

# Proposal

## 1. Target Audience

- Create a profile of the target audience  
(who are your students? Consider skills, knowledge, and attitudes)

The target audience of this program is the students in year 7 of Marist College Kogarah. These students will learn about the history of Ancient Egypt, Early Imperial China, Medieval Europe and the Spanish Conquest. In each of these topics that will be explored, the students will understand their importance and the cultural impact of these events.

## 2. What is the Problem

### ● Define the problem

- (What is the identified problem you have found in the class you are working with? What skills/ knowledge has the Teacher given you to focus on)

Through students learning about the events previously mentioned in a virtual interactive environment, the students will receive a more in-depth understanding of how and in what circumstances certain objects could have been used. These objects vary, from everyday items to the simple machinery used during these historical eras.

## 3. How will you solve the problem?

- What knowledge and skills will you need to solve the problem?  
(software, training, app design, research)

Using the Unity tutorials, found on the Unity website, the group can learn how to code using the C# language and how to use the designing tools that Unity provides. In terms of research, some group members will be assigned to go through the year 7 history textbook and make notes on the topics that we are exploring.

## 4. Consider the Constraints

- Outline the constraints attached to the project:
  - Technical
  - Operational
  - Time
  - Economic

### Technical:

The technical aspects of the task will be the production of the app using Unity and the C# language. A major constraint in the technical side of things, would be that nobody in the group has any experience in using the Unity designer or with typing code in C#.

### Operational:

In order to make this program to work and be feasible for use in the classroom, the whole group needs to work together to get all of the mechanics of the application to function. Some of these mechanics include - the animations and the camera movement.

### Time:

We need a schedule (Gantt chart) to make sure all tasks are completed on time according to the due date and need to account for obstacles or delays in regard to the time that is being appointed to each activity. We have limited time to work on our project at school as we have IST 2-3 times a week resulting in work needing to be done over the weekends and after school.

### Economic:

Due to the fact that there will be no money dedicated to the creation of this educational program, we are in search of free software and Unity assets to assist us in the production of this app.

- **Then, Create a complex Gantt chart** in MS Project addressing all sub-section

(The Gantt Chart is attached to the Google Classroom submission)

[illegible]

# Designing Possible Solutions

## Provide statement of intent

Through the many articles and videos our group has watched, we have collectively decided to create our program using the Unity app. Compared to the Visual Studio designer, Unity has a much wider variety and a bigger palette of designing tools that will assist us in creating our educational application. In terms of the coding language, C# will be used instead of Visual Basic which, as the name suggests, has a very basic and simple way of programming objects to do certain things. Whereas in the C# language, functions can easily be called and referenced through the way that C# is implemented into the Unity engine. The decision to use the Unity engine was majorly impacted by the multitude of tutorials provided by Unity on their website. By using these tutorials our group can learn and explore this engine at our own pace due to the fact that they are accessible anywhere via the internet.

## Existing App Research

### App 1 - Hinitiative



Outline the purpose of the App?

The purpose of hinitiative is allowing people from all over to ask questions about a language to speakers of that language.

How does the App work?

The app works by selecting a language and being put in a chat with people that language. This is where you can ask questions about the language or even the culture of that country.

How much does the app cost?

The app is free but has an in app subscription service that gives you all sorts of bonuses. The subscription service costs \$14.99/month for 1 month or \$7.25/month for 1 year.

What hardware is required to run the app?

This application can be run on a browser, Android device or on an iPhone.

What components of this app would be beneficial to your target audience?

Gives the chance for students to ask question to people native of a specific area. Allowing students to get more accurate results.

## App 2 - Education Perfect



Outline the purpose of the App?

To help students complete work with electronic submissions so teachers can fully access all answers and work set.

How does the App work?

Teachers assign work for students to complete by a certain date or time. Various subjects can be studied such as science, history, geography, and languages

How much does the app cost?

The app is free for all school students and teachers assigned to a certain school.

What hardware is required to run the app?

The app runs on Google Chrome and can also be downloaded as an app.

What components of this app would be beneficial to your target audience?

The questions asked and the multiple choice and extended response layout of the app allows work to be easily accessed and makes sure students complete work by a set date.

## App 3 - Duolingo



Outline the purpose of the App?

The purpose of this app is to teach people languages for free.

How does the App work?

Using a variety of speaking, listening, translating and multiple choice questions, the user can learn a variety of languages.

How much does the app cost?

The app is free, but the user has the choice to purchase Duolingo Plus. The upgraded version contains no advertisements and allows the learner to save courses for offline use.

What hardware is required to run the app?

This learning service is available on the Duolingo website, ios, android and windows phone devices.

What components of this app would be beneficial to your target audience?

This application is not very beneficial to students in year 7, but instead useful for students in year 8 as it will help them learn Italian.

## App 4 - Khan Academy



Outline the purpose of the App?

The purpose of Khan Academy is to visually and auditorily educate children, teenagers and Adults in a different style to better understand any subject.

How does the App work?

The video lessons are compiled into sub categories of different subjects

How much does the app cost?

Khan Academy is a free application.

What hardware is required to run the app?

The app can be run on any browser but it also can be downloaded as an app.

What components of this app would be beneficial to your target audience?

The fact that the app is visually based it can make the subject easier to follow for some people or the auditory aspect that can benefit others.

## Outline the solution

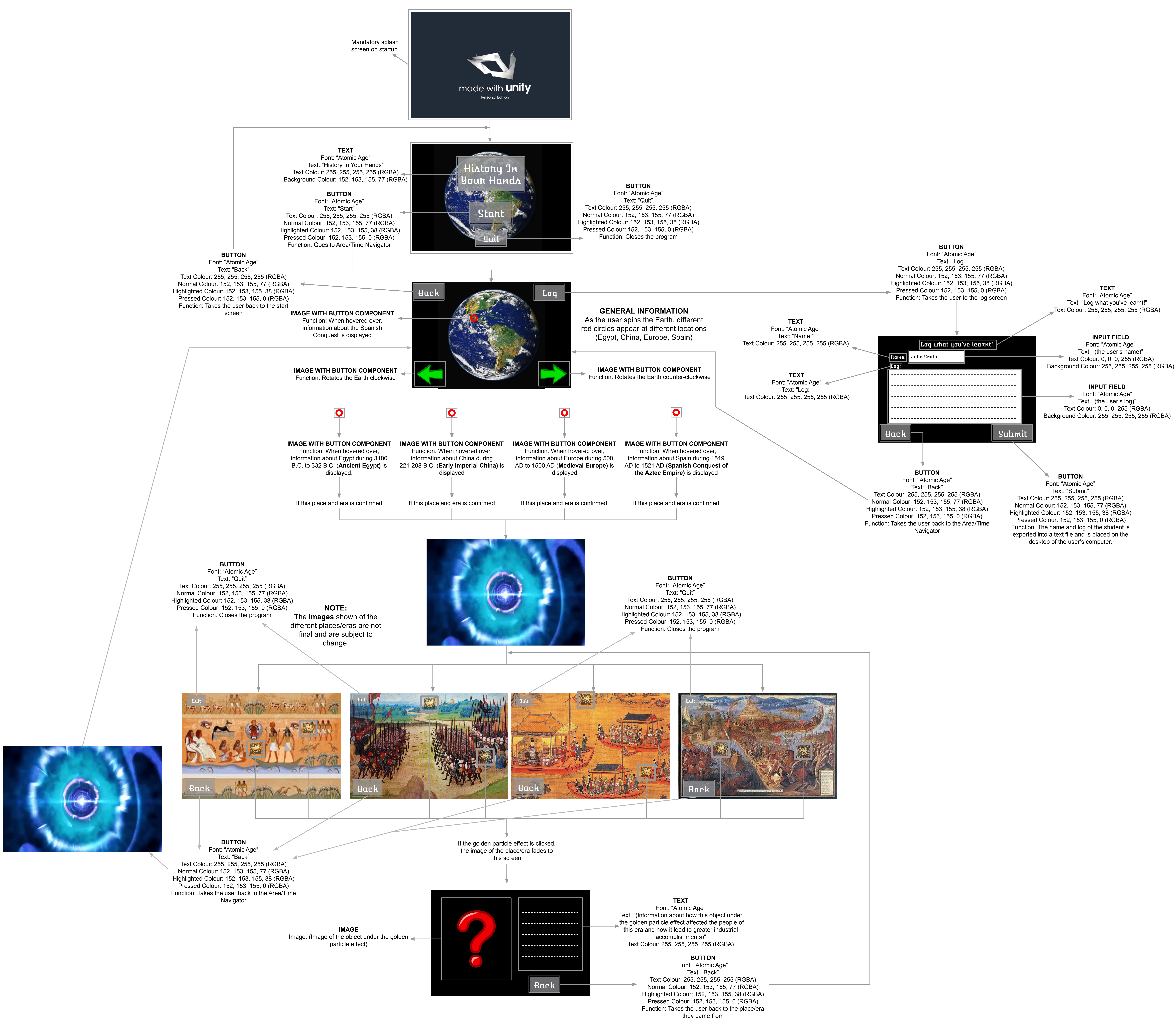
**(ATTACHED IN THE GOOGLE CLASSROOM SUBMISSION)**

### Conclusions

- Provide a justification for your design
- Outline the software you will proceed with

The design of this program supports the user to navigate the history aspects of the year 7 syllabus with ease. The use of input fields to log what the user has learnt from this application will prove to be beneficial as it will provide the teacher with the student's knowledge of the information shown in the program. The software that will be used to create this app, is the Unity engine.







# IST Research

## Ancient Egypt:

Ancient Egypt describes the era of Egypt from 3100 B.C. until 332 B.C. when Alexander the Great made his conquest to Egypt. Ancient Egypt has a rich history and culture of beliefs of various gods and a recently deciphered written language of hieroglyphs, which uses symbols to represent letters. Some Notable landmarks include The Great Pyramid of Giza and the Great Sphinx of Giza.

### **Object 1:** Mummy

#### **Object description:**

Mummies were humans preserved after death through a process of mummification. Mummification was done by anyone who could afford it. The mummification process took 70 days and consisted of drying all the moisture out of the person's body so that they would not decay as easily and removing all internal body parts which would decay easily, besides the heart, as it was believed to be the main source of intelligence.

### **Object 2:** The Great Pyramid of Giza

#### **Object description:**

The Great Pyramid of Giza is an ancient Egyptian landmark, which was built in 2580 B.C. -2560 B.C. and is the oldest of the seven wonders of the world. It is said to be the tomb of the Pharaoh of that time period, Khufu. The pyramid stands at 146.7 metres high and was built by slaves. It is made of 5 million blocks of limestone and a capstone at the top made of polished limestone.

## Early Imperial China:

#### Description:

People first came to live in China over 8000 years ago. Around 6500 years ago, they began to create villages in fertile farming lands along the Huang and Yangtze rivers. They lived in small communities, separated by mountains and rivers, and often in different climatic zones. In the centuries that followed, people from various ethnic



groups formed a series of separate kingdoms and created different societies in China's many areas and environments.

**Object 1:** Xia Dynasty - King Yu The Great

**Object description:**

According to legend, King Yu The Great, impressed people by building dams and canals to control the flood waters of the Huang River. Yu supposedly named his son the next ruler, and so began over 400 years of rule by the Xia dynasty.

Archaeological evidence of a culture at Erlitou in Henan Province and beyond suggests that the Xia (pronounced shi-a) may have lived in the central and western parts of the Henan Province.

**Object 2:** Shang Dynasty - Oracle Bones

**Object description:**

In ceremonies, people of The Shang Dynasty left written records on Oracle and animal bones when they wanted to gain advice from the gods. These people used a script similar to that of modern Chinese. Oracle bones contain the earliest record of China's history and provide information on farming, hunting, fishing, religious customs and warfare. This shows that the Shang were literate and that the Chinese language has existed since the second millennium B.C.. Oracle Bones were also known as Dragon's Bones but as it turns out, they are actually the bones of Oxen and Turtles.

**Medieval Europe:**

**Intro Description:**

From 500 A.D. -1500 A.D., most people lived in the countryside. The people of this time had a life expectancy of fewer than 40 years. Christianity, especially via the Catholic Church, had huge power in politics. Kings and lords ruled and looked to the Pope to approve their actions. Wars were common, this made cities root walls surrounding their premises for protection. Law favoured the rich and powerful, so ordinary people found it difficult to receive justice.

**Object 1:** Spear

**Object description:**



Spears were an effective weapon used in Medieval Europe due to its long structure. The sharp spearhead at the top of the spear let fighters impale several enemies at a time. The spear enabled horsemen to fight whilst handling a horse, thus adding another perk as it kept the enemy at a safe distance. This advantage made enemies unable to reach the soldier, making the only threat, the archers.

## **Object 2: Rat**

### **Object Description:**

The rat is a symbolic element, referencing the black plague (or Black Death), that arrived in the 1300s and killed 50 million people. The black death was caused by rats and the unhygienic nature of medieval Europe, as showers and good hygiene in general were not seen as necessary. Due to the lack of medical knowledge at the time, many people blamed the 3-year-span of the epidemic on God who was punishing humans. But soon after the contagion, the importance of a clean environment and constant sanitation was recognised and utilised.

## **Spanish Conquest of the Aztec Empire:**

### **Intro Description:**

The Spanish Conquest of the Aztec Empire was led by Spanish conquistador Hernán Cortés and occurred between 1519 and 1521. After Christopher Columbus' discovery of the Americas in 1492, the Spanish wanted to claim the Americas in the conquest of South America. A nomadic farming tribe known as the Mexica were indigenous to Mexico and moved to the Valley of Mexico in search of fertile land. These people are now known as the Aztecs.

## **Object 1: The Great temple**

### **Object Description:**

The Great Temple (also known as the The Templo Mayor to the Spanish and Hueteocalli to the Aztecs) made up most of the Aztec capital, Tenochtitlan. This large structure with two twin temples at the very top was dedicated to Huitzilopochtli (The God of War) and Tlaloc (The God of Rain). The Great Temple was the focal point of Aztec Religion and was placed in the very centre of the Aztec world.

## **Object 2: Huitzilopochtli**

### **Object Description:**



Huitzilopochtli was one of the most important gods in the Aztec pantheon, he was thought to be the supreme God. He was also known as either the “Hummingbird of the South” or the “Blue Hummingbird on the Left”. Huitzilopochtli was the God of the Sun and War and was considered to be the patron of the Aztec capital, Tenochtitlan.

## Bibliography

### Existing App Research

Article title: HiNative | A question and answer community for language learners.

Website title: Hinateive.com

URL: <https://hinative.com/en-US>

Article title: Education Perfect | Making great teachers extraordinary

Website title: Education Perfect

URL: <https://www.educationperfect.com/>

Article title: Education Perfect | Features

Website title: Education Perfect

URL: <https://www.educationperfect.com/features/>

Article title: Learn a language for free

Website title: Duolingo

URL: <https://www.duolingo.com/>

Article title: Khan Academy

Website title: Khan Academy

URL: <https://www.khanacademy.org/>

### Ancient Egypt

Article title: Ancient Egypt

Website title: History.com

URL: <https://www.history.com/topics/ancient-history/ancient-egypt>

Article title: Mummies

Website title: Smithsonian Institution

<https://www.si.edu/spotlight/ancient-egypt/mummies>



## **Early Imperial China**

Article title: Art of Silk Blog ~ Chinese Silk Painting: Its History and Spread to the West

Website title: Artofsilk.com

URL:

<https://www.artofsilk.com/blogs/news/8245039-chinese-silk-painting-its-history-and-spread-to-the-west#.XTAD4OgzblU>

## **Medieval Europe**

Article title: Middle Ages

Website title: HISTORY

URL: <https://www.history.com/topics/middle-ages>

Article title: Medieval Francophone Literary Culture outside of France | King's Digital Lab

Website title: Kdl.kcl.ac.uk

URL:

<https://www.kdl.kcl.ac.uk/our-work/medieval-francophone-literary-culture-outside-france/>

## **Spanish Conquest of the Aztec Empire**

Book title: Retroactive 1 NSW Australian Curriculum History Stage 4

Authors: Maureen Anderson, Ian Keese and Anne Low

Year published: 2013

City: Milton, QLD

Publishers: John Wiley & Sons Australia, Ltd

### **6c:2 The pre-Columbian world**

Article title: Hernán Cortés: Master of the Conquest

Website title: HistoryNet

URL: <https://www.historynet.com/hernan-cortes-master-of-the-conquest.htm>

## **Unity Assets:**

Article title: Stylized Earth - Asset Store

Website title: Assetstore.unity.com

URL:

<https://assetstore.unity.com/packages/3d/environments/landscapes/stylized-earth-94673>

Article title: Green Arrow Green Left Clip Art at Clker.com - vector clip art online, royalty free & public domain

Website title: Clker.com

URL: <http://www.clker.com/clipart-green-arrow-green-left.html>

Article title: Tab Close Button, Close Button, Close Window Icon With PNG and Vector Format for Free Unlimited Download | Pngtree

Website title: Pngtree

URL: [https://pngtree.com/free-icon/tab-close-button\\_42014](https://pngtree.com/free-icon/tab-close-button_42014)

Article title: Liberation Sans Font | dafont.com

Website title: Dafont.com

URL: <https://www.dafont.com/liberation-sans.font>

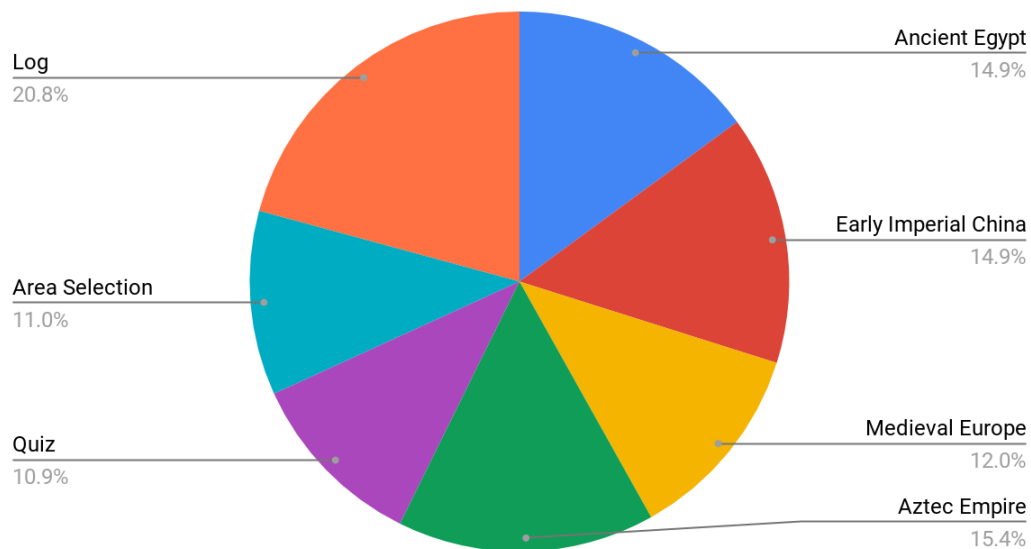


## Producing Solutions

### 1. Prototyping feedback

On the 6th August 2019, the group went to Mrs Whale's year 7 history class to demonstrate "History In Your Hands" and use the students as a test audience. While we were there, we provided each of the students with a feedback sheet that asked them a series of questions. The question seen in the pie chart below is "Which part of the program was the most fascinating?" The students answered this question by ordering each section of the program from 1 to 7, with 1 being the best. This chart displays the class' favourite section of the program being the quiz, as they found it to be the most enjoyable and fascinating.

**History In Your Hands - Year 7 Feedback**



### 2. Group Reflection

In creating the educational program we have learnt many things, including how to create the visual aspect of the program through the Unity software and how to make the objects on the screen work as we want to, using the C# language. When the group decided that the program was ready, we proceeded to organise a set time with Mrs Whale where we would go to her classroom and give the class a chance to try out the project. Since the topics were based on what the year 7 history class was studying, it was a perfect time to present our program to the class. In order to present the application to the entire class, we transferred the program to every student's laptop using multiple USBs while Andrew explained how to use the program to the class. After the class experienced the program, our group asked them to complete a feedback sheet which contained

questions about the program and a section that allowed them to give some general feedback. The group received several positive responses and constructive feedback from the year 7 students. This information allowed us to ensure we had a fun but educational experience in our program.

From receiving the feedback given to us by the year 7 history class, it has also helped us identify many glitches and logic errors that weren't apparent to us previously, including incorrect scores (such as scores of 11/8 in the quiz and 5/4 easter eggs found). The experience allowed us to feed forward and improve our program by fixing all the mistakes found in presenting it to Mrs Whale's year 7 history class.

Andrew:

Being the coder and designer of "History In Your Hands", my position was mostly directed towards creating the visual aspect of the program through positioning the GameObjects and getting those GameObjects to work in their designated way by using the object-oriented scripting language, C#. Through countless hours of research and trial & error, I can confidently say that learning C# and how to use the Unity designer was a huge learning curve.

Harrison:

As the artist for the program, the two main problems I encountered were time management and because it was my first time drawing digitally using a tablet. Looking back I should have set a better timetable and set my own deadlines for each drawing. The lines didn't feel as smooth and everything felt a bit duller. This was due to the fact that I found it hard to blend colours, and shading was very different compared to pencil and paper. Overall, the art was very fun and helped me understand many things better. Such as time management, drawing digitally and working as a team to come up with better and more interesting ideas.

Alex:

My role in creating the program, was to research the information on various topics and objects, so that Andrew could put it straight into the program. I helped think of some ideas that were later implemented into the program, this contribution later assisted Andrew in completing the final product. With the ideas we all helped come up with and our skill in coding we were able to create our program as we imagined.



Max:

My job in the development of the program was to provide Andrew with the relevant information required in the program. I also played a small part in the design as I was consulted about many design features and what the final product would hopefully look like. With the help of Harrison, Alex and Andrew, the program is even better than the original design in our storyboard.

**By Andrew Youssef, Alexander Vlouhos, Harrison Brereton and Max Efremidis**



## History In Your Hands Feedback



Did this program help improve your knowledge of the year 7 syllabus?

☒

Yes

☐

No

Which part of the program was the most fascinating?  
(Please Order from 1 to 7, with 1 being the best)

Ancient Egypt

Quiz

Early Imperial China

Area Selection Screen

Medieval Europe

Log Screen

Aztec Empire

### General Feedback

There were a few glitches but overall I ~~enjoyed~~ enjoyed it! Loved the EPIC GAMER AWARD!!

### History In Your Hands

By Andrew Y, Harrison B, Alexander V and Max E

## History In Your Hands Feedback



Did this program help improve your knowledge of the year 7 syllabus?

☒

Yes

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No

Which part of the program was the most fascinating?  
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Log Screen

Aztec Empire

### General Feedback

Was very fun to play especially the easter eggs that you added. I even got the epic gamers award.

### History In Your Hands

By Andrew Y, Harrison B, Alexander V and Max E

## History In Your Hands Feedback



Did this program help improve your knowledge of the year 7 syllabus?

☒

Yes

☐

No

Which part of the program was the most fascinating?  
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Log Screen

Aztec Empire

### General Feedback

I enjoyed the program in general and it was really fun (Also we don't use computers much in history)

### History In Your Hands

By Andrew Y, Harrison B, Alexander V and Max E

## History In Your Hands Feedback



Did this program help improve your knowledge of the year 7 syllabus?

☒

Yes

☐

No

Which part of the program was the most fascinating?  
(Please Order from 1 to 7, with 1 being the best)

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Log Screen

Aztec Empire

### General Feedback

If you click the Easter eggs more than once you will get example 5/4 and will not give me the Epic Gamer Award!! The quiz also gave me 10/10? 10/10 would have been again I got Epic

### History In Your Hands

By Andrew Y, Harrison B, Alexander V and Max E



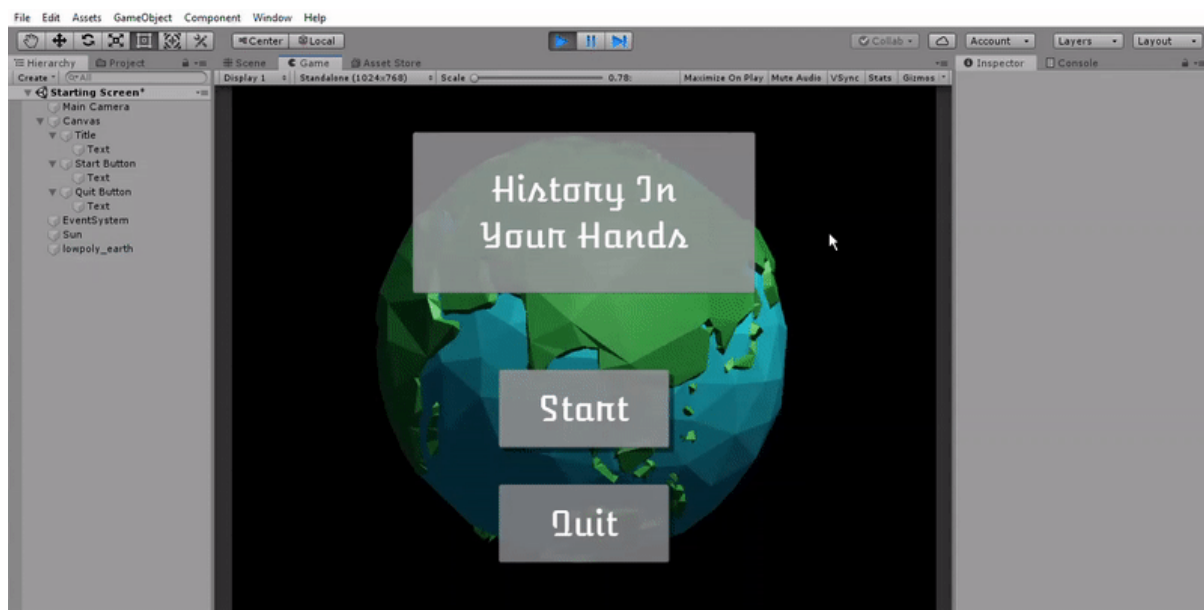
# Evaluation

## 1. Comparative Analysis

- How close to the original design is the final product?

From the time at which the storyboard was submitted, there have been many positive adjustments and entirely new features added to the educational application. The changes made to the program include:

- The colours that we assigned to the different functions of the buttons initially looked weird.



*The “Start” button contains the new button format and the “Quit” button contains the old format*

- On each of the four locations, we kept the same background except for two. China and Europe were the only two locations that we changed the background for, the change was because it suited the item images better than the previously used backgrounds.
- Within these locations, the added use of the unity particle system was added to each of the items. This was used instead of a particle effect gif.
- The addition of a quit button was added to every screen except for the location selection and log screen.

- A major addition that was included into the program was the quiz. The inclusion of questions in the application, added to the already existing interactive learning functionality to History In Your Hands.

## 2. Instructional Video

- Create an instructional Video that navigate the screen layouts and functions of your finished application

See the “IST Task 2 2019 History In Your Hands Tutorial Video - Andrew Y, Alexander V, Harrison B and Max E” mp4 file in submission.

## 3. Final statement

- How effective have you been in solving the problem you identified in this project?

Our group strongly believes that we effectively reached our goal in creating a program for year 7 students. This encourages them to learn about history in our creation of a virtual and interactive world through the use of the Unity Engine. The feedback from the year 7 students was positive overall but included a few issues that were pointed out to us, so we then went and resolved the problems. Altogether, our program effectively responded to the issue outlined in our original problem statement.

**By Andrew Youssef, Alexander Vlouhos, Harrison Brereton and Max Efremidis**

Tutorial Video:

<https://youtu.be/mXBGB-SwRCc>

The Application:

<https://andrewyoussef.itch.io/history-in-your-hands>