



DESIGN STUDIO I

INTERACTIVE TECHNOLOGY

Final Documentation: Major Project Part C

PG 1 - I

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&



PRESENT



The logo for "BRISBANE TIME EXPLORERS" is set against a background of a city skyline at dusk or night. The text is written in a large, bold, orange and yellow gradient font with black outlines. The word "TIME" is positioned below "BRISBANE" and "EXPLORERS" is positioned below "TIME". The entire title is tilted slightly to the right. Behind the text is a stylized map of Brisbane with a compass rose and a red "X" marking a specific location. The map is partially obscured by a yellow scroll-like shape that wraps around the bottom of the text.

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INTRODUCTION

Every place in the world has some history to it, whether we know it or not. Often, we are unacquainted with the stories and tales of the places in which we live as younger generations are more in touch with the present days rather than with the tales of decades past. With the ability to digitise old records and hold vasts amount of data in storage, there are increasingly new ways to present historical information to digital consumers.

However, it is not enough to just present the content digitally. When it comes to educating generations that grew up in the boom of the computing era (1990–2000s), systems must have a unique selling point to reach them through the clutter of other digital media they consume. This is a challenge for digital designers, and one that was given to ACME Studios by the State Library of Queensland (SLQ).

The SLQ's requested ACME to use their data sets to create a web application that could turn their raw data into a valuable system that users could benefit in using it. This was the start of the journey that the team in ACME embarked on when creating the web application "Brisbane Time Travellers", a game application designed to aid in the education of school students aged 8 - 12.

Brisbane Time Travellers places the player in Brisbane and asks them to explore different locations in the city to find some lost treasure that has been stolen. In order to reach pieces of the lost treasure, the player gets to traverse information from the API in a novel and engaging way rather than using a search and query mechanism.

Brisbane Time Travellers was developed through the course of 3 months, and this document outlines all the work ACME Studios did for the project starting with the research for the ideation to the implementation of the web application. We encourage you to review the concept in an attempt to further improve on the work we have done, and maybe you will learn something from our design process.



ACME S T U D I O S

In ACME Studios we house a range of people passionate for design. Our business is about providing solutions not by assuming that we know everything about an industry, but by understanding that we need to learn plenty from users and using those learnings to provide our consulting services.

As a full scale agency, ACME Studios provides a range of services extending from requirements gathering & research to building and deploying digital solutions. Solutions are tailored to the needs of each client.

Throughout its work, ACME follows a design iteration framework. We are committed to deliver the best solutions to our clients and so our goal is to constantly redesign our proposals until it fits with the standard of quality required by clients.

The mission of the firm is to provide innovation in the way that everyday objects and life is experienced; whether it is through graphic design, user experience design, product development or other types of design.



**SANJANA
BHATNAGAR**



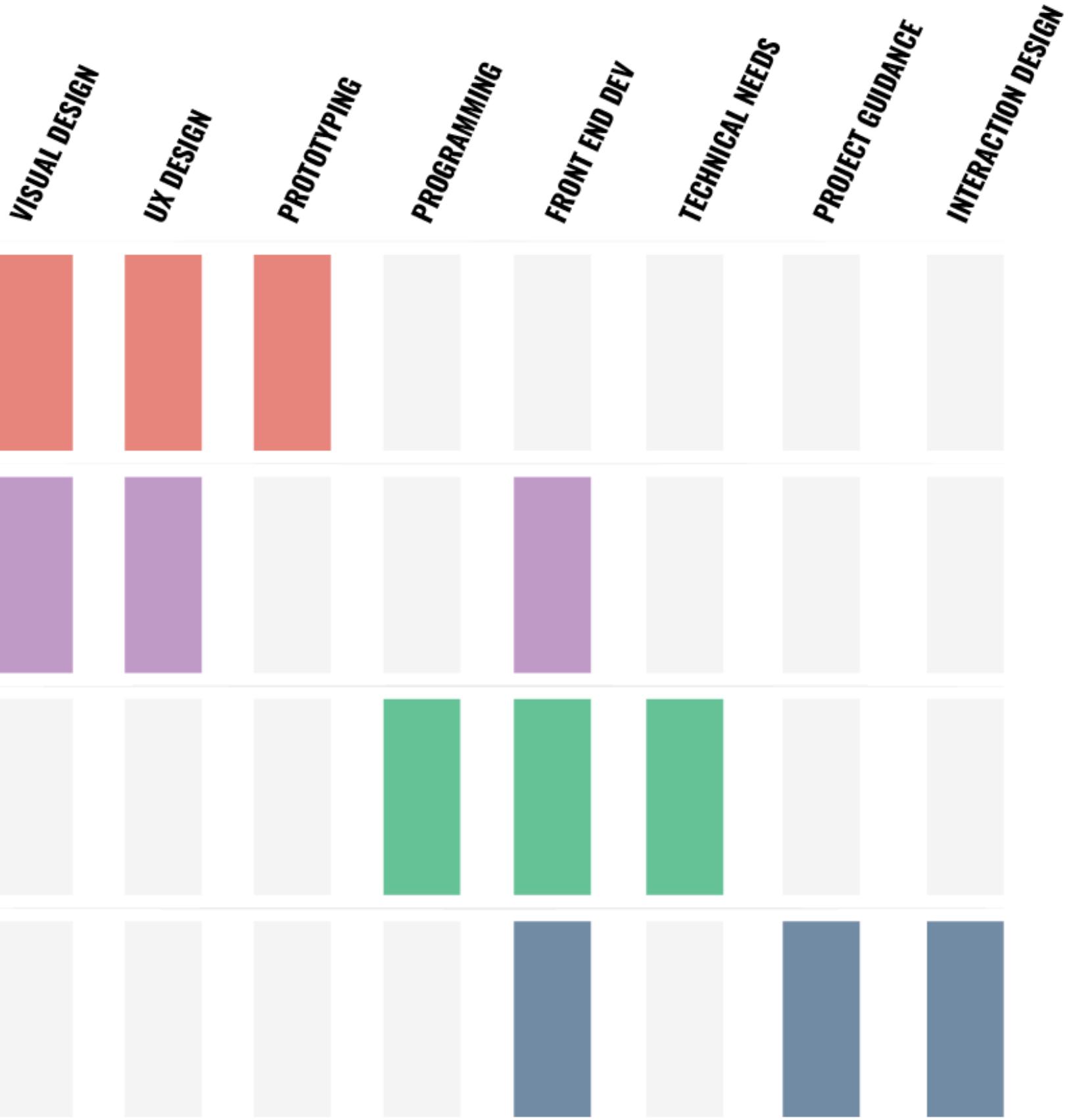
**JINYU
WANG**



**PATRIK
ODQVIST**



**SEBASTIAN
ZULOAGA**



PROJECT REQUIREMENTS

The State Library of Queensland tasked ACME to design a web application that could utilise the information contained within some data sets. Their aim was to transform raw data in a meaningful way that could be consumed by users who could gain some knowledge from the interaction with the web application. The brief was open to the team in ACME as long as two conditions were met: (1) the system designed has to be a web application, and (2) the system had to incorporate at least one data set in a set of 21.

The data sets provided by the SLQ contained useful data from a range of categories such as digitised old pictures of Queensland, digitised real estate map pictures, music sheets played decades ago in Queensland, information about the activities of the library, and even data sets on soldiers during the First World War (a full list can be viewed below). With a wide pool of categories and a flexible medium such as a web application, the possibilities of what could be done were endless. It was up to ACME to investigate what would be the best implementation and target market for a web application with the data sets of SLQ.

In addition to this, there was also freedom in the choice of development. The designers and developers within the team could integrate additional external information and APIs to complement the data offered by the SLQ. This expanded the opportunities even further and aggregated to the flexibility in

development framework that ACME Studios members thrive on.

Through the course of the three months, there were several project deliverables:

- ☛ Concept Document
- ☛ Paper Prototype & Test
- ☛ Web Application Demo
- ☛ Final Documentation & Product

These deliverables were mandatory, given that they helped us assess progress, revisit problem areas, and redirect the project as needed. The details of these deliverables will be discussed in more details in the concept evolution section. For now, we want to dive into the birth of the idea and how it came to formation from different sources of inspiration.



State Library of Queensland

1 SLQ - PHOTOGRAPHS (1914 - 1918)

2 SLQ - REAL ESTATE MAPS

3 SLQ - PICTURE QUEENSLAND

OUR IDEA

While the team was thrilled to have an open brief that allowed for flexibility in what could be developed, the audience to be targeted, and how design and development could be approached. However, with this level of freedom the team had to struggle with what a problem that could be referred to as a “good problem” to have: there were too many choices.

Each team member had the responsibility of ideating their own concept for what ACME could build as a web application. While great ideas were generated, they also did not overlap which meant that a lengthy discussion had to take place to evaluate which would be the best design direction to move forward. The individual ideas ranged from a game to the use of a timeline navigation system. The contrast between these navigation systems and the impossibility to see clear connections between the SLQ data sets made it tough to find a clear path or solution.

Nonetheless, in reviewing the concepts of others the team could organise their thoughts on the strengths and weaknesses of the individual concepts. Using the individual ideas, their critiques, and an exploration of similar existing web application the idea of “Brisbane Time Explorers” came to life. Within this section From these individual ideas, there was the ability to draw inspiration from different methods and data sets. This led the discussion on the future of the project which was driven by 4 smaller components, each team member contributing one of them: a maze, an avatar, a history lesson, and a detective. On the document, the inspiration, desired goal, and minimum viable product (MVP) are outlined. From these individual ideas, there was the ability to draw inspiration from different methods and data sets. This led the discussion on the future of the project which was driven by 4 smaller components, each team member contributing one of them: a maze, an avatar, a history lesson, and a detective.



INSPIRATION



MAZE

The original inspiration of exploring a maze comes from a game called Monument Valley. In the game, a princess named Ida is led through multiple mazes and maps filled with illusions and challenging terrains. The user would guide Ida through the different levels to win. It would be interesting to implement such navigation with the addition of SLQ data sets.

The use of a maze would allow for players to set on a journey from start to end, in which the data sets could be used as a guide directing the player towards the right path. Another method of incorporating a maze could have a test based approach in which the player is given questions they have to answer at the intersections of the maze to proceed in the game if they answer them correctly. From this idea, we extracted the possibility of guiding the player through difficult circumstances and get them to do an action correctly to be able to move forward.



AVATAR

Another creative approach for the API was the use of customised avatars for users. In creating an avatar, the user would be able to tailor the avatar based on data from the API. For example, the avatar could be set to live in Paddington, which would translate to the avatar appearing within a background image of old Paddington. The objective here would be to represent a user inside the context of the content of the data sets as a method to drive interest and investigation of the context.



GEOLOCATION GAME

The idea of a location based game came from an early idea of creating a web application suited for mobile use to track the user's geolocation similarly to PokémonGO. The idea here was to use geotagged data from Queensland State Library and place it out on a map of Brisbane with the help of the Google Maps API.

With points plotted on a map of Brisbane, the user could see how a modern map of Brisbane compared to Brisbane decades ago. For example, a user could search or click on a marker and see images of old real estate maps from that sector therefore comparing a modern view against a much older version of the city. This would help students compare their current knowledge of the city and expand it with the information the web application presents



DETECTIVE

Instead of just delivering content from the data sets of the SLQ, this concept consists of turning that data into clues that can be explored by a user. Completing tasks would provide users with more clues and more facts about Brisbane and Queensland so they can slowly learn while engaging in games or other challenges.

This method would allow users to have enough information on a clue to get their interest and at the same time not provide them with enough so that they can just jump around the site without consuming or taking in the content that is being given to them.



INSPIRATION

In exploring the 4 components, it was key to identify some existing websites, web applications, and games that made use of similar premises as a way to assess their successes and shortcomings. Below are some of the systems we took a look at:



WHERE IN THE WORLD IS CARMEN SANDIEGO

Where in the World is Carmen Sandiego is a game where the role of the player is to find a criminal around the world. The game uses real information about locations and cultures globally and invited the user to explore the world in order to win. In a journal article, the game was described as "educational and thoroughly entertaining" (Carroll, Knight, et al 1995), even though it was not designed to be an educational platform. The game was quite successful with several sequels developed with tweaks to the original formula.

While this game was not developed to be educational, it was successful in doing so. The term "serious games" has been coined to allude to systems developed as games that have educational objectives embedded into them. The direction of a serious game is something that the team could explore in making an interactive game for a target market that could gamify the SLQ data set content.



GEOGUESSR

Geoguessr is a game in which the user is shown a picture provided by Google Street View (Google Maps API) which the player has to use to make a guess on which part of the world that image was taken. The game uses geotagged content with the inclusion of the map to deliver a simple yet efficient way to see different parts of the world. The premise is to give a snapshot of a place the user might not know and get them to use their imagination and current knowledge to make an educated guess.

The system gamifies its activities by allocating points depending on how close a player gets to the real location. The potential of the application was extended by narrowing down the geographical location in different versions, for example instead of doing the whole world you could choose to focus only on a smaller area.



THE END PRODUCT

After gathering some inspiration and background research, the conclusion of the ideation stage would come to the establishment of one concept that would gather up all the elements we wanted to include from the components previously discussed. Luckily, the team at ACME devised a concept that did not sacrifice any of the ideas but rather combined them all into one integrated concept. This is how Brisbane Time Explorers started. BTE was conceived to be a game that would allow player to explore through a map of Brisbane powered by the Google Maps API. In this map, players could explore different locations which would include information and images retrieved from several data sets from the API. The game would be organised as a maze where users would explore different locations in order to retrieve clues. The game can be broken down to the following basic components:

NARRATIVE

The game would follow a story from beginning to completion. The premise of the game is that the player is attempting to recover pieces of Brisbane history in order to maintain the timeline and not let time break down. This narrative builds on the idea of engagement and having a purpose that users can follow and receive gratification from saving the world and finishing the game.

AVATAR CREATION

In order to create a connection between the story and the player, the game would allow each player to create their own customised avatar. This avatar will appear within the game as part of the narrative and to add to the progression of the game. With the use of the avatar, the user would feel closer to the achievements living them as their own.

LEVEL DIVISION

Levels will enable the player to complete different sections of the game and save their progress as they play. Each level will contain different markers and different information from the data sets.

LEVEL GAMEPLAY

Within each level, player would be able to access a landmarks information and see them in street view using the Google Maps API. Then the users can also access additional photos from a location using Flickr and the information from the data sets.

CONTENT EXPLORATION & INVESTIGATION

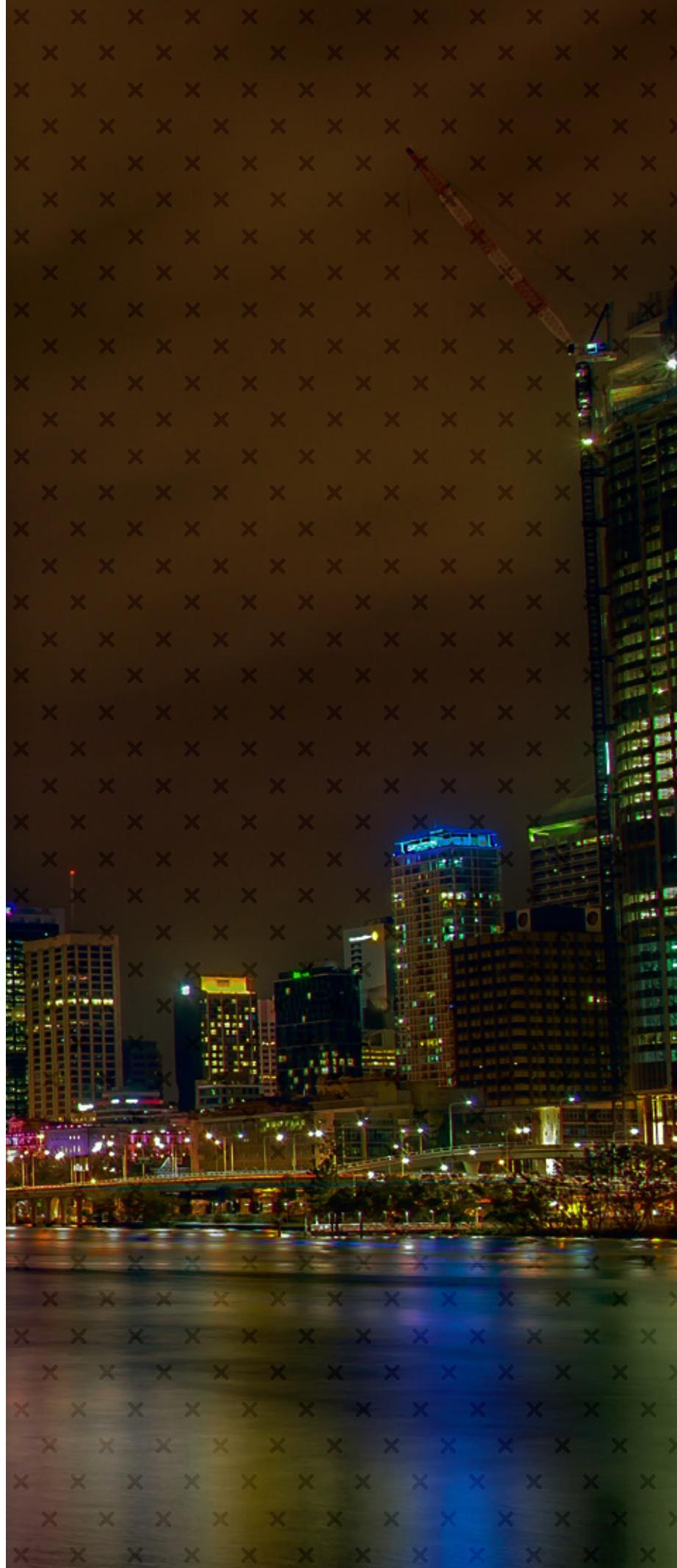
The content of the APIs could be explored through the progression of the game, and if players want to revisit some of the content individually they will also be able to do this through a search bar functionality as a resource to learn more about a specific place.

AESTHETIC

In creating an immersive, the team in ACME also wanted to choose a particular style for the visual design. Given that the narrative follows a comparison of old vs. new, which means that a futuristic and rugged look would suit the application best. For this reason, in at this stage of the project the team decided to proceed with a style similar to Steampunk which could combine both old and new.

CONTENT

The content outside of the narrative of the story and the avatar will be supplied by the data sets through the use of their respective application programming interface (API). The main data set to be used is that of digitised real estate maps, which will use the coordinates provided to plot them in the Brisbane map using the Google Maps API. In addition to the real estate maps, unlocking clues will supply the player with additional findings from the API to foster learning of Brisbane's past like other old pictures from the city.



TARGET AUDIENCE

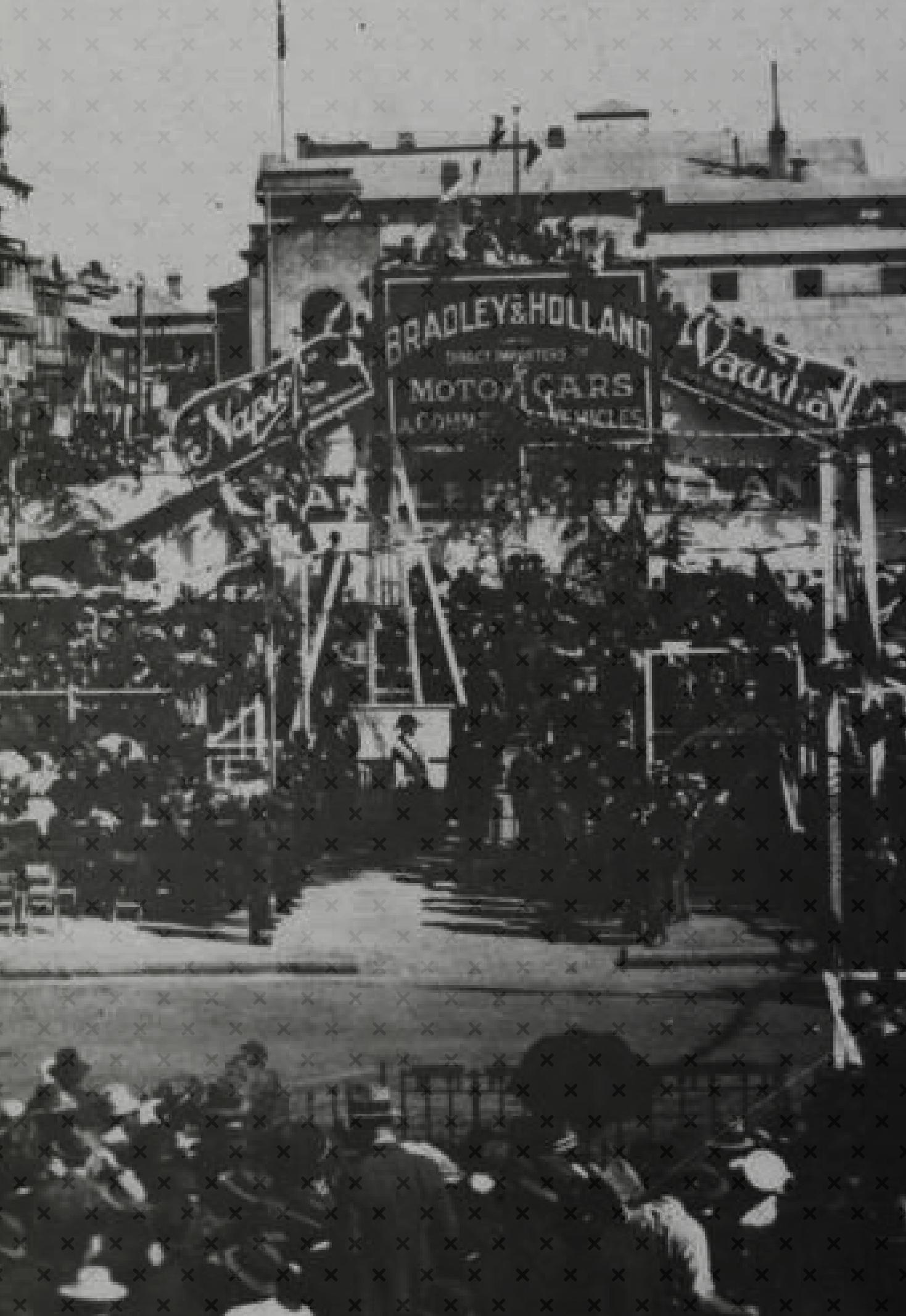
Our main target audience for the web application will be kids in the ages between 8-12 in primary school. We will adapt the interface of the app to suit the target audience to give them the right tools to explore and learn some of Brisbane's history. We want to give them enough rewards in game to keep them going back to learn more about their city. We see this as a great learning tool for teachers to use in their teaching about history.

While the application can be used within the classroom, it has been designed so that users can keep their progress saved through a login system. In targeting primary school students, the aim is to deliver the SLQ content to a group that is unfamiliar with it and so would find it to be quite novel. Some of the design elements presented before regarding the concept have been included or adapted to fit in with primary school students as a target, for example avatars have been made to look like children and animations have been added to gain the attention from younger audiences.

Choosing this target market came from the need to tailor content to specific audiences, in this case children aged 8-12 in schools. Many studies have

shown the benefits of gamifying educational content and the idea of storification (generating stories to better pass down knowledge. (Phillips 2013) These benefits include the possibility of putting a player in shoes of someone else, debating alternative viewpoints, and the promotion of discussion on some topics. Brisbane Time Travellers has been designed as an aid in the education of children and not as a one size fits all solution. Ideally, teachers would use the game as a basis to start a conversation to children and introduce Brisbane as a topic of exploration.

While we are not designing for a secondary target market, it is possible that older students may also engage with the game. A third potential user could be represented by users interested in history and culture. While they may not be interested in the game, they will be able to use the search capability to easily explore the data sets provided by the SLQ.



PERSONAS

Jack Breslin

Xtensio



Age: 10
Work: Year 5, Primary School
Family: Parents, baby sister
Location: Brisbane, QLD

Active Competitive
Distractable

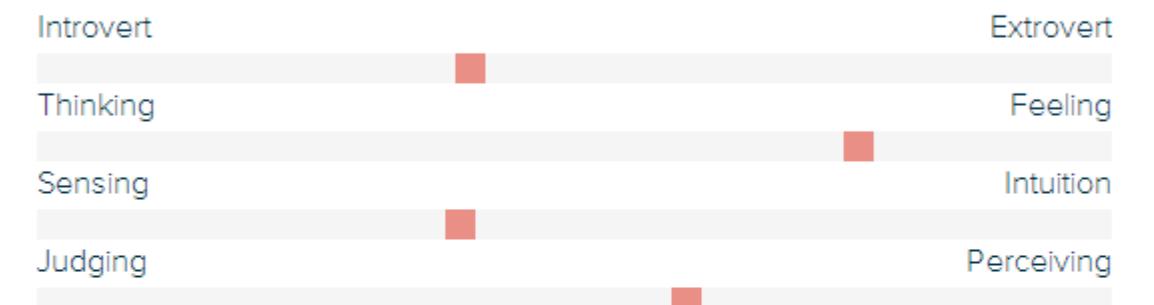
Goals

- Play a professional when he grows up
- Ride his bike all the time
- Play outside

Frustrations

- Doing homework
- Being indoors
- Going to school

Personality



Bio

Jack is a 10-year-old boy in year 5. He does not particularly enjoy any subject in school. He prefers to spend his time riding his bike through his neighborhood or playing sports at school. He is extremely competitive and one day wants to be a professional hockey player.

PERSONAS

Ida Bird



Age: 8

Work: Year 3, Primary School

Family: Parents, 2 brothers

Location: Brisbane, QLD

Playful Energetic
Inquisitive

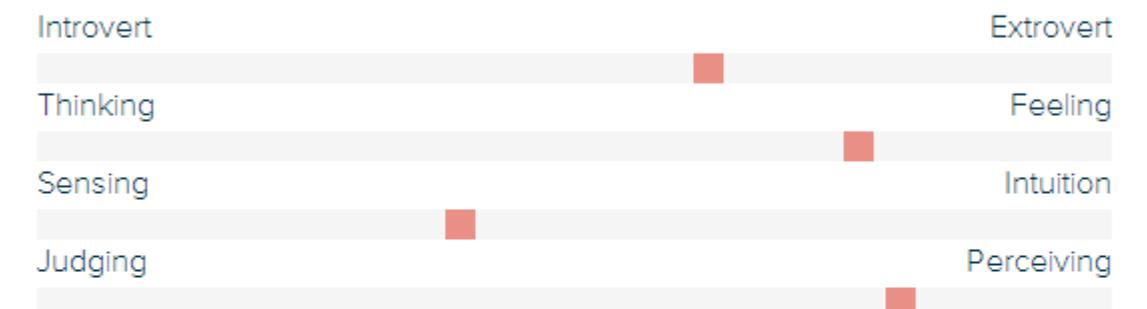
Goals

- Complete her homework
- Play computer games
- Play outside

Frustrations

- Doing homework
- Being indoors
- Reading

Personality



Bio

Ida is an 8-year-old girl, currently in year 3 in primary school. Her favorite subject is Math and has a hard time focusing on large amounts of text. When she is not doing her homework after school, she likes playing computer games or playing outside with her brothers.

CONCEPT EVOLUTION & DESIGN PROCESS

As mentioned before, Brisbane Time Explorers was a project developed in the span of 3 months. Within the time frame, the concept faced several alterations and improvements triggered by the deliverables and the design assessment that supervisors provided it.

In following a design process, iteration was a crucial component in the work of team members who took each round of critique and insights as constructively as possible in order to drive the project towards success. As with any project with more than one person involved, team dynamics are at play and many of the successes and shortcomings of the project can be attributed to this factor.

Before addressing each stage of design & development through the project, it is important to briefly outline the design process and how the team worked together as this had a big impact on the overall project.

Close to the beginning of this design document, there was a section that gave a short introduction on the team members. That section showed that the team working on the project has a diverse range of skills as a whole, but individually each member focuses on a particular aspect of Brisbane Time Explorers. In an attempt to work efficiently, responsibilities were allocated and areas were assigned according to everyone's strengths and preferences in case a team member wanted to tackle a component not within their expertise. The main roles of the project were as follows:

SANJANA

Responsible for the user experience and visual aesthetic of the website and documentation.

JINYU

Worked as the artist for the visual elements of the website and the prototypes through the project

PATRIK

As the main developer of the website, his role was mostly to integrate the individual pieces of the project into a one page application

SEBASTIAN

Took charge of the content of the documentation, keeping the project in line with requirements, and structure and styling to the pages.

In using this compartmentalisation approach, there were benefits and drawbacks. In an environment where the team members were part of many other projects, it allowed for flexibility in work. This meant that in moving forward, the team did not need to gather for meetings to assess the project. Instead, they would develop as smaller independent projects. However, the time gained in reducing the meeting times was often offset by time lost by revisiting requirements and backtracking to make sure that individual parts could be integrated into the final application as a whole. For example, a lot of HTML code had to be rewritten to efficiently create the pages as a single page application under the Angular JS framework. This was a challenge that the team faced through the duration of the project given the varying levels of expertise in different areas.

Though inefficiencies occurred, the team made sure that they only happened once by learning how the work of others would affect their own. After each mistake, every member became more careful on developing or designing without before receiving the go ahead from the other members that a set of changes would impact.

In addition to learning from our own development, we also learned from showcasing the ideas along the 3 months through different mediums. These components are set out in detail below, and each one was a lesson that drew us closer to the final product.

After each milestone in the project, there was a method that enabled feedback on the state of the concept. Upon receiving the feedback, the team reconvened to discuss whether major, minor, or no changes were needed and what type of impact they entailed. Keeping the discussion as a group activity meant that there was uniformity in the project information. It also meant that every member would have a say on the best interests of their area of the project.

As mentioned previously, at the heart of the design process is iterative design. Team members and outside parties promoted the revision and change of project units. The following sections of the document serve as a window on the evolution of the concept. At first sight, it looks like a devolution as the initial imagery of the envisioned application looks more complete than later versions. However, this was product of an ambitious set of initial requirements and the scaling down to a feasible project that could be accomplished within the time frame and resources at our disposal.

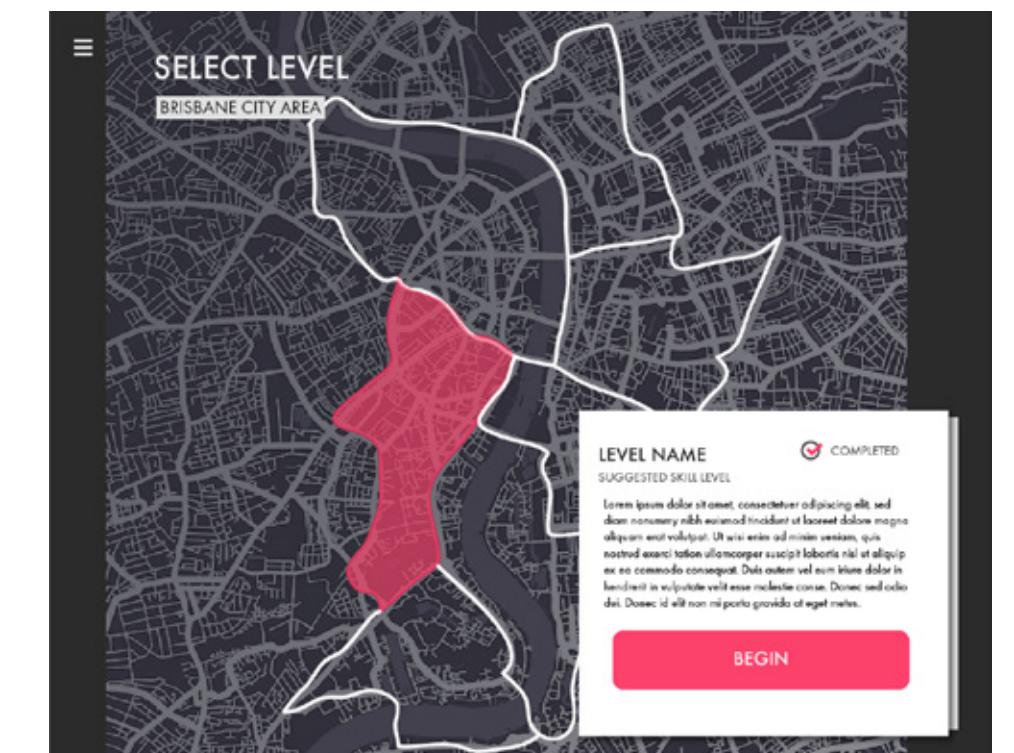
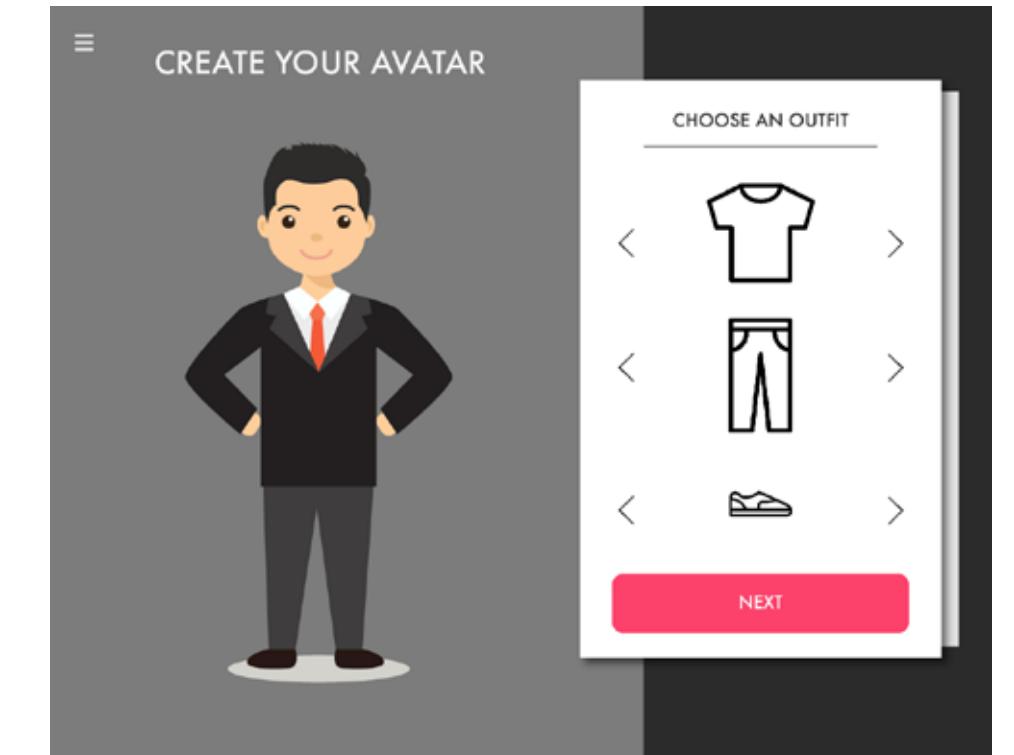
CONCEPT DOCUMENT

The concept document was the documentation of the concept itself, and it contained much of the information on the concept that has already been discussed. Setting up this report allowed the team to see a start and an end to the project, setting requirements and a project that could be separated into individual units for team members to tackle. The key components in this deliverable were the ideation and inspiration of the concept, the identification of the target market, and the creation of initial mockups and user flows. As the ideation and target market has already been covered, the only section left to mention is that of the initial visual mockups and the user flows.

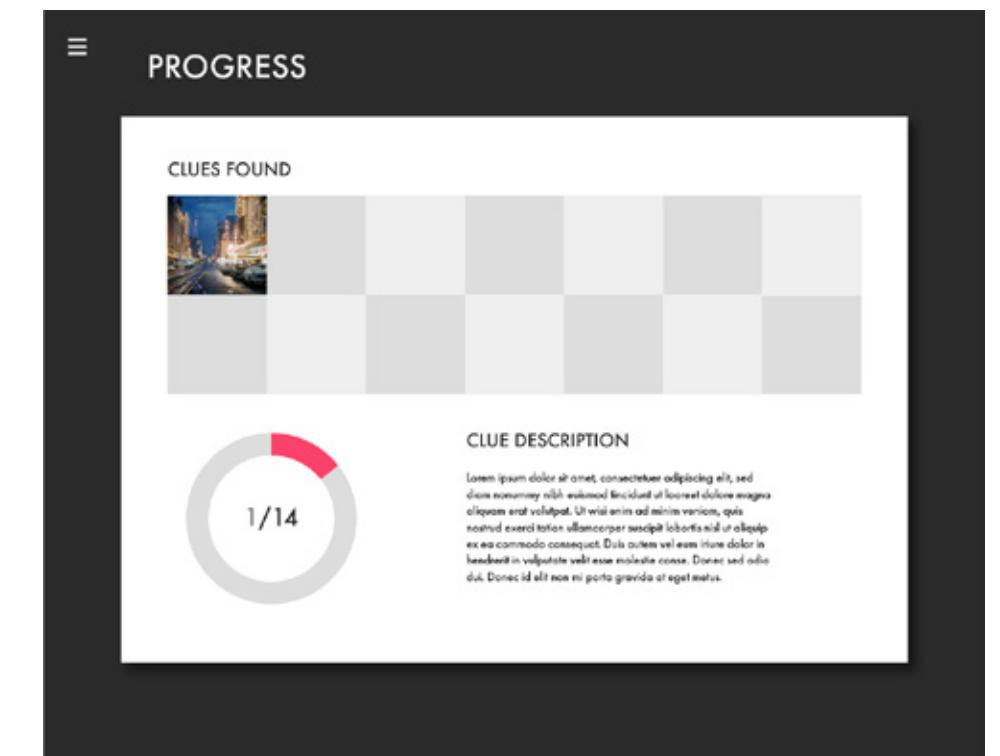
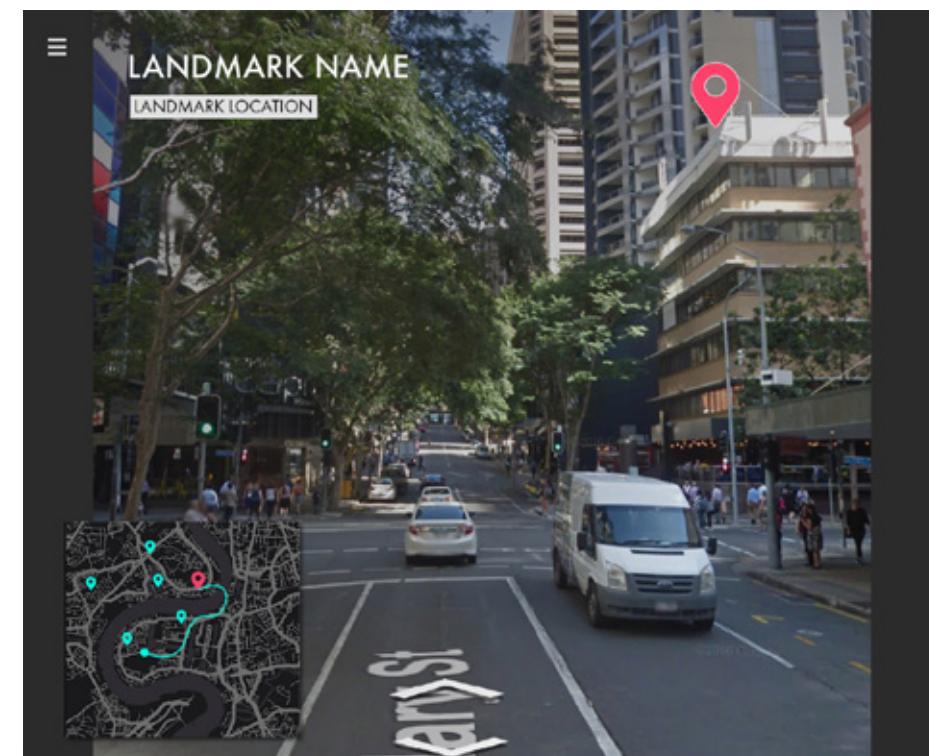
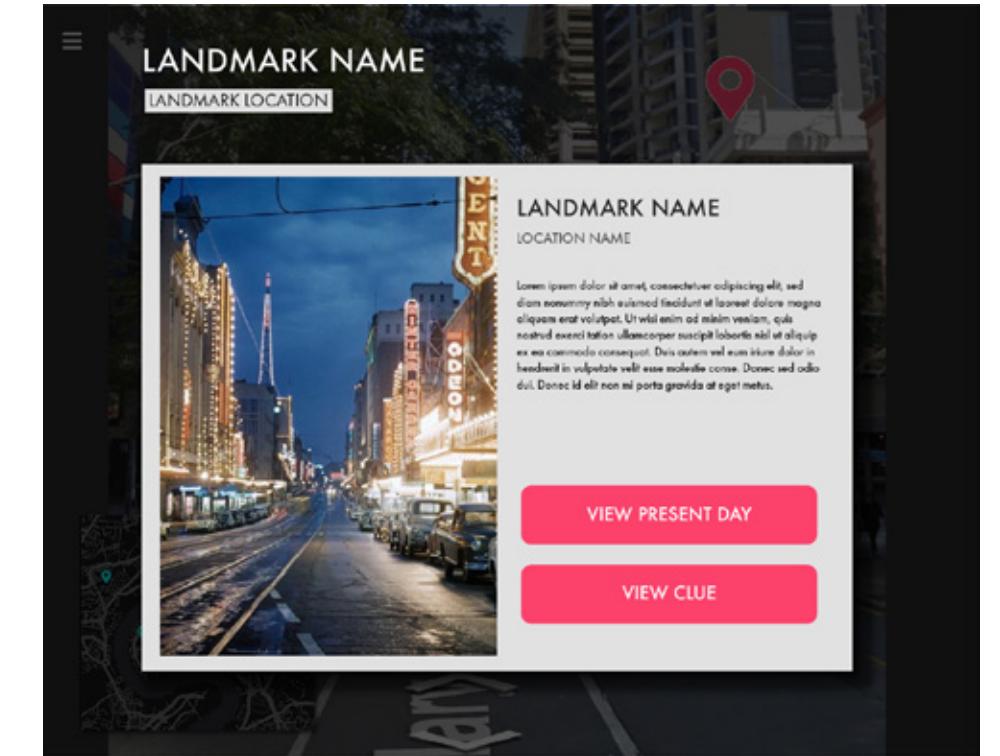
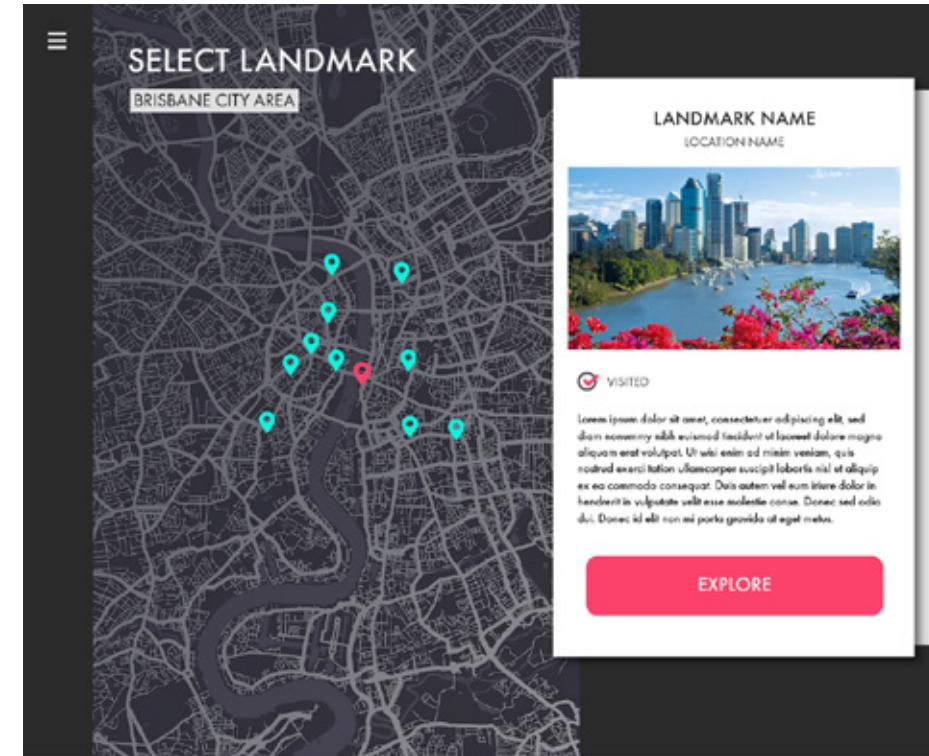
MOCKUPS

In representing what Brisbane Time Explorers would look like as a deployed web application, a total of 6 mockups were created. These were majorly a visual representation as they included no interactivity. They represented what the team wanted to achieve (despite this becoming the best case scenario in development) with the application, though plenty of the application's components were not represented; for example the Steampunk aesthetic was not used in the mockups.

In making these mockups highly visual with no interactivity, the team put effort into making them as appealing as possible. This would soon come at a cost when later in the development stage it became clear that our desired style was a rather complex one to implement to the standard we wanted to keep.



CONCEPT DOCUMENT



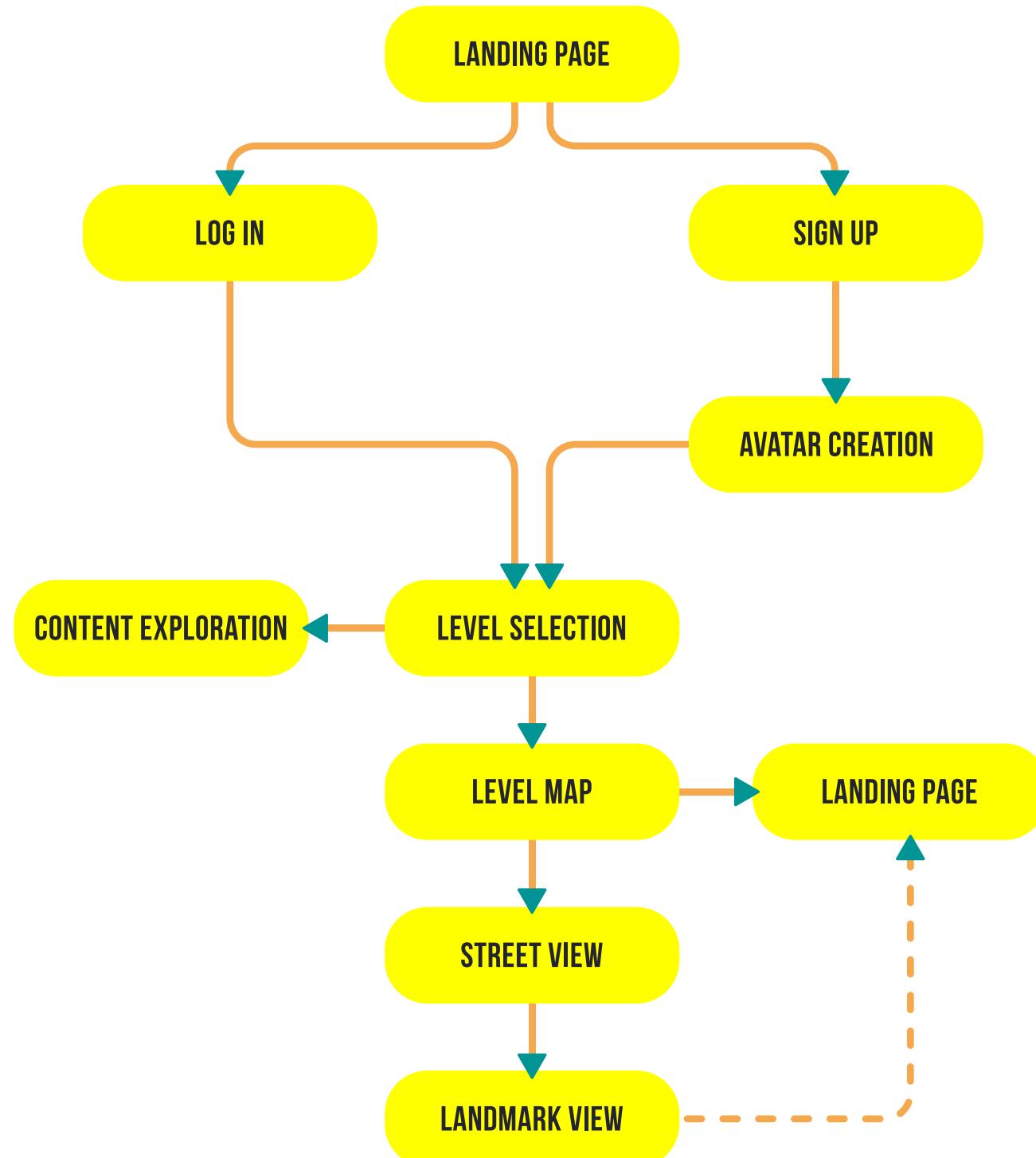
CONCEPT DOCUMENT

USER FLOW

These images also allowed us to plot a user flow from when the user started to use the application until they completed all the interactions enabled by the game. At a glance, the user flow looks short and simple which followed the easy to use principle the team wished to establish. However, in every page there were a lot of moving components that would need to be addressed which will be expanded upon in some of the sections ahead.

The concept document was also a reminder of the importance in research and background investigation needed within design. Much of the what, who and how for the project was not thoroughly researched. For example, the idea of the avatar was added as a bridge between the player and the game but there was no formal research or proof on whether there would be a positive or adverse effect. This lack of evidence on claims was overlooked by the team, but not by the supervisors of the project who steered the team in the right direction regarding to the research needs.

Plenty of doubts and assumptions not backed by research were solved through feedback on the different stages of the projects. Nonetheless, the need for supportive and explorative research would not be undermined in the future.



PROTOTYPE



Shortly after submitting the concept document for revision and guidance, the task that followed was to prepare and carry out a paper test. The usefulness with paper prototypes is twofold. First, it allows to easily set out all system components without much effort or consequence if there is an error. Second, as a revolutionary form of prototyping the paper prototype can easily test the proof of concept and any major problems before any development starts and then be discarded afterwards.

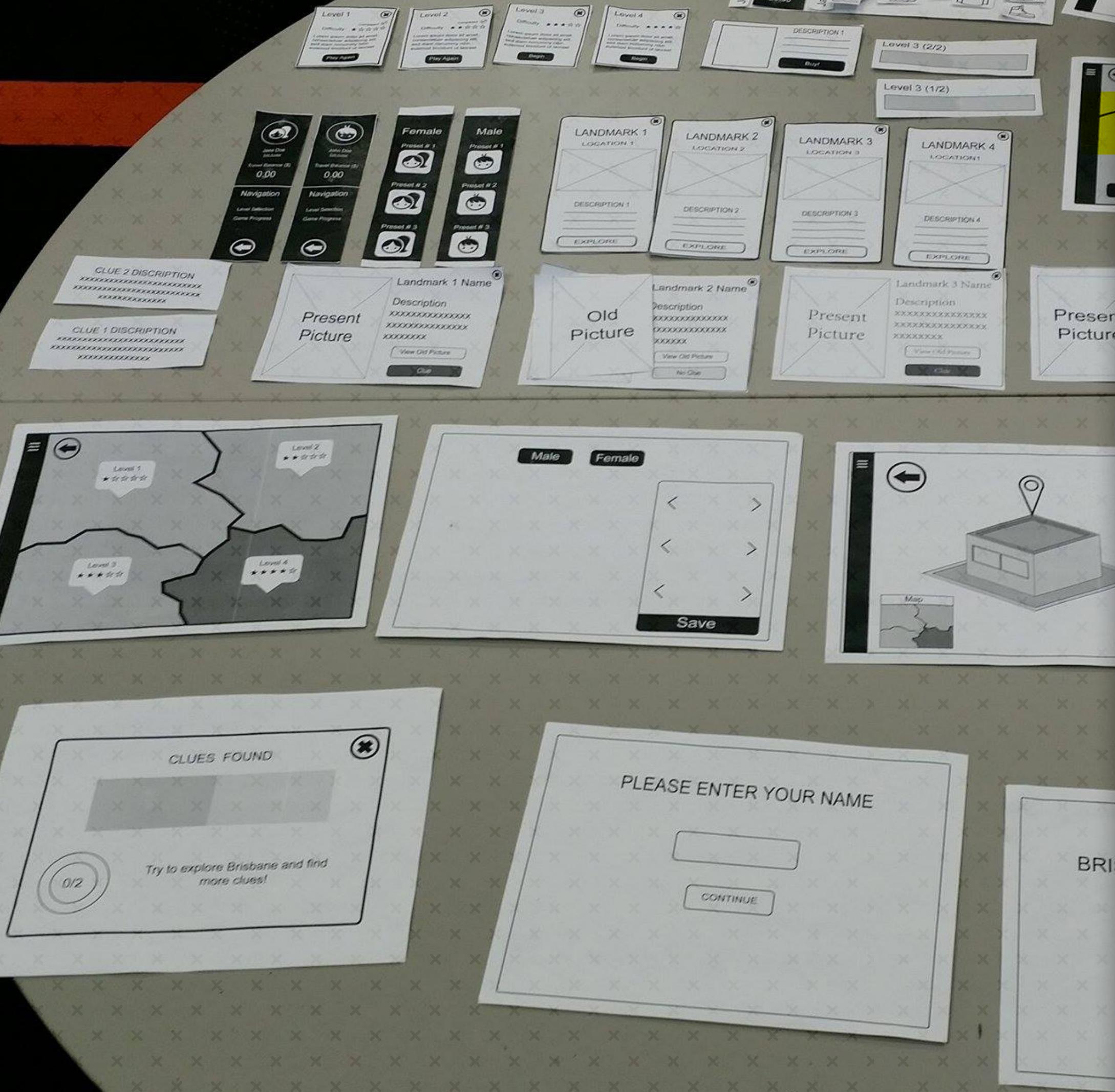
Most of the time spent on the paper prototypes was spent on properly setting out the system to cater for different user interactions and flows from end to beginning. This means that often sketches were scrapped and changed to adapt the initial mockups from the concept document to a stage where they would be useful to the user.

The intentions with the paper prototype was to receive feedback on the appeal of the web application, the use of the SLQ data sets, and the interactions and user flow from beginning to end. The scope seemed concise, but the tests proved that there were too many things in this test.

To make the sketches easier to understand for users, the paper prototype was initially sketched by hand and then recreated digitally and then printed and cut. Images for the testing session and the paper prototype are provided below, and one noticeable concern is the amount of paper that had to be controlled by one handler. This made it hard for the test to move seamlessly, making users face high waiting times and not allowing us to test the length of the interaction.

The test yielded several insights that drove the following iterations. For example, users did not find the navigation system easy. Some users found it difficult to access the avatar customisation page, and they also were confused when they

PROTOTYPE



had to backtrack to find other landmarks if one of them did not have a clue. This showed that we needed to work on the visibility of some of our elements.

Additionally, users expressed that the game felt linear and not very interactive given that they were just clicking and traversing through different pages. This was a result of two factors: first the game is indeed linear and could integrate new elements to make it more dynamic, and second the paper prototype did not represent the content from the SLQ data sets clearly which meant that the users could not enjoy or digest the content that was being presented.

In a general sense, this paper prototype served as a proof of concept prototype helpful in assessing whether or not the concept was attractive and a good implementation of the SLQ data. In isolation, there was positive feedback on the components of the project such as choosing an avatar or navigating through a map. As a whole however, the paper prototype revealed many smaller problems in completing the interaction from starting to finishing one level which the team found from testing the search of clues in a level.

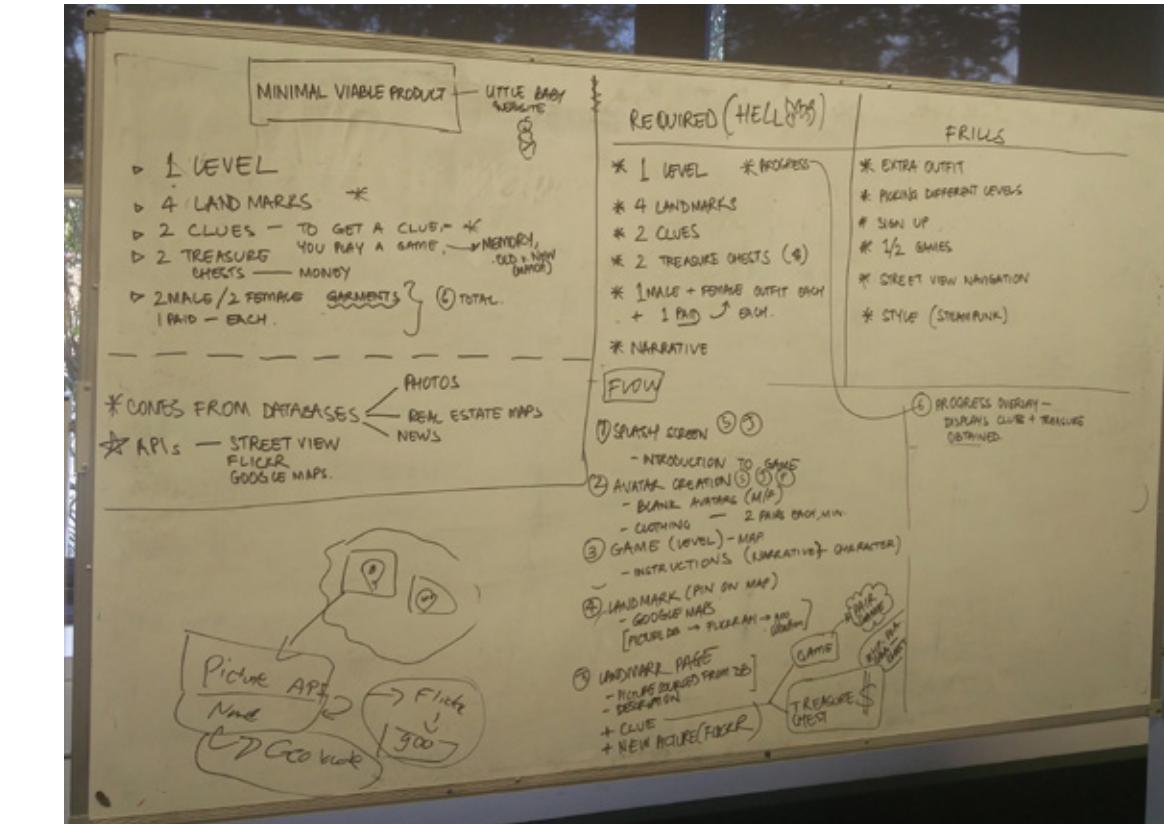
Concrete changes from the paper prototype are as follow:
(1) improving the navigation bar with more visible action items, (2) including mini games to retrieve clues as a method to break the linear gameplay, (3) rearranging the avatar customisation mechanics. These changes will be discussed in more detail through the next sections.

MINIMAL VIABLE PRODUCT

With user information and feedback in our hands, the next stage was to prepare a demo for the project. This demo would serve as an evolutionary prototype that would eventually become the final web application. The premise of the demo was to show the basic functionality of the web application, with the biggest requirement being that the application already contained live data pulled from the APIs of the SLQ.

Before starting to develop the demo, it was crucial to first identify what exactly Brisbane Time Explorer's basic functionality consisted of. For this, the team worked together on limiting the boundaries of the Minimum Viable Product (MVP). This would represent the minimum product that the team would be able to deliver and still accomplish the goal of the web application. The MVP consists of the worst case scenario in an extreme case where development does not go as planned and several obstacles appear. To outline the MVP, there was a group discussion as this would affect each team member and the MVP itself would be subject to the abilities and potential of the team.

The MVP represented a very basic version of the concept we proposed:



1 INFORMATION FROM 1 SLQ DATASET

2 1 LEVEL

3 4 LANDMARKS

4 2 PIECES OF TREASURE

5 2 CLUES

6 PROGRESS PAGE

7 2 MALE & FEMALE OUTFITS

8 2 UNLOCKABLES USING TREASURE

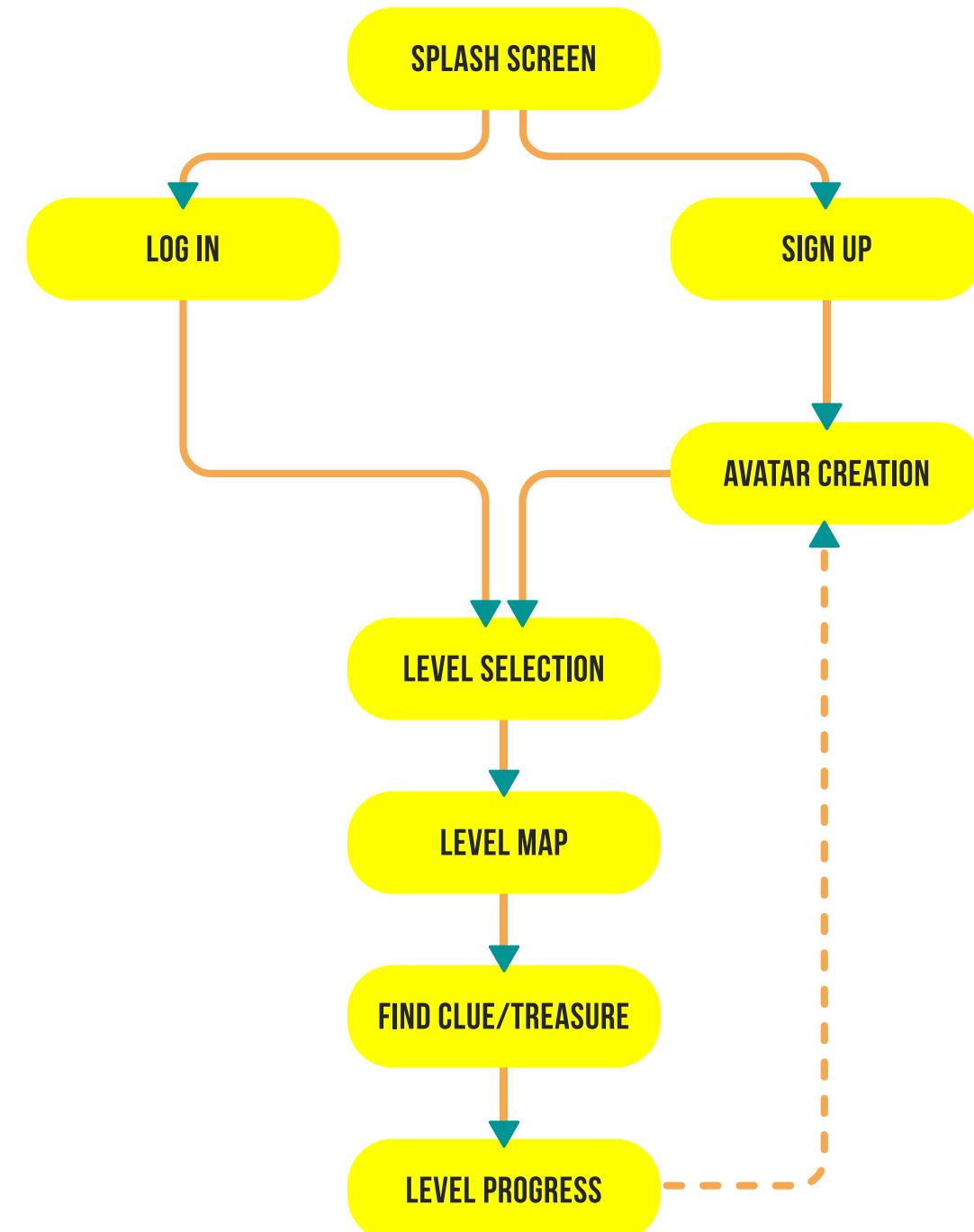
MINIMAL VIABLE PRODUCT

As seen from the information on the MVP, our minimum viable product is formed by the essence of the application: the user selects a character, plays a game level by selecting landmarks and finding clues. The addition of pieces of treasure came from user feedback when user's were tasked to find a clue. There was confusion when users did not find a clue and there was not feedback on this. As a solution, the team decided to always reward the player, sometimes with a clue and sometimes with a treasure. A clue would unlock clues from the progress page, while the treasure would fill the user with currency to unlock more customisation options.

In addition to the MVP, a list of all the frills, bells and whistles that would make the web application more entertaining and effective. This list included the addition of the narrative, additional levels, a sign up system to save progress information, mini games to retrieve clues, Google Street View navigation, and an aesthetic and narrative to the story. Completing all of these would pose a major challenge to the team, but the goal was ambitious with the possibility of scaling items back.

With an MVP as a guide, the team restated the flow of the user through the web application:

- The user would start at a splash screen and then proceed to sign up or log in
- The user creates an avatar if they are signing up and then start at the level selection page. If a user has an existing account, login would direct them to the level page.
- The player picks a level of their choice
- Inside the level, the player can explore the markers to obtain more information on the landmark and access the landmark page.
- The player investigates the landmark to retrieve either a clue or a treasure
- With the collection of clues and level completion, the progress can be checked
- As an optional, the player can customise the appearance of the avatar and spend currency to unlock new outfits.



THE DEMO AND FEEDBACK

With an outline of the MVP and a user flow, the ACME team was able to proceed with the development of the demo and the first version of what would eventually become Brisbane Time Explorers. As with the MVP, the goal of the demo was to showcase the game interaction at its most basic level which would put the main concern on the extraction of the data using the SLQ API and integrating this with the Google Maps API.

Creating the demo consumed more time than expected, a big reason for this being the design and development choices we had followed up to that stage. Given that there were different sectors of the project and different members responsible for these areas, major pieces of the project were developed in isolation as previously exposed.

This resulted in major development times being dedicated to the integration of the individual components, particularly in integration the HTML structure and CSS bootstrap combined with Angular JS as the creator of the one page web application. A contributing factor to slower development sprints was the lack of knowledge on the tools and design processes implemented by each member. As expressed before, some components were developed without taking account to the specifications need cross platforms. For example, several visual elements had to be redone to account for sizing and fit within the HTML structure, and some HTML elements needed modifications to adapt to the Angular framework.

The demo that was presented on the due date did not represent the web application that the team had intended to present at the time. The reasons for this are attributed to the choices within the design process, as well as the ambition of the team in miscalculating what would be possible within the time frame.

First, the demo contained two sites, rather than just one. The first site showed a web application that, with some glitches and bugs, displayed the information from the SLQ data set. This in itself was a big win, as this was the base from which the rest of the system

would be constructed. The second site contained the visual style of the website and the animations that would create an interactive site adequate for the young audience.

The first site showed the function of the site. This included the implementation of a sign in mechanism and the utilisation of a database to store key information from the user such as the login details. In the future the database would also hold data regarding the user's avatar and the markers assigned to a specific user instead of changing markers every time a user logs in.

At this stage, this site could load a set of markers and display some (unstyled) data from the data set objects. This showed that the system had effectively been integrated with the SLQ APIs and that the information was useable in the site. If the user attempted to collect a clue from a landmark, a popup would indicate the addition of the clue (the system was not set to activate clues and treasures on distinct items yet).

While the first site contained some styling to it, the majority of the styling was style contained within the second prototype shown. The seclusion was driven by the unexpected lack of time in integrating both form and function, however the second site was still shown to receive useful feedback from it.

The second site contained the vision of the avatar selection, a menu bar for easy navigation, and the addition of interactive animations to entice young students to play with the elements around the screen. There were 4 choices for the avatars, which were brought to life by small animations like a resizing and switching opacity levels upon hovers. In addition to this, there were images animated to show emergent elements such as collection clues or treasures. After the demo presentation, it was clear that the integration of both systems would be a top priority moving forward.

In the preparation of the presentation and through it, other development elements that would need work came to light. For

example, several elements were not responsive in the scaling of the window or different devices being used. Some of the issues in this area were critical as they, in some pages, hid navigation elements. Another problem was the discussion of the evaluation measures which could have been analysed in deeper detail.

During the presentation, the team asked the audience members to provide feedback on whether the interaction seemed lengthy or not. This would help guide efforts in adding or subtracting steps from the interaction process. All responses in the feedback forms showed that users believed the interaction to be the right duration and amount of work. Considering that our target market is younger than the audience members in the demo presentation, there would be a need to maintain the interaction at shorter lengths to ensure the process of interacting with the system does not break.

Finally, there was a rather unexpected finding from the demo demonstration. Two comments indicated that, while our target market contained younger audiences, the avatar selection gave a range of choices that looked like adults. While the avatar options were not finalised, they were an indicator on art style. This led to a change in the avatar design which would create characters that our users could closely relate to.

Following this demo, the team had around an additional month to prepare for the final submission of the web application.

THE DEMO

The image shows a user interface for selecting an avatar. On the left, a dark sidebar displays the game's logo, "Brisbane Time Explorers", on a banner, and the text "Choose an Avatar". Below this, a descriptive message reads: "Your avatar will help take you back in time to explore Brisbane! Along the way, you will collect treasure. This will allow you to buy new avatars to play with." On the right, four stylized 2D avatars are shown against a light gray background. Each character has a name label above them: "Man 1", "Man 2", "Woman 1", and "Woman 2". Man 1 is a man with brown hair and a beard, wearing a red button-down shirt and brown pants. Man 2 is a man with blonde hair, wearing a blue button-down shirt and blue pants. Woman 1 is a woman with red hair, wearing a blue sleeveless dress. Woman 2 is a woman with blonde hair, wearing a maroon sleeveless dress. At the bottom center of the screen is a red rounded rectangular button labeled "Save Avatar".

Man 1

Man 2

Woman 1

Woman 2

Choose an Avatar

Your avatar will help take you back in time to explore Brisbane! Along the way, you will collect treasure. This will allow you to buy new avatars to play with.

Save Avatar

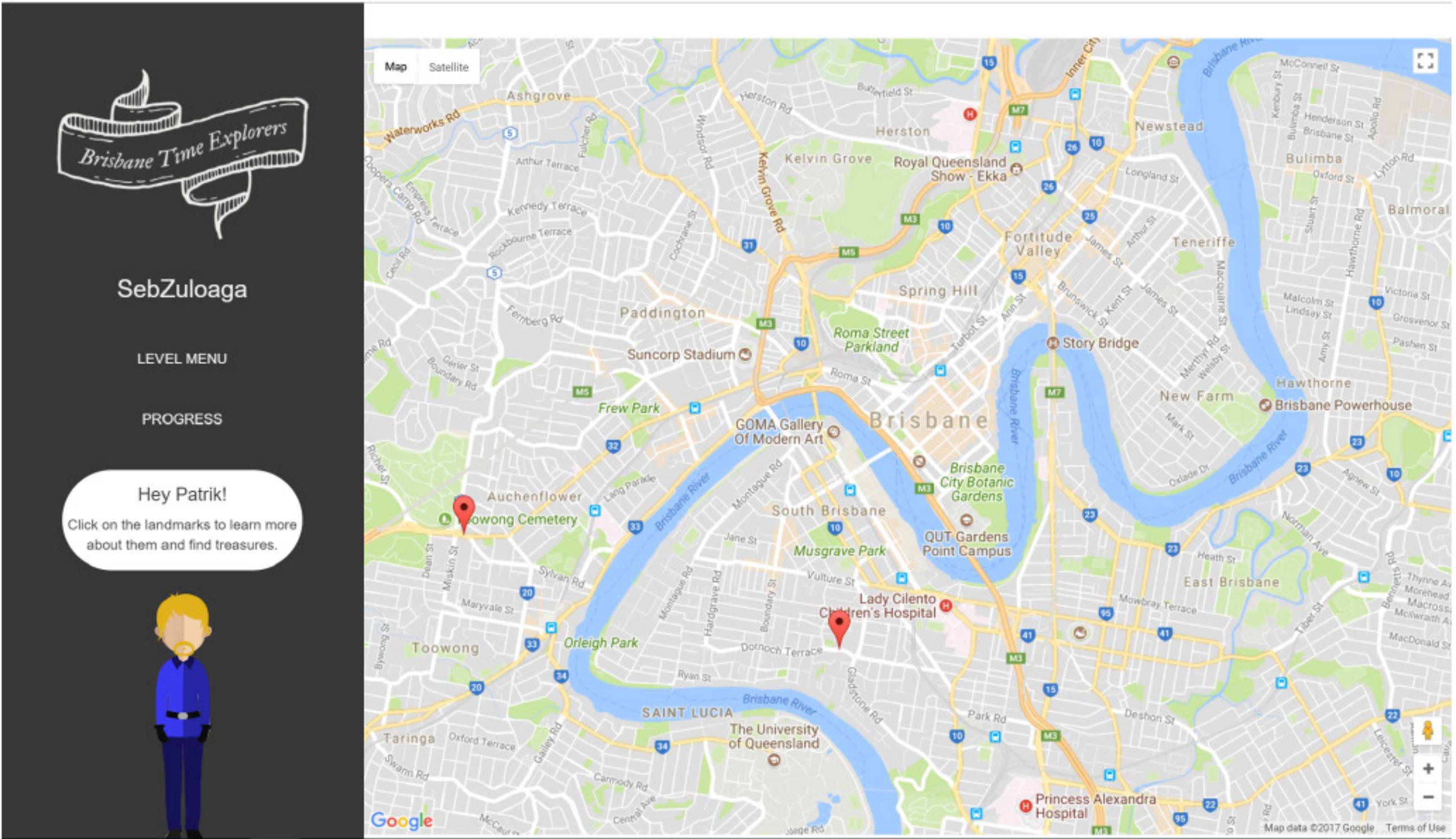
Selecting an Avatar

THE DEMO AND FEEDBACK



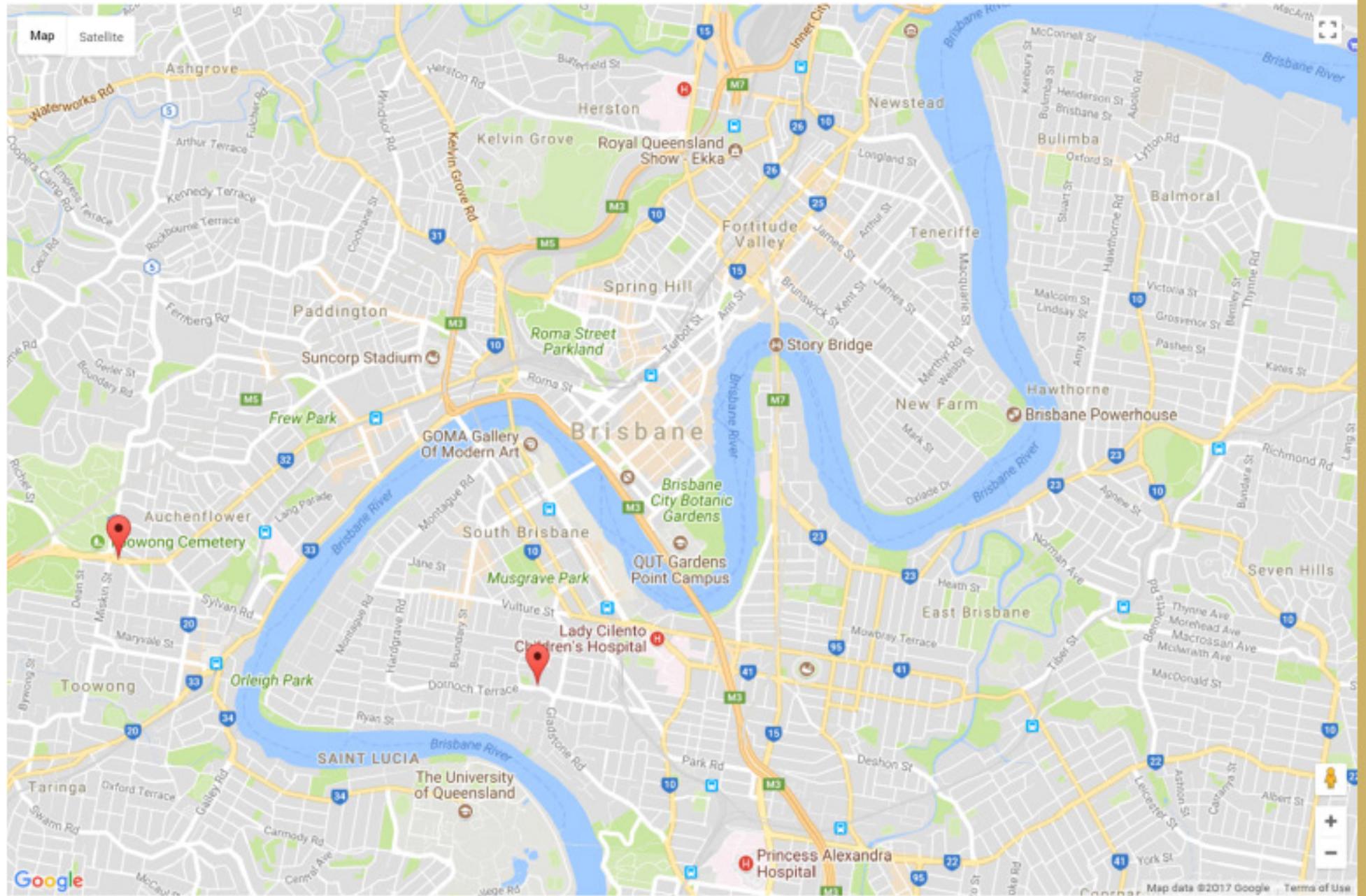
Choosing a Level

THE DEMO AND FEEDBACK



Selecting an Avatar

THE DEMO AND FEEDBACK



Finding a Landmark

Selected Landmark



Map of the Stephens Paddock Estate, Highgate Hill, Brisbane, offered for sale in June 1889

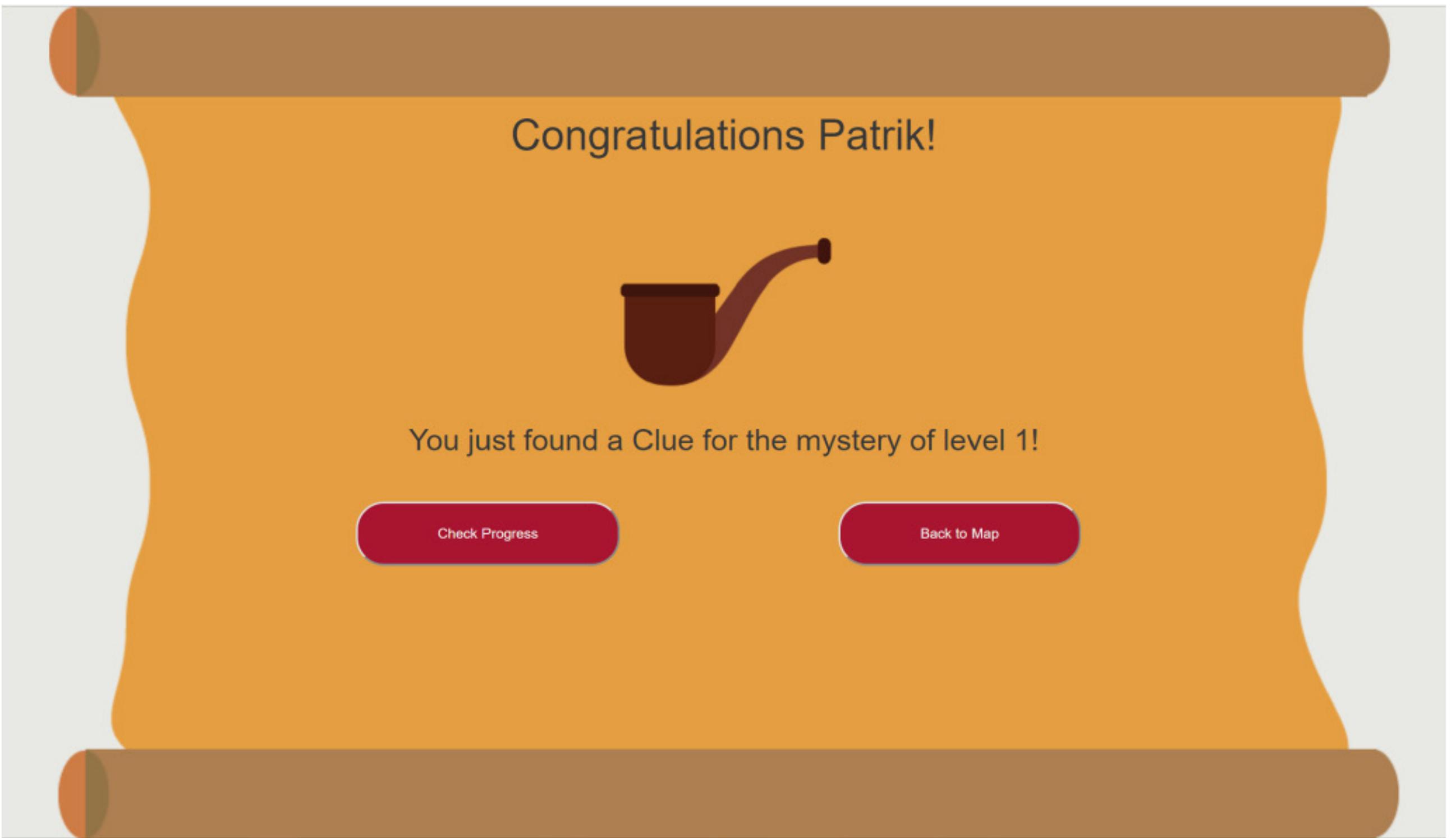
Land bordered by Gloucester Street and Prospect Terrace, south of Brisbane, to be auctioned by G. T. Bell on the 7th of June 1890. This is from the original handbill.

Year: 1889
Place:



Open Treasure!

THE DEMO AND FEEDBACK



THE DEMO AND FEEDBACK

Seems like there is no clue here!

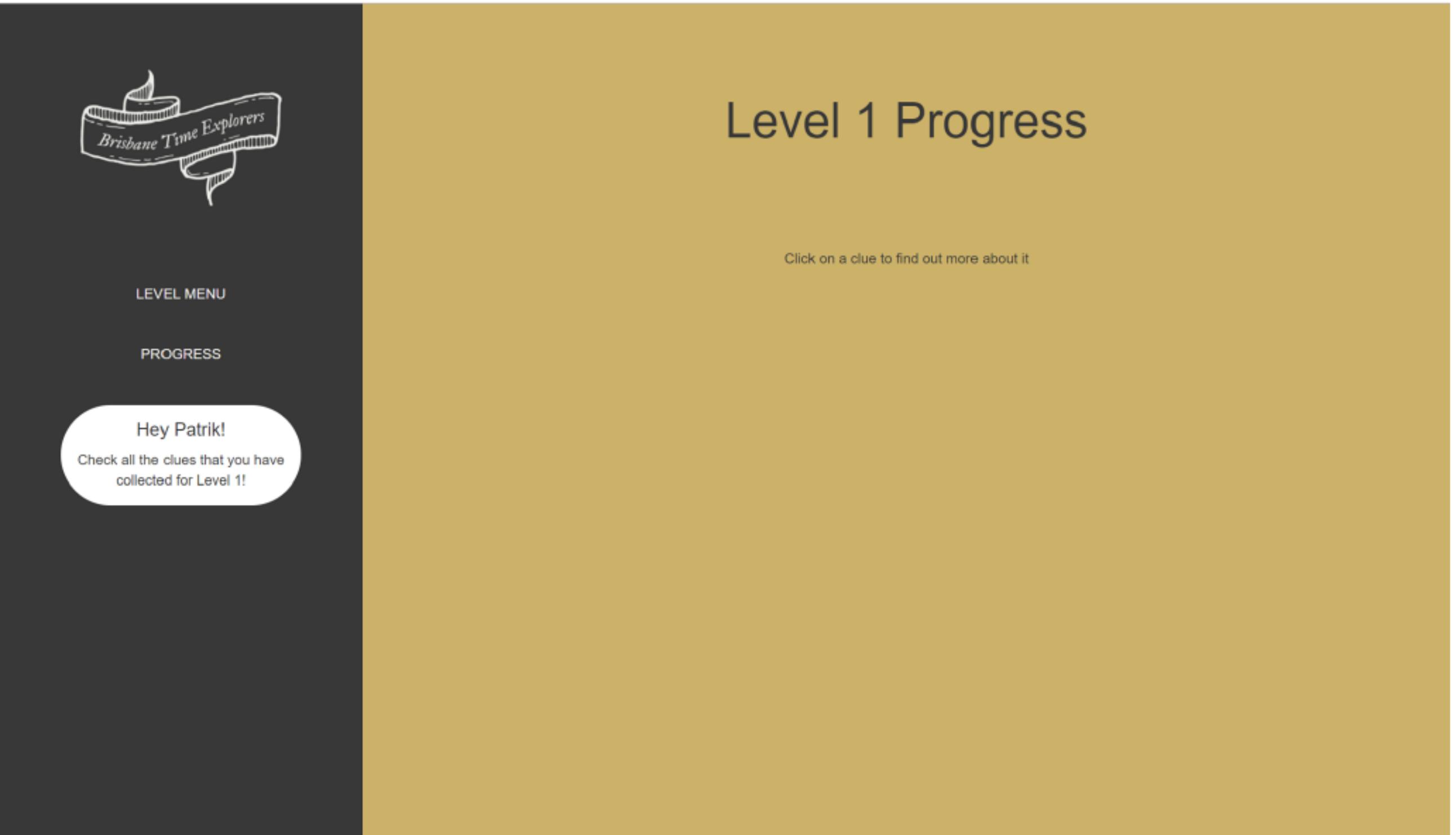


There were some travel diamonds on the chest. Exchange them for outfits!

[Check Progress](#)

[Back to Map](#)

THE DEMO AND FEEDBACK



Checking Level Progress

WEB APPLICATION

In discussing the final web application, this section only delves into the design process we followed from the demo until the submission of the system. The detailed explanation of the final version of Brisbane Time Explorers will be given at a later section of the document.

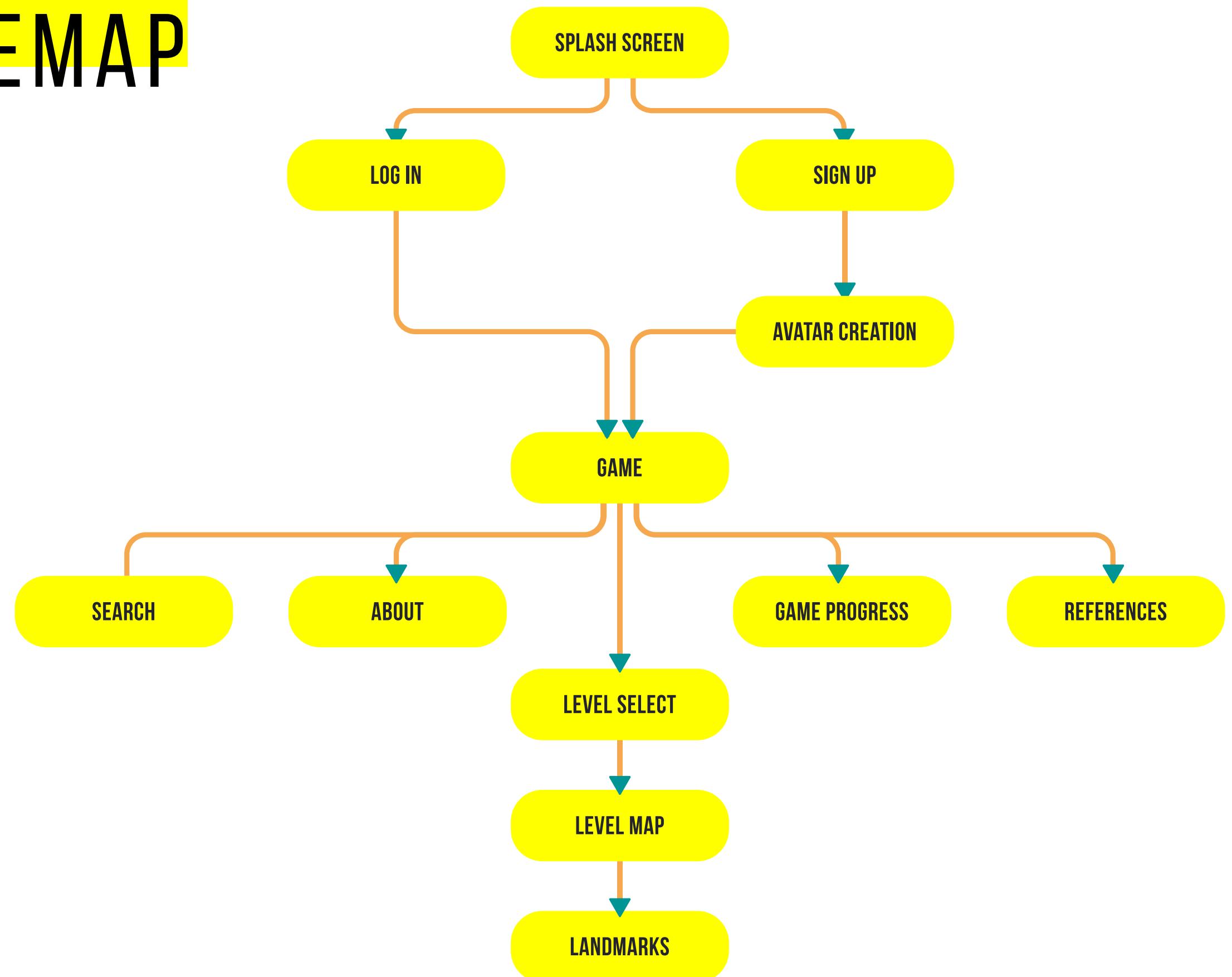
After identifying useful feedback from the demo, the team reconvened to set new goals and specifications from the project. Once the new project goals had been set, each members went on to work on their individual components for an additional 2 weeks followed by two weeks of joining the different components together. As expected, the process of mixing and matching all the individual components was a lengthy one. However, we were prepared this time on what sort of problems we would face and allowed ourselves longer time frames to solve any bugs.

As the close of the project drew closer, it was evident that the scope of the project was too big for four members to complete by the deadline. While it was disappointing, the team had to focus on delivering a working application which meant that dropping some sections of the original concept was the only way to move forward. Some examples of sections that did not make it to the final web application are the implementation of Google Street View or the addition of the Flickr database to compare the old pictures of the SLQ database to newer picture using the Flickr API. The elements that were not included will be outlined in more detail at the end of the document where the future of the project is discussed.

During this stage of the project, the team tried to stay away from compartmentalising parts of the project and developing in isolation. The design process was more inclusive of the team members across the different work areas, however there was still the problem of knowledge levels and familiarity with the development of the web application. Some members had more skills in some areas than others, and it was also harder for members to cross development areas as they were not familiarised with some content produced by other members. Slowly, members were brought up to speed on what everyone was working on which allowed the project to be developed together in the weeks before the deadline.



SITEMAP



CONTENT GUIDE

SPLASH/SIGN IN/LOG IN

The first page accessible by users is a splash screen containing an animated GIF and a button to proceed to the sign in/log in screen. Here the user can enter an email and a password and click on either sign in or log in depending on what type of user it is: first time user or a revisit. This information will be stored in the database as the basis for all information of users.

AVATAR SELECTION

The avatar selection will allow the users to select the type of character that they want to be represented by. This includes a choice between male and female, 3 choices of top clothing for each gender, 3 choices of bottom clothing for each gender, and 3 choices for shoes for each gender. Upon saving this avatar, then this information would be kept in the database to be accessed through the game.

LEVEL SELECTION

The level selection page will contain a map divided in four different levels. Users can choose a level they want to play on this screen. This section is the first one to include the navigation bar which holds access to all other sections of the site.

LEVEL GAMEPLAY

Each level will contain its own map of Brisbane and a set of markers for a specific user. These markers will hold details like pictures, descriptions, titles and names of objects from the SLQ data sets.

PROGRESS

As the player collects clues, the progress page will be updated to include the the data set information from the landmark that contained the clue. This way, the user can access the clues that they have collected to learn more about them.

SEARCH

In providing the opportunity for users to explore more content than just the markers in their game, a search functionality will be added onto the website to help the user use keywords to navigate the SLQ data sets used.

ABOUT US

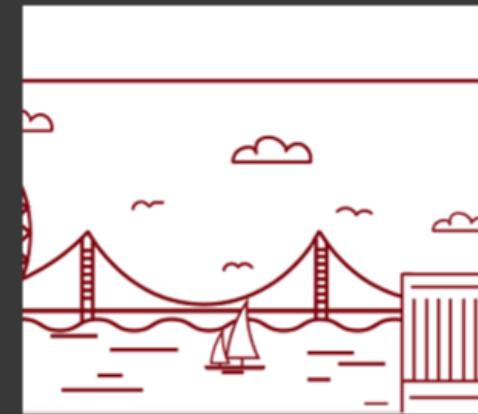
This page will introduce the project and the team members who worked on Brisbane Time Travellers.

REFERENCES

This part of the site contains any references to content included in the web application that was not created by the team. More than adding to the functionality of the web application, this page is there to give due credit to the original content creators.



CONTENT GUIDE

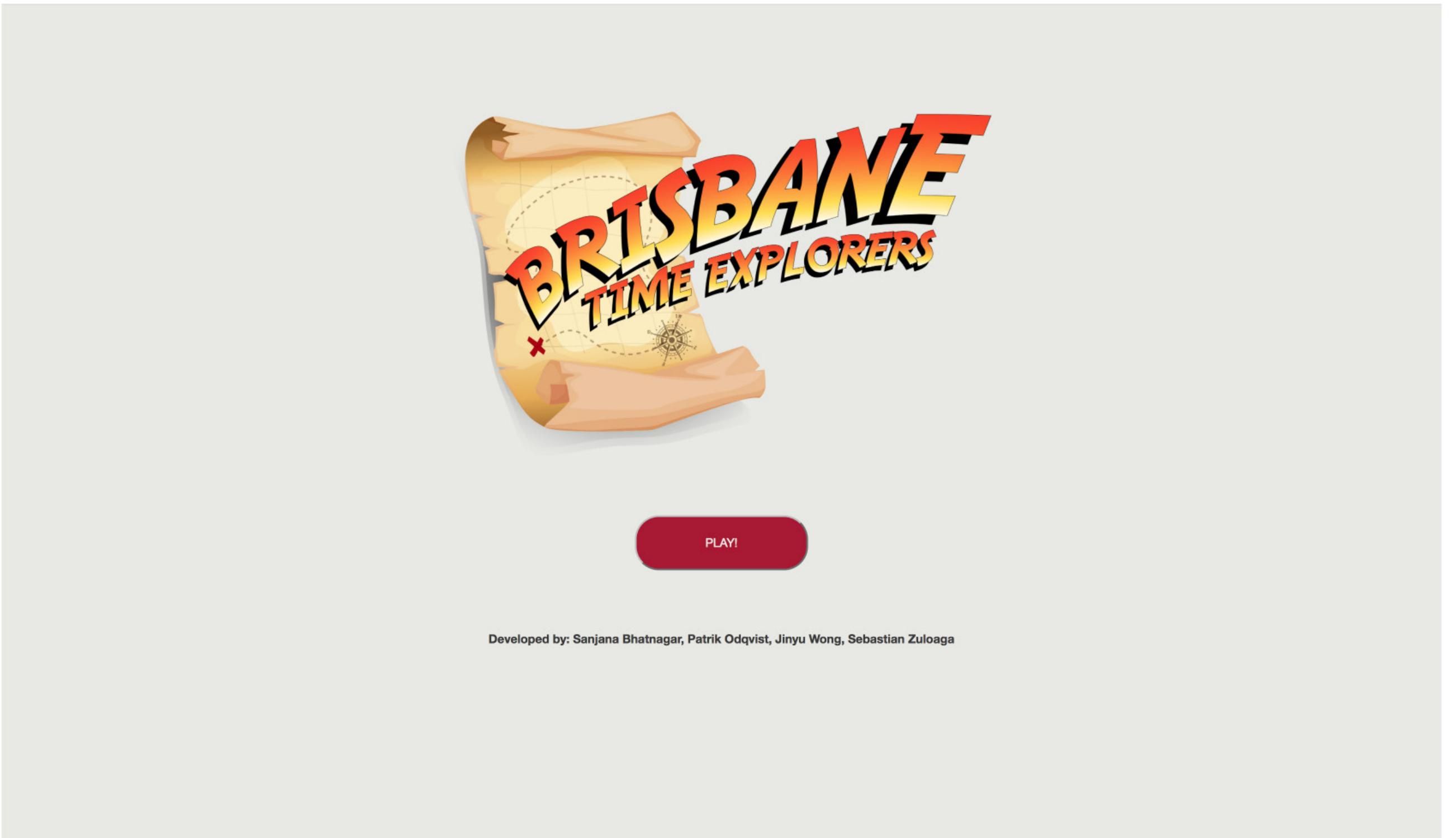


Brisbane Time Explorers



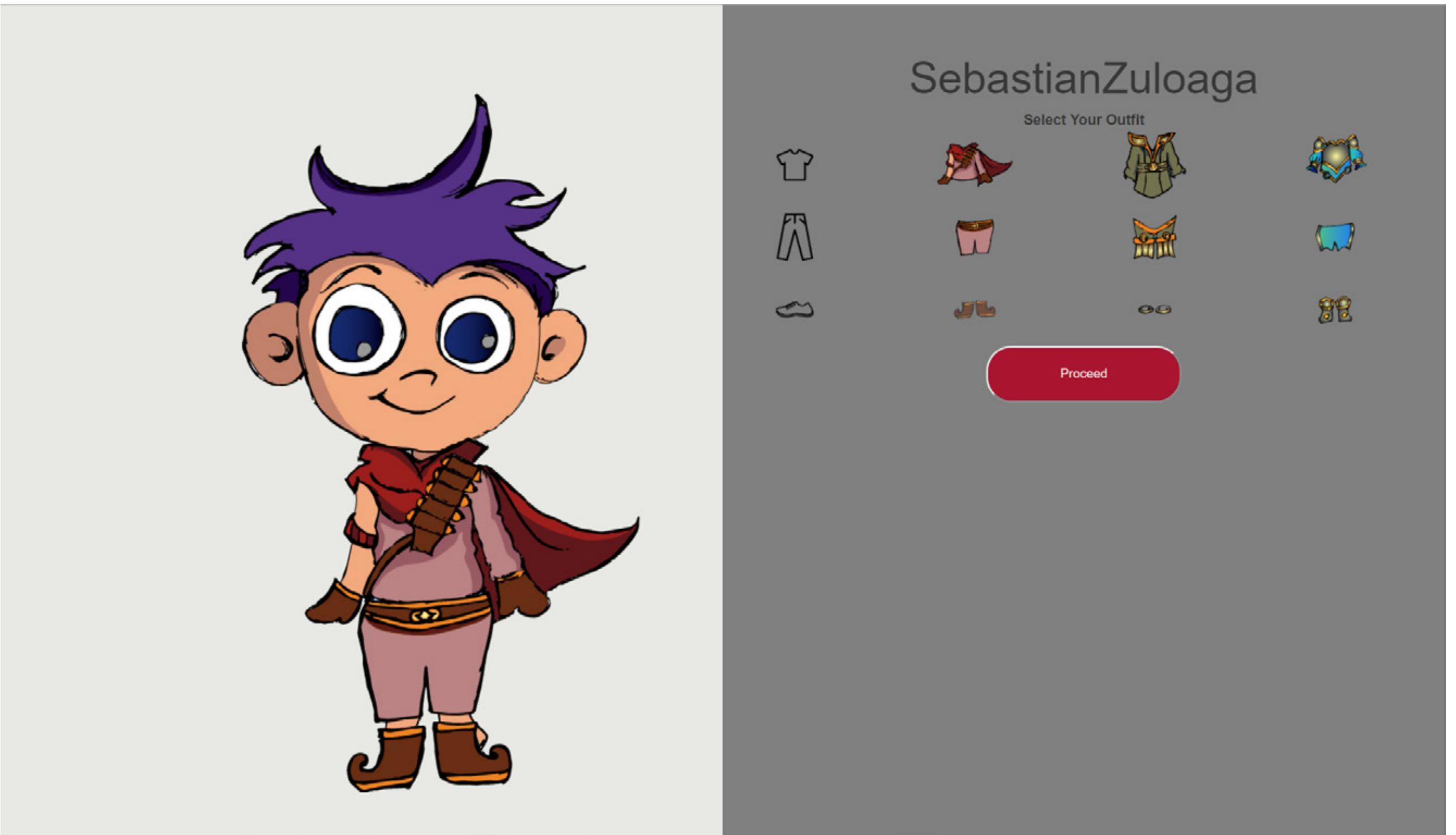
Splash Screen

CONTENT GUIDE



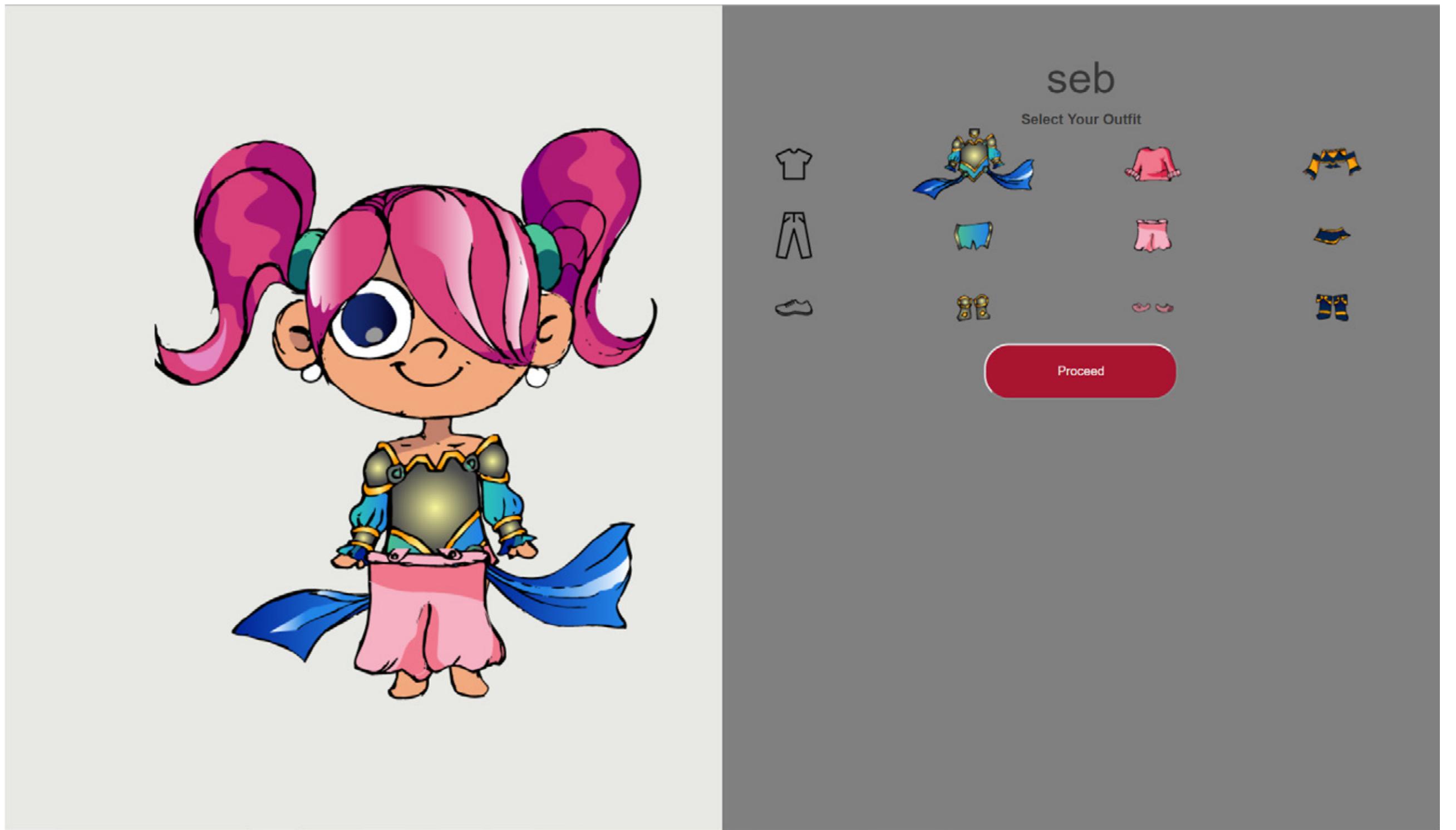
Sign In Screen

CONTENT GUIDE



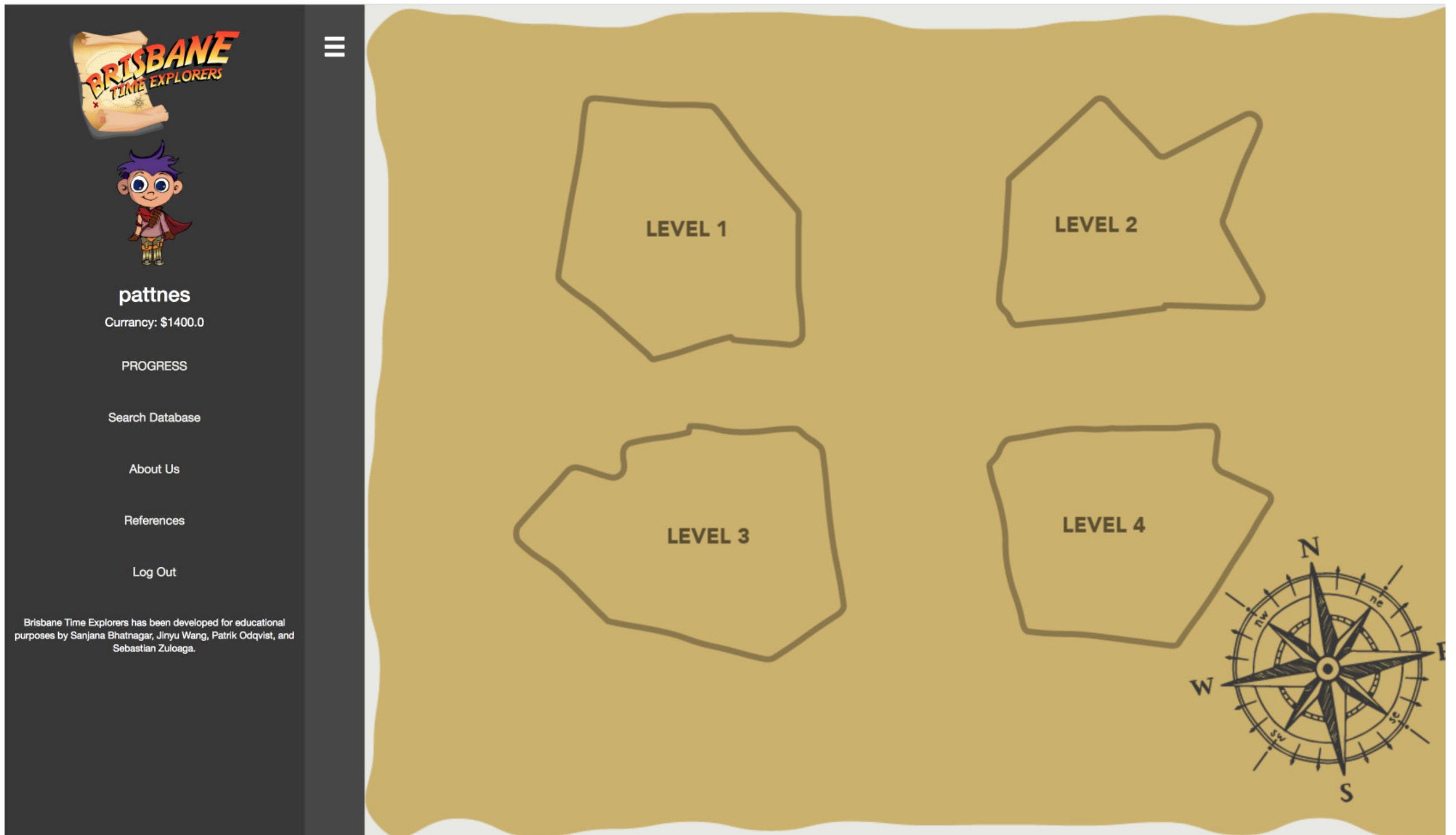
Avatar Creation Screen (Male)

CONTENT GUIDE



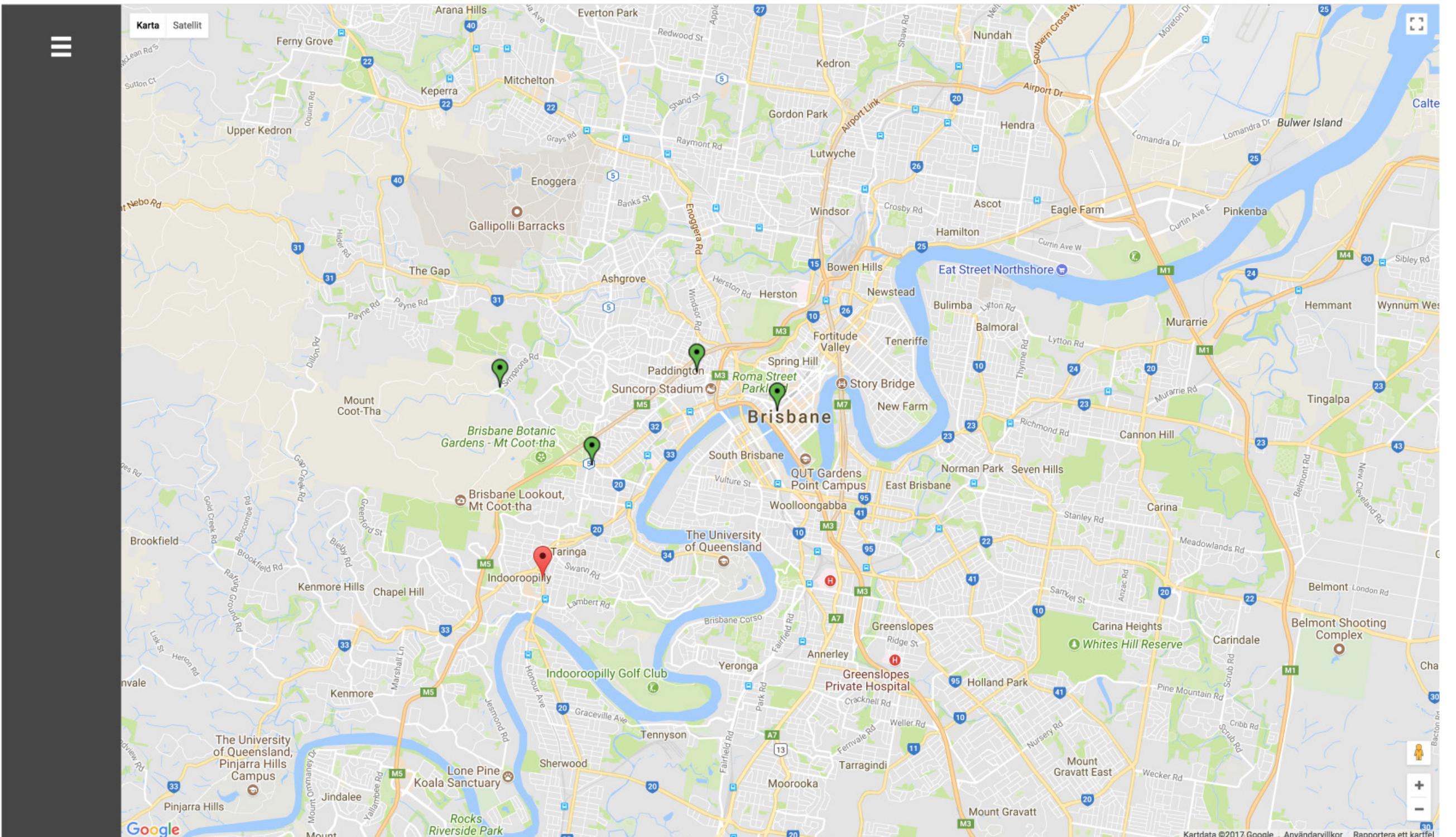
Avatar Creation Screen (Feale)

CONTENT GUIDE



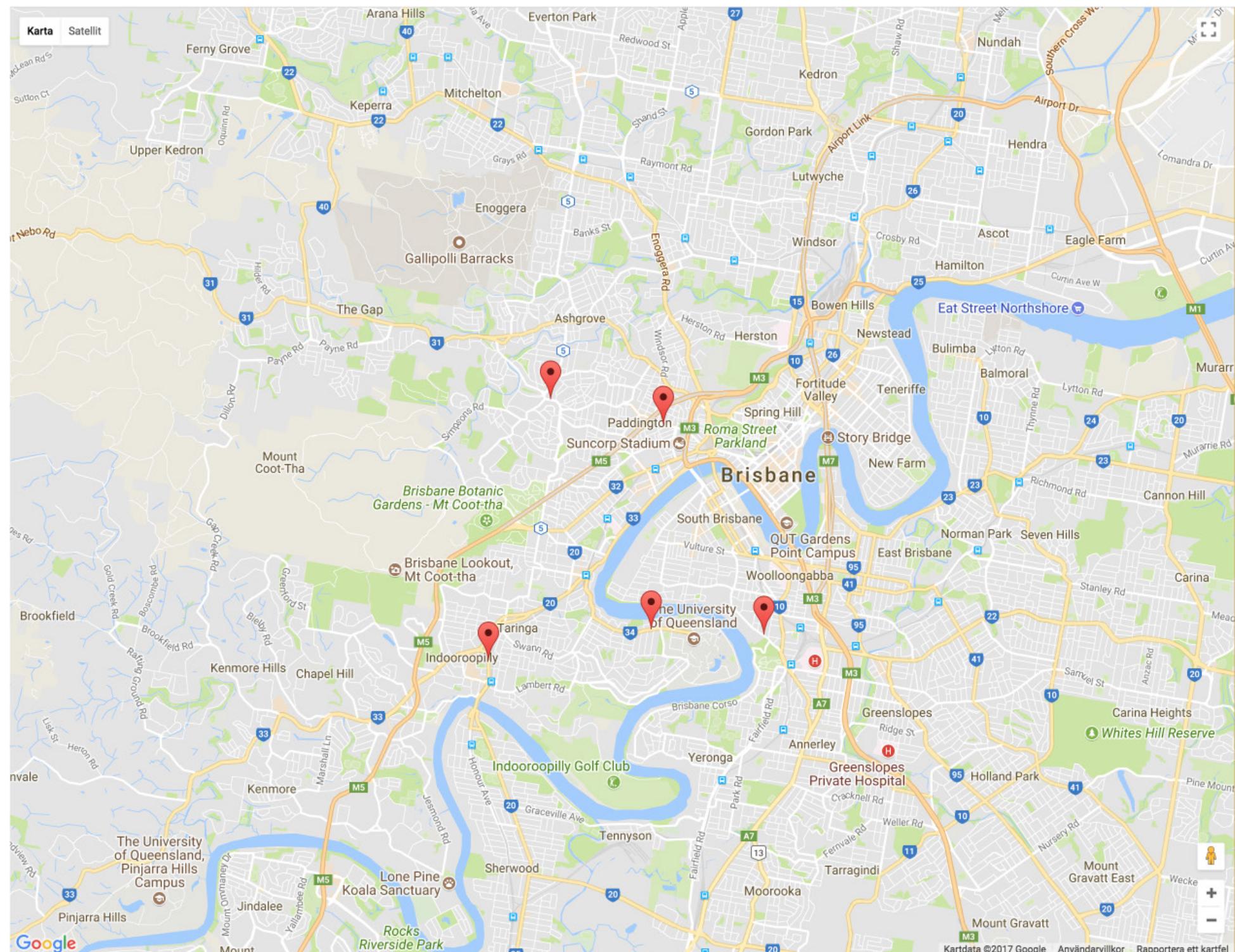
Level Selection Screen

CONTENT GUIDE



Level Map

CONTENT GUIDE



Landmark

Selected Landmark



Brisbane River at St Lucia, Brisbane,
ca. 1922

Year: 1922
Place:



Open Treasure!

CONTENT GUIDE

Back



Testing the emergency salt water mains, Brisbane, March 1942

Firefighters testing emergency salt water mains laid in Elizabeth Street (scene in Albert Street). (Description supplied with photograph)



Found Clue

CONTENT GUIDE



Game Progress



Game Progress

CONTENT GUIDE

[Search](#)

Testing the emergency salt water mains, Brisbane, March 1942

Firefighters testing emergency salt water mains laid in Elizabeth Street (scene in Albert Street).
(Description supplied with photograph)

Estate map of the subdivisional sale of Brisbane city freeholds, Brisbane, Queensland, 1908

Estate map showing allotments to be sold at the Post Office Auction Mart, 3rd August, 1908. The plan covered an area around Queen Street, Eagle Street, Wharf Street and Adelaide Street. The Auctioneers for the sale were Isles, Love and Co. The surveyor for the estate was H. Raff, Central Chambers Queen Street.

Estate map of Bowen Terrace Estate, New Farm, Brisbane, Queensland, 1884

Estate map showing allotments to be sold on the

Search

CONTENT GUIDE



Sanjana Bhatnagar
SID: 44376352
Country: China

A second year Masters student in Interaction Design from India with a background in Communication Design, Sanjana experience in advertising and digital media.



Patrik Odqvist
SID: 44913711
Country: Sweden

Patrik is from Sweden where he is currently doing his masters in interaction design at KTH Royal Institute of Technology.



Jinyu Wang
SID: 44606219
Country: China

Jinyu has recently started studying interaction design to complement her software engineering background and career prospects.



Sebastian Zuloaga
SID: 44577083
Country: Ecuador

With experience in education and tourism, Sebastian has found his passion Designing processes and interaction in products and systems for different industries.

ACME Studios Team



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About the Project

This website has been created for the course DECO 7180 (Interactive Technology Studio). The web application sources information from the State Library of Queensland's (SLQ) data sets. Brisbane Time Travellers is a concept implemented to use the SLQ data in a novel interaction that would help students aged 8-12 learn more about Brisbane in decades past.

If you are interested in this project, you can download the [full project document here](#).

127.0.0.1:8080/#!/aboutus

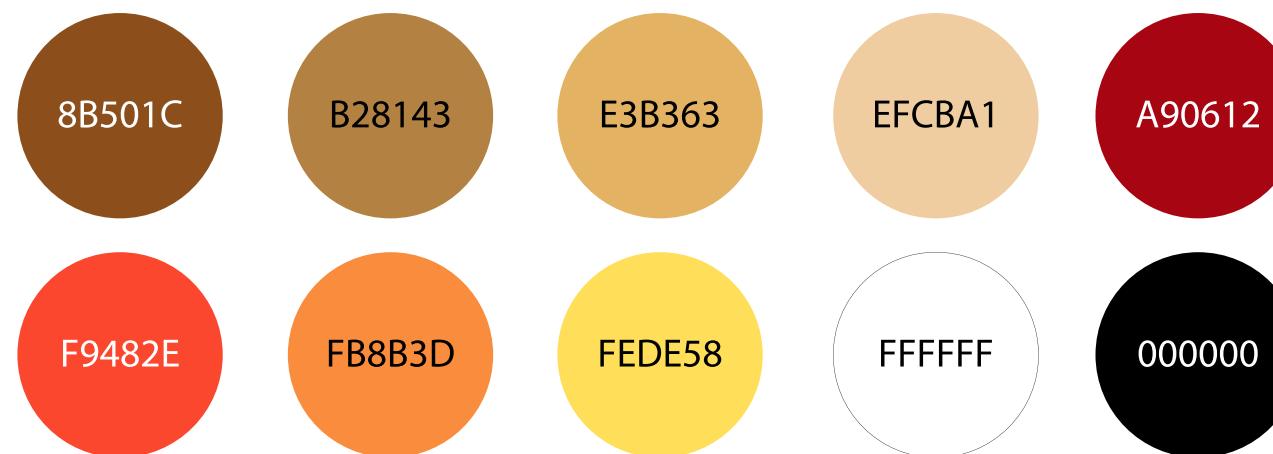
About the Team and Project

AESTHETICS

Brisbane Time Travellers takes a simple direction when it comes to the visual design. The color scheme contains mainly neutral and ground colors (greys, white, brown, black, orange) to give the web application the style of exploring old maps and ruins. This builds to the exploration theme which is complemented by the old images from the SLQ data sets. To further add to the exploration concept, some other imagery on the website also follows this ideas such as the use of the treasure chest as a signal of finding something.

The logo and colours took inspiration from the logo of the Indiana Jones, reminiscent of old exploratory tales. In using all these elements together, the objective was to add onto the narrative of the story by immersing the player into the gameplay setting.

There is some inconsistency in the aesthetic, however. This can be seen in the style of the avatar. In doing this, the idea was that the player is part of the Brisbane Time Explorers who dress in this fashion. The elements were not expected to clash so much with the web application's aesthetic but in some cases it does. Given time constraints, the avatar style could not be changed but this would be a section to tackle in future project iterations. A combination between explorer outfits and the Steampunk style mentioned before would create an old and futuristic look appropriate for the game.



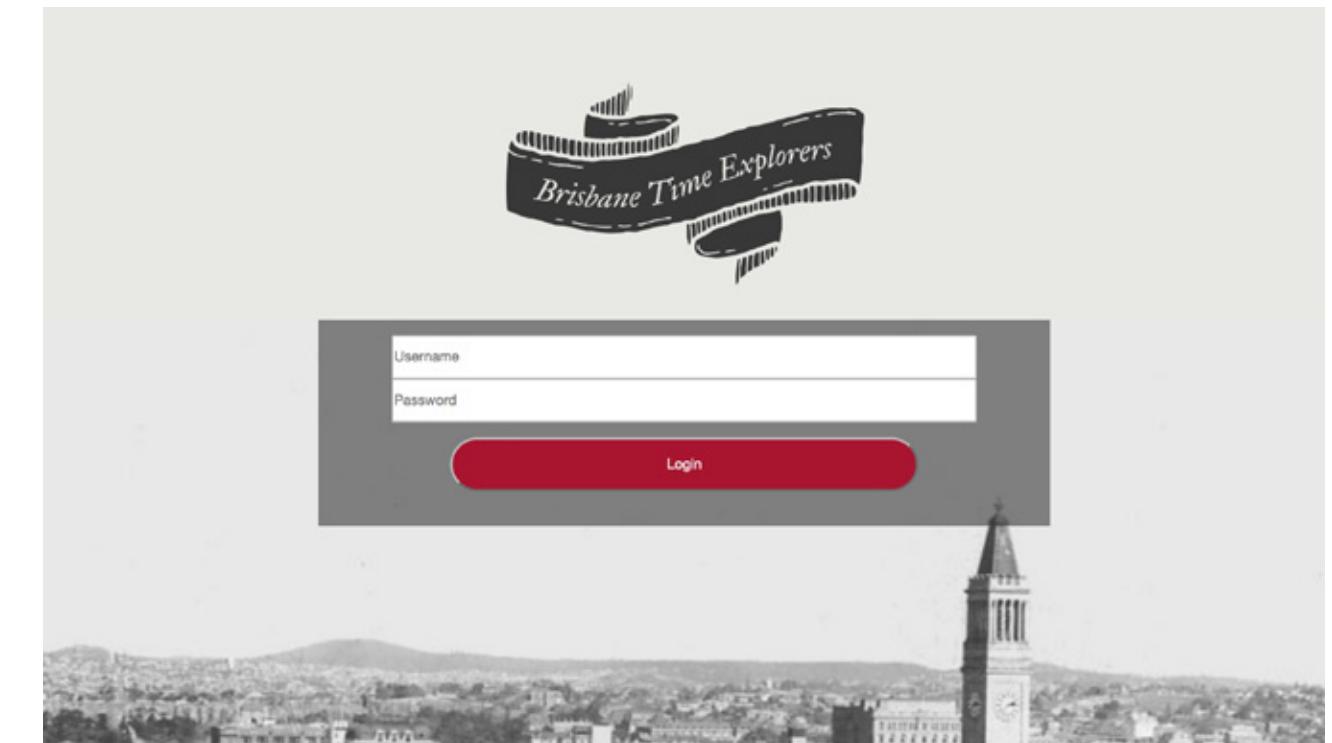
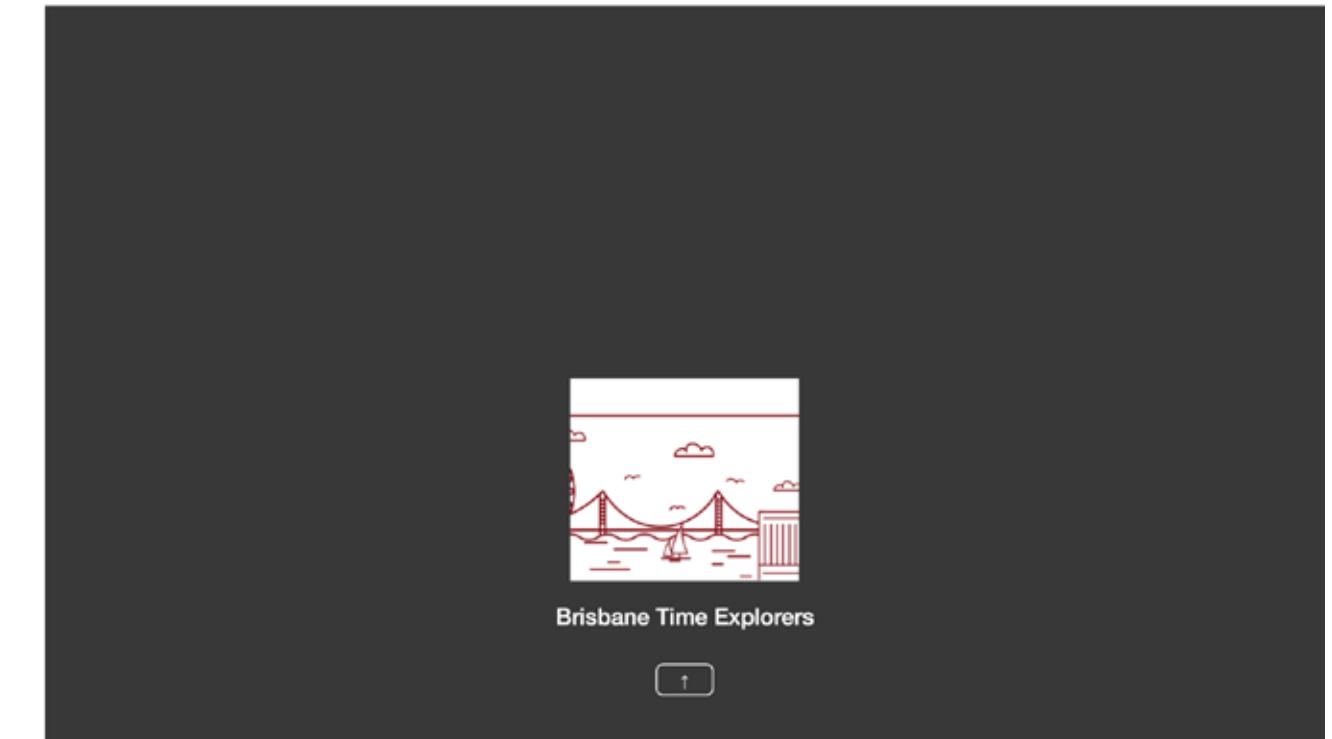
FUNCTIONALITY & INTERACTIVITY

SPLASH

The splash screen has an animated gif showing some iconic buildings in Brisbane constantly looped. When the user click on the upwards arrow, the splash screen slides out of view leading the user to log in or sign in.

LOG IN/SIGN UP

This system has been implemented with Firebase as a database system to contain all the relevant data. The system will allow the authentication of existing users when the login button is used, and provide for the creation of new users using the sign up button and adding an email and a password to the form fields.



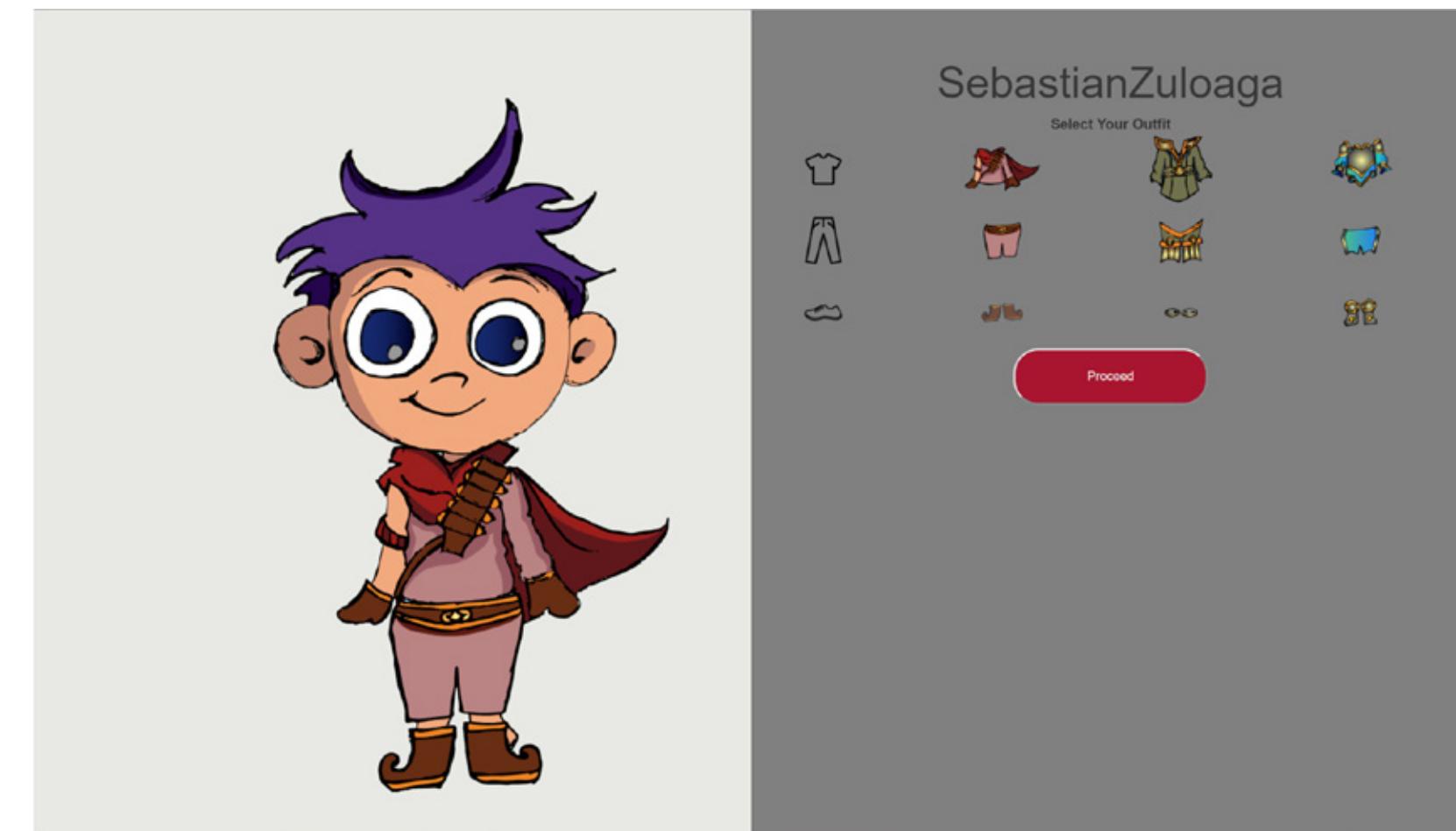
FUNCTIONALITY & INTERACTIVITY

AVATAR SELECTION

The selection of the avatar has been enabled using a table. The table categorises the selections in three divisions: top garment, bottom garment, and shoes. As the user makes a selection, the clothing option selected will be overlaid on the empty avatar. If the user clicks on a top garment when one is already selected in the avatar, the previous selection is removed and the new one is shown. This mechanism will visualisation of the avatar before the selection is finalised. This functionality has been enabled through the use of Javascript and its jQuery library.

AVATAR STORAGE

Once the user has finished customising their avatar, they are able to save this selection by clicking on the save button. In doing so, scripts will check the individual garments of the three categories and match the selections to the database containing all 54 combinations. The right image url for the combination will be saved onto Firebase for future use in the website.



FUNCTIONALITY & INTERACTIVITY

PROFILE INDICATORS

There are several indicators for a user to check that they have in fact logged in into their own account. These indicators include their username, respective avatar, and currency information. This information is extracted from the database when a user opens their account in the game. For example, users can see a picture of the avatar they selected, their username, and their current currency status on the sidebar. This has been made possible through Javascript and Angular programming.

SIDEBAR NAVIGATION

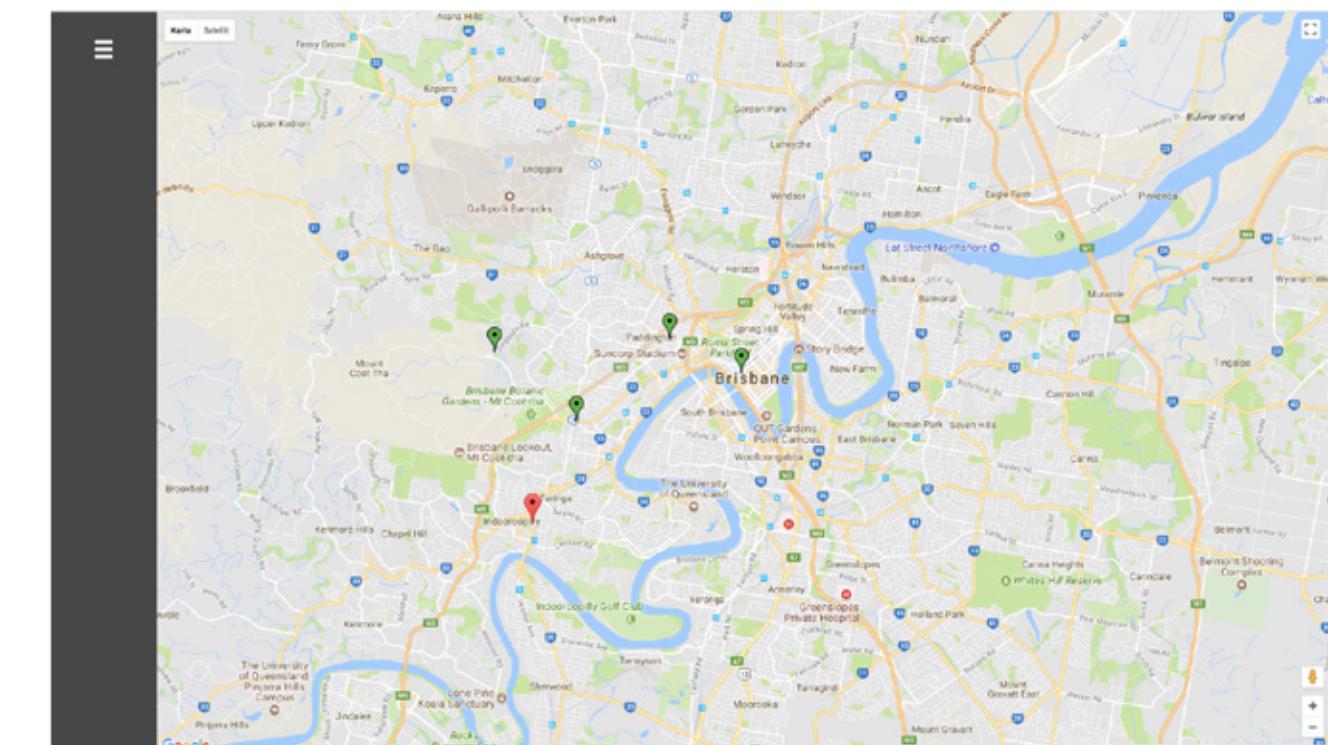
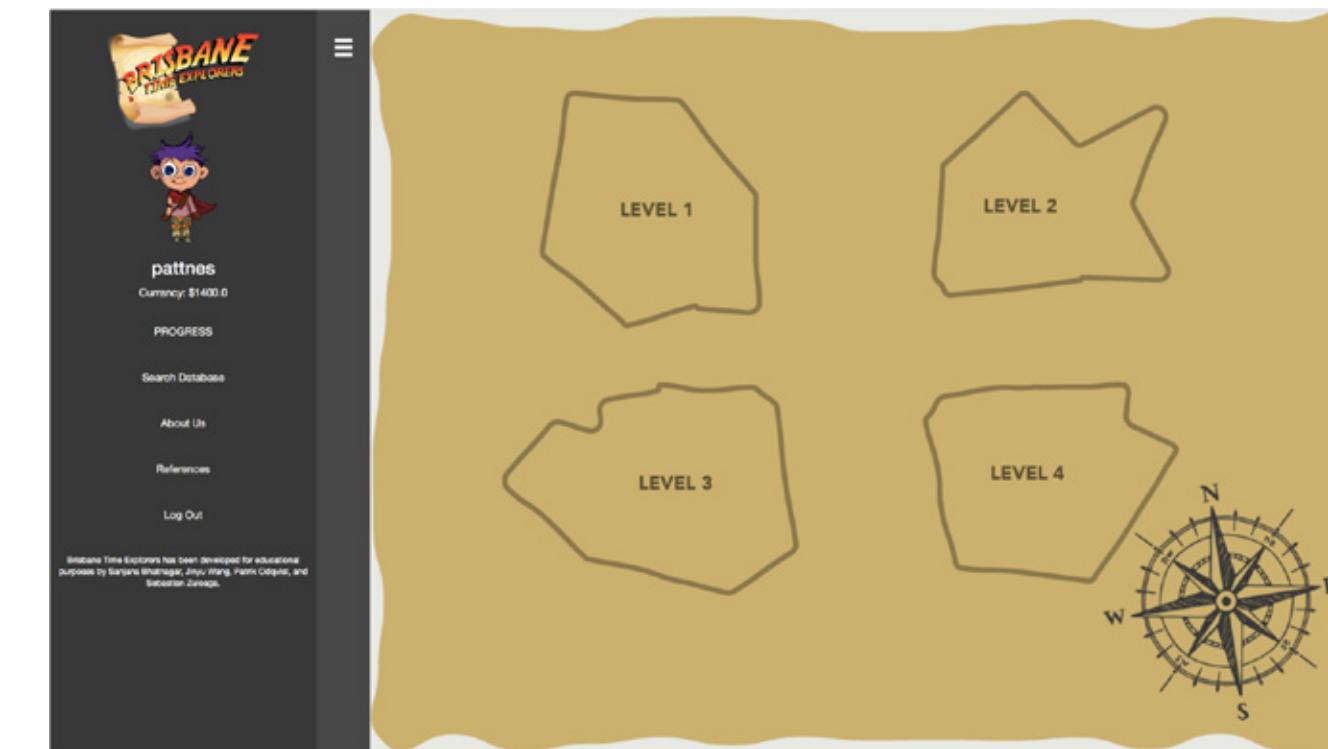
To allow users to have the most use of their screen space, the sidebar will be hidden from the main view of the web application. A hamburger menu icon has been included, which upon clicking it will open the menu by moving it towards the right. This implementation comes from the desire to allocate as much space as possible to the game itself rather than have a fixed navigation bar.

LEVEL SELECTION

The level selection page has a map divided into 4 sections as the background image. This page has also been divided in four sections using bootstrap and divisions in HTML. This division has allowed us to change the background images of the page using jQuery to highlight the level that that player will activate if they click at a given point on the map.

GOOGLE MAPS API

After selecting a level, the game will display a map which sources from the use of the Google Maps API. This map will show sets of markers that will represent a data object from the SLQ data sets. Once the player searches through the clue of a marker, the indicator will go from red to green and it won't be clickable anymore. If the user wants to check a clue, they will need to check the progress page.



FUNCTIONALITY & INTERACTIVITY

DATA OBJECT VISUALISATION

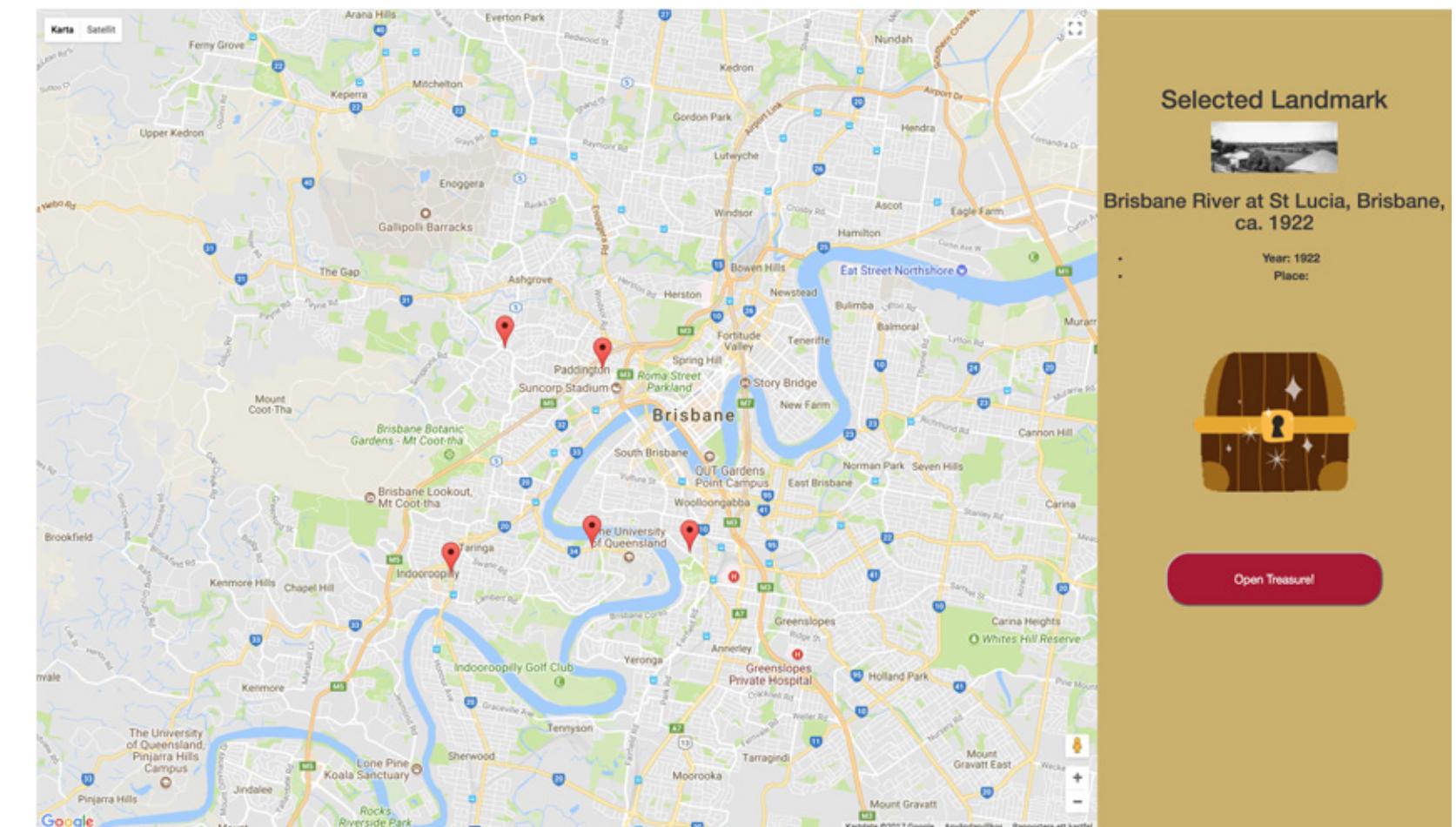
Upon clicking a marker, a bar on the right of the web application will pop up. This bar will contain the information of the object extracted from the data set. This may include an image, a title, a description and a year (some of the fields may be empty)..

CHEST ANIMATIONS

Using simple jQuery, animations for the chest where enabled indicate an item that can be interacted with. The gif animations were created in PhotoShop and Illustrator with a mouse effects actioned by jQuery.

LOCATING CLUES

Below the chest animation, there will be a button that allows the player to find a clue. Some landmarks will contain clues, while others will not. To simulate this, some of the markers have been programmed to hold clues by storing this information on the database (AngularJS & Firebase).



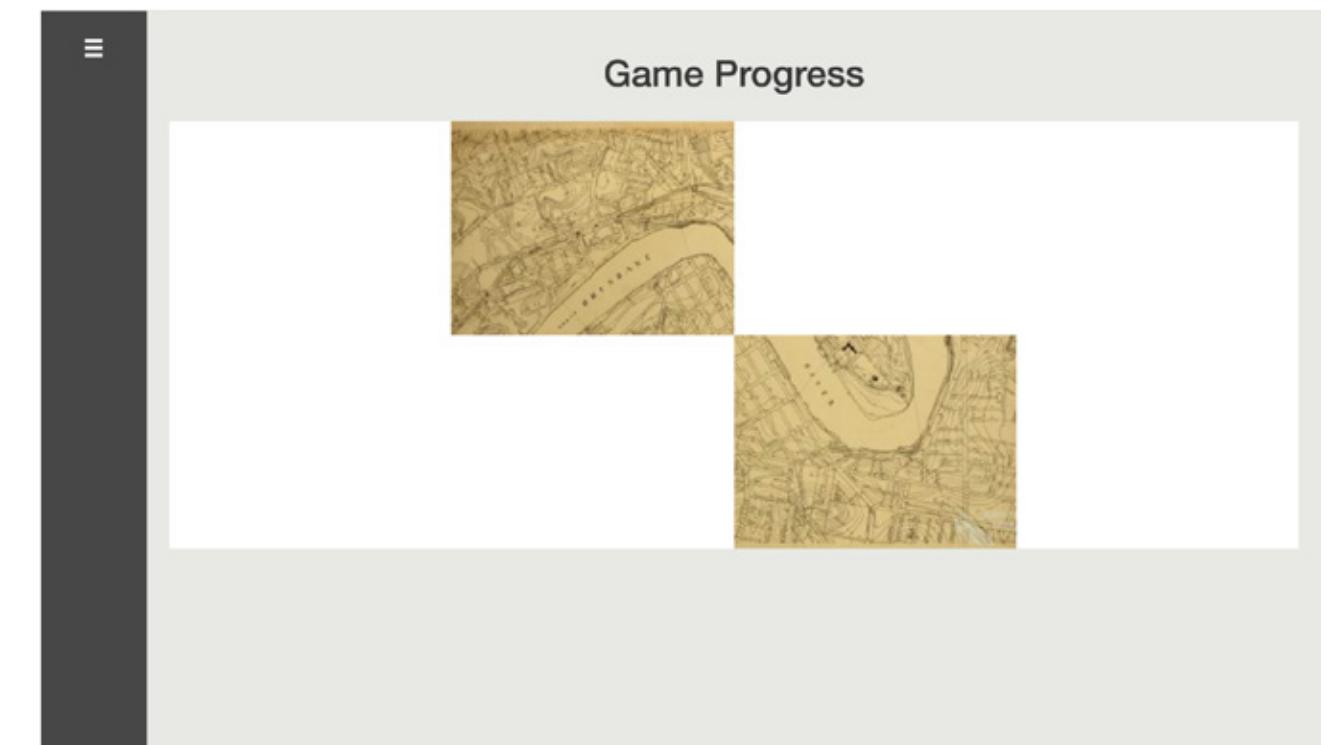
FUNCTIONALITY & INTERACTIVITY

TRACKING PROGRESS

Once clues are collected, the information from that marker will be moved into the progress section so the user can review this content and their progress as they see fit. This will be facilitated by storing and retrieving the information from the database.

SEARCH FUNCTIONALITY

Apart from the normal game navigation, there system contains a search functionality which provides for the investigation of content from the data set using keywords. Once the search is initialised by using a keyword, results will appear on the web page and clicking on these results will show the location that the piece of information represents in Brisbane.



A screenshot of a web application showing search results. At the top, there is a search bar with the word "test" and a red "Search" button. Below the search bar are three horizontal cards, each representing a different historical item. The first card on the left has a small thumbnail image of a black and white photograph of people in a street. To its right, the text reads: "Testing the emergency salt water mains, Brisbane, March 1942. Firefighters testing emergency salt water mains laid in Elizabeth Street [scene in Albert Street]. (Description supplied with photograph)." The second card in the middle has a thumbnail image of a blue and white estate map. To its right, the text reads: "Estate map of the subdivisional sale of Brisbane city freeholds, Brisbane, Queensland, 1908. Estate map showing allotments to be sold at the Post Office Auction Mart, 3rd August, 1908. The plan covered an area around Queen Street, Eagle Street, Wharf Street and Adelaide Street. The Auctioneers for the sale were Mr. Love and Co. The surveyor for the estate was H. Ruff, Central Chambers Queen Street." The third card on the right has a thumbnail image of a red and yellow circular seal or stamp. To its right, the text reads: "Estate map of Bowen Terrace Estate, New Farm, Brisbane, Queensland, 1884. Estate map showing allotments to be sold on the".

PROJECT REVIEW

1. DELIVERY OF MVP

The most basic success factor in our web application is whether or not we deliver the Minimum Viable Product that was originally set out. This will be the easiest success criteria to check as it will be a rather objective yes or no answer.

2. DELIVERY OF FRILLS

In addition to the MVP, there were several game elements outlined through this document which the team wanted to include. There was always the possibility that the could include anything from none of these elements to all of them depending on the speed and efficiency of the development process. Assessing this success factor will consist of a checklist review on what elements the team was able to implement and where they fell short from their own ambition and expectations.

3. TAILORED DESIGN FOR TARGET MARKET

This goal refers to the success in transforming the content from raw data in the SLQ data set to digestible and sensible content for school children among the ages of (include age). This will include both function and form of the web application.

4. WEBSITE IMPLEMENTATION

Having the elements on the website is not enough to make a final judgement on whether the website is successful or not. The team also wanted to assess how the components of the game have been implemented and whether this was the optimal way to do so. This section will reference the use of code structure and website functionality.

5. UX GOALS

During the demo of the team also outlined some user experience goals we wanted to achieve once the project is implemented and used by members of the target market. These goals include the following:

- 90% of users complete at least 1 game level
- 70% of users wishing to return and complete at least 1 more level
- 100% of users successfully creating an avatar
- 90% Successfully locating clues and a treasure chest

During the demo of the team also outlined some user experience goals we wanted to achieve once the project is implemented and used by members of the target market. These goals include the following:

- 80% of users identifying the system as enjoyable to use
- 80% of users finding the learning of how to use the system easy
- 80% of user mentioning that the content was represented attractively
- 80% of users concluding that the system is an effective tool to learn more about Brisbane in older times.

5. UX GOALS

As a simple benchmark, the team also wanted to check of the project brief and requirements were accomplished. This includes the use of at least one SLQ data set, the creation of a web application, completing milestones by the specified times, and deploying a system that makes use of the data set in a novel and interactive way.



EVALUATION OF SUCCESS

1. DELIVERY OF THE MVP: **SUCCESS**

Comparing the results of the web application with the MVP outlined before the demo, the system accomplished all the items in the MVP except for one item. That is the use of currency to purchase new outfits to customise the avatar of the player. However, upon reassessing the necessity of this functionality within the project, the team modified the MVP not to contain it as it is not essential to the game interaction of the web application.

For this reason, the ACME Team successfully achieved the delivery of the MVP. To recap which elements formed part of the MVP, this is a checklist of the MVP included:

- ☒ Information from at least one SLQ data set
- ☒ One level
- ☒ Four landmarks
- ☒ Two pieces of treasure
- ☒ Two clues
- ☒ One progress page
- ☒ 2 Male Outfits & 2 Female outfits
- ☒ Two unlockables using currency (removed from the final MVP)

2. DELIVERY OF FRILLS: **PARTIAL SUCCESS**

The web application contains a lot of frills and additional features that were not part of the MVP. This extends the functionality of the application towards an interactive and reusable system to aid school children with the learning of Brisbane in older times. However, there were many features the designers desired to action, but which did not end up being realised mainly because of time constraints. Below is a list of the features that built the system to be more than just the

MVP, and a partial success in the delivery of frills. A discussion of the interactions that were not included in the system will come later in the reflection of the project.

- ☒ Logo and animated splash screen
- ☒ Sign up and login system to maintain user profiles
- ☒ Avatar selection system containing 54 outfit combinations
- ☒ Search bar functionality for additional exploration
- ☒ Animated GIFs to add appeal for the target market
- ☒ Animated sidebars that react to gameplay events

3. TAILORED DESIGN FOR TARGET MARKET: **PARTIAL SUCCESS**

This success factor is considered to be a partial success in a similar way as the previous aspect. While the site has been tailored for the target market to a certain degree, there are also several elements that have not. For example, while the avatars created resemble younger people to make the connection between the player and the system. In contrast with this, while the content of the data objects is being displayed this content has not been altered. This means that if a data object has a description, for example, the vocabulary used in the description may not be understood by the children using the system. In a similar manner, while some components have been created to add interactivity in the site there are still plenty of elements that could be enhanced to make it easier for the user to navigate Brisbane Time Travellers and finish the game. For example, the aesthetic of the site still used a lot of neutral colour and not enough imagery for younger audience or the system still lacks the narrative we wished to incorporate and the guidance of their avatar on how the system could be used.



EVALUATION OF SUCCESS

4. WEBSITE IMPLEMENTATION: **PARTIAL SUCCESS**

The website implementation is another partial success for the ACME Studios Team. While the web application itself may look great at first glance, there are some underlying issues with the code and development approach that make the website far from perfect.

While the use of Angular JS allowed flexibility in the implementation of bootstrap, the CSS and HTML elements still have some bugs in it, the main one being the responsiveness and scalability of the system. Some of the images and sections of the web application get very distorted as the sizing of the window changes. This shows that the web page will not always translate the same on different devices with different screen sizes. In addition to this, the website still lacks some elements of accessibility necessary to cater for all sub groups within our target group.

With these two examples it is easy to illustrate how the system is still missing some key characteristics needed to be deployed efficiently in a way that would minimise the varying levels of satisfaction and user experiences that the target market could face depending on their particular characteristics.

5. UX GOALS: **UNKNOWN**

Assessing the user experience goals is the one success criteria where no definitive result can be given. This is not because it is not possible to do so, but because this would require testing sessions to be carried out along with interviews on the usability tests. This could be done as additional research to improve the concept and

web application beyond the scope of this project.

Foreseeable results by the team could show no issues with the functionality of the application, but exhibit issues in the enjoyment and experience of the web application. This means that users are likely to be able to complete the tasks such as completing a level or creating an avatar. However, users might find the system not as enjoyable as the designers believe it to be and therefore not realising the desired return rate. This is very reminiscent to the results of the paper prototype which means we may have fallen in the trap of not adding enough items to break the linearity of the system.

6. PROJECT GOALS: **SUCCESS**

As expressed before, achieving this benchmark would be easy to establish, and the team's result here is a successful one. The web application uses data from at least one of the SLQ data sets, we delivered the milestones as specified (sometimes on a smaller scaled than originally envisioned), and the system uses the data in a novel way rather than just displaying it.



REFLECTION & THE FUTURE

During the project, and with many other design challenges, time was the biggest enemy of the team at ACME. The development process was not as straightforward as the team expected, resulting in time being used in resolving problems rather than moving the project forward. It is not necessary to restate the problems we had through the project as previous sections contain those observations and reflections. Nonetheless, the following is a list of elements originally intended to be in the system which could not be included in the given time. It is important to reflect on these items because they show the possible direction of Brisbane Time Explorers in the future in case further development is requested.

GOOGLE STREET VIEW

The vision for the project included the implementation of google street view for the markers that would be plotted on the map of Brisbane. This would allow the user to compare the present and past of Brisbane and provide contextual reference on the content. The target market is likely to be more familiar with images of locations in Brisbane rather than the map of the city.

MISSING NARRATIVE

A key aspect discussed during the project was that of a narrative which would guide the game progression. The main premise to be added was that of a theft. An individual has stolen pieces of the Brisbane timeline and as detective of the Brisbane Time Explorers you were tasked with retrieving the missing pieces of history. This would add to the motif of the students' actions and gameplay. This narrative would also be used as a guiding strategy through the game.

For example, if the user was at the level selection page, then their avatar could be clicked on to action a narrative element to instruct the player on what the current screen was. This would be extended to level completion and finding clues where the story could move forward by including cutscenes through images.

ADDITIONAL OUTFITS

Despite having 54 outfit combinations, the original goal was to have several garment options locked to the user until they would purchase them with the use of currency. This would have added to the options available to the users.

ADDITIONAL ANIMATIONS

As an extra feature, other GIF animations had been prepared for the project that were not added on the final system. For example, there was an animation for receiving currency which does not appear on the final cut as the notifications of receiving currency were not added. This element would have added to the visual appeal of the site.

FLICKR API

The Flickr API was to be added as a way for users to check the images provided by the SLQ data set and compare them to current images of that location from user generated content on Flickr. This would build contextual reference to the educational content that Brisbane Time Explorers attempts to pass on to school children.

As discussed in the street view section, school children may not be acquainted with the map of Brisbane and thus they may not find the connection between the map and the landmarks retrieved from the SLQ. Adding images will help bridge this gap as much as the inclusion of Google street view.

MINI GAMES

As a result from the paper prototype test, there was an intention to add mini games that players would have to win in order to receive either a clue or treasure. Ideas for these games ranged from a game of memory to hangman that would use the SLQ data in the. This mini games would increase the entertainment factor of the game, as well as creating a more dynamic gameplay from the linear pathway currently proposed.



REFLECTION & THE FUTURE

UNLOCKABLE ITEMS WITH CURRENCY

In moving through the markers of the game, players would receive either clues or treasure containing currency. This currency was meant to allow for further character customisation. Adding this feature would increase the sense of accomplishment and motivation in completing levels. At the moment, the game lacks a purpose apart from completing all the levels and this affects the retention capability of the game.

DIFFERENT PROGRESS MECHANICS

While the current progress page serves as a data storage for the landmarks that contained a clue, the purpose of this page was to retrieve additional data from the SLQ APIs and display those as gathered clues. The progress page was meant to be another way to explore information of old Brisbane, whereas in its current stage it is a mechanism to revisit content from landmarks that have been activated previously.

ADDITIONAL STYLING & AESTHETICS

In a general sense, the web application is still contains very basic style and the team believed that with more time the style could be adapted to better fit the theme of the game.

As can be seen above, there is still much development that could be done for Brisbane Time Travellers. Each element mentioned above would improve on the current web application and allow for better outcomes in learning about Brisbane. ACME believes that, if the project is picked up for further development, the focus should be in adding context to the learning experience. This would encompass the inclusion of a storyline, the integration of Google Street View, and the inclusion of the Flickr API to view the SLQ images against their Flickr equivalents. After the implementation of these elements, then the other sections could be targeted to fulfill the original game's vision.

While many things are missing in the deployed web application, the accomplishments from the system signal something rather important

for the future of the project. The use of API data on the city of Brisbane means that this game could be applied to any location around the world so long as there is existing data about those places and APIs that support the extraction of this data. This would allow for an exciting method that cities can use to motivate local citizens to get to know where they live.

The concept could also be expanded to be a mobile game that could integrate GPS location to access levels and landmarks and even augmented reality which could be used as tools for school excursions which have been implemented in games around the world (Atwood-Blaine et al., 2017; Akkerman et al., 2009). It is exciting to see that the concept has potential beyond the scope in which ACME has worked on during the past months.



REFLECTING ON THE DESIGN PROCESS

As a final section of this document, there are several things that the team at ACME learned upon reflecting on the design process embarked on for this project.

1. LEVELLING SKILLS

Before starting the project, a good technique to reduce development times in integrating components is to help everyone in the team improve their technical skills if they are not up to the required standard. This will shorten development times and reduce complications in the mismatch between two development techniques. Setting a framework to be followed can help put all members on the same level rather than having a different style on each component.

2. MAKE SPECIFICATIONS

When working with a member from other departments and the final outcome is a result of collaborative work, it is crucial to make specifications on how content items should be provided or how code should be developed. For example, if the front end developer is overlaying images provided by an artist on top of an HTML division, the artist should be told the proportions of images to reduce the amount of time required in styling the images with code and markup. This applies for any intertwined elements through the designs, given that assuming design specifications will likely have consequences through the project.

3. INVOLVE EVERYONE

Involving everyone will ensure members are up to date on the progress on the project and get them to give their inputs on how their work can impact the project. You never know when a team member will be better at some skills than another which could shorten the amount of time used in certain tasks.

4. CALCULATE DOUBLE THE TIME

As a sample reference, everything you want to develop is likely to take twice as much time as you believe when it is designed and developed. Therefore, try to halve the original concept to find a spot where you will likely end up at with the project submission. This point goes along with the following lesson outlined.

5. WORST, MIDDLE & BEST CASE

Through the project, the team at ACME had one concept to strive towards. However, in hindsight the team should have prepared for three case scenarios: the worst, the middle and then the best. The worst case scenario would be provided by the MVP, which is the essential specifications of smallest project that could be submitted. Then, set out the middle case which contains additional improvements from the MVP but not the level of including all the features of the concept conceived in its original state. The best case scenario represents the full concept including all the possibilities and best features.

It is important to establish the set of elements that would complete each level, and work towards completing all of the aspects from one level before proceeding to the other. This will ensure that you create a complete product, instead of stopping midway between two levels where the project looks incomplete. This is not to say that an agile environment would not work and that moving forward is a bad thing, but this perspective might help in keeping oversight of certain elements in the project. The team at ACME managed to get to a middle point, though it was not planned this way and thus there are several game elements that do not hold a purpose (such as the currency).

6. DECENTRALISE RESPONSIBILITY

Empowering a team with all the necessary skills will reduce the centralisation of powers. If only one person develops and only one member creates visual elements, then if those members are out of reach or can't work on something for the due date then those elements will not be included. Decentralising powers and having a versatile team will allow for multiple people working across the board.

This project has truly been a journey for the ACME studios team, and using these lessons the team will show more efficiency in future endeavours. For now, we hope you enjoy using Brisbane Time Explorers and learning more about Brisbane.

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Images:

GeoGuessr Logo: <https://littleblacksubs.wordpress.com/2015/09/02/site-geoguessr/>
Where in the World is Carmen SanDiego Logo: <http://www.museumofplay.org/online-collections/1/45/109.10880>

Background Images:

(Any from present day): <https://unsplash.com>
(Historical): SLQ Database: <http://data.gov.au/dataset/picture-queensland/resource/c86cf327-eec9-432b-ab8c-6b34a2e99ec6>

All Dataset Information has been extracted from <http://data.gov.au/organization/slq>

