Smart Health Doctor Appointment System

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Abstract: Online physical checkups are a shrewd web application; this gives an enlistment and login to the two specialists and patients. Specialists can enrol by giving his fundamental subtleties like timings, charge, classification, and so forth. After effective enrolment the specialist can sign in by giving username and secret phrase. The specialist can see the booking demand by patients and in the event that he acknowledges the patient demands the status will be appeared as booking affirmed to the patients. He can likewise see the input given by the patient. The patient must be enlisted and sign in to book a specialist basing the class and the sort of issue tolerant is confronting and the area. The query item will demonstrate the rundown of specialists coordinating patients. Required criteria and he can choose one and send a demand the demand will be sent to administrator and administrator forward to specialist and on the off chance that he is accessible he will send the affirmation ask for back to administrator the administrator refresh the booking demand and says affirmed to the patients. The patients can see the status in the status tab and furthermore he will get the mail saying the booking is affirmed.

Keywords: python, django, zinza, postgrss-sql, boostrap 3, css, html

1. Introduction

Title: Smart Health Doctor Appointment System. The undertaking physical checkups framework is to give patients or any client a simple method for booking regular checkups on the web. This is a web based framework that beats the issue of overseeing and booking arrangements as indicated by client's decision or necessities. The errand in some cases turns out to be exceptionally monotonous for the specialist himself in physically allocating arrangements for the client according to their accessibility. Subsequently this undertaking offers a viable arrangement where client can see many booking spaces accessible and select the favoured date and time. This framework additionally enables clients to drop their booking whenever. The framework gives an extra element of computing month to month income of specialist. Specialist needs to simply bolster the framework normally with day by day profit and produces a report of aggregate sum earned toward the month's end.

The framework utilizes python as a front end and postgress as the back end. The regular checkups framework gives the intensity of direct connection between specialists of client's decision as and when required for your little issues. Patients will ready to fill online structure in only couple of moments before

entering to the virtual office room by utilizing this framework. It can likewise keep up rundown of specialists, accessible arrangement sees his arrangement history. Understanding administration in appreciation of wellbeing records, tolerant arrangement and need calls are for the most part extremely pivotal so as to keep up the general dimension of social insurance in the nation. Be that as it may, to endeavour the dimension of proficiency and adequacy, there are regions which needs usage of appropriate administration framework with quality, which incorporates holding up time and the board of staffs, for example, quiet enrolment taking care of (for example Stroll in patient). The wasteful utilization of medicinal services data is probably going to be the serious issue in vast social insurance associations, particularly with regards to dealing with patient information in different branches, by different wellbeing experts. The proposed task is a keen arrangement booking framework that gives patients or any client a simple method for booking a physical checkup on the web. This is an electronic application that conquers the issue of overseeing and booking arrangements as indicated by client's decision or requests. The undertaking at times turns out to be dreary for the compounder or specialist himself in physically allocating arrangements for the clients according to their accessibility. Consequently, this undertaking offers a compelling arrangement where clients can see different booking openings accessible and select the favoured date and time.

2. Product development

Scheduling can be portrayed as the way toward doling out occupations to assets for some term. Planning issues are omnipresent, extending from PC frameworks and systems, to generation manufacturing plants and patient arrangements. A large number of such issues are either understood by manual activity or utilizing heuristics explicitly intended to the context [1].

Patient arrangement booking can be grouped into three:

Single Batch Process: In this Appointment planning process, choices are deferred until in the wake of accepting all arrangement demands for a given period. This model is normally utilized in medical procedure beginning occasions, and permits booking with complete data, so an ideal or close impeccable arrangement can be found through discrete streamlining or heuristic techniques.

Unit Process Appointments: In this arrangement planning

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model, the procedure is accepted to come each one in turn and are booked at the season of the demand entry. Through this procedure, an ideal arrangement will far-fetched be found, however might be approximated if the circulation of arrangement ask for sorts is found out.

Intermittent Process Appointment asks for are kept in a support of fixed size and are booked once the cradle is full. This enables a superior guess to the ideal arrangement by thinking about ideal or close ideal arrangements at every period.

Online Appointment Scheduling framework:

Online arrangement booking framework is a framework through which a client or visitor or basically, patients can get to the site of the specialist, and through the online programming, patients can without much of a stretch make their arrangements. Notwithstanding that, patients can likewise give extra data to the specialist, making the specialist mindful of their circumstance and giving the specialist time to set up the important data for when the patient's arrives. A web based planning framework enables people to helpfully and safely book their arrangements on the web.

Online arrangement framework could essentially build patient's fulfillment with enlistment and diminish all out holding up time effectively [10].

Holding up Time:

Holding up time alludes to a timeframe which a patient must trust that a particular move will make place, after that activity is activated or asked. It is characterized as "the period of time from when the patient entered the outpatient facility to the time the patient really gotten his or her remedy. It is likewise portrayed as the complete time exhausted by a patient from enlistment until conference with a specialist.

3. Objectives

- The main objective of the project on doctor appointment system is to manage the details of doctor, appointment, patients, booking, medicine.
- It manages all the information about doctor, test, and patients.
- The purpose of the project is to build an application program to reduce the manual work for managing thee doctor, appointment, patients.
- It tracks all the details about the patients, booking.
- The project is built at administrative end and thus only the administrator is guaranteed access.

4. Design

Patient Module: The patient's need to be registered and log in after logging on he can search the doctor by giving location (zip code), speciality and distances (5 miles, 10miles, 15miles). He takes appointment to the neurologist, dentist, and eye specialist.

Doctor Module: Doctor Need to be registered by giving the necessary details like phone number, speciality. After

registering he need to log in and in Dashboard he can view all the appointments booking. He confirms the appointment request by clicking on it.

Google Firebase Notification: Google Firebase notification a cloud platform with a lot of amazing features for mobile Firebase Cloud app developers. One of them is Firebase Cloud Messaging (FCM) a cross platform solution that lets users reliably deliver messages at no cost.
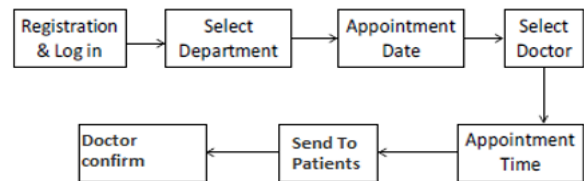

Fig. 1. System flowchart for online appointment registration

5. Module representation

MODULE – 1: Login.
MODULE – 2: Doctor.
MODULE – 3: Patient.
MODULE – 4: Google Firebase Notification.
MODULE – 5: Message Notification.
MODULE- 6: log out / exit

6. Requirements specification

A. *Functional Requirements*

1) *Doctor Authentication:* The system can be accessed by only authenticated doctors. Inputs: Inputs include username and password submitted by the doctors. *Processing:* Username and passwords are checked against the database to ensure valid user. *Output:* Valid users are allowed to access the homepage.

2) *Patient Authentication:* Patient module can be accessed by only valid patients. Inputs: Inputs include username and password submitted by the patient. *Processing:* Username and passwords are checked against the database to ensure valid patient. *Output:* Valid patient only is allowed to access the patient page where he can create accounts for users.

B. *Non - Functional Requirements*

1) *Performance of the system:* Response time is very good for given piece of work. The system will support multi user environment.

2) *Reliability of the system:* The system will be highly reliable and it generates all the updates information in correct order. Data validation and verification is done at every stage of activity. System recovery will also be speed.

C. *Behavioural Attributes*

1) Security - The system is developed in Python and

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extends security features of web browsers.
2) Availability - The system will be available 24X7.
3) Maintainability - The system will be able to meet new requirements (additions/ deletions).
4) Portability - This application will be portable on any system and can be opened in any browser.

D. Web Application

1) Generate database of booking appointment.
   Notifications, events and events prove to be very successful.
   Patient can find best specialized doctor in nearby region.
   Patient can save his precious time.

7. System evaluation

Of the application. Once introduced, this application will remain into the gadget for all time until the client erases it or uninstalls it. After the establishment when the client taps on the application symbol, the main thing that will show up on the screen is sprinkle screen that contains the application's logo as appeared as follows,

Fig. 1. Home page
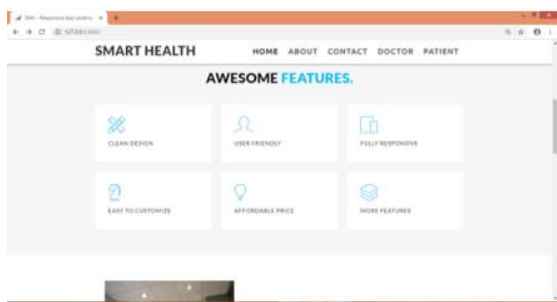
Fig. 2. Features home page
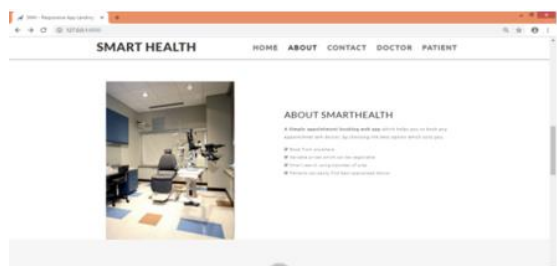
Fig. 3. About page

Fig. 4. Subscribe page
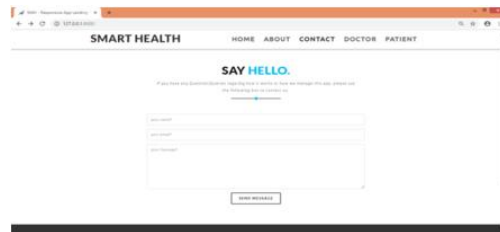
Fig. 5. Review page
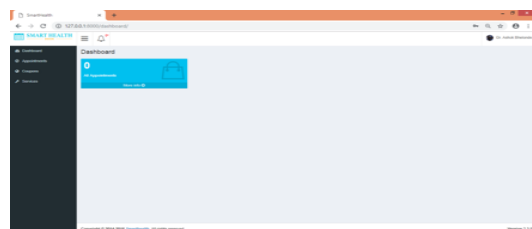

Fig. 6. Doctor sign up page
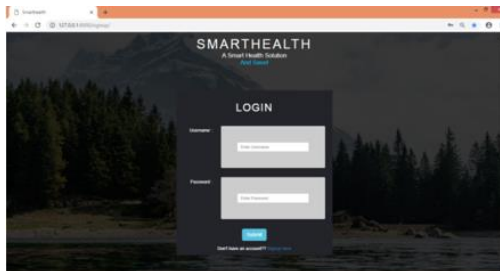
Fig. 7. Doctor login page
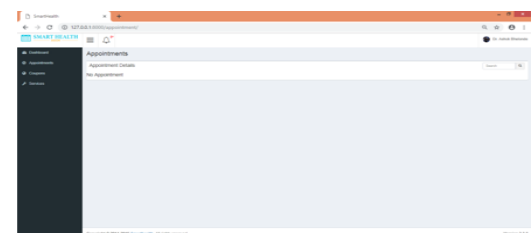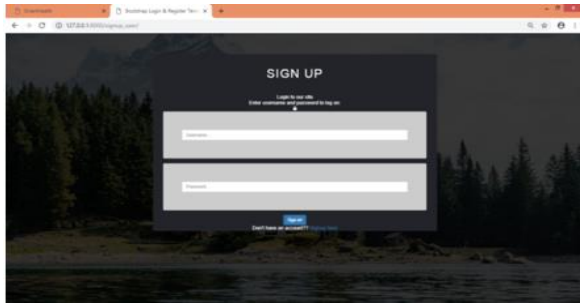

Fig. 8. Dashboard

Fig. 9. Appointment page

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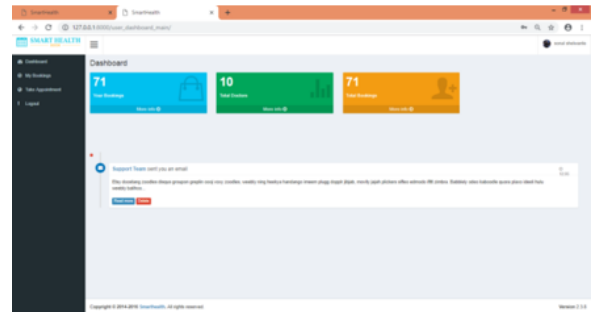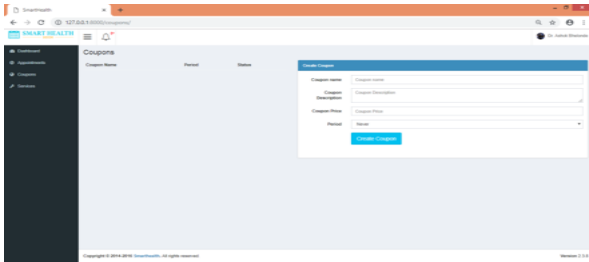

Fig. 10. Signup page

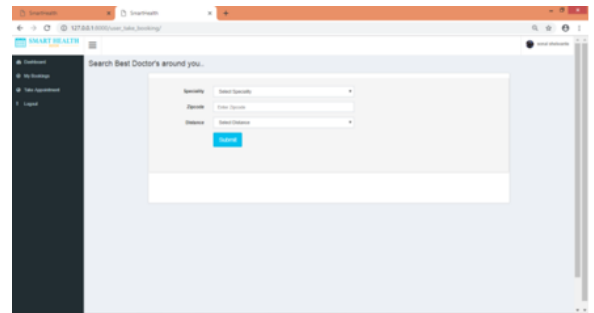Fig. 15. Patient dashboard

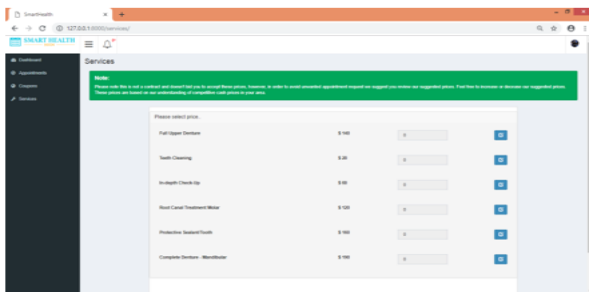Fig. 11. Coupon page

Fig. 16. Patient appointment page
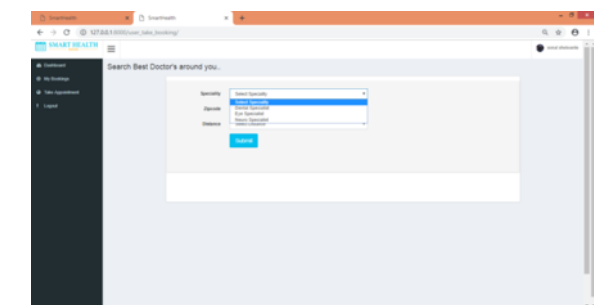

Fig. 12. Service page

Fig. 17. Patient Appointment page (Specialty, zip code, distance)

Fig. 13. Doctor profile page
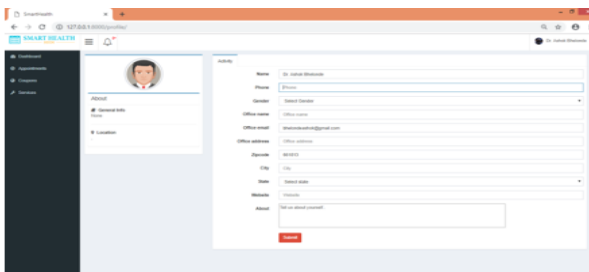
A. Patient area
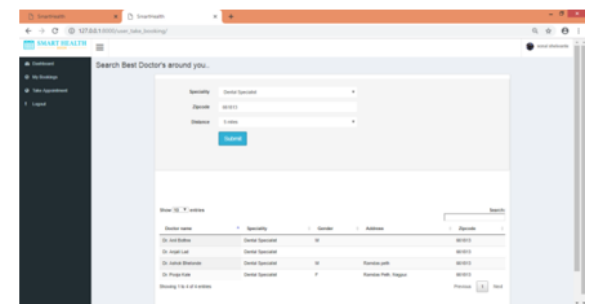

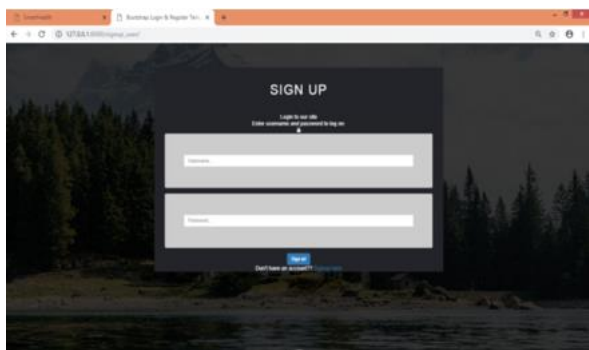Fig. 18. Choose Specialized Doctor from given entries (Dental Specialist)
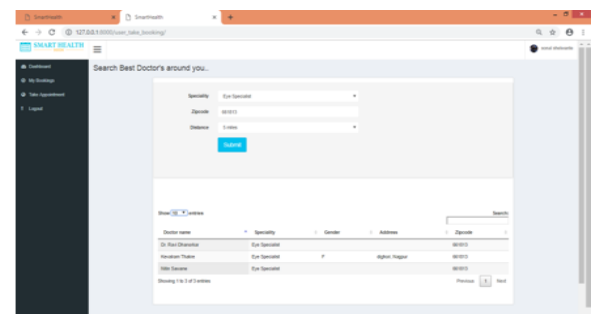

Fig. 14. Patient login page

Fig. 19. Choose Specialized doctor from given entries (Eye Specialist)

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Facilities required for proposed work:

1) Hardware
- Mobile, PCs, Laptop
- 1GB RAM
- I3, I5 processor 1GHZ

2) Software
- PYTHON 3.6(Django)
- POSTGRSS sql
- Windows 7, Windows 8, Windows 10 or MAC Ox 10.8,10.9, or 10.11, LINUX

8. Conclusion

The real objective of this application is to make an online association among specialists and patients. Brilliant Doctor's arrangement for android meets a large portion of the usefulness to oversee arrangement for specialists and patients in like manner. Patient can utilize online arrangement to spare time and cash. This application encourages the cooperation among patient and specialist. The created framework is proficient, compelling and interface is very easy to understand, where the specialist will get past detail INFORMATION about the patient that put away for all time in the database so that if specialist get any issue they can check effectively past solution of specific patient. The proposed online arrangement framework has been executed in android studio for application improvement and site id creates utilizing Python. The information is drawn nearer and shared by utilizing API's between the site and the android applications.

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