

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) |

Table of Contents

[1 Introduction 1](#_Toc96009471)

[2 Business Concept 2](#_Toc96009472)

[2.1 Business Idea 2](#_Toc96009473)

[2.2 Business model 2](#_Toc96009474)

[2.3 Market Research 2](#_Toc96009475)

[2.4 Marketing/Advertising 2](#_Toc96009476)

[2.5 Suppliers 2](#_Toc96009477)

[2.6 Competitors 2](#_Toc96009478)

[2.7 Employees 2](#_Toc96009479)

[2.8 Environmental Impact 2](#_Toc96009480)

[3 Requirements 3](#_Toc96009481)

[3.1 Introduction 3](#_Toc96009482)

[3.2 Requirements gathering 3](#_Toc96009483)

[3.2.1 Similar applications 3](#_Toc96009484)

[3.2.2 Interviews 3](#_Toc96009485)

[3.3 Requirements modelling 3](#_Toc96009486)

[3.3.1 Functional requirements 3](#_Toc96009487)

[3.3.2 Non-functional requirements 3](#_Toc96009488)

[3.3.3 Use Case Diagrams 4](#_Toc96009489)

[3.4 Feasibility 4](#_Toc96009490)

[4 Web application Design 6](#_Toc96009491)

[4.1 Layout 6](#_Toc96009492)

[4.2 Interaction 6](#_Toc96009493)

[4.3 Colour schemes 6](#_Toc96009494)

[4.4 Font choices 6](#_Toc96009495)

[4.5 Wireframes 6](#_Toc96009496)

[5 Database Design 7](#_Toc96009497)

[5.1 Description 7](#_Toc96009498)

[5.2 Business Reporting Requirements 7](#_Toc96009499)

[5.3 Textual Representation of Data-Set 7](#_Toc96009500)

[5.4 Business Rules 8](#_Toc96009501)

[5.5 Entity Relationship Diagram 8](#_Toc96009502)

[5.6 Tables 9](#_Toc96009503)

[5.7 Database Dictionary 10](#_Toc96009504)

[6 System Design/ Architecture Overview 11](#_Toc96009505)

[6.1 Introduction 11](#_Toc96009506)

[6.2 Model View Controller 11](#_Toc96009507)

[6.3 User Authenticaion 11](#_Toc96009508)

[6.4 Routing 11](#_Toc96009509)

[6.5 Templating 11](#_Toc96009510)

[7 Testing 12](#_Toc96009511)

[7.1 Introduction 12](#_Toc96009512)

[7.2 Functional Testing 12](#_Toc96009513)

[7.2.1 Login/Registration 13](#_Toc96009514)

[7.2.2 Navigation 13](#_Toc96009515)

[7.2.3 Calculation 13](#_Toc96009516)

[7.2.4 CRUD 13](#_Toc96009517)

[7.2.5 Discussion of Functional Testing Results 14](#_Toc96009518)

[7.3 User Testing 14](#_Toc96009519)

[7.4 Conclusion 14](#_Toc96009520)

[8 Project Management 15](#_Toc96009521)

[8.1 Introduction 15](#_Toc96009522)

[8.2 Project Phases 15](#_Toc96009523)

[8.2.1 Requirements 15](#_Toc96009524)

[8.2.2 Design 15](#_Toc96009525)

[8.2.3 Implementation 15](#_Toc96009526)

[8.2.4 Testing 15](#_Toc96009527)

[8.3 SCRUM Methodology 15](#_Toc96009528)

[8.4 Project Management Tools 16](#_Toc96009529)

[8.4.1 Github Project 16](#_Toc96009530)

[8.4.2 GitHub 16](#_Toc96009531)

[9 Reflection 17](#_Toc96009532)

[9.1 Your views on the project 17](#_Toc96009533)

[9.2 How could the project could be developed further? 17](#_Toc96009534)

[9.3 Assessment of your learning. 17](#_Toc96009535)

[9.4 Completing a large software development project 17](#_Toc96009536)

[9.5 Technical skills 17](#_Toc96009537)

[9.6 Further competencies and skills 17](#_Toc96009538)

[10 References 18](#_Toc96009539)

# 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 for luxury food dedicated to selling high cheese and butter and other dairy based products to restaurateurs, hotels and other businesses that require luxury dairy products.

## Business model

I plan two ways 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 affect the prices on how much they pay and the benefits each model will give.

Direct purchase model where you can select search and select what you want on the website and buy it.

## Market Research

When people want to buy luxury food or any other foods in general , people has to choose between two different types of websites. One website dedicates towards only a few but very high-quality products or a website that sell s everything, but the quality of the products depends on many factors such as the foods quality

My target audience would be the restaurateurs, hotel owners, or any business that require

## 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

Most of my suppliers will come from these 2 main sources farms and artisan businesses. Farms would send me their produce to sell and advertise their products and for the artisan businesses , They would allow me to sell and advertise their product.

## Competitors

Main Competitors

Abernathy farm.com.

GourmetFoodStore.com

Rastellis.com

Dibruno.com

Abernathyfarm.com: Abernathy farm.com is a online store that sells high quality butter products since 2005 from Abernathy farm, a business and farm in northern Ireland.

GourmetFoodStore.com: Is an online Store that sells all kinds of gourmet food and ingredients for chefs and others to all around the world .

Rastellis.com: Rastellis.com it is an online store that sells high quality meats products while different from butter and cheese the websites idea concept is similar to the ones above.

## Environmental Impact

# Requirements

## Introduction

The project is a Online Store and service that gives customers to have access high quality cheese, butter and other dairy products.

Once the customers has access to the application the customer would be brought to the main menu that has lots of features such as icons, images and text displaying all kinds of products to buy.

The Customer gets to choose between or use the two ways to get their desired products. One is directly buying the desired product they want or a subscription-based service where you can pay 60 euros per year or 5 euros per months and get a wide selection of stores goods

## Requirements gathering

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

* Screen shots
* Descriptions
* Advantages
* Disadvantages

**AbernathyFarm.com:**

A picture containing graphical user interface

Description automatically generated

**Description:** Abernathy farm butter is a butter making farm in Northern Ireland that decided to it into a business in 2005 and since then now suppling many prestigious shops and restaurants throughout the UK and beyond.

**Advantages:**

Quality Control: Since this online store and business has only one or few products they sell can control and level of quality towards their product and because of that control they can justify and increased the price of their product depending on the level of quality.

Connections: Since this business product is very desired across many shops and restaurants internationally, they have multiple ways to promote their product and sell their products increasing their products prestige and their revenue would drastically increase due to high demand.

Shopping cart system: In their website they have a shopping cart system in which instead buying a product one at a time from their store you can just select your desired product to a shopping cart system and you can buy lots of their products at once.

Store locator: In their websites they also display the location of stores in which their products being sold.

**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.

**Gourmet Food Store:**

**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.