

One Semester Individual Report, 40 Credits

CM3203

Initial Plan



Online System for a Doctors Surgery

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Project Title

The name of my final project is “Online system for a doctor’s surgery”

Project Description

Currently doctor surgeries around the UK manage resources poorly causing inconvenience for both staff and patient. This is due to the use of outdated methods when managing day to day operations as currently:

- Patient appointments are arranged by contacting the surgery by telephone in the early morning of the day the appointment is required, patients often then have to wait long periods of time in waiting room before being seen by a doctor
- Prescriptions force patients to visit their surgery or chemist in order to request an order of necessary medicine
- Receptionists work is affected due to busy phone lines, meaning more staff are required

With the ever increasing accessibility of the internet my project will be to design and implement an online system that uses internet technologies to improve resource management in healthcare. An online system that provides a platform suitable for those interacting with a doctor’s surgery. The intended use of the system will be to enable doctor and patient to share relevant information. The system will allow management of doctor and patient details, appointments and prescriptions to increase convenience for all, rendering early telephone calls, busy phone lines and trips to order prescriptions a thing of the past.

Users	Functionality
Doctor	<ul style="list-style-type: none">• Doctor will be able to view, add, edit and remove data related to patients including personal, medical and prescription
Patient	<ul style="list-style-type: none">• Patient will be able to view, add, edit and remove personal data such as name, address and telephone etc• Patient can access appointment feature of the system, allowing for arrangement of appointments with doctor• Patient can access prescription ordering feature of the system, allowing for ordering of doctor prescribed medicines
Administrator	<ul style="list-style-type: none">• Administrator personnel can view, add, edit and remove data relating to doctor and patient
Receptionist	<ul style="list-style-type: none">• Receptionist will be able to view, add, edit and remove data relating to patient• Receptionist will be able to access appointment feature of the system to input patient appointment data

Alongside the management of resources and functionality, the system will also be accompanied by a data analysis feature allowing authorised user types such as doctor and administrator to view and monitor trends and patterns within data. This analysis involves average appointment wait time or busiest months etc in order aid decisions for example whether more doctors are required.

To create the system, I will be using various programming environments to construct a fully operational system to achieve its planned functionality, including web technologies HTML, CSS, JavaScript and Bootstrap to create the online system. MySQL database will be used to manage resources with PHP connecting the database to the front-end user interface of the system.

Project Aims and Objectives

The aim of the project is to provide various tools to allow a doctor's surgery to manage its resources successfully, including:

- Managing and updating information such as; doctor and patient details, appointments, medical reports
- Booking of appointments
- Ordering patient prescriptions
- Data analysis to aid decision making

This will require the design and implementation of:

- **Data Model** – analysis of how data items relate to each other. This will be done using conceptual design, logical design and normalisation.
- **Database** – creation of a database to collect and manage the doctor surgeries resources
- **User Interface Model** – analysis of how the user will interact with the system and its features
- **User Interface** – front end interface to allow users to interact with the system, this will vary depending on user type
- **Data analysis tools** – allowing the user to mine data within system database to retrieve trends and patterns etc to provide information
- **Testing** –
 - *Test cases* – creation of test case documents, which provide a set of test data, preconditions, expected results and post-conditions, developed for in order to confirm the systems compliance against specific requirements
 - *Functionality* – to ensure that the final system successfully performs the functions that have been specified
 - *Usability* –to test the usability of the system including the principles; learnability, visibility, user control and memorability, errors, efficiency and satisfaction. The aim of the system tests would be to maximise all principles

Work Plan

Below I have highlighted the set of aims and objectives in which I will need to accomplish across the timeframe of the project and the expected deliverables involved in each. I have also created a Gantt chart to track my progress over the timeframe (Stars indicate key milestones).

Week	Task	Milestones
1	<ul style="list-style-type: none"> Carry out background research to help create system requirements Creation of initial project plan 	<ul style="list-style-type: none"> Initial project plan submission
2	<ul style="list-style-type: none"> Continued background research Perform a risk assessment to identify any problems that may occur and provide solution Identification of the social, legal and ethical issues in regards to the proposed system 	<ul style="list-style-type: none"> A clear risk assessment Identification of social, legal and ethical issues and how they will be confronted
3	<ul style="list-style-type: none"> A requirement analysis to identify and discuss what the users of the system require Identification of system functionality requirements 	<ul style="list-style-type: none"> Transparent system requirements
4-5	<p>This period will focus on the design stage of user interface, database and data analysis tools</p> <ul style="list-style-type: none"> Using conceptual design, logical design, and normalisation to create database design Design of interaction and usability features of user interface Design of data analysis tools within user interface 	<ul style="list-style-type: none"> Document clearly identifying design of database and user interface
6-8	<p>This period will focus on the implementation stage of both user interface and database, as well as data analysis tools</p> <ul style="list-style-type: none"> Creation of database and user interface Connection of database and user interface Implemented data analysis tools 	<ul style="list-style-type: none"> Completed implementation
9	<p>This period will focus on the testing of implemented system</p> <ul style="list-style-type: none"> Test case documents to test implemented systems functionality and usability against specific requirements 	<ul style="list-style-type: none"> Implemented system fully tested
10	<ul style="list-style-type: none"> The system will undergo evaluation 	<ul style="list-style-type: none"> Full system evaluation completed
11-12	<ul style="list-style-type: none"> Carry out the completion of final report 	<ul style="list-style-type: none"> Final report submission

Supervisor interaction

As the project progresses I will continue to interact with my supervisor on an on going basis, in a number of ways:

- **Meetings** – it has been agreed that weekly or fortnightly meetings will be taken place to review and discuss project progress with my supervisor
- **Doodle Poll** – the online scheduling tool that uses a polling system will be used by myself and supervisor to determine when we are both available to meet
- **Google Docs** – google drives document platform will be used documents to be shared with my supervisor online
- **Email** – contact will be made via university email system

Project Progress

