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Final Stage Computing Project

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Corner Shop Specialist

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**Abstract**

This report outlines a software development project to build a system that can be used by staff and customers of corner shops to assist both staff to more effectively carry out their jobs. The system allows customers to check the stock and products of their nearby shop and has a click and collect service for item reservation. For staff, the system allows managers to handle stock, deliveries and their staff.

The report begins by outlining the background, deliverables and objectives of this project, delving into the industry area, what is currently used and the drawbacks of the current solutions. Moving on from that the report will then cover the approach taken during the project and the social legal and ethical concerns related to this project. I will next then describe the architecture and design process used to set out the framework for the project. I will then cover how the project was managed to ensure its success.

The next section of the report will cover the development phases of the project and the iterations that were taken that build upon each other to create a completed system. I will also overview issues encountered during the project and how they were overcome.

To conclude, this report will cover a post-mortem of the project to evaluate what went well and what could be improved on for future projects of this manner.

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# Introduction

The idea for this project came from the developer’s experience working in retail for a year and using the systems provided to him to carry out his job. This project has no specific client in mind but has the potential to be commercialised as an off the shelf system for businesses.

In a retail environment, there is historically the case that the systems they use to store corporate information such as stock information, staff details and other corporate details on a shop to shop level are being handled by decades old software and hardware that is not kept up to date due to cost and other corporate concerns. This system has been built to modernise the systems used by shop managers and staff to help enhance the potential of these systems and add features to make working in retail more convenient and easier on both the staff and customers.

This software has been developed to be both a website and desktop application with the website providing an interface for staff and customers and the desktop application primarily for managers to handle corporate information and manage their individual shop.

# Background, Objectives and Deliverables

## Motivation

The main reason this project was conceived was to make working in retail more straightforward for the staff by alleviating some of the issues they currently encounter.

One major issue is the use of very outdated software for back office computer systems that is often slow and normally running on outdated operating systems that are no longer supported by their providers with updates thus making them very unsecure to recent security exploits which could be crippling for a company’s corporate information that is stored on these computer systems.

Another issue with these currently used systems they do not accommodate areas such as staff shifts and holidays as these are still done via paper. This provides the limitation of staff members having to physically come into the shop to see when they are working or to request and check their holiday. Having this on an online platform would allow staff to check shift online for instance if they have been off work for holiday.

Another problem that shop staff face when working on the shop floor is questions from customers regarding if they stock a certain item or when items will be back in stock. This is something that can be moved to an online platform to free up staff members to more effectively carry out their duties and responsibilities.

The final issue that has been identified is pertaining to the usability of the systems currently employed by companies as most of them are ageing systems they are using very outdated usability techniques that provide a poor user experience for their end users with some systems seen using an almost command line system for certain sub-systems of the software.

The solution to be developed to address the issues outlined above to provide a better user experience for staff and allow customers to access information about their local corner shop online so that they do not need to travel to the shop to get the desired information. It will also provide a more secure system for corporate information on an up to date operating system to prevent data leaks.

## Project Objectives

## System Requirements

## Deliverables

# Legal, Social, Ethical and Professional issues

## Legal Considerations

### Licencing

Software licences

### Data Handling

### GDPR

## Ethical Considerations

The only human participants used to get feedback on this project were colleagues on the developer’s course. This is covered by the generic ethical approval submitted on behalf of the department for this module and covers all the ethical issues that would have been faced during the project.

## Social Considerations

# Project Management

## Agile Project Management

For this project, an agile approach has been used to manage the project and ensure its success. This is outlined by the PRCO304 module specification as the recommended project management style to use for the project.

Agile Project management as detailed in the agile manifesto has the key principle of continuous delivery of software to end users/clients at regular intervals. (Agile Manifesto, 2001) This was established by developing according to iterations with the design allowing for something to be ready to be shown to the end user at the end of each iteration.

## GitHub

GitHub has been used to manage the code base of the project

## Trello

## Vertical Slice Development

Vertical slice development was employed as part of an agile approach to maintain quality of the code produced and to verify completeness of functionality.

# Stages

## Stage 0 – Architecture research and requirements engineering

## Stage 1 – Log in and sign up

## Stage 2 – Stock and Deliveries

## Stage 3 – Catchup from Technical Issues

## Stage 4 – Staff Rota’s and Click and Collect

## Stage 5 - Holiday, payroll and further deliveries

# Changes during development

# End-project report

# Project Post-mortem

# Conclusions

# Bibliography

**There are no sources in the current document.**

# Reference List

Agile manifesto

# Appendices