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**USING A DIGITAL GAME AS AN ENJOYABLE AND  
EFFECTIVE TRAINING FORMAT IN PREPARING  
FOR BUSINESS TRAVEL**

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M.A. degree in TELECOMMUNICATION,  
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**USING A DIGITAL GAME AS AN ENJOYABLE AND EFFECTIVE TRAINING  
FORMAT IN PREPARING FOR BUSINESS TRAVEL**

By

Haomin Chen

A THESIS

Submitted to  
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## ABSTRACT

### USING A DIGITAL GAME AS AN ENJOYABLE AND EFFECTIVE TRAINING FORMAT IN PREPARING FOR BUSINESS TRAVEL

By

Haomin Chen

Effective business communication and negotiation between two parties are often dependent on a firm understanding of each party's culture. As more and more American business people are going to China, there is a greater need in understanding Chinese culture, which sometimes varies dramatically from American western culture.

This project explores the design, development, and use of a digital game, *Voyage Beijing*, in preparing American business people for their first business trip to China. The evaluation of the game demonstrates that it is an effective training tool for the target audience.

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2004

Dedicated to my wonderful parents

My great husband

And our newborn daughter Mia

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## Chapter One Introduction

### BACKGROUND

China, with thousands of years of ancient civilization, has made great achievements in attracting the world's attention in the past decades. It is the fastest growing market in the world. With the more open governmental policies and encouragement of foreign investment, businesses from developed countries are flowing in and China has been absorbing foreign investment at a remarkable pace. Beijing, as the capital city of China, is also experiencing an unprecedented growth in foreign investment.

Some figures that show the importance of the Chinese market are as follows:

- *Statistics show China has become the 2nd largest base for foreign investment, with a total of 430,000 foreign-funded companies. – People's Daily*
- *More than 80 products produced in China are currently ranked as the top-sale in the world market. Of the top 500 companies in the world, 400 of them have invested and are manufacturing products in China. – MSU China Supply Chain Forum 2003*
- *In Beijing, 18,000 foreign enterprises were approved in 2002. The actual absorbed foreign investment from 1995-2000 has increased 135% compared with the total over the previous 5 years. – Beijing Foreign Economic and Trade Committee*

- *In 2002, the use of foreign capital in Beijing amounted to 5.1 billion dollars. Among the Fortune 500 companies, 160 of them have invested in Beijing. By the end of 2002, there are 118 non-profit foreign bank representative offices in Beijing. 18 foreign banks opened their branches in Beijing.* – Beijing Statistical Information Net

## NEEDS ASSESSMENT

The United States is one of China's most important business partners in the world. With more American companies establishing business in China, an increasing number of American business people are visiting China; among them many are visiting for the first time. Although China is known as having a profound ancient culture, the country is also becoming modernized and internationalized quickly with the rapid social and economic development. The modern culture intermingles with the ancient culture, bringing many changes that may result in complicated cultural situations. This can be intimidating to visitors from other countries and cultures who are trying to understand and adapt. For business people, knowledge about a culture can make a difference in their business prospects. Therefore, some guidance is necessary to familiarize the American business people with Chinese culture before their first trip to China.

## PROBLEMS

Currently we can find a large variety of information about China and Chinese culture in the United States. Some major resource channels include:

- The Internet
- Books and magazines

- Videotapes
- Seminars, training lessons and workshops

All of these information channels have some features in common: they are focusing on “telling”. In these learning formats, the users frequently do one of the following: read text from the computer screen, click a link from time to time; read from books; stare at the TV screen or monitor; or sit in a classroom and listen to a person talking. On the whole, the users are assuming a rather passive role in these formats of training. The problem with this “telling” focus is that sometimes it falls into the category of “un-engaged learning”. Although the users could gain a great deal of knowledge from these resources, the process can be slow, confusing and even boring.

Searching and browsing the Internet for information can be interactive, but currently many web sites are very text-heavy and decorated with limited static graphics or pictures. Massive plain text makes the learning hardly enjoyable. On the other hand, it would take much time clicking through layers of web pages and exploring among the sea of texts and bulk of information, to narrow down to quick and simple guidance for a first trip to China.

Books and magazines, as well as videotapes, are good resources. But as traditional media formats, there is almost no interactivity involved.

Seminars, training lessons and workshops can have some interaction involved as questions are asked and answered. But the instructor's lecture still dominates. Furthermore the courses are often not flexible due to limited time, location and capacity and can be expensive, as well.

## **NEW APPROACH TO TRAINING**

When preparing for business travels to China, there are several problems with the existing learning formats. A more effective way of learning, training or obtaining information is desired, particularly for first time visitors who need it the most.

This production thesis seeks to find out if a new format of training that involves digital gaming is an effective way to prepare first time business visitors to China, or if it is a powerful supplementary training format in addition to the ones mentioned above.

## **Chapter Two**

### **Using a Digital Game to Prepare for Business Travel**

#### **TARGET AUDIENCE ANALYSIS**

##### **Defining Target Audience**

Since any fruitful and effective learning should be learner-centered, the first step of design is to define the target audience. Once defined, only then can we make effective decisions on coming up with solutions to the problems about the current training formats mentioned earlier.

##### **Primary audience:**

The primary audience is American businessmen and women who will make their first visit to China.

##### **Secondary audience:**

People from other western culture backgrounds who will visit China for business, pleasure and who are interested in knowing a bit more about China, particularly the capital city, Beijing.

##### **User Persona**

Roy Johnson, 38 years old, production manager of AllKids Toy Inc. in Chicago. Roy is a hard working and open-minded businessman who has made several contributions to his company's successful business development because he likes exploring new ideas and new challenges. Like most other business people working under pressure, he often works extra

hours and gets things done as quickly as possible. Efficiency is a very important word in his career vocabulary.

Roy is married with an 8-year old son, and like a lot of other business people, he misses his family due to his busy working schedules. Roy utilizes his computer at home and at work. He also considers computer a useful learning tool for his son and often purchases him educational games.

### **Business People Characteristics**

People in the business world have some unique characteristics to keep in mind when looking for an effective training or learning method for them:

- Have a fast-paced life
- Stress, and a lack of balance between work and life (NOP World, 2001)
- Often work under pressure, often tired or bored
- Value the result more than the process
- Productivity and efficiency are vital to them
- Highly goal oriented
- Open to challenges
- Open to training
- Take personal connections seriously

A fast-paced life would mean business people don't have time to sort through a bulk of information in order to get what they really need.

Since business people usually experience stress, a fun and relaxing activity that provides desirable information at the same time could be well received.

The business world is highly goal oriented. Process matters less than the results. A clear goal and efficiently reaching that goal are more important than effort. Therefore the learning format design should be very goal oriented, to the point and clearly show what rewards people will reap.

Open to challenges and training, people in business accept spending time figuring out certain solutions for certain problems. Challenges in the training could be an attractive factor and increase attention in the learning process.

Business people value connections. They would be interested in knowing about building connections. This is something to keep in mind when designing the content of the training.

### **Younger Generation Characteristics**

Aside from the business traits, it should be taken into consideration that the new generation business people use technology to get their work done, Further, many of the younger generation have grown up with technology. Their experience with using technology

influences their preferences and expectations in training. They expect more exciting formats than the traditional classroom training or plain text.

Marc Prensky mentioned some main cognitive style changes in the “Games Generation” in his book *Digital Game Based Learning* (Prensky, 2001). Several of them apply to the new generation in the business world.

Graphics First vs. Text First – the exposure to visual medias like TV, videos and computer games makes the younger generation more accustomed to high production value and have an increasingly high expectation regarding multimedia elements. They prefer presentations with high quality graphics to presentations with plain text.

Active vs. passive – the younger generation prefers participating rather than being a passive receiver. They like to be in control and DOING things. They also like to form their own experiences instead of being told of other peoples’ experiences.

Play vs. Work – the younger generation combines play with work. They like the fact that in playing they can get some work done. So they would welcome a training format that is play in combination with learning for work purposes.

Payoff vs. patience – the younger generation wants to see the result immediately rather than waiting patiently for it. They want to see the reward right away rather than being

acknowledged that the reward will come in time. This parallels the model of immediate feedback to the player's interactions found in most computer games.

Technology as Friend vs. Technology as Foe – The younger generation is so used to the computer that they feel very comfortable utilizing them in training. A training format that takes advantages of the new technology would be desirable and attractive to the younger generation.

People categorized as younger generation could have an even harder time benefiting from the traditional telling-focused learning format because they are often easily bored by the traditional formats. Rejection of older training formats comes from a lack of interaction. As a result, the new generation might not get as much out of the traditional training as would the older generation. How can we better meet their needs? How can we design a training format to better prepare them for business travels? The proposed new approach – digital game based training seeks to serve this purpose.

## **USING DIGITAL GAMES IN LEARNING / TRAINING**

Now just over thirty years old, video games have quickly become one of the most pervasive, profitable, and influential forms of entertainment in the United States and across the world. In 2001, computer and console game software and hardware market exceeded \$6.35 billion in the United States, and an estimated \$19 billion worldwide. (IDSA 2002) (Squire, 2003) The revenue that the industry generates already surpassed Hollywood box-office sales.

Computer and video games are a maturing medium and industry and have caught the attention of scholars across a variety of disciplines. (Squire, 2003) In recent years, many researchers and educators started to realize the important educational potential of digital games. They believe that games can be valuable and fun educational tools. Games are not only tools for fun but could offer an effective way to learn. Games can also be a good approach in training since games can engage and motivate the users. Games also increase the interest level in training, and therefore improve the training effects.

The premise behind digital game-based learning is that it is possible to combine computer and video games with a variety of educational content, achieving as good or better results as traditional learning methods. (Prensky, 2001)

### **Digital games can engage the users and result in more effective learning**

Engaging users is an important factor to make a successful training or learning process.

“Academic research strongly backs up the common sense notion that when students are engaged in the learning process, they learn and retain more. Engagement can come through emotion, relaxation, and especially through fun.” (Spectre and Prensky)

Digital games can engage the users. The word “game” often triggers the expectation of excitement and fun. But why do games engage users?

A lot of digital games combine various media elements such as graphics, music, sound effects, animation, etc. These media elements, dynamically presented together, create a powerful visual and aural experience. Over the past few years, as digital games becoming a mainstream entertainment form, advancements in computer technologies have enabled game designers to create lush digital worlds and more life-like characters. Accompanied with greatly improved sound and graphics cards on personal computers, games can strongly stimulate users' senses and keep them engaged.

Marc Prensky provides an excellent analysis about why games engage us:

**“Games are a form of fun. That gives us enjoyment and pleasure.**

**Games are a form of play. That gives us intense and passionate involvement.**

**Games have rules. That gives us structure.**

**Games have goals. That gives us motivation.**

**Games are interactive. That gives us doing.**

**Games have outcomes and feedback. That gives us learning.**

**Games are adaptive. That gives us flow.**

**Games have win states. That gives us ego gratification.**

**Games have conflict/competition/challenge/opposition. That gives us adrenaline.**

**Games have problem solving. That sparks our creativity.**

**Games have interaction. That gives us social groups.**

**Games have representation and story. That gives us emotion.”**

**(Prensky, 2001)**

For all these reasons, using games in the learning process can have many advantages comparing the level of engagement in traditional training formats to learning games. Users experience a more enjoyable and efficient learning process. "In simple terms a brain enjoying itself is functioning more efficiently. So there's a scientific basis for using art, drama, color, emotion, social learning and even games to learn." (Rose and Nicholl, 1997) A more efficiently functioning brain helps users memorize knowledge better. Users then get more out of the training compared with the older training formats.

Furthermore, contrasting to the old form of "telling" training, the trainees' role in the gaming process is no longer passive, but becomes active. Computer games are action-oriented – not action as in violence or speed but as a constant encouragement to do things – to take action. The overall idea of gaming is to engage, to be active, to be someone, to perform some kind of mission, to reach goals, and be rewarded. (Varcoe and Rydberg, 2003) It stands to reason that placing learners in an active role in their training leads to more engaging and effective training results.

### **Digital games can initiate more motivation in learning and make it more effective**

Motivation is another vital factor for better learning. Colin Steed listed three key elements that can make a dramatic difference in the effective design and delivery of instruction to adult learners. Motivation is listed as the first: "Human psychologists tell us that the way people feel about an endeavor influences their commitment to it." (Steed 1999)

The commitment that users have in the learning process has positive effects on the learning result. Again the brain functions better if users really want to grasp a certain amount of knowledge out of the training.

Good digital games are considered FUN. Using digital games in training is then injecting FUN into training. "Adding fun into the process not only makes learning much more enjoyable and compelling, but far more effective as well." (Prensky, 2002) It is a way to increase motivation in the learning process and make the learning more effective.

"The role that fun plays with regard to intrinsic motivation in education is twofold. First, intrinsic motivation promotes the desire for recurrence of the experience... Secondly, fun can motivate learners to engage themselves in activities with which they have little or no previous experience." (Bisson and Luckier, 1996)

When preparing for business travels, business people could be motivated to learn about a new culture when they realize this will affect their business prospects in that culture. This is a conceptual motivation and gained from outside factors. On the other hand, from the intrinsic senses of the user, the fun a digital game brings can offer increased motivation, and therefore more effective learning. The learning of a different culture can be a painful and tough process. Sometimes the decision to learn it well is not enough. A way to motivate the brain by giving pleasant stimulus to the visual and aural senses would be a great deal more effective.

Another aspect is that many business people work under pressure. A fun learning process that helps them relax and is enjoyable, while learning what they need to learn, would make a big difference over a boring learning experience.

Engagement and motivation are not separate factors. Digital games can bring both into play. In digital games, engagement and motivation interact and compliment each other. An engaging game can motivate the users to play and learn. Motivation can lead users to more engagement in the learning process. The properties of a well-designed game can assist learning by understanding rather than memorizing. The knowledge about a new culture is no longer remembering boring facts or anecdotes. Rather, the learners can find joy and fascination in exploring the new culture and experiencing different perspectives of doing business there.

### **Digital games combine many interactive learning techniques**

Interactive learning, when users are more involved in the training process and assuming an active role, is more effective than the telling-focused training. The users get to do things and adjust their action according to immediate and constant feedback.

Digital game playing is an interactive process. When digital games are utilized in the training process, users experience the combination of various interactive learning techniques.

Prensky listed some interactive learning techniques that have already been developed in digital game based learning. There are several that can be considered when digital games are used in preparing business travelers.

- Practice and feedback
- Learning by doing
- Learning from mistakes
- Goal-oriented learning
- Task-based learning
- Question-led learning
- Role playing

These interactive learning techniques will be explained later in the context of the business travel game designed for this thesis project.

### **The business world's experience in digital game-based training**

The corporate training market is huge. US companies spend over \$60 billion annually on training. The business world has been leading the way of using digital games as a training approach. "A growing number of companies have embraced Digital Game-Based Learning in one form or another. Although they might not all be games yet, the McKinsey Quarterly estimates that more than 60 percent of all United States corporations have used some kind of learning simulation." (Prensky, 2001)

However, using games to prepare business travel is not a common practice yet. As was stated in the first chapter, people often turn to websites, lectures or books for resources. The business world's acceptance of games makes it easier to pitch the idea of using a game to prepare for business travels. Therefore, the development of a business travel game seems like a viable approach to try and test.

## **A SOLUTION – A BUSINESS TRAVEL GAME *VOYAGE BEIJING***

Based on the analysis above, a game-based learning process is one of the solutions to the problems existing in the current traditional training format in preparing business travelers. There is a need to not only get the material across, but to make the process pleasant, as well as effective. The game *Voyage Beijing* was designed based on user analysis and concepts about using digital games in training. It utilizes the advantages of digital games, such as engagement, motivation and interactivity to teach players crucial information about business travels to China.

### **Target audience – Think again**

Designing for the target audience is the games' ultimate pursuit. When thinking about people in the business world, there are some considerations that should be included when designing the game *Voyage Beijing*.

Business people are adult learners. Most adult learners have a goal in mind when they start training. They have a specific need to be filled or a certain task to accomplish. In preparing

people for a first business trip to China, the game should be designed with the goal of learning about Beijing, Chinese culture, and business etiquette. The training task is to finish the game and reach this goal. As stated before, business people are highly goal-oriented and efficiency driven. Due to their fast-paced life, they cannot spend too much time on a solution for a complex game in the training process. They desire immediate results from their efforts.

Also, adult learners tend to want concrete, real-world examples of the value of the learned task. (Steed, 1999) The game *Voyage Beijing* should be a simulation of the real Beijing and should give the player a sense of the real place and situations they probably will encounter while they are there.

Therefore, for the target audience, a complex adventure game might not be the best choice in preparing for business travel. A game that is not too long or too hard would suit this group of people best. *Voyage Beijing* should be more educational than entertaining, although fun factors are included to enable the power of engagement and motivation of the game. *Voyage Beijing* can be utilized during a training class by a company, or played during work hours by employees, or even played on a plane by a businessman or woman before the plane lands in Beijing, China.

*Voyage Beijing* is a good compact tool for our target audience. It is not hard since assisting tools are added to help them finish their game tasks. It is not long, only including four major missions that represent a typical business trip. It serves as a gateway through which the users

can grasp the gist of a first visit to Beijing and be exposed to the key Chinese culture and business etiquette tips and some facts about Beijing.

More specific design decisions and production process are stated in the next chapter.

## Chapter 3

### The Design and Production of *Voyage Beijing*

“Games have to be challenging enough to entertain, yet easy enough to solve.”

(Carlson, 2003)

#### PLANNING AND DESIGNING:

The planning and design of the game *Voyage Beijing* happened simultaneously. Initial brainstorming and planning led to the production of an early prototype. Then more design ideas came up by sorting through more possibilities, taking out unsuitable mechanisms and solving confusion and problems in the early prototypes. Afterwards, several more developed prototypes emerged and the design gradually became mature and complete.

#### Cognitive principles in designing the game

According to Colin Steed, “Educational cognitive theorists attribute a large degree of autonomy and initiative to the learner, and believe that successful learning depends, to a significant extent, on the attitude, motivation and participation of the learner.” He goes on and lists the instructional principles and techniques of the cognitive approach to adult training. Five of them apply to the design of the game *Voyage Beijing*:

- Instruction must be motivating, both cognitively and affectively
- The learner is an active participant in the learning environment

- The sequence of instruction is logical and organized, and is tailored to the needs and profile of the learner
- Positive, timely and individualized feedback is continually supplied
- The learner is continually assessed; students know how well they are doing both during and after instruction

(Steed, 1999)

We use a game as the training format to initiate more motivation in the training. Interactivity in the game makes the player active participants in the learning environment. The Beijing trip is organized in a logical and organized fashion so that the user can experience a typical business trip in the game. Several forms of feedbacks are included in the game, including sound feedback and visual feedback showing their status in the game, as well as a journal that is filled in as they progress on their trip. At the end of the game, the player gets the scores, which is another assessment of his performance in the training.

### **Defining communication objective**

The communication objective of this project is: using digital game design as an effective form of training to prepare business travelers to learn about Beijing and China before their first trip there.

### **What to teach and learn? - Identifying the educational purpose of the game**

One of the issues that needed to be determined was the educational significance of the game.

In *Voyage Beijing*, two major challenges are used to bring out the educational purpose: knowledge about China and impression built on the business counterpart. A business trip could be an important step in business advancement. Knowing a place and the people can help greatly in business decisions. Business travelers want to be prepared, instead of showing too much ignorance when they are on site. On the other hand, local business partner's impression of the visitors could contribute to the prospect of their business. So a basic knowledge of Beijing and Chinese culture, and their business partners' good impression were made the driving forces in the game *Voyage Beijing*.

This game will serve as a quick guide so that business people only need to spend a short time to get the gist of what they might encounter in their first trip to Beijing. During the game play, they would learn about Beijing and Chinese culture. Most of the knowledge and tips they learn would apply to other places in China too.

### **What specifically can they learn? – Content design**

Based on the target audience and the educational purpose, there were three channels from which the education materials were gathered, sorted and modified to form the content of the game.

#### *Internet:*

There are a great number of websites providing information about China and Chinese culture for people from other countries. Since the target readers of those English language websites are probably not Chinese, visiting these websites and reading through the content

can provide an angle of what information about China is of interest to people from other countries. Important content that suits first time visitors or suits business people were picked out and modified.

#### *Tour books:*

A couple of Chinese and English tour books were also used to select the topics with most interest for foreign visitors to China.

#### *People:*

Informal conversations were also conducted with a couple of Chinese friends who shared their experience in business or with American people. This informal research offered some insights in choosing better travel tips for our target audience.

From these sources a clear understanding about what first time business visitors need to know was formed. These education materials were further narrowed down so that the most important and relative information for our target audience stood out.

The next step was to create a list of “knowledge points”. It includes all the knowledge that is to be integrated into the game. It is also the actual business travel journal that will be provided at the end of the game.

#### **How do they learn? - Implementing teaching during the gameplay**

The major teachings happen in several ways:

### *Connecting the game settings with the realistic scenes of Beijing*

The game settings and environment present the player the look and feel of Beijing, China. According to Thalheimer, simulation produces benefit in learning because it can align context during learning and real job performance. Aligning Contexts works by providing realistic decisions set in realistic situations simulations to align the learning-and-performance contexts. This makes it more likely that learners will remember what they've learned when they enter their on-the-job performance situations. Learning improvements range from 10 to 55%. (Thalheimer, 2003)

When users actually go to Beijing, China, they should be able to identify some realistic scenes and recall the game settings. This helps them remember the knowledge they achieved from playing the game. Also the feeling of familiarity can reduce the stress or pressure of being in a strange place and culture.

### *Exploring and getting knowledge*

The direct teaching in the game takes place when the player uses the mouse to explore in the environment and searches for “hot spots”. Each hot spot brings a piece of knowledge about Beijing or Chinese culture and adds to the player's knowledge points.

### *Learning from interaction and feedback*

When the player interacts with simulated people in the game, they get feedback in the forms of sound effects and an explanation in the text window on why they did the right or wrong

in the social interaction and extra information about topics of Chinese culture and business etiquette. Research shows that by providing realistic or didactic feedback, simulations enable learners to correct their misconceptions. Feedback typically improves learning by 15 to 50%. (Thalheimer, 2003)

Meanwhile, a small part of language teaching is also included in the game. At one point in the game design, there was the idea of putting the most used daily Chinese phrases in the player's inventory. Each time they use these phrases to interact with game characters, they get bonus scores. But later it was decided that *Voyage Beijing* is not designed as a language teaching game in the concern of confusing and distracting players from their focus of completing the missions of their first business trip. Therefore the game was designed in the way that the player is only exposed to a few Chinese sentences in the game process and has a Chinese Phrase section available in the journal if the player wants to memorize common Chinese phrases.

Also, interactive learning techniques used in *Voyage Beijing* include the 7 points we mentioned in previous chapter.

- Practice and feedback – the player practices his knowledge of Chinese culture and get feedback on their performance.
- Learning by doing – the player plays the game while learning about Chinese culture and Beijing.

- Learning from mistakes – within the gameplay, the player might make mistakes due to unfamiliarity or ignorance of culture differences. The player learns from the feedback on their mistakes.
- Goal-oriented learning- the player has the goal of getting to know the new culture.
- Task-based learning – the task of the game is to complete the business travel successfully.
- Question-led learning – the player is prompted by questions along the game process and is able to learn from them.
- Role playing – the player is assuming the role of a businessperson from an American company visiting the partner company in Beijing, China.

### **What makes it fun? - The fun factors in *Voyage Beijing***

Among Pierre-Alexandre Garneau's 14 forms of fun (Garneau, 2001), at least four forms of fun can be found in *Voyage Beijing* – Beauty, Immersion, Discovery, Advancement and Completion.

- **Beauty**

*Voyage Beijing* uses pleasant graphics, music and sound effects to add entertainment to the game and motivate the player to go on playing.

- **Immersion**

The simulated real world environment brings the player to Beijing and makes them experience a different culture. The game uses first person perspective. "First person view is the most effective way to bring the player into the virtual world, thereby making them feel like they are acting instead of controlling an avatar who is acting."

- **Discovery**

There are hidden knowledge points throughout the game environment. Players will discover knowledge as they go through and accumulate their knowledge points. By interacting with local people, they can also discover, from right or wrong answers and choices, the culture differences and etiquette tips.

- **Advancement and Completion**

Several missions need to be completed to finish the whole game. In completing the missions, the player will be given a score assessing his or her knowledge collection and the impression built with their Chinese business partners.

### **The story goes... - Background story of the game**

The background story of the game is that an American businessperson is sent by his or her company to visit their business partner in Beijing, China. He or she will go through some typical scenarios that consist of the first trip to Beijing.

### **Where does it happen? - Game settings**

The city of Beijing was chosen as the game setting. This is not only because Beijing is one of the largest cities and foreign investment bases in China, but also because Beijing, as the capital city of China, is the cultural center of the nation and is representative of Chinese culture in many ways. Therefore, the knowledge the player learns about Beijing can be applicable in many other places in China.



Figure 1. Game Setting – Beijing, China

### How to play? - Designing gameplay

Naturally, there were many ideas flowing at the planning stage about the gameplay. One idea was to allow the player to put things into an inventory as they collect objects from the environment. Another idea was to make time management an issue in the game, as it often is in business, so the player has to finish some missions successfully on time to score. Another idea was to allow the player to freely explore Beijing, while trying to gather certain items in the environment, which they could locate based on clues giving by simulated game character. Finally, a decision was made to make the gameplay clear and straightforward. The gameplay would consist of two modes of interaction. The first mode of interaction would be exploring an environment, collecting knowledge points. The second would be interacting with simulated game characters to build impression and learn business etiquette. These two

modes of interaction would alternate as the player moves through a linear sequence of missions.

As the player plays, they gather knowledge points and gain or lose impression points. This evaluation system adds to the replay possibility. If the player realizes they didn't get enough knowledge points to fill the bar or the impression bar is even shorter than when they started, they might want to play again.

The final summary describes how well the player performed in the game. It can be an enticement to attract people to play again to get a higher score and in doing so learning more through repetition.

### **What are the players working on? - Game goals**

One goal of the game is to complete all missions while collecting as many knowledge points as possible by exploring the game world. The other goal of the game is to build a good impression by making correct choices in interactions with local business partners during the trip.

### **What is next? - Game branch design**

The knowledge points are categorized into 4 missions. They are Arrival, Business Meeting, Dining, Sightseeing and Gift shopping. In each mission, game branches were developed in a diagram to show the game flow. Knowledge points were integrated along the flow. A script was also written out for later voice recording.

### Who are these people? - Designing characters

**Main character:** The player is the main character throughout the game. The game takes on a first-person perspective so the player is not actually represented in the game. Rather, the player sees the game world as if through his or her own eyes.

**Crucial Non-Player Characters (NPCs):** people in the game who guide the game play, such as Lu Chen, the Assistant Manager from the Chinese company. Lu is with the player in every mission. At some point he brings out choices that the player has to make to advance in the game, while scoring in the player's impression. Yang Wu is another character that serves this purpose. He only appears in the Business Meeting mission. All together there are 7 NPCs in the game.



Lu Chen – Assistant Manager,  
ToyStar Co.



Yang Wu – Production Manager,  
ToyStar Co.

Figure 2. Crucial NPCs in *Voyage Beijing*

Non-crucial NPCs: characters that are part of the game environment to provide knowledge or help create a lush game world.



Figure 3. Non-Crucial NPCs in *Voyage Beijing*

### See through their eyes - Deciding game perspective

At the beginning of the design, two kinds of perspectives were considered: first-person view and third-person view. A decision was made to use first-person view so players explore the game world through their own eyes. This choice of perspective aims at giving the player a more vivid experience of the atmosphere and environment of Beijing, with the hope that later when they are in the real Beijing, it would be easier for them to identify with the environment and help them build the feeling of familiarity.

On the other hand, using this perspective avoids identifying the player's gender and appearance so that the game is automatically customized whether the player is male or female, and no matter how she looks like.



Figure 4. Game Perspective – First-person View

(The person on the left of the screen is the one of the crucial NPCs)

This perspective choice affects the decision of audio in the game, too. Originally, it was planned to include a voice representing the player dialoging with other characters in the game. Then it was changed to use mixed representation of the dialogues. While the non-

player characters dialog lines are spoken, the player's lines are only in text and represented as "thought bubbles" until they choose what to say. What they choose is not actually shown or spoke, as the player can logically interject their own voice into the dialog, rather than hear a stranger's voice, once they make the choice of what to say. This choice was made so the player's suspension of belief would not be broken as they interacted with NPCs. In this mixed presentation of dialogue, the player does not have to adjust to accept another person's voice representing them when they play. This also weeds out the problem of player's gender difference and simplifies the gameplay and production process. Otherwise the game would need a gender choice at the beginning and two audio tracks need to be recorded for both male and female voices.

### **How to interact? -Interaction design**

In the planning stage, there was an idea of having users drag items while collecting things to store in the inventory and use them in the game. In the end, based on the content integrated into the game and the game goals, it was decided on two interaction modes, which are clear and simple to follow, avoiding confusion.

In the first "exploring mode", the player looks around in the game environment, uses the mouse to search for hot spots and clicks on them to get knowledge points.

The second is "interaction mode" or "dialogue mode", where the player interacts with people in a closer view. The player will either have a dialogue with the person or select an

answer from the choices given. Based on the player's response or choice, the impression bar goes up or down.

### User interface design

"The functionality of the user interface is the most important consideration." (Rollings and Adams, 2003)

The game interface directly influences the user's experience and is a major factor on if the game is successful or not. The game interface should be easy enough for the player to get on track and get into the gameplay smoothly.

In *Voyage Beijing*, the game interface was designed into two parts: the game world and the game control panel. The control panel consists of three sections (see Figure 5). The left section is the status section. Three status bars are presented. The first is knowledge level. It shows how much knowledge the player has already collected. It grows each time the player discovers a new knowledge point, typically by clicking on a hot spot for the first time in the exploration mode. The second bar shows the player's current impression. It goes up and down depending on the player's performance in the interaction mode of the game. And the third bar is the progress bar showing how far along the player is in the game.

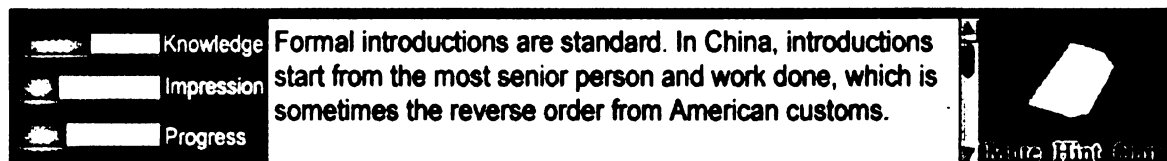


Figure 5. Game Control Panel

The middle section is the knowledge display. Text, accompanied by audio narration, displays the latest knowledge that the player has collected. The right section of the control panel contains some options, including the “Mute” button, the “Hint” button, the “Quit” button, and the Journal icon. The “Mute” button turns all the sound off. The “Hint” button gives the player visual hints of where the hot spots are in the exploration mode. The “Quit” button enables the player to quit the game.

The Journal icon, when clicked, opens the Journal that displays the knowledge the player has collected while going through the missions. The journal is categorized into six sections. Besides the sections that contain all the knowledge points the player is supposed to collect, there is a Chinese Phrase section. This section contains a few commonly used Chinese phrases. All the phrases are written English, Chinese Pinyin (pronunciation) and Chinese characters, and are accompanied by audio.

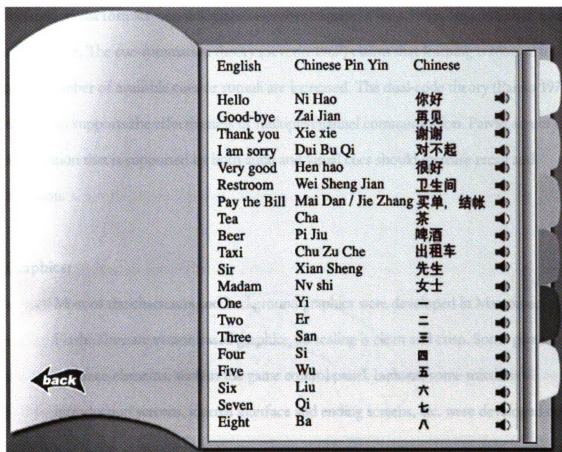


Figure 6. Journal in *Voyage Beijing*

At the end of the game, the player has the option of printing out a complete version of the business travel journal. This provides the player with a “take-away” from their learning experience that may function as a reference that they may bring on their actual trip.

## PRODUCTION AND TECHNICAL SPECIFICATIONS

The production was a combination of several digital media design tools including Macromedia Director, Macromedia Flash, Macromedia Dreamweaver, Adobe PhotoShop, Apple Sound Track and Bias Peak DV.

Multiple media formats were integrated together to present the knowledge and add dynamics to the game. The cue-summation theory (Severin 1967) claims that learning is more effective as the number of available cues or stimuli are increased. The dual-code theory (Paivio 1971, 1991) also supports the effectiveness of multiple-channel communication. Paivio argues that information that is supported by both aural and visual cues should increase recall and retention.

### **Graphics:**

Most of the characters and background graphics were developed in Macromedia Flash. They are vector-based graphics, so scaling is clean and crisp. Some game interface elements, such as the game control panel, buttons, some mission introduction screens, journal interface and ending screens, etc. were developed or retouched in Adobe PhotoShop. There are 65 game screens, 19 different location backgrounds, 7 crucial NPCs and many non-crucial NPCs in the game *Voyage Beijing*.



Figure 7. Game Background Graphics

### Animations:

Animations in the game were developed in Macromedia Flash, such as the game intro movies and the game instructions. All crucial NPCs have simple facial expression animation. There are also 17 pop-ups using animation and illustration to accompany the knowledge display. The pop-ups help reinforce the knowledge and also add more excitement to the game.

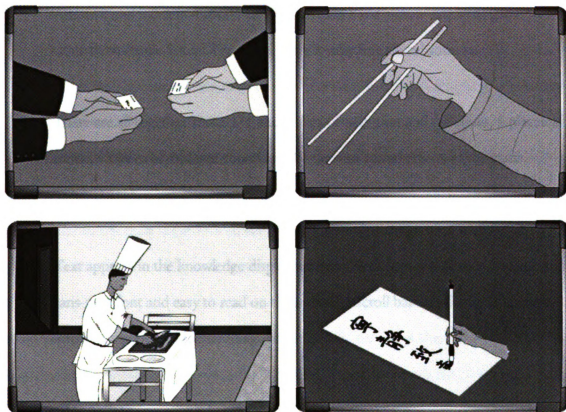


Figure 8. Pop-up Animations Accompanying Knowledge Display

### Sound:

Narration and dialogues:

Narration and dialogues were recorded and edited in Bias Peak DV. The player has the option of turning the sound on and off. The audio narration accompanies the text to provide multiple forms of communication to the user.

Music in the game was composed in Apple Sound Track.

Ambient and incidental sound effects that help build a more engaging game world came from Apple Sound Track and other loyalty free sound sources.

There are all together about 170 audio clips of narration and dialogues, 5 pieces of music, 5 pieces of ambient sound and 10 types of sound effects in the game.

### **Text:**

Text appears in the knowledge display window. Arial font was chosen because it is a sans-serif font and easy to read on the screen. A scroll bar and the up and down arrows are provided for scrolling longer text.

### **Putting it together:**

Macromedia Director was the tool to put all these media elements together and make the game functional. The screen of the game is 800 by 600 pixels. In Director, there are about 670 cast members, 33 scripts and 840 lines of custom code built into the game. The average playtime of the game is about 25 minutes. The whole project was developed primarily by two people in a period of about 6 months.

**Media:**

The game is designed to use CD-ROM as the delivery medium. Given the fact that most American business people would bring a laptop when they are traveling, and it is likely they would have computer access in their office, a CD-ROM would be a reasonable format on which to deliver the game while maintaining high quality audio, graphics and animations. Director Projector files for PC and Macintosh respectively are stored on the CD-ROM so that the users do not have to download Shockwave Player before playing the game. CD-ROM is easy to use and the game will function consistently on different platforms and computer settings. CD-ROMs cost little to duplicate. They are also easy to carry on trips.

**CHALLENGES, SOLUTIONS AND LESSONS****Adjustments Based on Player Experience**

Keeping a player's experience in mind is very important in game design as in any other form of interactive design. When designing a new function in the game, there is a need to see if it is really a contributing factor to the game. It should not conflict with the player experience.

For example, one of the original design ideas was to give the player the option of writing notes down while they are playing the game so that they could print out their own notes and take them away after the game. But on revisiting this idea, typing in the middle of a game wouldn't be a pleasant interruption and could break the suspension of belief. So we changed the design to adding journal entries for the player instead of letting them type their own. At

the end of the game, a link to the complete version of the business travel journal is available for review and printing.

### **Reconciliation between Game Settings and Real Life Scenes**

During the production of the game, I realized that some game settings couldn't be exactly the same as the real life scenes in Beijing. On one hand, it was desirable to make the look and feel as realistic as possible; but on the other hand, the game setting needed to suit the flow of gameplay.

Reconciliation needed to be made on this issue. Maximizing the fun of gameplay and smoothing out the playing process is more important in a game than a strict simulation of the real environment. Therefore, some scenes were modified and became different from the actual scenes one might experience in Beijing. However, the differences are limited so that when players actually go to the real place, they could quickly adjust to reality and not get confused.

### **Production limitation**

A big limitation of the production was the availability of time and energy. In this project my advisor, Brian Winn and I were acting as a design team. We both had other tasks besides working on this game. I developed all the graphics including game background, interface and characters. I also composed the music, added sound effects and recorded voice talent. Brian gave me valuable consultancy during the design of the game and completed all the programming.

I did enjoy the process greatly. I am glad that during the development of the project, I improved my digital media design skills. However there was limited time and energy that could be dedicated to this project and there was virtually no budget. So I had to cut some scenarios and branches in the game. I came to the realization that in the design process of an interactive digital media project, often one must sacrifice part of the original plan for various reasons. This is precious skill to develop in making reconciliations while keeping the core of the design complete and finally putting together a meaningful and quality product. I believe this is important wisdom to acquire in any type of design work.

What resulted was a complete game experience that focused on the essentials of a business trip to Beijing. This game could easily be expanded given time and budget to a fuller experience. However, what was created was sufficient for the evaluation purposes.

## Chapter Four

### Evaluation

Evaluation was designed to test the late prototype of the game *Voyage Beijing* on business school graduate students to see if such a business game is an effective way of preparing for a business trip to China.

### ABOUT THE SUBJECTS

The subjects who tested the game were all from The Eli Broad College of Business at Michigan State University. All of them are Americans. Among them one was female, 7 were male. 4 were aged between 25-29; 2 were between 20-24; and 2 were between 30-34 years old. None of the subjects had been to China before, either for vacation or for business. Among the subjects, 6 out of 8 were going to Beijing, China in the near future. Following is a table containing specific subject information:

<b>Fictitious Name</b>	<b>Age Range</b>	<b>Gender</b>	<b>First trip to China in the near future</b>	<b>Amount of Travel to Foreign Countries 1 (least) to 5 (most) Likert Scale</b>
Julia	25-29	F	YES	3
Sam	25-29	M	YES	4
Gorge	25-29	M	NO	2
Lance	20-24	M	NO	1
Henry	20-24	M	YES	4
Eugene	30-34	M	YES	4
William	25-29	M	YES	2
Ken	30-34	M	YES	2

Table 1 Evaluation Subjects Information

The reason for choosing these subjects for evaluation was because the game's primary target audience is American business people who are visiting China for the first time. So these business school students represent the audience our game is targeting.

Among the subjects, travel experience varies. Only 38% said they traveled a lot to foreign countries. This question was designed to find out if their ability of adjusting to a foreign environment obtained from previous travel experience that may interfere with the evaluation of the game *Voyage Beijing*.

## METHOD OF EVALUATION

The evaluation of the game took the form of surveys. There were two surveys that the subjects were asked to complete. One survey was conducted before they played the game; the other, after they played the game. There were 9 identical questions in both pre and post surveys to allow for direct comparisons on the subject's change of response after playing the game.

The evaluation was done on a one-on-one basis. At the beginning, the tester explained the testing process, anonymity and other rights to the student. After the subject signed the consent form, he or she filled out the pre-survey. It took about 2-4 minutes to complete the pre-survey. Then the subject started to play the game *Voyage Beijing*. The average time the subjects spent on the game was about 25-30 minutes. After the game, the subject filled out the post-survey, which took another 4-6 minutes. The whole process took about 32-40 minutes.

The evaluation took place within two continuous weeks from late April to early May. Eight subjects finished the testing voluntarily. All participants went through the evaluation smoothly. None of the participants were stuck in the game or quit before finishing the game. All filled out the surveys accordingly.

## **RESULTS**

### **Confidence**

One major thing the surveys were designed to determine was the level of subject's confidence in visiting Beijing and the interaction with local people, especially local business people. There are 6 questions in the survey relating to this. Each question asked the subject to rate their confidence on a 1 (least) to 5 (most) Likert scale.

The first question had the subjects rate their confidence in being able to adjust to the cultural differences in Beijing. The average confidence rating was 2.88 in the pre survey and 3.56 in the post survey. The result shows that the average subject's confidence increased 23.6% after playing the game.

The second question had the subjects rate their confidence in being able to adjust to the change of surroundings in Beijing. The average confidence rating was 3.375 in the pre survey and 3.6875 in the post survey. The result shows that the average subject's confidence increased 9.3% after playing the game.

The surveys also had the subjects rate their confidence in being able to get around Beijing. The average confidence rating was 2.125 in the pre survey and 3.125 in the post survey. The result shows a large average increase in confidence of 47.1%.

The surveys also had the subjects rate their confidence in being able to interact effectively in a business meeting situation with Chinese business people. The average confidence rating was 1.875 in the pre survey and 3.625 in the post survey. The subjects' answers indicate an average increase of 93.3% after playing the game.

The surveys also compare subjects' confidence in being able to demonstrate proper dining etiquette in a business dinner in Beijing before and after playing the game. The average confidence rating was 1.625 in the pre survey and 4 in the post survey. The result shows an overwhelming average increase of 146.2% in their confidence after playing the game.

Comparing the pre- and post-survey also found that the subjects' confidence in being able to interact effectively with local merchants to make purchases in a shop or restaurant increased 73.3%. The average confidence rating was 1.875 in the pre survey and 3.25 in the post survey.

Here is the graph demonstrating the confidence increase before and after the subjects played the game.

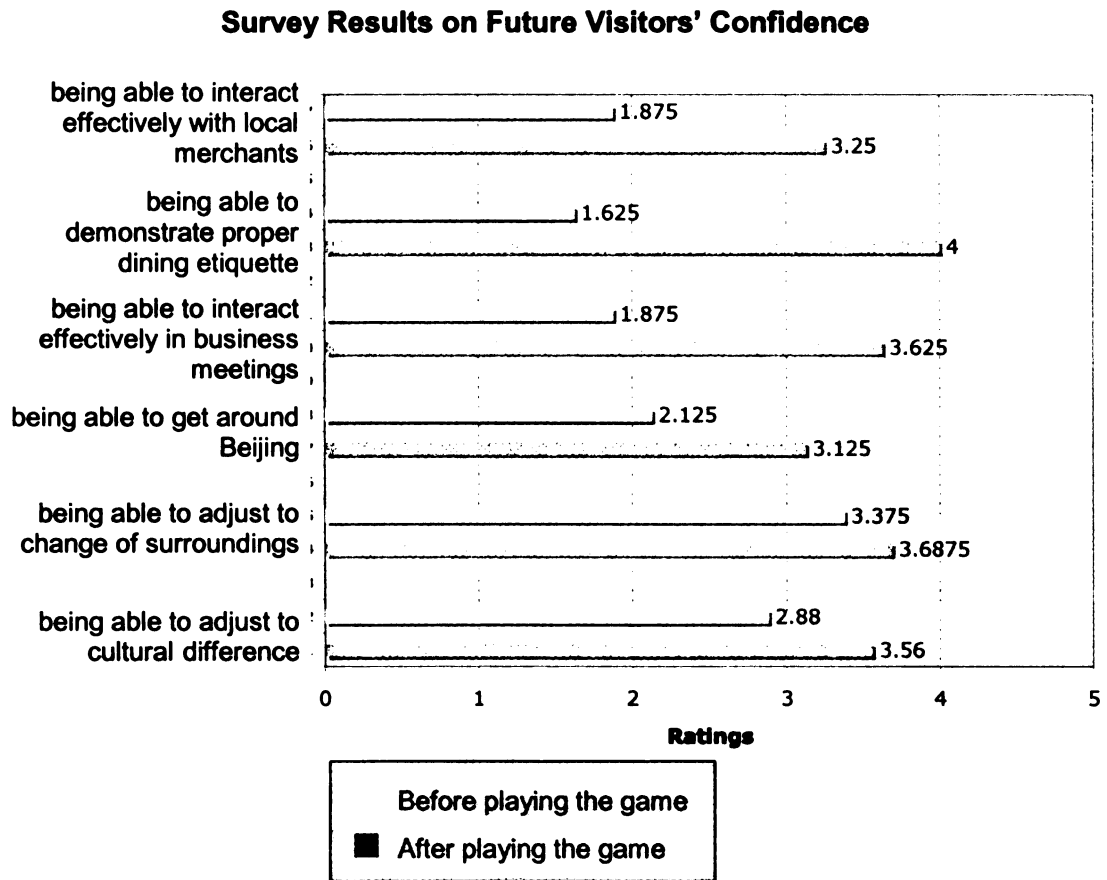


Figure 9. Survey Results on Future Visitors' Confidence

### Knowledge Level

The surveys were also designed to look at the self-assessed knowledge level of the subjects before and after playing the game.

In terms of how much the subjects report knowing about Beijing, the average rating was 2.125 in the pre survey and 3.375 in the post survey. The result shows a 58.8% average increase in self-reported knowledge level after playing the game.

In terms of how much they report knowing about Chinese culture and heritage, the average rating was 2.5 in the pre survey and 3.625 in the post survey. The result shows a 45.0% average increase. The average knowledge level about Chinese culture and heritage is 18% higher than the knowledge level about Beijing to start with.

In terms of the importance of knowing about China before starting to do business there, 75% of them think it is “very important” in the pre survey, which is the highest rating in the pre survey, while the remaining 25% of the subjects thought it was “important” in the pre survey. But there is still a slight increase of average rating from 4.75 in the pre survey to 4.875 in the post survey, or 2.6% increase as a whole after they played the game.

Here is the graph demonstrating the knowledge level change before and after the subjects played the game.

### Survey Results on Future Visitors' Knowledge Level

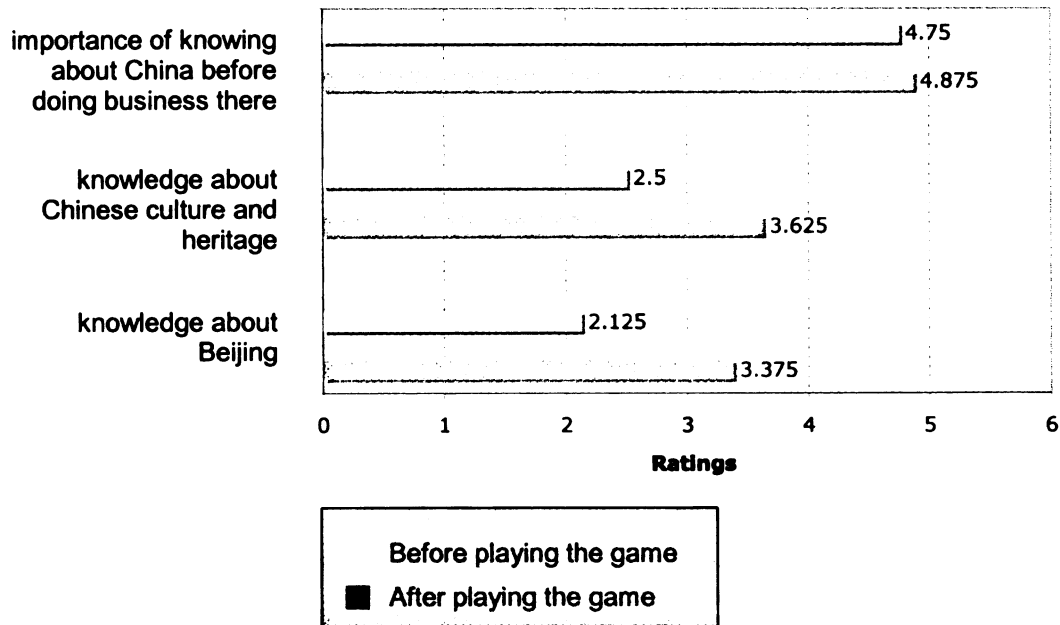


Figure 10. Survey Results on Future Visitors' Knowledge Level

### Feedback about the Game

The post survey also contains some open questions asking the subjects for feedback about *Voyage Beijing* and their comments and experiences about the method of learning by using a game to find out more about a new place and its culture.

The results from the post survey show that all the subjects thought *Voyage Beijing* accurately represented scenarios in a trip to Beijing. All the subjects rated *Voyage Beijing* as fun or very fun to play, and easy or very easy to play.

6 out of 8 of them would like to play it again. Among the 2 who didn't want to play it again, Ken stated it was due to time availability; Julia wrote, "Not right now because it would be repetitive".

100% of the subjects believed that prior to taking a business trip, playing a game, such as *Voyage Beijing* was an effective way to increase their knowledge and confidence about their destination.

The subjects also provided open comments about the game. All of them seemed engaged in the game. They all expressed that they enjoyed the game, they liked the game a lot, or the game was really good. Julia, Sam and Ken wanted to tell their friends to try out the game.

Julia wrote, "Facts are interesting and informative" and "Having the guide lead was a good way to go".

Henry wrote, "Very informative and helpful".

Sam wrote, "Most of the information was relevant to my trip."

Lance wrote, "I felt it covered a lot of frequently asked questions and concerns someone might have on a trip to Beijing", and "It made distinctions between what was different from western culture and Chinese culture."

Ken wrote "Fun way to learn", "Gave reasons or background for etiquette rules" and "Broad range of issues".

Gorge wrote, "Format is fun and non-stressful".

The players also thought the graphics were enjoyable and pleasant. They also liked the narration accompanying the texts as a combination of information presentation. They said it was very helpful. The “Show/Hide” button, which later became the “Hint” button, seemed a very popular button in the game testing. Among all 8 players, only Lance turned it off and used the mouse to explore around for hot spots. He did use it to check if he got all the knowledge points in a place and turned it off before he went to the next scene. Rest of the players turned on this feature once they entered a new scene in the game. This enforces our preconception that our target user seeks fast and efficient solutions. Eugene said he liked the game and it was good because people didn’t have a lot of time to learn about a culture.

Subjects also brought up some issues of the game prototype during the testing.

In the prototype we used plain text to explain the instructions. While reading the instructions, it was a little hard for some of them to envision how the game works, which later led to some confusion in the game play. Some of them expressed that they would like instructions visually presented.

Players also expressed that some of the hot spots were hard to identify. I observed that quite a few of them missed the same hot spots even when they turned on the “Show/Hide” button.

Players also had questions about some of the knowledge points, such as “Is Guangdong a province?” and “Whom was the Summer Palace built for?” Some thought a few of the hot

spots did not relate directly to the knowledge that they received when they clicked on them. For example, Sam and Ken thought the tour bus hot spot at the Great Wall is not directly related to the knowledge about the Badaling Great Wall that they received when clicking on it.

Also, in the game prototype, the text scrolling hadn't been implemented yet. I noticed that the subjects often tried to scroll the text.

There were several other suggestions made by the players. Three of them thought including a map of the city would be a good thing to have. Two of them wanted to learn more language. Ken wanted the game longer. I also found that none of the subjects used the audio control in the game. Only Sam asked about when he progressed to the last mission in the game. He then said: "It is nice to hear and read at the same time."

A couple of players would like to be able to go back to a specific section of the game. Sam said that some people didn't have time and they would like to choose the section that they were interested in. Gorge wanted to go back and correct his wrong answers.

## Chapter Five

### Modifications

The user testing was encouraging and informative. Based on the feedback from our business game players, further improvements were made on the game prototype. In the mean time, other features, which were planned but did not make into the prototype, were also completed.

### *Interface*

We made changes on the game interface based on user testing and observation. We used to have audio controls on the knowledge display. The player could pause and replay the narration, and turn the narration off. But since the user testing showed the audio control was not utilized at all, we took the audio control out and put only one “Mute” button in case the player wants to play a silent game. This way we cleaned up the interface and better utilized the screen real estate.

We also completed the scroll bar in the text area so the player has the options to use the standard up and down arrows, or the scroll thumb in the scroll bar to control the text display.

### *Knowledge revision*

Some knowledge points were revised and made more directly relevant to the clickable hot spots to clarify questions that arose in the user testing. More knowledge points were also added into the game to create a lusher environment.

### *Clickable objects*

I modified several easy-to-miss hot spots to increase visibility by either increasing the hot area when the “Hint” button is turned on, or changing the objects’ physical size or position in the scene to make them easier to find.

### *Visual instructions and graphics*

I created animated game instructions with Macromedia Flash. The visual instructions are easier to understand and remember compared with original text instructions. There is also an option to skip the instruction and start the game right away if the player is already familiar with the instructions.

Besides the instructions, I also further improved the graphics in the game including game background and interface elements.

### *Music and Sound*

I composed more music for the game environment and added more ambient sounds in the background to make the game world more exciting and representative of the real city.

### *Pop-up animations*

User testing also showed our players liked the pop-up animations after they clicked on certain hot spot. They add to the dynamics of the game and also help the information get

transferred and registered. After the evaluation I added 10 more popup animations into the game.

### *More NPCs*

Due to time limit, there were only a few non-crucial NPCs in the game prototype. After the evaluation, I added many NPCs in the game background. The game world looked more lush and real with more people in it.

### *Journal*

The journal was also implemented into the game. This is an important part of the design, where the player has a dynamically building journal while proceeding through the game. The player also has the option to view and print the final journal after playing the game, obtaining some useful information that they can take away with them after finishing the game.

### *Final polish*

Other game elements, such as additional interface buttons, a quit prompt, credit page and accompanying webpage were also completed to wrap up the game *Voyage Beijing*.

## Chapter Six

### Conclusion

The increasing popularity of the Chinese market attracts more and more American businesses. In preparing for business travel to China, there is a need for a suitable training format that is more enjoyable and effective than the traditional training formats. Based on the analysis of the advantages that digital games have in learning and training, and the analysis of the target audience, it is believed that well-designed digital games, as a new training practice, can enrich learning and improve training results.

*Voyage Beijing* was designed and developed as a digital game to train first time business travelers to Beijing, China. The user evaluation with the target audience demonstrates that this product is an effective way to prepare first time business visitors to China or it is a powerful supplementary training format to existing methods. Further, the evaluation supports the creation and use of digital games for training purposes in other business applications.

### Future Development

*Voyage Beijing* certainly has potential for expansion. Based on the first version of *Voyage Beijing* and the subsequent evaluation, further improvements could be made. For example, a city map could be implemented and the players can obtain a better idea where they are and where the places of importance are located on the map. This can help give them an improved sense of orientation when they actually go to Beijing. Other future features that

may be useful is to allow the player to go back to a specific scenario if they are interested in reviewing and reinforcing their knowledge on only part of the trip.

Beyond *Voyage Beijing*, there is great potential in business and travel training on China as more American businesses are entering China and more people are developing an interest in China. There are many topics on China and Chinese culture that can be featured in future training games.

## **Appendix A: Journal Entries**

The following details the knowledge the player can receive by playing *Voyage Beijing*:

### **AIRPORT**

#### **The Terminal**

Beijing Capital International Airport is the busiest Airport in China.

A new terminal is under construction, slated to be complete by the 2008 Olympics, which will be held in Beijing. The state-of-art terminal will be able to handle 190,000 flights, 35 million passengers, and 780,000 tons of cargo a year.

#### **Chinese Customs**

Non-resident travelers have to declare to Customs authorities if they are carrying a sum of Chinese currency in excess of 6,000 Chinese yuan in cash or a sum of foreign currencies in cash equal to 5,000 US dollars or more.

#### **Time Difference**

Beijing Time is the only official time zone in China. Coming from the United States, if you are not under the Daylight Saving Time, the time difference is 13 hours from US Eastern Time, 14 hours from US Central Time, 15 hours from US Mountain Time, 16 hours from US Pacific Time. For example, if it is 10 o'clock in the morning in New York, it will be 11 o'clock in the evening on the same day in Beijing.

#### **Information Desk**

Information Desk is open from 8:30am to the last flight of the day. Attendants at the desk usually can speak English.

#### **Transportation**

The airport is 26 kilometers (16 miles) from the center of the city. You can use either of the following transportation:

Taxis are always available outside the Arrivals. Average fare from the Capital International Airport to a downtown hotel is about 80 Yuan (depending on the type of taxi), plus 15 Yuan for highway toll (total cost about \$12 US).

The shuttle buses depart every 30 minutes from outside Arrivals. The shuttle buses take three routes into the city and have many stops at major hotels and transportation hubs. The whole journey takes about 1 hour. The fare is 16 Yuan (\$2 US).

#### **Banks at the airport**

China's four Commercial Banks have windows set up at the airport for foreign currency exchange. Some of these banks can also provide cash advances with a Visa card. The banks are open during normal flight and arrival departure hours. The official currency exchange rate is 1 US Dollar = 8.27 RMB Yuan.

### **ATM Machines**

12 ATMs and 4 auto cash exchange machines are conveniently located throughout the terminal. The following cards are accepted: Cirrus, American Express, Visa, Visa Interlink and MasterCard. The ATMs are available 24 hours a day.

### **HOTEL**

#### **Hotel Money Counter**

You can change your money from US to Yuan currency here. The exchange rate is the same as the airport: 1 US Dollar = 8.27 RMB Yuan

#### **Concierge**

A concierge is available to help you with information and other things. The concierge in most hotels will speak English. You may want to ask them to write notes for you in Chinese for taxi drivers or others that may not speak English.

#### **Hotel Card**

It is good to keep a hotel card with you while you are in Beijing. At any time, you can show this to a taxi driver to get back to the hotel.

#### **Telephone in Hotel**

In your hotel, you can use the phone to get a variety of information.

112 - weather report, in both Chinese and English

117 - current time in Chinese

119 - report a fire in Chinese

110 - report a crime in Chinese

0 - front desk to set up a wake up call

#### **Television**

Amid several foreign network television channels, there is a 24-hour English channel presented by China Central Television - CCTV-9. Although it is dedicated mainly to reporting news and information to its global audience, CCTV-9 also features documentaries and entertainment magazine shows to offer insight into Chinese society.

#### **English Newspaper**

Some quality hotels provide English newspapers for foreign guests.

#### **Internet Service**

The Internet is developing very fast in Beijing. Internet service varies in different hotels.

Some charge \$10 a day for broadband connection in guests' rooms. Some offer it for free.

You can always get online at the business center. The fee varies. Some five-star hotel charges about \$4 per 15 min.

#### **Power**

China's civil use electrical power is 220V, 50 Hz. Some hotels provide two types of voltage, 110V and 220V in the bathrooms. Make sure to check the voltage to see if you need an

adapter before using electrical appliances. Adapters can usually be found for sale at the Beijing airport and other electronics stores. The hotel may also have adapters for sale.

## **BUSINESS ETIQUETTE**

### **Be On Time**

There are about 2.05 million automobiles in Beijing. The number is increasing quickly. In the first 9 months of 2003, 290 thousand automobiles were added to the roads. Traffic jams happen often. Make sure you start early enough and plan extra time on the road. To be on time is important business etiquette in China.

### **Business Attire**

You are always expected to wear a formal business suit in business meetings.

### **Introduction**

Formal introductions are standard. In China, introductions start from the most senior person and works down, which is sometimes the reverse order from American customs.

### **Addressing People**

Chinese names have reverse order compared with American names. The last name goes before the first name. To show your respect, address people using their official titles with their last names if you can. Avoid using their first names in the first meeting unless they request. If you are not sure about the title, just use Mr. and Ms..

### **Woman in Business**

There are many women working in the business field. Married women in China usually do not change their names to their husbands' names.

### **Business Card**

Exchanging business cards is considered respectful and courteous. Make sure you take plenty with you. Preferably your business card has two languages, with Chinese on one side and English on the other.

To show your respect, always present your business card, or gift, with both hands.

When receiving other people's business cards, look at them for a few seconds then put them away. Never put them in your back pocket though. Put them in your cardholder or front pocket of your shirt.

### **Handshake**

People shake hands as greeting to each other when on first meet. Say "Ni Hao!" ("Hello!" "How are you?") and/or "Xing Hui!" (Nice to meet you!)

There is no intimate touching, such as hugs or arms around the shoulder, in business meetings.

**Gift Opening**

In traditional Chinese culture, you do not open a gift or show much curiosity over the gift in the presence of the giver. Save until you leave the meeting.

**Gift Choice**

Never send a clock as a gift. The pronunciation of clock in Chinese is “zhong”, which has the meaning of “end” or “death”. But a watch as gift is quite all right. Another bad choice as a gift is shoes, which in Chinese has the same pronunciation with the word “evilness”.

**Gift Wrapping**

Don't wrap your gifts in plain black or white, or yellow with black writing. These colors relate to the dead. Red and gold are safer colors.

**Tea in Business Meetings**

Tea is a favorite drink among the people of China; it is available during many different kinds of occasions, even during business meetings.

**Remembering Names**

Like in many other cultures, it is always advisable to remember people's names. It could build good impression if you already know their names when you first meet.

**Complaining**

On your first meet with people, avoid complaining or showing negative attitude.

**Business Attitude**

Many Chinese people tend to be non-confrontational. It is very important not to lose face in Chinese culture. Your Chinese partner can be very indirect on their decision-making. It doesn't mean they are evasive or not respectful. Open and sincere communication, and the commitment to the mutual goal are the keys.

**Showing Appreciation**

It is important to show appreciation towards something that your Chinese partner is proud of, even if you don't quite agree with them.

**Indirect Culture**

People might feel frustrated if you don't show appreciation toward what they've offered you. And Chinese culture a lot of times is an indirect culture. So it is polite and respectful to be positive in your reaction, even to hide your dissatisfaction.

**DINING****International Cuisine**

There are many American restaurants in Beijing. A large variety of restaurants of different country flavors are also present, such as Thai, Vietnamese, Russian, Japanese, Korean, German, Italian, Irish, etc.

### **Sichuan Cuisine**

Sichuan food is one of the four major Chinese cuisines. Sichuan is a province in southwestern China, but Sichuan food is very popular in northern China. It is famous for its spicy and rich flavor.

### **Guangdong Cuisine**

Guangdong is a coastal province in southern China and prized for its food in the Chinese culture. Guangdong cuisine is one of the four major Chinese cuisines. The soup and seafood cooked with the unique Guangdong flavor combinations are especially popular.

### **Dumpling**

Dumpling is a representative Chinese food. It is especially popular in northern China. There are many dumpling restaurants in Beijing. Some of them boast more than 100 types of fillings.

### **Beijing Roast Duck**

Beijing Roast Duck enjoys the title of "The Best Flavor of the World". It is a must-try on your Beijing trip. The ducks are roasted in a door-less oven for 30-40 minutes. Non-smoky hardwood fuels, such as peach tree or pear tree wood are used as the fuel to impart a subtle fruity flavor to the duck skin. Beijing Roast Duck is served at over 60 restaurants in Beijing. The daily consumption of ducks is about 3000!

Some famous duck restaurants hang some uncooked, clean ducks to show the customer how clean and fresh the ducks are. The ducks are cooked before severing. When roasted and dried, the duck will look brilliantly date-red, shining with oil and with crisp skin and tender meat.

In some traditional Roast Duck restaurants, the chef will demonstrate the special meat carving process. The duck is carved into about 120 pieces and in a way that each piece of meat has a part of the duck skin. The duck skin is cooked very crispy and juicy after special roasting. So the meat is especially delicious with the skin on it.

Take a wafer-thin pancake. Pick up two or three pieces of meat, which have been cut into two-inch slices. After dipping them into a thick, sweet sauce called "jiang," you place them in the center of the pancake, add some spring onions, fold the pancake, and enjoy!

### **Hot Pot**

Hot pot restaurants are excellent place to go in Beijing's cold winters. There are two kinds of hot pot, one is Beijing style, and the other is Sichuan style, which can be very spicy.

### **Usher**

If you don't see an usher at the entrance in a restaurant, you don't have to wait to be seated. Instead, you can go directly to a table to seat yourself.

### **Eating Out**

As Chinese people's living standard improves and people's lives get busier and busier, more and more people often eat out, especially young people.

### **Ordering Food**

In most of the Chinese restaurants, you sit at the table and order from the menu provided by the waiter or waitress.

### **Tea Pouring Ritual**

Quite often tea is served with the meal without charge. In Chinese culture, when somebody else is pouring you the tea, it is a courtesy to slightly knocking on the table near your cup with your index and middle finger knuckles. It is an expression of thanks.

### **Chopsticks**

It helps build rapport if you can or try to learn using chopsticks. Silverware for Chinese cuisine does not include a fork and knife. Chopsticks alone serve the purposes of picking, cutting and separating food. But you can ask for a fork and spoon if your efforts fail.

### **Spoon**

Very often Chinese meals include a soup. A china spoon is used for the soup.

### **Menu**

Usually menus are only in Chinese, except in those restaurants that also target foreigners. It is always a good idea to bring your Chinese friends along.

### **Table Manners**

Don't take an entire main dish for yourself. The dishes are usually put in the middle of the table and shared by all. This is different from the western-style individual serving.

Don't forage through the main dishes. Take what's on top and easiest to reach.

Do not pile food on your plate first and then begin to eat. Take only a small amount at a time from the main dishes and dish up more as many times as you want.

When you use the spoon, you should first put your chopsticks down. It is not good manner to hold them both in one hand.

It is bad manner to stick the chopsticks upright into a bowl of rice.

Do not point at others with your chopsticks.

### **Bill/Check**

In Chinese restaurants, you ask for the bill when you are ready to pay instead of waiting for it. The Chinese phrase for it is "Mai Dan" or "Jie Zhang".

**Fruit plate**

There are no fortune cookies in China. Some bigger and more expensive restaurants have complimentary fruit plate after you pay the bill.

**Paying the Bill**

Most of the restaurants don't accept credit cards or US dollars. The best way to pay your meal is using RMB cash.

**Tipping**

In most restaurants you don't have to pay tax or tip. In the exceptional restaurants - usually quite expensive restaurants - a certain percentage of service fees could be charged automatically to the bill.

**TOURISM****Taxi**

There are about 68,000 taxies in Beijing. The taxis make up 40% of the automobiles flow on the streets. Taxis are patrolling the streets or waiting at the airport, hotels, railway stations and tourist spots around the clock, providing a very convenient way to get around the city. The fares range from 1 to 2 RMB Yuan per kilometer (\$0.2 to \$0.4 per mile) The price is shown on the window.

**Taxi Driver**

Few taxi drivers speak English so it is advisable to have destinations written out in Chinese. But as Beijing is preparing to hold the 2008 Olympic Games, it is anticipated that taxi drivers' English level will improve.

**Private Car**

More than 10% of households own cars. Private car buyers take up 90% of automobile purchases.

**Bicycling**

Bicycling is still a very popular form of transportation in Beijing.

**Street Manner**

According to Chinese norm, it might be frowned upon if you smile at a stranger or stare at someone for a long period of time on the street.

**Population and Personal Space**

Beijing has a population of 14 million people. In such popular scenic spots, you should expect much smaller personal space than in the US.

**Vendor Shop**

In tourist spots, you can get water, snacks, daily items or souvenirs at many privately owned small shops.

**Bargaining**

In small private shops, you can negotiate the price on some items like T-shirts and other souvenirs. But you don't bargain on food and drinks.

In some state-run gift shops, you cannot negotiate the price. But the quality of the commodities is more likely guaranteed. Some large shops accept foreign credit cards. But usually it will cost you more to do so. The best way is to pay with RMB cash.

**Restroom**

Restrooms in China use the same male and female signs as often found in the US. It might be helpful if you can learn to say "restroom" in Chinese, which is Wei Sheng Jian.

**Bottled Water**

Tap water is not good for drinking. Therefore there are no drinking fountains in Beijing. You need to get bottled water.

**Scenic Spots*****The Great Wall***

The Great Wall of China, one of the 7 construction wonders of the world, was enlisted in the World Heritage by UNESCO in 1987. The Great Wall was built over 2000 years ago (770BC-221BC) as military defense work. It has been renovated and reinforced many times since then.

The Great Wall zigzags its way along the mountains and ridges crossing the vast land of 11 provinces in North China and Northwest China, like a giant dragon. Its total length is 6700 kilometers (4163 miles). It is so large that it is even visible from the moon.

The Badaling Section of the Great Wall, built in Ming Dynasty in the 14<sup>th</sup> century, is located in the north of Beijing, 70 kilometers (44 miles) away from the city center. There are many spots in the city where you can find tourist buses going back and forth between the city and the Badaling Great Wall.

The construction of the Great Wall involved a great army of manpower, composed of soldiers, prisoners, and local people. At one point in the Qin Dynasty, during when the Great Wall was first joined, 300,000 troops were used, plus conscripted laborers. The construction demonstrates the wisdom and tenacity of the Chinese people.

The wall is made from granite stone slabs and special bricks, 6-7 meters high (6.6 – 7.7 yards) and 4-5 meters wide (4.3-5.5 yards) at top.

Armies were stationed along the wall as a first line of defense against the invading nomadic tribes north of China. At places with a broad view, beacon towers were erected near the wall. In case there was an attack, signal fires would be lit to provide early warning.

The Ming dynasty saw the creation of a sophisticated defense system along the wall including garrison towns, garrison posts, passes, blockhouses, additional wall structures, watchtowers and beacon towers, each given a different status and designed mission.

Chairman Mao had a quotation for the Great Wall – He who hasn't been to the Great Wall is not a hero. The statement reflects the magnificence of the Great Wall.

### ***The Summer Palace***

The Summer Palace is located 20 km (12.5 miles) northwest of the city center. It was built in the 18<sup>th</sup> century and renovated in the 19<sup>th</sup> century as the summer residence of the emperors and empresses. It is China's largest and best-preserved imperial garden, occupying an area of 290 hectares with more than 3,000 buildings. It is an outstanding expression of the creative art of Chinese landscape garden design, combining nature and the works of humankind in a harmonious way.

### ***The Forbidden City***

The Forbidden City is located in the center of urban Beijing. It served as the residence of 24 Ming and Qing emperors. It is the largest and best-preserved extant group of ancient architecture in the world. Built in 1420 in the Ming Dynasty, it has been the center of the feudal rule in China till the fall of Qing Dynasty in 1911. The Forbidden City covers an area of 72 hectares (178 acres) and consists of over 9,000 palaces and halls.

UNESCO has listed the Forbidden City in the World Heritage. It boasts a large collection of about 1,050,000 pieces of precious relics that are on display.

### ***Wangfujing Commercial Street***

Wangfujing Commercial Street has a history of 700 years.

You can find good resources in English at the Foreign Language Bookstore at Wangfujing.

An "Old Beijing Street" is located underground of Sun Dong An Market. Old Beijing life and traditional Chinese artwork are featured there.

### ***Chinese Souvenir***

#### ***Cloisonné***

Cloisonné is a unique handcraft art. It is made of bronze and porcelain through complex artistic procedures as traditional painting and carving. China's earliest existing cloisonné was made in Yuan Dynasty (1271-1368).

#### ***Chinese Knots***

Chinese Knot is a kind of folk, decorative, handcraft art. It appeared in ancient China, developed in Tang and Song Dynasty (960-1229 A.D.) and got popular in Ming and Qing Dynasty (1368-1911 A.D.) This elegant and colorful art makes a perfect decoration. The characteristic of Chinese Knot is that every knot is made of a single rope. Usually each design has a specific meaning.

### ***Silk and Embroidery***

Silk was discovered in China as one of the best materials for clothing. It could date back to the 30th Century B.C. In the Han Dynasty (206 B.C. to 221 A.D.), the famous Silk Road linked the Roman Empire in the west with the imperial court in China.

Embroidery always accompanies silk and its development. The most famous Four Renowned Embroideries in China are from Jiangsu, Hunan, Sichuan and Guangdong.

### ***Chinese Tea***

China is the homeland of tea. China has tea-shrubs as early as 5000 to 6000 years ago, and human cultivation of tea plants dates back 2000 years. Chinese tea may be classified into five categories according to the different methods by which it is processed. They are green tea, black tea, Wulong tea, compressed tea and scented tea.

### ***Traditional Chinese Painting***

Traditional Chinese painting is an important part of the country's cultural heritage. It is distinguished from western art in the paper, brush and pigments it uses. Proficiency is based on good control over the brush and knowledge of the paper and ink, and calls for assiduous practice.

## CHINESE PHRASES

English	Chinese Pin Yin	Chinese Characters
Hello	Ni Hao	你好
Good-bye	Zai Jian	再见
Thank you	Xie Xie	谢谢
Sorry	Dui Bu Qi	对不起
Very Good	Hen Hao	很好
Restroom	Wei Sheng Jian	卫生间
Pay the Bill	Mai Dan / Jie Zhang	买单 / 结帐
Tea	Cha	茶
Beer	Pi Jiu	啤酒
Taxi	Chu Zu Che	出租车
Sir	Xian Sheng	先生
Madam	Nv Shi	女士
One	Yi	一
Two	Er	二
Three	San	三
Four	Si	四
Five	Wu	五
Six	Liu	六
Seven	Qi	七
Eight	Ba	八
Nine	Jiu	九
Ten	Shi	十

Table 2 Chinese Phrases

## Appendix B: Game Branching

The following is how the game branches throughout the game missions:

### MISSION 1 - ARRIVAL

(KN - knowledge point IMP - impression)

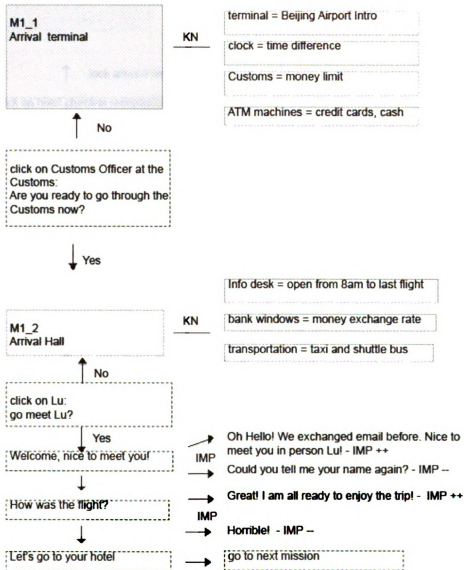


Figure 11 Game Branching

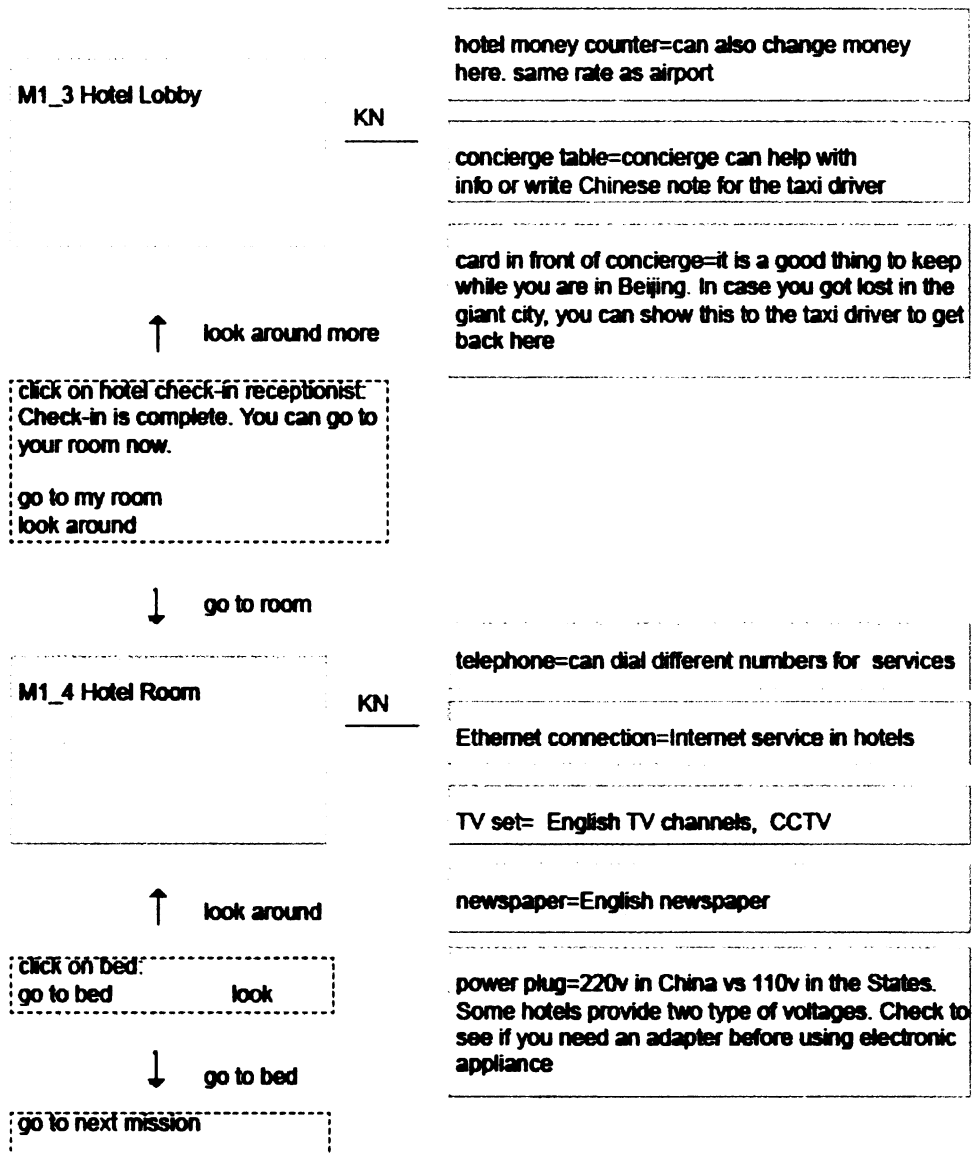


Figure 11 Game Branching (cont'd)

## MISSION 2 - BUSINESS MEETING

Cut Scene - Next Day you and Lu are on the way to the business meeting

M2\_1  
Inside Lu's car  
traffic jam

KN

taxi1=68,000 taxi in Beijing, making up 40% traffic flow. fare range \$0.2-\$0.4 per mile.

taxi1=taxi drivers don't speak English, better have destination written out in Chinese when taking taxi

car 1= 2 million automobiles in Beijing. traffic jams happen often, to be on time, plan on extra time because being on time is important business etiquette

car 2= More than 10% of households own cars. Private car buyers take up 90% of automobile purchases.

bicycles=a popular transportation tool in Beijing

click on Lu:  
Do you want to take a nap while I get us through the traffic jam? I will wake you up once we get to

No

Yes

KN

young business man 1=you are supposed to wear formal business suit

young business man 2=Chinese names have different order from American names

older wise business man= formal introductions is standard in business meetings

business woman= women in the business world. Married women in China don't change their names to their husbands' names

business card on table=exchanging business card a courtesy

tea cup=tea is a popular drink in China, also in business meetings

M2\_2  
Toystar conference room  
wide view, there are 4 people in the room

No

click on Yang  
Ready to meet Yang?

Yes

This is our production manager  
Yang Wu.

Yang: Nice to meet you!

IMP

shake hand, nodding slightly- IMP ++

put arm around shoulder - IMP -

Yang: Here is my card.

IMP

look at the card for a second then put it away - IMP ++

put the card away right away - IMP -

Yang: Can I have your card?

IMP

hand card using one hand - IMP -

hand card using two hands- IMP ++

Figure 11 Game Branching (cont'd)

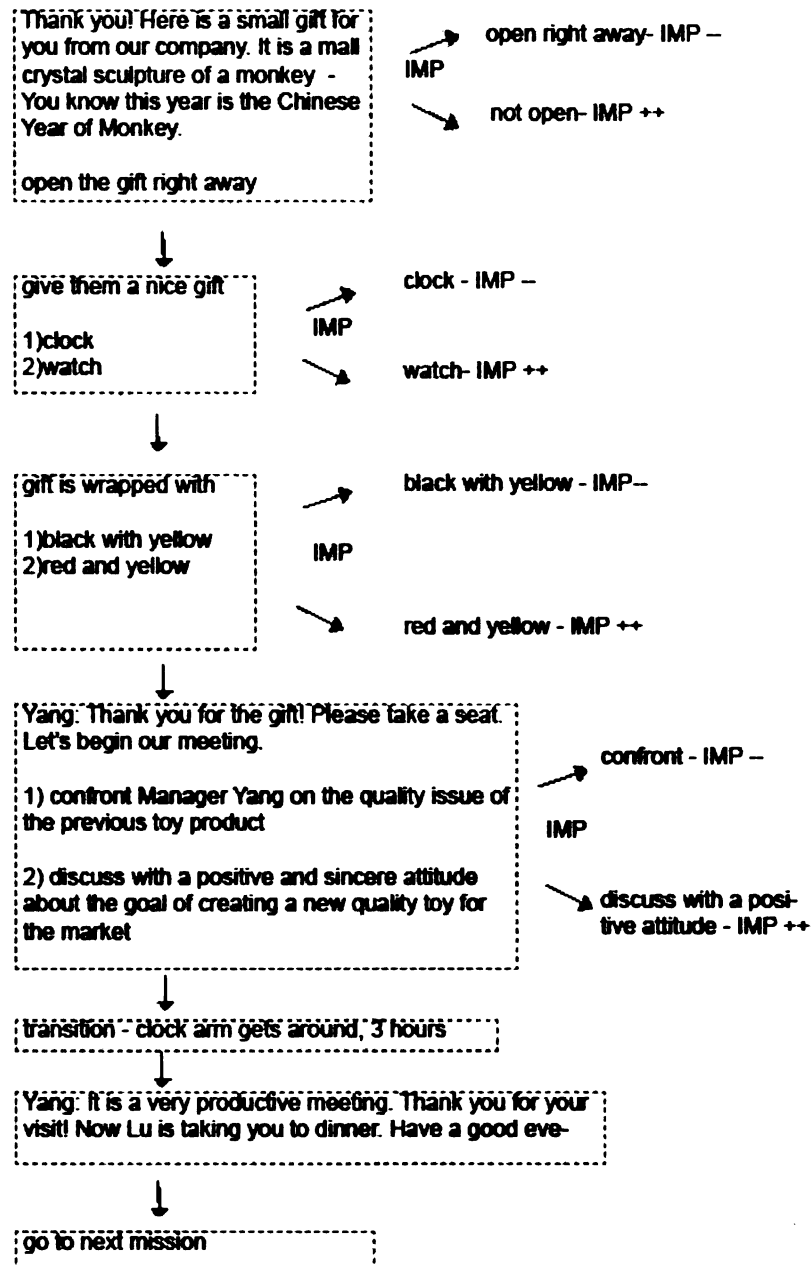


Figure 11 Game Branching (cont'd)

### MISSION 3 - GO TO CHINESE RESTAURANT

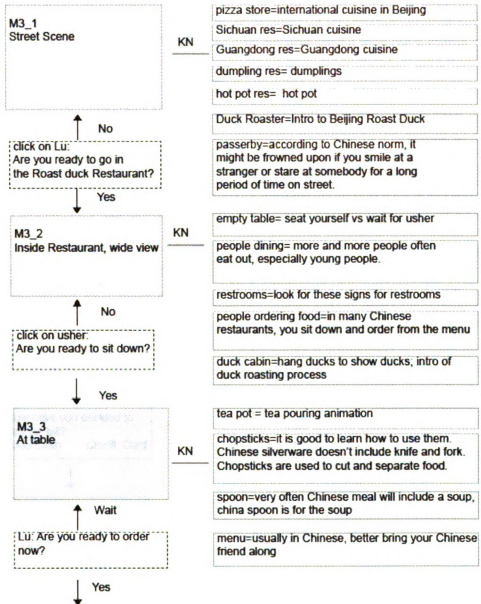


Figure 11 Game Branching (cont'd)

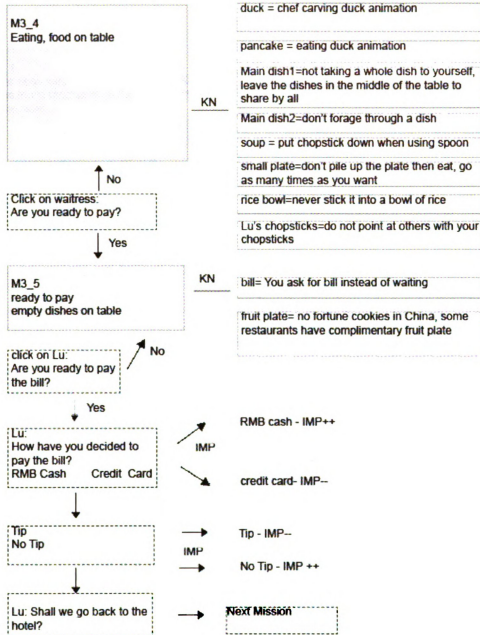


Figure 11 Game Branching (cont'd)

## MISSION 4 - SIGHTSEEING AND GIFT SHOPPING

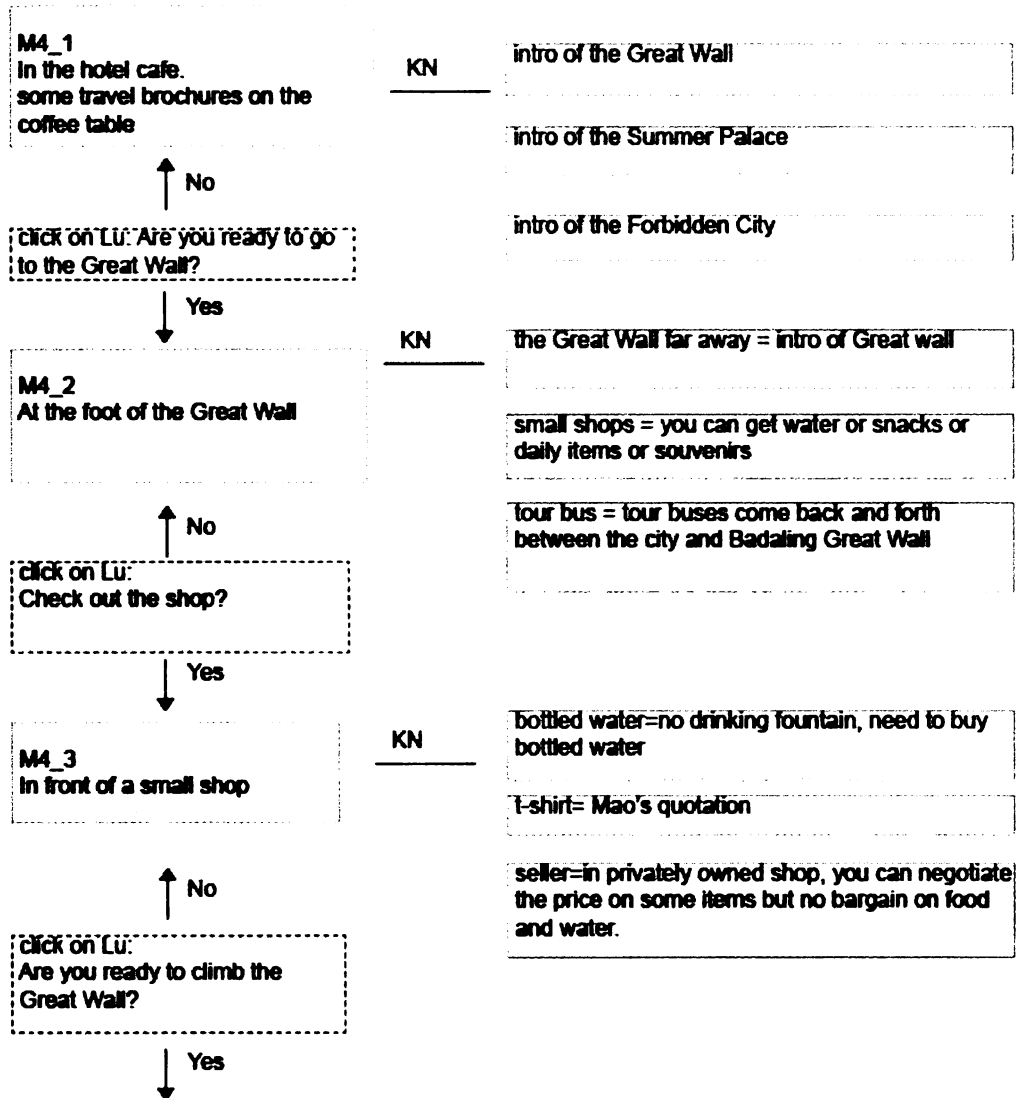


Figure 11 Game Branching (cont'd)

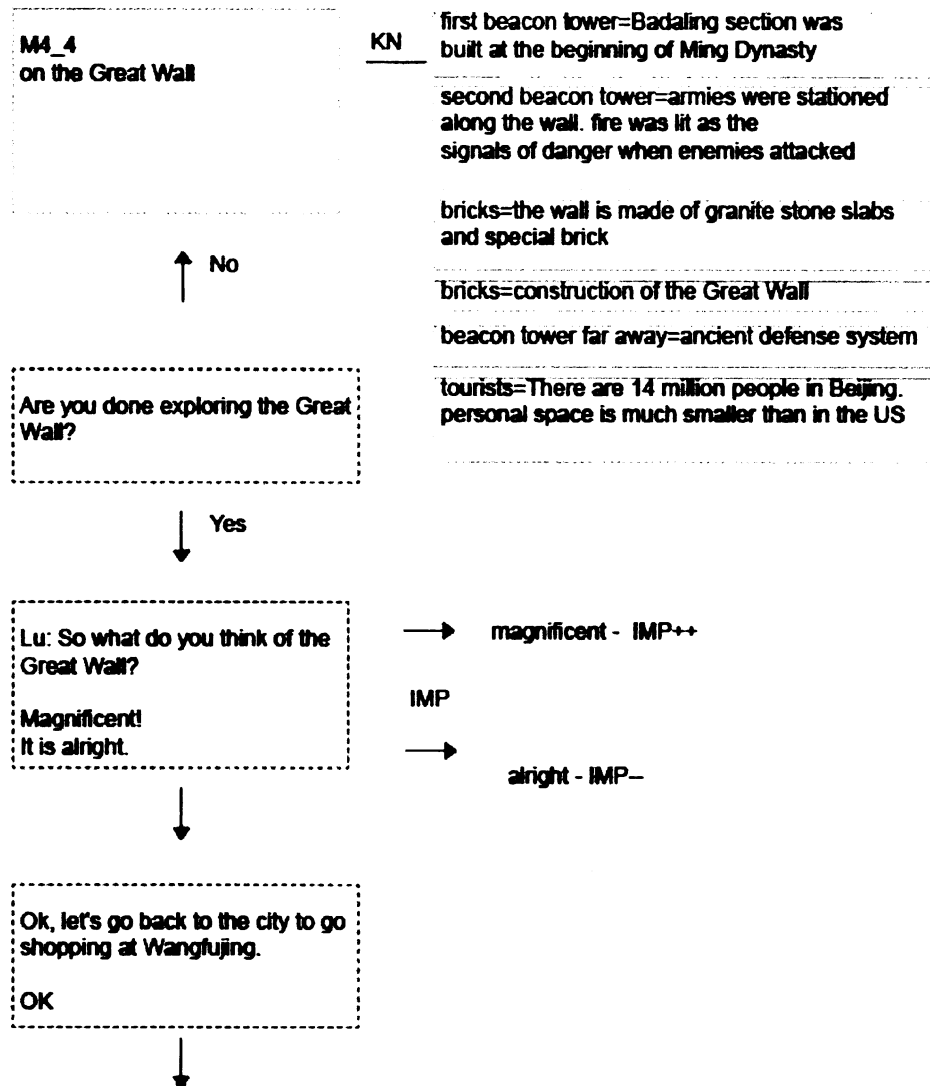


Figure 11 Game Branching (cont'd)

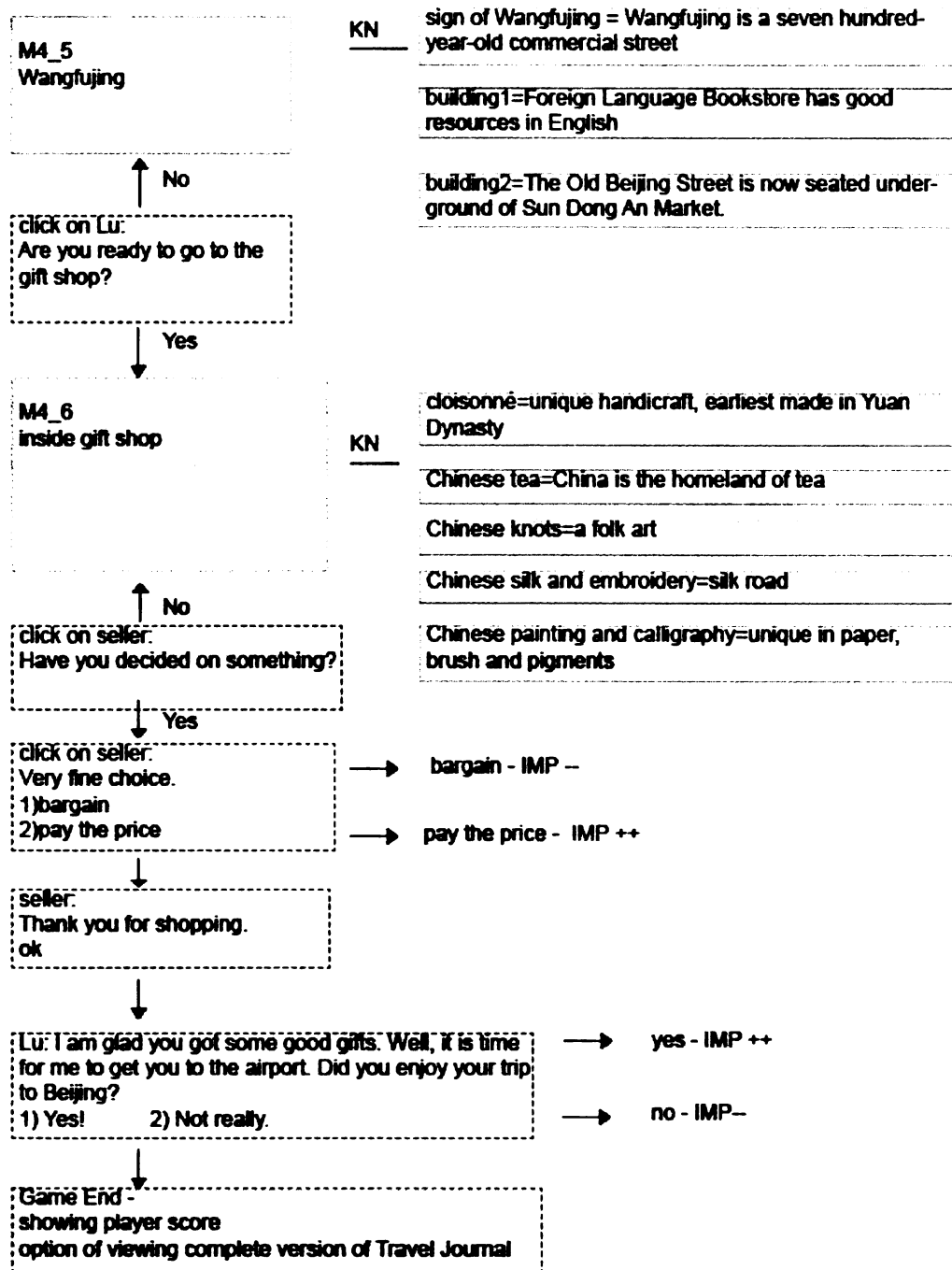


Figure 11 Game Branching (cont'd)

## **Appendix C: Evaluation Pre Survey**

Please answer the questions below by either circling the choices given or writing an answer in the space provided.

**1) What is your gender?**

Female                  Male

**2) What age range are you in?**

20-24                  25-29                  30-34                  35-39                  40-44                  45 or over

**3) What is your nationality?** \_\_\_\_\_

**4) How much traveling do you do to foreign countries?**

None                  A little                  Some                  A lot                  All the time

**5) Have you ever traveled to China before on business?**

Yes                  No

**6) Have you ever traveled to China before on vacation?**

Yes                  No

**7) Are you going to travel to China soon?**

Yes                  No

**8) Prior to playing Voyage Beijing:**

**a. How much do you know about Beijing?**

Nothing                  A little                  Some                  A lot                  Almost everything

**b. How much do you know about Chinese culture and heritage?**

Nothing                  A little                  Some                  A lot                  Almost everything

**c. How important do you think it is to know about China before you start doing business there?**

Not important at all

Not very important

Somewhat important

Important

Very important

**9) Prior to playing Voyage Beijing, if you were traveling to Beijing next month:**

**a. How confident are you in being able to adjust to the cultural differences in Beijing?**

Not confident at all  
A little confident  
Somewhat confident  
Confident  
Very confident

**b. How confident are you in being able to adjust to the change of surroundings in Beijing?**

Not confident at all  
A little confident  
Somewhat confident  
Confident  
Very confident

**c. How confident are you in being able to get around Beijing?**

Not confident at all  
A little confident  
Somewhat confident  
Confident  
Very confident

**d. How confident are you in being able to interacting effectively in a business-meeting situation with Chinese business people?**

Not confident at all  
A little confident  
Somewhat confident  
Confident  
Very confident

**e. How confident are you in being able to demonstrate proper dining etiquette in a business dinner in Beijing?**

Not confident at all  
A little confident  
Somewhat confident  
Confident  
Very confident

**f. How confident are you in being able to interactive effectively with local merchants to make purchases in a shop or restaurant?**

Not confident at all

A little confident

Somewhat confident

Confident

Very confident

## **Appendix D: Evaluation Post Survey**

**Please answer the questions below by either circling the choices given or writing an answer in the space provided.**

### **1) After playing Voyage Beijing:**

#### **a. How much do you know about Beijing?**

Nothing      A little      Some      A lot      Almost Everything

#### **b. How much do you know about Chinese culture and heritage?**

Nothing      A little      Some      A lot      Almost Everything

#### **c. How important do you think it is to know about China before you start doing business there?**

Not important at all  
Not very important  
Somewhat important  
Important  
Very important

### **2) After playing Voyage Beijing, if you were traveling to Beijing next month:**

#### **a. How confident are you in being able to adjust to the cultural differences in Beijing?**

Not confident at all  
A little confident  
Somewhat confident  
Confident  
Very confident

#### **b. How confident are you in being able to adjust to the change of surroundings in Beijing?**

Not confident at all  
A little confident  
Somewhat confident  
Confident  
Very confident

#### **c. How confident are you in being able to get around Beijing?**

Not confident at all  
A little confident

Somewhat confident  
Confident  
Very confident

**d. How confident are you in being able to interacting effectively in a business-meeting situation with Chinese business people?**

Not confident at all  
A little confident  
Somewhat confident  
Confident  
Very confident

**e. How confident are you in being able to demonstrate proper dining etiquette in a business dinner in Beijing?**

Not confident at all  
A little confident  
Somewhat confident  
Confident  
Very confident

**f. How confident are you in being able to interactive effectively with local merchants to make purchases in a shop or restaurant?**

Not confident at all  
A little confident  
Somewhat confident  
Confident  
Very confident

**3) Do you feel that Voyage Beijing accurately represented scenarios in a trip to Beijing?**

Yes                      No

**If no, why not?**

**4) How fun was it to play Voyage Beijing?**

Not fun at all              Little fun              Somewhat fun              Fun              Very fun

**5) How easy was it to play?**

Very hard              Hard              Ok              Easy              Very easy

**6) Would you like to play it again?**  
Yes    No

**If no, why not?**

**7) Prior to taking a business trip, do you feel playing a game, such as Voyage Beijing, is an effective way to increase your knowledge and confidence about your destination?**  
Yes    No

**If no, why not?**

**8) Please list up to 3 interesting things you like about the game**

1

2

3

**9) Please list up to 3 things that you wish could be improved**

1

2

3

## Appendix E: Research Survey Consent Form

### Introduction

This research is being conducted in order to evaluate the effectiveness of using the game “Voyage Beijing” in preparing businessmen and woman for business travel to Beijing. This study is part of a thesis project for completion of a Master of Arts in Digital Media Arts and Technology and is being conducted by Haomin Chen and her thesis chairperson, Brian Winn.

### Procedure of the study

You are going to fill out a pre-survey after signing this consent form. After the survey, you are going to playing a game “Voyage Beijing”. Then you are going to fill out a post-survey. The both surveys should take about 5 minutes.

### Rights and confidentiality

Participation in the study is voluntary, and you are free to withdraw from the study at any time. All responses to the survey will be anonymous. The results of the survey will be used for comparative research and design purposes. Your privacy will be protected to the maximum extent allowable by law. Your name will not be associated with the findings. The data will be stored in a locked drawer and on a drive on a password-protected computer, available only to the investigator.

### Risk and Benefit

The risk involved in this study is minimum. Benefits include enjoying the fun of playing the game and getting to know more about Beijing and Chinese culture. Some of the knowledge points could be very useful for your future business careers.

### Contact Information

If you have any questions about this study, please contact the primary or secondary investigator:

<b>Principal Investigator:</b> Brian Winn Communication Technology Lab 253 Communication Arts & Sciences Michigan State University <a href="mailto:winnb@msu.edu">winnb@msu.edu</a>	<b>Secondary Investigator:</b> Haomin Chen Communication Technology Lab 253 Communication Arts & Sciences Michigan State University <a href="mailto:chenhaom@msu.edu">chenhaom@msu.edu</a>
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If you have questions or concerns regarding your rights as a study participant, or are dissatisfied at any time with any aspect of this study, you may contact – anonymously, if you wish – Peter Vasilenko, Ph.D., Chair of the University Committee on Research Involving Human Subjects

(UCRIHS) by phone: (517) 355-2180, fax: (517) 432-4503, e-mail: [ucrihs@msu.edu](mailto:ucrihs@msu.edu), or regular mail:  
202 Olds Hall, East Lansing, MI 48824.

### **Consent Statement**

If you agree to participate in this survey, please sign and date below.

“I voluntarily agree to participate in this survey.”

\_\_\_\_\_  
Printed name

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

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