

Software Project

Software Project

e.g. Develop an event ticketing application

Year 2 2022-23

DL836 BSc (Hons) in Creative Computing

Link to resources created as part of the project.

|  |  |
| --- | --- |
| GitHub |  |
| Video | Link to your video file (MS Stream, YouTube) |

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# Introduction

Application area

Technologies

PHP, MySQL, Bootstrap, CSS, Vanilla

Tools

IDE, phpMyAdmin, Miro

Project management

GitHub

Business Concept

Requirements

Design

Implementation

Testing

Reflection

# Business Concept

## Business Idea

For my Software Project I have decided to create a website based off a subscription-based streaming service that allows our members to watch TV shows and movies on an internet-connected device. The difference is instead of Tv shows and movies it will be videogames.

On this website/ services the user can have access to hundreds of games.

## Business model

I plan to earn revenue from the service/ website on monthly to yearly subscriptions rates. For example Netflix allows their customers to choose between 3 different subscription rate models basic, standard and premium and depending on what the customers chooses will effect the prices on how much they pay and the benefits each model will give.

## Market Research

When people want to play video games the person has to choose between a pc and a gaming console to play said videogame but there is a problem. Most pc’s and gaming consoles are expensive to the average person so when they buy said devices it leaves the customer to only afford one or two games at a time due to the prices of games especially brand new games are expensive.

My target audience would be the average person who has access to a console or pc but don’t have enough money to acquire more games to play but with this service the average man can now have access to plethora of games with only having to pay set amount month or year.

## Marketing/Advertising

My main type of long-term promotion will be verbatim because clients will tell their friends about my site and how free it is. However, to get there, I must first attract a large enough audience so that I can profit from this. I think placing ads on YouTube will bring the most profit advertisement I could do when starting off. YouTube is a free to use app which means there are any popular video that are over thousands to millions of views means that any ad that is in the video thousands to millions of people they are watching the video will see the ad.

## Suppliers

The majority of my suppliers will be come form 2 sources The Video game publishers publish video games that have been developed internally (in their own game development studio) or externally (developed by an outside studio). And indie developers which are independent game developing companies create their own game without the backing of a videogame publisher.

## Competitors

Main Competitors

Amazon Luna.

Xbox Game Pass.

PlayStation plus.

Amazon Luna : Amazon Luna is a cloud gaming service that enables you to play games on gadgets you already own, such as compatible Fire TV, Fire tablets, Windows PCs, Chromebooks, and Macs, as well as online apps accessible on iPhone, iPad, Android, and some Samsung Smart TVs.

Xbox Game pass: You can play a huge selection of console games on the devices you already own with Xbox Cloud Gaming. Use a free Microsoft account to access supported free-to-play games like Fortnite, or a Game Pass Ultimate membership to access hundreds of titles.

PlayStation Plus : The PlayStation Plus is a membership package that includes all of the familiar PlayStation Plus benefits, including monthly games, online multiplayer, and special discounts.

## Environmental Impact

# Requirements

## Introduction

The project is a streaming gaming service application that gives customers to have access a library of games using a subscription-based model for payment.

Once the customers has access to the application the customer would be brought to a menu that has a login feature and a create account option.

When creating an account the customers has to choose what type of subscription they want to use in order to have access the application, for example the customer can choose to pay £10 euros a month or £100 a year.

Once the customer has an account and logs in the customer will now have access to the application and be brought to the main menu in which the customer can select any game for the library, once selected there will be a menu popup that will show you a picture of the game as well as the description and a play button to play the game.

## Requirements gathering

Look at and document 2 similar applications. Be sure to include the following for each:

* Screen shots
* Descriptions
* Advantages
* Disadvantages

**Amazon Luna :**

A picture containing text, mounted, different, screenshot

Description automatically generated

**Description:** Amazon Luna is a cloud gaming service that enables you to play games on gadgets you already own, such as compatible Fire TV, Fire tablets, Windows PCs, Chromebooks, and Macs, as well as online apps accessible on iPhone, iPad, Android, and some Samsung Smart TVs.

**Advantages:**

Available in different markets: A feature of this cloud gaming service from Amazon is that it is compatible with a variety of devices and operating systems. These include most online browsers, such as Google Chrome and Safari, as well as macOS, Windows, Android, iOS and iPadOS, and ChromeOS. Games on this site may also be played using a computer mouse and keyboard, an Xbox One or PlayStation 4 controller, or the Luna Controller, which enhances the whole user experience.

Flexible Subscription Plan: The subscription options are divided into what are known as channels. When a user subscribes to a channel, they get unlimited access to that channel's catalog of games. The monthly fee for the Amazon Luna Plus channel is USD 9.99. There are less expensive options. The Family Channel and the Retro Channel, for instance, each have a monthly price of USD 5.99. Ubisoft, a publisher of video games, also maintains a channel with a selection of titles specifically for it.

**Disadvantages:**

Expensive With Multiple channels: The cost increase of subscribing to multiple channels at once is the downside of using Amazon Luna. while channels like Family and Retro cost USD 5.99 each per month, the Plus channel is USD 9.99 per month. If you sign up for all three, your monthly subscription fee will be USD 21.97. At USD 17.99 a month, the Ubisoft Plus channel is also expensive.

Limited but expanding game Library: At the current time ,Amazon Luna has although have a large game selection it is still not a lot compare to the wide amount of game available in todays market. For example steam an online game store and launcher although you have to pay for each individual game based on the Game publishers price, you’ll still have access to more games if not all the games that has every since the creation of steam.

**Xbox Game Pass:**

**Graphical user interface, application

Description automatically generated**

**Description:**

Xbox Game pass is a game subscription service exclusive to Xbox that gives the customer access to a rotating library of games to play and other bonuses.

**Advantages:**

Large Game library: The Xbox game pass service has over hundreds of games for a customer to have access to , including recent to brand new games that are only recently released giving customers a more reasons to buy the service

Cheap Service Plans: The service buy Xbox game pass is very cheap to buy only costing £1 euro a month to £9.99 a year. Due to the low pricing it is worthy investment for gamers because the majority of games ranges between 100 to 30 euros individually to buy and with this service customers are now able to play any game available for only having to pay a cheap set price .

Compatibility: X box game pass service is compatible with most devices that the customer may have. This includes most online browsers, such as Google Chrome and Safari, as well as macOS, Windows, Android, iOS and iPadOS, and ChromeOS. Games on this site can be played using a computer mouse and keyboard.

**Disadvantages:**

Ownership: Although the customer has access to hundreds of games to their disposal, the customer technically doesn’t own the game. The service provider owns the games, and the customer is paying a premium to have access to said games.

### Interviews

Conduct interviews with 2 or 3 users to find out what the important features for them for the app are. There may be various issues that arise in multiple interviews. These can be grouped together into a number of themes.

## Requirements modelling

### Functional requirements

Create a numbered list of what the application should be able to do. Start with the most important feature.

1. Access the application.
2. Log in feature
3. Access / create an Account.
4. Have an account page.
5. Main menu with your library of games.
6. Popup menu once the customer selects the game.
7. The popup menu includes picture of the game , description, and play button to play the game,

### Non-functional requirements

These are requirements which if not met do not stop the application from working, but which mean that the application is not working as well as it should. They are usually based on issues such as:

* Usability
* Performance
* Security

### Use Case Diagrams

Consists of actors and use cases. You should document each individual use case.

Diagram

Description automatically generated

## Feasibility

This section describes which technologies are planned to be used in the development of the application. It then explains if there are any issues in terms of the technical feasibility of the project, for example, if there are two different types of software which may have compatibility issues.

# Web application Design

## Layout

The layout of the web application will rely on the upon two frameworks

Describe the layout of your web application. Does this depend on a framework like bootstrap? Is it responsive?

## Interaction

What are the navigation elements, form elements. How does the user interact with the application?

There will be a lot of interaction within the application.

Navigation: The navigation of this app will have two parts one for the consumer/customer and one for the app manager. The consumer/customer navigation will consist of going to a sign up / log in menu, creating account page, Menu page , upload game page , game summary page itself

App manager navigation consist of a master page that will give the app manager all information of the publishers and games that are uploaded.

## Colour schemes

Describe the colour palette that you will use consistently across the web application

Colour combinations

1. Blue, white
2. Red, Black

## Font choices

Fonts. ` Times New Roman.

` Congenial.

Work Sans.

Inter.

Satatoshi.

## Wireframes

Describe how to navigate from one page to the next by adding a diagram of the different screens and what the main functionality is.

Diagram

Description automatically generated

Still designing

# Database Design

## Description

A company has a website that sells video games for different consoles. They would need a database for all their games and order places. For each order place, they would need games bought, total price, date of the order, and how long it will take to deliver. The database needs to keep track of all games that are being sold. Customers will have to input their information when registering an account. Customers will also have to input their card details when making a payment for their order.

## Business Reporting Requirements

Substitute in here the information the users of your application will want to be able to view.

1. Organisers need to be able to create, read, update, and delete :Games, genre, reviews, or ratings.
2. Users will need to be able to find all Games ordered by their price.
3. Users may want to find a game by a specific genre.
4. Users need to find games using a list of genres.
5. Users need to find the genre for a specific game.
6. Users need to find the game using the publisher’s name.
7. publishers may need to find the list of game developer.

## Textual Representation of Dataset

Substitute in here the tables for your database

**Game** (title, description, Genre, developer\_id, publisher\_id image\_id)

**Developer** (title, description, contact\_email, contact\_phone, image\_id )

**Genre** (id, name, description )

**Publisher** (title, description, image\_id)

**EMPLOYEE** (name, phone, email, image\_id)

**MANAGER** (id, name

**IMAGE**, (id, filename)

**Customer**, (id, fname, lname, email, ph number, pp\_id )

**PaymentPlan**, (id, payment\_type, )

## Business Rules

Substitute in here the business rules for your database

 A **Publisher** has many **developers**.

 A **developer** belongs to one **publisher**.

 A **Game** can many **Genres**.

 A **Game** can have more than one **Developer**.

 An **Image** can be associated with a **Publisher**, **developer**, **Stage**

 A **Manager** can have many **Employees** associated with it

## Entity Relationship Diagram

Substitute in here your ERD from draw.io

Diagram

Description automatically generated

## Tables

Substitute in here your tables and the relationships between tables from draw.io in the format you used in DBMS with Mohammed.

Diagram, engineering drawing

Description automatically generated

## Database Dictionary

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Table | Attribute | Datatype | Range | Required | PK/FK | FK Ref Table |
| Games |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |

# System Design/ Architecture Overview

* 1. Introduction

This section will describe the internal functionality of the web framework that you have chosen for the implementation. Add further sections if required by the specification of your web application

* 1. Model View Controller

Explain the follows a model-view-controller design pattern and how it is implemented in your web application.

* 1. User Authentication

Explain how user authentication is implemented in the web application framework.

* 1. Routing

Describe the routes that were defined in the web application

* 1. Templating

Describe the templating engine and how it was used to configure/ style the web application.

Add a sequence diagram in this section and other diagrams that illustrate the architecture clearly.

Diagram

Description automatically generated

# Testing

* 1. Introduction

This chapter describes the testing that has been undertaken for the application. This chapter is presented in two sections:

1. Functional Testing
2. User Testing

Functional testing is a type of software testing whereby the system is tested against the functional requirements. The app is tested by looking to see if the actual output for a given input corresponds with the expected output. The tests should be based on the requirements for the app. The results of functional testing can indicate if a piece of software is functional and working, but not if the software is easy to use.

User testing looks to see if a piece of software is easy and intuitive for the user.

* 1. Functional Testing

This section describes the functional tests which were carried out on the app. These functional tests can be categorised as: (whatever is relevant to your app)

* Login/Registration
* Navigation
* Calculation
* CRUD

Functional testing generally uses a Black Box Testing technique which means that the internal logic of the system being tested is not of interest to the tester. The tester is only interested in whether the actual output agrees with the expected output.

* + 1. Login/Registration

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Test No | Description of test case | Input | Expected Output | Actual Output | Comment |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

* + 1. Navigation

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Test No | Description of test case | Input | Expected Output | Actual Output | Comment |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

* + 1. Calculation

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Test No | Description of test case | Input | Expected Output | Actual Output | Comment |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

* + 1. CRUD

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Test No | Description of test case | Input | Expected Output | Actual Output | Comment |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

### Discussion of Functional Testing Results

Describe the results from the tests. Address any functionality where unexpected behavior could not be debugged.

* 1. User Testing
  2. Conclusion

Discussion of test results.

# Project Management

## Introduction

This chapter describes how the project was managed. It shows the phases of the project, going from the project idea through the requirements gathering, the specification for the project, the design, implementation and testing phases for the project. It also discusses GitHub as a tool which assists in project management.

## Project Phases

In this section, describe each of the following project phases. Explain any issues which arose for each of the phases.

### Requirements

### Design

### Implementation

### Testing

Include a Gantt chart



## SCRUM Methodology (optional)

Sprints

## Project Management Tools

### GitHub Project

Description

Include screen shots

How it worked in practice

### GitHub

Description

How it is used

How it worked in practice

# Reflection

## Your views on the project

Describe how you feel the project went from your perspective.

## How could the project be developed further?

## Assessment of your learning.

Critically assess your learning. List what skills and competencies you have learned developed in this Continuous Assessment.

List which part of the project would need further development and itemize where you feel you have not satisfactorily completed the continuous assessment.

## Completing a large software development project

Describe what you have learnt from the project, from the point of view of completing a large software development project.

## Technical skills

Describe what you have learnt from the project, from a technical skills viewpoint.

## Further competencies and skills

Describe any extra competencies and skills that would help you with your development in the workplace.

# References

Add a list of references that you used to complete the project.

The Department of Technology and Psychology in IADT uses APA 7th referencing style.

Use alphabetical order for your references.

This site gives details about how to cite websites using APA:

https://www.wikihow.com/Cite-a-Website-in-APA

The following is a useful site for creating citations for APA for websites.

<http://www.citationmachine.net/apa/cite-a-website>

You can also use the Referencing tab within Microsoft Word to enter reference information manually. Word then creates an APA style reference.