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HealthVault Hub: A Healthcare Database Management System

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ABSTRACT One of the biggest industries in the world is Healthcare. It offers a multitude of different things regarding one's health: Primary Care, Hospital Care, and Health Information Technology. This project focuses on the aspect of Health Information Technology; furthermore, creating an online environment that suits the actions of different users. The Healthcare Database System that we have created offers the accessibility to a variety of medical history as well as other relevant information like billing or account history. The structure of the website follows the user to a main page. The user will then be able to select the type of account they are trying to access: patient or administrator. Based upon this, a prompt will come up asking for their username and password. When entering, they will be taken to the corresponding portal where they can access or update their records. The database will be written in MySQL and be made accessible through the use of JavaScript. The website itself will be composed of HTML and CSS coding to give a clear format for the user. The overall idea of this project is to provide a sufficient Healthcare system that resembles something from a major corporation. The purpose of this project is to learn about databases and the use of MySQL. Also, it provides a good understating for HTML, CSS, and JavaScript.

I. INTRODUCTION

HEALTHCARE is the most essential industry on the planet and is an important part of human life. With it being so important comes our project that centers its focus on the IT aspect of Hospitals. Health IT, which is a certain field of IT uses technology to enhance efficiency, accessibility of medical information, and minimizes human error has become a big role of modern day Healthcare. Our project specifically is focusing on address the evolving complexity of patient records by developing a sophisticated Healthcare Database System.

A system that which is designed to help either patients or medical staff with an easy to access online environment, in it would contain a comprehensive access to medical histories, billing information, and other miscellaneous data. In this online environment, our web-based system will direct users to a main page where they will be asked to identify as a medical staff or a patient and then be sent to the corresponding portal. This portal will allow the user to login through their credentials allowing patients to see their records and update basic information while allowing the medical staff to be able to navigate through records, updating of users' individual records and makes a user-friendly experience. This system's database is built on MySQL, a robust relational database management system, and on the front-end HTML, CSS, and JavaScript will be used to ensure clarity and interactivity to the web.

This project not only serves as a Healthcare Database System that represents a vital synergy of technological innovation and healthcare efficiency but as a priceless teaching resource. With our focus on MySQL, it will provide an engaging education in the field of databases. The front-end integration of HTML, CSS, and JavaScript also provides an understanding of web development. With a goal on delivering a healthcare system that resembles the sophistication of major corporations, emphasizing the data management and technology integration in light of the constantly changing healthcare environment. We investigate the intersection of technology and healthcare as we delve into the details of this project, illuminating the relationship between technology and man.

II. PROJECT OVERVIEW

THE project will very loosely follow similar designs of larger corporations but with a twist of our own creative design. The front will be supported by HTML, CSS, and JavaScript. It will feature a portal to choose if you are logging in as a patient or administrator. Given the correct credentials,

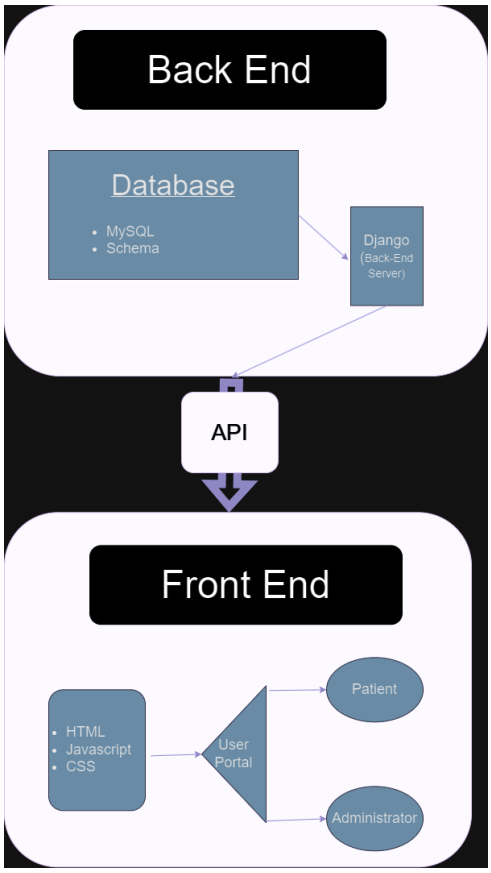

FIGURE 1. Overall structure of Project

it will then take the user to the correct website that allows them to access the information that is allowed to them. The use of HTML will make a good back bone for the front end code. With the help of the CSS file, we will be able to make the website look sophisticated and to our creativity's liking. The JavaScript portion of the code will allow us to grab the moving parts of the website (various information) and apply cool designs.

Moreover, the back end of our project will feature the use of MySQL for the database construction, and Django to correctly link the front end to the back end. It will allow us to pull the information from the MySQL database and transfer it to our JavaScript, which will then display the information for the user to see. This will also let the user insert various different information into the database. The MySQL database will be constructed of various tables like Patient, Hospital, and Administration. Each of these tables will feature a different list of key components.

Furthermore, the overall website should work like this: a user pulls up the website and puts the correct information in. Then, the user will chose what they want to do: view or change/add records. This will then command the back end to pull from the database. Given all this goes correctly, the user will then either get a confirmation or see the requested information.

III. DISCUSSION

OVERALL the parts we created for the project gives us a brief overview of what an actual hospital website would look like. The User Interface is simple and easy for someone to use and log in. To understand this better, let us take a look at a patient portal of a major organization such as Vanderbilt. The opening User Interface to My Health At Vanderbilt is very simple, yet it features very direct key points of entry for users: a button to change the page to English, Username/Password followed by the sign in button, Use Activation Code, Create New Account, and Pay as Guest. A major corporation like this understands that everyone is different, and an important website like this needs to be very direct and straightforward. Assuming this is how most Healthcare companies operate their websites, this is how our direct approach was to building the website.

In addition to this, there is the main homepage, which should allow the user to grab their medical information and other things. This should work directly with the MySQL side of things where we have built a schema that for now covers majority of our required fields. We have not attempted correlate the web page with the schema we have created due to time and workload constraints, but of course we will get to that later on. For now, we our focused on whats at hand: strengthening both the front end and back end with the knowledge that we have. We think we have built a good frame for our work to come and our excited to continue working on this project.

IV. CONCLUSION

ALL things considered, this project has yielded some interesting findings for us. One notable instance is the coherence between the web page and the database. The way they are created and integrated together largely depends on how well one complements the other. This setup closely resembles a basic client/server model, with a strong emphasis on the client side. These findings provide us with knowledge that will be valuable in our studies and future careers. The implications of what we have learned from this project are beneficial from all perspectives.

In turn, this project helps us understand databases applied in the healthcare world. While our version of healthcare database is something we are proud of, there is always room for improvement. We could always implement a mobile app that would directly link to the database or even develop the some sort of overall security for our web page. The possibilities our endless, but we are proud with our final results. This project served as a learning tool to understand the intricacy of the healthcare industry's components. It focused on building the database, which also incorporated a front-end portion. This portion provides a way for a user to access their information, enriching our understanding in the context of the bigger picture.

V. WORK'S CITED

V Anderbilt My Health Portal: https://myhealthatvanderbilt.com/Authentication/Login?