Deco 1800

Design Proposal
Team Magikarp

Ryan EYLES   42650601
Jack ALLEN   42850782
Liam BORDON   43538546

1.0 Scope

The Trove website provides access to millions of resources such as pictures, theses, articles, people and music. Trove is an Australian product, so it stands to reason that many resources will be specific to Australia. This project aims to use the existing data on Trove in a meaningful way.

When developing a concept, we wanted to create something that was simple, entertaining but also useful. The concept we are proposing that meets these criteria is an education tour map of Australia that takes place in the form of a game. The user can progress through the game and learn facts and history about different Australian regions pulled using the Trove API.

2.0 Background

2.1 Inspiration

The concept game was inspired primarily by the classic 'Pokemon' game for gameboy. The pokemon games were wildly successful, and the idea of using simple top-down exploration game would be convenient for a web-based application. Furthermore, the website *Addicting Games* [5] has numerous games that influenced our stylistic choices and provided a relatable starting point for our project.

Many games have a reward system that keeps the user interested and engaged such as Agar.io [4]. It is harder to keep users, especially a younger audience, interested in purely educational games. For our project we aim to combine the reward systems of video games with interesting or useful information about Australia to provoke learning about the country and its regions in a simple and engaging manner.

2.2 Trove

Trove is a repository of digital resources developed and created by the National Library of Australia [1]. Trove contains vast data from libraries, museums, archives and other research organisations relating to Australia.

The trove API can therefore be used as a database for this web application, inparticular supply relevant content and information. This data can then be used in an engaging and meaningful way to educate and inform the user, as explained in 3.0.

3.0 Design Concept

3.1   Purpose

The purpose of the project is to design and implement an interactive tour map of Australia as a web-based game. As the user progresses through the game into different regions, they are challenged with Australian trivia and information about the region they are in using Trove data. In particular the data used could be landmarks, stories, people, flora/fauna or other interesting facts.

By using reward systems commonly seen in games (area progression, high scores, mini-games and other challenges) we hope to keep the user interested and engaged in the game.

3.2   Audience

Because most of the trivia information will be simple and common knowledge for adult residents of Australia, the game was designed with a younger Audience in mind particularly Junior School Students from years 3 to 7 (Ages 8-12). International students studying english or wishing to travel to Australia could also benefit from a simple, educational game that explores the country.

This age group has been chosen as the target audience in order to portray Troves data in an engaging educational way. Older user groups would require much greater data for it to be educational, and younger user groups may not be able to successfully navigate the game. Therefore for children from ages 8 - 12 the web application can have a perfect contrast between game and education, hence the application will be fun and informative.

3.3   Design Overview

This web application as previously explained will form an educational game to inform children of various Australian trivia. Simply the game will be an interactive tour map of australia with various educational 'mini-games' required to progress through the game map. The project may be broken into three main sections, the web page design or interface, the game and finally the trove implementation or 'Mini-games'.

The foundation of our project was developed using basic game mechanics found across almost all game platforms. It was difficult to find a fully interactive web-based game achieving what we desired. The *National Geographic* website has a very basic Australian Trivia [3]. However, it is not interactive in the manner which we are proposing. Nonetheless, it has created a very strong foreground to base and simulate the desired questionnaire and 'mini-games'.

3.3.1 Interface

The web page design and user interface will embody the application. There will be an initial home or login screen, the tour map game screen, Mini Game Pop up screen and finally the game completion screen.

When a user directs to the the webpage the initial screen will be a login page, the purpose of this page will be to allow users to login to an existing account, link that account with various social media sites such as facebook or twitter and introduce users to the game. This screen will be simple and free of clutter optimising user navigation a concept for this page is displayed in figure 1.
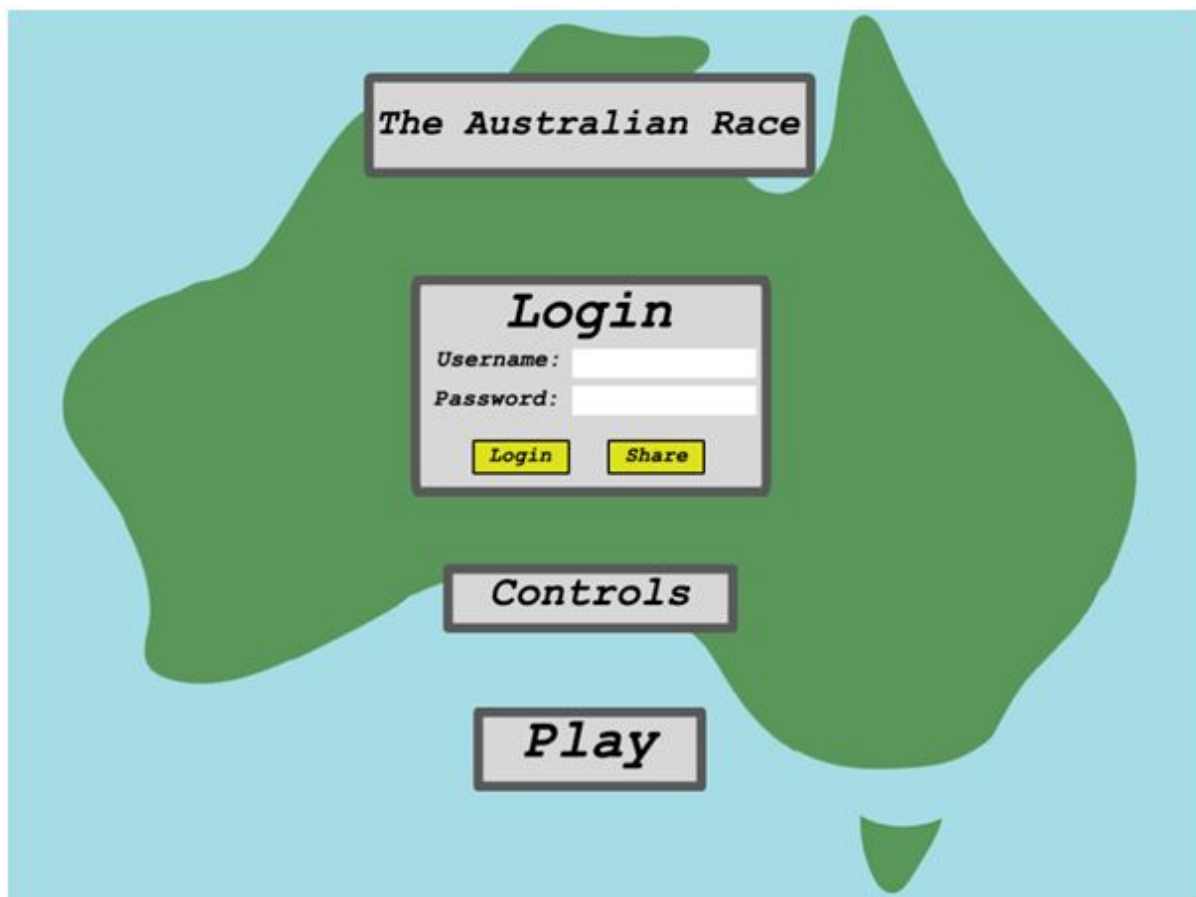

Figure 1: Web Application Login Screen

Additionally the login page will have game instructions in the form of a brief tutorial, this however is optional for users.

Once directed through the login screen the user will experience the Australian tour game. This page will consist purely of the game and occasionally a popup window for the mini - games and trivia questions. The web page design will overview the appearance of these pages however the functionality is described further in 3.3.2 and 3.3.3.

Upon game completion A final screen will be displayed. This will not only let the user know of their success and results but will also display a leaderboard of the top achievers. Additionally if the participant logged in their previous high scores will also be displayed.

There will also be an option to share their results to their prefered social media site. A Concept of this page is illustrated in figure 2.

Figure 2: Leaderboard Page

3.3.2 Game & User Interactivity

The main functionality of this project and web application is the Australian tour game, this will be situated on a separate page. The goal is simple; travel to all the cities around australia. Figure 3 illustrates a concept map and game page which includes menu options, and game properties such as time and score.

Figure 3: Game Map Concept

The game is played by moving a character around from node to node or city to city, this can be done by mouse movements or the keyboard arrow keys. Once a player has reached a new city they must answer or complete a 'mini game' as described in 3.3.3. If successful the player may proceed through the map until all cities have been visited. If the player however fails the 'mini game' they will be forced to complete another before proceeding.

For the game to be engaging there will be a point system which multiplies with the number of sequentially passed 'mini-games', points will be rewarded for passing each node, with time bonuses. As mentioned 3.3.1 the final score will be recorded in a leaderboard and can be shared via social media to increase the competition of users and consequently the enjoyment.

Addition functionality of the game may include randomised facts or games between cities, these will just pop up unexpectedly, similarly to walking in wild grass, or being approached by a stranger in the famous 'Pokemon' game [2].

With the same inspiration, you may need to first find a boat in a hidden location before being capable of travelling to hobart, this task would make the game more interesting ensuring users have to choose their path carefully rather than just simply traveling the shortest path.

Design Concept   Deco1800   Team Margikarp

Furthermore the game may be played on various difficulties which would affect the way points are rewarded as well as requiring the user to complete multiple 'mini-games' at each node, and these may be more difficult to complete.

3.3.3 Mini Games & Trove Implementation

The 'Mini-Games' as mentioned will contain the education data for this web application. As explained in 3.3.2 these games will appear when the user navigates and arrives at a node, the completion of a game is then required to progress.

These mini-games may take a variety of forms, they may be a quiz or trivia type question, where the user may need to either type the answer or select from multiple choice. It may be a puzzle, such as picking the odd picture out. Overall these games will be diverse and use, text pictures and sounds to engage the user.

Additionally the games will be related locally to the player's current position. For instance if the player was located in NSW the games could be related to the Sydney Opera House, or the Sydney Harbour Bridge for instance. This will provide more content and consequently educate the user. Figure 4 depicts an example for southern queensland game.

Figure 4: Mini Game Concept

3.4 User Interactivity

Throughout the game the user will play as a character and will move them via mouse control or the keyboard arrow keys. at various stages within the game the user will be asked to complete 'mini games' or quizzes (refer to 3.3.2 & 3.3.3) at this stage the user will interact with the application by answering the question, it may require typing or selection of the correct answer.

Additionally there will be multiple pages and menus in the web application theses are described in 3.3. The User will be able to navigate and interact with the application similarly to most other web pages, by selecting buttons / tabs or by completing the requirements of a page.

3.5 Trove Utilisation

As previously mentioned in 3.1 this project will deliver an engaging and interactive educational game. It will inform children of various famous and key aspects of Australia by interacting with the Trove [1] database. The application explained further in 3.3 will required various questions, or puzzles to be completed to progress through the game. Theses questions could be about Landmarks, People, Flora/Fauna or other interesting facts.

References

[1] Trove, *National Library of Australia* http://trove.nla.gov.au/ Accessed 27 July 2015

[2] Pokemon, *Nintendo*, http://www.pokemon.com/au/ Accessed 10 August 2015

[3] Trivia http://travel.nationalgeographic.com/travel/countries/australia-quiz/ Accessed 18 August 2015

[4] Agar *Agario* http://agar.io/ Accessed 19 August 2015

[5] Addicting Games http://www.addictinggames.com/ Accessed 21 August 2015