

North South University

CSE 299: Junior Design Project

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Project: Find a Doc

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**Find a Doc**

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1. **Introduction:**

“Find a Doc”, is a web application which lets you find a doctor appropriate for your specific condition. There’s a big gaping hole in the current market where, when people get sick they don’t know what to do, many go to the doctors they have known for a while but they might not be the perfect person to visit and people end up paying their time and many, and many times the doctors would prescribe medicine instead of referring to an appropriate Doctor who specializes in that field. So this web application helps you cut the middle man and save you time, money and any risk associated with waiting long enough to visit the person who can make a better diagnosis.

**1.1 Purpose:**

The purpose of this project is to reduce the amount of risk associated with not being able to visit an appropriate doctor at the right time. It also aims to reduce the expense of time and money.

**1.2 Intended Audience:**

The intended audience is anyone who is looking for a doctor for themselves or a loved one. But if it were to be narrowed down, then people who are good with tech and have to take responsibilities in their day to day life, so anyone from the age of 17 and above would be the ideal target audience.

**1.3 Project Scope:**

This system provides a very well sorted out environment which abstracts a lot of unnecessary information and helps reduce time, efficiency and discrepancies. Once the people find this application it will help them in various aspects, considering that millennials tend to do a lot of research for themselves, this platform will help them narrow down their search and find an appropriate doctor or solution.

1. **Overall Description:**

The web application will have a front page where there will be an option where a user can click in and it will provide a bunch of options to choose from to tell the system what type of disease they may have. If the user is unsure then there will also be a symptom checker which will help them narrow down to what disease they may have, then the system will spit out a bunch of doctor’s profile closest to their location, and they can click on the profile and set up an appointment.

**2.1 User Classes and Characteristics:**

Physical actors:

User: Users will be able to login in and look for a doctor.

Doctor: A doctor can log in and check their appointments and patient’s history if there are any.

System actors:

Client – The client actor will connect with the server and fetch data and make appropriate changes.

Server and Database – The Server will help connect with the database and the database will store data.

**2.2 Operating Environment (Web Application):**

It can run on any modern OS with an internet connection because it’s a web application.

**2.3 Design and Implementation constraints:**

The constraint with the implementation is that when the customers create an appointment, how will the system manage these appointments for the doctors because they may have prior appointments from other sources, one solution is to create a system for the doctors to manage all their appointments from all sources, or just leave the management portion to them.

1. **Feature List/ Functional Requirements:**

* Login/Logout: Users will be able to register with their details (name, phone number) and look for doctors. Doctors will be able to register and provide their necessary information, for instance, name, their respective medical degrees, their practicing chamber address or the hospital name and address. Once they verify about their degree, there will be a sign (a half moon) beside their name in their profile.
* Symptom checker: Registered users can log in, and input their symptoms. The user can tick on the box next to each symptom on the list of symptoms and if a symptom is not listed, then the user can tick on “others” and specify the symptom they are experiencing. The symptom will then be matched with a disease and the user will be referred to doctors of the specialization according to the symptoms. For example, if someone experiences chest pain, high blood pressure, severe headache, irregular heartbeat etc, he/she will be referred to a list of cardiologists with their ratings.
* Set Appointments with doctors: Once logged in, the user can set an appointment with their preferred doctor, or with a suggested doctor. User can search for a doctor by the doctor’s name or they can search for a specialized field, for example, medicine or cardiology, and then choose from the list of doctors that appears as the search result. The user can then set an appointment on their preferred time with the doctor.
* Rate/Review Doctors: Users can login and give reviews about doctors after consultation. The users will be able to rate and also write a short review on the doctor they consulted. Users can rate a doctor with 1 to 5 stars and write a short review explaining their choice, for instance, if a patient had to experience long waiting hours and wrong treatment from a doctor, then the patient can rate and write a review on how he/she received a wrong treatment. Others can see the reviews and the ratings will be used to create a doctor ranking for each specialization.
* Manage appointments: Doctors can provide a list of timings during which they are willing to take appointments of patients. Users can see the timings available for a particular doctor and pick their suitable timings accordingly.

1. **Monetization Plan:**

“Find a Doc” is going to be a free web application where patients can set appointments, but they will not have to pay an extra charge for setting the appointment. The application will appear as a free method for setting appointments, and checking symptoms, where the clients will only pay the fee of the doctor.

1. Advertising: The primary source of monetization for the website will be advertisement, so that clients can use the website for free. In order to sell the inventory for advertisement, we are planning on using the following approaches:
   * Banner Advertisements: Banner advertisements will help to generate money through advertisements. Banner ads are rectangular graphic displays which can be placed in different areas of the website. We are planning to place banner advertisements in the left and right sides of the website, and also at the bottom. Different pharmaceutical companies, or hospitals can pay to put up the banner ad of the Find a Doc website as the patients will be able to know about pharmaceutical companies or hospital names when they visit the website. Cost per impression, cost per click and cost per action- we can choose from these ways as suitable.
   * Native Advertisements: Native advertisements are another type of paid advertisements where the advertisement does not look like an ad but rather it just looks like another related content. The native ads will match the function, look and content of the website and will provide further related contents, but, these will in fact be paid advertisements. Advantage will be that these ads don’t disrupt the flow of work of the client, as the content is related to the content of the website and these don’t explicitly look like ads.
   * Video advertisements: Video advertisements are the most popular form of advertisement nowadays. Video ads can be placed at one corner of the website, and they can generate income through pay per view and cost per click method. Video ads related to healthcare or medicine will be put up in the website.
   * Advertising networks: Third party advertising networks will be used to put up ads in the application.
   * Using services like Google AdSense
2. Referral/ Niche-Promotion Marketing: Referral marketing is the promotion of third party companies or products through the web application. Third party companies or products can be promoted through the website and for this, we will be able to charge a fee to place their logo on our page and also by sending a push notification. We can promote businesses through the niche promotion, in turn, generating revenue for our application.
3. Affiliate marketing: Affiliate marketing can be done to generate a revenue through the application. Affiliate marketing is when the business that is being promoted, will rewards the affiliate for each customer that the business receives because of the affiliates marketing. In this case, we will promote a product or a business, especially pharmaceutical or orthopedic items, and if a customer purchases a product using the link provided in our website, we will receive a commission from the business. This can be a good source of revenue if pharmaceutical companies which provide home delivery or orthopedic equipment are promoted, then the patients can purchase a product using the link provided in our website, and hence, we can receive the commission.
4. Sponsorship: We will aim to look for sponsors, particularly hospitals, so that we can receive a monthly sponsor amount which will help us to provide service with less advertisement for the customer.
5. Donations: Even though donations don’t serve as a solid plan for monetization, we would still keep this in case there are some people who wish to support our endeavor of helping out patients with their right matched doctor.
6. Sponsored name: One of the primary functionality for find a doc is patients will be able to see the lists of doctors of a particular specialization, and the list will be organized in the order in which people will rate them, starting from the highest rated doctor to the lowest rated. The doctors can add sponsored names, which is similar to sponsored posts. Doctors will have to pay a charge if they want to sponsor their names to appear at the top of the list, but, however, it will be mentioned that the name is sponsored.
7. Retracting fee from doctor: 5% of the doctor’s fee will be retracted when a patient visits a doctor by setting an appointment through Find a Doc.
8. **Road Blocks:**

The first road block we faced was during the week of 26th February to 4th March, when we faced PostgreSQL compatibility issues with hosting. Hence, we were unable to launch it in live server and after trying and failing several times, we decided to shift to SQL Lite.

The biggest road block we faced and continued facing from the initial days of developing the app is the commit problem. Every single one of our group members faced the commit problem. We were unable to commit from our respective GitHub Desktop, and hence even after completing our share of tasks for the week, we couldn’t commit every week. The other problem that we encountered was that GitHub Desktop of one of our group members kept on showing JavaScript error suddenly. This also hindered our work and we were not able to proceed as the member couldn’t commit her share of work for the week even after completing it.

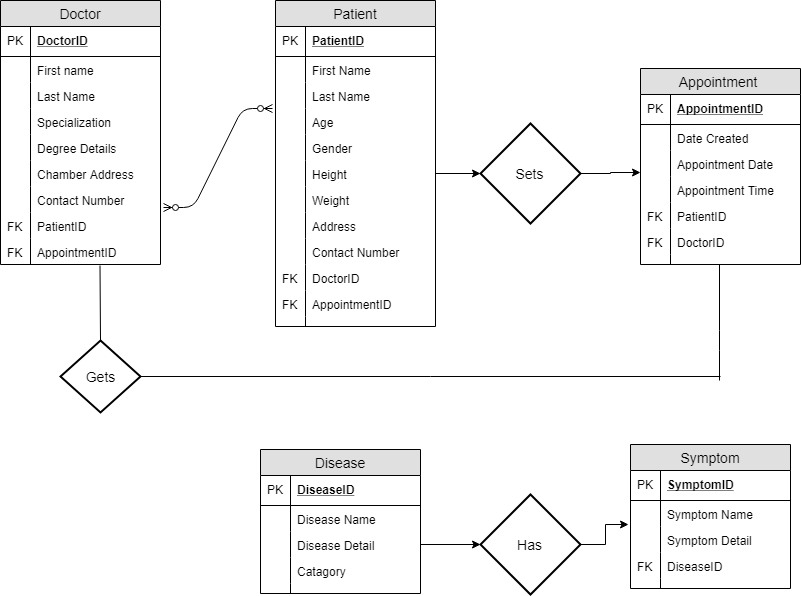
The major road block that we faced in the week of 2nd April 2019 to 9th April 2019 was that we were unable to bring out of doctor’s names. The code seemed to be fine but yet it’s not working. The other problem was that we added the data but the data was mistakenly deleted. It was added again but the same problem happened again due to a merge conflict. The data will be added again.

One of the major road blocks we faced during the week of 9th April to 16th April was merge conflict. We faced merge conflict every time we tried to commit changes. In addition, whenever we tried to commit any changes, additional data changes appeared with every commit, when we didn’t even change the data. We had to discard the extra changes shown and then commit the changes we made actually.

1. **Project Description:**

The main objective of the web application “Find a Doc” is find a doctor for patients, and set appointments with them accordingly. In addition, patients will be able to match the symptoms they are experiencing with a probable disease, and view a list of doctors specialized to treat the symptoms. In order to achieve this, we had to perform immense research in two phases: the first research was to find common symptoms of common diseases and the second was to find list of doctors. An extensive research was carried out to find the list of symptoms of diseases, and the diseases were linked to the fields of medical specialization. For instance, the disease bronchitis and its symptoms were listed under the category of lung diseases or pulmonary specialization, and likewise, more diseases and their corresponding symptoms were categorized under the appropriate specialization in order to match them up with doctors. This research took up a huge chunk of time in the project implementation. The second phase of research was done to categorize list of doctors based on their hospitals or location and their specialization. For this, brochures containing the list of doctors were collected from different hospitals, and the ones which did not have brochures, their list was obtained from the hospital website. Hence, a lot of research was carried out for the implementation of the project in order to update the database. In the web application, we kept scope for advertisement and other various methods of monetization. The users have an option to register, and after successful registration, they will be able to login using the username and password. Once logged in, the user/patient will be able to navigate to the “About” page, where they can understand what the website is about and what functionalities they can use. They can also provide suggestions for improvement. The disease button navigates to the disease page, where there is a list of diseases, and the patient can select the disease they’re suffering from, from the list of diseases. The probable medicine required or cure to the disease will be shown and the list of doctors who can treat the disease will be provided, and the patient can click on the doctor of their choice and fill up a form to set up an appointment.

1. **ER Diagram/ Database Schema:**

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1. **Reference:**

[**https://wallpaperplay.com/walls/full/7/7/2/176856.jpg**](https://wallpaperplay.com/walls/full/7/7/2/176856.jpg)

[**https://wallpaperplay.com/walls/full/2/4/b/176845.jpg**](https://wallpaperplay.com/walls/full/2/4/b/176845.jpg)

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