



Figure 1: Children's train ride. Pixabay (2014)

Concept Document

For Major Project Web Application

Design Computing Studio 1 (DECO1800)

By Team G:

Brian Stewart - 44493660

Yaxin Wang - 44154626

Sylvia Wu - 45188543

Steven Yulong Yan - 45065596

Joshua Zhou - 44860794

Project brief

Purpose

The aim of this website is to provide a fun and interactive learning experience to a young audience. We believe that many kids see history as a boring subject and therefore have no interest in learning more about it. We are attempting to address this issue through a website that will focus heavily on user interaction and feedback. This hopefully will make learning a fun and relevant experience, making sure the target audience stays engaged and interested in the content we provide. So then naturally our theme will be focused on the history of Queensland and how locations have changed throughout events in time.

Functionality/scope

The website will operate roughly as a point and click type game. The home screen will introduce the user to a train of their choice (an option will be included to change the train), and once the story begins, the train acts as a companion to the user as they travel to different locations throughout Queensland. The user can decide which area they would like to visit by clicking red pins on a map. Each pin corresponds to both a location and a year.

In terms of interaction, we have two main aspects:

- Clickable objects
- Mini games

The clickable objects refer to images and graphics that are placed around the scene/location that the user is currently visiting. When clicked they provide a small amount of additional information and images rather than making the user read walls of text.

The mini-games are also accessed through the clickable objects. Occasionally instead of showing an image, an object may redirect to a mini game. These games will be simple and not too difficult to complete. An example of a mini-game would be a simple memory matching game or a guessing game.

The game ends when the user has found all objects and completed all activities for each location on the map. The user can then opt to finish the game where they will be taken to a victory page to celebrate with characters they have encountered along the way.

Background inspiration and research

We started with two different ideas of how to approach this design:

1. Create a website featured with a train that takes the user onto an exploration of Queensland element, e.g. Queensland newspaper, Queensland pictures, music and aboriginal languages.
2. Create a time-honoured style of Old Queensland similar to a feel of a museum with a bit of an antique style.

After a series of discussions and brainstorming, the team settled on combining both of the original ideas, as they complimented each other well. The website would be better in this case for three main reasons:

1. We are in fact making a website for the government that has an educational nature.
2. Our user demographic is more focused on teenagers or young adults. (Note that later we decided to focus only on children aged 8-12 years old)
3. The audience are more likely to find it acceptable.

The following are some websites that have influenced our design process.



Figure 2: Inspirational website - Thomas the Tank Engine. Gullane (Thomas) Limited. (2018)

Thomas and Friends: <https://play.thomasandfriends.com/en-au/engines>

This vibrant website consists of a journey with a multitude of trains for selection. It has a childish and friendly style incorporating a variety of distinct colours. The user, especially a child at the age of 8-12 years old (our target audience), could be easily attracted to this website. The scenario of this website is yet another significant aspect for us to notice. As can be seen in the picture above, the user could choose to partake in a mini game in which they interact with the train they select and play games with them. There is caption and profile for every train available as well as their settings/characteristics. The videos are some animations of the trains the user can have fun with. For a kid this entire website would be immensely entertaining with the inclusion of some educational aspects. It serves in similar purposes as our website which is to introduce, interact and improvise.



Figure 3: Inspirational website - Kidszone. School Website Kids Zone. (n.d.)

Kidszone: <http://kidszone.schoolwebsite.co.uk/>

This website is brilliant in navigation and exploration. We were inspired by its outstretched thinking of arranging items and jumping to-and-fro. The website has a demonstration of different items scattered around for users to explore. What is intriguing is that the user can go in whatever directions, horizontally, vertically and in a selected angle. The objects on the page is fabulously designed in the way that they are ripe for exploration. For example, the user can click on a nut tree, and the nuts would pop up waiting to be clicked. There are a multitude of hidden factors in the objects as well. A good example of that is the trees in

which the animals live, and these are precisely targeted for users who would love to interact.



Figure 4: Inspirational website - Brogdale CIC. About Brogdale CIC - community interest company. (n.d.).

Brogdale CIC: <http://brogdalecic.co.uk/about/>

We did not think that web home page should be largely focused on text. Therefore, we set out to find if there are any existing websites with home pages that already implement a good balance of text and image. Although this is for the about page of Brogdale's website, we really liked that a page could appear to have layers and a background that only covers a portion of the page leaving the content intact.



Figure 5: Inspirational website - Kids History. Kids Past. (2018).

Kids History: <https://kidspast.com/>

This website was mainly to serve as an example of issues that we are trying to address. The website has a similar concept and purpose, however suffers from several flaws. For example, when you visit a section, the content is mainly text with a few images. The text itself also seems to be aimed at more mature audiences, containing words that a younger child might not be able to understand.

The games that are featured on the website are not very educational, they appear to be more focused on the gameplay aspect instead of focusing on learning history. The game itself is also unrelated to history, e.g. one game was a ship flying through space shooting meteors. While a good concept, it is not very relevant.

We plan to differentiate ourselves by including a user interaction that is not heavily reliant on text but instead a user centred design that incentivises learning. This is done through interactive elements and games which balances education and fun.

Demographics and personas

Target demographics

There were initially two versions focusing on two demographics:

1. Children at the age of 8-12
2. Teenagers featured with a childish style and more vibrant colours

Not only do we need to consider the users who are spontaneously interested in the Queensland style, but also the potential influence we could build upon by making our design more educational. We hope that the website could trigger the response over most teenagers by having a more vibrant and interactive style that appeals to them. Better facilitation regarding education on the history of Queensland no doubt would contribute towards the understanding and cognition of contemporary Queenslanders, conclusively leading to more people participating in the preservation of this profound tradition and passing it on to all posterity.

We will be targeting children of all personalities who are either excited about Australia and its history or children in school who may have been prescribed the website as homework.

Personas

Target Audience Emily



Figure 6: Emily's persona. Picture designed by Freepik from Flaticon. Created using Xtensio, INC. (n.d.).

Target Audience Eric

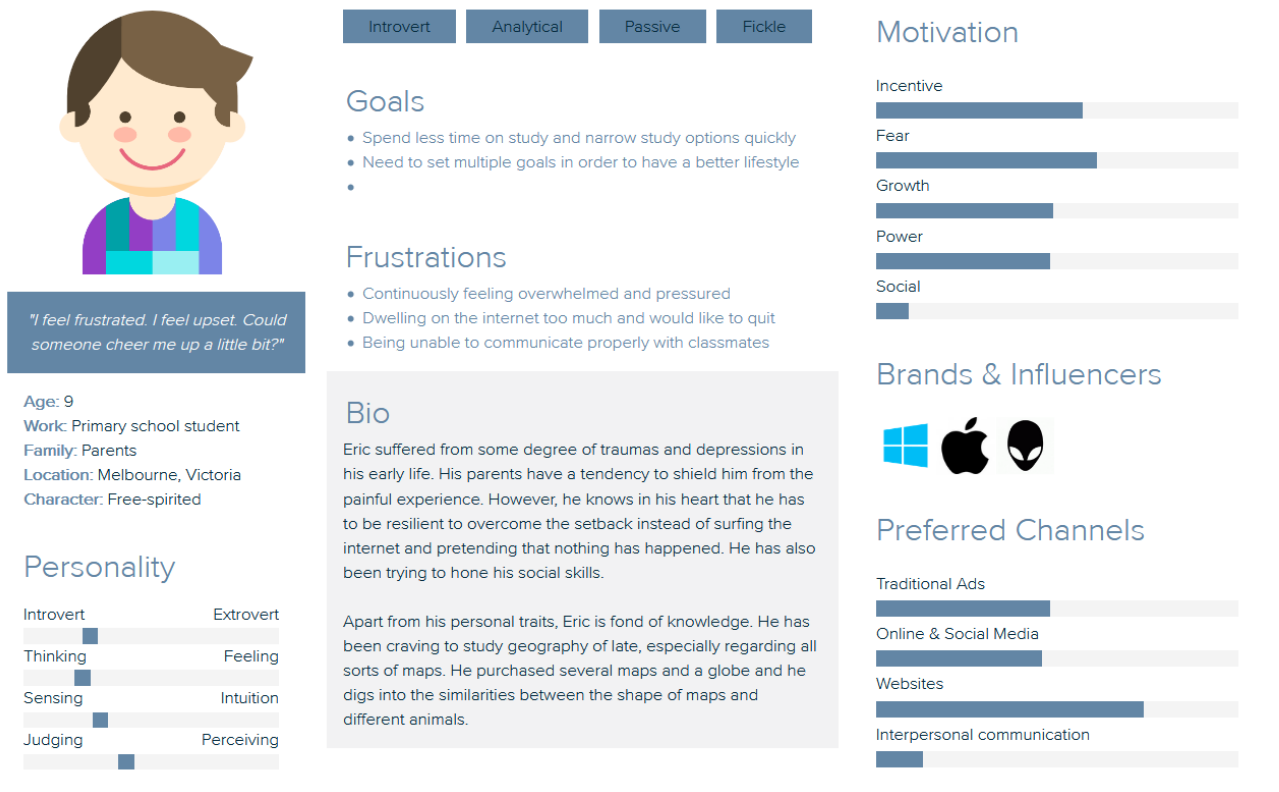


Figure 7: Eric's persona. Picture designed by Freepik from Flaticon. Created using Xtensio, INC. (n.d.).

Target Audience Elizabeth



"Is painting my life? Not exactly, I wish to become a tennis player and a painter who paints mystic arts."

Age: 10

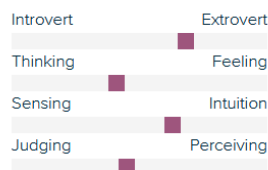
Work: Primary school student

Family: Parents and grandparents

Location: Perth, Western Australia

Character: Multi-dimensional

Personality



Extrovert

Passionate

Self-esteem

Goals

- Excel at all kinds of painting
- To be able to play tennis very well
- Be a professional painter
- To help others become achievers

Frustrations

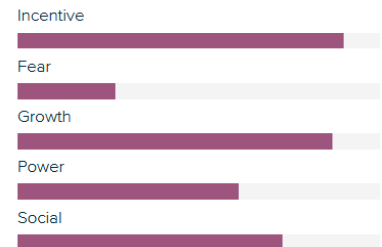
- Not enough time to complete everything at the same time
- Lack of freedom in terms of utilising spare time
- Other people are not able to live up to her expectation

Bio

Apart from going to school, Elizabeth participates in a variety of extracurricular activities such as painting and playing tennis. Additionally, she is extremely fond of Harry Potter books, films and collections and has plenty of them in store. She purchased lots of scripts as well and continues to better them using computer skills taught by her parents. She appears to be relatively more mature compared to her peers.

In school, she uses her laptop to finish her self-allocated work but at home she prefers iPad and iPhone. She also actively criticises things that she deems inappropriate and pays attention to details that few of her contemporaries could perceive.

Motivation



Brands & Influencers



Preferred Channels

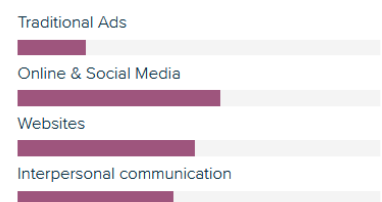


Figure 8: Elizabeth's persona. Picture designed by Freepik from Flaticon. Created using Xtensio, INC. (n.d.).

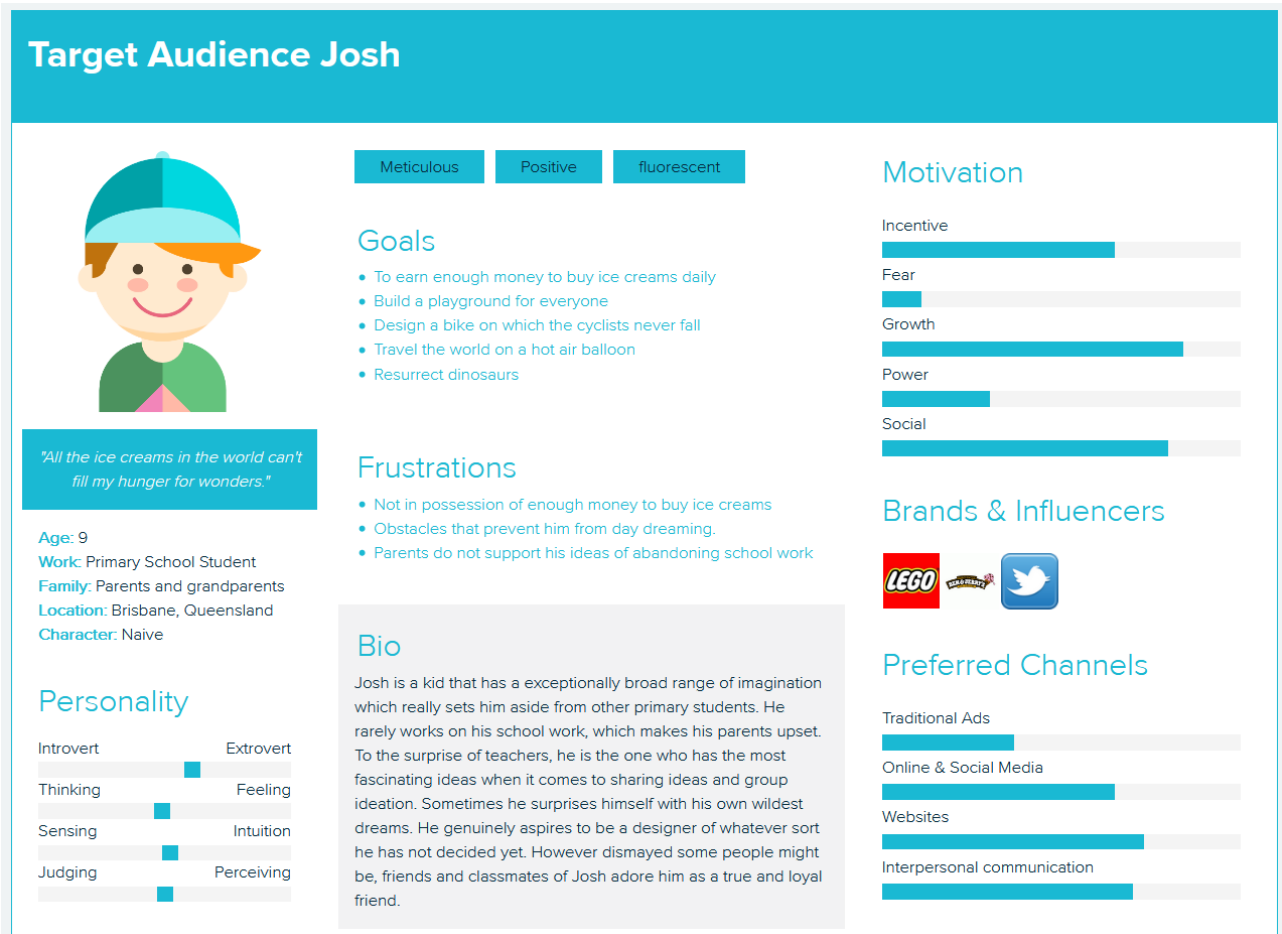


Figure 9: Josh's persona. Picture designed by Freepik from Flaticon. Created using Xtensio, INC. (n.d.).

Aspects of the SLQ content used

We will be using several of the State Library of Queensland's APIs to enrich the website with different primary sources of Queensland's history. Each API will pull in a random asset from the dataset which will create a dynamic user experience. We will also be using Google's Map API to position points of interest on a map for the user to select.

WW1 portraits

Aspects used: The primary use of the WW1 portraits will be for a mini-game where the user must find the correct portrait to pass the game. The portraits will also be used as a clickable photo frame object within each "Exploring the year" page. These photo frame objects will only be included within the years that have a WW1 portrait associated with it. The aspects of the API we will be using are the:

- "Title of image" to display a brief description under the photograph.
- "Full name" to display the full name of the person in the portrait at the bottom of the photograph.
- "Temporal" to display the year at the bottom of the photograph. This will also be used to find which photographs are displayed in each year.
- "Thumbnail image" for the photographs displayed on the screen before the user clicks on them.
- "High resolution image" for displaying the photograph when the user clicks on the thumbnail image.



Figure 10: Portrait of a WW1 soldier. State Library of Queensland - World War 1 soldier portraits. (2015).

Purpose: We are using the portraits dataset within the website to both show the user the style of photographs around the early 20th century, and to give some history about the war (in a child friendly way).

Example of dynamic user interaction: The user will come across a WW1 soldier who asks the user to find his portrait. The user will see a thought bubble above the soldier's head which shows a portrait photo, which changes for each user playing the game. A mini-game will then start where there are multiple portraits photos on the screen which the user must choose the correct one. When the user finishes the mini-game they can talk to the man again who talk a bit about his life around this time.

Aboriginal and Torres Strait Islander languages word lists

Aspects used: The primary use for this dataset is for a word matching mini game where the user must match up the indigenous word to the English translation. The aspects of the API we will be using are the:

- "English" to display the English definition of the word

- "[particular language selected]" to display the original word in the random indigenous language selected.
- "Pronunciation" used in the interactive object containing all the words and definitions. There will be an audio button that will contain someone speaking the word using its pronunciation.

_id	English	Barung...	Pronunc...
1	Arm	Ginni	Gin-nee
2	Beard	Yiga	Yee-gah
3	Blood	Dunde	Doon-dee
4	Body	Djam	Jarm
5	Bone	Deeal	Dee-ahl
6	Ear	Binung	Bin-ung
7	Elbow	Gooa	Goo-ah
8	Eye	Mii	Mee
9	Face	Nguar	Noo-ah

Figure 11: Indigenous words and their English translations. State Library of Queensland - Aboriginal and Torres Strait Islander languages word lists. (2017).

Purpose: We are using the Aboriginal and Torres Strait Islander languages word list dataset within the website to educate the user more about our indigenous population and that different tribes that existed around Australia.

Example of dynamic user interaction: The user will come across an indigenous person (in one of the “Exploring the year” pages) who will talk to the user in his native language. The user will then have to complete a mini-game to match up the Aboriginal or Torres Strait Islander word to its correct definition. The user should remember definitions of these words found previously in one of the interactive objects. The words and language chosen will change for each user playing the game. Once the user finishes the mini-game they will be able to understand the indigenous person who will tell them when and where the language was spoken.

Music scores

Aspects used: The primary use of this dataset is to have a hidden music sheet somewhere on the screen that the user must find. The aspects of the API we will be using are the:

- “Title” to display the title at the bottom of the sheet music image.
- “Creator” to display the composer at the bottom of the sheet music image.
- “Coverage” to display the year at the bottom of the sheet music image.
- “150_pixel” for the sheet music image displayed on the screen before the user clicks on it.
- “1000_pixel” for displaying the sheet music when the user clicks on the thumbnail image.

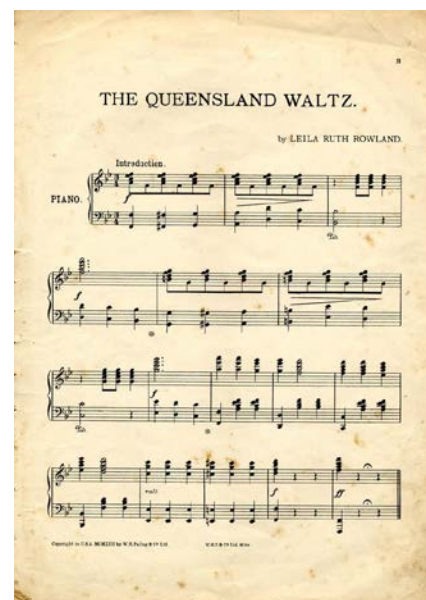


Figure 12: Old sheet music. State Library of Queensland - Music Queensland. (2013).

Purpose: We are using the dataset containing music scores to show the user how music scores look and to give a brief history of musicians around this time.

Example of dynamic user interaction: The user will come across a musician who will be looking for his sheet music for his favourite musical piece. The user will have to look around to find the sheet music and then talk again to the musician. The lost sheet music will be a different musical piece for each user that plays the game. Once the user returns the lost sheet music the musician will talk about great musicians of the past who inspired him.

Newspapers

Aspects used: Newspapers will be scattered around each “Exploring the year” page, which the user can click on and read. The aspects of the API we will be using are the:

- “Title” to display the title at the bottom of the newspaper image.
- “Temporal” to display the date at the bottom of the newspaper image. The date will also be used to determine which year the newspaper appears in.
- “Description” to provide a short description under the newspaper image.
- “150_pixel” for the newspaper images displayed on the screen before the user clicks on them.
- “1000_pixel” for displaying the newspaper when the user clicks on the thumbnail image.



Figure 13: Old newspaper. State Library of Queensland - The Queenslander newspaper photographs 1914-1918. (2015).

Purpose: We are using this dataset to show the user what newspapers looked like in the early 20th century and as a narrative catalyst to educate about the currency and living conditions (in a child friendly way).

Example of dynamic user interaction: The user will come across a newspaper boy who is selling newspapers for a small amount of money. The user will have to find the scattered coins around the place and purchase a newspaper. The newspaper purchased will be different for each user who plays the game. The newspaper boy will then talk about briefly about his life as a newspaper boy.

Annotated wireframes

These wireframes represent early design concepts and functionality that we have planned for the website. Our initial designs involved a home page, map page, main page and a mini game page.

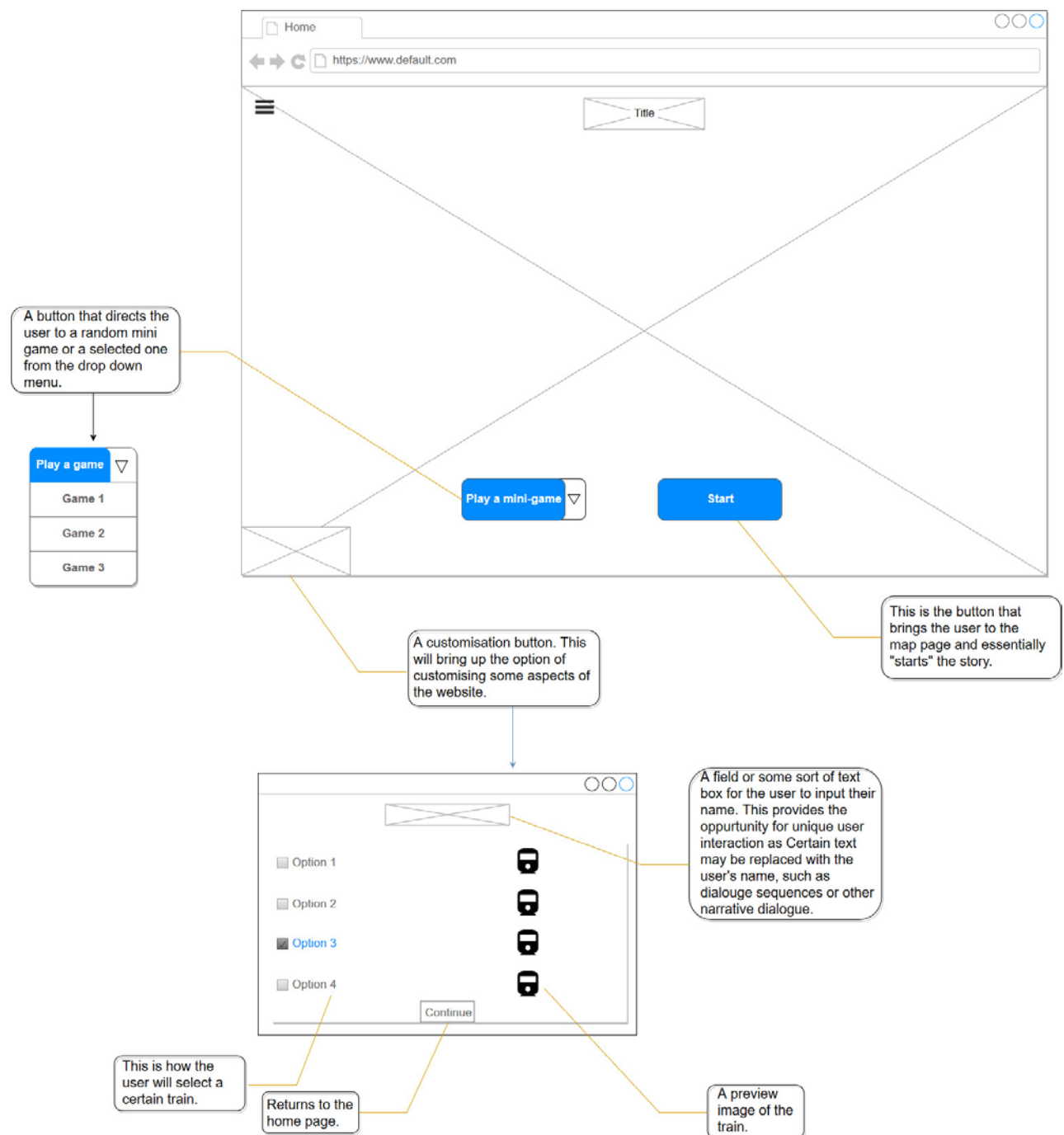


Figure 14: Wireframe for homepage. Create using JGraph Ltd. (n.d.)

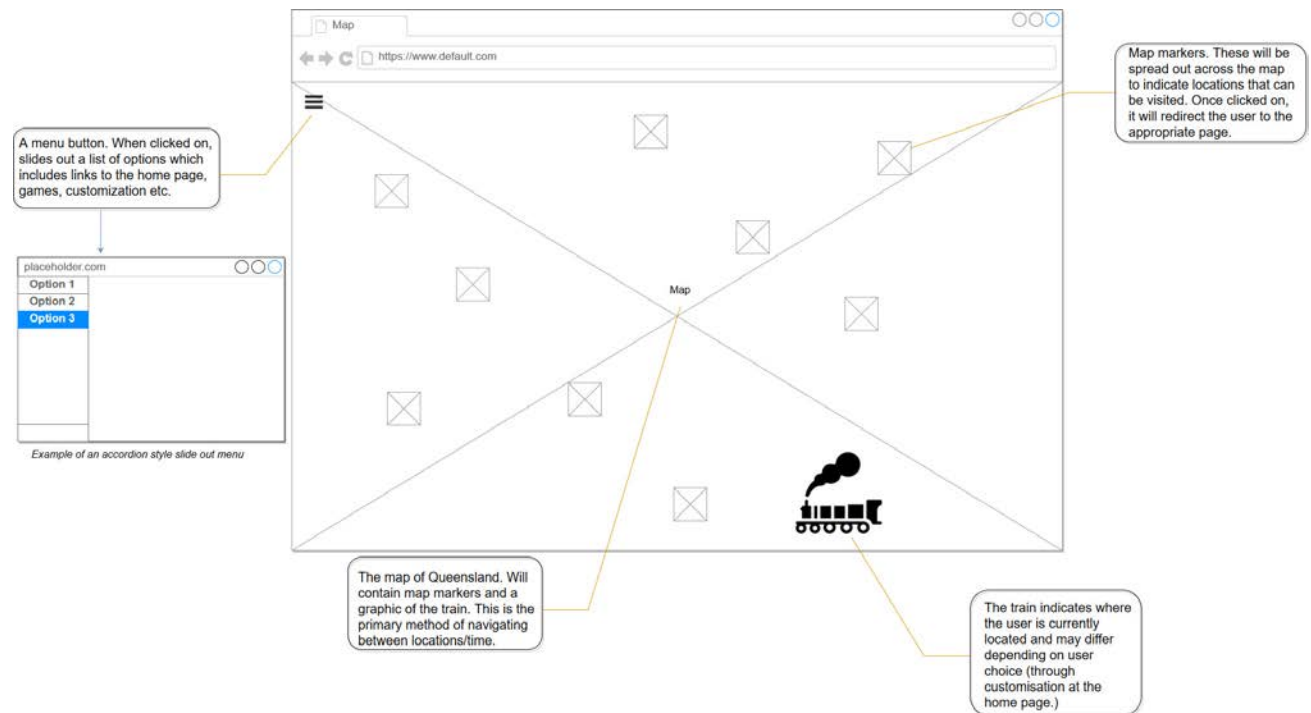


Figure 15: Wireframe for map page. Create using JGraph Ltd. (n.d.)

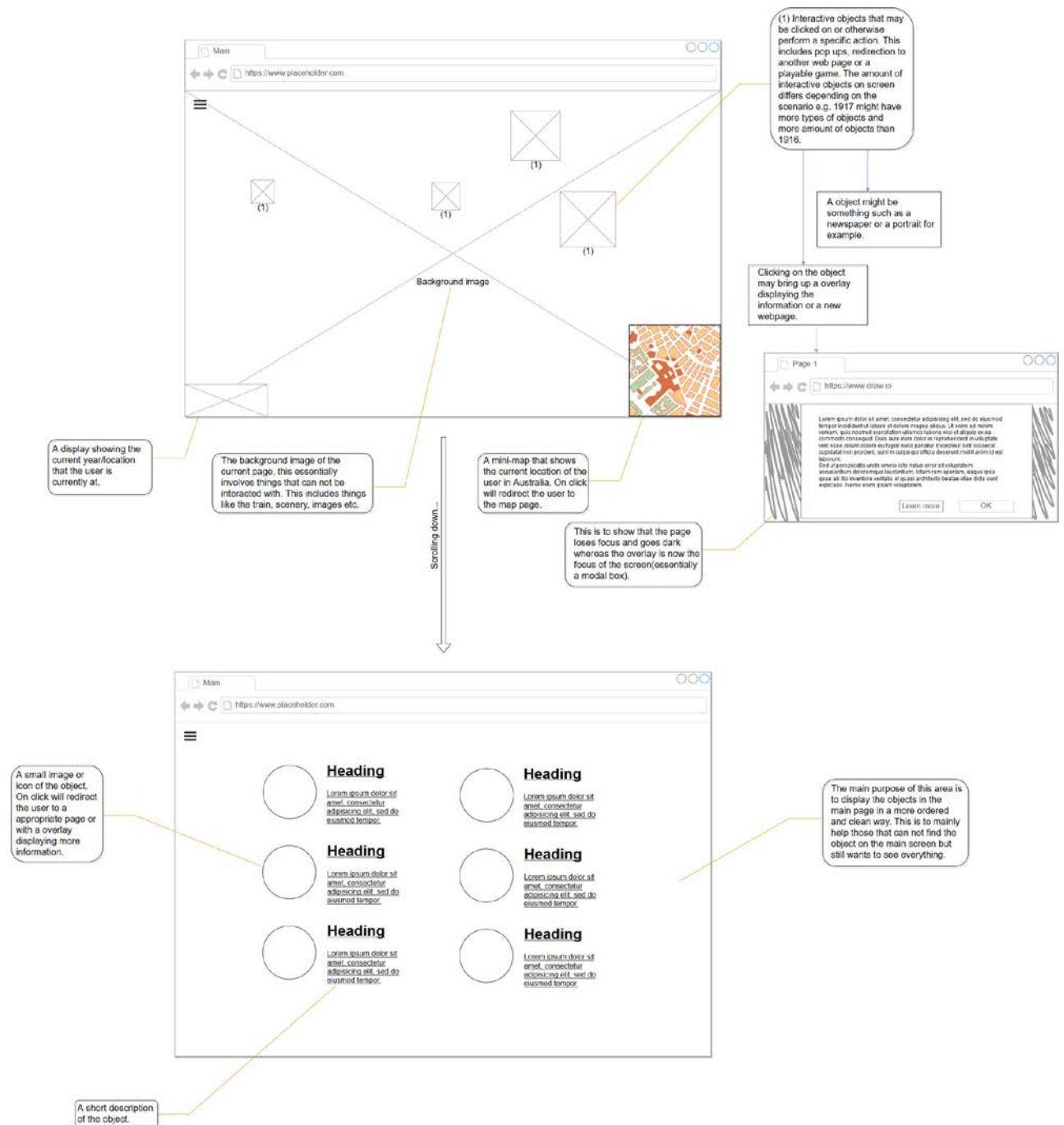


Figure 16: Wireframe for exploring the year page. Create using JGraph Ltd. (n.d.)

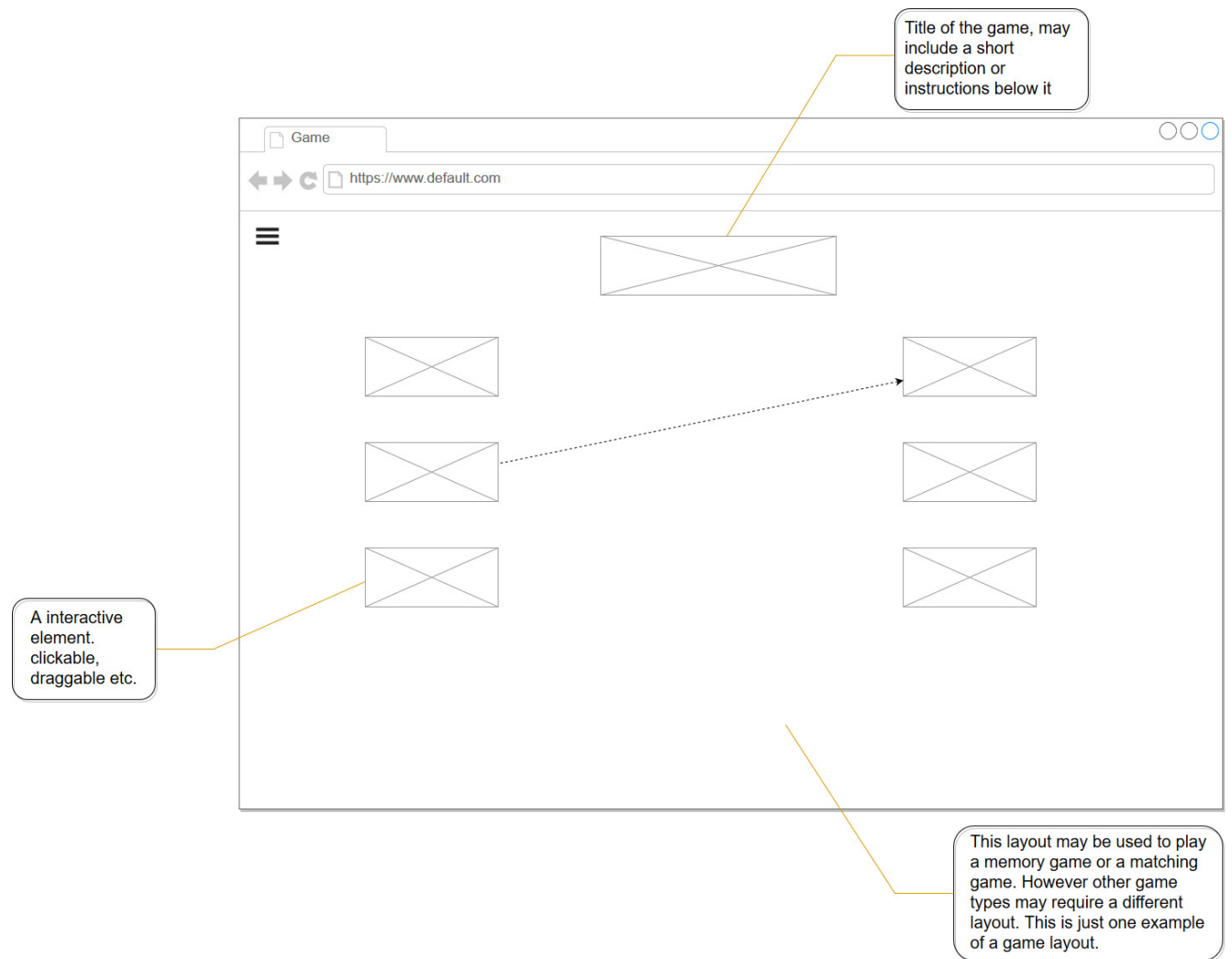


Figure 17: Wireframe for mini-game page. Create using JGraph Ltd. (n.d.)

Low fidelity concept sketches

Home page

For the homepage we are looking for a clean and vibrant feel. Only a few clickable elements exist on this page so that the user quickly understands the options they can perform. We are looking to include a green scenery with possibly a blue sky to give a welcoming nature feel.

When the user clicks on the "Train Select" a popup window appears containing the different trains to select. The final product will have each train with a different colour, name, face, and personality.

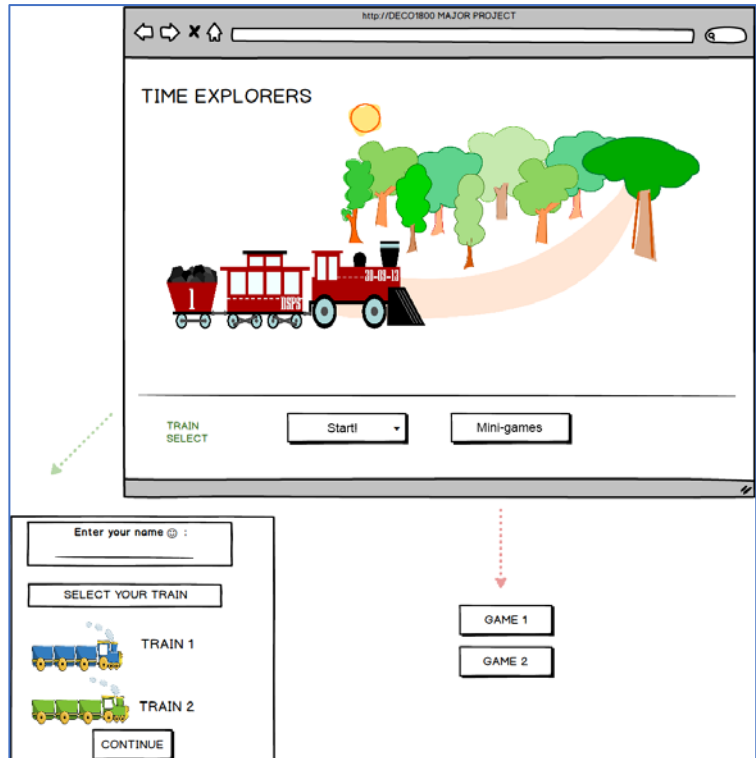


Figure 18: Low fidelity version of the homepage. Red train image by pl402. (2013). Forest image by bratac. (2008). Green train image by Firkin. (2018). Blue train image by Firkin. (2018).



Figure 19: Low fidelity version of the map page. Red train image by pl402. (2013).

Map page

The background of the map page will be Google maps with several pins laid out around the screen. The train the user selected will be prominent on the map and moving to the location the user selected. The map will be slightly desaturated so that the red markers really stand out to the user.

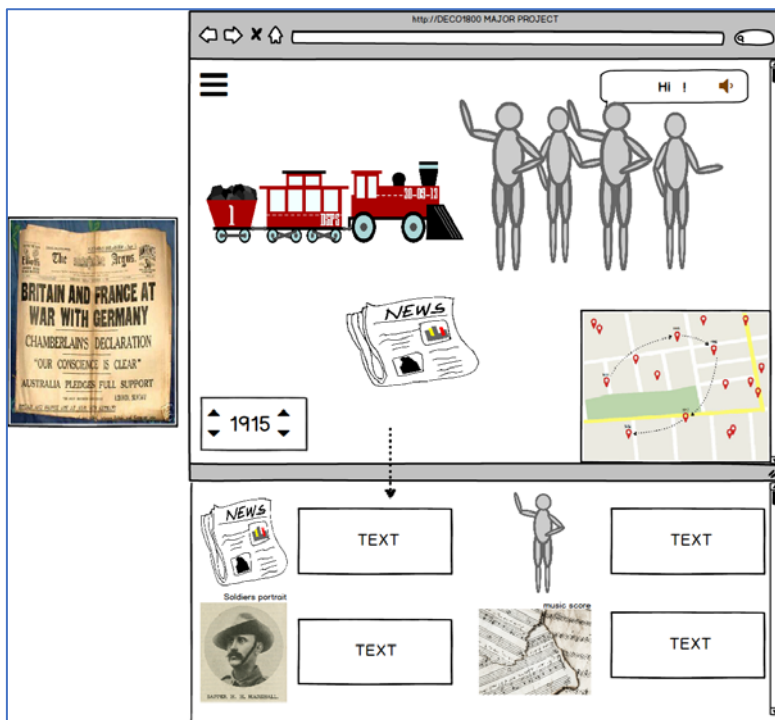


Figure 20: Low fidelity version of the exploring the year page. Red train image by pl402. (2013). Newspaper image by Vasco Soares. (2013). Man waving image by jetxee. (2008). Man standing with arm out by jetxee. (2008). Music sheets image by Ylanite Koppens. (2018). WW1 portrait. State Library of Queensland - World War 1 soldier portraits. (2015). Old Newspaper. State Library of Queensland - The Queenslander newspaper photographs 1914-1918. (2015).

Year selected page

This screen will have an animated/cartoon theme with the train they have selected, person to talk to for that year, newspaper, and smaller clickable objects. The year and map are both displayed at the bottom of the page. They will both be desaturated as to not take the focus away from the main section of the page.

When the user scrolls down they see the list of objects they can select in the screen. The objects they have already clicked are coloured in where the objects yet to be clicked on are grey.

Mini-game page

This is an example of the word match game for the Aboriginal and Torres Strait Islander words and definitions. The left column of options will contain the indigenous words and the right column will contain the English definitions. When the user has linked up all the words, a red cross or green tick will appear to show whether they have the correct answers.

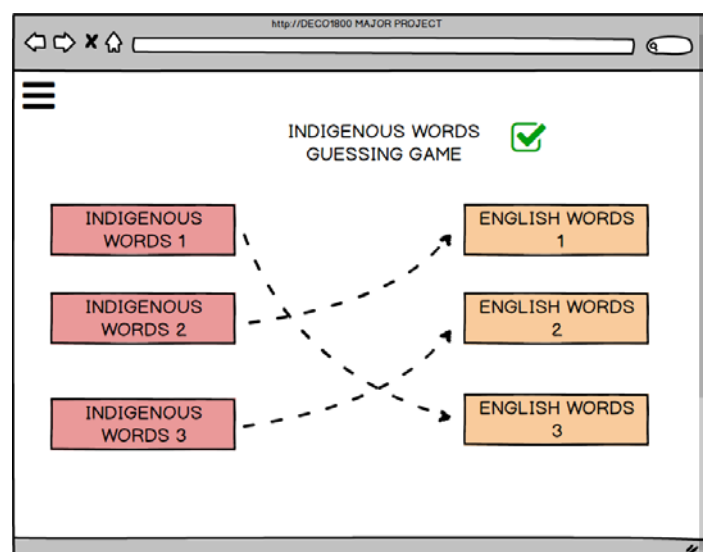


Figure 21: Low fidelity version of the mini-game page.



Figure 22: Low fidelity version of the party page. Red train image by pl402. (2013). Man waving image by jetxee. (2008). Man standing with arm out by jetxee. (2008). Trophy by monsterbraingames. (2014).

Party scene page (ending)

All the friends they have met along the way are at the bottom of the screen partying with the train the user selected. Streamers and balloons will be in the background. A trophy will be displayed with all the years the user travelled while playing the web application. This screen will also have a vibrant cartoon feel.

Task flow

This task flow captures the different pathways the user can take through the web application. There will also be a menu icon on each page that allows the user to jump back to the home page, mini-games page, or about page.

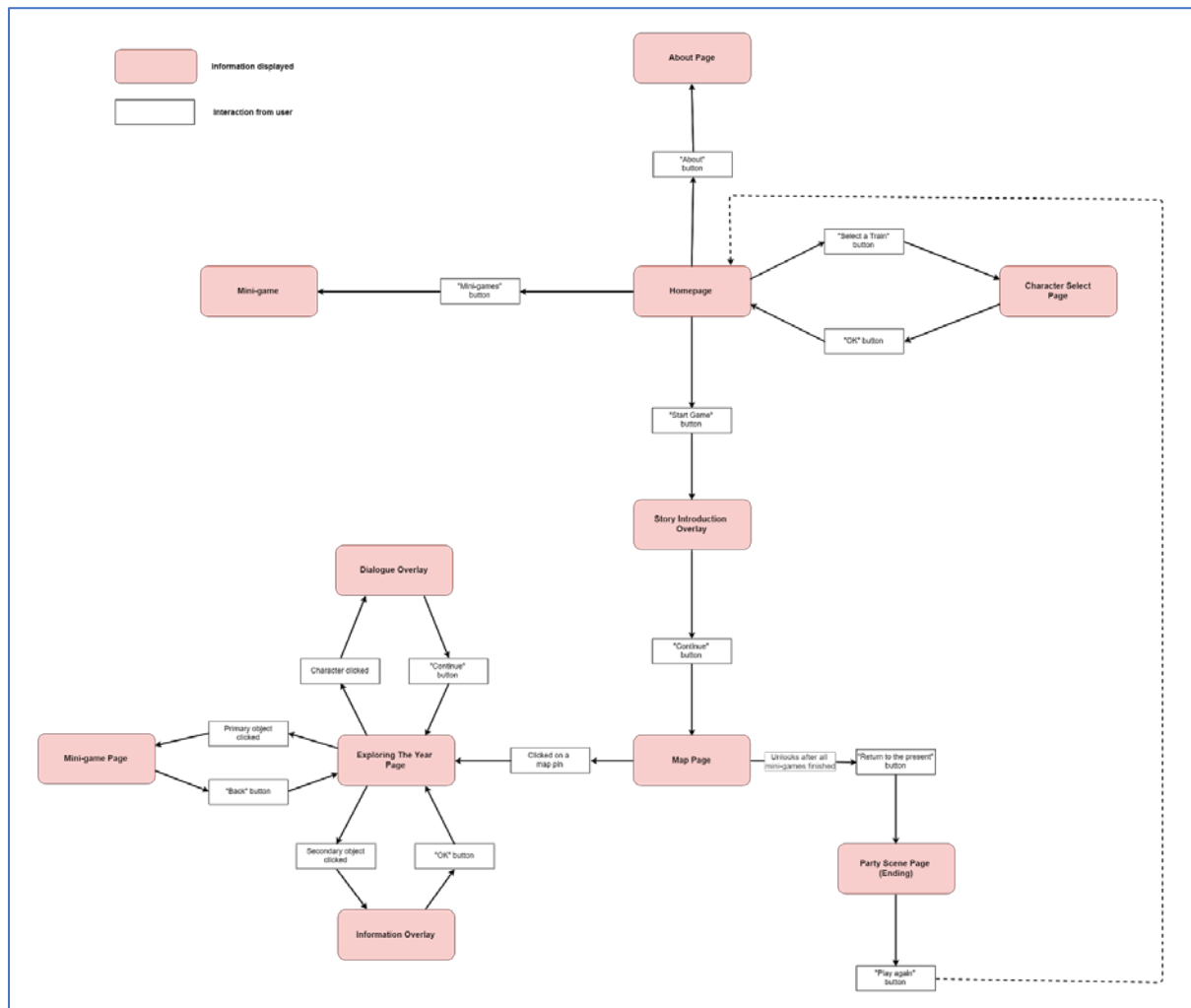
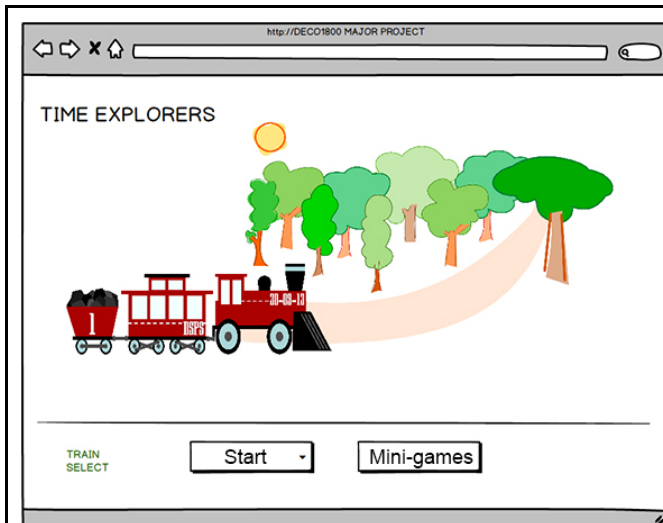
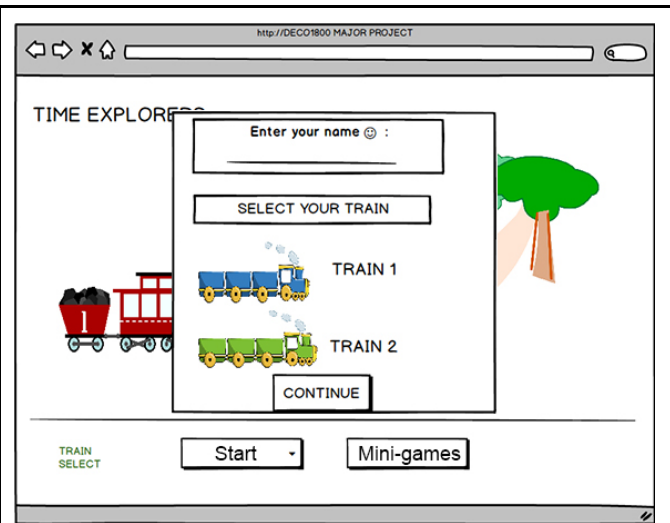


Figure 23: Task flow. Created using JGraph Ltd. (n.d.)

Storyboard



Emily's school has mentioned a web application to play through that teaches early 20th century history in a fun interactive way. Some of her friends have already completed the web application and have started to talk about it during lunch time. Emily has decided to see what it is about, so she doesn't miss out.



Interested to make it her own unique story she enters her name and looks through the trains to select. As her favourite colour is red she selects "Roger the Rapid" as her train character.



Emily reads the story introduction and starts to get involved in the story. She understands that



Emily realises that it is a real map of Australia and quickly understands that each pin is a navigation option. She is excited about exploring the

the objective is to go back in time to help people out and make friends along the way.

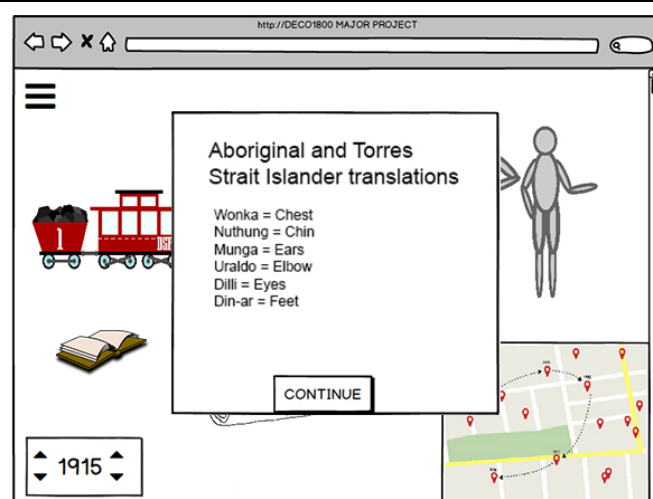
different locations, knowing that they align with real places within Australia.



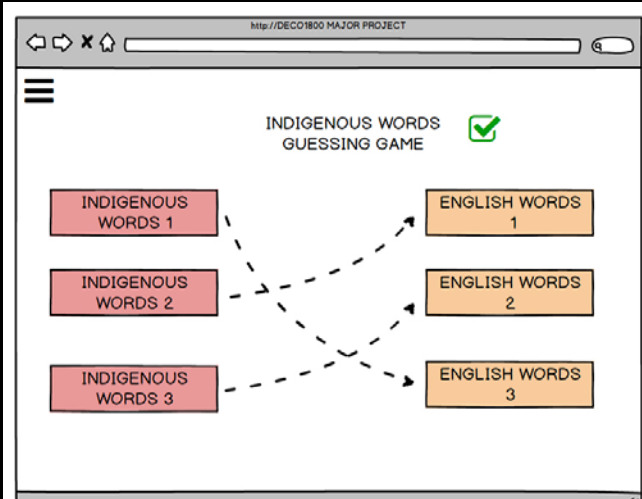
Emily, already familiar with item-finding games, hovers the mouse over different objects on the screen. She clicks on the indigenous family but doesn't understand the language they are speaking in.



Emily loves history and finds the information from each year interesting. She clicks on the old newspaper and finds the old paper and style fascinating.

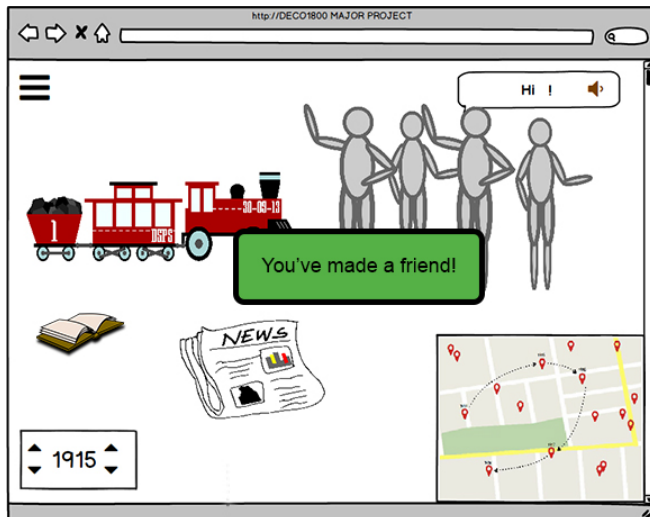


Emily clicks on an old book which displays some Aboriginal and Torres Strait Islander words with their definitions. She makes a mental note of the different words and their meanings.

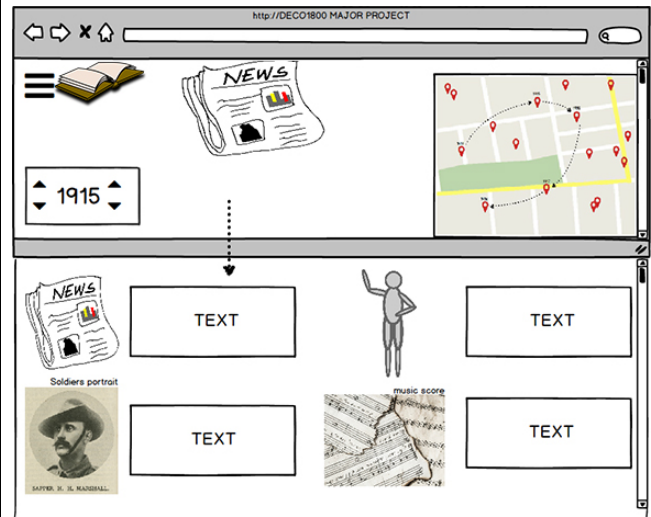


When clicking continue Emily is lead into a mini-game. This was her favourite part of the whole website. She really enjoyed matching the different words to their definition. She had to

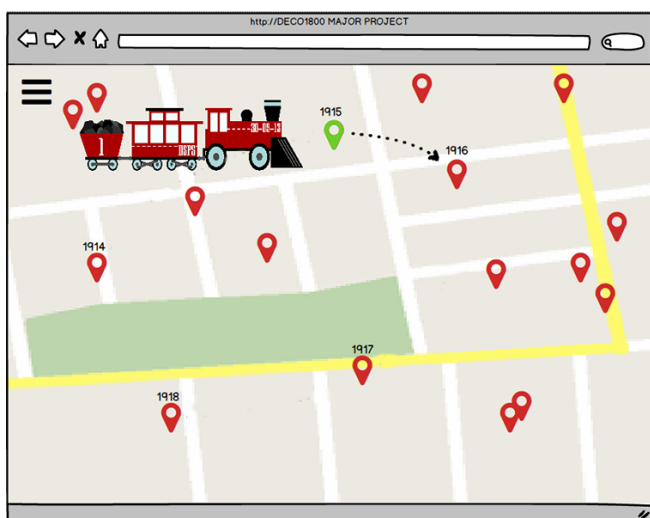
guess a couple of the words as she didn't quite remember the definition.



Emily realises that she can now understand the language spoken by the indigenous family. When clicking on the family they tell Emily about who they are and where their dialect was spoken. She then feels a sense of accomplishment as the "You've made a friend!" words pop up on the screen.



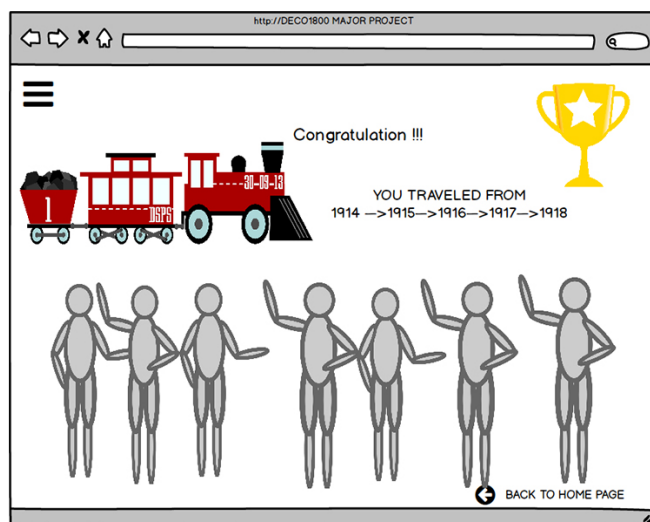
Emily believes that she has clicked all the objects on the page, so she scrolls down to check. She notices that one of the items listed, a portrait, has not been coloured in. She promptly scrolls back up and finds the item she has missed.



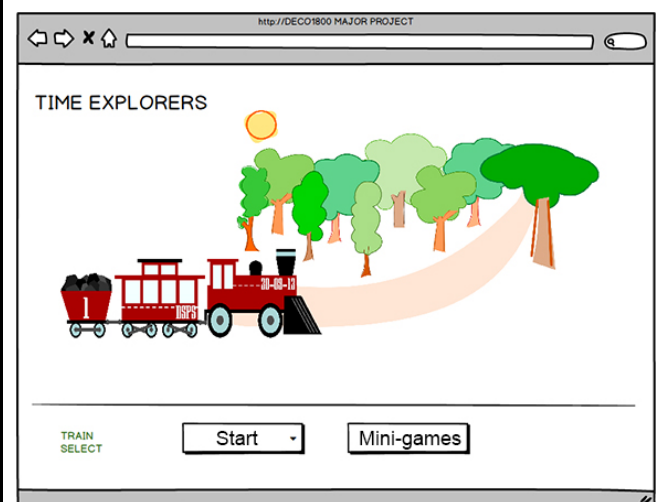
Emily completes each marker location before returning to the map page. Emily has now made

Emily has now finished finding all the items in that year. She decides to click back on the map and selects the marker for 1916.

several friends from the past and has really enjoyed the mini-games associated with each year. She notices that a new button has appeared at the bottom of the page titled "Return to present". She clicks the button to finish the game.



Emily feels a sense of accomplishment due to the trophy she is awarded. She also feels positive emotion from partying with the people she met along the way.



Emily enjoyed the game but doesn't want to do the full process again right now. She decides to click the mini game button to do just the word match mini-game. She really enjoyed the idea of learning words in different languages.

Story board images references: Red train image by pl402. (2013). Newspaper image by Vasco Soares. (2013). Man waving image by jetxee. (2008). Man standing with arm out by jetxee. (2008). Music sheets image by Ylanite Koppens. (2018). WW1 portrait. State Library of Queensland - World War 1 soldier portraits. (2015). Old Newspaper. State Library of Queensland - The Queenslander newspaper photographs 1914-1918. (2015). Trophy by monsterbraingames. (2014). Forest image by bratac. (2008). Green train image by Firkin. (2018). Blue train image by Firkin. (2018). Book image by Farmeral. (2008).

References for concept document

- Pixabay. (2014). corn-train-ride-agriculture-766193 [photograph]. Retrieved from <https://pixabay.com/en/corn-train-ride-agriculture-766193/>
- JGraph Ltd. (n.d.). Draw.io. Retrieved from <https://www.draw.io/>
- Xtensio, INC. (n.d.). Xtensio. Retrieved from <https://xtensio.com/>
- Gullane (Thomas) Limited. (2018) Thomas & Friends. Retrieved from <https://play.thomasandfriends.com/>
- School Website Kids Zone. (n.d.). Retrieved from <http://kidszone.schoolwebsite.co.uk/>
- Brogdale CIC - community interest company. (n.d.). Retrieved from <http://brogdalecic.co.uk>
- Boy free vector icons designed by Freepik. (n.d.). Retrieved from https://www.flaticon.com/free-icon/boy_164839
- Girl free vector icons designed by Freepik. (n.d.). Retrieved from https://www.flaticon.com/free-icon/girl_164852
- Girl free vector icons designed by Freepik. (n.d.). Retrieved from https://www.flaticon.com/free-icon/girl_164845
- Boy free vector icons designed by Freepik. (n.d.). Retrieved from https://www.flaticon.com/free-icon/boy_164871
- Kids Past. (2018). History For Kids - Kids History. Retrieved from <https://kidspast.com/>
- State Library of Queensland - World War 1 soldier portraits. (2015). Retrieved from <https://data.gov.au/dataset/slq-world-war-1-soldier-portraits>
- State Library of Queensland - The Queenslander newspaper photographs 1914-1918. (2015). Retrieved from <https://data.gov.au/dataset/slq-the-queenslander-newspaper-photographs-1914-1918>

State Library of Queensland - Aboriginal and Torres Strait Islander languages word lists. (2017).

Retrieved from <https://data.gov.au/dataset/slq-aboriginal-languages-word-lists>

State Library of Queensland - Music Queensland. (2013). Retrieved from

<https://data.gov.au/dataset/music-queensland>

Ylanite Koppens. (2018). *music-notes-934067* [photograph]. Retrieved from

<https://www.pexels.com/photo/music-notes-934067/>

pl402. (2018). *pequea±o-tren-little-train*. Retrieved from

<https://openclipart.org/detail/184807/pequea%C2%B1o-tren-little-train>

bratac. (2008). *Forest*. Retrieved from <https://openclipart.org/detail/17878/forest>

Firkin. (2018). *Train 2 (colour 2)*. Retrieved from

<https://openclipart.org/detail/301776/train-2-colour-2>

Firkin. (2018). *Train 2*. Retrieved from

<https://openclipart.org/detail/301775/train-2>

Vasco Soares. (2013). *Jornal News*. Retrieved from

<https://openclipart.org/detail/183225/jornal-news>

Jetxee. (2008). *people near a blackboard*. Retrieved from

<https://openclipart.org/detail/16413/people-near-a-blackboard>

Jetxee. (2008). *people near a blackboard*. Retrieved from

<https://openclipart.org/detail/16412/people-near-a-blackboard>

Farmeral. (2008). *book icon*. Retrieved from <https://openclipart.org/detail/20282/book-icon>

monsterbraingames. (2014). *Golden trophy with glaze (remix)*. Retrieved from

<https://openclipart.org/detail/202115/golden-trophy-with-glaze-remix>

References for A3 poster

State Library of Queensland - World War 1 soldier portraits. (2015). Retrieved from

<https://data.gov.au/dataset/slq-world-war-1-soldier-portraits>

State Library of Queensland - The Queenslander newspaper photographs 1914-1918. (2015).

Retrieved from

<https://data.gov.au/dataset/slq-the-queenslander-newspaper-photographs-1914-1918>

Ylanite Koppens. (2018). *music-notes-934067* [photograph]. Retrieved from

<https://www.pexels.com/photo/music-notes-934067/>

pl402. (2018). *pequea±o-tren-little-train*. Retrieved from

<https://openclipart.org/detail/184807/pequea%C2%B1o-tren-little-train>

bratac. (2008). *Forest*. Retrieved from <https://openclipart.org/detail/17878/forest>

Firkin. (2018). *Train 2 (colour 2)*. Retrieved from

<https://openclipart.org/detail/301776/train-2-colour-2>

Firkin. (2018). *Train 2*. Retrieved from

<https://openclipart.org/detail/301775/train-2>

Vasco Soares. (2013). *Jornal News*. Retrieved from

<https://openclipart.org/detail/183225/jornal-news>

Jetxee. (2008). *people near a blackboard*. Retrieved from

<https://openclipart.org/detail/16413/people-near-a-blackboard>

Jetxee. (2008). *people near a blackboard*. Retrieved from

<https://openclipart.org/detail/16412/people-near-a-blackboard>

monsterbraingames. (2014). *Golden trophy with glaze (remix)*. Retrieved from

<https://openclipart.org/detail/202115/golden-trophy-with-glaze-remix>

Annie Spratt. (2018). *Old brown paper background*. Retrieved from

<https://unsplash.com/photos/xt79nQxc9Q0>