Project Contract

This is your project contract form. The deadline is **6/11/2020**. Remember to tick "Send me an email receipt of my responses" at the end of this page to receive a confirmation email. Please note that you need to forward the "confirmation email" to your supervisor in order to validate this submission.

1.Student Name: Nathan Simcock

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3.Programme: Computer Games Programming

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5.Project Title: Develop a menu-based sports simulation game

6.Project Proposer: Nathan Simcock

7.Supervisor: Mishri Almarshoud

8.Introduction (max. 100 words):

For my development project, I will be creating a game using the game engine software Unity. This game will display a lot of the skills I have learned over my time studying Computer Games Programming as well as some other skills I developed on my own. I will use meetings with my supervisor to share my progress as well as refine any ideas I have and think of the best way to showcase the skills.

9.Project Background (max. 300 words): *A brief description providing the project background/context.  e.g.  is it based on a business need?  a technical need?  does it arise from the interests of a particular person/company?*

The computer games industry started in the late 1970’s, a short time after the first arcade and console games were released. This does not mean the market is overcrowded though, as the constant development of the industry allows for new entries at any time, and this is only becoming easier with the wealth of technology and software available.

In terms of sports simulation games, the most popular to date would be the Football Manager series, where the player takes control of a football team and must manage them to trophies whilst managing the everyday tasks of a real manager. This game shows there is a market for sports management games as Football Manager 2019 sold over 2 million copies. I will follow this concept of sports management with a basketball management game. There is a gap in the market for this type of game, as it seems no basketball sim game has really managed to duplicate the success of Football Manager. Pro Basketball Manager 2019, the most similar game I could find, has only ever peaked at 21 concurrent players according to steamcharts.com.

As a video game player myself, I will create a game which fits my interests, this means that I can take ideas and features from other games I have played in the past and develop them for my own game. In the games industry today, a lot of the most popular games are produced by huge teams, whereas I will be working on my own. Therefore, I will look towards more simplistic games to draw inspiration. This does not mean in any way that the game will be unsuccessful though as recent hits Fall Guys (Over 7 million Steam sales) and Among Us (Over 18 million sales in August 2020 alone) demonstrate.

10.Aims (max. 100 words):

To create a fully functioning game which works as intended from start to finish. To demonstrate a range of techniques that I have learned by implementing multiple mechanics in the game to improve the player’s enjoyment. Make the game not too intense on hardware in order to be suitable for a range of computers. Make the game easy to play for the user, no complicated controls. Have a well-balanced skill curve which allows players of all skill levels to enjoy the game.

11.Objectives (max. 200 words): *A list of specific, measurable objectives, each of which is likely to result in a deliverable. They specify all the work tasks to be undertaken to meet the stated aim. They will vary from project to project, as every project is different, but some examples are provided below. All projects will need to review and report on the literature in a chosen area. Projects might include such general objectives as: To investigate system requirements and produce a Requirements Specification. To research and write a report on good practice in HCI design. To design an interface using the findings from the HCI report. To design and execute a suitable test plan. Or they might be more specific, e.g.: To review and report on how mathematical simulation techniques could be applied to a traffic simulator.*

By following the agile development methodology, I have decided on the following objectives:

* To create a plan which sets out the requirements of the game such as any features I wish to include and how I will go about meeting those requirements.
* Design the game based on how I would ideally want it to be. This includes how certain mechanics would work and creating prototypes of user interfaces which I will include.
* Develop each function of the game according to my designs.
* Test each function of the game to make sure it works as intended. Use test data that can achieve multiple outcomes to check all are correct.
* Once tested, add the function to the final version of the game and test again to make sure it fits with all other functions.
* Create a literature review on the marketing of my game including researching similar products to my own, finding an ideal price point, identifying possible future DLC’s, finding the optimum target audience bearing in mind the expected age rating.
* Once fully developed, critically review the project, identifying strong points of the process, and any weak points I would change if I were to revisit the project.

12.Deliverables (max. 100 words): *A list of your Project’s deliverables with some general description could be found in the module specification.*

* Literature review – 2000 words on the marketing of the game
* Functional requirements – Identify requirements of the game such as intended features
* Indicative test plan – how features will be tested including test data
* System design documentation – concept ideas such as level deign and User interface plans
* Implementation report
* Main report – Description of major components, development lifecycle, critical analysis
* Viva – Demonstration of project and question handling
* The system – usable product meeting objectives.

13.Resources and Constraints (max. 100 words):

The Unity engine provides building blocks to develop my game, rather than starting from scratch in Visual Studio for example. It also allows the use of C# scripts, where I can code my mechanics for the game before applying them to objects.

A constraint of my project is access to people and organisations. A game with licensing from the NBA, the biggest basketball league in the world, would be able to grow a much bigger audience. However, I will not be able to use the likeness of the teams and players in the league due to copyright issue.

*A list of any specific resources that the project requires; for example, hardware and software; access to people or organisations. A list of any known constraints, for example, availability of certain resources.*

14.Sources of Information (max. 100 words): *A list of sources you intend to use. These could include: Specific books/journals if you already know of them; Library/Internet; Organisations or individuals you intend to contact.*

Due to the nature of my project, there aren’t many sources I will use in development. However, I will use online coding forums such as StackExchange to solve any problems I may come across in my development.

During my marketing report, I intend to use a range of internet sources such as:

SteamDB – Research statistics for similar games

ESRB – Create an idea of what age rating my game may fall under

15. Risk Analysis (max. 100 words): *What could endanger your project, what will you do if it happens.*

The success of my game is based on my own input. Therefore, some potential risks are that I will not dedicate enough time to the project and fall behind, which is why I will have schedule to track development throughout the project. I could also plan to do more than is possible given the time and resources available. For this I will ensure my plan is thought through well in terms of not being too complex but also not setting the bar too low for myself which would limit my ability to show my skills.

16.Schedule of Activities (max. 300 words): *Having defined the tasks to be undertaken in the list of objectives, you need to prepare a Project Plan to show how you intend to carry them out.*

Identify the requirements of the game based on the genre, target audience and intended features. This must be done first to give me a plan to follow when designing and developing. While agile development is performed in iterations (One feature at a time) I will plan the entire game at once so that I have an idea of the full game and can develop mechanics which link to each other.

I will then design feature according to the plans. Starting with user interface designs to give an idea of how I intend the menus to look. This is because the menus are the first thing the player will see when loading into the game so they must be of a great standard. The next stage will be the system architecture designs, where I set out the structure of the game, such as the use of databases and how mechanics and entities are linked.

Once a component is designed, it can be developed. This will be the most time-consuming part of the process.

Before new components are added to the game, they must be tested according to my test plan. Even though Visual Studio (where the scripts are written) and Unity (where the game is built) regularly test for errors, this does not prevent erroneous data from being input or make sure a component does what it is intended to. Once a component is fully tested on its own, it will be integrated with the existing system and tested again to ensure everything meshes.

Once all components are integrated, beta testing can be performed to check the entire game runs as intended, meeting all design requirements. This is to ensure as few bugs as possible make their way into the final game. Once tested, the game will be delivered for reviewing.

17.Student Signature: Nathan Simcock

18.Supervisor Signature: Mishri Almarshoud

19.Date: 05/11/20