

Notice Board

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Software Project

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Table of Contents

[1 Introduction 1](#_Toc94698843)

[2 Business Concept 2](#_Toc94698844)

[2.1 Business Idea 2](#_Toc94698845)

[2.2 Business model 2](#_Toc94698846)

[2.3 Market Research 2](#_Toc94698847)

[2.4 Marketing/Advertising 2](#_Toc94698848)

[2.5 Suppliers 2](#_Toc94698849)

[2.6 Competitors 2](#_Toc94698850)

[2.7 Employees 2](#_Toc94698851)

[2.8 Environmental Impact 2](#_Toc94698852)

[3 Requirements 3](#_Toc94698853)

[3.1 Introduction 3](#_Toc94698854)

[3.2 Requirements gathering 3](#_Toc94698855)

[3.2.1 Similar applications 3](#_Toc94698856)

[3.2.2 Interviews 3](#_Toc94698857)

[3.3 Requirements modelling 3](#_Toc94698858)

[3.3.1 Functional requirements 3](#_Toc94698859)

[3.3.2 Non-functional requirements 3](#_Toc94698860)

[3.3.3 Use Case Diagrams 4](#_Toc94698861)

[3.4 Feasibility 5](#_Toc94698862)

[4 Database Design 6](#_Toc94698863)

[4.1 Description 6](#_Toc94698864)

[4.2 Business Reporting Requirements 6](#_Toc94698865)

[4.3 Textual Representation of Data-Set 6](#_Toc94698866)

[4.4 Business Rules 7](#_Toc94698867)

[4.5 Entity Relationship Diagram 7](#_Toc94698868)

[4.6 Tables 8](#_Toc94698869)

[4.7 Database Dictionary 9](#_Toc94698870)

[5 System Design/ Architecture Overview 10](#_Toc94698871)

[5.1 Introduction 10](#_Toc94698872)

[5.2 Model View Controller 10](#_Toc94698873)

[5.3 User Authenticaion 10](#_Toc94698874)

[5.4 Routing 10](#_Toc94698875)

[5.5 Templating 10](#_Toc94698876)

[6 Testing 11](#_Toc94698877)

[6.1 Introduction 11](#_Toc94698878)

[6.2 Functional Testing 11](#_Toc94698879)

[6.2.1 Login/Registration 12](#_Toc94698880)

[6.2.2 Navigation 12](#_Toc94698881)

[6.2.3 Calculation 12](#_Toc94698882)

[6.2.4 CRUD 12](#_Toc94698883)

[6.3 Discussion of Functional Testing Results 13](#_Toc94698884)

[6.4 User Testing 13](#_Toc94698885)

[6.5 Conclusion 13](#_Toc94698886)

[7 Project Management 14](#_Toc94698887)

[7.1 Introduction 14](#_Toc94698888)

[7.2 Project Phases 14](#_Toc94698889)

[7.2.1 Requirements 14](#_Toc94698890)

[7.2.2 Design 14](#_Toc94698891)

[7.2.3 Implementation 14](#_Toc94698892)

[7.2.4 Testing 14](#_Toc94698893)

[7.3 SCRUM Methodology 14](#_Toc94698894)

[7.4 Project Management Tools 15](#_Toc94698895)

[7.4.1 Github Project 15](#_Toc94698896)

[7.4.2 GitHub 15](#_Toc94698897)

[8 Reflection 16](#_Toc94698898)

[8.1 Your views on the project 16](#_Toc94698899)

[8.2 How could the project could be developed further? 16](#_Toc94698900)

[8.3 Assessment of your learning. 16](#_Toc94698901)

[8.4 Completing a large software development project 16](#_Toc94698902)

[8.5 Technical skills 16](#_Toc94698903)

[8.6 Further competencies and skills 16](#_Toc94698904)

# Introduction

Overall aim

To have an app where a community can have a centralized place to go to and find or post things that are going on in the local community

Application area

Technologies

PHP, MySQL, Bootstrap, CSS, Vanilla

Tools

IDE, phpMyAdmin, Miro

Project management

GitHub

Business Concept

A virtual cork board to act as a community’s notice board.

Requirements

Design

Implementation

Testing

Reflection

# Business Concept

## Business Idea

The idea I have for my project is to have a space where communities can have a centralized location for everything and anything that is happening in the community, whether it be a small business advertising to the surround area, or a member organizing a activity or an event like a yoga class or a charity fun run.

## Business model

The way that this app will support itself will be, to post anything on the notice board you will have to be a member and you would need to pay either per-post or if you are a frequent user, you have the option to buy a monthly fee. To get people interested in the app you would get 3 free posts onto a board. Also, there could be a “Featured” board where customers pay extra but will be promoted on the home page of the app.

## Market Research

Market for Product/Service

The first competitors that come to mind is Esty for the small business aspect of the board, and then there is Facebook where (for example) Bray has an open forum where community members can post anything that other community in the community can help with. Whether it be a cost-effective painter or a nice place to have a coffee.

Customers - Demographics, Profile

The type of customers that I think would use the app frequently are event organizers

They could range from professional events such as a Festivals, or the horse races, to local events such as charity fundraisers.

## Marketing/Advertising

## Suppliers

## Competitors

For the community’s aspect of the app the main competitor I can think of is Facebook.

Facebook has member made forums that people currently use to get info around the community. For example, the Bray Open Forum.

## Employees

The app will need an Admin to run the app in the background, a couple of moderators to keep the content on the app respectful and appropriate. Their may even be city officials who get a special membership to post community notices.

## Environmental Impact

# Requirements

## Introduction

The purpose of the requirements phase is to allow for developers to work out what the application should be able to do. It is important to understand what the users would like the application to do rather than the developer deciding what is required.

You can write a bit about your project area. Each paragraph has a blank line between it and the previous paragraph

## Requirements gathering

### Similar applications

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

* Screen shots
* Descriptions
* Advantages
* Disadvantages

Graphical user interface, text, application

Description automatically generatedGraphical user interface, text, application

Description automatically generatedNext Door

* Next Door has a similar layout to that of Facebook in the sense that it acts more like a social media.
* The option to be able to comment on post is a great way to get feedback.

A picture containing text, monitor, electronics, screenshot

Description automatically generatedA screenshot of a computer

Description automatically generated with medium confidenceFacebook

* The forum for the Bray community acts like a group

chat where you can post pictures, photos, or a comments

### 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. Create Posts
2. Sign In/ Sign Out
3. View posters and comment on the side
4. Switch Pages

### 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

1. Activity (For Example to be able to see new comments, or likes to posts or comments you have)
2. Scalability (To be able to view from both web sizes and mobile)

### Use Case Diagrams

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

Delete the following diagram and insert your diagram. Use draw.io

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.

**Step 1 – Idea Exploration, Identification and Assessment**

**Describe the business idea or concept (filling an unmet need in the marketplace with a new product or service, providing an existing product/service in a new form, delivering a product/service better or cheaper than competitors, etc.)**

My idea for a business is to have an online space where you can view a notice board, that you can post anything you would like to advertise products, organize events, community updates and so on.

**What is the “pain” that is being ‘cured’ with this product or service? (An idea is only viable, if people are willing to pay /download or use what it provides)**

The pain that is being cured from this is that there are so many ways to find products out there where this “Notice Board” will be location based to your province/state. The pain is cured by having a central location for advertising products, organizing events, and posting community updates.

**What are the features and benefits of the product(s) or service?**

A feature will let you view all boards worldwide, however, to post on a board you will need to become a member.

The boards will help small businesses gain a competitive edge on mainstream companies.

**What is the Business Model?  (How will the business make money?)**

The way this could make money is selling monthly memberships to be able to post on the boards.

**What is the Unique Selling Proposition? (Why will the market buy from this business? More value? Better? Unique? Lower cost? Quality? Unique? Faster?)**

The market may buy a membership as a better way for people to be able to see products from local and small businesses.

You may see more value if you do not have a huge budget to spend on advertisements

**Step 2 – Determine Markets (Who will buy the product? Are there enough customers?)**

**Who are the target Markets for the Products or Services: (Who will buy the product or service? How often? Why will they buy it? Is the market big enough to sustain this product?)**

Etsy is a company that lets users sell products that can either be a D.I.Y hobby or a full time career in product making and at the end of 2020 almost reached a total of 4.4 million users.

<https://www.statista.com/statistics/409374/etsy-active-sellers/>

In an idealistic world city council, community councils and every local people who just want to let people know what's happening in the area, will use the notice board as a centralized place where you don’t have to go searching for information about what's happening in your community.

**What competitors are in the same space? (Who are the main competitors? What other similar products are in the market? What are the strengths & weaknesses of competitors? What are their features?)**

The first competitors that come to mind is Esty for the small business aspect of the board, and then there is Facebook where (for example) Bray has an open forum where community members can post anything that other people in the community can help with. Whether it be a cost-effective painter or a nice place to have a coffee.

**What area does the product or service focus on?  A Market Segment or Niche?**

The product will mainly focus on the sense of community in the sense of anyone can find out information on a community and its on-goings without having to know a person who knows a person. (so to speak)

**What strategies do you use to compete in the market?  (Cost leader, Best price, Focused Differentiator)**

|  |  |
| --- | --- |
| **1.** | Sense of Community |
| **2.** | Focused Differentiation |
| **3.** | Cost focus |

**STEP 3 - Identify Weaknesses/Threats (Consider any potential issues that may jeopardize the venture)**

People may not know that the product exists, or don’t have ways to access the boards, for example not having a computer, or not having access to internet.

**The Feasibility Study completed allows you to make an informed evaluation about the business idea.**

**• Weight up the Pros and Cons of the product.  Is this a good business innovation?**

**Pros**

* This product has the potential to bring the sense of community back into the modern day.
* Ease of Access for those who may not want to go searching for hours about what do to in the area or even what's going on around the town.
* Could help small business's get a running start by giving cheaper advertisements for their products.

**Cons**

* Requires users to function
* People who use other apps may not want to switch to a product that is smaller than Facebook, or Etsy.
* Would be hard to advertise.

# Web application Design

## 4.1 Layout

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

Bootstrap is necessary for the layout I am looking to create and the website should be responsive on both big and small monitors, however mobile screens may not be as important

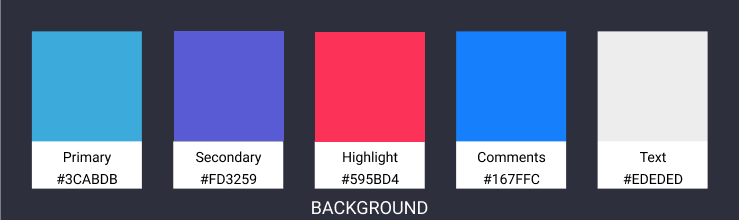
## Interaction

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

The Organiser should be able to create, update and delete any posts made to the website,

While an Ordinary User may only be able to click on post to read them, an also to make comments

## Colour schemes

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

## Font choices

**Specify the fonts that you will use for different types of text.** **Include samples for paragraph text, headings and bold and italicised text.** Text

Description automatically generated

## Wireframes

**Describe how to navigate from one page to the next by adding an diagram of the different screens and what the main functionality is. Graphical user interface, application

Description automatically generated**

By clicking on the person icon located in the top right of the above wireframe you access the log in / register tab

**A screenshot of a computer

Description automatically generated with low confidenceGraphical user interface, application

Description automatically generated**

By clicking on any of the posters that will be on the boards it will take you further into the event where you will be able to read more about the event**A picture containing text

Description automatically generated**

By clicking on the group icon in the top left corner it will take you to the community tab where you will be able to see who else has access to that board

# Database Design

## Description

The community need a centralized location where people can see what is happening within the community. They would need a database for all their events and users within the community. For each event their would need a name, who organized the event, when and where the event is and how much it costs to attend. Then they need to track which community their post will appear on. They would need to track which communities a user can see, which event they have taken an interest in, along with which boards they are apart of and they would need to track if the users role. For the Users they need their name, email, and password. Lastly, they need different roles.

## Business Reporting Requirements

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

1. Organizers need to be able to create, read, update, and delete: events, boards, communities.
2. Users will need to be able to find all events in the area.
3. Users may want to find an event by a specific start date.
4. Users need to find all events using in a different location.
5. Users need to find events based on price.
6. Organisers may need to find their events.
7. Users need to find events by location and the location needs to be displayed on a Google Map
8. Organisers need to display a list of users that are assigned to a specific event

## Textual Representation of Data-Set

Substitute in here the tables for your database

**EVENTS** (id, image\_id, name, organizer, date, time, price, place)

**COMMUNITIES** (id, location)

**USERS** (id, name, email, password)

**IMAGE** (id, filename)

**USER\_ROLE** (user\_id, roles\_id)

**ROLES** (name, description)

## Business Rules

Substitute in here the business rules for your database

 A **Community** has many **Events**.

 A **User** belongs to many **Communities**.

 An **Event** has one **Image**.

 An **Event** has one **Organiser**.

 An **Organiser** has many **Events**.

 A **Community** has many **Users**.

 A **User** can belong to many **Communities**.

 A **User** has one **Role**.

 A Role can be given to multiple Users.

## 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.

A picture containing text, indoor, screenshot

Description automatically generated

## Database Dictionary

Events

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Table | Attribute | Datatype | Range | Required | PK/FK | FK Ref Table |
| Id |  | Int |  |  | Pk |  |
| Image\_id |  | Int |  |  | Fk | Images |
| Name |  | Varchar | 30 |  |  |  |
| Date |  | Date |  |  |  |  |
| Time |  | Time |  |  |  |  |
| Price |  | Decimal | 2,2 |  |  |  |
| Place |  | Varchar | 100 |  |  |  |
| Organiser\_id |  | Int |  |  | Fk | Organisers |

Organisers

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Table | Attribute | Datatype | Range | Required | PK/FK | FK Ref Table |
| Id |  | Int |  |  | Pk |  |
| Name |  | Varchar | 30 |  |  |  |
| Image\_id |  | Int |  |  | Fk | Images |

Images

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Table | Attribute | Datatype | Range | Required | PK/FK | FK Ref Table |
| Id |  | Int |  |  | Pk |  |
| Filename |  | Varchar | 100 |  |  |  |

Communities

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Table | Attribute | Datatype | Range | Required | PK/FK | FK Ref Table |
| Id |  | Int |  |  | Pk |  |
| Location |  | Varchar | 100 |  |  |  |
| Event\_id |  | Int |  |  | Fk | Events |

Communities\_Users

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Table | Attribute | Datatype | Range | Required | PK/FK | FK Ref Table |
| Community\_id |  | Int |  |  | Fk | Communities |
| Users\_id |  | Int |  |  | Fk | Users |

Users

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Table | Attribute | Datatype | Range | Required | PK/FK | FK Ref Table |
| Id |  | Int |  |  | Pk |  |
| Name |  | Varchar | 30 |  |  |  |
| Email |  | Varchar | 50 |  |  |  |
| Password |  | Varchar | 16 |  |  |  |
| Role\_id |  | Int |  |  | Fk | Roles |

Roles

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Table | Attribute | Datatype | Range | Required | PK/FK | FK Ref Table |
| Id |  | Int |  |  | Pk |  |
| Name |  | Varchar | 30 |  |  |  |
| Description |  | Varchar | 150 |  |  |  |

# System Design/ Architecture Overview

* 1. Introduction

I have decided to use Laravel 8 as for my framework as we have used it before and I am familiar with how it works.

* 1. Model View Controller

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

* 1. User Authenticaion

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.**

Unfortunately, I struggled quite heavily with laravel near the end of the project and as a result had to risk using an alternative method to show my design and test the functionality of the website. I used the prototype function within figma.

* 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

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 |
| 01 | To show Login functions | Click | Username  +  Password | Username  +  Password |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

* + 1. Navigation

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Test No | Description of test case | Input | Expected Output | Actual Output | Comment |
| 01 | Switch between pages | Click on the page arrows | Switch between pages | Nothing happened | Need to link figma frames together |
| 02 | Switch between pages | Click on the page arrows | Switch between pages | Switch between pages  1-3 |  |
|  |  |  |  |  |  |

* + 1. CRUD

Due to me using figma I could not test the CRUD functionality

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 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 assist in project management.**

My project started off strong and I was consistent with my uploads to my github repository, and I was going strong until I started with the Laravel aspect of the project, I unfortunately cannot get my head around laravel even with help and videos from Advanced Web development. I then fell off of the subject with both attendance and with motivation for the subject. I then sucked it up ( so to say ) and thought to pass the year I should try and get points where I could. So instead of using Laravel and risking 20% I chose to use figma to at least get my design and testing marks

## Project Phases

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

### Requirements

The requirements went pretty well I thought, I had to research two apps similar to what I wanted to do with my app. They were NextDoor and Facebooks group functions, I gathered screenshots, descriptions of the apps along with the pros and cons of each.

I wanted the CRUD functionality to be that the Organisers were able to create, update and delete posts to the app, and the users to be able to just read.

I kept running into error after error with laravel which I just couldn’t figure out why and where they came from and it just got to the point where I was just going to have to get the marks where I could in the design and some of the testing.

### Design

The colour scheme I originally wanted to go with was with darker colours that wouldn’t hurt to look at for long periods of time, but still have some light colours to highlight key items on the pages.

### Implementation

As I said previously in my report, I struggled using laravel and that cost me in the ways that I couldn’t implement all the features I would have liked, but I thought I could still get some marks in some areas.

### Testing

## SCRUM Methodology

Sprints

## Project Management Tools

### GitHub Project

The GitHub Projects were like a to-do list to work off week by week but I just found that was unnecessary to use it do to having to write this report alongside the project, meaning I used the report as my checklist.

### GitHub

GitHub is a great resource to be able to work and then push work up onto whenever you are finished, however sometimes I would forget to push files up onto my repository and the next time I would work on the project it would say that I had over 60 files changed and not pushed.

# Reflection

## Your views on the project

I personally did not like doing this project because it focuses on an area that I personally have no interest in and also am not very good at it. I would have preferred that there be an option to either do a more front-end based project or have the project done in pairs so you can bounce ideas off of your partner and divide the work load between you,

## How could the project could be developed further?

I believe I went over this in the previous section.

## Assessment of your learning.

Laravel needs to be worked on and understood at greater length.

Learned how to research competitor applications.

How to identify pain points

## 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 work place.

# 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.