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**School of Computing and Mathematical Sciences**

**CO7201 Individual Project**

**Preliminary Report**

**[Title of your project]**

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**Word Count: [XXXX]**

**[Submission Date]**

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# **Aims and Objectives**

// have to add about home care with regards to adult people

// have to divide the current problem, major problems, aim, objective, future scope

Currently, the United Kingdom has been facing crises due to lack of General Practitioner(GP), Doctors and Nurses. According to BBC News 2nd October 2024, the cities that had most patient per GP were Thurrock, Leicester, Blackburn with Darwen, Luton and Melton Keynes and Portsmouth[1] (Nick Triggle & Wesley Stephenson, 2024). One of the major problem faced by the patient is with regards to booking the appointment with the GP, followed by the long forms to book the appointment, no availability of the Doctor shown, patient visit the GP due to minor problems, and less consultation/treatment time for each of the patient.

Inorder to address these issues, the main aim of this project is to design/develop An Automated System For Local GPs. The objective of this project is to design an secure, user friendly interface for the patient considering the different age group, availability setting for Doctor/Nurse , home care for adults by booking the nurse, manage the prescription that is prescribe medicine (digitally) and patient will be able to view the prescription and provide digital awareness about minor injuries. This project will improve the patient’s access to the website and also optimize the workload for the Doctor/Nurse. The future scope of this project is that inorder to address the issue of weekly updates from patient rather than booking an appointment, implementation of one to one chat feature will help the patient and Doctor to reduce the communication gap and *also provide a data analysis of the patient medical history*.

# **Challenges**

//have to change it a bit (rephrase)

* Security of the web application due to the confidential data.
* User friendly Design(interface) with the application without much re-routing considering all the age groups(even elderly).
* Easy appointment scheduling without much hassle.
* Payment integration
* Deployment on the cloud considering the Availability, scalability.

# **Requirements**

# **Essential**

The primary features will help to establish the web application

* **Registration:** The patient will be able to register to the webapp, secure login, and add/upload their previous Medical history to the web application.
* **Availability:** The Doctor and Nurses could set their availability for the respective day/week/month.
* **Book appointment:** The patient according to their time can book the appointment with the available Doctor/Nurse.
* **Provide prescription:** The Doctor will be able provide prescription to the patient and during the next visit Doctor can view the previous provided prescriptions.
* **Adim Dashboard:** The dashboard will help to add/delete patients, add/delete doctors, add/delete nurses , manage the appointment bookings/scheduling.
* **Doctor Dashboard:** The Dashboard will help to set the availability, view booked appointments, provide prescriptions, view medical history (patient), set the profile,(Send prescription to pharmacy).
* **Nurse Dashboard:** The Dashboard will help to set the availability, view booked appointments, provide prescriptions, view medical history (patient), .
* **Patient Dashboard:** The Dashboard will show the Doctor/Nurse Availability, book appointment, view prescriptions, upload the prior medical history, previous booked appointments, (Medicine).
* **Pharmacy Dashboard:** The Dashboard will show the prescriptions, payment option.

# **Recommended**

* **Deployment on the cloud:** The application/website will be deployed on either of the cloud provider such as Microsoft Azure/Amazon Web Service /Google Cloud Platform.
* **Articles for minor injuries & awareness:** Inorder to tackle mild external injuries, Articles will be provided inorder to take safety measures at home which will reduce some workload for the Doctor / Nurse .
* **View prescription:** The patient will be able to view the prescription provided by the Doctor/Nurse online.
* **Preview Medical History:** The medical history of the patient could be viewed by the Doctor which will help to know the prior medical history.
* **Buy and Pay prescriptions:** For the prescribed medicine the patient can buy and pay for the prescription itself either online or offline.
* **Email Confirmation**: Once the appointment is booked, an email Confirmation will be sent to the patient.

# **2.3 Optional**

* **One to one chat:** Due shortage of Doctor/Nurse, if in case there's a follow-up required for a specific patient or a patient requires immediate attention the chat feature can be leverage.
* **Responsive Web Application.**
* **Feedback:** The patient could provide feedback to the Doctor/Nurse with regards to the consultation provided.
* **Data Analysis**

# **Technical Specification**

|  |  |  |
| --- | --- | --- |
| **Component** | **Name** | **Summary** |
| Database | MongoDB/ MySQl |  |
| Backend | Python |  |
| Frontend | React JS, HTML,CSS, JS | Designing the user interface for the web application. |
| API | REST |  |
| Authentication | JWT/OAuth |  |
| Cloud Deployment | AWS / Azure | Deploying the application on the cloud considering the availability and scalability. |
| Version control | Git, GitLab | Maintains the code. |
| IDE | Visual Studio Code | Development of the code |
| Testing | Manual testing , User Feedback(frontend), Unit testing, Postman(API) |  |
| Designing | Figma, Sketch(paper & pen) | UI/UX design for the user friendly interface, Design wireframes. |
| Documentation | MS Word | Maintaining the documentation for the reports. |
| Operating System | Windows |  |

Technical specifications of the project.

# **Requirements Evaluation Plan**

What criteria to use to evaluate your system or experimental results? Who will be involved in the evaluation? What type of testing will you do to verify the quality of your software? In short, how will you verify that your project achieves what it sets out to do?

# **Background Research and Reading list**

# **Existing Web Applications.**

<https://highfieldsurgerysevernstreet.co.uk/>

The website has all the basic features such as patient, home, new patients, contact information and clinic services.

But one of the most important thing that the website is lacking the user friendly interface and the information provided such as news, opening hours and buttons doesn’t seem well organized.

Also considering the elderly people it’ll be difficult to use the website. Also has a lot of information which is not required and too much of re-routing which is not directed to the

<https://www.regentstreetclinic.co.uk/>

The landing page has required information but hasn’t been organized properly.

The website has amazing features WhatsApp which when clicked is redirected to the application. But when using the other features there seems to be lot of information provided which the users won’t prefer to read.

The images used also doesn’t go with the website which shows a bad UI. When using the website , there are some buttons that doesn’t work appropriately such as when navigated to CUSTOMER REVIEW and then want to access the CONTACT US page the button is not been clicked.

<https://www.bowlinggreenstsurgery.co.uk/>

The website landing is a bit organized. But the disadvantage is that for any of the services it says that either call for appointment or submit a appointment request form else visit the surgery. This website shows that it answers all the basic questions of a patient but doesn’t have the online booking system , manage prescription , check the availability of the doctor / nurse.

<https://www.westendgp.co.uk/>

The website has a good landing page showing the important information.

But it shows when booking an appointment the patient has to either call or visit and has restricted time until 6:30pm. Also when new patient wants to register , the patient has to contact the surgery for the details. Therefore it shows that the patient have to struggle with the basic needs for booking the appointment or else checking the availability.

<https://www.leicester-holistic-gp.co.uk/>

The website has a very bad user experience since it has used inappropriate colour combinations due to which any age group patient wont prefer visiting the website.

# **5.2 Articles**

# **Time-plan and Risk Plan**

A detailed timetable and plan for achieving the objectives of the project (this could be tabulated or in the form of a Gantt chart), including the milestones of the project and a risk plan; Explain target dates and amount of time required for the completion of aspects of the project

# **References**

1. Nick Triggle, & Wesley Stephenson. (2024, October 02). The places with the worst GP shortages revealed. Retrieved from BBC NEWS: *https://www.bbc.co.uk/news/articles/cjd51y9vn9do*