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1. Introduction

1.1 Purpose

The purpose of our program is to provide a system where all health records of each patient can be stored securely. This system will make it easier for there to be an organized structure full of all the data regarding each patient. It will make the doctor's jobs easier as they can easily access secure data about each of their patients.

1.2 Intended Audience

The intended audience is the doctors and hospital staff that need to view data and records about each patient that they see at the offices and/or hospitals and the patients that need to view their appointments and records.

1.3 Intended Use

The intended use is for doctors to be able to add and view records about every patient that comes into their offices and/or hospitals. This will allow for medical records to become more accessible but in a secure way. Patients will be able to view their records and appointments.

1.4 Scope

Create a program that will be easily usable by all doctors and hospital/office staff. To organize all of the records and data that has been recorded previous times or by other doctors and staff. To display all of the data in a way that can be read with ease by doctors and staff. This will allow for the doctors to better take care of their patients as they will have all of their records organized on their computer. Can also be used by patients to view their records and also get more info on upcoming appointments.

1.5 Definitions and Acronyms

EMR - Electronic Medical Record

EHR - Electronic Health Record

2. Overall Description

2.1 User Needs

The basic needs for a user (patient side) when it comes to Electronic Health Records System would be to have fast, secure, confidentiality, reliable access to anything that is relevant to their health and be able to see doctor notes. On the doctor side of things, the important aspects of this

application are similar to the user end but also require a structure in the sense that not everyone has access to everything about the patient.

Features that be available for the users(patient to use and doctors to upload) would be:

- Availability of doctor (appointments)
- Billing information
- Charts/Graphs of patient health making it easier to view
- Prescription Information
- Historical information about patient (previous surgeries/procedures/allergies)
- A way to be able to communicate to the doctor, messaging or chat box

2.2 Assumptions and Dependencies

The assumptions and dependencies in the application would be the information that's being inputted into the database by the doctors. The application will allow the hospital to input data. There will also be a way for hospitals to input information from their previous systems or database. The old database would need to be formatted in a way that allows it to be fed into our system, this would be done by the hospital end (we would provide the proper formatting layout).
If the data is already formatted accordingly, it would just connect right into the application.

3. System Features and Requirements

3.1 Functional Requirements

One of the first functions that an EMR should have is medical charting. This will allow one to document and access patients' medical histories. Another function would be to have electronic prescriptions, sending medical prescriptions to patients and pharmacies electronically. This makes it easier for physicians to prescribe, search and view medications. There should also be a page that allows a business to manage its revenue efficiently. There should also be a communications tab, which will enable users to schedule appointments and access their records, lab results, etc.

3.2 External Interface Requirements

There should be a home page with labeled buttons that will redirect users to the other options. Another page should be made, letting a physician access/make changes to a patient's medical history. Another page should allow a physician to send electronic medical prescriptions to patients by email or to a pharmacy. A billing page should be made for record-keeping. Buttons should be made to allow users to add purchases, bills, etc., to different categorized lists. A communications

tab should be made with buttons enabling users to schedule appointments, access their records, lab results, etc.

3.3 System Features

A physician can use the EHR to access a patient's record. They can change their records and prescribe medications to them and their pharmacy of choice. There is also a billing page, which allows the physician/staff member to record keep. The patient is also allowed to use the EHR, as they will have permissions that will enable them to see their record and schedule appointments.

3.4 Nonfunctional Requirements

Some non-functional requirements are maintaining patient data confidentiality, integrity, safety, and usability. Only those authorized should be able to access and make changes to patient records. Data should be backed up to a secure server as often as possible within certain limits. The EHR should load reasonably quickly when accessed. The goal is to have it load in 3 seconds when 500 users are using it simultaneously. It should be reasonably secure; data should be encrypted. Implementing effective account management practices such as strong password enforcement, secure password recovery mechanisms, and 2-factor authentications will help to prevent unauthorized users from accessing the EHR. Each user should have as little privilege as possible to access what they need from the system. Only certain users, such as physicians or staff workers, should be able to access everything.