USER GUIDE

Interactive Health Care System

CSE 360: Intro to Software Engineering

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Group 4

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1. GENERAL INFORMATION

1.1 System Overview

Interactive Patient Care System is a new revolutionary system in the field of health care which will streamline the healthcare processing system and will enable the management of the patients, doctors, nurses and receptionists in a more efficient way. This interactive patient care system is a Graphical User Interface where the patients can register themselves, create appointments, enter health condition and the receptionist and doctors can manage those information and efficiently manage the health care process. The system can be used by the patients, doctors, nurses and receptionists. The GUI has been created using JAVA and uses MySQL database to store all information. All the information stored in the database are accessed using the GUI. The GUI can be run in any Windows, Linux or IOS operating system. It can be used by any health care provider across the world to make their management process more efficient. Its main features include to enable the patient to access their health care information securely and submit a health report by submitting symptoms which will determine the health severity level of the patient and also make appointments easily. The nurses can view patient's symptoms and make care suggestions. The receptionists can schedule and modify appointments. The doctors can view all of their patient information and make further appointments.

1.2 Project References

The system contains information about vital health care symptoms. We have used information from www.health.gov , www.healthcare.gov and www.hhs.gov to make our system easily predict the severity of the symptoms of the patients. We have used Oracle JAVA for creating the GUI and we are using MySQL database to store all the information.

1.3 Authorized Use Permission

Unauthorized use of the interactive health care system is forbidden and such cases will subject to law suits. The system is subjected to copy right acts and no part of the system should be copied or used without authorization from the creators of the system.

1.4 Point of Contacts

This software has been created as a part of the CSE 360: Intro to Software Engineering at Arizona State University. Please contact Arpan Chatterjee (achatt14@asu.edu) for authorized to use the system and more information about how to use the health care system or to report some problem about the system. Alternatively one can also contact Arizona State University's School of computing, informatics, decision systems engineering at cidse@asu.edu for authorization to use the system.

1.5 Organization of the User Guide

The user guide is divided into 4 sections – General Information, System Summary, Getting Started and Using the System. The guide has been organized in such a manner so that the user can become easily comprehend how to use the system after going through the guide. Even non users can gain valuable insight about our system by reading this guide.

2. SYSTEM INFROMATION

2.1 SYSTEM OVERVIEW

Interactive Health Care System is a system that helps healthcare providers to receive the information on the conditions/symptoms of patients in real-time and take care of health issues securely and efficiently. This may prevent unnecessary emergency visits at the same time providing quick treatments for patients who need immediate attention.

Initially the patient registers with the healthcare provider, who determines the applicability of the system to the patient. Initial patient data is entered by the healthcare provider based on the input of the patient. The system basically has two main groups of functionalities: one group for patients and one group for healthcare providers. Each patient enters his/her updated health conditions/concerns based on well-defined symptoms, such as nausea, headache, chest pain using this system. Health condition severity of each patient will be determined by the software system based on the healthcare provider's inputs, and real-time input from the patient and necessary action will take place.

2.2 SYSTEM CONFIGURATION

The system uses a graphical user interface as the front end and a database as the backend. All the information are stored in the databases and is accessed using the GUI. The GUI is used by all the users (patients, doctors, receptionist, and nurses). The GUI is used to enter and retrieve all information and the users do not have to worry about the database being used in the backend.

2.3 USER ACCESS

The different users that can access the system are the patients, the doctors, the receptionists and the nurses. Each user has different level of access to the system which has been described in more details in the using the system part. All information are made secure by using a combination of user name and password to prevent unauthorized access to sensitive health care information of patients.

2.4 REQUIREMENTS

The basic requirement for using the health care system is a computing device with a Windows or IOS operating system. The computing device should have at least 2 GB of free space and 1 GB of RAM and 1.5 GHz processor for the health care system to work efficiently.

3.0 GETTING STARTED

3.1 Logging On

In order to access the system, the patient must enter their user ID and password. The User ID is and individual account that one uses for the system. Once the user enters their log in information they will have access to a 3-pane homepage window with one pane containing their history and a button to create a new report. The User ID also allows users to create appointments and to view suggested treatments offered from their healthcare practitioners. In order to login, the user enters their user ID and password on the homepage under login.

3.2 System Menu

Once the user has logged in, there will be a display of a menu containing multiple sections. For a patient, the menu will consist of a report history, appointments, and prescriptions.

3.2.1 View Reports

The patient will be allowed to access their past reports as well as create a new one.

3.2.2 View Appointments

The patient will be allowed to view their appointments as well as schedule one.

3.2.3 View Suggested Treatments

This patient will be allowed to view the recommended treatment provided by their healthcare provider.

On the other hand, when a nurse logs in, the nurse will have access to a different homepage. The menu that will be displayed will consist of upcoming appointments.

3.2.4 View Reports

A nurse will be allowed to view all reports listed in descending chronological order.

If the user is a receptionist, the user's homepage will contain the list of appointments and the next pane will contain a list of unfulfilled appointment request.

3.2.5 Appointments

The receptionist will be able to view all appointments for the patients in descending chronological order as well as a button to schedule additional appointments.

3.2.6 Appointment Request

This pane will show a receptionist a list of unfulfilled appointment request submitted by patients.

Once the doctor logs in, the doctor will be presented with a menu containing all appointments for his patients in descending chronological order and the other option would be to view reports from the patients.

3.2.7 Appointments

This pane contains the list of patients for the doctor in descending chronological order and the pane also contains a button to schedule a new appointment.

3.2.8 Patient Reports

Doctors can also view reports from their patients. New reports will be highlighted at the top.

3.3 Changing User ID and Password

A user can change their user ID under the change User ID option. This option will request the user to enter their user ID and password as well as their desired user ID.

Under the change password option, the user can change their password by entering their previous password and by entering their desired password twice.

3.4 Exit System

The user can exit the system by going to the top hand corner and by clicking the log out option. This will successfully log the user out of the system.

4.0 USING THE SYSTEM

4.1 View Reports (patients)

For the patients, the view report option will show the patients a list of the patients past reports in chronological order.

4.1.1 Report Submission

This page allows patients to submit a report of their current symptoms for the use of the healthcare practitioners.

In order to submit a response:

1. The patient selects the symptoms that they are currently experiencing.

2. The patient rates the severity of those symptoms from 1 through 10 with 10 being the most severe.

3. If the situation is severe, the patient is advised to seek emergency care.

4. The patient then chooses to request an appointment. This option sends an automated email to the receptionist and doctor.

4.2 View Appointments (Patient)

The patient can view their appointments in descending order with upcoming appointments highlighted at the top.

4.3 View Report (Nurse)

This option provides the nurse a list of submitted reports. The nurse can select a report from the list on their homepage. On this option, the nurse can view all symptoms and their severity for the report and the nurse may choose to suggest care for the patient.

4.3.1 Suggest care

For a nurse to suggest care for a patient, the nurse must be viewing a patient's report. The nurse may write a note to the patient suggesting care such as schedule an appointment. The nurse may also check a box to submit an appointment request to the receptionist for the patient.

4.4 New Appointment

If the user is a receptionist, they will have the option of creating a new appointment. Once the client has been loaded on the receptionist homepage, the receptionist can select a patient as well as a time and a date for the patient to visit their doctor. The time selected must be more than 15 minutes after any existing appointment for that doctor. Once the receptionist submits the appointment, it is added to the schedule. Any existing appointment request for that patient is marked fulfilled.

4.4.1 Modify Appointment

The receptionist can modify an existing appointment for a patient. The receptionist can select an appointment from the list and modify the time or date of the visit. The receptionist may also cancel the appointment altogether. Once the receptionist submits the changes, the schedule of appointments will be updated.

4.5 New Appointment (Doctor)

The doctor can schedule an appointment for the patient. From the doctor's homepage, the doctor can select 'schedule new appointment'. Once the doctor selects a patient, they will be given the option to select a time and date for the patient to visit. This must be more than 15 minutes after any existing appointment on their schedule. Then the doctor submits the changes and the schedule will be updated. Any existing appointment request for that patient is marked fulfilled.

4.5.1 Modify Appointment

The doctor can also make modifications to an existing appointment for a patient. The doctor can select an appointment from the list and make changes to the time and date of the visit. The doctor may cancel the appointment altogether. Once the doctor submits the changes, the schedule is updated and the patient is alerted.

4.6 View Report

The doctor can view a patient's symptom report. The doctor can select a report from the list on their homepage and view all symptoms and their severity for the report. From the report, the doctor may choose to suggest care for the patient.

4.6.1 Suggest Care

The suggest care option allows for the doctor to care for the patients symptoms. The doctor must be viewing a patient's report in order to view the suggest care option. The doctor may write a note to the patient suggesting care (ext. ice, rest, schedule an appointment). The doctor may check a box to submit an appointment request to the receptionist for the patient.