

**CMP6200 Individual Undergraduate Project**  
**DIG6200 Individual Undergraduate Project**  
**2019-20**

Project Planning Report

**Loot Boxes and potential links  
to gambling addiction**

**Computer Games Technology**

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# 1 Introduction

## 1.1 Project Title

Loot Boxes and potential links to gambling addiction.

## 1.2 Background

Loot boxes are quite a common practice in modern day video games. The idea is that the player can spend in-game currency, that can either be earned in game or purchased with real money, in order to open a 'box' which contains virtual rewards to be used within the game. This includes but not limited to new weapons, new vehicles, new costumes etc.

With these loot box systems becoming more popular it is a common thought that they are a form of gambling <sup>1</sup>. These systems are believed to have the un-desired effect of instilling unhealthy mental behaviours that could lead to the users developing mental health issues such as anxiety and depression and an addiction to gambling in other forms.

The idea for this project is to test not only how addictive these loot box systems are but also to see if there is any connection to other forms of gambling. This will be achieved by checking results gathered in this survey against the current known methods of detecting gambling addiction displayed by people.

## 2 Aims and Objectives

### 2.1 Project Aim

The aim of the project is to find potential links between video game loot boxes and gambling and a gateway to gambling addiction.

### 2.2 Project Objectives

- Research what gambling is and the factors that make a person have gambling addiction and how to collect data that correlates to this research, this should be done before any other research or work commences, within the first week of the project start date.
- Research existing implementation of loot boxes in video games in order to help create a loot box opening simulator by analysing current systems and replicating the look and feel to make the results as accurate as possible and any connection these loot box systems have to gambling addiction if any exists.
- Follow an Agile methodology as the project progresses (see section 4 for details).
- Create a loot box opening simulator in Unity Game Engine that simulates real world systems. Add a virtual horse racing mini-game to simulate a gambling environment.
- Measure the participants choices and record them in order to correlate between the results gathered and the results of the research into gambling and gambling addiction.
- Create a physical reward system for participants of the tests that are linked directly to the virtual loot boxes within the loot box opening simulator, with the better virtual rewards giving better physical rewards.
- Evaluate the results and compare them to the research into gambling and gambling addiction, considering the factors that define a person as having a gambling addiction.
- Gather the results and show them in an appropriate format within the research paper to best illustrate the findings of the study.
- Create a research paper that explains everything about the study, looks at and references relevant literature, compiles and displays the results in a format easy to understand for people of any knowledge level and summarises the study.

## 3 Project Themes

### 3.1 Overview of topics

A key theme for this project is to investigate mental health and assess the impact of loot box systems within video games and what impact they have on the mental health of its uses. This includes looking at the effect of these systems on the chances of developing gambling addiction. It will also link into looking at other mental health issues such as anxiety and depression that could be developed due to potential gambling addiction conditions.

The themes and topics of this project are as follows:

- Mental Health in relation to Gambling
- Gambling Addiction
- Loot Box Systems in Video Games

### 3.2 Mental health in relation to gambling

When it comes to looking into gambling addiction the first place to start is to look at mental health and the affect that gambling has on it. Gambling can harm mental health, causing stress, anxiety and depression, as well as being associated with hazardous alcohol and drug use. <sup>2-4</sup> One review found that 58% of problem gamblers had a substance use disorder and 38% had a mood or anxiety disorder.<sup>5</sup>

### 3.3 Gambling addiction

As the mental health of someone that gambles becomes worse there is a chance they will develop a gambling addiction. The harms to individuals from gambling include health, relationship and financial difficulties such as loss of money, debt and occasionally bankruptcy. <sup>6</sup> Financial difficulties can lead to lowered living standards, lost opportunities and sometimes homelessness and involvement with the criminal justice system.

### 3.4 Loot box systems in video games



*Figure 1: An example Loot Box taken from the video game Overwatch developed by Blizzard Entertainment.*

Loot boxes have been defined as “items in video games that may be bought for real-world money, but which provide players with a randomised reward of uncertain value.” They often appear as chests, crates, or card packs <sup>7</sup>.

Most modern popular games use these loot boxes, this includes well known games such as Fifa by Electronic Arts and Fortnite by Epic Games.

These loot boxes work by having the user be able to open them by buying in game currency with real world money and receive a random selection of in game items. These items are each given a ‘rareness value’, the idea being the rarer and item is the lower chance the user has to get that item out of a loot box. This re-inforces the user to keep purchasing loot boxes to earn these rarer and more prestigious rewards.

## 4 Methodology

### 4.1 Introduction to the methodology

The Methodology that be used in this this project will be and agile methodology 8, this will include both Scrum and Kanban.

The Scrum methodology breaks the project down into what is known as 'sprints'. At the end of each sprint there is a meeting between the team and the stakeholders to demonstrate current progress and to plan the next step or 'sprint'. During each 'sprint' there are also regular meetings either daily or weekly called stand-ups. These are used for each member to the team to discuss the progress they have currently made, what they will be working on next and any problems they have encountered. This methodology keeps all team members in the loop as to what everyone is doing and breaks the work down into easily manageable and achievable steps.

Kanban is a visually representation for managing a project. Kanban visualizes both the process (the workflow) and the actual work passing through that process. The goal of Kanban is to identify potential bottlenecks in your process and fix them so work can flow through it cost-effectively at an optimal speed or throughput.

### 4.2 Secondary research method

When it comes to searching for literature to aid this study the words 'Loot Boxes' will widely be used to find relevant pieces about the loot box systems within video games.

There will also need to be plenty of research into both 'gambling' and 'gambling addiction'. The gambling research will investigate the definitions of what gambling is and how to identify something as gambling. The gambling addiction research will focus on what defines a person as begin addicted to gambling. It will look at what factors and symptoms to look out for when defining if actions taken can be derived as those of a person with gambling addiction or those with a higher chance of becoming a gambling addict

### 4.3 Primary Research method

The primary research methods for this project will be through Surveys and analysis. Surveys will be used to gather information about the user's experiences while taking part in this study. That data will then be analysed against the relevant research into gambling addiction to back up whatever the outcomes of the study turns out to be.

Interviews have been ruled out as people may be ashamed to admit certain aspects about the study in a one-on-one setting which could affect the results of the study.

Observations have also been ruled out as the study isn't being done by a person with any behavioural training and therefore simply observing the reactions of the users in the study will not provided any relevant data that could be used to achieve the goals set forward by this study.

### 4.4 Personal development

As for personal development for this project an understanding of gambling and the way in which companies make their software and other gambling outlets addictive and how they keep people coming back to use them over and over will need to be developed. This will be done by researching into methods used to create an addictive environment and then replicating that within the project to achieve the most accurate results possible.

## 4.5 Task X – Method

Each stage of the project has its own methodology which has been chosen. Each one has been carefully research and picked to help achieve the aim of the project and to make the design, development and evaluation of the project as easy to manage as possible. Below is a description of each methodology chose for each stage of the project.

## 4.6 Design Methods

For the design of the project a top down design (also known as stepwise refinement) has been chosen. This type of design method starts with the end solution and works and works backwards refining each step along the way.

The reason this design method was chosen is because the project began with an initial aim. This being to determine a connection between video game loot boxes and gambling addiction. This this initial aim in place it then made sense to work backwards and design steps needed to achieve this aim

## 4.7 Development methods

Scrum and Kanban have been chosen as the development methodologies to be used within this project.

Scrum has been chosen as it breaks the project down into smaller, more manageable chunks (known as sprints). This is particularly useful as this project needs to fit in around other University assignments so the smaller goals set will seem more achievable by creating realistic targets to hit for each sprint, almost as if each sprint was a module.

Scrum will also be useful as it uses a meeting system known as stand-ups. These will be taken the form of meeting the project supervisor once a week during group tutoring sessions where current project progress can be discussed, the next steps of the project and any problems facing the project which could then be resolved.

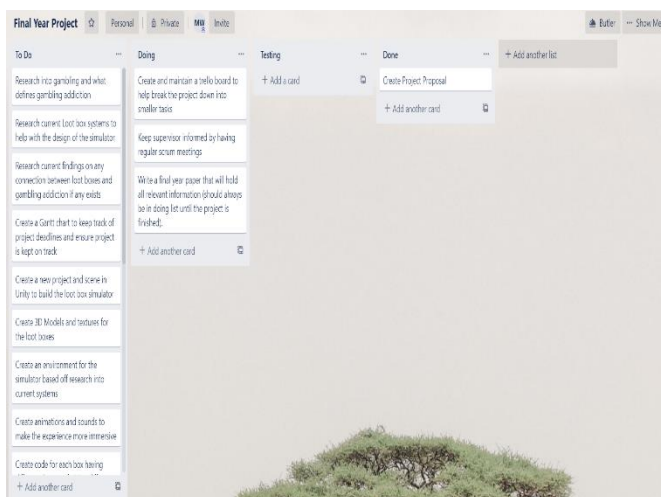


Figure 2: Initial trello board for project.

Kanban has been chosen as it works very well with the Scrum methodology. Each Scrum sprint can be broken down further into what is known as tickets (smaller goals that once all completed result in the main sprint goal being completed) and visualised using Kanban.

Kanban is useful as it provides a visual representation of the current state of not only the project but the current state of the sprint currently being developed.

For this project a Trello board will be used as the Kanban methodology.

While looking into development methodologies a Waterfall methodology was researched into and considered. However due it's lack of adaptability across all stages of the development life cycle it was rejected as the project requires a much more flexible approach to development than this methodology could provide.

#### 4.8 Testing and Evaluation Methods

For testing and evaluation, a summative approach will be used. This will be in the form of surveys which will be filled in by the participants in this study once they have completed it.

This method was chosen as it provides a way of gathering relevant data to the study with the bonus of anonymity and the feeling of less pressure on the users as compared to something as one on one interviews.

There are measures and surveys already in place to help measure reaction to gambling, these are the gambling problem index, the gambling readiness to change questionnaire and the gambling quantity and perceived norms measure 9. This project will look at utilising these measures to help validate the results gathered and to gather both qualitative and quantitative data.

Other methods of testing and evaluation such as observation were rules out as being able to gather relevant data from simply observing the reactions of the user was unviable without some prior knowledge of human behavioural training.



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## 7 Project Plan

### Project Plan

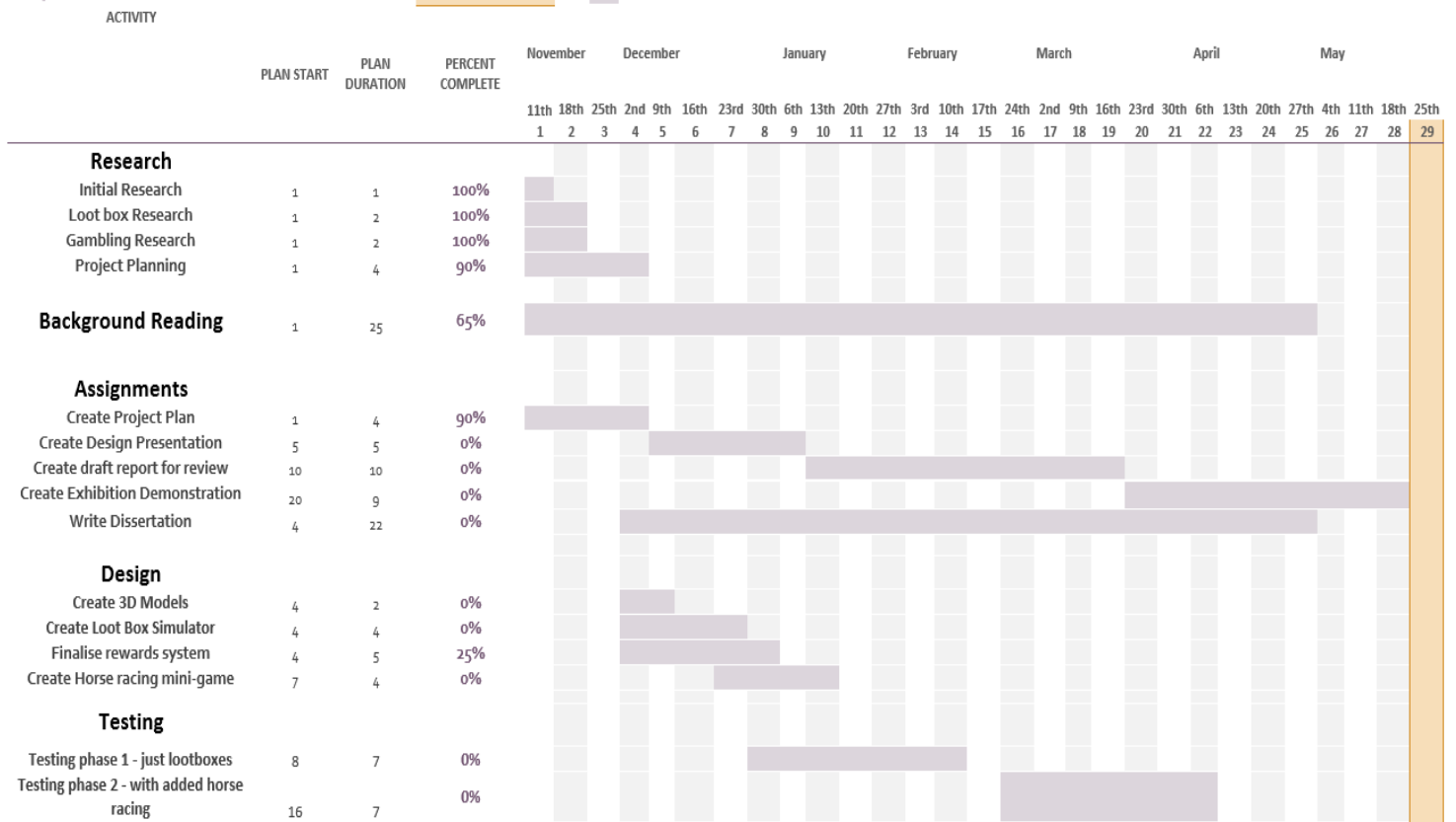


Figure 3: Project Plan

Figure 4: Project Plan