Medical Record System Software (MRSS)

Software Requirements Specification

1.0

05/07/2015

Prepared for

CPSC 542

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Spring 2015



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# Introduction

## Purpose

The purpose of this document is to present the stakeholders with the description of the software requirements for the MRRS. The document also captures other requirements that are required by the customer. This software will act as the mediator between the doctor and the patient.

## Scope

This software will help to speed up the interaction between the doctor’s and the patient by ensuring the better care for the patient. This software simplifies the way patient’s history is managed in the doctor’s office. It will help the doctor to get quick access to the patient history, to spend more time on the patient rather than documentation, to speed the medication refills, to make better documentation reducing errors. It will also manage the graphical representation of reports, x-rays, and etc. It alert’s the patient in case their appointment is scheduled. The software would not allow paying the bills using the registered account. This software helps doctor in aiming to manage the patient’s information.

## Overview

The next chapter, the General Description section, provides high level view of the functionality of the application which helps in understanding the functional requirements stated in chapter three and also states any constraints set for the developer to design the application, the non-functional requirements, and interface requirements required for the application. The document further includes the analysis models like use case diagram, sequence diagrams in chapter four. The fifth chapter explains the application using the operational scenario which explains any important specific scenarios.

# General Description

## Product Perspective

The MRRS is new software developed to reduce the filing work of doctor so that he/she can spend more time with their patient and less time on documentation.

## Product Functions

The software will help to store the entire medical history of the patient. It will provide both doctor and patient to create new account. A new patient record can be added, deleted and updated. Doctor can view as well edit the medical history while patient can only view that.

## User characteristics

* The primary user of the system is the doctor who wants to see the medical history of patient. There can be several types of doctors as well as patients. The doctor can create a medical record of patient on his/her visit. Also, it will also help the doctor to manage the lab reports, x-rays etc. in graphical form. System will eliminate the task of looking for filing charts. Doctors can schedule their patient’s appointment and can remind them by sending them alerts.
* The secondary user of the system is patient. The patient can only view his medical history by logging into his/her respective account.

## General Constraints

Implementation constraints: The system will be developed using Java as a language and MySQL server as a database. Also to make UI more interactive we will use HTML, CSS and JavaScript.

## Assumptions and Dependencies

The system will operate on Windows XP or higher versions of the operating system. The system will use the latest versions of the browsers to conform to the HTML and CSS technologies.

# Specific Requirements

## Functional Requirements

### Home Page:

1. The software **shall** display Home, About, Services, Contact.
2. The software **shall** direct user to respective tabs if clicked any one of them.
3. The software **shall** display Doctor Login button.
4. The software **shall** display Patient Login button.
5. The software **shall** display Nurse Login button.

### Registration:

1. The software **shall** allow the user to enter First name, Last name, Gender, Age, Specialization, password, email, Address, City, State register.
2. The software **shall** prompt the user to enter valid email.
3. The software **shall** display error message if the username already exists.
4. The software **shall** display error message if any of the fields are left blank.
5. The software **shall** display error message if the password does not meet the password format.
6. The software **shall** reset all fields if user clicked Reset button.
7. The software **shall** Submit the form if all fields are entered properly.

### Login:

1. The software **shall** allow the user to enter username and password.
2. The software **shall** allow the user to access the application on validating the user.
3. The software **shall** display error message prompting the user to enter valid credentials when the user enters invalid username or password.
4. The software **shall** display error message prompting the user if any username or password field is left blank.

### Doctor’s Overview:

1. The software **shall** display the doctor’s name.
2. The software **shall** display four tabs which are Search, Appointments, Register Nurse, and Upload.
3. The software **shall** allow the doctor to Search patient using SSN.
4. The software **shall** display Patients data if entered correct SSN.
5. The software **shall** display error message prompting the user to enter valid SSN
6. The software **shall** allow the doctor to view appointments.
7. The software **shall** allow the doctor to view and append the patient’s history.
8. The software **shall** allow the doctor insert the information of patient.
9. The software **shall** display the doctor an alert message after registering the patient’s information.
10. The software **shall** allow the doctor to create new nurse.
11. The software **shall** allow the doctor to download files.
12. The software **shall** allow the doctor to logout.

### Patient’s Overview:

1. The software **shall** display the patient name, patient id.
2. The software **shall** display the Appointments and Profile tabs.
3. The software **shall** allow the patient to schedule an appointment with a doctor.
4. The software **shall** allow the patient to just view the history.
5. The software **shall** allow the patient to edit its personal details and not medical history.
6. The software **shall** display the “patient’s present illness” chart.
7. The software **shall** allow the patient to logout.

### Nurse’s Overview:

1. The software **shall** display the nurse name, nurse id.
2. The software **shall** display the Appointments, Profile and Upload tabs.
3. The software **shall** allow the nurse to schedule an appointment of a patient.
4. The software **shall** allow the nurse to cancel an appointment of a patient.
5. The software **shall** allow the nurse to upload files such as img, pdf, docx.
6. The software **shall** allow the nurse to upload files for particular patient using its first name and last name.
7. The software **shall** allow the nurse to logout.

## Non Functional Requirements

### Performance

The user should be able to access the application with an average delay of three seconds.

### Availability

The system shall recover from the breakdown and continue to operate within two seconds.

### Scalability

The system will handle growing number of users (doctors and patients) of the application as more records are stored.

### Usability

The user will be able to use the application within four minutes of its experimentation.

### Security

Only the authenticated user has access to the application.

### Maintainability

Application shall conform to the coding and design standards such that the any changes requested shall be implemented without any architecture changes within expected scheduled task hours.

## Design Constraints

* To have the exact functionality of the software Java should be used.
* The JavaScript, HTML and CSS should be used for the front end development.
* For storing data MySQL sever should be used.

## Use Cases

### Use Case Diagram

### C:\Users\Aakash\Desktop\MRSS.jpg

# Operational Scenarios

## Home Page

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Scenario #1: | View a home page | |  | |
| Scenario Objective: | Identify program response to several actions | | | |
| Applicable to: | System User | | | |
| Source | Step | Action | | Comment |
| User | 1 | Start website | |  |
| Program | 2 | Display home page | |  |
| User | 3 | Click on patient, doctor or nurse login button | |  |
| Program | 4 | Display patient, doctor or nurse login page | |  |

## Login (Doctor, Patient and Nurse)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Scenario #2: | View a login page | |  | |
| Scenario Objective: | Identify program response to several actions | | | |
| Applicable to: | System User | | | |
| Source | Step | Action | | Comment |
| User | 1 | Login | | Enter correct login id |
| User | 2 | Password | | Enter correct password |
| Program | 3 | Display patient/doctor/nurse home page or error “Unable to login with detailed description of user friendly error” | |  |

## Doctor home page

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Scenario #3: | View Doctor’s home page | |  | |
| Scenario Objective: | Identify program response to several actions | | | |
| Applicable to: | System User | | | |
| Source | Step | Action | | Comment |
| User | 1 | login | | Enter correct login id |
| User | 2 | password | | Enter correct password |
| User | 3 | Click on “Login button” | |  |
| Program | 4 | display home page or error “Unable to login with detailed description of user friendly error” | |  |
| User | 5 | Click on “Search” | |  |
| Program | 6 | Display the retrieved record | |  |
| User | 7 | Click on “View Appointment” | |  |
| Program | 8 | Display an Appointment Schedule | |  |
| User | 9 | Click on “Update record” | |  |
| Program | 10 | Display record that needs to be updated | |  |
| User | 11 | Click on “Download File” | |  |
| Program | 12 | Display the message that file has been downloaded. | |  |
| User | 13 | Click on “Delete record” | |  |
| Program | 12 | Delete the record | |  |

## Patient home page

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Scenario #4: | View Patient’s home page | |  | |
| Scenario Objective: | Identify program response to several actions | | | |
| Applicable to: | System User | | | |
| Source | Step | Action | | Comment |
| User | 1 | login | | Enter correct login id |
| User | 2 | password | | Enter correct password |
| User | 3 | Click on “Login button” | |  |
| Program | 4 | display home page or error “Unable to login with detailed description of user friendly error” | |  |
| User | 5 | Click on “Summary” tab on the home page. | |  |
| Program | 6 | Display Summary webpage and Past/Present Summary and Medical Summary | |  |
| User | 7 | Display Patient’s Medical Summary chart. | |  |
| Program | 8 | Display’s X rays | |  |

## Nurse Home Page

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Scenario #5: | View Nurse’s home page | |  | |
| Scenario Objective: | Identify program response to several actions | | | |
| Applicable to: | System User | | | |
| Source | Step | Action | | Comment |
| User | 1 | login | | Enter correct login id |
| User | 2 | password | | Enter correct password |
| User | 3 | Click on “Login button” | |  |
| Program | 4 | display home page or error “Unable to login with detailed description of user friendly error” | |  |
| User | 5 | Click on “Schedule Appointment” | |  |
| Program | 6 | Display Appointments calendar. | |  |
| User | 7 | Click on “Edit Profile” | |  |
| Program | 8 | Display’s profile information to be edited. | |  |
| User | 9 | Click on “Upload” | |  |
| Program | 10 | Display to upload a file using first name and last name. | |  |

# Snapshots



















