DELIVERABLE -3

# GROUP DETAILS:

**Project Title**: Hospital Management System

**Team Name**: Unt Ignitors

**LIST OF TEAM MEMBERS:**

|  |  |
| --- | --- |
| **Members** | **Student ID** |
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9. **Requirements for phase 1**

Implementation plan for Hospital Management System (HMS) Phase 1 includes developing user interfaces for homepage, registration, Login pages, and database setup.

* 1. **User interface for Registration.**
* The primary reason for using a registration form is to collect information about new users who are enrolling on the website for the first time and to maintain the information records.
* If the user using the application the first time, then he/she needs to create an account, else can just login directly without any registration.
* To register, the user must fill out all mandatory fields such as the name, last name, phone number, email, social password, and confirm password.
* The user must select the appropriate user role from the drop-down while registering on the website.

**1.2. User interface for Login**

* Users can use their credentials to access the website.
* A username and password are required to access the website.
* The login page then determines whether the credentials entered are correct or incorrect.
* If the credentials are invalid, the error message will be displayed.
* We retrieve the information from the database, check to see if the user is

already registered with the system or not, and then allow him to log in and do the appropriate duties.

**1.3 User interface for Homepage**

* The homepage includes tiles that represent Services, About, Contact, Register, and Sign IN.
* The Services tiles display the best services provided by hospitals to patients such as emergency care, call center, ambulance, and appointment services available on the website.
* Although the primary purpose of a contact tile is to help people contact hospital management, there will always be people who land on the page and do not want to fill out the form.
* Each user can access the website; if it is his/her first visit, he must create an account; otherwise, he can simply log in if it is the existing user. The user will be asked to enter their first name, last name, password, confirm password, and email address during the signup process.
* The Sign In tile allows the user to enter login information such as username and password.

1. **UML Diagram**
   1. **Class Diagram**

Diagram

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*Fig 1 Class Diagram*

**2.2 Sequence Diagram**

The sequence diagram for the Hospital Management System is shown below. Patient, Doctor, Admin, and Hospital staff have access to Hospital Management System by logging in. If the role is patient, the user can schedule an appointment, able to add his personal health information, and can view if there are any pending appointments and medications, he has to take during their medication course. If the role is doctor, he can view the list of patients, prescribe medications for the patient, provide a second opinion on surgeries, and keeps tracking patient information like treatment, diagnosis reports, and medication. If the role is admin, he can manage the master details of the patient, doctor. Admin can add and update doctor details, medicine details, room availability details, and new and existing branch details. If the role is hospital staff, he records the required details of patients who admits in emergency cases and provides first aid to the patient.

Diagram

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*Fig 2 Sequence Diagram*

* 1. **Use Case diagram**

Diagram

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*Fig 3 Use case Diagram*

1. **Test Cases for Phase 1**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **S.**  **No** | **Requirement** | **Test Priority** | **Test Steps & pre-**  **conditions** | **Expected Result** | **Obtained Result** | **Success/ Failure** | **Name of Tester** |
| 1 | Access application through the web browser | High | Open Google Chrome. Enter localhost:4203 | HMS web application should be displayed | HMS  application is displayed | Success | Praveen/Abhay |
| 2 | Users should redirect to the registration page when they click on the “Register” button on the homepage | High | Click on the “Register button” on the homepage | The register page should be displayed | Register page is displayed | Success | Dheeraj, Ravi |
| 3 | Users should redirect to the login page when they click on the “Sign-In” button on the homepage | High | Click on the “Sign-In” button” on the homepage | The sign-In page should be displayed | Sign-In page  should be displayed | Success | Gopi, Meghana |
| 4 | Users should redirect to the services page when they click on the “Services” button on the homepage | High | Click on the “Services button” on the homepage | Services page should be displayed | Services  should be displayed | Success | Gopi, Meghana |
| 5 | Users should redirect to the about us page when they click on the “About-us” button on the homepage | High | Click on the “About-us” button” on the homepage | The about-us page should be displayed | The about-us page should be displayed | Success | Geetha, Dheeraj |
| 6 | Should be able to fill the details in Register page | Medium | On the Register page, a new user should be able to fill the fields. Existing users should also be able to fill  the fields. | Should be able to fill  the details in the form | Were able to fill in the details in the form. | Success | Dheeraj/Gopi, |
| 7 | After successful registration, pop up message should display | Medium | After completing the filling up of details, click on the register button | Successful pop-up messages should be displayed | A successful pop-up message should be displayed | Success | Meghana, Geetha |
| 7 | Should be able to fill in the details on the login page | Low | Should be able to fill the details in the form on the login page | Details filled should be seen | Details filled can be seen | Success | Charishma, Ravi |
| 8 | When clicked on the Register button without entering any details, all the mandatory fields should be outlined in red color. | Low |  | Fields should be highlighted | Mandatory  fields are  highlighted | Success | Meghana, Abhay |

1. **User Manual**

**4.1 Installation of Required software’s**

To run the Hospital management system, we require a certain set of software and IDEs to run the code and provide an output.

Graphical user interface, text, application

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*Fig 4*

* Please install the “Node.js” software to run the script, from the following link
* [**https://nodejs.org/en/download/**](https://nodejs.org/en/download/)

**Step 2: Install the MySQL Workbench**

Graphical user interface, text

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*Fig 5*

* Please install the “MySql” workbench to connect the database to the UI through WebAPI**,** [**https://www.mysql.com/downloads/**](https://www.mysql.com/downloads/)

**Step 3: Install Visual studio**

Timeline

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*Fig 6*

* Please install Visual Studio to connect the database and WebAPI using the below link [**https://visualstudio.microsoft.com/downloads/**](https://visualstudio.microsoft.com/downloads/)

**Screen Usage**

a. **How to access application**: Access the application using browser URL <IP ADDRESS>:<PORT>/index.HTML

b. **How to Register**: Admin, Doctor, and Patient can register by clicking on Register as a new user icon in the navigation menu to Register to the application. If the user is already registered, then they can proceed to log in. If any of the end-user doesn’t have an account, they must enter the mandatory fields of Username, Email, First Name, Last Name, User Role, Password and can add Phone Number as an optional field and can click on Register button. Customers will be redirected to the confirmation page screen on successful registration.

c. **How to login**: Admin, Doctor, and Patient can click on the login icon on the navigation menu to login into the application. The end-user can log in using the username and password they registered with the application and access the modules attached to their user role.

1. **Instructions to compile and run the program**

**Step 1**

* Download the code repository from GitHub. To download follow the below steps
* Create a new folder HMS\_code\_base and open the folder in “CMD” or Terminal.
* Run command: **git clone** [**https://github.com/abhayarora23UNT/UntSeProjects2022.git**](https://github.com/abhayarora23UNT/UntSeProjects2022.git)
* This will clone all the project code into the created folder.

**Step 2**

* To compile the program in a local machine you should have node and angular installed.
* Download and install node js from <https://nodejs.org/en/download/>
* Open Cmd/terminal and run command npm install –g @angular/cli
* User node -v and ng –version commands to check whether the above software is installed.
* Go to path “HMS\_code\_base /UntSeProjects2022/HMS/Source Code/Front\_End/HmsApp/” open Cmd/Terminal.
* And run command npm install. This will install all the required dependencies to run the application.
* After successful installation, run command ng serve to run the application in the local machine. This will run your application in localhost:4203 (port can be changed from angular. json)

Text

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*Fig 7*

Text

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*Fig 8*

**Step 3**

Please open the browser and search as **“localhost:4203”** to access the application

Graphical user interface, application

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*Fig 9*

Users are required to enter their credentials to log in to the website. To login into the system. Users are required to register first in the system by providing the basic information given in the below screenshot

Graphical user interface, application

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*Fig 10*

Users are required to register into the system by providing personal details such as username, name, last name, user role, phone no, password.

1. **Peer Review Feedback**

Meeting on Friday, 3/11 12:30 PM – 1:30 PM

**Purpose**: Peer Review with Eagle verse

**Participants**: Arun Sai Kumar Gutala, Pallavi Tulluri, Achyuth Dondapati, Pavani Mangugari, Neha Gummalla, Somasekar Bathina Suresh, ViswaTeja Ravipati and Milind Cherukuri and UntIgnitors Team Members.

We discussed the project idea and went over the application features.

**Suggestions were given by the partner group:**

* + Adding Hospital Staff to collect data in the event of an emergency.
  + Nurse login

**Accepted:**

* + Hospital Staff

**Rejected:**

* + We have rejected login for nurses instead we have added hospital staff.

**Discussion with Eagle verse:**

* + Can doctors provide prescriptions online?

Answer: Yes, the Doctor can provide prescriptions online.

1. **Accomplishments/Challenges**

As per the proposed phase-1 project plan, we accomplished the development and testing of the following screens

1. **Login**
   1. Existing users can log in to the system using valid credentials
2. **Registration**
   1. New users can register into the system, by entering a few mandatory fields (Name, Role, Email)
3. **Home**
   1. Services - display the best essential services provided by hospitals to patients such as emergency care, call center, ambulance, and appointment services available on the website.
4. The database was created with the name hospital mgmt.
5. Web API was implemented to perform crud operations on the database.
   * We followed the Trello Kanban Template to manage our development and other requirements/design tasks.
   * From the development point of view, we adhere to coding guidelines required for development in Angular, C# Framework/Technologies.
   * The initial architecture for Front End and Backend was built in .net web API and angular code. To follow various design patterns, reusable components are created to avoid code redundancy, which in turn improves the overall performance of the application.

Challenges

1. We faced the CORS (Cross-Origin Resource Sharing) Issue while calling the HTTP web API, inside Angular Framework.
   * To manage that, the Cors Enable setting was added in the .asp net code.
   * Access control allow origin \* option is used in HTTP header from angular app
2. Few team members were not well versed with Git, which results in merging/code conflict issues
   * To overcome that, the project coordinator reviews the code regularly.
3. Deployment of Application on IIS (Internet Information Services)

Things to Improve

1. For future phases, more focus will be given to unit testing of individual sub-modules.
2. Feature branches for individual sub-tasks will be created from the main branch, to avoid merging and maintenance issues.

**8. Member Contribution Table**

|  |  |  |
| --- | --- | --- |
| **Member Name** | **Contribution Description** | **Overall Contribution (%)** |
| DHEERAJ REDDY AGUTHU | * Deliverable 3 Documentation   + - 1. UML (Class Diagram)       2. Test Cases       3. User Manual * Backend Database creation * Testing | 12.5 |
| ABHAY ARORA | * Updated the Minutes of Meeting in Repo * Deliverable 3 Documentation  1. Code Inspection Doc 2. Test Cases 3. User Manual  * Front End Development(Initial Architecture, Registration Screen, Login Screen) * Deployment and Unit Testing * Managing Git and Trello Board * Deliverable 3 Task Management | 15 |
| RAVI TEJA BALAJI | * Development phases and Member Contribution tables. * Deliverable 3 Documentation  1. UML (Class Diagram) 2. Peer Review Section Feedback 3. Test Cases | 12.5 |
| PRAVEEN NAKKA | * Deliverable 3 Documentation  1. Requirements 2. Peer Review Section Feedback  * Front End Development (Home Screen, Login Screen) | 12.5 |
| CHARISHMA NAGA SAI SARADA BALUSU | * Deliverable 3 Documentation  1. Sequence Diagrams  * Testing | 12.5 |
| GEETHA KRISHNA DODDA | * Deliverable 3 Documentation  1. Sequence Diagrams  * Testing | 12.5 |
| SRIKANTH GOPI | * Deliverable 3 Documentation  1. Requirements 2. UML (Use Case Diagram) 3. Test Cases | 12.5 |
| MEGHANA JUNNUTULA | * Deliverable 3 Documentation  1. Requirements 2. UML (Use Case Diagram) 3. User Manual 4. Code Inspection  * API Initial Structure + API implementation (Login, Registration Screen) * DB Schema and Records changes | 12.5 |

**9. Minutes of Meeting**

Minutes of the meeting are updated on below path in the project repository

<https://github.com/abhayarora23UNT/UntSeProjects2022/tree/main/HMS/MOM>