

A Serious Game for Teaching SQL

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November 21, 2018

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1 Project Idea

Video games or digital games have become a popular source of entertainment for a wide range of age groups. However, there has been an increasing interest in games that are developed for educational purposes, to be used in educational environments, known as 'serious games'. Serious games are developed with the aim of educating and not merely for entertainment. These games are often compared to traditional teaching methods.

Some basic features of games include the ability to unlock new levels, unlock achievements and gain rewards. These features cause games to be; engaging and motivating, because of the excitement of unlocking achievements and gaining rewards, and the desire to simply progress through the game and potentially beating it. Games are also capable of teaching new skills and getting users to re-apply those skills in various scenarios. This makes games great learning environments. However, there is a lack of literature to prove these claims, and so more empirical studies on the matter are required [1].

This project aims to develop a serious game to teach the programming language SQL. The reason that a programming language was chosen as the topic of the educational game is follows:

- Learning programming languages are a core part of Computer Science courses at University. This allows for a wide range of users to evaluate.
- There are complexities to a programming language and to the programs that it can create, this can be used to create a defined structure of progression through the game, starting with basic commands and slowly introducing more difficult concepts.

2 Requirements

Intro

3 Project Plan

The key milestones for this project are:

1. *2nd Nov 2018* - Project Proposal Submission
2. *30th Nov 2018* - Literature & Technology Survey Submission
3. *18th Feb 2019* - Demonstration of Progress
4. *7th May 2019* - Dissertation Submission

The following Gantt Chart (Figure 1) shows the timeline of the proposed work, including the duration and sequences of all main tasks, subtasks and the key milestones listed above.

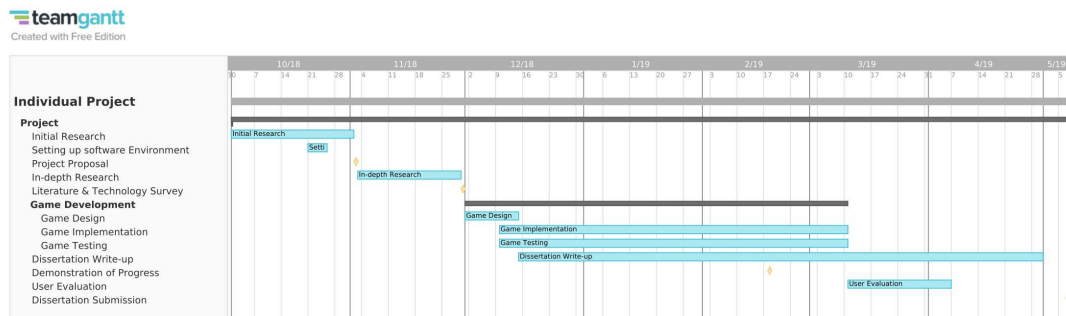


Figure 1: Gantt Chart showing the proposed timeline of entire project

4 Resource Requirements

These are some requirements that may be needed to complete this project:

- Version control software
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References

- [1] C. Girard, J. Ecalte, and A. Magnan. Serious games as new educational tools: how effective are they? a meta-analysis of recent studies. *Journal of Computer Assisted Learning*, 29(3):207–219, 2013.