Exploring Cultural Identity: Learning Culture Through Effective Interactive Design

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Exploring Cultural Identity

Learning Culture Through Effective Interactive Design

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December 2014

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Colophon
Abstract

Culture defines groups of individuals by language, religion, art, or tools. In today's ever growing sector of computers, smart phones, and tablets, mobile technology is used as a means to discover a sense of individuality through wireless devices and essentially the Internet. This is a case study on how to design a better educational app designed to teach culture through visual exploration and user testing. This thesis also explores how design affects behavior through usability. Through an analysis of interdisciplinary subjects, Exploring Cultural Identity aims to provide a visual prototype to teach culture, specifically focusing on Korean art. The goal is to provide foreign-born adoptees and second-generation U.S. children (and anyone interested in learning a different culture) an easy-to-access resource that explores culture through a series of apps.

Keywords: mobile-app, interactive design, mobile game app, culture, Korea
Introduction

Culture enriches society by fostering self-esteem in both individuals and groups and is used as a tool to build identities.\(^1\) Culture defines groups of individuals by language, religion, art, or tools. In today’s ever growing sector of computers, smart phones, and tablets, mobile technology is used as a means to discover a sense of individuality through wireless devices and the Internet.

As more people utilize mobile technology to either communicate with their peers or take a break from reality, mobile application development increases\(^2\). Often, people will use their smartphones as a form of entertainment\(^3\).

Educators saw an opportunity in the growing gaming app world and combined technology and education to create a new type of learning – gamification. This concept adds game theory to non-game related content like learning. Many educational apps use gamification in their concepts like Duolingo\(^4\) and Mindsnacks\(^5\). Both applications are language learning apps that take good design principles, such as user interface design and visual graphics to create a well designed, fun app to play. The issue with most language learning games is that the visual graphics of the game are disconnected from the culture the content borrows from. In other words, the games do not borrow elements from the culture the language from.

Mobile learning is increasingly used by educators to break the monotony of traditional classrooms. However, many teachers are merely replacing in-class lectures with at home reading e-books.\(^6\) Teachers need to take today’s technology in new ways to fully foster a student’s learning.\(^7\) Technology can facilitate ground-breaking ways to supplement learning, but educators must also implement good design in teaching and teaching materials.

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3 Ibid.
4 Duolingo. <https://www.duolingo.com>
5 Mindsnacks. <https://www.mindsnacks.com>
7 Ibid.
Situational Analysis

As humanity progresses further into the technology age, and as more and more apps are developed, there needs to be larger examination in mobile learning. Educators can utilize mobile technology and visual design to encourage learning.

This thesis will explore the design of a mobile app covering a culture, focused on storytelling and branding. The exploration of the thesis will reveal that learning about culture through the means of readily accessible materials promotes positive social behavior and self-efficacy. The end product, a prototype of a visually based educational tool, will demonstrate well-designed learning tools positively impacts the user.
Thesis Statement

The question becomes: will this study of culture through mobile learning, and analysis of visual design, help designers understand how to design educational apps better?

Today’s age is considered “here and now learning,” because a person can access information on the go, whether it be on a tablet or phone. Educational apps are especially increasing on the market, many of which focus on teaching language. However, not many of these language games offer visual insights to the country’s culture. The gap between content and visually related material lacks in mobile apps. This gap provides an opportunity to explore teaching culture through mobile learning. Furthermore, the opportunity allows the exploration how visual design affects usability as not many educational apps are well designed. An app’s visual identity is important not only for aesthetic value, but also supports the successive of the app in terms of downloads and usage. Research shows that the better design an app has, the more likely a user will interact with the app often. Not only does the quality of design affect the usage, but also the effective functionality and the content. These things combined mean more trust in the company thus allowing for expansion and growth. This aesthetic value is as important to the company who developed the app, as well as the user. Well-designed apps can have a positive influence on a user’s behavior and depending on the content, can promote self-efficacy and positive behavior.

This thesis is a case study that explores the effects of a mobile app’s visual design through the content of culture specifically focusing on Korean art. The goal is to provide foreign-born adoptees and second-generation U.S. children (and anyone interested in learning a different culture) an easy-to-access resource that explores culture through a series of apps.

The research will explore through a non-developed designed prototype:

1) How does visual design impact usability in an educational app?
2) What role does branding play on the quantity of app usage?
3) How does learning culture help reinforce positive behavior and self-efficacy?
4) How does mobile learning impact behavior?

The results of the study will provide insights on how to develop and design effective mobile learning.
Literature Review

APPS

Researching Magic Keyhold – WORLD, an educational app, helped the visual research designing a game for children. The game helps children to learn about their environment through rhyme, crude animation, and realistic popup pictures.

BRANDING

This article helps facilitated the goal of this thesis of aiming to anticipate user behavior through app use by discussing digital marketing strategies through social media such as Pinterest and Instagram. Focusing on these two social media sites, the article highlights that the platforms represent want (Pinterest) and things in action (Instagram). These platforms can be used to “drive consumer engagement and revenue.”


Sagi Haviv, of Chermayeff & Geismar & Haviv, did an interview with Designboom telling his background in design, what good design is, and what advice he received as a young designer. Although this particular interview does not provide specific topic aims to help the production of this thesis, it’s an interview with good general advice for designers.


Because one part of this thesis is branding, this article helps branding research by highlighting helpful tips on how to create a successful brand.

Gillett, Rachel. “What Your Logo’s Color Says About Your Company

Gillett talks about the psychology of color and how people associate different meanings to both primary and secondary colors. The psychology of colors can be applied to the thesis design application.

**CODE AND RESPONSIVE DESIGN**

Codrops. Last modified 12 January 2012. “Patrick Cox: 5 Things Every Mobile Design Should Have.” <http://tympanus.net/codrops/2012/01/12/5-things-every-mobile-design-should-have/>

This thesis will explore the five things Cox believes a mobile site must have: 1) meaningful navigation, 2) focused content, 3) feedback, 4) clear branding, and 5) plenty of space.

Composite. <getcomposite.com>

This will have a mobile app designed not developed. Composite looks like an interesting way to prototype.

Bootstrap. <getbootstrap.com>

Bootstrap is a responsive framework that will help streamline the coding process.

HTML5 Up. <html5up.net>

HTML5 Up is a site with downloadable, responsive design templates that is customizable. As one part of the final deliverable will be a site promoting the app, this will be useful streamlining the framework.

Invision. <invisionapp.com>

Exploring Cultural Identity will have a mobile app designed not developed. Invision looks like an interesting way to prototype.
The app will have a mobile app as part of the application. The issue of designing for touch screens is address in this article where the author goes over the pixel dimensions of user fingers and points how sometimes it isn’t always practical to design that way.

The main part of this is focusing on the user. In this article, Cerejo goes through a user-centered approach for designing for the web. Cerejo suggests catering to an audience who accesses the content most frequently via whatever device they use.

One of the issues with user-centered design is designing a navigation that is easy to use. McCollin goes over how to optimize navigation for mobile devices. She focuses on the design, ergonomics of the navigation, and user experience.

Van der Merwe highlights the good and ugly aspects of designing children’s applications and that it is extremely difficult to design age-appropriate content while having well-designed pagination and navigation.
Todish goes over gestures and technical constraints. His general practices include: 1) mobile first, 2) behaviors and archetypes, 3) encourage exploration, 3) provide immediate feedback, 4) context, and 5) ideate in the wild. Mobile first constraints help the designer by prioritizing the most important content and by applying “design patterns that are specific to [the] target devices.”

CULTURE

One of the goals of this thesis is to show that learning culture promotes positive development. This article aims to highlight the positive correlation between culture and development. By researching in Brazil and a public policy called the Neighbourhood-School Programme, the article responds to the program by arguing that the program has potential for social change through educational means.

CHARACTER DESIGN

Characters don’t necessarily have to be stereotypical, but their culture can be brought through how they interact with the user and with the world around them. Isbister goes into the psychological reasons why players attach to the characters they play. She boils it down to the physical attributes to the character design but also how the characters interact in the story. She goes into how designers must cater their games to their target audience portraying the culture within speech patterns, behavior modifications and not just through looks.


Through this book, Hart teaches humanoid and animal character design through brief tutorials.

Through this book, Hart focuses on a specialized look to humanoid character design.

**DESIGN**


Garrett walks through what makes up user experience like the strategy plane, which is made up as strategy, scope, structure, skeleton, and surface. All which have a function in UX design. The strategies portrayed in this book provides the thesis with better functionality. It also provides the designer with a better understanding of the fundamentals of designing user experience.

**GAME DESIGN**

“Assassin’s Creed.” Ubisoft.

This thesis will provide insight to certain cultures through game play. An excellent example of this is Assassin’s creed which provides the user with an introduction to Middle Eastern, Italian, and Civil War (American perspective) cultural references through game play.


As “gamification” is the theme Exploring Cultural Identity, the game “Carmen Sandiego” is an excellent example. The formula of the successful “Carmen Sandiego” game series is as follows: 1) get mission, 2) track Carmen, 3) find clues, and finally 5) solve the mystery.

“Final Fantasy.” Squaresoft

As storytelling is a large part of why certain games are successful an example of wonderful storytelling is the Final Fantasy series. It is known internationally for it’s superb storytelling.

“Mindsnacks.” Mindsnacks.

The game provides an example for gamification for this thesis. The Mindsnacks series is a language learning app series containing mini-games that cover vocabulary and awards the user by a point system and leveling up.
“My Coach.” UbiSoft.

Another example of gamification, this game series teaches many foreign languages such as Japanese, Spanish, French, and Chinese. The game series teaches word use, grammar, and construction of phrases through easy-to-play mini-games and the more correct responses awards the user through a leveling system. This game teaches the language with elements of the culture it represents mixed in through a map graphic.

“Professor Layton.” Level-5.

This game provides an excellent example of storytelling, well-designed graphics, and puzzles, a good example for the app. Professor Layton is a puzzle adventure game developed for Nintendo. The game presents the user with a “mystery” that is the overarching theme for the game. The game content is a series of puzzles, each of which must be solved before the user can advance in the story.

“The Legend of Zelda.” Nintendo.

This game provides an excellent example of memorable characters. Link is the hero of the story as Zelda is the princess he's trying to rescue. Each “Legend of Zelda” game presents the player with quests where the player has to collect a certain number of objects before the game will advance.


An educational story that provides an example of teaching through entertainment for Cultured Mobile Learning.

KOREAN CULTURE


This thesis provides evidence that visual design has a positive effect on learning. The content shows multimedia provides a digital avenue for people to absorb knowledge through imagery, which can be argued to be more effective than written prose.

Lee goes over the history and basic principles of Hwa Rang Do, which is an essential part of the game.


Shin's thesis focused on Korean culture and Korean graphics, which helps as the application portion will focus on Korean graphics. Shin's thesis delves into the discourse of culture and graphic design focusing on Korean culture. Through examination of line, shape, and color present in Korean artifacts, Shin's thesis develops a sense of foundation in finding culture through graphic design.

**LEARNING**


Hope's article interviews David Thornburg, an educational futurist, who says technology is useful but teachers are not changing how they teach, they’re just replacing books with e-books for example. To utilize technology to its fullest, teachers have to “take new tools and [use] them in powerful new ways.”

**MOBILE**


One part of this thesis is a mobile-first approach. Wroblewski’s article discusses what a user does with an app and how a designer should cater to the assumption of something working rather than the accuracy of something working, “flipping the previous PC paradigm around.”

**MOBILE LEARNING**

“Cognitive and Affective Processes in Multimedia Learning.” Learning and Instruction (2013) 1–3

This article examines the use of digital illustration and how visual design can induce positive emotions in learners thus increasing the motivation to learn more.
The survey results show positive results correlated with mobile learning, which provides quantitative results on mobile learning. This article studies the effects of mobile learning on student achievement and attitude.

**STORYTELLING AND NARRATIVE**


Emma Coats, now-former Pixar story-board artist, listed 22 rules of story telling to make a memorable story. These rules provide advice to the narrative for the design application of Exploring Cultural Identity.

Block, Bruce. *The Visual Story: Seeing the Structure of Film, TV, and New Media*. Elsevier: MA, 2001

Storyboards play an integral part in the mobile part of the application. In this book, Block explains how to set up camera angles to create interesting scenes. Everything from line, color, character positions, etc. effect how the story is told, which inevitably affects how the audience is going to react.

David Oglivy, Twitter post. 8 Oct 2013 3:35 pm <twitter.com/Ogilvy/status/3876777064323968/photo/1>

A memo from Oglivy for management to circulate how they saw fit, helping this thesis by highlighting how to write.


An analysis of how storytelling brands effectively shape a brand.

This thesis aims to provide education through entertainment means. Lebowitz and Klug write how to create both a great story and great characters for video games. To keep interest in the game, the designer must be aware of all that affects the main character like environment, secondary characters, the storyline and how the protagonist reacts.


Mamet explains how to present a story through film where the audience understands it. He takes a look at directing and presents a perspective of storytelling through the lens of a camera. Although my thesis application is not entirely film, there is the possibility of cut scenes and the knowledge of how to visually tell the story is helpful.


A well-written story will be part of the game and McDonald goes into how to write an effective story. He explains that all stories have a basic formula. McDonald’s formula along with the armature makes the viewer want to know how the story ends.


A well-written story will be part of the game, and McDonald goes into how to write an effective story based on one common theme: we are all the same.

TECHNOLOGY


This article provides evidence that mobile learning is a positive thing and the article explores the correlation between self-efficacy and technology demonstrating that the use of technology raises the efficacy levels in youth in urban areas. The research shows that technology influences domains of efficacy in certain ways thereby encouraging the use of technology in schools.
Methodology

The research used qualitative data focused on the best practices in mobile learning, interface design, and successful gamification. The thesis’ application focused on the user and how the user interacts with the app, which required qualitative research methods. In order to design to exemplify effective design in interactive, mobile learning app, the process includes four parts: 1) research, 2) design, 3) feedback, and 4) refinements.

First, in order to design the most effective mobile learning app, research was conducted on existing published apps. The best applications then were selected based on what apps are already in motion, what educational games are most effective, and what types of games companies are developing to teach children culture. The best practices in mobile learning, game design, storytelling, and narrative, were then applied to the prototype. The third section of the methodology involves the audience. The primary target audience is second-generation, United States’ children and foreign-born adoptees including both genders, with a varying age range, anywhere from age 10 to adult. However, anyone interested in learning a different culture is also included in the test group. As the application will be a web design and educational mobile app, the user will have to have an interest in learning but also have basic computing skills. Basic computer literacy requires the design to cater the UI to be easy-to-use and to function well within the design. In order to determine the ease of design, user groups need to be tested. The test was administered by a brief survey asking questions that inquire about the ease of interface, the content, level of interest, etc. From the feedback received from test groups and committee members, numerous refinements were applied.

The following section on process and research is split in several design consideration sections:

1. Story and game outline
2. Research
3. Style
4. Logo
5. User interface
6. App design

Each section will include troubleshooting, technical issues, and refinements.
Surveys

A series of surveys were given to provide the designer with a better understanding of the user experience related to game design, and if a mobile app was the best medium for the thesis application. Then from that sample, a few interviews were conducted to see if there would be interest in a mobile gaming app that taught culture.

The first round of surveys included these questions with corresponding answers and data:

**Do you play video games?**

- Not at all: 7 (16%)
- Infrequently: 12 (27%)
- Occasionally: 13 (29%)
- Often: 13 (29%)

**How often do you play games on a console?**

- Don’t own a console: 10 (22%)
- Not at all: 7 (16%)
- Sometimes: 10 (22%)
- Frequently: 7 (16%)
- Daily: 2 (4%)

**How often do you use mobile apps?**

- Don’t own a smartphone or tablet: 3 (7%)
- Not at all: 0 (0%)
- Sometimes: 11 (25%)
- Frequently: 5 (11%)
- Daily: 17 (39%)

**Do you use your smartphone or tablet to occupy your time while waiting?**

- Don’t own a smartphone or tablet: 3 (7%)
- Not at all: 2 (4%)
- Sometimes: 7 (16%)
- Frequently: 15 (33%)
- All the time: 10 (22%)
What kinds of apps do you use on your smart phone or tablet?

- Don't own a smart phone or tablet: 3 (2%)
- Educational: 14 (10%)
- Entertainment: 36 (26%)
- Productivity: 16 (12%)
- Lifestyle: 25 (18%)
- Games: 51 (33%)
- Other: 12 (9%)

Do you seek out to learn new things on your own?

- Not at all: 0 (0%)
- Occasionally: 11 (24%)
- Frequently: 15 (33%)
- All the time: 10 (22%)

Gender

- Male: 18 (40%)
- Female: 26 (58%)
- Prefer not to say: 1 (2%)

How old are you?

- 15 years old or younger: 0 (0%)
- 16–20 years old: 1 (2%)
- 21–25 years old: 10 (23%)
- 26–30 years old: 14 (33%)
- 31–35 years old: 7 (16%)
- 36 years old or older: 8 (19%)
- Prefer not to say: 3 (7%)
Survey Evaluation

Based on the first round of surveys, it was clear the demographic of targeted age group heavily utilized wireless devices.

There were varying answers on the two open-ended questions:

1. What kinds of things do you like to learn about? and
2. If you travel to a different culture, what kinds of things do you like to do?

From these surveys, the answers helped me formulate an idea of what should be included in the game to better the experience of the audience.

After the first series of surveys, a small group was selected to be interviewed about their gaming habits, as well as their interest in culture. Their answers helped model personas, or fictitious characters that represent the group as a whole. These personas then helped shape the how the user experienced the game.
Personas

JESSIE is a 14 year old girl who went to summer camp and met a friend who was born in Korea. Jessie became quite interested in Korean culture and would like to gain more knowledge about Korea. She plays some handheld games and uses her smartphone daily.

CINDY is a 35 year old woman who was born in Korea and was raised in the US. She grew up with little to no knowledge about her birth heritage and only until recently wanted to explore her roots. She’s computer literate but doesn’t know much besides word processing and surfing the internet.

SUE is a 45 year old, Caucasian woman who has two Korean adoptee children who are at the age where they are asking questions about their birth heritage. She wants to be able to explore Korean culture with her children as a bonding experience. She’s computer literate and has a few productivity apps on her smartphone.

MARK is a 27 year old man who occasionally plays PC games and has a smartphone, which he uses to check his email and for public transportation apps. He is half Korean and has some family in Korea.
Process
Story

“As a storyteller, you are a servant of your story, not the master. You must do what it requires, not what you want to do. You must remove your ego from it. Art is not to show people who you are; it is to show people who they are.”

What is a story?
A story is a written or oral device which is used to entertain or teach information that is passed down to generation after generation.

The question becomes, why is it an important aspect of this thesis? Stories are important to any game. They draw the player into the created world and often bring a player back to the same game more than once.

The story is the crux of this thesis. Without it, there would be no direction in which to teach culture through gamification. And, although not visually based, the story itself was part of the design process because the narrative needed to fit the constraints of teaching culture through gamification. The story went through multiple revisions which the next sections reveal.

10 Ibid, 2010, 11
One of the most important aspects of the design application will be the narrative. Through my research I’ve noted several story outline guides but will use the three that I’ve found most relevant. The three guides are: 1) Brian McDonald’s 7 step story outline, 2) Josiah Lebowitz’s 10 step outline, and 3) K. Fog, C. Budtz, and B. Yakaboylu’s character appearance approach. McDonald’s, and Lebowitz’s approaches are strictly for storytelling and the third is for storytelling in branding.

McDonalds/Lebowitz
Act 1:
Once upon a time
And every day
(The ordinary world)

Curtain:
Until one day
(The call to adventure)

Accepting the call/Refusing the call/The mentor

Act 2:
And because of this (The first threshold)

Fulcrum:
And because of this (The Journey)

Act 3:
Until finally
(The final dungeon & The great ordeal)

Denouement:
And ever since that day (The prize & The road home)

## Overarching outline to series:

### Act 1

Once upon a time there was a sister and brother named Penelope and Theodore who worked at the library at their school. And every day they would read and catalog (The ordinary world).

The player plays as both Penny and Teddy: Penny an Asian American adoptee, and Teddy her adoptive brother.

### Curtain:

Until one day she visited a museum and the museum was robbed (The call to adventure).

The player visits the museum with Penny and Teddy exploring the Korean exhibit until it gets robbed. There, the player gets introduced to Mr Gray, the antagonist, and Detective Monday, the support.

Accepting the call (Teddy: “Penny, this sounds dangerous!” Penny: “Nonsense, where’s your sense of adventure?” (The mentor (mentor is already in place, Penny being the oldest.))

### Act 2:

And because of this Penelope and Theodore try to solve who stole the items from the museum (The first threshold). The player searches all the rooms within the Korean exhibit searching for clues if Mr Gray left they behind. During the game-play, they encounter
artifacts about Korea and are given a brief history lessons. They find three clues that give them more insight. The first clue leads them to the linguistics department of their college to interpret a piece of paper with Korean writing on it and be given a tutorial on the Korean writing system—another mini-game. The second clue leads them to the design department, and they’re given a history lesson on textiles (also a mini-game). The third clue prompts the characters to go to Korea.

Fulcrum:
And because of this the antagonist, who they’re trying to foil, keeps escaping (The Journey).

While in Korea, they have to navigate the Korean subway system. While navigating, the siblings ask around Seoul if anyone has seen Mr. Gray, and are lead throughout Korea seeing major landmarks and cultural marks.

Act 3:
Until finally the antagonist slips and the mystery is solved (The final dungeon & The great ordeal).

The clues lead to the Seoul National Museum where they find Mr. Gray with the missing vase, but he escapes with it.

Denouement:
And ever since that day she tends to be in places where mysteries need to be solved They are invited to solve more mysteries involving Mr. Gray (The prize & The road home).

ACT 1
Introduction
In the Library Archives
Introduce Penny and Teddy, who sits at their desk in front of a window in a small room. In the room are a table with a cutting board on it and a small kitchen. There’s another room with a glass wall that says, “Archives” on it. There’s a little light shining in as it’s fairly cloudy out, indicative of rain. Penny writes something down and copies the information in a computer file while Teddy stacks books. There’s a stack of books on a cart next to them and bookshelves lining the wall. She looks up to the wall and notices the time. The clock says, “5:00.” It’s time to go home.

IN THE LIBRARY
Introduce Dr. LUCY RICE, who sits at a desk also littered with books on it.
Penelope exits the Archives and enters the main library. Dr. Rice looks up from her work and says, “Great day today, Penny, and Teddy! I hope you have fun, little niece and nephew! Say hi to your mom for me.” Penny and Teddy leave the library and go outside.

OUTSIDE PARKVILLE ACADEMY LIBRARY
There’s a group of people outside the library and someone she knows waves at her to come over. This person named Jane says, “Hi! Have you heard? There was a huge museum heist! The new Korean exhibition had all of the ceramics stolen!” After a few moments talking with their friend, Jane, Penny and Teddy exit to go home.

At Penny’s house, she comes home and is greeted by her cat, Dinah who is very happy to see her. Her mother’s voice is heard, “Don’t forget you have a field trip at the museum tomorrow!”

CURTAIN
Scene change to “tomorrow”
Penny and Teddy is at the museum with their classmates. Dr. Rice is also there looking at the exhibitions. There is a room closed off with yellow police tape. There’s a dark shadow that’s moving in a closed off room. Penny and Teddy notice and go to investigate. They enter the room, but no one is there. Suddenly, a person comes from out of the corner.

“Hello. My name is Detective Monday. I just forgot my hat.” The person smiles, nods to Penny and Teddy, and leaves the room.

Suddenly, a person wearing a trench coat walks in, “You two! What are you doing here? This room is closed off to all unofficial persons. There was a robbery in here this morning, and you might contaminate any remaining evidence!”

Penny explains to the person that she saw a shadowy figure and that there was a person that called himself Detective Monday.

“Preposterous! I’m Detective Monday. What did this person look like?”

Penny explains. The detective exclaims, “Goodness! That sounds like Mister Grey! Master thief! But I only know what he looks like through verbal reports...we don’t even have a picture of him, he’s that sneaky. Let’s get you to a sketch artist!”

Call to action
Penny and Teddy are about to leave the museum after her talk with the
detective. She notices Dr. Rice by the door looking at a picture of the moon jar (the picture is pinned on the exhibition pedestal). Dr. Rice goes into a little history of the jar before asking Penny what the fuss was about. After her conversation with Dr. Rice, Penny and Teddy almost gets out the door when the detective stops her.

“Wait! Since you’ve seen Mister Grey, would you be willing to help our investigation?”

Teddy says, “I don’t know, Penny...this sounds awfully dangerous…”

Game play
The acceptance of the call is determined by the player as up to this point, the trailer becomes the teaser for the game.

Acceptance of call
The acceptance of the call starts with the player playing the game

ACT 2
AT THE MUSEUM
Penny and Teddy are at the museum with Detective Monday

“So, Penny, Teddy, take a look around the museum and see if you can find anything. I’ll be here if you need me.

The two take a look around the museum, first in the exhibition room, then the back stock room, and finally back to the main entrance.

They find three clues:
1 In the exhibition room they find a torn piece of paper with some writing on it (a note to meet someone but written in Korean)
2 In the stock room they find a torn piece of cloth with a pattern on it
3 In the main entrance they find a piece of a plane ticket

AT THE LIBRARY
The two return to the library to consult with their Aunt. Lucy can’t read Korean, and can’t make out the pattern. She refers them to Professor Kim in the linguistics department and Professor Chan in the design department. While the siblings go the the different departments, Lucy stays at the library to figure out the information on the plane ticket. Penny and Teddy take the note to Professor Kim and she finds that the note says, “Seoul. 9 pm. Friday.” Penny and Teddy talk to Professor Kim about Seoul. The professor gives Penny a book on the Korean language and walks her through some characters.
The next clue leads Penny and Teddy to the textile and design department to meet Professor Chan, a fashion designer. Professor Chan recognizes the pattern from a han-bok or traditional Korean dress. She gives Penny and Teddy a brief history lesson before giving them a book on Korean motifs. She then invites Penny and Teddy to pick out her own han bok. They return to the library to inquire about the third clue. Dr. Rice says that the ticket had a flight to Korea and was booked by an M. Grey.

Game play
Scenes: museum, library, linguistics department, design department
The user explores the museum’s Korean exhibit with the clues stuck in certain artifacts when they click on them they get a brief history. The interactivity comes when they have to piece together a broken object to get a whole piece (i.e. a ceramic jar was broken, but a clue is in the pieces).

The user taps on certain areas of the “ground” to get the character to move and taps the magnifying glass to check out a clue and double taps to “activate” the clue.

AT THE PRECINCT
Penny and Teddy relay their information to Detective Monday.

“Hm. Sounds like someone needs to go to Korea and track down Mister Grey! Are you up for the job?”

Penny and Teddy go to Korea.

While in Korea, they get on the subway and start asking about Mister Grey and if anyone has seen him. They get several clues:

Clue 1 – leads them to Seongsan Surise peak
Clue 2 – Haeinsa Temple
Clue 3 – Naganeupseong Folk village
Clue 4 – Yeojwa Stream
Clue 5 – Bulguksa Temple
Clue 6 - Kwanghan Pavillion

FULCRUM
M. Grey Sighting! Or at least M. Grey’s hat. Before Penny has the chance to take the hat, someone knocks into her. Before she has a chance to look up at the perpetrator, the stranger picks up the hat and says, “I just forgot my hat.” Penny see M. Grey walk away. She quickly tries to catch up but he vanishes into the crowd.
He drops a museum ticket on the ground

They talk to several people in the area, and they all say, “You just missed him.” The last person said M. Grey headed toward Seoul National Museum. They head that way.

Act 3
Friday 7:30pm
After all the clues, Penny and Teddy figure out that M. Grey is trying to get a buyer for the jar. They don’t know who it is, but all they know is that he or she likes to wear blue.

They get to the museum and explore a bit. They talk to people:

- Clue 1 – mystery stranger talking to the curator
- Clue 2 – shadows in the stock room

The curator’s assistant eventually greets them. The assistant says that even though the museum was closed, Penny and Teddy are welcome to explore the museum further. At this point, Detective Monday comes to the museum and says she had a heck of a time riding the subway to get there.

She greets Penny and says, “If M. Grey is here, just let me know and I’ll put cuffs on him!” Penny and Teddy wander the museum to talk to the curator. The curator’s office is empty but there’s a blue jacket on a chair, and she finds a note on the desk that says, “Meeting. 9pm.” Very curious for a curator to have a meeting at 9 when the museum closes at 8pm, they note.

They walk into the back stockroom and looks for clues. They hear whispers and overhear a conversation between M. Grey and the curator. Penny accidentally makes a sound, and M. Grey disappears. The curator (holding the jar) says, “You won’t catch me!” and makes a run for it. He bumps into Detective Monday but is so surprised accidentally drops the jar. The detective throws cuffs on him and takes him away telling Penny and Teddy she’ll be right back. When they turn around they see M. Grey holding onto the Moon Jar and smiling, “I wouldn’t give away something this precious. See you next time, rookie.” And M. Grey disappears.

DENOUEMENT
BACK AT THE PRECINCT
The detective debriefs her and tells them they are on retainer.
Although the crux of the story followed a formula, there was no draw into why a user would play the game. The general outline was convoluted, and it didn’t get into how the player would get to learn about Korean culture.
Story Version 2

Overarching outline to series
Act 1:
Once upon a time there was an adopted Korean girl
And every day she (Penny) and her American brother (Teddy) would live ordinary lives (The ordinary world).

Curtain:
Until one day they were in a museum where item from the East Asian section magically disappeared (The call to adventure).

Act 2:
And because of this Penny and Teddy get stuck in ancient Korea (The first threshold).

Fulcrum:
And because of this they need to fix the time line. (The Journey).

Act 3:
Until finally they fix the time line (The final dungeon & the great ordeal).

Denouement:
And ever since that day they visit museums to see if any other items go “missing” (The prize & the road home).

Outline for “The Missing Moon Jar”

Scene:
Parkville

Characters:
Penelope Clark (Min)
Theodore Clark
Dinah
Dr. Lucy Rice (Penny and Teddy’s teacher)
Detective Monday
Mr Grey

ACT 1
Introduction
In their house
Introduce Penny and Teddy who sits at their desks in front of a window in
a small room. In the room, in addition to the two desks, there are beanbags chairs, bookshelves, and a sleeping cat. There are two doors, one to Penny’s room, and one to Teddy’s room. The center door is the one to the main hallway. There is a little light shining in from the windows. Penny is writing something, and Teddy is reading (they are doing their homework). A clock chimes 4pm; it’s time for dinner.

IN THE KITCHEN
Scene moves to the kitchen where they sit down to eat. A disembodied voice says, “Don’t forget, you have a field trip tomorrow.”

“Yes, Mom.” They proceed to eat their dinner.

Next Day
OUTSIDE PARKVILLE ACADEMY LIBRARY
There's a group of people outside the library and someone she knows waves at her to come over. This person named Jane says, “Hi! Aren’t you excited about the field trip to the museum today? The new Korean exhibition has really amazing ceramics I hear!” After a few more talking with their friend Jane, Penny and Teddy exit to go on the bus to the museum.

CURTAIN
Scene change to the museum
Penny and Teddy are at the museum with their classmates. Dr. Lucy Rice (their teacher) is also looking at the exhibitions. There is a room closed off with yellow police tape. There’s a dark shadow moving in a closed off room. Penny and Teddy notice and go to investigate. They enter the room but no one is there. Suddenly, a person comes from out of the corner.

“Hello. My name is Detective Monday. I just forgot my hat.” The person smiles, nods to Penny and Teddy, and leaves the room.

Suddenly, a person wearing a trench coat walks in, “You two! What are you doing here? This room is closed off to all unofficial persons. There was a robbery in here this morning, and you might contaminate any remaining evidence!”

Penny explains to the person that she saw a shadowy figure and that there was a person that called himself Detective Monday.

“Preposterous! I’m Detective Monday. What did this person look like?” Penny explains. The detective exclaims, “Goodness! That sounds like Mister
Grey! Master thief! But I only know what he looks like through verbal reports...we don’t even have a picture of him, he’s that sneaky. Let’s get you to a sketch artist!”

Call to action
Penny and Teddy are about to leave the museum after her talk with the detective. They notice Dr. Rice by the door looking at a picture of the moon jar (the picture is pinned on the exhibition pedestal). Dr. Rice goes into a little history of the jar before asking Penny what the fuss was about. After her conversation with Dr. Rice, Penny and Teddy almost gets out the door when Teddy forgot about his jacket in the exhibit room.

He goes back, and Penny quickly catches up with him. The Moon Jar happens to be there. Teddy, wondering what it’s doing there goes to touch it, as he does, Penny yells at him to stop, grabs his arm as soon as he makes contact with the jar, they are transported to another place.

Acceptance of call
The acceptance of the call starts with the player playing the game

ACT 2
In a foreign land and time...
Penny and Teddy are in the Shilla Dynasty in ancient Korea in a, exhibit room like the one they just left only in the Korean royal palace.

“Penny...where are we??”

“Teddy, it looks like Korea!”

Penny breaks down the room by examining (are these puzzles?):

- Color
- architecture
- paintings

The two take a look around a relatively empty palace and then are spotted by a guard. She mistakes Penny for the princess.

“Your highness! What are you doing here by yourself? Who is this? A new guard? In any case, why are you dressed this way?”

The Korean guard escorts her and Teddy to the royal tailor and on the way explains that today is the Lunar New Year and the court magistrate has acquired new fireworks from the West.
He looks puzzled at why they are puzzled about the Lunar New Year, so he tells them to visit the court historian before heading off to the banquet.

AT THE TAILOR’s
The two go to the tailor’s to get fitted with new clothes. The tailor gives them a brief history of han bok (traditional Korean dress).

Game play: in game, there are choices of dress for both Penny and Teddy. Going through each choice, the tailor will explain why the choice is bad or good. I.E. choosing a commoner’s dress would not be appropriate for Penny as she is supposedly the princess.

After some chit chat, the tailor sends them off to the court historian. The historian gives them a tutorial on hanguel (Korean written language), a brief history, and tells them about the lunar new year (a movie cut that looks like traditional paper dolls).

On their way to the banquet, they talk about what’s happening but agree it might be best to just roll with it. Inquiring on how they are going to get home, they arrive at the banquet.

The king gives a lovely speech, and the festivities begin. There’s some traditional Korean dancing and drum playing.

Someone takes Penny and Teddy aside and says, “Who are you? What are you doing here? Where’s the princess?”

The mysterious person reveals to them that he is the court seer. He reveals he knows about their trip and tells them that their time line is in great danger. The princess is of utmost important to Korean history and that without her, something tragic will happen. He noticed the Moon Jar was missing from the royal treasury earlier but he found a piece of it. Because the jar was so precious, he had put a spell over it to transport any pieces back to the treasury. But the catch was, a person needed to touch it. He guessed that that’s why Penny and Teddy were transported here. He assumed that the moon jar in their present and his present were one in the same and when the pieces in the past were scattered, that’s what caused their moon jar to disappear. He gives them a map and tells them to look out for pieces in each of the following places:

- Clue 1 – leads them to Seongsan Sunrise peak
- Clue 2 – Haeinsa Temple
- Clue 3 – Naganeupseong Folk village
Clue 4 – Yeojwa Stream
Clue 5 – Bulguksa Temple
Clue 6 - Kwanghan Pavillion

Game play: In each place, something is broken. The puzzle puts it right again, and a piece is “won”.

The seer tells them that in order for the time line to be fully fixed, the jar needs to be replaced. The seer sends them home but, unfortunately, sends them back to their present time in Korea.

Fortunately...
FULCRUM

The palace that they were in is now a tourist spot and there is a M. Grey Sighting! Or at least M. Grey’s scarf. Before Penny has a chance to take the scarf, someone knocks into her. Before she has the chance to look up at the perpetrator, the stranger picks up the hat and says, “I just forgot my scarf.” Penny sees M. Grey walk away. She quickly tries to catch up but he vanishes into the crowd.

He drops a museum ticket on the ground

She talks to people in the area, and they all say, “You just missed him.”

The last person said M. Grey headed toward Seoul National Museum. They head that way.

Act 3
Friday 7:30pm

After all the clues, Penny and Teddy figure out that M. Grey is trying to get a buyer for the jar. They doesn’t know who it is, but all she knows is that he or she likes to wear blue.

They get to the museum and explores a bit. They talk to people:

Clue 1 - mystery stranger talking to the curator
Clue 2 - shadows in the stock room

The curator’s assistant eventually greets them. The assistant says that even though the museum was closed, Penny and Teddy are welcome to explore the museum further. At this point, Detective Monday comes to the museum and says she had a heck of a time riding the subway to get there. She greets Penny and says, “If M. Grey is here, just let me know and I’ll put
cuffs on him!” Penny and Teddy wander the museum to talk to the curator. The curator’s office is empty but there’s a blue jacket on a chair and she finds a note on the desk that says, “Meeting, 9pm” Very curious for a curator to have a meeting at 9 when the museum closes at 8pm, they note.

They walk into the back stockroom and look for clues. They hear whispers and overhear a conversation between M. Grey and the curator. Penny accidentally makes a sound, and M. Grey disappears. The curator (holding the jar) says, “You won’t catch me!” and makes a run for it. He bumps into Detective Monday but is so surprised accidentally drops the jar. The detective throws cuffs on him and takes him away telling Penny and Teddy she’ll be right back. When they turn around, they see M. Grey holding onto the Moon Jar and smiling, “I wouldn’t give away something this precious. See you next time, rookie.” And M. Grey disappears.

DENOUEMENT
BACK AT THE PRECINCT
The detective debriefs her and tells her she and Teddy are on retainer.

Troubleshooting

Although there was more connection with how the player learns about Korean culture, the story is convoluted and confusing. There needed to be a version where the player could connect with the characters.
Overarching outline to series

Act 1:
Once upon a time there was a girl named Penelope, who worked at the library at her school. And every she would work (The ordinary world).

Curtain:
Until one day she visits a museum while the museum is robbed (The call to adventure).

Refusing the call (Penelope: “Professor, this sounds dangerous!” Dr. Rice: “Nonsense, where’s your sense of adventure?”) (The mentor is already in place).

Act 2:
And because of this Penelope tries to solve who stole the items from the museum (The first threshold).

Fulcrum:
And because of this the antagonist, who she’s trying to foil, keeps escaping. (The Journey).

Act 3:
Until finally the antagonist slips and the mystery is solved (The final dungeon & The great ordeal).

Denouement:
And ever since that day she tends to be in places where mysteries are (The prize & The road home).

Outline for “Penelope and the Missing Moon Jar”

Scene:
Parkville

Characters:
Penelope (Penny) Green (age 16 or 17)
Dr. Lucy Rice (Penny’s Aunt)
Detective Monday
Monsieur Gris
ACT 1
Introduction
IN THE LIBRARY ARCHIVES
Introduce PENELope who sits at a desk in front of a window in a small room. In the room are a table with a cutting board on it and a small kitchen. There’s another room with a glass wall that says, “archives,” and there’s a little light shining in the room as it’s fairly cloudy out. She’s writing something down and copying the information in a computer file. There’s a stack of books on a cart next to her and bookshelves lining the wall. She looks up to the wall and notices the time. The clock says, “5:00.” It’s time to go home.

IN THE LIBRARY
Introduce Dr. LUCY RICE, who sits at a desk also littered with books on it. Penelope exits the Archives and enters the main library. Dr. Rice looks up from her work and says, “Great last day today, Penny! I hear you’re moving soon! I hope you have fun, little niece! Say hi to your mom for me.” Penny leaves the library and goes outside.

OUTSIDE OF PARKVILLE ACADEMY
There’s a group of people outside the library and someone she knows waves at her to come over. This person named Jane says, “Hi! Have you heard? There was a huge museum heist! The new Korean exhibition had all of the ceramics stolen!” After a few more talking with her friend Jane, Penny exits to go home.

At Penny’s house, she comes home and is greeted by her cat, Dinah, who is very happy to see her. Her mother’s voice is heard, “Penny, don’t forget, we’re moving right after your field trip at the museum so come right home!”

CURTAIN
Scene change to “tomorrow”
Penny is at the museum with her classmates. Dr. Rice is also there looking at the exhibitions. There is a room closed off with yellow police tape. There’s a dark shadow that moving in a closed off room. Penny notices and goes to investigate. She enters the room, but no one is there. Suddenly, a person comes from out of the corner.

“Hello. My name is Detective Monday. I just forgot my hat.” The person smiles, nods to Penny, and leaves the room.

Suddenly, a person wearing a trench coat walks in, “Little girl, what are you doing here? This room is closed off to all unofficial persons. There was a robbery in here this morning and you might contaminate evidence!”
Penny explains to the person that she saw a shadowy figure and that there was a person that called himself Detective Monday.

“Preposterous! I’m Detective Monday. What did this person look like?”

Penny explains. The detective exclaims, “Goodness! That sounds like Monsieur Gris! Master thief! But I only know what he looks like through verbal reports...we don’t even have a picture of him, he’s that sneaky. Let’s get you to a sketch artist!”

Call to action
Penny is about to leave the museum after her talk with the detective. She notices Dr. Rice by the door looking at a picture of the moon jar (the picture is pinned on the exhibition pedestal). Dr. Rice goes into a little history of the jar before asking Penny what the fuss was about. After her conversation with Dr. Rice, Penny almost gets out the door when the detective stops her.

“Wait! Since you’ve seen Monsieur Gris...by chance, would you be willing to help our investigation?”

Refusal of the call
Penny is hesitant to agree. Dr. Rice comes up and says, “Penny, this sounds like a great opportunity to stretch your thinking skills! What knowledge you’ll learn along the way!”

“Great doc, you can be Penny’s resource if she gets into any trouble trying to solve the case.”

Penny says no, as she’s moving to another town. After the detective gives her a card with her number on it, Penny goes home.

When she gets home she tells her mother about the day and her mother says, “Well, there’s always a way! In any case, this sounds like a wonderful opportunity. You always loved trying to solve things. This sounds like you can help out the detective! You can stay with your Aunt until we solve the case. She knows so much and will be a great resource!”

Acceptance of call
With no reason not to help, Penny gives Detective Monday a call to help out the investigation.
ACT 2
THE NEXT DAY (Saturday)
Her aunt is at the breakfast table, and she says, “Penny, I hear you told Detective Monday you’d be willing to help out the investigation! That’s wonderful. If you need any help with any of the clues you find, let me know. I love a good mystery!”

BACK AT THE MUSEUM
Penny returns to the museum with Detective Monday

“So, Penny, take a look around the museum and see if you can find anything. I’ll be here if you need me.

Penny takes a look around the museum, first in the exhibition room, then the back stock room, and finally back to the main entrance.

She finds three clues:
1 In the exhibition room, she finds a torn piece of paper with some writing on it (a note to meet someone but written in Korean)
2 In the stock room, she finds a torn piece of cloth with a pattern on it
3 In the main entrance, she finds a piece of a plane ticket

AT THE LIBRARY
Penny returns to the library to consult with her Aunt. Her Aunt can’t read Korean, and can’t make out the pattern. To help, Dr. Rice refers Penny to Professor Kim in the linguistics department and Professor Chan in the theater department, while she stays at the library to figure out the information on the plane ticket. Penny takes the note to Professor Kim and she finds that the note says, “Seoul. 9 pm. Friday.” Penny talks to Professor Kim about Seoul. The professor gives Penny a book on the Korean language and walks her through some characters.

The next clue leads Penny to the textile and design department to meet Professor Chan, a fashion designer. Professor Chan recognizes the pattern from a han-bok or traditional Korean dress. She gives Penny a brief history lesson before giving Penny a book on Korean fashion. She then invites Penny to pick out her han-bok.

Penny returns to the library to inquire about the third clue. Dr. Rice says that the ticket had a flight to Korea and was booked by an M. Grey.
AT THE PRECINCT

Penny relays her information to Detective Monday.

“Hm. Sounds like someone needs to go to Korea and track down Monsieur Gris! Are you up for the job?”

Penny goes to Korea.

Her Aunt called her friend at the Seoul National Museum and gives Penny a subway map. Dr Rice tells her that once she’s in Korea, she needs to talk to people at the airport and at the subway along her way to the museum. The people along the way will help her get the museum as well as give her clues about the whereabouts of M. Grey.

Clue 1
Clue 2
Clue 3

FULCRUM

M. Gris Sighting! Or at least M. Gris’ hat. Before Penny has the chance to take the hat, someone knocks into her. Before she has the chance to look up at the perpetrator, the stranger picks up the hat and says, “I just forgot my hat.” Penny see M. Gris walk away. She quickly tries to catch up but he vanishes into the crowd.

She talks to several people in the area and they all said, “You just missed him.” The last person said he was headed toward Seoul National Museum. She heads that way.

Act 3
Friday 7:30pm

After all the clues Penny figures out that M. Gris is trying to get a buyer for the jar. She doesn’t know who it is but all she knows is that he or she likes to wear blue.

She gets to the museum and explores a bit. She talks to people:

Clue 1 - mystery stranger talking to curator
Clue 2 - shadows in the stock room

The curator’s assistant eventually greets her. The assistant says that even though the museum is closed, Penny is welcome to explore the museum further. At this point, Detective Monday comes to the museum and says she had a heck of a time riding the subway to get there. She greets Penny and says, “If M. Gris is here, just let me know and I’ll put cuffs on
him!” Penny wanders the museum to talk to the curator. The curator’s office is empty but there’s a blue jacket on the chair and she finds a note on the desk that says, “Meeting. 9pm” Very curious for a curator to have a meeting at 9 when the museum closes at 8pm, Penny notes. She then walks into the back stockroom and looks for clues. She hears whispers and overhears a conversation between M. Gris and the curator. Penny accidentally makes a sound, and M. Gris disappears. The curator (holding the jar) says, “You won’t catch me!” And makes a run for it. He bumps into Detective Monday but is so surprised accidentally drops the jar. The detective throws cuffs on him and takes him away telling Penny she’ll be right back. When Penny turns around she sees M. Gris holding onto the Moon Jar and smiling, “I wouldn’t give away something this precious. See you next time, rookie.” And M. Gris disappears.

DENOUEMENT
BACK AT THE PRECINCT
The detective debriefs her and tells her she’s on retainer for any other mysteries that pop up with M. Gris

Troubleshooting

With the main protagonist stripped down to one character, the story is easier to follow. However, the metaphor of Mr Grey being ignorance gets lost and makes the story disconnected. There also needed more connection with cultural identity and what the player would be learning.
Story Version 4

Overarching outline to series
Act 1:
Once upon a time there was an adopted Korean girl. And every day she would live her ordinary life (The ordinary world).

Curtain:
Until one day, she visits a museum where she touches an item from the East Asian section (The call to adventure).

Act 2:
And because of this, she magically is transported to Korea (The first threshold).

Fulcrum:
And because of this she needs to find her way back home (The Journey).

Act 3:
Until finally she finds all the pieces to the broken jar (The final dungeon & the great ordeal).

Denouement:
And ever since that day she does her best to know Korean History (The prize & the road home).

Outline for “The Missing Moon Jar”

OPENING TEASER - KOREA
In the Royal Gallery, a shaman has a jar shaped like the moon. The jar is in the air and spinning. They’re chanting and the jar glows. It’s spinning faster and faster until it shatters into six pieces.

Six shadowy figures pick up the pieces, and a disembodied voice says, “The elements are yours.”

ACT 1
Thousands of years later...
AT A MUSEUM
We meet MIN - A Korean girl interested in finding more about her heritage. She looks around the East Asian/Korean exhibition unaware that the necklace she wears glows.
Her teacher, DR LUCY RICE, is also at the museum (it’s a field trip) and explains about some of the artifacts in the museum.

MR GREY - a thief - already on scene. Our heroine meets the troublemaker when she wanders into an empty room. He bumps into her and says, “Watch it.” And walks away. Meanwhile, police are at the museum and DETECTIVE MONDAY - a woman in her late 30s - walks in and starts taping the room off. She tells Min that someone stole a rare item and that this room is now restricted.

Upon leaving, Min finds something on the ground, and when she goes to pick it up, she’s transported to a different time.

IN KOREA 6th CENTURY
Min wakes up in a strange house (a traditional Korean low-class house). She’s unfamiliar with her settings and is unsure of herself.

Introduce JOOIK, a 14 year old boy who helps our heroine.

“Min! Are you going to get up? You’ have a busy day today! What? Did you forget? It’s the day you become a Hwa Rang warrior!”

At this point, Min is prompted to talk to people around town to see what she needs to do for the ceremony.

TAILOR - tells her that her garb is too plain for a day like today, and he dresses her in a traditional uniform

HORSEMASTER - tells her that a warrior is only half of one without a good horse. But he’s feeling indisposed and requires a medicinal cup of tea form the shaman before he will let her choose a horse.

Minigame: To get the horse, Min has to talk to the Shaman to give her the teapot to brew tea recipes. To get the horse, the player has to beat a Korean drum to a certain rhythm. The Horse Master explains that the horses are feeling low, and a good beat would cheer them up. The drum becomes a “weapon” that the player can use when in “battle.”

BLACKSMITH - tells her that a warrior is only half as good as her sword. But he too is feeling low and thinks that a special brew of ginseng tea would perk him up. To get the sword, the player has to get to know the four areas where to strike: head, throat, rib, and wrist.
SHAMAN – tells her that a warrior is only half as good as her diplomacy skills, and that tea is a wonderful ally. The Shaman tells Min to look around the world for interesting leaves that might make a good brew. Certainly a good brew will help lift the spirits of some folks.

GENERAL KIM – tells her that since she has all her supplies, her ceremony will be in the capital with the king. However, the General needs to instruct her on ki control as it will help in her journey. He tells her of a tea that helps with ki flow, and when the player has the brew, the General instructs on ki and meridians and how there are five stances that will help build or destroy certain elements. The element he teaches to Min now is WATER (which becomes an option in the menu as an object.)

Troubleshooting

Even though, there was more connection with learning about culture, there was still a disconnect where the player wasn't fully integrated into the story and essentially, the game.

In this version, the protagonist ends up in a museum but touches a museum piece, which is not something that the story should portray to younger audiences. Although there are museums that are made to be interactive, one should not touch priceless, fragile artifacts.

The story was revised, but it had to have an outline of what the player would be learning. Therefore, a cultural asset list was made to make the story more connected with the audience and game premise.
Cultural Asset Outline

KOREAN HISTORY
Learn about Korean history by talking to supporting characters in various locations such as camp, temples, Seoul Palaces, etc.

CREATION STORY
The Moon Jar, although from Jeoson Dynasty, will be integrated into the storyline as a magical item that contains the forces of both Um and Yang (East Asian philosophy of harmony and balance) so the player gets to learn about Korean mythology as well as ceramics.

BUDDHISM/SHAMANISM
There are several shamans and monks in game that teach the player various things related to each religion like:

1. Tea
2. Acupuncture
3. Constellations/astrology
4. Myth
5. Reincarnation
6. Um-Yang theory
7. Hwa Rang (a warrior class in the Three Kingdoms dynasty in Korea)
   - They were the King’s army
   - They were scholar warriors
   - They had a creed

CLOTHING
The player learns about both civilian, royal, and army clothing by having the character met blacksmiths, and tailors.

FOOD
The capital is holding a feast for the Lunar New Year.

ARCHITECTURE
Various Korean structures will be introduced visually through gameplay.

ART
The game centers around the Moon Jar but the museum holds items that are seen in the “past period.” Player pick up different items during the game likes scrolls, hairpins, weapons, etc.

GEOGRAPHY
The game requires the player to go to different parts of Korea to find the missing Moon Jar pieces, and the player learns the geography of Korea through exploration as well as a visual map.
It seemed like an ordinary day. The sun was shining, and time was passing. Nothing was extraordinary. Except, if a field trip counts.

Min and her academy class were headed toward the museum as there was a grand opening of the new East Asian exhibit. The museum just received a donation of a collection from Korea during the 5th century. The whole town was very excited about learning something new about ancient Korea. Min was less so.

She wasn’t too interested in learning about her heritage. She was adopted but exploring her cultural identity wasn’t high on her priority list.

However, the bus stopped in front of the facade of the white, classical architectural structure, which housed and preserved different artifacts of different cultures, and she followed her classmates into the museum.

When she entered the revolving door into the hall, her steps echoed slightly on the marbled floors and the domed rotunda overhead made Min feel very small. She zipped up her hoodie and trudged along. Her teacher handed out an assignment the day before. She was to find some part of the new exhibit and write down what she thought about the form, if any, and her thoughts on the color, size, etc.

Min started to explore the museum and stopped in front of some old scrolls that had calligraphy on them. She thought about the context in which they were painted and drew up her knowledge of East Asian history. She wasn’t very interested in painting, so she moved along.

The day seemed to drag on.

She stopped to look at some Buddhist artifacts like a meditation bowl when suddenly her ears started to ring.

“Huh. That’s weird,” she said to herself. She walked away, and the sound stopped.

She walked among a few more cases until she wandered into the ceramic collection. Some pots were so large they could easily fit someone inside. These large jars had lids all lined up in a row. In glass cases nearby, there were some pots so small they could hardly hold anything but a piece of jewelry. Min smiled out of curiosity, as she was so unfamiliar with the medium she couldn’t help but wonder how they were made.
Min was lost in her thoughts looking at some green pottery. She looked at the smooth, organic shape. Her eyes traveled over the cracks in the glaze and the moon-like appearance. When suddenly, the jar was gone. Her concentration was interrupted when someone picked up the jar and whisked it away.

“Hey! You’re not supposed to touch museum pieces!” She yelled after the person who took the jar.

All she could see was a whirl of a pattern like a scarf, but like the wind, he was gone.

“Where’d he go?” She asked herself as the thief just disappeared.

She wasn’t even sure what he took. She read the placard:

*The Moon Jar is a celebrated piece of ceramics in Korean history. Its shape is notably celestial.*

Min was sure that the museum would be missing the Moon Jar, so she looked around for a security guard but just when you needed one, no one was to be found.

She walked around the ceramic collection when she noticed the lid off of one of the very large jars askew. She took a few steps closer and her foot jostled something near the based. Min picked it up and observed it had the same pattern as the jar she was looking at earlier. It was a broken piece to the Moon Jar.

When she looked around, she noticed that the open large jar had a piece of cloth inside. It looked like the thief’s scarf!

“But how did that get there?”

And she started tugging on the material.

She tugged a little harder.

And a little harder still.

But it was stuck.

“What’s it stuck on?” She asked herself as she peered into the pot. But the pot was very large, and she was barely tall enough to peer over the side.
Min went on her tiptoes to get a better look and the more she peered into it, the more she leaned into the pot. She tugged on the scarf one more time, and everything went dark.

“Ugh...my head hurts so much!” She moaned.

Min found herself lying on the ground. She sat up and rubbed her head.

“Ow...”

After rubbing her eyes for a bit her head snapped up and she was sure something was terribly wrong.

She looked around in sheer panic. She was sitting on a bamboo mat on a mud floor that belong to a tent. She smelled the air, and it smelled like rice and countryside. She looked down, and she was wearing some sort of two-piece cotton skirt with a short top.

“Oy!!”

A voice from outside yelled to Min.

“Oy!”

It came again.

Min wasn’t sure what to do, so she grabbed the blanket and hid under it all the while, “I hit my head. This is a dream. I’m dreaming. In a little while, I’ll wake up back in the museum.”

“Min! Are you awake! Today’s the day!” Someone tore off the blanket and yelled in her face to get up, “Aren’t you excited?”

Min looked at her assailant, and a young face stared back at her. He looked no more than nine years old and had a very eager personality.

“Who are you?” she asked.

The boy laughed, “Did you sleep that long you forgot? I’m your assistant! I’m Cho! Someday, I want to be a strong Kuk Son like you! But for now, I’m just a Rang Do.”

“Um, excuse me? What?”
“Kuk Son! You know...a warrior general? Rang Do, a student of Hwa Rang?” He looked puzzled, “Today you’re to be promoted to Kuk Son! You’re going to be a great general!”

Min had heard of the Hwa Rang, and how they were an ancient warrior race in the 5th century of Korea, but for this boy to be talking like they still existed was puzzling.

“Come on now! You’ll be late for the ceremony!” Cho helped Min up and get out the door.

When she went outside, clean air and open spaces greeted her. She saw hundreds of rows of tents, and the sounds of hundreds of horses met her ears. She was clearly not in her home city any longer.

“You’ll want to visit a few people before you go see General Kim! Go see the blacksmith first; he’ll fit you into your new armor and sword! And then see the horse master to get you matched with a good steed. Can’t travel without one! I think the Shaman wanted to see you, too. She’s kind of cranky today so I wouldn’t keep her waiting otherwise she might put a curse on you!” Cho beamed up at her,

Min wasn’t sure how she’d get home but it would seem if she was to survive what looked to be ancient Korea, she had better fit the part.

“Which way is the tailor?”

Cho laughed, “You’re really forgetful today! Here is a map of camp. I’ve marked all the places you need to visit.”

“Thanks, Cho.” She smiled back as she took the parchment from him.

She looked at the map and walked the way to the blacksmith’s. She wasn’t sure what to expect but as she got closer to the blacksmith’s, she could hear the clanging of a hammer on metal and the crackle of a hot fire.

“Oy! Min! Nice to see you up, finally! Did you stay up too late looking at the stars again at the Observatory?” A man covered in soot addressed her.

“No...just, tired I guess,” She smiled back.

“Ah, well, that happens. I haven’t seen the Observatory myself, but I hear the Queen did a great job of commissioning it! Need to make a trip out there. Anyway, what can I help you with?”
“Cho said...something about new armor and a sword?”

“Oh, sure sure! I measured the other day, and it’s all ready for you! Sword, too. Mind you, the blade might wear down after use you might have to upgrade after a while but this one should suit you for now.”

The Blacksmith smiled at her, “Here are the under layers. Put the white one on first. It’s very light. But the yellow is a bit heavier and acts like padding. The third piece does the same thing as the yellow piece but can be a nice coat, too! You can change behind the curtain there, and I can help you put on the rest.”

She got dressed and found that both the white and yellow layers were both two pieces. The third piece just went over her arms and tied at the waist. The Blacksmith then helped her with her armor, which was indeed heavy. The bottom piece was fitted to protect the sides of her legs, and then there were a chest protector and something that went over her head to protect her shoulders and neck. He helped her tie up her hair in two topknots on both sides of her head.

“I matched the ribbons to your coat, I hope that’s okay,” he said as he wrapped a headband around her forehead, “This is to signify your rank.”

She was already sweating due to the weight of her new outfit.

“It’s alright. You’ll get used to it,” he said, “Oh, and before I forget, here’s your sword!”
Game Premise

A piece of the Moon Jar (Fig. F)\(^4\) was cracked off when the thief jumped through the kimchi jar (Fig. G)\(^5\). As the game progresses, the player continues to find pieces of the jar scattered throughout the Three Kingdoms, an era of Korean history. The player has to find and put all the pieces back together by exploring different parts of Korea to find out why the thief stole the jar in the first place. The player goes through the camp, talks to various people, earns specific items and learns her next stop is the Seoul Palace. Here, the player learns about city life, about history of the Shilla Dynasty and unified Korea. Each landmark is cultural significant to Korea and are located in each of the Three Kingdoms: Shilla, Goguryo, and Paekche. The player learns about architecture, art, history, clothing, and different cultural signifiers throughout the game.

The first cultural aspect the player learns about in the story is the Moon Jar. This example of Korean ceramics is distinct from the late Joseon era (1392–1910).\(^6\) The Moon Jar is so named because of it’s distinct shape as well as it’s peach-colored markings on the porcelain vessel unintentionally acquired during firing\(^7\). Although the game centers around the Three Kingdoms period which is from 6th century to 1392, some creative license was used to introduce this unique vessel into the game. The story and other Korean culture aspects are introduced to the player Korean references in game play, whether the player discovers upon him or herself or is introduced to it by a supporting character.

\(^7\) Ibid
Visual Glossary

During game play, the player learns several key facts about Korea. Players will learn about Korean geography through the map and exploring the region. The map will show a unified Korea with different landmarks in the Three Kingdoms, stationed in the Shilla, Paekche, or Goguryo provinces. The protagonist is a Hwa Rang, a leader of warrior scholars in the Shilla Dynasty who followed a creed and a martial art. These warriors were Buddhist in practice and throughout the game, the player will learn about different religions such as Buddhism and Shamanism by visiting temples and talking to supporting characters like monks and shamans. The player will learn about architecture by exploring the game and the clothing by interacting with supporting characters and getting different clothing sets for the protagonist. Art will be introduced as items the player can obtain throughout game play as well as cut scenes to show off different cultural pieces better like dances or music.

As the game centers around learning, it’s important for the player to be engaged with the material. That’s why gamification is such an important aspect to educational apps. It introduces material to the audience in a novel way where the user wants to learn more on their own.
Design Research
As the concept of the game is gamifying learning culture, the style for the game needed to be as unique as the concept.

The first thing researched was competition on successful unique styles as well as user interfaces on designs on other games.

Links to specific visuals are provided:

http://bit.ly/1twDR7j
http://bit.ly/1fOo3T
http://bit.ly/1xc1bA6
Competition

Not only were the styles of competition analyzed, but distinct starting pages on multiple games were also researched.

Links to specific visuals are provided:

http://bit.ly/1pGUZgb

http://bit.ly/1qzlIpu

http://bit.ly/1yowO4Y

http://bit.ly/1zFFurL

http://bit.ly/1w87m1l

http://bit.ly/1w87m1l
Maps

Inspiration from ancient maps was used to draw an accurate depiction of ancient Korea. Many of these maps show a distinct style from the cartographer as well as showing uniqueness in the paper quality, color, and use of calligraphy.

Links to specific visuals are provided:

http://1.usa.gov/1spYzFJ

http://1.usa.gov/1tSl4af

http://bit.ly/1pGV7fx
A cultural aspect of in game learning is about buildings and architecture. Inspiration was drawn from traditional Korean houses, temples, and other landmarks. The various architectural sites create a unique experience for the player to learn about Korea.

Links to specific visuals are provided:

http://bit.ly/1EtZMV8
http://bit.ly/1xclkUg
http://bbc.in/1xkPd3u
http://bit.ly/1wJADDD
Hwa Rang

As the player explores Korea as a Hwa Rang, a warrior, depicting the traditional Hwa Rang as accurately as possibly was a main objective. Not only did they wear armor, but also loose fitting robe-like clothing that fit similarly to the Chinese style robes of the time.

Links to specific visuals are provided:

http://bit.ly/1tZMPiF
http://bit.ly/11a70PX
Another cultural aspect that players learn in game play is about the clothing. As the majority of the game is in ancient Korea, it was important to research all sources that pertained to that era like the Korean drama, Queen Seonduk, that focuses on the Three Kingdoms period.

Links to specific visuals are provided:

http://bit.ly/1zFFPep
http://bit.ly/1xABODH
http://bit.ly/1spZ6aS
http://bit.ly/1ue2JG9
http://bit.ly/1oOCZoc
http://bit.ly/1xqoFP7
Clothing

Players learn in about Korean clothing trends through visual exposure. Observation of what the main character wears but also through meeting different supporting characters will teach the player of both modern and traditional Korean clothing.

Links to specific visuals are provided:

http://bit.ly/1xclrPE

http://bit.ly/1Ia78Pt

http://bit.ly/1EtZXj7
Research

Clothing

Although the protagonist is female, male clothing (ancient and modern), was considered as the antagonist is male. Because there's the belief of reincarnation of Buddhism, we see both protagonist and antagonist in ancient and modern times. It was important to research modern and ancient clothing styles because of this fact.

Links to specific visuals are provided:


http://bit.ly/1tZNe4F
Patterns

There are a lot of patterns and bright colors in Korean culture, and it's shown in both the clothing and the buildings. It was important to capture this in the style.

Links to specific visuals are provided:

http://bit.ly/1oATVtf
Research

Art

One major aspect of cultural learning throughout the game is where the player learns about Korean art. A lot of consideration went into what would be the centered focus of the game.

Back in the 6th century, Korean and Chinese art was very similar in style as there was a lot of trade and many Korean artist borrowed and extended styles from Chinese artists. Therefore, an art piece unique to Korea was needed as a focus for Korean art.

Celadon pottery, referring to a particular glaze color on the vessel, was very established in the Shilla Dynasty. Today, celadon gifts are sold in tourists shops and are seen as uniquely Korean despite it being a style from China. The moon jar, a porcelain piece, from the Joseon Dynasty was chose because of it’s unique shape as well as it’s establishment in the art world being very specifically Korean. Although the moon jar is specific to Joseon Dynasty, it was determined through feedback that the moon jar would easier to remember than celadon pottery although both are important in Korean ceramics.

Links to specific visuals are provided:

http://bit.ly/tEu0kKz
Character Design

Character design is an important aspect to the game since the main way the user is introduced to Korea culture in game play is by interacting with the character and supporting characters. Because the character examples on this page go with the very first story draft, there are characters that were sketched out, but not seen with the end prototype. This section shows the initial process of the character designs.
Process
With all the research done into the elements of the design, typography was considered through the process of creating a logo.

The acronym NYMO stood for the name “New York Motion” and the acronym OUAT stood for “Once Upon a Time.” Both relevant to the thesis concept but also unique names that weren’t already in place.

NYMO reference a new movement in education and OUAT was a reference to how important stories are in games and branding.
Process  Logo Version 1
Troubleshooting

The name and logo of the company that developed the app took time to develop. The name and style needed to appeal to a young audience and upon evaluation, the names were a bit too child-friendly or reminded people of other things like the Planter’s peanut mascot or Ace Hardware.

Further analysis of the name, logo, typography treatment was needed. Adjustments on all three were needed to appeal to the whole target audience, not just the left side of the spectrum.
The name, Fish and Chips, was chosen for its allegory. The game teaching a “school of fish” culture. The word “chips” was a play on words on data chips that are inside wireless devices. Essentially the metaphor was giving chips of information to a school of fish (the fish being the players).
Process

Logo Version 2

fish & chips

fish + chips

fish + chips

fish & chips

fish & chips
Process

Logo Version 2
Color was an important factor in creating a brand for the company that developed the app. Color theory was referred to several times as well as the psychology of color. Purple was chosen to be the primary color for its association with creativity. The curves of the fish matched with the curves of Futura and had a nice variation of weights that would work in a variety of situations.

However, too much time was being spent branding the actual company of the app when the branding of the company wasn’t in scope of the thesis. The branding of the actual game was in question. The focus had to shift from superfluous information to the core of the thesis, getting back into how visual design affects branding of the game versus a fictitious company.

Game Logo

The game logo had to fit a specific feeling. Further research on style and texture was initiated to render a logo for the app.

Links to specific visuals are provided:

http://bit.ly/1xkQTKn

http://bit.ly/142Wv2g
Process

Game Logo Version 1

Several different typefaces were considered and tested for the game logo. Certain elements, like the markings on celadon pottery (seen below) were initially included as the mark in combination with the logo type.

A links to a specific visual is provided:

http://bit.ly/11a8xpd
Lunar Tales
The missing moon jar

Lunar Tales
Lunar Tales
LUNAR TALES
Lunar Tales
Lunar Tales

Lunar Tales
LUNAR TALES
Lunar Tales
Lunar Tales
Lunar Tales
Lunar Tales
Lunar Tales
Process

Game Logo Version 1

THE MISSING MOON JAR

The Missing Moon Jar

The Missing Moon Jar

The Missing Moon Jar

The Missing Moon Jar

The Missing Moon Jar

The Missing Moon Jar
**Process**

**Game Logo Version 1**

<table>
<thead>
<tr>
<th>The Missing Moon Jar</th>
<th>Lunar Tales</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Missing Moon Jar</td>
<td>Lunar Tales</td>
</tr>
<tr>
<td>The Missing Moon Jar</td>
<td>Lunar Tales</td>
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<tr>
<td>The Missing Moon Jar</td>
<td>Lunar Tales</td>
</tr>
<tr>
<td>The Missing Moon Jar</td>
<td>Lunar Tales</td>
</tr>
</tbody>
</table>

LUNAR TALES
Logo & Type Troubleshooting

The final pairing came down to a serif and sans serif font: Perpetua Titling and Avenir, respectively.

After feedback and analysis, it was deemed that although culturally significant, the elements that made up the mark were too complicated and made the form look too busy.

As there is definitely a visual progression of stripping down the logo to a bare form of just type, revisions ensued to continue that thorough process.
To achieve more a “game” feel, script type was integrated into the logo.

Lunar Tales
Lunar Tales
lunar tales
Lunar Tales
lunar tales
LUNAR TALES
LUNAR TALES
LUNAR TALES
Lunar Tales
lunar tales
Logo & Type Troubleshooting

The final revision had much more of a game feeling to it. The typography was better and less print based like Perpetua tilting was. Avenir was still the sans serif as it is versatile and has many styles.

However, feedback was given that the composition wasn’t aesthetically pleasing, and the composition of the crane above the text seemed off. Although the typography had some similarities, to users, the type was too distantly related to be aesthetically appealing.

Typography plays an important role in the game and in the branding. Because it sets a certain style and also the mood of the game, the type needed to be adjusted to reference Korean culture better.

The typography needed to be easily read but also communicate the style of the culture. After researching Avatar: The Last Airbender, the typeface Herculanum had the correct feeling (as seen in the following examples). Although the typeface has it’s flaws like letter spacing, and some forms are hard to read, Herculanum fits the concept better than Avenir or Perpetua Titling.

Because there are areas in the game where characters are paired with written dialogue, Herculanum was paired with Montserrat Alternates. It’s distinct enough to fit the concept but designed that can distantly match Herculanum and be legible.

To have the correct script and complementary font, both would be designed with the sole purpose of being type for the game.
Logo & Type Troubleshooting

The third set of logos had a better fit to the concept. The final logo was tweaked based off user feedback from the initial logos. The form was stripped down to its essence that has good contrast on screen and conforms better to the concept of the culture.
User Experience

User experience is defined as the experience a product creates for the user.\textsuperscript{19} This thesis focuses on how visual design impacts the player when they play the game. As the playing experience is centered around the visual design of the game, it was important to include cultural aspects in the menu as well as game play.

There were a couple versions of the wireframes.

This version above was very unclear. It did not communicate what the menus were doing nor was it organized. The example below, however, indicates a version with old-style console buttons on the screen as well as double layer, horizontal sliding menus, which expose the user to the Um-Yang philosophy. The left hand menu being all items that can be directly used (hard principles) and the right hand menu being all things that can’t be directly used like save and settings (soft principles).
Process

User Interface Version 1

For cultural references integrated into the user interface, Asian patterns and textures were researched.

Asian texture and patterns were an important aspect to introduce players to Asian culture.

The first version of the interface contained console controllers to allude to the nostalgic feeling of playing a role-playing game.
Process

User Interface Version 2
Process

User Interface Version 2
The second version kept the console buttons to maintain the nostalgic feeling of playing an arcade game. The menus had cultural textures integrated more into the interface, and the general feeling was more geared toward the concept.

However based off of feedback from test subjects:

- double menu took away from the experience
- old school buttons didn’t take advantage of touch screen technology
- old school buttons took away from the design and experience (i.e. distracting)
- style too flat
- background was too busy
- background didn’t recede
- gray of menu buttons got lost
- background of water too busy
- menu seemed too modern
- needed...something

To obtain an appropriate style, more research was needed in terms of analyzing other mobile games. The main point of inspiration to achieve the correct style was Monument Valley, which was released in April 2014.
To fit with the newly discovered style, the character design were modified with a more flat, cartoon look.

Character Design 2
It was very important to depict the main protagonist in two types of clothing: the traditional han bok and the armor. As the user will be exposed to much of the Korean culture primarily on a visual basis, the research done both civilian clothing and warrior armor was necessary.

A lot of time was spent just getting the proportions and the characters themselves down. The style was very similar to anime style as the environment of the game wasn’t determined at that point. It would have been easier to start with the environment and then design the characters to fit in that environment. Since the story wasn’t fully realized until later in the process work, there was a lot of frustration with fitting which characters into where and having them relate to the material the player was learning.

Eventually, all non-essential characters were eliminated from the prototype, and only the main character was selected to example some of the proponents of the game.
Process

User Interface Version 3

SAVE
QUIT
SETTINGS
In the third version, the console buttons were eliminated to take advantage of the smartphone’s touchscreen technology. In addition to taking about the console buttons, the use of scrolling was integrated with the interface. Now instead of a double sliding menu, the user can scroll to see which items he or she has incurred during the game as well as a single screen left menu which contains all the game functions.

The general principle behind teaching Um-Yang through the menu was kept. The left hand side being all the hard elements or items you can use and the right hand side being all the soft elements or things that the player could directly use in game. But now, the added element of scrolls, which are an important aspect in Asian art, was integrated.

However based off of feedback from test subjects:

• clouds were too distracting
• shadows on buildings weren’t facing right way
• not enough color contrast
• not sure what point the black button did
User Interface Version 4

Process
Process  User Interface Version 4
Process

User Interface Version 4

MONK

“WELCOME TO THE BUDDHIST TEMPLE, BULGUKSU! WE’RE IN SILLA TERRITORY OF THE KOREA PENINSULA”

MONK

“I SEE YOU HAVE A JOURNAL. INFORMATION ABOUT THE TEMPLE HAS BEEN RECORDED FOR YOU”
Process

User Interface Version 4

MONK

"PLEASE TAKE A MOMENT TO EXPLORE THE AREA. I SUSPECT IT WILL HELP YOU IN YOUR JOURNEY."

MAP
JOURNAL
SADDLE BAG
UI Version 4 Troubleshooting

In this version, the users can see certain items that they inventoried in their saddle bag as well as other items they have yet to discover in the game.

However based off of feedback from test subjects:

Menu
• looked too plastic. Didn’t match with the rest of style

Background
• clouds were too distracting
• shadows on buildings weren’t facing right way
• not enough color contrast

User Interface
• not sure what point the black button did
User Interface Version 5
User Interface Version 5
“Welcome to the Buddhist Temple, Bulguksa! We’re in Silla Territory of the Korea Peninsula.”

“I see you have a journal. Information about the temple has been recorded for you.”
User Interface Version 5

“Please take a moment to explore the area. I suspect it will help you in your journey.”

Tap to explore
The Buddhist temple, Bulguksa, was originally built in 528 CE during the Silla Kingdom. It took around 200 years to complete, but the temple was finally finished in 774 CE.

During the Goryeo Dynasty (918-1392 CE), the building went under numerous renovations but was burned down during the Imjinwaeran War following the Japanese Invasion (1592-1598).
BULGUKSA was renovated around 40 times until 1805 and was left with serious damage. It was until 1969, where several temples were rebuilt including Bulguksa.

The temple holds important cultural artifacts, many of which are testaments to traditional Korean art styles, like the two pagodas on either side of the hall.

The three-story pagoda, SEOKGATAP, has two stereobates (stone foundation levels), where DABOTAP is an octagonal pagoda, which stands on a cruciform base with stone staircases on all
User Interface Version 5

MONK
“Please take a moment to explore the area. I suspect it will help you in your journey.”

TAP TO EXPLORE
User Interface Version 5
UI Version 5 Troubleshooting

In this version, a few elements were added like what the map looked like, the journal and journal entries, and some dialogue between the protagonist and a supporting character.

However based off of general feedback and user testing from Imagine RIT:

Menu
• had an average of 7.92/10 for navigation (see appendix)
  most who took the survey did not play mobile games

Journal
• the journal entries needed some mini game otherwise the users would disregard the information

Narrative
• when first entering the temple, the narrative should start immediately
UI Version 6 (final)
UI Version 6 (final)
UI Version 6 (final)

**Monk**

“I see you have a journal. Information about the Temple has been recorded for you.”

**Monk**

“Welcome to the Buddhist Temple, Bulguksa! We’re in Silla Territory of the Korea Peninsula.”
UI Version 6 (final)
There are two pagodas. A three-story pagoda, Seokgatap, has two stereobates (stone foundation levels), and Dabotap, an octagonal pagoda, which stands on a cruciform base with stone staircases. They hold a clue to the temple, but what?
Summary

This thesis was to create an easy to access resource for second-generation and foreign-born adoptees to learn about their birth heritage. In this day of wireless devices, there are plenty of educational apps like language learning games, but these games have no visual connection from the culture the language is based.

Through usability testing and also from user feedback, the result of the story and also the visual design concluded with a designed prototype that teaches culture through gamification.

The question becomes: how did this design case study help the designer understand how to create a better-designed educational app?

First, this case study showed how visual design impacts usability in an educational app. The analysis of the design process is a clear indication of this statement. Every step in the design process centered around the user. The first step was to create an understandable storyline that connected learning about culture with gamification. The story needed to be fun, but relatable at the same time. User centered design was achieved by boiling down the first versions of the story to essential parts and making the plot as simple as possible.

The first story versions started off too convoluted. The core of the story needed to center around teaching culture through gamification. The player had to have a clear understanding of what the story was and make a connection with it. Hence, the final version of the story (version 5) has an Alice in Wonderland falling through the rabbit hole modification. The user now has more connection with the protagonist going from the modern world to ancient Korea. The cultural asset list as well as the visual glossary, helped the design process to forge what design elements the user would see throughout the game to be exposed to visual elements of the Korean culture.

As the story evolved, so did the visual design of the app. User testing was an important aspect of the process as it helped hone in on giving the user a better playing experience with the game. Each state of the design process, starting with the user interface, helped focus the design center around the user rather than just having visual fluff.
By centering on the user, the design positively impacts usability in the fact that the user has a more engaging experience with the easy to understand design elements and has a connection with learning about culture.

The experience of not only the interaction between user and app but also the experience with look and feel of the user interface as well as the style of the app became part of the branding. Testing showed that better visual designs increased the probability of application usage. This hypothesis also applies to supplement devices such as a website, which was created as a supplement visual glossary.

Each aspect of the brand, the game and the website, endows the user with a sense of accomplishment. The story allows the user to delve into Korean culture, with the visual design strengthening the learning experience. The visual glossary complements this and shows learning culture helps reinforce positive behavior and self-efficacy.

With the mobile app that teaches about culture, the impact on behavior is a positive one. Most mobile games are either repetitive, competitive or addictive. Games like 2048 or Flappy Bird have no real goal to the game other than getting a high score. These types of games simply waste a user’s time. And as most wireless device owners use apps as a way of passing the time, Lunar Tales was a concept to substitute passing the time with something more useful. Lunar Tales is a game concept that a user can learn through gamification, turning learning relatively dry material into something fun.
Conclusion

In conclusion, this case study has led to a series of discoveries for the designer; such as: keeping project user-centered, understanding the theory of gamification and supplementing the activity with relative visual graphics, and designing narratives to tie the entire branding experience together.

The significance of the project was to create an educational app that could be applied to any one culture. The particular version designed for the prototype teaches about Korea and showcases how different parts of the culture are visualized through graphic design. Such as philosophy through the user interface, patterns and textures in the background, and a narrative to guide the user through the historical context.

Questions that arose during the study were:

1. How to write a story that answers the thesis statement
2. How to design appealing graphics centering around the theme
3. How to create an engaging experience for the user

The process of design revealed the answers. Starting off with outlining, wireframes, and user feedback after each design iteration helped make the final product.

This non-developed, educational app prototype allows users to learn about culture through gamification. It fosters self-esteem by being a tool to build an identity for the user and thus defines a new way to learn about culture.
Appendix
Proposal

Situation Analysis

Mobile learning is about learning at leisure, whether on a tablet, phone, or laptop.

Mobile learning can take on many forms whether it be a website or an app. Research says that as mobile learning is on the rise, so is self-efficacy, especially when learning about culture. These educational tools are a useful resource providing a way educators can teach their material in a more novel way than what’s already in place. Applying an effective, interactive design to this mobile type of teaching can be an effective tool to learn.

With technology advancing, most people have access to the Internet a means to access apps whether education or for entertainment purposes. Although research shows there is a positive correlation with mobile learning and app development although there is little concerning learning culture through mobile apps. Companies like MindSnacks provide apps to teach language, within the app there is no connection through the visual design between the language and culture it’s from. Many language apps provide the means but design the app in such a way there’s a disconnect between the culture and what’s being taught.

By designing a mobile app series covering culture-focused subjects (i.e. architecture, food, dance, art), I will explore the notion that learning about culture through the means of readily accessible materials promotes positive social behavior and self-efficacy. By designing a visually based educational tool, I will also demonstrate well designed tools in learning have a positive impact on the user
Problem Statement

The question becomes: will this study of culture through mobile learning and the analysis of visual design help designers have a better understanding of designing educational apps?

The amount of mobile learning has increased so much that today’s age is considered “here and now learning” where a person can access information on the go whether it be on a tablet or phone. Educational apps are especially increasing on the market, many of which focus on teaching language but not many offer insights to a country’s culture. This is a gap in what mobile apps can offer, providing me with an opportunity to explore teaching culture through mobile learning. Furthermore, the opportunity allows me to explore how visual design affects usability as not many educational apps are well designed. An app’s visual identity is important not only for aesthetic value, but also how often the app is used. Research shows that the better design an app has, the more likely a user will interact with the app often. Not only does the quality of design affect the usage, but also the effective functionality and the content. These things combined mean more trust in the company thus allowing for expansion and growth. This aesthetic value is as important to the company who developed the app, as well as the user. Well-designed apps can have a positive influence on a user’s behavior and depending on the content, can promote self-efficacy and positive behavior.

For my thesis, I propose a case study that explores the affects of a mobile app’s visual design through the content of culture specifically focusing on Korean art. My goal is to provide foreign born adoptees and second-generation U.S. children (and anyone interested in learning a different culture) an easy-to-access resource that explores culture through a series of apps.

My research will explore:

1. How does visual design impact usability in an educational app?
2. What role does branding play in the amount of times the app is used?
3. How does learning culture help reinforce positive behavior and self-efficacy?
4. How does mobile learning impact behavior?

The results of the study will provide insights on how to develop and design effective mobile learning.
Methodological Design

My research uses qualitative data focusing on the best practices in mobile learning, interface design, successful gamification, and the positive correlation of technology use and self-efficacy.

This method is required as the application of my thesis focuses on the user and how the user interacts with my app. Researching the best practices helps me understand how to construct the best practices of designing education through mobile learning.

In order to design this to exemplify as an effective design in interactive, mobile learning app, my process will include four parts: 1) research, 2) design, 3) feedback, 4) refinements.

First, in order to design the most effective mobile learning app, I need to research what apps are already disseminated. I can then attest what the best applications are already in motion, what educational games are most effective, and what types of games companies are developing to teach children culture. This influenced the second part of my methodology. Having researched the best practices that are in mobile learning, game design, storytelling, and narrative, I can apply those practices and include them in my application. The third section of my methodology will involve my audience. The primary target audience is second generation, United State's children and foreign-born adoptees including both genders, with a varying age range, anywhere from age 8 to adult. As the application will be a responsive web design and educational mobile app, the user will have to have an interest in learning but also have basic computing skills.

This requires the design to be easy-to-use and to function well within the design. In order to determine the ease of design, I will have to test my audience. I'll choose a target population, and sample test within that population. The test will be administered by a brief survey asking questions that inquire about the ease of interface, the content, level of interest, etc.

I will also gather additional feedback from my thesis committee throughout the semester. After the results are gathered from the sample population and thesis committee, then the design will be refined.
Design Ideation

STORY
One of the most important aspects of the design application will be the narrative. Through my research I’ve noted several story outline guides but will use the three that I’ve found most relevant: 1) Brian McDonald’s 7 step story outline, 2) Josiah Lebowitz’s 10 step outline, and 3) K. Fog, C. Budtz, and B. Yakaboylu’s character appearance approach. McDonald’s, and Lebowitz’s approaches are strictly for storytelling and the third is for storytelling in branding.

McDonalds/Lebowitz
Act 1:
Once upon a time
And every day
(The ordinary world)

Curtain:
Until one day
(The call to adventure)

Accepting the call/Refusing the call/The mentor

Act 2:
And because of this
(The first threshold)

Fulcrum:
And because of this
(The Journey)

Act 3:
Until finally
(The final dungeon & The great ordeal)

Denouement:
And ever since that day
(The prize & The road home)
**Order of appearance**

<table>
<thead>
<tr>
<th>Hero</th>
<th>User/Hana and Jason Kim</th>
<th>User achieving goal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goal</td>
<td>To beat lack of knowledge (Mr Gray)</td>
<td>Company’s cause</td>
</tr>
<tr>
<td>Adversary</td>
<td>Mr Gray (who steals knowledge)</td>
<td>Lack of knowledge</td>
</tr>
<tr>
<td>Supporter/support</td>
<td>Dr Lucy Rice, Detective Monday</td>
<td>Means &amp; tools to achieve goal</td>
</tr>
<tr>
<td>Benefactor</td>
<td>Police department</td>
<td>Company</td>
</tr>
<tr>
<td>Beneficiary</td>
<td>User</td>
<td>Person who benefits from goal</td>
</tr>
</tbody>
</table>

**DESIGN**

These examples provide visual explorations on what the mobile app will consist of but not limited to:

1. UI
2. Character design
3. Storyboard
4. Background/setting
5. Cultural references
Deliverables

Applications

**Story**

The narrative that is the content of the app

**App**

Designed app, including but not limited to:
UI
Character designs
Background designs

**Branding and identity for app**

Including but not limited to:
Logo
Responsive website for marketing
Mini-game demo

**Identity for app’s company**

Including but not limited to:
Logo

Research

**Thesis**

Written research paper on learning culture in the mobile age
Implementation

The application portion of my thesis will be designing a series of apps that cover several different cultures. However, to make the process more manageable, I shall narrow my focus to presenting a survey of Korean art and history from the 6th century to modern day. This is because I am more familiar with Korean culture.

Because this is a series of apps, the icon for each app will be designed as well as the website. The only in-depth design development will be for the Korean art title.

As I’m not a mobile app developer, the mobile app will be design mockups of the interface; however, the website will be programmed in HTML5/CSS and JavaScript. The rest of the branding will be done in Illustrator and Photoshop (if applicable) and InDesign for the branding identity guide.
Dissemination

1. augiepark.com
2. behance.net
3. ADAA
4. Vilek Foundation
5. CIAS Showcase
6. IMAGINE RIT
7. Proquest
Evaluation and Pragmatic Issues

What type of usability testing are you going to employ?
• Survey
• Oral questions during Imagine RIT to get feedback before Thesis Defense

Will your analysis of the feedback be qualitative, quantitative or both?
• Qualitative
• Primarily researching into what apps are out there and analyzing which ones are successful and why

How will you implement the feedback given?
• Based on feedback and surveys adjust designs accordingly

How will you Budget?
• 50$ for food (given to people who take survey)
• 100$ printing
• 100$ hosting
• 20$ domain name
Website

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Become part of the Hwa Rang, a group of warriors that protect Korea and Korean culture. Explore ancient Korea during the Three Kingdoms Period. Discover different landmarks like the Buddhist temple, Bulguksa. Learn about Korean philosophy like Um-Yang and different religions like Buddhism. Explore Korea and discover different landmarks like the Buddhist temple, Bulguksa. Learn about Korean philosophy like Um-Yang and different religions like Buddhism. Explore Korea and discover different landmarks like the Buddhist temple, Bulguksa. Learn about Korean philosophy like Um-Yang and different religions like Buddhism.
## Games and Culture

My name is Auguste Pelle. I am a Visual Communications MFA Candidate at Rochester Institute of Technology. I am conducting a survey for my thesis entitled, “Cultural Mobile Design: Learning Culture Through Effective, Interactive Design in the Mobile Age.” If you could take a few moments to fill this survey out, I would appreciate your response to help me with my thesis. Thank you.

* Required

**Do you play video games?**
- [ ] Not at all
- [ ] Infrequently
- [ ] Occasionally
- [ ] Often

**How often do you play games on a console?**
- [ ] Don’t own a console
- [ ] Not at all
- [ ] Sometimes
- [ ] Frequently
- [ ] Daily

**How often do you use mobile apps?**
- [ ] Don’t own a smartphone or tablet
- [ ] Not at all
- [ ] Sometimes
- [ ] Frequently
- [ ] Daily

**Do you use your smartphone or tablet to occupy your time while waiting?**
- [ ] Don’t own a smartphone or tablet
- [ ] Not at all
- [ ] Sometimes
- [ ] Frequently
- [ ] All the time

**What kinds of apps do you use on your smartphone or tablet?**
- [ ] Don’t own a smartphone or tablet
- [ ] Educational
- [ ] Entertainment
- [ ] Productivity
- [ ] Lifestyle
- [ ] Games
- [ ] Other
Do you seek out to learn new things on your own? *
- Not at all
- Occasionally
- Frequently
- All the time

What kinds of things do you like learning about? *

Does learning about different cultures interest you? *
- Not at all
- A little
- Very much

If you travel to a different culture, what kinds of things do you like to do? *
I.e. going to museums, seeing landscapes, etc.

Gender *
- Male
- Female
- Prefer not to answer

How old are you? *
- 15 years old or younger
- 16–20 years old
- 21–25 years old
- 26–30 years old
- 31–35 years old
- 36 years old or older
- Prefer not to say

Are you interested in assisting my research further?
If so, please provide your email address so I may contact you, thank you! Your email will only be used for my research.

Please indicate which logo you prefer to see on the start screen by placing a check mark next to the appropriate picture.
Please answer the following questions:

1. Do you have a smartphone
   yes | no

2. Do you play mobile games?
   yes | no

3. How do you think visual graphics impact gameplay?

On a scale of disagree (worst) to agree (best), please rank the following categories:

1. Navigation is easy to understand
   1 2 3 4 5 6 7 8 9 10
disagree | somewhat | agree

2. The visual style is pleasing
   1 2 3 4 5 6 7 8 9 10
disagree | somewhat | agree

3. This is an app you’d consider downloading
   1 2 3 4 5 6 7 8 9 10
disagree | somewhat | agree

4. Visually, this is a game you’d recognize as Far East Asian
   1 2 3 4 5 6 7 8 9 10
disagree | somewhat | agree
References


McDonald, Brian. The Golden Theme: How to Make Your Writing Appeal to the Highest Common Denominator. Libertary Editions: Seattle (2010) 1

Colophon

The main typeface that was used in this paper was Neutraface 2, design by Christian Schwartz in 2007. The leading is at a relaxed 13 pt.

The typefaces used in the screenshots of Lunar Tales are Herculanium and Montserrat Alternates. These typefaces were designed by Adrian Frutiger (1990) and Julieta Ulanovsky (2012) respectively.

Furthermore...

I’d like to thank my teachers and especially my thesis committee members, Chris Jackson, Carol Fillip, and Nancy Bernardo. With their help, I’ve expanded my design abilities to an extent I wasn’t quite sure I could reach.

I’m appreciate all the feedback that I’ve gotten through those who volunteered to help me with my design process.

My experiences at Rochester Institute of Technology have advanced my design abilities beyond anything that I could have imagined.

In my years studying for my Master of Fine Arts degree, I’ve gained so much experience and I am so grateful of the opportunities I’ve had.