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# Coffee Cars and QR codes

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# Abstract

# Acknowledgements

I would like to thank my wife and family for all their support over the last four years in getting me to this stage of the creative computing hons degree course, it hasn’t been an easy road for me but it definitionally has not being an easy road for them. Secondly, I would like to thank my supervisor Joachim Pietism for his support and guidance throughout this process. Lastly, I would like to thank all the lecturer staff whom I have studied under over the last four years in IADT there guidance and support have gotten me to the place I am now.

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Student: Derek Reid n00192978

Signed

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# Introduction

Look at Project Guidelines document!

The overall aim of this project is to develop a web application using the MERN stack. The web application is to connect the Coffee and Car community to offline members outside their community.

Application area

Technologies

React

Vue

Android

Project management

Tools

Word

Figma

GitHub

Journal

Requirements

Design

Implementation

Testing

# 2 Requirements

## 2.1 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

2.2.1 Similar applications

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

* Screen shots
* Descriptions
* Advantages
* Disadvantages

* + 1. Interviews

Conduct interviews with 3 or 4 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.

* + 1. Survey

You can create a questionnaire and use the results of the questionnaire as a basis for finding out requirements.

* 1. Requirements modelling
     1. Personas

These are fictional characters to help the developer understand the users’ needs. They also help identify who the relevant users are.

* + 1. Functional requirements

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

* + 1. 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. Use Case Diagrams

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

* 1. 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.

* 1. Conclusion

Write a couple of paragraphs summing up the chapter.  Explain what area your project is about.  Describe what the chapter has discussed.

# Design

## 3.1 Introduction

The design of the Coffee Cars and QR Codes is a mobile first web application that is built using the MERN stack. The application is designed to be user friendly and easy to navigate. The external part of this project is the design of flyers that contain QR Codes to connect offline users interested in Cars and Car restoration/modification. The mobile app will have a QR Codes scanner available to it for users of the application to scan induvial vehicles to get detailed information on the built of the vehicle.

## 3.2 Program Design

### 3.2.1 Technologies

The process started with pen and paper. The first idea came from folding a sheet of paper three times. This gives a sheet of eight equal rectangles, very similar to a mobile phone screen. A rough sketch of a phone screen is drawn and what is going to being displayed on then. A basic layout of the mobile application’s home screen, login details, main viewpoint is sketched on the paper.  
--------------------------------------------------------------------------------------------------------------------------------------------------------------------------Insert figure here of paper prototype--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------  
After that process we moved onto a Lo-fidelity prototype, which involved having a A4 notepad and folding the pages in half portrait style and drawing the outline of a mobile phone on each face. The prototype is drawn onto the first page and then the process a user may take when they press an imaginary button or screen swipe. This starts to iron out any faults in the application before a Hi-fidelity prototype is developed.  
-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------Insert lo-fidelity prototype figure here----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------  
Next I got some cardboard and cut out some mobile phone shapes and added a top layer so I could slide better drawn images of the application onto cards and slide them into the screen. This was used to show test cases where the application would bring them when they would interact with the application.  
--------------------------------------------------------------------------------------------------------------------------------------------------------------------------Insert figure of Hi-fidelity prototype---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------  
The next design stage is to refine the application with the use of Figma. Figma is a collaborative web application for design. It is used to design web and mobile applications. Figma can be shared between team members, where each member can critique, comment and design parts of the design.  
John Montayne ran a workshop showing us some of the fundamentals of Figma. While in the workshop, John explained the importance of making components and getting the smaller details correct, as this will make our workflow better.  
-------------------------------------------------------------------------------------------------------------------------------------------------------------------------Insert Figma Image here-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------  
I also started to use GitHub as a repository at this time. GitHub is mainly used for software developers to stage their code. It is a great way to develop an application as each time a commit is pushed to the tree a new version of the application is created. A developer can visit older stages of code through GitHub’s technology. For me I wanted to shoe the development stages of Figma. Instead of filing a final version, with GitHub I could save various stages of the design process and share these with my supervisor.  
------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------Insert GitHub repository image here------------------------------------------------------------------------------------------------------------------------------------------------------------------------------When my supervisor was pleased with the development of my design then and only then do I start to code. For this I will be using Visual Studio Code. Visual Studio Code is a source-code editor developed and owned by Microsoft. It is a wonderful application for writing, editing, debugging and refining mobile and desktop applications. It supports many languages, such as HTML, VUE, React, Angular, C#, Java and JavaScript to mention just a few.

### 3.2.2 Structure of React/Angular

### 3.2.3 Design Patterns

### 3.2.4 Application architecture

### 3.2.5 Database design

### 3.2.6 Process design

## User Interface design

### 3.3.1 Wireframe

### User Flow Diagram

### Style guide

## Conclusion

# Implementation

## Introduction

## 4.2 Scrum Methodology

## Development environment

## 4.3 Sprint 1

Major Project – DL836 BSc in Creative Computing

Record of Sprint Review meeting between student and supervisor

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Student** | Derek Reid N000192978 | | **Supervisor** | Joachim Pietsch |
| Sprint # | Design sprint 1 |  | Date | 17/01/2023 – 24/01/2023 |
| **Items discussed at this meeting:**  In this sprint we began to look at the design elements of the mobile application Sue held a workshop on starting a design to work towards, In it she discussed the working of crazy 8, where you fold a sheet of paper into 8 squares and design a screen on each section of the page. We also talked about the flow of a mobile application and what to look for in a good working application. John Montayne held a Figma workshop and gave us a example of making Components. Grainne Carroll uploaded a number of video tutorials on Teams for us to follow about Figma.  In our weekly meeting Joachim looked at the progress of the mobile design and gave some insights to making it mare streamline and user friendly. | | | | |
| **Activities and/or Backlog items complete:**  In this Sprint I have worked on the design elements and with Figma have worked on a basic layout and refined the colour scheme. Worked on a paper prototype and flash cards to detail how the application flows from one screen to another. This will be an ongoing item. | | | | |
| **Activities and/or Backlog items to complete prior to next review:**  I must investigate how the likes of WhatsApp use a QR code scanner to work from within the application. Refine the footer to remove the profile tab and possible have a calendar instead. Investigate the register/login methods and the access to a camera/location in an application. | | | | |
| I, the student, confirm that the above is an accurate record of the meeting.  Signature of student: 24/01/2023 | | | | |
| I, the supervisor, confirm that the above is an accurate record of the meeting.  Signature of supervisor: | | | | |

### 4.4.1 Goal

### 4.4.2 Item 1

## 4.5 Sprint 2

### 4.5.1 Goal

### 4.5.2 Item 1

### 4.5.3 Item 2

## 4.6 Sprint 3

### 4.6.1 Goal

### 4.6.2 Item 1

### 4.6.3 Item 2

## 4.7 Sprint 3

### 4.7.1 Goal

### 4.7.2 Item 1

### 4.7.3 Item 2

## 4.8 Sprint 4

### 4.8.1 Goal

### 4.8.2 Item 1

### 4.8.3 Item 2

## 4.9 Sprint 5

### 4.9.1 Goal

### 4.9.2 Item 1

### 4.9.3 Item 2

## 4.10 Sprint 6

### 4.10.1 Goal

### 4.10.2 Item 1

### 4.10.3 Item 2

## 4.11 Sprint 7

### 4.11.1 Goal

### 4.11.2 Item 1

### 4.11.3 Item 2

## 4.12 Sprint 8

### 4.12.1 Goal

### 4.12.2 Item 1

### 4.12.3 Item 2

## 4.13 Sprint 9

### 4.13.1 Goal

### 4.13.2 Item 1

### 4.13.3 Item 2

## 4.14 Conclusion

# Testing

## Introduction

## Functional Testing

### Navigation

### CRUD

### Discussion of Functional Testing

## User Testing

## Conclusion

# Project Management

## Introduction

## Proposal

## Requirements

## Design

## Implementation

## Testing

## SCRUM Methodology

## Project Management Tools

### Trello

Description

Include Diagrams

How it worked

### GitHub

Description

How it is used

How it worked in practice

### Journal

## Reflection

# Business Opportunities

## Introduction

### Conclusion

# Conclusion of Major Project

One paragraph on the background, the overall aim and the goals of the project.

One paragraph on the technologies used in the project.

Research

Design

Implementation

Testing

Overall result

Project management

What was learnt

How the project could be further developed

### Your views on the project

### Completing a large software development project

### Working with a supervisor

### Technical skills

### Further competencies and skills

## 8.2 Conclusion

## 