# Deco 1800

# Project Progress

## Team Magikarp

30 October 2015

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Zone link: http://deco1800-g5.uqcloud.net/

# 1.0 Description

## 1.1 Purpose

*The Australian Race* was based around creating a web-based interactive, exploration game of Australia. As users progress throughout the game arriving at landmarks across Australia, trivia questions and information based around the respective region are presented using Trove data. The trivia and information displayed, will focus on well known Australian icons, landmarks and animals.

By using a competitive scoring system similar to many games, (map progression, high scores, timers) the interaction with the users will remain engaging and competitive over time.

## 1.2 Audience

As the construction of the game continued, the trivia information chosen was very simple, content which would be common knowledge for a majority of Australian adults. Consequently, the game was designed for middle primary school students, grades 3-5 (ages 8-10). This game will also benefit many international students or anyone trying to familiarise themselves with Australian culture.

The target audience was selected for *The Australian Race* in order to portray Troves data in an engaging and educational manner. If the game were to be presented to older audiences, the content would need to be much more factual and dense to keep the game engaging and educational. Also, if the game were made too difficult, it would be too complex for younger users to interact easily and freely throughout the game. This has formed a strong contrast between the game itself and any educational information presented, leaving the described demographic as the most effective group to target *The Australian Race* towards.

## 1.3 Approach to given data sets

As previously mentioned *The Australian Race* was designed to educate in an engaging and entertaining manner. In order to educate users however, the web-application required informative data from Trove. Throughout the game Trove information is used in two major areas, the mini-games and at information pitstops. Firstly each minigame has a related picture to complement the mini-game and intrigue the user; this picture is retrieved from the trove database. In order for the application to be dynamic the various pictures are searched and returned depending

on a keyword associated with the current minigame and 1 picture is randomly selected, thus never displaying the same picture.
Finally trove information was used within the information pit stops, to educate the user on various aspects of Australia. Similar to the Trove images, the articles were randomly selected after searching for a keyword. Additionally each node has its own set of keywords to select from, thus making the educational data diverse and engaging.

## 1.4 Interactivity

The user interaction within the game has been aligned to suit those of lesser technical competence due to the target audience. However, many of the controls and the game mechanics have been created in a very effective manner to remain professional and stylised to all audiences.

The player initially logs in to allow for their scores and progress to be tracked. The player controls, both for movement and for shortcut access were created to simplify the user interaction and increase the overall experience.

When the game initialises, the player score and game timer is displayed. Players then explore nodes across the map, answering trivia questions or visiting information pitstops. All this data is drawn from Trove based of off the relevant location and question. Once the game is completed, the score is displayed, alongside a leaderboard of the top scores.

The ability to log in at the beginning of the game, creates a competitive atmosphere within the leaderboard and between users as they attempt to maintain the lead and surpass their previous scores.

# 2.0 Implementation

## 2.1 Login

The login page faced many tribulations during construction. Unfortunately unlike originally proposed, the finalised product did not feature an integrated database. The login form works as regular, accepting a username and password, although the data entered is not collected. The submit button simply redirects to the game page when clicked locally.


Figure 1 - Login Page

## 2.2 Game

The game functionality of the final web-application was greater than proposed. Changes were made from various feedback sessions, and additional functionality was implemented to enhance the gameplay experience.

Initially the game constructed to allow user interaction. This required introducing nodes, a player sprite which changes direction and appears to walk and user key control. In addition this was modified to adjust to various screen sizes.

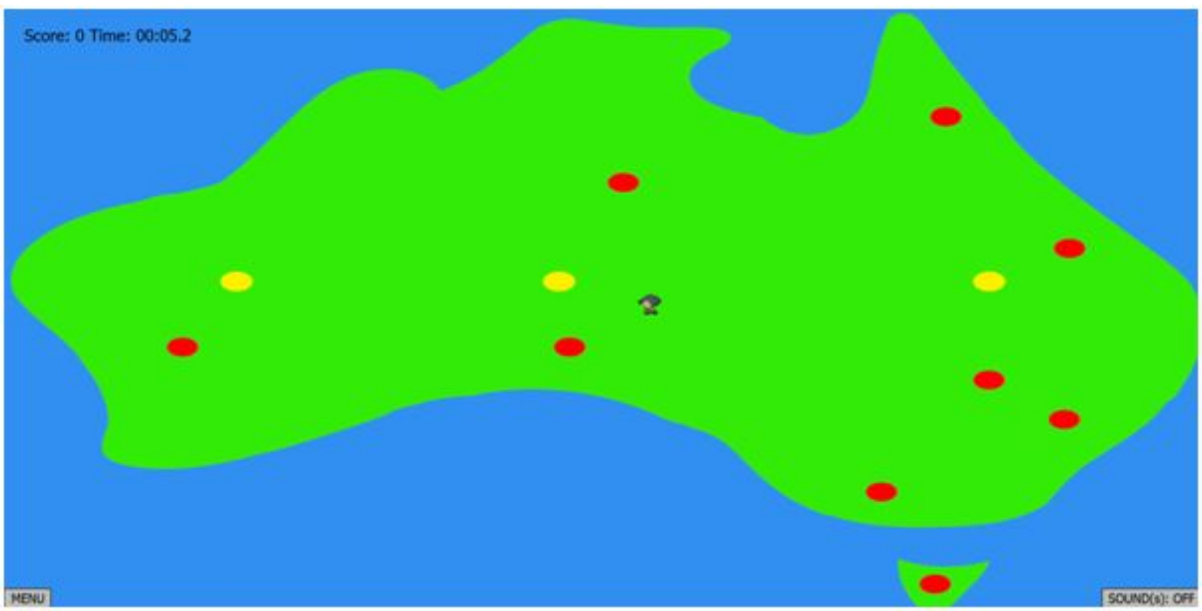


Figure 2 - In-Game Screen

Functionality such as opening mini-games, information pitstops and custom alert boxes where appropriate was also implemented.

A score system was implemented which benefits users who pass more mini-games in a row. Therefore creating a competition and enjoyment between users.
Also a timer was used, again to construct competition.

The aforementioned functionalities concluded the proposed game, however due to feedback and internal critique additional features were implemented to benefit the game. These functionalities included customizable settings, difficulty levels, hotkeys, menu and game control functions.

For a greater user experience and interaction a customizable settings menu was implemented before the initial game play. The settings allow the user to select a character avatar, difficulty level and toggle sound. Additionally the user can open the instructions to learn about the game.

Figure 3 - Settings Menu

There are three difficulty settings available, Easy, Medium and Hard. These govern the allowable game time and the number of attempts for each mini game. Easy has 10 minutes to complete the game and 3 attempts at each mini-game. Medium is allowed 5 minutes of game time and 2 attempts. Finally Hars has 2 minutes and 1 attempt.

An audio tune was introduced to enhance the experience while the user moves around the map, and therefore menu and setting items were created to toggle the sound.

A menu was implemented to control in game settings such as pause/resume, toggle sound, show instructions, restart and quit the game. For easier use, hotkeys were also created to complete the same tasks.

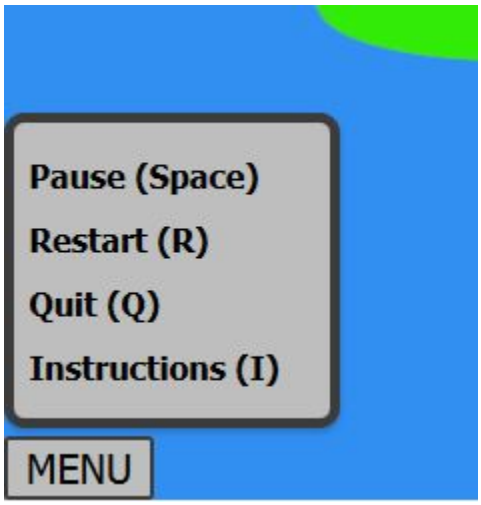


Figure 4 - Menu

Once the game is complete, the leaderboard is generated. The leaderboard was originally proposed to interact with the data created at login. However, as this was left out, it was not possible to do so here also. The previously recorded leaderboard scores are hard coded, but the ability to display the players final score and keep track throughout the game is still present.


Figure 5 - Leaderboard

## 2.3 Mini Games

The trivia questions were initially going to be drawn from Trove itself. However, once this is was deemed unachievable the questions were hard coded and related trove

images were used as a complement. After a question has been answered, the location node is unlocked and becomes an information pitstop, which displays educational  trove articles.


Figure 6 - Mini-Game Example

## 2.4 Visual

The final aesthetic features were similar to what was originally proposed. The style and colour scheme chosen was selected to contrast the game itself. A few changes in vibrancy were made to created a more engaging presence within the game. The menus throughout the game were kept consistent to allow for a familiar experience and highlight any Trove based images, the game map and the character itself.

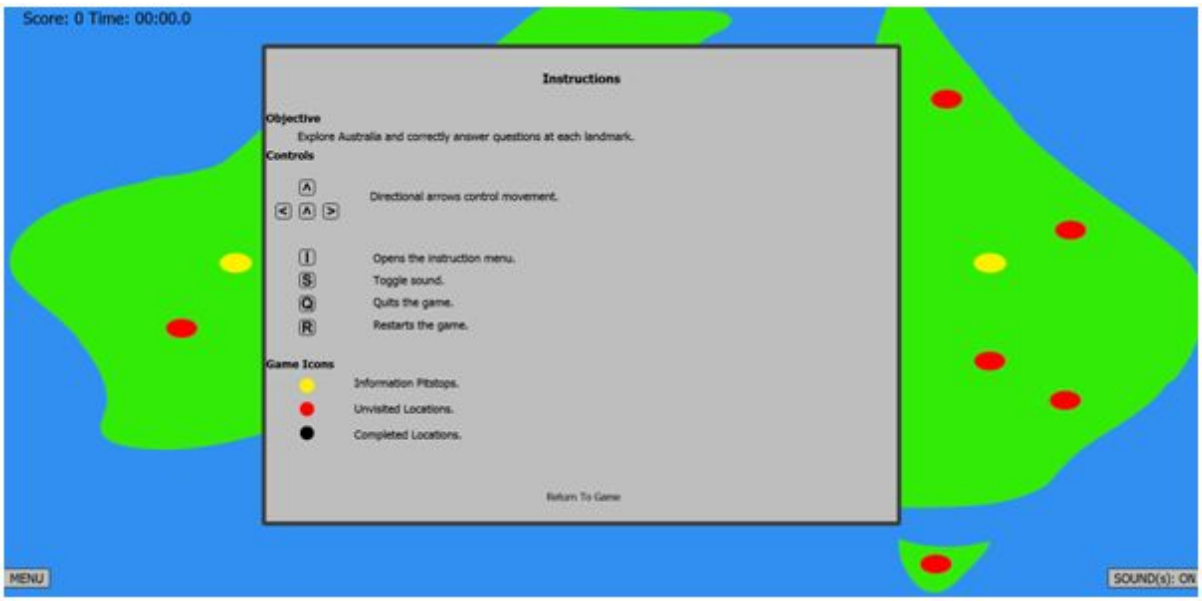


Figure 7 - Instructions

# 3.0 Process

Throughout the creation of *The Australian Race* there were very few major difficulties encountered. Throughout the numerous peer reviews we had, the overall feedback we received was rather positive with very minor comments made mainly to the visual design of the product. This caused minor adjustments to be made to a few of the colour schemes and sizing within the game itself.

The major changes made to the game in its final stages were internal changes decided on within the group. These mainly consisted of adjustments made to the Trove data, along with the user database also. The lack of a user database was the most prevalent issue within the final project. Many of these components are still fully functional in the final product, only on a local level however. This change was primarily caused by losing the third team member, the database was unable to be flushed out and integrated completely, consequently this was simplified to the local level evident in the final product.The remaining changes related to the way the Trove data interacts with the game. The Trove data was initially going to display once a question was answered in a form of a pop up. However, this was reworked and changed to display data once the player returns to a correctly answered node. This displays the Trove data in a similar way to the information pit stops that were implemented. This allowed the information to be highlighted in a much clearer manner and helps the player review any information related to any of the interesting questions that were answered.

The overall design process of *The Australian Race* was very well planned. Due to this, very few changes needed to be made from the original proposition as it was conducted in a very realistic and effective manner.

# 4.0 Reflection

The final product has achieved many of the key concepts that were proposed. Overall, the project shaped up positively based around what was desired and also in terms of creating a high fidelity web-based game. The functionality and stylistic choices of the game itself are most definitely the strong point of the project. The main negatives within the game are the aspects which were never fully implemented.

Initially, it was hopped that a variety of mini games would be integrated rather than simply trivia questions and information pitstops. This is possibly the largest let down across the project. It would have allowed for a better user experience and improved the game mechanics also. Furthermore, interactions when exploring the map such

as quicker methods of transport, interactions with iconic Australian animals or distractions to burn time were also initially considered, but not included in the final product.

Another aspect that was not included was the ability to share your scores and progress with social media. Although this does not affect the final product, it was still a key concept that would have improved the competitive side of the game.

Furthermore, greater interaction with Trove and the user database could have been improved, in particular the types of articles received for the information pitstops. Occasionally these articles are gibberish or text heavy, preferably this would have been refined to cater to the target audience. Additionally data drawn should be related to the current mini-game(s), rather than generalised information for the current location.

Integrating the user database would also improve the overall product in the future. Allowing users to login and track their progress would greatly improve the replay value of the game.

Overall the *The Australian Tour* effectively meets all proposed goals and provides an engaging and interactive educational tool for young students. There are improvements and some additional refinement which would have improved the game however unfortunately after becoming a team of two, these additions were not feasible before deadline.