’s what got me started with interaction in the first place. From a personal perspective, I started off as a…I went through a traditional Fine Art discipline, sculpture, so I was doing figurative work quite extensively. But I got very fed up with the fact that these artefacts I was making were unresponsive, they did not have a relationship to the viewer. It was a one way interaction, if you like. So, in other words, you view this artefact. OK it may stimulate different notions within your own thoughts, but there was no response from the artefact itself. The artefact couldn’t respond back to the audience’s response, I think that’s the thing.

**Gillman:** The *Metroscope* is not actually interactive because you can't interact with it, even though it’s a work that exists through the interactions of millions of people because of the way it works. It effectively uses Google to search for words and then displays the messages that are associated with those words. So depending on what people are saying across the world, it then produces the words from those utterances and displays them in public. In some ways, it’s interacting with millions of people, but you can’t directly interact with it.
**Graham:** The difference between a totally non-reactive work and a reactive work is actually quite big. It is very different to have something react to you and there’s been quite a lot written about things like hypertext and sort of interactive narrative which again is on…those are different. I am sure you can look at a painting and see a narrative or whatever. That is different to something where you are controlling the work. So control is also a big theme in reactive work. How much is the metaphor of a video game, in any case there’s a very strict set of rules for a videogame. How much control does the audience want or need?

**Q4:** *What do you consider to be the crucial elements of interactive art that may inspire or lead audiences to obtain artistic intents or develop their fulfilling experiences?*

**Johnson:** You see a lot of different pieces of work which fail because they’re not communicating the idea either intellectually or conceptually through the media. I think that’s a big issue. I keep talking about these three dilemmas of interactions. I am sorry to keep coming back to that but really this is fundamental, that’s what it’s about. The crucial elements are: 1) has the artist used medium in an appropriate way 2) is the artist communicating their ideas through the medium 3) does the interaction experience work, and if it does, is it enhancing the overall intent of artist in terms of communicating that idea? In other words, are all those things combined working together to create a truly engaging interactive experience for the audience? And if not, then it fails at some levels. You may not get it 100% of the time, but I think all those combinations of things have to work together. For me, those are crucial elements. So technology has to work. It’s no use saying, ‘Well, it will work tomorrow’. I am fed up with seeing exhibitions where there’s a sign up that says ‘Sorry not working today’. It’s got to work 100% of the time, all the time.
Gillman: That’s a tricky one. It depends a lot on what somebody is bringing to that work; what they’re bringing to that experience. We haven’t yet escaped from the era of interactive art, especially computer-based art, where people’s fascination is based on ‘I want to know how that was done’, or ‘that’s very clever, how does that work?’ And so the fascination with the work is not necessarily on the level of an artistic experience. It’s more on the level of ‘I’m fascinated by the magic that exists within this piece.’ And the desire is not to enjoy the magic, but to understand the magic. And I think that it is sometimes the problem, that a lot of people’s engagement with interactive media is still in that domain of ‘I want to understand the magic behind this’ rather than ‘I want to enjoy the magic.’ I think sometimes if people engage with something and they don’t understand how the magic is done, they get quite upset and they don’t just let themselves enjoy the magic. The thing I like about the interactive artworks is that for me the most interesting ones are those that are capable of strong infinite variations.

Graham: If it’s not an art gallery then people really do need clear ways of interacting. And so it needs to be sort of a quite common life metaphor, something like shadows. People know how shadows work. And it also needs a sort of quite easy introduction; you also need to be very clear how it is interactive, at least at the start. An easy start, an easy introduction, so, in that very instant, it is reacting with them. And of course, people don’t expect things to react to them, mostly. So, yes, it needs to be very clear at the start. And I would say it needs more levels, you know, small subtleties so that people can become experts in using it, so that it gets more rewarding. […] Sure, you could just like to squash other people with your big shadow, but people get bored of that after a while so you need to do something a bit more interesting and creative.
Q5: With regard to placing interactive media arts in the MRT and similar public spaces, what do you consider to be the crucial elements that might serve to enhance the experience or even provoke the thinking of the audience?

Johnson: It has to be robust in terms of withstanding weather conditions, all sorts of temperatures, vandalism, and people swinging from the installations. When dealing with public spaces, particularly where you have this transience, I mean this notion of transient interactivity; it is another issue because you have, perhaps, people who are moving through from one place to another. And it’s a very transitory experience that they get from the artwork itself. So it has to be something where they have to get an immediate response to understand what’s going on. Otherwise, they have gone through the area and they’ve missed the experience. Again, it depends on the context of the place itself, whether there is a rapid movement of people through the space, what sorts of experience you want them to perceive. If it’s going to happen in a very short timescale, it has to be something which is going to grab their attention fairly immediately.

Gillman: I think that the conditions of public spaces demand that objects are incredibly resilient, so they’re very tough, very reliable, most of which tends to prohibit the use of sophisticated and complex technologies.

Graham: I think, in public places you have to be absolutely clear about different levels of audiences’ experience and how to get them involved. And also what you can do is to use the meaning of that public place. People don’t tend to read signs. I think it’s very difficult to get people engaged. They have got to have reason for interacting, but then once you get them…, I think, yeah, just start easy and then draw people in. And obviously there is lots of wear and tear on installations in public.
Artists whose Artworks were Studied in this Research

Q1: Could we start by speaking about your artwork, specifically the ones which are being currently exhibited in the MRT station?

E-Chen: My work is an interactive installation but I am aware that no one uses it, there are reasons. Because the Taipei MRT is a company that is run by the government, they are a bit reluctant to manage this kind of artwork, because it is a hassle for them. There is a message filtering mechanism, which was not in my original default, as a result of that you cannot send any texts you want, for example, if the messages contain any indecentwordings or the names of political figures, those message will be blocked. This was not my idea. Originally I wanted any words to be displayed on it, which would have been more interesting. An ideal situation would have been if there were an independent local facility to manage this artwork, they could have encouraged people to submit messages. Of course it is not possible, however it was a shame.

Hsiao: I know people may not know why and how the sound is triggered, I was meant to install a big LCD screen inside the station directly facing exit one to display the passengers’ moving images. Therefore, when people enter the station, they could see their moving images on the screen and they would come close to look at the screen and maybe the artwork introduction as well. In that case they would know that the triggering of the sound is actually related to their movements. However, the Kaohsiung MRT company told me that the space is kept for commercial use. Thus in the end, it turned out that the screen and artwork introduction were squeezed into the right corner of the space. […] People didn’t notice that there was a screen there and I think many passengers may have mistaken it for a rubbish bin. I was a bit disappointed about that. In fact, my original intention was to dance
with the phoenix, that is people moving around there acting like they were dancing with the
phoenix, and then different maracas would be activated when they moved to different
locations, that was what I wanted.

**Chiang**: The work is about the concept of a happy family, a family portrait, we are all
family even though we don’t know each other. However, when we stand there through the
process of the interaction, we contribute with our own images to the family figure device, no
matter who you are, I, or even animals. It is a concept of a utopian community. And those
scooter-handlebar devices represent a concept of riding ahead to happy lives. Why use
scooter handlebars? Because the pose of riding is very important, you have a pose of
moving forward, besides riding a scooter is an image that people are familiar with in Taiwan.
The audience operating the devices and entering their images to the family device is a
symbolic process ‘riding towards a happy boulevard’. In terms of using of computer
mechanisms, this piece may be the simplest interactive work in Taiwan at the moment, as a
result the work does not easily breakdown. But you are talking about interactive art; I
personally care more about the interaction between people. I don’t really care about levels of
technology. I had discussed this aspect with our design team members, in the way that if you
used too much technology, it would inflict a burden on the maintaining unit.

**Q2**: *Can you elaborate on what you perceive to be the ideal artistic interaction?*

**E-Chen**: This is going to be very complicated as it may return to artistic theory. And you
know, once you step in that arena the debate has no ending.

**Hsiao**: To me ‘interactivity’ is a material, the same idea as oil colours, clay, acrylics,
turpentine or stone being a material for stone sculpture. The artist’s job is to think about
how to use materials to bring out their features, beauty, and artistic intent and completely embody those in their artworks. That’s my concept of artistic interaction. To me, I am myself conducting artistic practise on ‘interactivity’; I have to be able to present aesthetic value within interactions. I started this practise relatively early, around the mid 90s, I used to ask teachers and read literature to further align myself with... However, I am still unable to classify my works into a very clear, specific art category. Even I am unable to explain it very clearly. Some said my works are a type of video art? Fair enough, maybe there are some video elements in my works, but I don’t think it covers all features. Therefore I have to develop my own logic about ‘interactivity’ and I have to define what artistic interaction is myself.

**Chiang**: I think ‘interactivity’ is not simply about splendid multimedia effects, for example, we know the symbolic system is key in the creation of art, likewise the impact of minds and the process of interpretation are also important. Therefore it is about what the audience can bring back; their own experience is relatively important. However sometimes we see works overemphasising high technology and media effects. I would not say that those are failed artworks but sometimes because of such superb effects, the real intent of the artworks is overpowered. Indeed, technical art should demonstrate qualities of technology, however, it is not the goal. Everyone knows that it is just an approach, the same as if I was doing performance art; the body would become my material. Hence, consciousness, experience and how you lead people to accept and to enter your work, that’s artistic interaction and I think that is an important process. Being an artist carries a very important duty; they have to know how to place clues in their work so as to allow people to catch the connotation of their works. I think ‘interactivity’ should be considered as an approach that allows people to enter into the context, but not simply display high technology.
Q3: Based on your extensive experiences in artistic practise, can you define the word ‘interactive’ in relation to the art form that we have been discussing?

E-Chen: I define my work (Poetry on the Move) as an invention or a design, because the ultimate completion of the artwork is not done by me but by the audience. The audience is an essential component in this art form. I think interactive art is a type of art that heavily depends on the interaction with the audience.

Hsiao: I think there are some key elements in interactive art. The first is interface, which is the first layer of contact with the audience. The audience has to be able to alter the status of the artwork, regardless of the changing of images, smell or sounds. Nevertheless, the first layer is not enough. The second layer is the transformation which has to be able to alter the audience’s psychological state, for instance if the audience pass in front of an artwork and that piece suddenly sprays water over them so they are kind of shocked or get angry, that is what the changing of the psychological state is. The final one is necessity of change, if the only function of interactive effects is to attract the audiences’ attention, but nothing else and the effects do not change or reveal the meaning of the artwork, in that case those interactivities may be considered as unnecessary effects. I think that’s about these, in fact these notions are accumulated by my own experiences, since I cannot find any firm and convincible information.

Chiang: To be honest I don’t know how to answer this question. From what I perceive, if you look at artworks from classical to contemporary, I don’t know which of them do not need interactivity. Unless works are not displayed in public spaces or galleries, then they should not be concerned about interactivity, but they are. That is my interpretation, I am kind of classical. Sorry, I feel that I did not answer this question.
Q4: In your opinion, how does the interaction between conventional arts and interactive arts differ?

E-Chen: As I have said before, interactive art is a type of art that heavily involves audiences. The completion of the artworks is not done by me but by the audiences and the course of interaction between the two parts is deliberately conceived during creations of art, whereas you don’t often see this kind of interactive element in static art forms. It seems to lay emphasis on the voices of the artists themselves and they express what they want to say through materials or tools.

Hsiao: It must have audience participation otherwise the work is considered incomplete. For example my work, if it was only a phoenix sculpture placed there but without interaction and participation from the audiences, the meaning of the artwork would not be completed. I think this is the part which differs from most static art forms. Indeed, people say interaction also derives from visual associations when seeing things. However I think if the interaction only exists in the imagination, which is different from the interaction that we currently are discussing. That is not only association but also participation and then different actions result and different responses occur. Additionally, it is not only changing the final work but perhaps also leading audiences to develop associations with their own actions. For example, I want to express the idea of ‘peeping’ in my work. A part of that is to make audiences interact with the piece by bending their body to watch something. While they watch they may think why I am doing this something along those lines, they not only develop associations with what they perceive but also their own actions.
Chiang: There must be reasons since the art forms are called tech art, interactive art and so on, with regards to how you set up the artwork and what materials or media your use. Nonetheless, ‘interactivity’ is not like other art materials defined by their materiality. They display their specific material features. The ‘interactivity’ is to generate or to evoke actions or responses within the course of interaction between audiences and artworks, which is more like the setting up of a non-linear interactive mechanism. A process of intervention elicits the meanings of art, in contrast to traditional art materials such as a static sculpture where the artwork itself is a result. However what we are talking about is a process.

Q5: What do you consider to be the crucial elements of interactive art that may inspire or lead participants to obtain artistic intents or develop their fulfilling experiences?

E-Chen: The fact that the audiences can immediately catch the responses produced by artworks is very important. It has to be able to overwhelm all your senses at once. Interactive art is a type of art which has to be able to bring forth immediate interaction in comparison to traditional arts that usually take longer to be digested.

Hsiao: In most cases artworks have to be able to call on the audiences’ empathy, experiences or their impressions of social status. Different society cultures cultivate different sentiments, which are similar to literary works, for example people feel sad and may cry when they read a touching story. Likewise, this part is very important in making interactive art; the work has to be able to provoke something such as the audiences’ sense of morality or experiences which they are familiar with.
**Chiang:** Based on what we have discussed, ‘interactivity’ is a form of engaging with audiences. Apart from this, the remaining issues are similar to other artistic practises. I think there are opportunities as long as they are not too far from people’s experiences. Such as things which people are familiar with or vice versa, things which are completely unfamiliar to them, for example, those alien things people have never seen before or something strange to them, that is why ‘Avatar’ was so popular. On the contrary, when talking about meanings or experiences, it must be something that people can relate to, for example, their growing up experiences or their mutual memories with specific places, if works are able to reflect these elements, they are considered good artworks. Indeed, in ‘interactive art’ we say meaning is not instructed but to be engendered. However, sometimes it can be quite eventful, people either go too far or get lost and cannot obtain the meaning of the artwork. However, if you are a well organised artist working with interactive art, you will not let it overly disperse. I am not saying everyone has to act identically but at least your interface has to be precise enough to allow the audiences to grasp the artistic intent or to develop reasonable experiences.

**Q6:** *With regard to placing interactive media arts in MRT like public spaces, what do you consider to be the crucial elements that might serve to enhance the experience or even provoke the audience to think?*

**E-Chen:** Together with ‘Immediacy’, I think visualisation, visual elements or things related to mobiles. Of course you may argue why not other interfaces or factors. Indeed it could be acoustic or olfactory. However, in general, the MRT stations in Taipei are quite noisy, while smell too may not be an ideal stimulus as for example in some stations there are coffee shops and bakeries, thus I think visual is still the priority.
Hsiao: In regards to this question we have to return to the previous discussions. Since the conditions of the MRT stations differ from art galleries and museums, generally the audiences will not deliberately come here to see your work. For example my phoenix piece, the passengers in the station are rushing to work or to school and they hardly pay attention to that piece. Thus, if my work does not actively engage the passengers, they may not know that it is there or that it is a phoenix. The thing is, when people go to an art gallery, regardless of whether they understand or not, the first question they often ask is ‘what is this work trying to express?’ then people may turn to read the introduction, menu, title and then they may think about the presentation and the meaning of the work. Nevertheless, this is rarely the case when it comes to public artworks, particularly, the art in the MRT spaces. The passengers do not have the time and motivation. After all an artwork introduction is essential, however, the passengers may not read it as they are passing by.

Chiang: I am not sure if this can be generalised, but in Taipei, the MRT has a close bond with the residents of the city. My rationale is to consider my subjects [the passengers], there are roughly three types of people in the space, people coming, leaving and passing by. They have different needs; therefore, we have to find a common ground, but there is no easy answer for this. Basically, since the MRT station is a rapid transient space, the work has to be capable of holding their attentions or to make them slow down because people are rushing in and out.
Passengers in the Fongsan West MRT Station (*The Legend of the Phoenix*)

(FS number): the interview content and the sequence of the passengers being interviewed in the Fongsan West MRT station. All quotes below are translated from Chinese as the interviewees were Taiwanese. The feedback noted in this section was selected responses; nevertheless both general interactive patterns and wider representative opinions were rigorously taken into consideration and highlighted.

**Q1: Why the artwork draws their attention and which part attracts them the most?**

It is the streamline shape, and I was curious about the rotating metal balls; I did not notice them at first, but then after I found them, I wondered how it worked (FS04).

It was the sound, that rotating sound made me wonder if the was played sound regularly, or the balls rotating at certain hours (FS07).

Normally, art installations are static objects in public spaces, but this one has minor movements and it makes sound, which prompted me to lift my head to look at the installation (FS08).

**Q2: To recall and describe their feeling when they saw the installation for the first time.**

I actually heard the sound first before seeing it work, then I was curious about where the sound was coming from, then I discovered something was rotating (FS07).

I felt it was interesting and special. We heard the sound and saw the things were rotating. We did not know how that worked. Me and my classmates were discussing that, we were
wondering, do those balls rotate autonomously or what? And then we kept guessing how the installation worked, especially the rotating things, we were continuously talking about that for quite a while (FS09).

I felt it was very cool, I thought it was some kind of surveillance equipment, because it starts rotating when people are coming down [approaching the artwork], so I felt it was like something was watching us. Nevertheless I felt quite happy as it sounds welcoming (FS12).

**Q3:** Do you know how the installation worked, and if you do not, have you ever attempted to understand how it worked?

I do not really know, but I am very interested to know how it works (FS01).

To be honest, I do not know, I have asked some people but no one knew (FS06).

I do not know but I am very curious about it, so I always look at it when ever I pass here (FS07).

**Q4:** Does the representation of the art installation prompt you to explore the meaning of the artwork?

I do not know actually, if there was an introduction to the artwork that would help (FS03).

I do not quite understand it, but I would like to know why this artwork is installed here, why it was created to work like this, and is there any relevance between the its presentation and the station or Fongsan city (FS09).
It is very cool, but to be frank I do not know what this work is trying to represent, and I have never really thought about it (FS10).

**Q5: Can you tell the meaning of the art represented?**

I do not know the meaning of the artwork, but I wondered if it has some sort of association with time or train schedules, something relating to the MRT maybe, as I felt there was a rhythm in the sound and flow in the form of the artwork (FS07).

The sound was like the call of a phoenix, and I am keen to know the real artistic intent and why the artist created this acoustic artwork (FS08).

It seems to represent the features of Fongsan city, I feel it is exquisite, by only using a few simple lines it is able to portray the idea of Fongsan (FS12).

It made me think when I was on the escalator, I think there is a start point at the beginning [the interviewee pointed at the head of the phoenix], and the rest of the lines stand for the condensed MRT network, maybe a vision of the future MRT network (FS15).
Passengers in the Fuzhong MRT Station (*Poetry on the Move*)

(FZ number): the interview content and the sequence of the passengers being interviewed in Fuzhong MRT station. All quotes below are translated from Chinese as the interviewees were Taiwanese. The feedback noted in this section was selected responses. Nevertheless both general interactive patterns and diverse opinions were rigorously taken into consideration and highlighted.

**Q1: Do you know what this artwork can do?**

Isn’t it just an artistic bulletin? (FZ01)

I think it is just a specially designed digital bulletin board (FZ11).

Just like a monitor that displays information (FZ13).

I then continue to ask: *Did you notice what was written on it?* As I assumed the interviewees might have seen the number for sending text messages displayed on the bulletin, which could be vital to initiate subsequent interactivity.

I did not pay attention to it but I thought it was something like welcome to the Fuzhong station or so (FZ13).

This suggests that the passenger did not take heed of the content of the bulletin.
Q2: Would you try to figure it out how it worked?

No, I wouldn’t, I will not bother to find it out (FZ01).

I never thought about it much (FZ11).

Maybe I would try, if I have time (FZ13).

Q3: Describe why the artwork draws their attention and which part attracts them the most?

It is just there, in front of you, it was my instinct to look at it, I might not have looked at it
if I was not on the escalator (FZ02).

I feel it is very special and very futuristic, I think it is its shape, because normally digital
bulletins are square (FZ04).

Its curving shape, very beautiful, and it is here, on the route to exits, it is hard not to notice
it (FZ08).

I then encouraged the interviewees to speak more and asked them what were the texts displayed
on the bulletin.

It is not possible for us to read all the texts as we walk at a normal pace, and maybe in fact,
we would not pay too much attention to the contents. I personally feel it is just a specially
made LED bulletin (FZ08).
Q4: Can you tell the meaning of the art represented? Does the representation of the art installation prompt you to figure out the meaning of the artwork?

If I knew how it worked, I might (FZ02).

I am not quite sure, but I guess maybe, it offers a channel that allows people to vent and to say something they want (FZ06).

I think the meaning of this art piece depends on what is written on it, therefore this artwork does not have a single meaning, and instead the meaning of it should be determined by each individual who sent messages to it (FZ07).

Q5: If you were the artist who created this artwork, which part of it you would have considered to modify, and why?

The name of the station should be changed to 0911511026 [the number to text messages for the LED display] (FZ04).

I feel blue text is a drawback, as it is not easily read also the text runs too fast (FZ02).

I cannot read the messages. I could not even catch them before they disappear. The texts run too fast. This is not a waiting zone; it is a sort of interim area between the exits and platforms. I would suggest making the text run slower (FZ11).
Passengers in the Xiaobitan MRT Station (*We are One Family*)

(XB number): the interview content and the sequence of the passengers being interviewed in the Xiaobitan MRT station. All quotes below are translated from Chinese as the interviewees were Taiwanese. The feedback noted in this section was selected responses. Nevertheless both general interactive patterns and diverse opinions were rigorously taken into consideration and highlighted.

**Q1: Why the artwork captures their attention and which part attracts them the most?**

I think there were two parts, the first is to navigate the device, the scooter-handlebars; I was a bit curious why they are made like this and why they are placed here? And the image suddenly popped up; that made me laugh and feel amused. At the beginning it was this [the interviewee pointed at the scooter-handlebar device], I was attracted by. I did not know what to do with it, so I tried and I found the outcome was very interesting (XB01).

Basically, I was not that curious at first, but I saw other people kind of playing with it, it seemed quite interesting (XB05).

I noticed this [the scooter device] when I passed here this morning. It’s the shape, it looks like a scooter. I felt curious as to why they were placed here (XB10).

**Q2: To recall and describe their feelings when they saw and engaged with the installation for the first time.**

It was bizarre, because you are standing here but your images are showing up there, I was very curious (XB01).
It was very cool. I didn’t know what it was at the beginning; I thought it was just a special ornament (XB03).

I was wondering if this scooter installation was a screen which provided some kind of information; it’s fun as it is scooter-handlebars, but I did not expect an image to show up there (XB07).

Q3: Do you know exactly how the installation works and why did you attempt to figure out how it worked?

I did not know how it worked at first. I thought this scooter installation was just an interesting screen and I was expecting that maybe images or messages would appear on it. I did not know that the image would be transferred to there. I was very curious and wanted to know how it worked (XB03).

I did not know, but as soon as I saw my face appear on the screen of that human figure sculpture I realised how it worked. It was kind of fun and I’d like to see the results on other screens too (XB11).

It seems fun because other people were playing. I was not sure how it worked but it wasn’t difficult, it seems like you press the button here and then my face will be conveyed up there [the screen] (XB15).

Q4: Can you guess the meaning of the art represented? Does the representation of the art installation prompt you to seek its meaning?

There must be meanings or representations but I cannot think of them at the moment. What I’d like to say is, for example, like Ju Ming’s stone sculpture (see Figure X1: Ju Ming’s
Swooping series), you can see various movements from different angles and you can sort of feel the momentum of his works, but this kind of work only amuses you (XB02).

It seems like it represents an idea of happy families. I have just seen ‘family’ written on the small artwork operation instructions. However, I did not read it thoroughly. In fact I wouldn’t think too much about the meaning of it, it is just fun, interesting (XB03).

I feel it sort of portrays the image of a harmonious family, a harmonious interaction, that kind of feeling; interaction between people. Regarding your second question, I wouldn’t bother to do that it is simply for amusement (XB05).

I guess it is about parking scooters, because the scooter is a common means of transport in Taipei; I guess that is the meaning of it. I might try to figure the meaning of it but I do not have much time (XB07).

Figure X1: Ju Ming’s Swooping series
Appendix v

Laws and Regulations for the Public Art in Taiwan
Culture and Arts Reward Act (2002.06.12 Amended)


This Act has been enacted to foster cultural and arts-related enterprises, to provide assistance to cultural and artistic activities, to safeguard the livelihoods of cultural and arts workers...

Chapter 1 General Provisions

Article 1

This Act has been enacted to foster cultural and arts-related enterprises, to provide assistance to cultural and artistic activities, to safeguard the livelihoods of cultural and arts workers, to advance national cultural construction, and to enhance the cultural standards of the citizenry. Matters not provided herein shall be handled in accordance with the provisions of other relevant laws.

Article 2

The “cultural and arts-related enterprises” referred to in this Act shall mean entities that operate or are engaged in the following undertakings:

1. Preservation, maintenance, passing on or promotion of cultural heritage or traditional culture;

2. Creation, research and exhibition or performance of music, dance, the fine arts, drama, literature, folk arts, crafts, environmental-design arts, photography, broadcasting, movies or television programs;

3. Dissemination of publications or other information regarding culture and the arts;

4. Management or establishment of cultural institutions or places for cultural or artistic activities;

5. Research, planning, promotion or execution of traditional life arts, or other cultural or artistic activities;
6. Investigations into or research on cultural construction, cultivation of professional talents or international cultural exchanges; or

7. Other cultural and artistic enterprises as designated by competent authorities.

**Article 3**

The “cultural and arts workers” referred to in this Act shall mean professionals engaged in such cultural or arts-related enterprises as stipulated in Article 2.

The “cultural heritage” referred to in the first paragraph of the preceding Article shall have the meaning set forth in the Cultural Heritage Preservation Act.

The publications, movies, broadcasting, and television programs referred to in the preceding Article shall have the meanings set forth in the Publication Law, Movie Law, and Broadcasting and Television Law.

**Article 4**

The competent central-government authority for awarding and subsidizing cultural and arts-related enterprises under this Act shall be the Council for Cultural Affairs of the Executive Yuan (hereinafter referred to as the “CCA”). Should other laws or regulations stipulate that granting of awards and subsidies be handled by the competent central-government authority overseeing such enterprises, the provisions in such laws and regulations shall prevail.

Matters relating to the planning and joint management of the awarding and subsidization of cultural and arts-related enterprises shall be decided by the CCA in consultative meetings with the competent central-government authorities overseeing such enterprises and with other related authorities.

When undertaking the awarding and subsidization of cultural and arts-related enterprises, relevant authorities shall notify one another of such matters.
Article 5
Competent central-government authorities shall prescribe enforcement rules to safeguard cultural and arts workers with respect to working rights, intellectual property rights and welfare benefits.

Article 6
The competent authorities may award honorary titles to, and safeguard the livelihoods of, persons judged to be outstanding cultural or arts workers.

Article 7
Provisions for the employment of professional staff of publicly-owned cultural and arts exhibition and performance centers shall be further legislated.

Chapter 2 Cultural Environment
Article 8
To preserve cultural heritage and enhance environmental landscapes of a specific area, competent authorities may establish a standard set of rules for the architectural and landscape style of that area.

Governmental authorities with jurisdiction over construction works, when issuing building licenses for major buildings used by the public or publicly-owned buildings, shall consult the competent authorities regarding the appearance and surrounding landscapes of such buildings.

Article 9
Publicly-owned buildings shall be fitted with public artworks to beautify the them and their surroundings. The value of such artworks shall not be less than one percent of the cost of construction of the buildings.
Large-scale governmental construction projects shall install public artworks to beautify the environment. The value of such artworks shall be exempted from the percentage limitation set forth in the preceding paragraph.

The owners, managers or users of [major] buildings used by the public shall be awarded if they install artworks to beautify the buildings and environment, and if the value of such artworks is more than one percent of the cost for constructing such buildings. The enforcement rules for such awards shall be prescribed by the competent authority.

The artworks referred to in the preceding three paragraphs shall mean two-dimensional or three-dimensional art, or any artistic creation using various techniques and materials. The rules for installing the artworks referred to in the first and second paragraphs of this article shall be prescribed by the competent authority after consulting the Public Construction Commission of the Executive Yuan and the competent authority for building-construction management at the central-government level.

**Article 10**

The competent central-government authority may award radio and television broadcasting stations, and enterprises engaged in communications, for producing or broadcasting outstanding cultural programs, and outstanding reportage of information concerning cultural activities. The enforcement rules shall be prescribed by the competent central-government authority in consultation with the competent authority with direct jurisdiction over such enterprises.

The competent authority may designate buildings used by the public or publicly-owned buildings to provide a specified space for the use of cultural activities.
Article 11

Artworks from foreign countries or Mainland China that have been approved for exhibition by the competent central-government authority shall not be subject to litigation or attached by legal action during their delivery, preservation or exhibition.

Chapter 3 Rewards

Article 12

Cultural or arts-related enterprises may be awarded if they conform to the following conditions:

1. Having made distinctive contributions for the preservation of culture;
2. Having produced significant creative or professional works that help to uplift the cultural level of the citizenry;
3. Having distinguished performance in promoting international cultural exchanges;
4. Having distinguished results in cultivating professional cultural talents;
5. Having undertaken cultural activities in remote or impoverished areas, making significant contributions to their societies; or
6. Other contributions in promoting cultural construction and uplifting cultural levels.

Article 13

The awards for a cultural or arts-related enterprises shall be in one of the following forms:

1. Granting honorary citations;
2. Granting trophies or medals;
3. Granting honorary titles or other honors;
4. Granting money awards; or
5. Other methods of reward.
Article 14

Cultural or arts-related enterprises may be subsidized for the following activities:

1. Preservation, maintenance or passing on of cultural heritage and writings, and promotion of traditional culture;
2. Exhibition or performance of cultural or artistic activities;
3. Exchanges of distinguished cultural or artistic works;
4. Construction or restoration, procurement of equipment, or improvement of techniques relating to cultural or arts facilities;
5. Organization of recreational, entertainment or sight-seeing activities relating to culture or the arts;
6. Investigations, research, recordation, categorization, development, preservation and promotional activities relating to cultural or arts construction;
7. Cultivation of specialized cultural or artistic talents, their researches, their advanced studies, their trips for observation and study or their participation in international cultural exchange activities;
8. Hiring of overseas cultural or arts professionals;
9. Renting performance halls to be used by professional cultural or arts institutions;
10. Engaging in cultural or artistic activities in remote or impoverished areas;
11. Engaging in creative artistic activities;
12. Cultivating new talents in the realms of culture and the arts or establishing new cultural or arts institutions; or
13. Other activities to be subsidized in accordance with other laws and regulations.
Article 15

Subsidies for the cultural and arts-related enterprises referred to in the preceding Article may be in accordance with either of the following methods, in addition to which conditions may be attached to such subsidies:

1. Wholly or partially subsidize the required funding;
2. Partially subsidize required funding in consideration of the amount of funds independently raised by the cultural and arts-related enterprises in question; or
3. Wholly or partially subsidize payment of the interest accrued on loans to such enterprises.

Article 16

Rewards to cultural and arts-related enterprises shall be granted periodically and shall be reviewed by the National Culture and Arts Foundation.

The method and procedure of the review process referred to in the preceding paragraph shall be prescribed by the competent central-government authority in consultation with the National Culture and Arts Foundation.

Article 17

The CCA may grant the rewards under Items 1 or 2 of Article 13 to sponsors of cultural and arts-related enterprises.

Article 18

The CCA or other competent central-government authorities may provide necessary assistance for the operations of cultural and arts enterprises, or for the cultural and arts-related work of businesses, that have produced outstanding results.
Chapter 4 National Culture and Arts Foundation

Article 19
To guide and assist cultural and artistic activities, support various cultural and artistic enterprises, and execute the tasks prescribed in this Act, the National Culture and Arts Foundation shall be established.

The competent authority overseeing the work of the National Culture and Arts Foundation shall be the CCA. The rules for the establishment of the National Culture and Arts Foundation shall be prescribed by law.

Article 20
The National Culture and Arts Foundation shall establish various National Culture and Arts Awards and shall, after review, periodically grant such awards to outstanding workers in the realm of culture and the arts.

Article 21
The National Culture and Arts Foundation shall, for various categories of culture and arts, publicly conduct review processes for award and subsidy applications every year at a set time, and at a different time of year, for each category.

Article 22
The National Culture and Arts Foundation shall provide information and legal services relating to culture and the arts.

Article 23
The National Culture and Arts Foundation shall assist cultural and arts workers in handling insurance matters.
Article 24

The funding sources of the National Culture and Arts Foundation shall be as follows:

1. The government-allotted CCA annual budget;

2. Yearly income of the CCA Culture Construction Fund;

3. Donations from domestic or foreign public or private institutions or individuals;

4. Interest income from funds received by the National Culture and Arts Foundation; and

5. Other related income.

Article 25

The National Culture and Arts Foundation may be dissolved if the purposes of its establishment cannot be achieved. Its properties, rights and interests, after liquidation in accordance with the law, shall belong to the central government.

Chapter 5 Tax Incentives

Article 26

Privately established institutions of culture and the arts—such as libraries, museums, art museums, fine arts galleries, folk customs-related cultural artifact museums and experimental theaters—whose establishments have been approved in advance by the competent cultural and educational authorities shall be exempt from land-value taxes and building taxes, provided that the lands and buildings in question are owned by the legally registered foundations that erect and manage such institutions.

Article 27

Donations to the National Culture and Arts Foundation or to cultural foundations run by provincial, special-municipality, county or city governments shall be deemed as donations to such governments.
Article 28

Those who donate to governments Antiquities or Historic Sites that have cultural value may itemize such donations as deductions or expenses in full amount according to Item 2, Subparagraph 2, Paragraph 1 of Article 17, or Item 1 of Article 36 of the Income Tax Law, respectively, regardless of the amount of such donations.

The value of Antiquities or Historic Sites referred to in the preceding paragraph shall be appraised and certified by the competent authorities.

Article 29

Privately owned Historic Sites that have been designated as such by competent authorities shall be exempt from land taxes and building taxes.

Donations for the maintenance and restoration of Historic Sites in accordance with Article 27, which have been designated for specific purposes by the donors and approved by the competent authorities with jurisdiction over such sites, shall not be used for other purposes.

Article 30

Cultural and arts-related enterprises, upon approval by competent authorities, may be exempted from paying business and entertainment taxes or may pay a reduced amount of such taxes.

The criteria and standards for approving the cultural and arts-related enterprises and for approving the tax exemptions or reductions as provided in the preceding paragraph, shall be prescribed by the CCA in consultation with the Ministry of Finance.

Chapter 6 Penalty Provisions

Article 31

Any person who violates the standards set forth in Paragraph 1 of Article 8 shall be punished with a fine of not less than NT$ 100,000 and not more than NT$ 500,000.
Article 32
Any person who violates the standards set forth in Paragraph 1 of Article 9 shall be punished with a fine of not less than NT$ 100,000 and not more than NT$ 500,000.

Article 33
In the event cultural and arts enterprises that accept government subsidies misappropriate such subsidies or fail to perform the conditions attached to such subsidies, competent authorities may cancel such subsidies and may seek the return of subsidies already paid.

Article 34
Cultural and arts enterprises that have been punished for violation of laws and regulations within the most recent past year shall not be granted awards or subsidies in accordance with the present Act.

Chapter 7 Appended Provisions
Article 35
The awards prescribed in Article 13 may also apply to those who operate or engage in cultural and arts-related enterprises in foreign countries who have contributed to and have had distinguished achievements in the cultural construction of the country.

Article 36
The provisions of this Act regarding awards and subsidies to cultural and arts-related enterprises may also apply to local governments' awards and subsidies to cultural and arts-related enterprises within their jurisdictions.
Article 37

The enforcement rules of this Act shall be prescribed by the CCA.

Article 38

This Act shall become effective on the date of promulgation.
Regulations Governing the Installation of Public Artwork (2002.12.20 Amended)


The installation of public artworks shall be made in accordance with Item 4 of Article 9 of the Act and shall be reviewed and approved by the Public Artwork Consulting Committee (the “PAWC Committee”) of the Council for Cultural Affairs of the Executive Yuan (the “CCA”), or by the Public Artwork Reviewing Committee (the “PAWR Committee”) of other ministries of the central government, or of special-municipality, county or city governments.

Chapter 1 General Provisions

Article 1
These Regulations are prescribed according to Paragraph 5 of Article 9 of the Culture and Arts Reward Act (the “Act”).

Article 2
The installation of public artworks shall be made in accordance with Item 4 of Article 9 of the Act and shall be reviewed and approved by the Public Artwork Consulting Committee (the “PAWC Committee”) of the Council for Cultural Affairs of the Executive Yuan (the “CCA”), or by the Public Artwork Reviewing Committee (the “PAWR Committee”) of other ministries of the central government, or of special-municipality, county or city governments.

Article 3
The CCA shall have a PAWC Committee to be responsible for the consulting, policy making, proposal of laws and regulations, and review of matters related to public artworks.

The PAWC Committee shall have thirteen to seventeen committee members. Among the
committee members, either the chairman or vice chairman of the CCA shall be the assembler of
the PAWC Committee, and the director of the Business Department (業務處) of the CCA shall
be the deputy assembler of the PAWC Committee. Other committee members shall be retained
by the CCA from the following:

1. Five to seven committee members shall be specialists in art administration, art
commentary, applied art, art education, or art creation, and there shall be at least one
committee member from each such category;

2. Three to five committee members shall be specialists in urban design, building design,
or landscape architecture, and there shall be at least one committee member from each
such category; and

3. There shall be one committee member each representing cultural, legal, or other
professionals.

The PAWC Committee shall convene a meeting once a year in principle and may
convene extra meetings if necessary. The committee members shall serve terms of two
years and may continue to be retained after their tenures expire. Ministries of the central
government may establish a PAWR Committee in accordance with Paragraph 1 hereof
to be responsible for the review of matters relevant to the installation of public artwork
in any significant public construction projects managed by such ministries.

Article 4

Each special-municipality county or city government shall have a PAWR Committee. Such
PAWR Committee shall have thirteen to seventeen committee members. Among the committee
members, either the mayor or deputy mayor of a special municipality or city or the magistrate or
deputy magistrate of a county shall concurrently be the convener of PAWR Committee; and the
director of the Culture Affairs Bureau or the Culture Center shall concurrently be the deputy
convener of the PAWR Committee. Other committee members shall be retained by the special-municipality, county or city government from the following:

1. Five to seven committee members shall be specialists in art administration, art commentary, applied art, art education, or art creation, and there shall be at least one committee member from each such category;

2. Three to five committee members shall be specialists in urban design, building design, or garden landscaping, and there shall be at least one committee member from each such category; and

3. There shall be at least one committee member representing community or public welfare representatives, law experts, chiefs of construction or urban planning department of such local government. The committee members shall serve terms of two years and may continue to be retained after their tenures expire.

Article 5

A PAWR Committee shall periodically convene a meeting each year to handle the following matters:

1. Review plans to install public artwork;

2. Review reports of soliciting and selecting results of public artwork;

3. Review the completion report of installation of public artwork;

4. Planning and reviewing the installation of public artwork in its jurisdiction;

5. Matters of donation and installation of public artwork;

6. Provide professional consulting and assistance to projects for installation of public artwork; and

7. Guiding and assisting citizens to participate in [the installation of] public artwork, promoting public artwork, and other relevant matters.


**Article 6**

Government agencies, when handling the construction of publicly-owned buildings or significant public construction projects, shall establish a Public Artwork Execution Team (the “Execution Team”) to be responsible for the administration of installation of public artwork. The Execution Team shall have 4 to 7 members among which one shall be appointed by the director of such government agency as the convener and other members shall be retained from the following:

1. Professionals in the field of art administration, art commentary, art education, and art creation;
2. Architects of such building or the professional technicians of the construction; and/or
3. Representatives from the management agency of such building or construction.

**Article 7**

The Execution Team shall handle the following matters:

1. Drafting the plan for installation of public artwork;
2. Handling the procedures of solicitation, citizen participation, evaluation, selection, and appraisal;
3. Drafting the report of soliciting and selecting results of public artwork;
4. Conducting the production, installation, and inspection of public artwork;
5. Compiling the completion report for the installation of public artwork; and;
6. Other relevant matters.

**Article 8**

The plan of installing public artwork referred to in the preceding Article shall include the following content:

1. The concept for installation of public artwork;
2. Solicitation methods;
3. Public participation;
4. Name list of the judges;
5. Appraisal procedures;
6. Project budget; and
7. Name list of the Execution Team.

**Article 9**

The method of public artwork solicitation referred to in Item 2 of Article 7 shall be as follows:

1. Open solicitation: To solicit plans for installing public artworks by making a public announcement and convening a meeting for the selection of appropriate installation plans.
2. Invitation for competition: To invite two or more artists to produce the artwork and convene a meeting for selecting appropriate installation plans.
3. Delegation of creation: After evaluation and stating the reason thereof, to choose a capable artist to propose more than one installation plan and convene a meeting to choose appropriate installation plans.
4. Evaluation and purchase: To choose appropriate artwork and purchase the same after evaluation and stating the reason thereof. The Execution Team shall select from the methods referred to in the preceding paragraph according to the relevant conditions, such as the character of the building or the base of such buildings, or the budget, and shall handle the matter after the review of the PAWC Committee or the PAWR Committee.
Article 10

To handle the evaluation work referred to in the preceding Article, an appraisal team shall be formed before the solicitation and shall be responsible for setting up the standards of evaluation and for selecting the appropriate artwork.

The appraisal team shall consist of 5 to 7 commissioners, who shall be scholars or experts retained by the constructing institution on a part-time basis. The commissioners shall include at least one professional from each of the following categories:

1. Artistic creation;
2. Arts commentary; and
3. Applied arts.

Article 11

The public artwork selected in accordance with these Regulations may be handled by the method of limited tendering procedures prescribed in Items 2 and 14, Paragraph 1, Article 22 of the Government Procurement Law.

Article 12

The installation plan of the public artwork and the report of the solicitation and selection results of a publicly-owned building shall be submitted by the institution handling such construction project to the PAWR Committee of the direct municipal city government or the county (city) government.

The installation plan of the public artwork and the report of the solicitation and selection results of a significant public construction project shall be submitted by the institution handling such construction project to the PAWR Committee of the relevant ministries of the central
government. Should the relevant ministries of the central government agencies have no PAWC Committee, such document shall be submitted to the PAWR Committee of the CCA for review. When reviewing an installation plan, the ministry of the central government shall invite the local government of the location where the public artwork are to be installed to attend the meeting.

Where the budget for installing the public artwork is under one hundred thousand New Taiwan dollars, the institution handling such construction project may handle the matter directly in accordance with relevant laws and regulations.

Article 12-1
Public artwork projects concerning publicly-owned buildings of institutions and schools governed by the Ministry of Education, and significant public construction projects shall be reviewed by the PAWR Committee of the Ministry of Education.

Article 13
The content of reports of the solicitation and selection results for the public artwork referred to in Article 7 shall include the following matters:

1. The record of solicitation and selection procedures;
2. The introduction of the selected public artwork;
3. The installation plan for the selected public artwork;
4. The process for public participation;
5. A record of appraisal; and
6. A management and maintenance plan.
Article 14

The content of the completion report for the installation of public artwork referred to in Article 7 shall include the following matters:

1. The whole course of the installation;
2. The concrete effects; and
3. Review and suggestion.

Article 15

The owners or the institutions managing or using the publicly-owned buildings and significant public construction projects shall, pursuant to the suggestion of the creator of such artwork, prescribe a public artistic work management and maintenance plan and provide a budget to carry out such plan accordingly.

Article 16

The owners or the institutions managing or using the publicly-owned buildings and significant public construction projects shall not relocate or demolish the public artwork within five years from the completion of the installation of such work, provided that the limitation set forth above shall not apply if there is a special situation and such situation has been reviewed by the PAWC Committee or the PAWR Committee of the appropriate government agency and submitted to the CCA for recordation.

Article 17

The receipt of artwork as a gift and the installation thereof by the owners or the institutions managing or using publicly-owned buildings or significant public construction projects shall be reviewed and approved by the PAWC Committee or the PAWR Committee of the appropriate government agency, and shall submitted to the CCA for recordation.
Chapter 4 National Culture and Arts Foundation

Article 18

When reviewing a significant public construction project managed by government, the Public Construction Commission of the Executive Yuan shall inform the institution handling such construction project to act in accordance with these Regulations and Paragraph 2, Article 9 of the Act. When reviewing the construction permit of a publicly-owned building, the competent authority for construction of the special-municipality, county or city government shall inform the competent authority for cultural affairs of the place the building is located to act in accordance with these Regulations and Paragraph 1 of Article 9 of the Act.

Article 19

If a publicly-owned building or significant public construction project managed by government does not install public artwork in accordance with these Regulations and has been ordered by the CCA to do so within a prescribed period of time but fails to comply with such order, the matter shall be handled in accordance with Article 32 of the Act.

Article 20

The persons appointed for the part-time positions prescribed in these Regulations shall receive no remuneration, except for attendance fees as otherwise prescribed.

Article 21

These Regulations shall become effective on the date of promulgation.
With regards to the public art design requirements at Kaohsiung Fongsan West MRT station, I sent an email to Kaohsiung MRT Company on the 12 June 2010 requesting relevant information. The reply was sent back in Chinese, thus I translated sections about the art works’ design requirements as follows:

賀先生，您好：

首先感謝您於百忙之中來信予以指教，對於您來信內容，回覆如下：

一、有關捷運鳳山西站公共藝術作品之設計方向, 係為捷運公司當時採以邀請比件之方式辦理藝術作品徵選, 且邀請藝術團隊能創造高雄捷運各車站之公共藝術風貌主題, 再依各地區的文化環境背景及區域特色來執行創作, 期望進一步透過各車站之公共藝術的設置, 成就下列目標:

With regards to the design of the public art at Fongsan West MRT station, the artwork solicitation approach was ‘Invitation for completion’. Groups of artists were invited to co-create and conceive artistic themes for each of the Kaohsiung MRT stations. The creations were implemented based on cultural and environmental surroundings and features of the different localities. It was anticipated that through the installations of public art works at each station a number of objectives would be achieved, such as:

1.) 形塑各捷運車站的空間識別意象。
   1. Identities for each MRT station would be created.

2.) 強化各捷運車站所在社區的歸屬意識。
   2. The sense of belonging in the communities in the vicinity of the MRT station would be enhanced.

3.) 藉由捷運大量車站的釋出，提供藝術家創作的舞台，亦提供市民輕鬆碰觸藝術的平台，從而發展高雄美學更大的可能性和多樣性。
   3. Through the construction of numerous MRT stations a creative platform for art practitioners would be created. At the same time it would also offer opportunities to allow citizens to engage with the artworks with ease and subsequently broadly expand the possibilities and diversities of the Kaohsiung aesthetics.

4.) 可由每日接觸，讓藝術創作內化為高雄民眾的生活內涵，進而提升高雄都會成為一個新世紀的美學生活圈。
   4. Through daily encounters, the artistic creations would become internalised within the people in Kaohsiung and further promote the Kaohsiung metropolitan into a new age of aesthetic living conditions.
The above four points were the artworks' design requirements and conditions at that time. The artists were asked to fulfill the said four points in order to fully complete their creations.

二、因民眾來信非常踴躍，導致信箱回覆系統忙碌，無法及時回覆各位旅客之來信，為避免造成您之久候，若您尚有其他急需回覆之相關疑問或建議，歡迎您可於服務時間內來電本公司客服話務中心洽詢(07-7938888，服務時間:07:00~23:00)，將有專業、親切之客服人員專人為您提供完整、詳細之服務及解答，謝謝。

三、本公司期以提供旅客安全、舒適、便捷、創新之大眾捷運系統服務為目標，再次感謝您對高雄捷運之支持與鼓勵，祝您一切順心愉快。

四、為提供更優良的服務，高雄捷運於100年4月1日起，行車班距將已調整，紅橘線尖峰時段縮短為4分鐘一班列車，離峰時段縮短為8分鐘一班列車，感謝您的支持與愛護。

高雄捷運公司 敬覆

(本公司之回覆信件帳號為系統自動設定，請勿回信予該帳號，謝謝)
Department of Rapid Transit Systems, Taipei City Government
Regulations and Guidelines for The
Open Competition of Public Art
on the BanQiao Line
(Also shown on http://www.dorts.gov.tw)

I. Statement
In order to enhance the spatial quality of the Taipei Rapid Transit Systems (hereinafter "TRTS"), selected stations are required to install public art that promotes the local identity of the TRTS facility, gains support from the community, and furthermore, beautifies the environment and improves cultural development.

II. Organizer
Department of Rapid Transit Systems, Taipei City Government (hereinafter “DORTS”)

III. Eligibility
1. Any individual or team that is involved in creating art and has practical experience in executing art projects is eligible.
2. Participants in teams must designate an authorized representative.

IV. Method of Application
1. Each individual or team may only select one station and submit one work.
2. DORTS will hold an information meeting at each station on August 7, 2003. Participants may also visit the station in person before September 3, 2003.
   Schedules for the information meeting and station visits are listed in the attachment one.
3. If participants have any queries, they should contact DORTS by mail, email or fax before September 3, 2003. DORTS will provide answers in writing before September 10, 2003.

V. Location, Type and Budget for Artwork
1. The selected locations for public art include BanQiao Station (BL02) and FuZhong Station (BL01). Please see Attachment One for details.
2. Participants should consider the whole environment at the location selected by DORTS and fulfill all the design requirements listed in Clause VIII. of the Regulations and Guidelines
3. The types of artwork recommended in Attachment One are for reference only. The drawings of each station are only to indicate the location of public art.
4. The Contract Sum for the public art at each selected station is NT$3,000,000 per station. This includes the transfer fee for Moral Rights, design, materials, installation and recovery, coordination with construction, safety and hygiene control, temporary equipment, insurance, taxes, documentation etc. and all other related fees.
VI. Selection Methods and Criteria
1. The selection process consists of two stages. In the first stage, up to three submissions will be selected without priority. The selected participants may provide supplementary material to present with their submissions to the Selection Committee and will answer questions asked by the Committee. The awards will then be decided. The second-stage selection meeting will be held in late September, 2003.
2. DORTS will invite professors and experts in art creation, art critique and applied art to form the Selection Committee. The criteria for selection will include design integrity and construction feasibility.
3. Selection Committee members involved in the creation or execution of, or providing consultation for, individual works will be excluded from all judging activities. If such a conflict of interest is deemed to have occurred, the judgment of the relevant Committee members will be discarded and his/her membership will be revoked.
4. Incomplete (see Clause IX. of the Regulations and Guidelines) or late submissions will not be processed.
5. The judges results will be announced by DORTS and selected participants will be notified in writing. Participants must accept all judgments by the Selection Committee as final.
6. The person/team which wins the right to implement the artwork should negotiate the contact with DORTS within the designated period and submit a bond to complete the contracting process. The person/team should also provide the relevant assistance to DORTS to submit the final reports on the open competition to the related committee and get approval from the committee.
7. Should the first-prize winner be unable to fulfill the obligation of executing the art project, DORTS has the right to decide whether to assign the runners-up as a replacement.
8. If none of the submitted artworks is judged to be appropriate for any particular award, the award will be considered null and void.

VII. Award
1. The first-prize winner will be permitted to negotiate with DORTS on the final bid for the public art. The contract sum will not be adjusted, but contract attachments may be adjusted. DORTS may review and adjust the contract attachments according to the safety of the artwork, the feasibility of installation and the recommendations of the Selection Committee. The first-prize winner shall accept any requirements in the contract attachments and shall adjust the artwork accordingly. Whether negotiations are accomplished or not, no further award will be given for compensation.
2. The First runner-up(s) will receive an award of NT$80,000 (including tax).
3. The Second runner-up(s) will receive an award of NT$50,000 (including tax).
4. If a runner-up should be assigned a Contract with DORTS as a replacement for an original award winner that has withdrawn, the award for runner-up shall be returned
to DORTS.

VIII. Work Requirement

1. Works should be created to fit the specific environments of selected stations and may not have been previously displayed in Taiwan or elsewhere.
2. Works are to be considered additional to the existing furnishings of stations. The installation of artworks may not affect the finished surface or damage the structure of any station.
3. Works should not interfere with the flow of passenger traffic, public safety, control systems, fire prevention and rescue, ventilation, signage, lighting function, etc.
4. Works must be completed and installed not later than October 31, 2005.
5. The theme of the artwork must correspond to the specific context of each selected station. The work should be presented in a vivacious, interesting, friendly and lively manner.
6. Works should be designed with overall integration with the surroundings of the selected station in mind as well as the lighting effect.
7. Materials must be fire resistant, durable, able to withstand exposure to the elements and easy to maintain.
8. Works may be installed at appropriate locations as a set consisting of multiple elements.
9. The first-prize winner must also install a permanent caption to the artwork either close to or within the work itself. Only names listed on the application forms may be listed in the caption. The regulations and guidelines for the caption are given in Clause XII.
10. The artwork should be created according to the location and concept listed in the Attachment One. The quantity and colors of porcelain enamel panels designed by DORTS may be adjusted to suit the artwork. However, only single colors are allowed.

IX. Submission Documents

1. Application Form (See Attachment Two. Professional credentials for exhibition, awards, or execution of art projects may be provided in pictures or as copies.)
2. Design Details, must include the following as a minimum:
   (1) Title of work.
   (2) Design concept.
   (3) Description of incorporation with the environment
   (4) Perspectives or photographs of models
   (5) Design drawings (Must clearly illustrate the entire work with all relevant details and indicate the dimensions of the work in centimeters)
   (6) Lighting plan.
   (7) Materials (Please denote the characteristics of materials, such as type, particulars, specifications, place of manufacture, etc).
   (8) Public participation plan
3. Summary Sheet and Detail Sheet (See Attachment Three. Please fill in all items listed on Attachment Three. The total should be NT$3,000,000.)

Note: 1. Please prepare the above submission documents in Chinese, or in English if necessary, on A4 size (21 cm x 29 cm) sheets. If any pages are larger than A4, please fold them to A4 size. There is no limit to the number of pages, but please number and bind each page (and a table of contents must be included). 15 copies of the submission should be provided.
2. The 8 Design Detail items listed above must be included in the submission and clearly marked.

X. Submission Deadline and Location
1. Submissions must be received (by mail or delivered in person to DORTS) not later than August 27, 2003.
2. Address: 9F, No.7, Lane 48, Sec. 2, Chung Shan N. Rd., Taipei, Taiwan (104), R.O.C.
3. Telephone: 886-2-25215550 ext. 8289
4. Fax: 886-2-25217639
5. email: cnyin@trts.dorts.gov.tw
6. Coordinator: Ms Yin, The Third Section at the Second Division of DORTS

XI. Copyright
1. DORTS reserves the right to research, photograph, promote, print, publicly exhibit, and publicly broadcast any and all of the materials related to the submission.
2. The first-prize winner must sign the Contract for Fabrication and Installation of Public Art on Taipei Metro (See Attachment Four) with DORTS. The winner must accept all the content of the Contract as final.
3. Participants in teams must sign and perform the Contract together. Furthermore, an authorized representative must be designated and he or she will be in charge of all activities related to DORTS.

XII. Contract Negotiation: The first-prize winner should submit the following documents (15 copies) and get the approval of DORTS in order to sign the contract.
1. Site plan of artwork: Must indicate the location of the artwork and the distance between the artwork and all fixed equipment.
2. Plans, elevations and sections of the artwork: Measurements should be provided in centimeters.
3. Caption to work: in Chinese and English and corresponding to the work. Caption content shall be as follows: Title, Artist, Size, Material, Date and Description. The description should not be more than 300 words in total. If the work is composed of more than one portion, each portion should be provided with an individual sub-caption to indicate the sub-title and size.
XIII. Particulars

1. As no application materials will be returned, please keep a copy for your own reference.

2. Submission of an application indicates the acceptance of all regulations and requirements listed herein.

3. In the event that applicants are found not to conform with these Regulations, or to have plagiarized the work of others, DORTS reserves the right to deprive eligibility. If an award has already been received, DORTS shall have the right to retrieve the money bestowed.

XIII. Appendix

Attachment One: Drawings of BanQiao Station (BL02) and FuZhong Station (BL01), BanQiaoLine and related pictures.

Attachment Two: Application Form

Attachment Three: Summary Sheet and Detail Sheet

Attachment Four: Contract for Fabrication and Installation of Public Art on Taipei Metro
Department of Rapid Transit Systems, Taipei City Government

Regulations and Guidelines for The
Open Competition of Public Art
At XiaoBiTan Station on the XinDian Line
(Also shown on http://www.dorts.gov.tw)

I. Statement

In order to enhance the spatial quality of the Taipei Rapid Transit Systems (hereinafter “TRTS”), selected stations are required to install public art that promotes the local identity of the TRTS facility, gains support from the community, and furthermore, beautifies the environment and improves cultural development.

II. Organizer

Department of Rapid Transit Systems, Taipei City Government (hereinafter “DORTS”)

III. Eligibility

1. Any individual or team that is involved in the fields of art, planning or design and has relevant practical experience is eligible. All experts and specialists related to the work requirement described in these guidelines should also be listed on the application form.

2. Participants in teams must designate an authorized representative.

IV. Method of Application

1. DORTS will select a master plan of public art for the XiaoBiTan Station. The plan will then be implemented by DORTS, who will assign the existing detail design consultant to complete the detail design drawings and the contractors to complete the construction work.

2. DORTS will hold an information meeting at XiaoBiTan Station at 10am to 11am on August 8, 2003. Participants may also visit the station in person at 10am to 11am every Thursday before September 24, 2003. The gathering place is the entrance B of XiaoBiTan Station. The coordinator of the South Project Office is Ms Tai. Tel.:02-2910-4674, Fax:2910-4684

3. If participants have any queries, they should contact DORTS by mail, email or fax before September 24, 2003. DORTS will provide answers in writing before October 1, 2003.

V. An Introduction to XiaoBiTan Station

1. Covering an area of 10 acres, the XinDian Depot is located at the intersection of ZhongYang Road and HuanHe Road in XinDian City, Taipei County. XiaoBiTan Station is situated on the top of the Depot and is 15 meters above the ground. The station has one elevated side platform. The dimensions of the station are about 161.5M (L) × 23.2M (W) × 9.15M (H). The exterior of the station is a steel-concrete structure with a split-level roof consisting of two steel arcs. To match the style of the
Depot, the roof is covered with silvery-gray compound steel plates along with skylight windows that help create an atmosphere of harmony, brightness and modernity.

2. The XiaoBiTan branch line is a total of 1.9 kilometers in length. The shuttle services will run on a single track between XiaoBiTan Station and QiZhang Station. The interval of services will be 12 to 20 minutes. The maximum passenger capacity is estimated at 4,140 per hour.

3. The northern part of the station will be developed jointly with a 35-floor commercial and residential complex.

4. The western square of the station will be available for temporary commercial use with non-fixed equipment, such as outdoor coffee stalls.

5. The civil construction of the station will be completed in March 2004 and the station will be operational from September 2004.

VI. Work Requirement

1. The master plan of public art should consider coordination of the work with the existing equipment as well as with the environment around XiaoBiTan Station. The submission should be practical and include the following as a minimum:
   i) lighting plan
   ii) color scheme
   iii) landscaping (including any street furniture and plants, which should try to use the originally planned species and quantity)
   iv) suggestions on enhancing barriers around the station beyond their safety function
   v) paving design on the western square (equipment should be non-fixed).

   Design proposals for a children's playing facility or land and environmental art are also welcome.

2. Participants may divide the construction budget into individual working items according to the focus of the whole plan. However, the total construction budget should be limited to not more than NT$15,000,000. (The cost of coloring the existing steel structure and planting with original species and quantities are not included in the NT$15,000,000).

3. Works should be created to fit the specific environments of selected stations and may not have been previously displayed in Taiwan or elsewhere.

4. Works are to be considered additional to the existing furnishings of stations. The installation of artworks may not affect the finished surface or damage the structure of any station.

5. Works should not interfere with the flow of passenger traffic, public safety, control systems, fire prevention and rescue, ventilation, signage, lighting function, etc.

6. The live load of the floor structure of XiaoBiTian station is 500 kilograms per square meters. The outdoor square should also function as an emergency exit assembly area.

7. The theme of the artwork must correspond to the specific context of each selected station. The work should be presented in an eye-catching, interesting, friendly and relevant manner. Hopefully the public art could generate discussion and attract
viewers.

8. Materials must be fire resistant, durable, able to withstand exposure to the elements and easy to maintain.

VII. Selection Methods and Criteria

1. The selection process consists of two stages. In the first stage, up to three submissions will be selected without priority. The selected participants may provide supplementary material to present with their submissions to the Selection Committee and will answer questions asked by the Committee. The awards will then be decided. The second-stage selection meeting will be held in middle October, 2003.

2. DORTS will invite professors and experts in art creation, art critique and applied art to form the Selection Committee. The criteria for selection will include design integrity and construction feasibility.

3. Selection Committee members involved in the creation or execution of, or providing consultation for, individual works will be excluded from all judging activities. If such a conflict of interest is deemed to have occurred, the judgment of the relevant Committee member will be discarded and his/her membership will be revoked.

4. Incomplete (see Clause X. of the Regulations and Guidelines) or late submissions will not be processed.

5. The judges results will be announced by DORTS and selected participants will be notified in writing. Participants must accept all judgments by the Selection Committee as final.

6. The person/team which wins the right to implement the art plan should negotiate the contact with DORTS within the designated period and submit a bond to complete the contracting process. The person/team should also provide the relevant assistance to DORTS to submit the final reports on the open competition to the related committee and get approval from the committee.

7. Should the first-prize winner be unable to fulfill the obligation of executing the art project, DORTS has the right to decide whether to assign the runner-up as a replacement.

8. If none of the submitted artworks is judged to be appropriate for any particular award, the award will be considered null and void.

VIII. Award

1. The first-prize winner will be permitted to negotiate with DORTS on the final bid for the public art. The contract sum will not be adjusted, but contract attachments may be adjusted. DORTS may review and adjust the contract attachments according to the safety of the artwork, the feasibility of installation and the recommendations of the Selection Committee. The first-prize winner shall accept any requirements in the contract attachments and shall adjust the artwork accordingly. Whether negotiations are accomplished or not, no further award will be given for compensation. The contract sum is NT$1,000,000 (including tax) and will be paid
according to the payment terms listed in Clause IV of the “Public Art Contract”.
2. The first runner-up(s) will receive an award of NT$50,000 (including tax).
3. The second runner-up(s) will receive an award of NT$30,000 (including tax).
6. If a runner-up should be assigned a contract with DORTS as a replacement for an
   original award winner that has withdrawn, the award for runner-up shall be returned
to DORTS.

IX. Submission Documents
1. Application Form (See Attachment Two. Professional credentials for exhibition,
   awards, or execution of art projects may be provided in pictures or as copies.)
2. Design Details, must include the following as a minimum:
   (1) Title of work.
   (2) Design concept.
   (3) Description of incorporation with the environment
   (4) Perspectives or photographs of models
   (5) Design drawings (Must clearly illustrate the entire work with all relevant details
       and indicate the dimensions of the work in centimeters)
   (6) Lighting plan.
   (7) Materials (Please denote the characteristics of materials, such as type, particulars,
       specifications, place of manufacture, etc).
   (8) Public participation plan
3. Summary Sheet and Detail Sheet (See Attachment Three. Please fill in all items
   listed on Attachment Three. The total should be NT$150,000,000.)

Note: 1. Please prepare the above submission documents in Chinese, or in English if
       necessary, on A4 size (21 cm x 29 cm) sheets. If any pages are larger than A4,
       please fold them to A4 size. There is no limit to the number of pages, but
       please number and bind each page (and a table of contents must be included).
       15 copies of the submission should be provided.
2. The 8 Design Detail items listed above must be included in the submission
   and clearly marked.

X. Submission Deadline and Location
1. Submissions must be received (by mail or delivered in person to DORTS) not later
   than October 8, 2003.
2. Address: 9F, No.7, Lane 48, Sec. 2, Chung Shan N. Rd., Taipei, Taiwan (104), R.O.C.
3. Telephone: 886-2-25215550 ext. 8289
4. Fax: 886-2-25217639
5. email : cnyin@trts.dorts.gov.tw
6. Coordinator: Ms Yin, The Third Section at the Second Division of DORTS

XI. Copyright
1. DORTS reserves the right to research, photograph, promote, print, publicly exhibit,
and publicly broadcast any and all of the materials related to the submission.

2. The first-prize winner must sign the “Contract for Public Art on the Taipei Metro” (See Attachment Four) with DORTS. The winner must accept all the contents of the Contract as final.

3. Participants in teams must sign and perform the Contract together. Furthermore, an authorized representative must be designated. He or she will be in charge of all activities related to DORTS.

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1. Site plan of artwork: Must indicate the location of artwork and the distance between the artwork and all fixed equipment.

2. Plans, elevations and sections of the artwork: Measurements should be provided in centimeters.

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XIII. Appendix

Attachment One: Drawings of XiaoBiTan Station, XinDian Line and related pictures.
Attachment Two: Application Form
Attachment Three: Summary Sheet and Detail Sheet
Attachment Four: Contract for Public Art on the Taipei Metro

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Appendix vi

Published Papers and Exhibitions
Meaningful Engagement:
Computer-Based Interactive Media Art in Public Space

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Abstract. Interactive technologies, including electronic devices are increasingly being utilized as a medium for artistic expression and have been placed in freely accessible public environments with mixed results. When audiences encounter computer-based interactive media arts in a public space they are drawn by various interactivities, to play and experiment with them. However, whether the audience is able to gain a meaningful experience through those physical interactivities has remained an issue of both theoretical and practical debate. This paper will focus on these aspects, most specifically through the study of interactive art in freely accessible public space. The author proposes four new conceptual/analytical tools for examining the subject. It is anticipated that this paper will provide possible alternative strategies for both artists and art researchers in this field with a purpose to enhance intellectual engagement with their audiences, so as to succeed in leading interactors to obtain meaningful experience and rewards.

Keywords: Interactive Art, Media Art, Public Art, Meaningful Engagement

1 Introduction – The Research Background

‘Interactive art is said to be ‘created’ by the people engaged in the active experience of it’ [1].

The research has drawn upon both the allure and the awareness of issues of the subject. The allure of interactivity and the dynamics of computer-based interactive media arts, which often actively grasp the attention of audiences with its diverse presentations, in contrast to the conventional ways of viewing art, this active participation is often encouraged as an artistic input so as to obtain meaningful experiences and reveal the artistic intent [2]. Since the 1990’s there has been a growing study of aesthetic and emotional experiences in the area of computer-based interactive media art research (Edmonds and Graham et al) [3], [4]. Artists and art researchers have been investigating the interface of these media arts in an attempt to reveal forms which engage audiences. Various strategies for engaging audiences have been developed. ‘Playfulness’ might be considered one of the most viable tactics that is often employed as the main ingredient as for an initial engagement as well as being a catalyst to arouse subsequent more meaningful experiences (Polaine and Moggridge et al) [5], [6]. In addition to this, others have been proposed by the author, which include: Dominance Transfer, Mind Orientedness and Accessible Challenge, all of which have been examined to some extent by previous research, the pilot and field studies which will be discussed further in the following sections.
2 The Pilot and Field Studies

In order to establish the scope for further research and tests for the viability of the research methodology, an experimental interactive installation was made and a pilot study conducted. The work “Event Horizon” is a screen based interactive installation, which is equipped with an infrared-sensor as means of detecting the audiences’ presence. The image patterns of the work changes randomly and dynamically and is triggered by the audiences’ movement. The pilot study was conducted in The Robert Gordon University, in a public hallway of the Scott Sutherland School; it is one of the major thoroughfares that leads to both the main exit and lecture rooms in the building. The criteria for choosing the pilot site were: 1) It must be a mundane and non exhibition space 2) Is accessible for everyone 3) It is a major route for everyday use.

Fig. 1. The pilot site          Fig. 2. Event Horizon

<table>
<thead>
<tr>
<th>Fig. 1. Label Descriptions</th>
<th>Fig. 2. Event Horizon</th>
</tr>
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<tbody>
<tr>
<td>a. Screen</td>
<td></td>
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<tr>
<td>b. Infrared-sensor</td>
<td></td>
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<tr>
<td>c. Projector</td>
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<tr>
<td>d. Computer and speakers</td>
<td></td>
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<tr>
<td>e. To the atrium</td>
<td></td>
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<tr>
<td>f. The elevator</td>
<td></td>
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<tr>
<td>g. To the lecture theaters</td>
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</table>

The first field study was carried out in Taiwan, Kaoshiung County, Fongsan West (Mass Rapid Transit) station. A phoenix shaped computer-controlled interactive installation was made from articulated stainless steel pipes, which were hung beneath the ceiling inside the station near the exit one. The form of the installation symbolizes the legend of Fongsan City (Fong Sang in Chinese means Phoenix Mountain). The streamlined phoenix shaped installation resembles Chinese calligraphy, and is not only made for reflecting the cultural value but also with the purpose to elicit affection from the passengers toward their hometown. Several stainless maracas are attached to the end of the pipes. The sound of maracas is triggered when the passengers pass underneath it.

Fig. 3-4. The field study site (Fongsan West MRT station)
Ethnographical approaches were employed in both studies that included non-participant observation and semi-structured interviews with the audiences and passengers concerning their physical reaction and sensory responses with the art installations. Thirty research questionnaires were issued at the conclusion of the verbal interviews for the pilot study of which twenty were retrieved at the end. In consideration of any ethical issues and with regard to the efficiency of the interview process, a digital voice recorder was utilized as a major research data collecting tool. This methodology was applied to research gathered from passengers at the Fongshan West MRT station, of which ultimately fifteen passengers were interviewed.

2.1 Initial Findings

The sounds and image patterns of the works were constantly changing as people passed the installation, and as such it did not require any active physical intervention to trigger an initial interaction; the installation instantly gained people’s attention in the hallway. The same response to the installations acoustics’ was also identified during the field study at the Fongsan West MRT station. As the interactors realized that they were the stimulus to trigger the interaction, they instantly became involved, and enjoyed this ‘creative authorship’ [7]. Within the retrieved questionnaires from the pilot study, ninety-five percent reported that the interactive effect stimulated their curiosity and thought the shifting sounds and image patterns, which were not repeated, kept their attention and made them want to explore and try to understand how it worked.

While the majority of interviewees reported initially being mainly attracted by the sound of the installation, they were then subsequently curious to ascertain the meaning of the artwork. Ninety percent of interviewees indicated that they were trying to discern how the installation worked and actively interacted with the installation. They waved hands, shook feet, moved back and forth, and some even danced in front of the installation with the goal of trying to manipulate the changing the image patterns. During the pilot study, an interviewee (A1) was asked about his thoughts when he first saw the installation, he wrote: “Aroused and helped brighten what was a grey boring day, and even helped for a moment to think about different happy thoughts and possibility it would be song as I could dance to”[sic]. This is in contrast with the first field research site where none of the physical reactions mentioned above were exhibited by passengers.

When the interviewees were asked what they felt when learning that their movement triggers the changing of the patterns, nineteen people gave positive responses (“excited” and “interested”) and some even responded that the interaction had encouraged discussion between their friends. Though the passengers from the Fongshan West MRT station were not seen to be as active as those from the pilot study, they all gave positive responses. Some of them discussed the audible interaction with their friends too. In spite of the two different forms of presentation between “Event Horizon” and “The legend of the Phoenix”, the finding from both research studies were very similar in a number of respects: for instance, the non repeated sounds succeeded in engaging the audiences initially, and together with changing patterns this evoked interactors’ curiosity so as to lead to further explorations.
Despite this success, there are two issues which must be mentioned here: 1) Both art installations were installed in fairly quiet surroundings, which means the audiences were able to hear the sounds produced, however, these sounds might not be audible at other busier stations or bustling spaces e.g., the Taipei Main MRT station. 2) Both art installations were new to the environments and in general, people tend to be drawn to new. The interviewees from the pilot study were asked about their thoughts when they first saw the installation, they replied: (A2) “It was a bit fresh to see a piece of art at an unexpected place like that, (Corridor of the Scott Sutherland School)”. (B3) “What is this? It was quite strange”. (B5) “What is this and why is here and I stop, and read [sic]”. However, how long this sense of novelty can be sustained, and whether the interactors will be able to obtain a meaningful interactive experience, remains to be seen. These questions will be discussed further in the following sections, along with other audience’s characteristics of engagement.

3 Characteristics of Engagement

3.1 Playfulness

In both research subjects, the interactivities acted as the bait which lured the audience to further play with the art installations. ‘Play is a core of human value; even a core of mammalian value, we used an analogy that lion cubs learn to hunt and fight by play together’ [6]. By playing, the audiences are urged to participate, to stand closer, and to become involved and even to touch. At this point, they become active players; they question, explore and test the possibility of the art installations. This brings about a child-like state of joy. ‘In game-type interactive works, the term player is common’ [8]. The encouragement of participation is not the sole purpose of the installation; a key function is also to bring about a sense of empathy and to simulate the interactors imagination.

‘Playfulness’ has been spotted in many computer-based interactive media arts that successfully engaged their audiences in various public contexts, e.g., United Visual Artists’ Volume at the V&A (2006) [9] and Lozano Hemmer’s Body Movie (2001-2008) [10]. Once the audiences’ role becomes that of an active player, they could further become ‘an independent causal agent’ [11], who might unwittingly take over the stimulus while interacting with the art installations. Their responses could motivate the curiosity of spectators nearby and further influence their behavior. As soon as the interactivity reaches this level the effect is no longer constrained between art installations and the individual but provokes further interaction among people. This is an ideal psychological state, which indicates one has reached a state of ‘Immersion, The sensation of being surrounded by a completely other reality, as different as water is from air, which takes over all our attention, our all perception apparatus’ [7].

However, not only the result of the state is unpredictable, but it is also delicate. Eisenberg points out ‘The fragility of the jamming is evident in that it can never be routinized, habitual, linked to a specific set of antecedents, or necessarily self-sustaining once begun. On the other hand, it is possible to court these experiences
and to cultivate the attitudes and expectations that make jamming most likely to occur’ [12]. Based on this argument ‘Playfulness’ may not be the sole functional characteristic and other strategies and processes may be required in order to invoke meaningful experiences.

3.2 Dominance Transfer

This is the power of ‘transformation’ [7] that is bestowed on interactors. ‘Digital narratives add another powerful element to this potential by offering us the opportunity to enact stories rather than to merely witness them’ [7], giving the sense of control to the audiences may be another crucial element in arousing interactivity. Works that have this characteristic are often deliberately designed to function as a charming and hospitable ‘host’ [13] who invites the guests to the game. In the meantime the space for the guests is given [14] where hearty play is allowed and, in fact, is strongly encouraged.

One interviewee (A5) from the pilot study, who was asked, did the interactive effect of the installation stimulate your curiosity, he reported: “I was fascinated at the way the patterns change. I had to stop severally [sic] trying to figure out what it’s all about”. Here the audiences do not feel any demand, on contrary they act enthusiastically and actively engage with the art installation. This echos Murray’s ‘Agency, it is the satisfying power to take meaningful action and see the results of our decisions and choices’ [7].

In contrast to interactive installations, Dominance Transfer is not usually sensed in static art forms. ‘Traditionally the interaction of the viewer with the work of art has been via looking and respectfully appreciating’ [15] under this, the audience is often positioned as inferior to the work and always physically passive [15]. Whereas, the exclusive intellectual and physical hegemony of the artist does not exist in computer-based interactive media art. The host relinquishes dominance to its viewers and gives them conceptual space and a sense of control, whilst ‘creative authorship’ is shared. Once the audiences perceive interactivities are activated by their physical movements, they will go further and try to manipulate them, at this stage the artist’s dominance has been overcome and creativity is shared with the audience.

3.3 Mind-Orientedness

Traditionally aesthetics in general encourage viewers to think about author’s intention [16], which usually through visual admiration and contemplation, the action of which is deemed as ‘Reading’ [15]. To truly comprehend traditional arts requires a high degree of fluency in the artistic techniques and history concerning the work. This is not to say that art cannot be appreciated by the untrained eye, but merely that to appreciate it fully, knowledge is required. In relation to computer-based interactive media arts, the barrier to appreciation is lowered, thanks in part to the themes discussed in the paper, and as such may be accessible more widely than static art forms.

The sound of maracas “The legend of the Phoenix” is activated when the audience enters the reception/exhibition area that instantly attracted the attention of the
audience. This installation succeeded in attaining the first goal in this regard, secondly its form reflects a strong cultural value and represents the story of the land, which closely ties to passengers who originate from this area. This generates resonance with the locality. Some interviewees from the field study reported that they can tell the form of the installation resembled a phoenix and that they were interested in finding out the meaning it represents.

Another example of “Metamorphosis” [17] is a holographic artwork installed at C.K.S Memorial Hall MRT Station, Taipei, Taiwan. There are separate 3-D images, e.g. paper airplanes, birth certificates, textbooks, graduation photos, personal identification, wedding certificates, and near the end an image of a dove flying away. The images are installed from the bottom to the top alongside the escalator leading to the exit. Passengers are engaged as soon as they step onto the escalator. The static holographic images become a slow animation while following the moving escalator. The images represent different stages of life that connect to the people who were born and raised in the countryside and in the city. The sentiment between the country and the passengers is invoked and reflects to the viewers following the movement with their eyesight. These are Mind Oriented characteristics. ‘Not relegated solely to self-reflexive aesthetic concerns, artworks increasingly reflected cultural values, responded to political issues, and directly engaged their audiences in critical dialogue of the day’[18].

3.4 Accessible Challenges

An issue that was mentioned at the very beginning of this article: how long can fresh feelings be sustained? In many cases the majority of the audience showed curiosity at the beginning. Curiosity as a widely accepted aspect of human nature can ‘act as facilitators of the process of making sense of the objects’ [19]. However, this effect usually does not endure. In order to allow the audience to develop their ‘Optimal experience’ [11], a viable strategy may be to increase the challenge with the intention of prolonging the time of engagement. Challenges and Skills are two indices used for measuring aesthetic/emotional experience. The ‘Flow research model’ [11] has been adopted by researchers in attempts to decipher the codes leading to engagement in various contexts (Costello, 2005, Forlizzi 2004, Stuart 2005 et al). One of the most remarkable findings is that people give positive reports when challenges and skills are balanced, and when both indices reach a high level, people reported entering the ‘Flow’, whereas reports showed boredom when challenges and skills lay on a low level [11].

Other indices such as ‘use-time’ are often used as a reference to indicate the level of engagement (Graham, 1997, Candy, 2006, Brigid, 2005 Ann, 2007 et al). Over time the audience might react to the ‘emancipatory effect’ [15], which allows the development of thought, imagination or might even produce interpretation. Thus to raise a challenge might be one of the crucial components to extend ‘use-time’. However, high challenges in artistic appreciation may become counterproductive. It is understandable that people feel intrigued when they are in charge and able to cope with challenges, whereas they lose interest when things get boring or when there is no foreseeable hope in solving the challenges [6]. Hence an accessible challenge for art themes may be a way to provoke the interest of the audience, tempt them to explore,
and lead them to obtaining meaningful experiences. This is where “Intelligent” interactivity may become increasingly important since, in theory, it can respond to different levels of skills and present an appropriate challenge for different interactors.

4 Interactivity in Free Accessible Public Spaces

When art is encountered in freely accessible public space the level of complexity and difficulty is increased, not only concerning the aspects of security, maintenance etc., but also concerning the audience which consists of people who are normally unaccustomed to being intellectually engaged in such a context. Variables related to the audience might also be more difficult to account for. ‘As Harriet Senie asserts, the public is often an “involuntary audience” for public art’ [18]. Also as Birchfield argued ‘Public art in this scope is housed outside of traditional art settings and is intended to engage a public audience that might not otherwise seek art experiences’[20]. However, by equipping the concepts of functionality and site specifics (Miles, M. 1997, Kaye, N. 2000, Kwon, M. 2004 et al) upon art installations, the tactics have long been considered the antidotes to revitalize the environmental surroundings. Nowadays ‘an active interactivity’ is also deemed a functional alternative as technology is becoming a mature part of artistic creative professions. Many interactive installations are installed in free access public places and have successfully provoked audiences’ reactions and responses e.g. Jaume Plensa’s “The Crown Fountain” (2004), Lozano-Hemmer’s “Under Scan” series (2005-2008) and Hsiao’s “The Legend of the Phoenix” (2009). Some of them have even been placed as permanent installations with specific artistic intentions that relate to various public contexts. Hence the combination of functionality, site specifics and interactivity (Meaningful Engaging Characteristics) could prove a feasible strategy to revitalize and engage wider public audiences in non art public space.

5 Conclusion and Future Works

There is no doubt that many previous research efforts about audience response have laid a strong foundation in the field. The engaging characteristics such as Playfulness, Dominance Transfer, Mind-Orientedness and the Accessible Challenge have been identified as functional strategies in the pilot study, the field studies as well as in the review of this context. However, those characteristics can not be treated as an overall solution to the issues but solely as tactics that may engage audiences. As more and more computer-based interactive media art installations are seen in open public space, the general public is starting to recognize and become familiar with this new genre. At this point, engaging audiences is not the only issue, a more important issue is how a meaningful experience can be obtained by interactors. Muller and Edmonds suggested that ‘we must begin to question how interactivity as a medium produces meaning’ [21]. In order to obtain in-depth research data about how meaningful experiences are triggered by interaction with interactive media art installations in open public space further studies are required. These will remain focused on the computer-based
interactive media art installations that are placed in public spaces, specifically non-art spaces. Research into existing media artworks and audience responses in Taipei and Kaohsiung (Mass Rapid Transit) stations has been carried out and will be continued in other similar public settings. It is intended that the outcome will provide useful alternative methods for researchers and artists in the field, so as to deepen our understanding of the capacity of interactive art to realize meaningful engagement in the wider public context.

6 References

Abstract—Digital interactive art is increasingly seen in public contexts. This art form often invites inputs from the audience in order to trigger diverse multimedia responses. In such instances, the appeal of different artworks may be held in suspension as observers consider the media, mechanisms and intentions behind the work. Nevertheless, whether audiences are able to obtain Meaningful Experiences through interaction with art installations is an issue attracting debate in theoretical and practical contexts. The aim of this paper is to deepen the understanding of Meaningful Experience as a means to promote Meaningful Interactivity with audiences in public space.

Keywords- Interactive Art; Digital Art; Public Art; Meaningful Experience; ECs

I. Introduction

‘The intangible quality of experiencing interactivity provides a cognitive experience more than a physical one’ [1]

Interactive technologies, including electronic devices, are increasingly utilized as vehicles for conveying artistic intent and can be tracked back to as early as the late 1960s (Krueger and Ihnatowicz et al) [2], [3]. Technologies being used as media for artistic expression are not just a result of the increasing availability of such technologies, but a result of the challenges of the ways in which we experience the arts. In contrast to conventional static art forms, digital interactive art engages audiences in an active manner, provoking greater sensory responses as the audience attempts to ascertain the so-called “magic” behind the work.

Through a series of field studies three significant issues have emerged: 1) What experience the audience obtains through interactivity with art installations. 2) How audiences’ experiences evolve, and 3) How meaningful these experiences are to them. In a previous study, Her and Hamlyn [4] defined an area for their research and proposed four concepts/analytical tools: “Play, Transfer, Orientation and Challenge” entitled ECs (Engaging Characteristics) for examining Meaningful Interactivity between digital interactive artworks and the audience in public space.

This paper mainly focuses on digital interactive arts permanently installed in public space not specifically used for art purposes. By studying two digital interactive installations and the world largest glass artwork (Poetry on the Move, The legend of the Phoenix and Dome of light) at Taipei and Kaohsiung MRT (Mass Rapid Transit) stations and analyzing interviews carried out with passengers as well as art professionals, the research aims to further explore the concept of Meaningful Experience. Through examination of the ways in which ECs may elicit Meaningful Experiences in the public context it is anticipated the outcomes of this study will prove how alternative approaches can be employed by art professionals in different contexts.

II. Methods

Instead of submerging into a web of philosophical theories, this research adopts a series of ethnographical approaches developed through “grounded theory” [5], allowing the findings to emerge from the data. The data presented in this paper has been developed through three phases: 1) The field studies in Taipei Fuzong, Kaohsiung Fongsang West and Formosa Boulevard MRT stations, where “Participant observation” (Flick et al) [6] was carried out, enabling the researchers to construct an overview about what was happening in the field, offering them opportunities to ‘shape the conversations arising in the field into interviews in which the unfolding of the other’s specific experience’ [6] 2) “Semi-structured interviews” and “The think-aloud technique” (Preece et al) [7] were applied for the interviews with passengers at the stations, while a digital voice recorder was employed to make the interview process more efficient as its viability in field studies is proven.

Most interviewees were unwilling to spend too much time being interviewed, thus the use of the voice recorder was beneficial in that it allowed interviewees to speak freely. While the interviewees were interpreting their experiences of interaction, the
researchers elicited details of their experiences, which in some cases led the interviewees to further test the art installations. This whole process made interviewing much smoother and more productive. At each station, fifteen passengers were interviewed to gauge their physical reaction and sensory responses to the art installations. 3) An open-ended questionnaire was applied for interviewing three professional art researchers/practitioners who specialize in the field of interactive art. These professionals all have had practical experience presenting art in public spaces. Through examining the data collected from different phases of the research a qualitative “Triangulation” methodology [7] was formed, allowing the researcher to repeatedly examine and compare data from the different sources.

III. Space Overview
Taipei and Kaohsiung MRT (Mass Rapid Transit) are relatively new compared to other underground systems in the world. They have been in operation since 1996 and 2008 respectively. People in Taipei were initially concerned about the security and performance of the MRT, however, it has now become the primary public transport in the city. There are approximately 1,200,000 people taking the MRT each day and the number of new stations is continually increasing [8]. Kaohsiung MRT, on the other hand, is just ready to enter its second year of operation with 100,000 trips being made daily [9]. With the aim of encouraging usage of public transport, each station has been built with unique qualities; either visually attractive or locally distinctive. Various types of artwork have been installed in both MRT networks, creating a subsidiary role in the space as an open public gallery.

IV. Field Studies with the Research Subjects
There are a number of different permanent art exhibitions within the MRT networks. Generally, each station has several artworks, which provide valuable research opportunities. For the purpose of this study, three specific art installations were selected as the research subjects, two of which are interactive and a third which is static.

![Figure 1. Nanshijiao Station, Taipei MRT](image1)

Since the MRT stations have gradually become major public venues in Taipei and Kaohsiung cities, several stations have been built as leisure spaces where people can spend time with their families and friends, e.g., Taipei, Xiaobitan station. While in many stations, such as Taipei Banqiao, Zhongshan and Kaohsiung Formosa Boulevard MRT stations, part of their space has been utilized for diverse purposes, for instance for students to practice dancing or for art performances. This challenges the conventional role of MRT stations as monofunctional transport hubs by offering new and alternative experiences for the commuter.

![Figure 2. Kaohsiung Main Station, Kaohsiung MRT](image2)

The first research subject is “The legend of the Phoenix”, which has been sited in Kaohsiung County’s, Fongsan West MRT station since September, 2008. This phoenix-shaped computer-operated interactive installation, made from articulated stainless steel pipes, has been suspended.
beneath the ceiling inside the station near Exit One. The form of the installation symbolizes the legend of Fongsan City (Fong San in Chinese means Phoenix Mountain). The streamlined phoenix shaped installation resembles Chinese calligraphy, and is not only made for reflecting the cultural value, but also with the purpose of eliciting affection from the passengers toward their hometown. Several stainless steel maracas are attached to the ends of the pipes, which are triggered when passengers pass beneath them.

The second research subject is “Poetry on the Move”, an installation at Fuzhong MRT station, Taipei, Taiwan since 2005. An intersecting ribbon shaped LED bulletin board interactive installation was constructed from stainless steel and hung beneath the main atrium of the station. Since it was installed at the very centre of the station, it can be seen throughout three floors and all platforms. The installation catches passengers’ attention with its elegant form and distinct location as well as the moving text of the LED text display. This interactive installation invites passengers to send text messages to a displayed number. These messages are then displayed publically on the LED bulletin board. The messages created include short pieces of poetry and other messages passengers wish to share with others. A warning phrase to deter potential vandals is also displayed intermittently.

Although this research focuses on the role of interactivity between digital interactive art and audiences in public space, this does not mean that the interactivity in other static art forms does not exist or should be ignored. Instead, we suggest that it is both valuable and highly informative to examine all aspects of interaction generated through art in public space and to draw comparisons and critical evaluations.

The third research subject is a glass artwork “Dome of Light” that has been sited in Kaohsiung City’s, Formosa Boulevard MRT station since March, 2008. Formosa Boulevard is the hub station in the network. The work claims to be the world’s largest single glass artwork. It measures 30 metres in diameter, covers an area of 667 square metres [10] and is located in the central lobby of the station, surrounded by several entrances and exits that lead to different platforms. Passengers encounter the artwork no matter if they are entering or leaving the station.

V. Meaningfulness

“Meaningfulness” is a term that often creates disagreement and debate, especially when utilized in academic contexts. Unless there are adequate references provided to define it in a specific context it may remain contested. In discussing the concept of “intelligence”, Kruger forms a working definition in which he states ‘it is difficult to understand how one could proceed without reference to such a definition’ [11]. The same principle can be applied for employing the term “Meaningfulness” in this study. However, before examining the references, it would be productive to discuss “how a Meaningful Interactivity can be elicited” within the research framework.

A professional (P2) was asked “Can you elaborate on what you perceive to be the “artistic interaction”? He answered “I think that some objects may be finely crafted and may be wonderful objects in themselves, but actually they have no meaning until they are acted upon”. This echoes Dewey’s view that ‘there are other meanings that present themselves directly as possessions of objects which are experienced’ [12]. According to what has been discussed above, “Meanings” can reside in artworks; however these “meanings” may not be released or activated until the audience interacts with the artwork.
This provides an alternative notion, in which meanings can be held by individuals and in different contexts, but more importantly, can be interacted upon. In this research, no attempt will be made, either to supply the missing definition of the word “meaningful”, or to justify the term and its use in other research disciplines. Instead, the references about how Meaningful Experience could be elicited via interactivity will be discussed further in the following sections.

VI. Findings

As indicated by Her and Hamlyn (2009), the spectators from the field studies were not seen to be as active as those from the pilot study [4]. Nonetheless a number from the MRT stations were more implicitly engaged by the artworks. The constantly changing sound of the maracas and flowing texts on the LED bulletin board gained attention from passengers using the escalators and the stairs. Within the retrieved questionnaires from the first field study, ninety-three percent of interviewees indicated that they were attracted by the sounds, which appeared to them, to be indiscriminate. While in the second set of field studies ninety-three percent indicated the installation was seen easily and eighty-six percent reported they were attracted by the moving text on the LED bulletin board. Altogether, this indicates that people were attracted by changing, sensory multimedia effects.

The sound of maracas is activated when passengers pass underneath the art installation. One passenger (A12) from the first field study was asked “What did you feel when you saw this artwork for the first time?” She replied “It was cool, I thought it was a monitor watching me, but I felt quite happy because the sound seemed very welcoming”. Passengers become involved as soon as they start to suspect they might be the stimulus of the sound effects. They try to figure out the source of the sound and the trigger for it. This is a crucial element as it did not require an active input from the observers to trigger an initial interaction. One professional interviewee (P1) pointed out that in order for observers to deal with this “transitory experience, it has to be something where they have to have an immediate response to understand what’s going on”.

The places where the artworks are displayed to some extent defined the frequency of engagement. An interviewee (B2) from the second field study reported “I wouldn’t look at it if I was not on the escalator”. Despite the passengers being initially attracted by the flowing texts on the LED bulletin board, they were not as engaged as the passengers at the Fongsan MRT station since there was no immediate, on the spot, interactive response. One interviewee (B11) said “I thought it was just a specially designed digital bulletin board”. After the passengers were informed that the artwork was an interactive installation, eighty-seven percent showed curiosity and wanted to know how it worked. An interviewee (B4) suggested “the name of the station should be changed to 0911511026” (the number to text a message for the LED display).

As a result of lacking an initial incentive there was no subsequent interactivity provoked. This is not to suggest that a didactic introduction should be placed alongside the artwork. Nevertheless, an adequate prompt may help to stimulate the audience to interact. A professional interviewee (P2) suggested “the user should be able to detect that the artwork is interactive and be able to interact with it very quickly”. This is especially true in public spaces that are not normally used as spaces for art exhibition.

People came to catch a glimpse of the “Dome of light”, not only because it had been heavily publicised by the Kaohsiung City government, but also because of its huge size and vivid colors that engage and encourage the audience to explore its meanings. During the interviews a number of audience members expressed that they made the trip to see this artwork deliberately. The majority of the interviewees responded that they were amazed and stunned by the bold and vivid colors as well as the scale of the artwork itself. Within retrieved questionnaires sixty-seven percent reported that they would be interested in knowing its underlying meanings, while forty-seven percent indicated the color and patterns aroused their imaginations. A number of interviewees reported that the themes of the artwork: Water, Earth, Light and Fire were too abstract and difficult for them to comprehend.

However, many of them still showed a strong interest in finding out the original meanings of the artwork and some even developed their own interpretations, based on their personal perceptions of the artwork. An interviewee (C8) indicated “the work comprises many visual and conceptual elements related to Kaohsiung, for instance the sea”. In addition, it is interesting that thirty-three percent reported that they did not care about the true meaning of art. For example, two interviewees (C2, C3) said, “why bother as long as it looks beautiful”. It can be a huge challenge if one considers catering for a wider audience in public space. On the other hand, “it can work in a really rewarding way if you appeal to audiences that do not normally visit art galleries” (P3). Different levels of interactivity were evoked between the audience and three selected research subjects.

Thanks to the responsive multimedia effects, digital interactive art can be seen to be more capable of engaging the audience in a more active manner. Compared with gallery settings, the audience in more uncommon settings usually tends to be more passive. Unless adequate stimuli are applied and
engaging strategies are considered for the space, the audience and the artwork itself the audience may not be able to interact and obtain meaningful experience from the artwork. As the professional interviewee (P3) points out “in public places you have to be absolutely clear about the different levels of audience experience and how to get audiences involved”. Further analysis of the three artworks, along with the ECs (Engaging Characteristics) will be discussed in the following sections.

VII. ECs - Engaging Characteristics

**EC1: Play**

Turner calls 'play “liminal” or “liminoid”, meaning that it occupies a threshold between reality and unreality, as if, for example, it were on the beach between the land and sea’ [13]. The sound of maracas is trigged when the audience steps on the escalator or the staircase. The passengers lifted their heads, trying to figure out where the sound was coming from and wondering how it was being generated. A few of them even stopped on the staircase and looked up. Though they did not act explicitly, play and meaningful interactivity were already being established. The interactor crossed the threshold and further explored the art installation and through this process they may have obtained deeper rewards.

With regard to the artwork: “Poetry on the Move”, the “liminal” was not properly embedded as the audience did not know that they could send messages to the artwork, thus the “play” characteristic of the pieces was not fully realized until observers were told that they could do so. As soon as they saw their messages displayed on the LED bulletin board the meaningful interactivity becomes manifest. The professional interviewee (P2) remarked “I think interactive works have to have their rules implicit within them and they should be legible”, allowing the audience to “read” them as soon as they begin that process of engagement.

“Play” is not only a crucial element allowing the audience to obtain meaningful rewards, but it is also meaningful in itself. Lozano Hemmer’s Body Movie has been exhibited in many countries. Through play, the cultural differences of different groups were revealed. People in Liverpool were quite open and a number of them removed their clothes. Dutch people brought props and were quite creative through the use of minor narratives, whereas Latin American people were quite territorial and respectful of each other’s shadows. This reflects Bateson’s argument that ‘Play is a kind of meta-communication because any act of play carries the message’ [14].

**EC2: Transfer**

This is a magic power of “transformation” is retained for the audience. Control does not exist solely within the creation of the artwork. Indeed, ‘creative authorship’ [15] is shared between the artist and the audience. Here the audience is navigating through something they are inside, rather than outwith. Both “The Legend of the Phoenix” and “Poetry on the Move” invite the audience to experience the art rather than simply witness it. As professional (P2) states “we bring our own experience to something and we take away our own experiences.”

Through experience and interaction the meanings are revealed. Some observers discussed the sound of the maracas with their friends, while others queried about where the sound was coming from. Although they did not act consciously, their bodies were actually physically using and acting as tuning devices of interactivity. Whilst this was happening, the meanings of the art were being realized and perceived by the audience. One interviewee (A8) was asked, “Were you able to interpret the meaning of art?” She replied “the sound was like a screaming phoenix”. A similar outcome was identified, whereby the meaning of art was revealed at the moment the messages were displayed on “Poetry on the Move”. After passengers in the station were informed by the researcher, they started to send massages and dominance was immediately transferred to them. This reflects the concept of ‘Agency’; described by Murray as the ‘satisfying power’ that we feel when taking ‘meaningful action’ and seeing ‘the results of our decisions and choices’ [15].

Mobile phones and the bulletin board are different message carriers; the former has a quality of privacy whereas the latter usually has a more public characteristic. The work is a metaphor for connecting individuals and the community. It encourages the intimacy of personal communication, at the same time retaining privacy. In both research subjects, the meanings were derived through the process of interaction. That reflects the professional interviewee’s (P1) argument “It’s not about mechanical action, it’s about the integration of the mental process, the physical process and the experience. Those three combining, for me, is the ideal interactive experience and the true meaning of interactive”.

**EC3: Accessibility**

‘Navigable structures’ [16] provide clues allowing the audience to engage with the artwork. Nevertheless, this does not necessary mean that one has to have a clear goal to achieve or specific meaning to reveal. Instead an overarching initial incentive may be crucial and may lead the audience to obtain unique meaningful rewards. As Assoct
points out ‘consciousness is more to be navigated than mapped, and more to be reframed than explained’ [17]. The combination of the sound and shapes of the installation trigger the audience consciousness and sentimentality with regards to their hometown. Many interviewees reported that they felt the form of the installation had some sort of connection with the place. While some indicated that they could tell the installation resembled a phoenix and were interested in finding out the meaning of it.

The artwork “Dome of Light” succeeded in engaging the audience on a different level. The theme comprises four major sections: Water, Earth, Light and Fire. These elements of the piece do not provide a clear idea and visual reference, but its scale, colors and patterns appear to trigger audiences’ imagination. Though a number of interviewees were not able to tell what meaning the art represented many still reported that they felt very proud, touched and sentimental as they had the opportunity to see the world’s largest glass artwork in their hometown. They were especially proud of the fact that it had been designed by an internationally renowned artist (Narcissus Quagliata). An interviewee (C1) expressed “I feel Kaohsiung has been changing gradually over the past few years”. These subtle interactions generate meaningful experiences between artwork and the audience with regard to their feelings of community.

An issue that was pointed out about the work “Poetry on the Move” was its inaccessibility, due to its lack of evident stimulus to lead the audience to start a journey. Without those clues the audience may not be able to interact with the artwork. The professional interviewee (P2) mentioned “it’s not telling what the work is going to do. It gives you enough of a trigger to experiment and then you begin to learn the work functions. But unless you have that, there’s no way in”. Nevertheless, the trigger has to be subtle in order to allow the audience to derive their own meaningful experience. As Dewey states “The planning must be flexible enough to permit free play for individuality of experience and yet firm enough to give direction towards continuous development of power”. [17]

EC4: Challenge

Has a dual effect within the themes discussed in the paper. The first proposes that “acts realize a work”. Digital interactive art challenges the perception and experience of how people perceive arts by ‘addressing the viewer directly and involving her/him in a dialogue’ [2]. The second effect, the experience, “prompts curiosity” and leads the audience to cross the “liminal threshold”. ‘An experience should arouse curiosity, strengthen initiative, and set up desires and purposes that are sufficiently intense to carry a person over’ [18]. The passengers showed curiosity when they heard the sound of the maracas. Though, a number of the interviewees reported they were interested in finding out the meaning the artwork represented, in most cases, the passengers behaved indifferently and no following action was made.

There could be a several causes for this, for example perhaps people have become bored or they have encountered it before. The professional interviewee (P3) suggested “if there were enough levels of complexity then it could possibly get a cult following. People would come back and come and perform with it”. Thus, in order to allow the audience to develop their ‘optimal experience’ [19], a viable strategy must be used to sustain their curiosity, while the challenge of accessibility will be the crucial element in achieving this goal. “Accessible Challenge” [4] has been derived from the theory of ‘Flow’ [19], which has been utilized by researchers to decode puzzling phenomenon of psychological and physical engagement in various contexts (Chen, 2007, Pace 2004 et al)

With adequate challenges, the audience is enticed to explore, leading them to gain a more Meaningful Experience. It is understandable that people feel intrigued and sometimes engaged by challenges and unexpected results, while they are in charge and able to cope with challenges. “I prefer the more software-related art things, where it’s kind of under your control and kind of out of control” (P3). The passengers sent massages to share their thoughts with others, while retaining sense of privacy and a sense of distance. The interactivity here does not exist between the art installation and the interactive observers, but more interestingly it is fermented between the two.

ECs - Analytical Summary

ECs were mainly devised to investigate the interactivity between digital interactive artworks and the audience in public spaces. Regardless of the valuable aspects identified through analysis of “Dome of Light”, the ECs could not fully examine this artwork. This was due to the static nature of this piece, which did not exhibit the same interplay qualities as the other two art installations. Therefore, apart from “Orientionation”, the other Engaging Characteristics are not specified within the analysis of “Dome of Light”. “I’m sure you can look at a painting and see a narrative or whatever. That is different to something where you are controlling the work” (P3). In comparison, the ECs have been more vigorously applied to examine “The Legend of the Phoenix” and “Poetry on the Move” as the audiences’ inputs are considered to be essential components of these two art installations. Different levels of “Play, Transfer, Orientation and Challenge”, have been identified via examining both digital interactive installations; these are crucial elements that may constitute “Meaningful Interactivity”.

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VIII. The Nature of Activity in the Space

Despite the MRT stations gradually becoming multi-functional spaces, their innate purpose has not been changed substantially. During the interviews in the field studies, the majority of interviewees reported that unless they had free time they would not pay too much attention to the artworks. Jacob asserts ‘since it is on the street that, it is felt, the work of art meets an uninformed and unwilling general public’ [20]. In public contexts the complexity and difficulty of art being encountered becomes apparent. Indeed people in general would not be expected to “experience” art in (MRT) stations. Thus, Metro arts are generally designed with specific functionality or decorative finishes.

However, with the themes discussed in this paper, digital interactive arts to some extent seem to be more capable of attracting an audience. Since “we haven’t yet escaped from the era of interactive arts, especially computer-based arts” (P2), the audience is still allured by the magic (interactive multimedia effects) that exists within such art pieces. The passengers were engaged, unconsciously, by the sound of the maracas in the “The Legend of The Phoenix”.

In these types of “transient activities”, the importance of grabbing attention fairly is a significant issue. “Because you have people who are moving through form one place to another. And because they only have a very transitory experience of the artwork itself, the artwork has to be something that can elicit an immediate response, so that people understand what’s going on. Otherwise, they will have gone through the area and will have missed the experience” (P1). Nevertheless, the professional interviewee (P2) points out “there’s a difference between gaining someone’s attention and providing them with a meaningful experience” Hence, more tactful strategies may be required in order to engage wider audiences and to a deeper level.

IX. Conclusion and Further Studies

There is no meaning until it is acted upon. “Art exists in a forward transaction. So that art doesn’t reside in objects, but it exists in the process of people engaging with objects or in the process of people engaging with other people”. More concisely “the principle of art is completely bound up with the principle of interaction” (P2). Digital interactive art possesses a unique quality in offering the audience a new experience by engaging them with diverse responsive multimedia effects or encouraging interactivity with the audience, which increases the possibilities for them to obtain meaningful experiences through the process of interactivity. However, the public, outside the walls of galleries and museums, are often involuntary audiences.

Knight asserts that ‘Inviting more people to engage in public art requires tactful negotiation’ [21].

Undoubtedly, many remarkable strategies with regard to audience engagement with digital media arts have been developed (Brew, K. 2004, Birchfield, D. 2006, Bilda, Z 2007 et al) and provide a strong basis for further research in this field. The ECs (Engaging Characteristics) of Play, Transfer, Orientation and Challenge have been identified as practical strategies for examination of the subjects in previous studies as well as in the review of the research subjects. Nonetheless, this strategy cannot be treated as a holistic approach, but rather an alternative strategy that may help to enhance intellectual engagement with the audience in public spaces. As technologies become more attainable and applicable for artistic expression, attracting the audience becomes more than the sole issue for artists to consider. More importantly, the artist’s intent, and the strategies used to develop more meaningful rewards for the audience are significant.

In order to obtain more diverse opinions about how meaningful experiences can be elicited through interactivity with digital interactive art in specific public spaces (Metro stations), further studies will be conducted. The research at this phase focused on examination and analysis of the audience response and professionals’ experiences. In the next phase, a thorough comparison will be formed. The data that has been collected will be used to compare artists’ predictions, as well as the opinions of members of the jury involved in the selection of artwork for the MRT stations. It is the intention of this research to allow for alternative methodologies to be employed by artists and art researchers in the pursuit of more meaningful experiences in art-interaction.

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References


Playing Interactivity in Public Space

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Abstract—Digital interactive art provokes active inputs from the audience along with enjoyable and curious experiences, which alter the way audiences perceive and experience art. Through interactivity, outcomes become discernable and manifest upon diverse multimedia interfaces. This process is referred to as "play" - the action and outcome are often deemed major elements of this process. The purpose of this study is to deepen understanding of how artistic intent can be elicited through playful interactivities and to investigate forms of play that affect audience perceptions to, and encounters with, digital interactive arts. This research mainly focuses on interactions of play that take place between the audience and digital interactive arts installed in public spaces. By studying four interactive art installations in the MRT systems (Mass Rapid Transit) and in art galleries, as well as analyzing interviews carried out with the research participants, and art professionals, a number of important qualities and modes of play have been established.

Keywords— Digital Art; Interactive Art; Meaningful Experience; Play; Public Art

I. INTRODUCTION

"Play is more than a mere physical phenomenon or a physiological reflex. It goes beyond the confines of purely biological activity.' [1]

Play has long been the pivot of research in various disciplines (Huizinga 1992, Gadamer 2004, and Salen 2006 et al). However, a large amount of research has been conducted under the umbrella of “play” with an abundance of theory being developed. Only a scarce amount of studies have focused on “play” that takes place with digital interactive arts installed in public space.

As digital interactive technologies and devices become more accessible and attainable by artists, various creations of interactive installations are being increasingly presented in public space. When people enter into the “Magic Circle”1, inadvertently their attentions are drawn to magic-like multimedia effects. These effects often prompt subsequent playful interactivities with the intention of disclosing the mysteries behind the magic.

The phenomena within different qualities and modes of play have been identified over the studies of four computer-controlled interactive arts.

The play interactivity is not solely defined based on the researcher’s observations. During the field studies (The MRT stations, the university, and the art galleries) many observers indicated that playing with the interactive art installations was good fun. One audience member wrote a comment in the notebook "It is interesting to have an interactive artistic exhibition. It could be more fun if you could make it even more interactive, so that the public can ‘play’ more.” Nevertheless, how meaningful experiences can be elicited through interactivities with the art installations is an issue that is set out in the research.

In order to unravel this fundamental issue, the research investigated three major perspectives: 1) the differences of interactivity in the MRT stations, the art galleries and other public contexts, 2) How interactivities evolve between the audience and art installations within these public contexts and 3) What those interactive experiences mean to the interactor. Through the process of the investigation three play modes have been formulated: 1) Tentative Play, 2) Implicit Play, and 3) Immersive Play.

The research has been developed based on a series of different case studies. These separate aspects will be discussed in the following sections along with analysis of four research subjects and the interviews with the participants. Additionally, professionals having extensive practical experience in either participating in art project developments in the MRT system or presenting digital interactive art installations in public spaces were interviewed and their views analyzed.

It is envisaged that the outcomes of the study will enhance greater understanding of different qualities and modes of play that take place in public contexts within the scope of digital interactive art, so as to promote meaningful interactivity with wider audiences in public spaces.

II. THE PLAYGROUNDS AND THE RESEARCH SUBJECTS

The “playground” is being used metaphorically in this research to represent the space where the research subjects (digital interactive artworks) are displayed. Within these spaces the responsive multimedia effects are set off by participants’ interventions and the interactive experiences are revealed. In order to observe and gauge the

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1 "The magic circle” is a term borrowed from Huizinga’s ‘Homo Ludens’. ‘All play moves and has its being within a play-ground marked off beforehand either materially or ideally, deliberately or as a matter of course.’
audiences’ physical reaction and sensory responses to the art installations, four digital interactive artworks were selected as research subjects.

The first research subject is “Poetry on the Move”, at the Taipei MRT, Fuzhong station. An interlacing ribbon shaped LED bulletin board made from stainless steel, which has been suspended by steel cables underneath the ceiling of the main atrium inside the station. Therefore the artwork can easily be seen from all three floors. Since it is situated at the very centre of the station, the MRT users encounter it no matter if they are entering or leaving the station. Nevertheless, the users’ attentions were not only caught by the visibility of the piece, but also by the moving messages displayed on the LED bulletin board.

A number to text a message for the LED display is periodically shown on the installation, inviting the passengers to play with the installation, while at the same time sharing thoughts with other passengers by sending messages to be displayed in the installation. The artistic intent of this art installation is to turn the station into a more humanized space. The messages are ideally, short pieces of poetry, or messages that the passengers want to share with others. In order to prevent and deter potential vandalism a warning message is displayed intermittently.

The second research subject is “The legend of the Phoenix” at the Kaohsiung MRT, Fongsan West station. The phoenix shaped installation is constructed from stainless steels pipes, with several motor-driven rotatable stainless steel maracas attached to the end of the pipes, which are triggered by a light sensor when the commuters step in the magic circle (the sensor detecting area). The installation is hung by steel cables above the staircase and the escalator inside the station near Exit One.

The form of Chinese calligraphy and interactive effects revive the clinical space, which is not only made for strengthening the cultural value, but more importantly with the purpose of arousing commuters’ affections towards their hometown (Fong San means Phoenix Mountain in Chinese). The sound of the maracas attracts the commuters’ attentions when they pass underneath the installations, in which they were prompted to figure out where the sound was coming from, which led to further play with the installation.

The third research subject is “Event Horizon”, a screen based installation, equipped with an infrared sensor that can detect audience presence. The images and sound effects changed randomly and dynamically and were triggered by the audiences’ movements.

In order to test the feasibility of the research methodology and to draw an initial research framework, the installation was originally created for the pilot study that was carried out in a non art exhibition space at the Robert Gordon University, in a public hallway of the Scott Sutherland School. The silence and static image became alive when people passed in front of the installation. This grabbed people’s attention. Indeed, many people were actively playing with the installation with the motive of finding out the magic hidden behind it.

The art installation was subsequently exhibited in the Limousine Bull art gallery in Aberdeen that provided an opportunity for the researcher to examine play interactivity with the same installation in a different public context. Though the gallery-goers were not seen to be as active as the students playing with the installation during the pilot study, similar but implicit play patterns were recognised. The details will be further analysed in the following sections.
The fourth research subject “Wonderscope” is a screen based interactive kaleidoscope. An infrared sensor was employed to detect the movement of the audience members that were having a direct influence on the changing patterns as well as the sound effects. The effects were activated when audience members moved within a specific area of the space. In the “magic circle” the interactors’ body movements were instigators of the changing images; an idea related to the dynamics of a kaleidoscope. In order to see the change of the image patterns the audience members were encouraged to act rather than merely pay visual appreciation.

The subject of the work was based on the theme of the exhibition titled “Scratching the Surface”. The idea being expressed is that of scratching the surface of your everyday routine; regain your child-like wonder to explore this fantasy world. The “Wonderscope” was the only digital interactive art installation within a total of twenty-three art pieces. It was displayed in an independent dark space and the farthest exhibition space in the gallery. The audiences were drawn towards the installation with a sensation of curiosity; many of them were intrigued by the changing patterns and this led to further exploration and play.

Figure 5. Wonderscope at Ardo House, Aberdeen

III. LATENT MEANINGS IN PERCEIVABLE INTERACTIVITY

“Play implies interactivity: to play with a game, a toy, a person, an idea, is to interact with it,” [4]. The meanings of play are latent within those diverse interactivities. One professional (P2) was asked “can you elaborate on what you perceive to be the artistic interaction?” He replied “some objects may be finely crafted and may be wonderful objects in themselves, but actually they have no meaning until they are acted upon.” An observer in the gallery was also asked a similar question and answered, “I would say is that by an artistic interaction, by giving and taking it is important to receive, feel, and think etc. something new, unique maybe but memorable, if possible [sic]”.

This feedback raises a significant notion that meanings not only reside in objects or within specific contexts, but more importantly, they are latent over the course of interactivity. Nevertheless, in order to initiate playful interactivity, the perceivable outcome may be a crucial element for evoking subsequent action from the interactors. Csikszentmihalyi points out ‘clear goals and clear feedback serves to prolong and often to deepen the focusing of attention of the object.’[5]

However, a perceivable outcome within this research framework does not simply mean “discernable responsive multimedia effects” but more specifically “Accessibility” that provides enough clues allowing the audience to develop their own meaningful rewards through interactions. Without sufficient clues artworks may not be able to further engage the audience, but merely attract their attention. One professional (P1) noted “is an art work actually meaningful in terms of the user interaction experience. In other words, does the work have meaning in the sense that does the participant or user understands the language that the artist has been using?”

The combination of phoenix shaped and interactive sound effects engender affection from the commuters toward their hometown. Many interviewees from the station indicated they could tell the form of the artwork had some sort of association with the place. One interviewee (A8) was asked, “were you able to interpret the meaning of art?” The first sentence she said was “the sound was like a screaming phoenix”. The meaning of art was not told didactically instead it was latent within the interactivity, which gave appropriate stimuli to evoke “play” leading to development of imagination. One professional (P2) indicated, “if I’d put up instructions that said this is how you engage with the work, it wouldn’t have been interactive, it would have been directed.”

In Csikszentmihalyi’s book ‘The Art of Seeing’ he also noted “he doesn’t provide stories. He allows them the viewers to trust their instincts and come to terms with the work.” [5] The “Meaningful Play” in the research is not only tied to the concept of “Acts realize a work”, but it is
also influenced by the qualities of play that have been discerned over the course of the study.

IV. THE QUALITIES OF PLAY

Enjoyable: In Dinkla’s ‘Six important implications of interactivity’ [6], ‘Play’ has been paralleled with Power as the first implication. In public space people play with digital art installations often because they find the magic-like multimedia effects interesting and curious because the effects respond to their movements unexpectedly in real time. The feeling is of becoming part of a scaled up game within a real live setting. One professional (P2) points out “a lot of people’s engagement with interactive media is still in the domain of I want to know the magic of the interactivity hidden behind it.” The audience are attracted by the way the art is presented, since this art form is still relatively new to them.

During the field studies the observers were asked “what you felt when learning that their movements trigger the changing of the effects?” The general consensus was positive and much of the responses were curious, exciting, and interesting, some even indicated that the interaction had encouraged discussion between their friends. This phenomenon is reflected in Csikszentmihalyi’s argument that ‘play is clearly intrinsic enjoyment without effort.’ [2] That breaks the ice and allows an initial trigger to be encouraged. ‘It is part of play that the movement can be preceded only if they comply with the rules. Conversely, the rules are relatively lenient upon the play with interactive arts; furthermore no winner or loser is predicted. Play amid ambiguity is common within “play” of digital interactive arts. ‘The purpose may be merely to make the system seem mysterious and thus attractive, but more importantly it can also compel people to join in the work of making sense of a system and its context.’ [9]

During the field studies, the majority of the observers did not know when and how the “play” began (how and why the effects were triggered). Many of them moved back and forth to ascertain if they were the stimulus to set off the interactivities. As soon as they started to suspect they might be the incentive to set off the effects they attempted to figure out the source of the effects and the trigger for them.

Effortless: on most occasions, a certain level of pre-knowledge or skill is required in order to allow play to be initiated. Moreover, players are normally consciously aware of the moment before play begins. In contrast with the play activity in this research, those requirements and this state of consciousness does not usually exist.

When the MRT users stepped on to the escalator the sound of maracas was activated and the following play behaviors developed. While the images and sound effects of the “Wonderscope” were stirred up when the audience stepped into the detecting area. This is a crucial element as it did not require an active input from the observers to trigger an initial interaction. The audience members moved around and swung their bodies trying to manipulate the patterns of the digital kaleidoscope. One young audience member told his mum “cool, I think I have found my favorite one.”

The “play” discussed above mostly began with a sense of curiosity, whilst an active initial trigger to change the effects is not usually demanded from the audience, in the meantime their contribution is encouraged. ‘It is part of play that the movement is not only without goal or purpose but also without effort.’ [2] That breaks the ice and allows “Tentative play” to take place spontaneously.
V. PLAY MODES

Playful interactivity often serves as bait to lure the audience to further play with the art. “Obviously it makes a difference if you’re getting a reaction from an installation.” (P3) The interactive effects encourage the audience to get involved, to stand close and even to touch. They question, explore and test the possibility of the art installations. Through the process they become active players rather than bystanders; they are inside rather than outwith. Thereby, through the course of play interactivity, meaningful experiences develop. ‘Gadamer describes the way in which play is transformed into art. He calls this process “transformation into structure”,’ [10]

Based on the analysis of play interactivities within this study, “play” has been categorized into three play modes.

Tentative Play: ‘A genuine purpose always starts with an impulse.’ [11] “You don’t know how you did it, what the consequence of your actions might be. But then you start to play with it and by playing with it you create effects, and part of the interest is in learning how to control the space, but also a very sensual effect of what you see and what you hear. And so there are those things that work together, the learning of how to control and command this space, while also having that sensory feedback that make it quite pleasurable.”(P2)

The audience were attracted by unexpected responsive multimedia effects, many of them halted, danced, moved backward and forward in front of the art installation “Event Horizon”. They wondered what had activated the changing of the patterns and sound effects while many attempted to influence the changing of the effects and also browse around the space and inquire into what the trigger was. Within the retrieved questionnaires, ninety percent of the interviewees indicated they were trying to discern how the installation worked.

This reflects Gadamer’s concept that ‘Play draws him [the observer] into its dominion and fills him with its spirit.’ [2] Similar play phenomena were spotted during the field study at Fongshan West MRT station, though the audiences’ physical inputs were not as evident as those in the pilot study. Many commuters on the escalator watched and pointed at the installation while some on the staircase even stepped back and forth to watch for the rotated maracas, trying to discern how and where the sound was coming from. The result of the interview shows that seventy-five percent of the interviewees reported they had attempted to figure out how the installation worked.

Implicit Play: Based on a series of studies, the play phenomenon in both “Event Horizon” and “Wonderscope” have been found to be very distinct over different research public contexts. Although the work “Wonderscope” requires more evident body movements to trigger the transformable effects than “Event Horizon”, the audience actions still remained relatively reserved in the galleries. Overall, the audience members were not as active as their counterparts in the pilot study.

Though, “Tentative Play” was also identified during the field studies in the galleries, the state of play in the space was generally implicit. Most of the people watched the other interactors playing with the installations and read the introductions of the work. This suggested that they were also interested in knowing how the installation worked or the artistic intent of the works. Nevertheless, they did not actively explore the mechanisms behind the magic. This may be a result of the seeing the outcome of the interactivities easily. In such a case, the audience mostly played with an inclination for a confirmation rather than exploration, while many of them tended to be bystanders and discussed the effects of the interactivity behind the interactors who were playing with the installation rather then to experience it by themselves.

Due to a lack of sufficient stimuli the “play” only began after the observers were told by the researcher that they could send messages to the installation (Poetry on the move). As soon as the messages were displayed on the LED bulletin board, people started reading the messages while others kept typing on their mobile phones and reading the messages.

Since the observers were told they could do so, the feature of the “Tentative Play” was not obvious during the process of the study. The observers were playing implicitly as the body inputs were not required. Nonetheless, they could interact with other anonymous message contributors via the installation. As one professional (P3) remarked, “that’s really one of the best ways to get people engaged, it gives them confidence that they’re not going to make a fool of themselves.”

Immersive Play: ‘The experience of being transported to an elaborately simulated place is pleasurable in itself, regardless of the fantasy contents. We refer to this experience as immersion.’ [12] During the pilot study, most of the audience members actively engaged with the installation “Event Horizon”. A number of them even danced in front of the image projection. Some took pictures for themselves with the projected patterns while trying to manipulate the changing of the images. They utterly ignored the passersby and immersed themselves in play.

In comparison to the gallery settings, the work was displayed at the university seemed to encourage more active interaction. Many observers’ responses to the installation, particularly with their friends, were extroverted. This status was not seen during the field studies in the MRT stations as well as in the galleries. Nonetheless, this does not suggest that the “Immersive Play” could not happen in freely, accessible public
spaces, but again, an adequate “playground” should be constructed.

The “Piano Stairs” [13] at Odenplan, Stockholm, draws the commuters’ attention and provokes spontaneous play with the installation. The idea of a piano-like interactive installation may not be an unprecedented creation as the similar artworks have been displayed in many public places. However, it does effectively arouse people’s natural instinct of play as people know how a piano worked and they had the confidence to play with it. This echoes one professional’s (P3) notion about “Life Metaphor”, “it’s not an art gallery then people do need really clear ways of interacting. And so it needs to be sort of quite a common life metaphor, something like shadows. People know how shadows work.”

Also based on one professional’s (P2) view, this phenomenon could be deemed “Cultural Confirmation”: “It might confirm to you that you are a person who understands interactive works and actually is able to engage with them and that can be quite rewarding because it makes you feel significant culturally; it makes you feel you have a place in the world, because you are able to engage with things that are positioned within a certain intellectual or cultural status.”

Play Mode- Analytical Summary: “All interactive works engage people upon different levels, so that there are elements of play which come into the process.” (P1) Through “Tentative Play” the observers were able to associate the combination of the sound of the maracas and the phoenix shaped installation to their hometown, while at the Fuzhong MRT station, the commuters shared their thoughts with other people via “Implicit Play” with the perceivable outcome displayed on the LED bulletin board. The passengers started with “Tentative Play” to test the sound of the “Piano Staircase” and soon the “Immersive Play” developed while melodies were played.

In short, the “Play Modes” can be seen as a process of engagement while each mode can also be utilized individually by embedding them into the creation of arts with a means of provoking more meaningful engagement dependant on the intention of the work.

Play brings people across the threshold into a specific context. However, if one’s goal is to elicit a meaningful experience other engaging strategies maybe required. Dewey states, ‘Nature impulses and desires constitute in any case the starting point. But there is no intellectual growth without some reconstruction, some remarking, of impulses and desires in the form in which they first show themselves.’ [11]

VI. ECs – ENGAGING CHARACTERISTICS

With the primary goal to test the viability of the research methodology, the experimental installation “Event Horizon” was created with no specific artistic intent. Nevertheless, the work did successfully engage the audience to a certain level. “I’m sure you can look at a painting and see a narrative or whatever. That is different to something where you are controlling the work.”(P3)

Giving the sense of control to the audience, could be a feasible tactic that turns the passive spectator into an active player. Once the audiences react, the dominance is then immediately transferred to them and this may result in playful interactivities.

This state of activity has been characterized as “transfer”; one of the ‘Engaging Characteristics’ that has been proposed by Her and Hamlyn, 2009 [14] However, apart from “curiosity” and “interest” no further meaningful engaging experiences were reported during the course of the field studies. One professional (P2) indicates that “there’s a difference between gaining someone’s attention and providing them with a meaningful experience”. This suggests that other strategies are required in order to elicit meaningful interactivities.

Along with “Play” and “Transfer”, “Accessibility” may be one of the most functional characteristics. They operate as ‘navigable structures’ [15] nonetheless, “Accessibility” in this research does not mean that one has to have a clear goal to accomplish or to reveal. Instead, it gives enough prompts that lead the audience to obtain their unique ‘intrinsic reward’. [7] Dewey shows ‘the process of discovery as contribution to their significant encounters.’ [5] Though, most audience members knew the “Wonderscope” to be a digital interactive kaleidoscope, one audience member said, “it felt like a gate, a boundary that leads to a fantasy world”.

One professional (P2) remarked that “one of the great things about a lot of artworks is that they might actually produce very positive outcomes in people who engage with those artworks but those outcomes might be very different from the ones the artist originally intended. However, what is actually done is that we interpret it for ourselves. We bring about our own experiences and we take away our own experiences.”

As has been mentioned above, when encountering interactive arts most of the observers reported “curious” and “interesting” experiences. Nevertheless, if these are the only results, that may not be able to satisfy most artists. Moreover, in the long term, the attention span of the audience may shorten and it would become harder to get the audience engaged. Thus a viable strategy may be to introduce an element of challenge, with the intention of further engaging the audience.

An eight-year-old child from a LEGO class was asked ‘if this was not just all fun and games.’ The kid replied ‘Yes, this is fun, but its hard fun.’ [16] The engaging characteristic: “Challenge” consists of twofold effects: The first subverts the
conventional way of how we experience arts, by involving us in a more active manner. The second, with an element of accessible challenge, that encourages and tempts the audience to explore while their engaging scale may be extended.

In addition to the ECs discussed above, ‘Incentive’ may form another crucial characteristic of engagement. Importantly, ‘Incentive’ often drives the journey of interactivity between the audience and the artwork.

During the field study at the Fuzhong MRT station, the majority of the observers were initially unaware that they could send messages to the installation (Poetry on The Move). As a result of the lack of an “Incentive”, non-apparent interactivities were generated. One professional (P3) indicates that, “if it’s not an art gallery then people do need a really clear way of interacting.”

According to what has been discussed, people usually won’t regard themselves as a player outside certain contexts. Another professional (P2) mentioned that, “not all of us want to be constantly challenged. Not all of us want to be constantly seeking the experience.” This is especially true in the metro context, where people move from one place to another. In such a space their attentions usually rest on the timing of transport rather than the surrounding attractions. In dealing with such “transient interactivities”, one interviewee (P1) remarked, “it has to be something that gives you enough of a trigger [Incentive] to experiment and then you begin to learn how the work functions. Unless you have that, there is no way in.”

VII. CONCLUSION AND ONGOING STUDIES

“Play” can be meaningful in itself, [17] while it is often regarded as a key component that leads to, or engenders, subsequent meaningful interactivity. One professional (P1) notes that “unless you have a captive audience, it’s a bit difficult to engage them in the same way that you might with an installation, say, within a gallery space or a gallery context, simply because of the nature of the activity that takes place within these buildings or these spaces.”

The play phenomenon is frequently discerned within the interactivity between the audience and digital art installations. It is not because the element of “play” is intentionally employed as a major ingredient in the creation of the art installations, but because the nature of the art often induces playful interactivity. Additionally, the qualities and modes of play discussed in this research context are to some extent distinct from other general game activities. Also the “play” taking place in public spaces is very often different from one place to another. This has an effect on audience perception and experience of the art. Thus, in terms of arousing more Meaningful Experience, a tactical approach would be required. “Engaging Characteristics” may be one of the strategies to achieve this goal.

This study is not focused on proposing a general definition for the nature of play, nor in justifying the theories of play in other disciplines. Huizinga has indicated “when trying to analyse or define the idea expressed in that word, we must always bear in mind that the idea as we know it is defined and perhaps limited by the word we use for it.” [1] Instead, the objective of this research is to identify and analyse the qualities and modes of play in the research context with the specific agenda of promoting meaningful experience in art-interaction.

In order to identify more dynamic samples about how meaningful play can evolve through various transient activities in specific public space (metro stations), more studies have been planned and will be carried out in these similar public contexts. It is anticipated that the outcome of these studies will provide references within academia and for practitioners.

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REFERENCES

Digital interactive art often demands a certain level of physical involvement in order to fully realise the artwork. Such an approach engages the audience and successfully provokes greater sensory awareness. However, the question of whether audiences are able to obtain Meaningful Experiences through predominantly physical interaction with art installations initiated this research.

In previous studies (Her and Hamlyn 2009, 2010), the authors selected Taipei and Kaohsiung MRT systems (Mass Rapid Transit) as the major research spaces and defined the research questions:
1) What experience does the audience obtain through interaction with the art installations?
2) How do audience experiences evolve?
3) How meaningful are these experiences?
In order to answer these questions the research has been carried out using multiple approaches which included a series of interviews, field studies and the creation of interactive installations. By examining the data from these different sources, the initial research framework, Engaging Characteristics emerged, which has been utilised for analysing the audiences’ interactive experiences. Through these studies the definition and form of the four Engaging Characteristics has been reinforced, whilst the additional characteristic, “Incentive” was later identified.

Engaging Characteristics

**Incentive:** is an important characteristic as it does not require an active input from the audience to trigger an initial interaction that leads the journey of interactivity between the audience and the artwork. Without this crucial element subsequent interactivities may not proceed. Incentives can take on multiple forms. Common
elements are most often acoustic or visual but can also include other sensory experiences.

Play: is a key component that breaks the ice as sometimes the audience feel it is intimidating to interact with interactive art (new technologies). Play, in the research context, often contains enjoyable, playful, effortless and unexpected elements that serve as bait to lure the audience to further engage with the art as well as to urge them to look closer and to participate more deeply.

Transfer: is a transformative capacity reserved for the audience. It allows the audience to control and/or manipulate the course of interactivity and to share a sense of creativity with the author, and very often with other participants. The feedback from this to-and-fro interaction often takes place in real-time and is clear enough to prompt the audience to contribute further inputs.

Accessibility: is the characteristic that builds upon familiarity, facilitating the audience to appreciate and to further engage with artworks. This may not necessitate the need for clear goals, or to have encouraged the audience to achieve or reveal specific meaning. Instead appropriate prompts may be beneficial and may lead the audience to obtain unique meaningful rewards and/or fulfilling outcomes.

Challenge: is a strategy that may prolong and intensify the attention-span of the audience. With dynamic and yet accessible challenges, the audience may be enticed to explore and engage, leading them to gain a more fulfilling experience. It is understandable that people feel intrigued and sometimes engaged by challenges and unexpected results when they are in charge and able to cope with challenges.
The Engaging Characteristics may often appear to overlap. Nevertheless, each has their own specific features. Despite the fact that these characteristics have been identified as viable strategies to facilitate the audience to obtain meaningful experience, the characteristics may not appear simultaneously in all installations. Indeed, they are often found in a disordered or incomplete sequence. In addition, the discrepancies of magnitude in each characteristic can also vary from one installation to another and therefore need to be unpacked on an individual basis.

The research aims to explore the concept of Meaningful Experience, through the way in which Engaging Characteristics may elicit Meaningful Experience in public space. The outcome of this study will articulate how these approaches can be employed by art practitioners in broad public contexts. In order to obtain more diverse data about how Meaningful Experiences can be invoked through engagement with digital interactive arts, further studies have been planned. The research at this point focuses on examination and analysis of the audience response and art practitioners’ experiences. In the next phase, a thorough comparison will be drawn. The data that has been collected will be used to compare artists’ preconceptions, together with the opinions of the MRT artwork selection panel. It is the intention of this research to develop practical methodologies and a research framework to be employed by artists and art researchers in the pursuit of more meaningful experiences in art-interaction.

References

Dear Mr/Ms Jim Hamlyn [Jiu-Jhy Her is the first author of this paper],

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Figure 1: UR-Reality postcard, Limousine Bull Artists’ Collections, Aberdeen, UK

Figure 2: Event Horizon at the exhibition of ‘UR-Reality’, Aberdeen
Figure 3: *Event Horizon* at the exhibition of ‘UR-Reality’, Aberdeen

Figure 4: *Scratching the Surface* postcard, Ardo House Gallery, Aberdeen, UK

Figure 5: Wonderscope at the exhibition of ‘Scratching the Surface’, NEOS 2009, Aberdeen

Figure 6: Wonderscope at the exhibition of ‘Scratching the Surface’, NEOS 2009, Aberdeen