***Software Engineering LAB5***

Jana Abi Farraj 202304581

Rani bou ghannam 202306058

Abdallah Al Markabawi 202202313

Mohammad Mansour 202300908

**Functional Requirements:**

* **Database Management:**
* ***Required Patient Information****:*

Each patient has essential information, such as their phone number, first and last name, personal health number, postal code, nation, city, address, and patient ID number. (High)

* ***Updating patient's information:***

Users of the hospital management system can update patient information as defined in the included mandatory data. (Medium)

* **Generating Reports:**
* ***Patient Information:***

Every patient is given a report by the Hospital Management System that contains various information, including name, phone number, bed number, name of the assigned physician, and more. (High)

* ***Bed Availability:***

The Hospital Management System also assists by generating reports regarding the number of beds that are available, offering details about which beds are occupied or vacant, and more. (High)

* **Patient Checks:**
* ***Appointment Scheduling****:*

To ensure effective resource use and shorten patient wait times, the system should enable patients to make appointments with different departments and doctors. (High)

* ***Medical History Management:***

The system should maintain a comprehensive record of each patient's medical history, including past illnesses, surgeries, medications, and allergies, to provide healthcare providers with relevant information for diagnosis and treatment. (High)

* **Staff Management:**
* ***Scheduling and Shift Management:***

To guarantee proper coverage and effective use of human resources, the HMS should make it possible to schedule staff shifts, assign responsibilities, and management of work hours. (High)

* ***Training and Development:***

To guarantee that healthcare workers retain the necessary skills and qualifications, the system should make it easier to track staff training, certifications, and professional development. (Medium)

* **Order processing:**
* Customers shall be able to browse the online catalog, book appointments to their shopping cart, and proceed to checkout. (High)
* The system shall generate order confirmations and notify customers via email upon successful order placement. (Low)
* **User Interface:**
* The system shall feature an intuitive web-based interface accessible across multiple devices and browsers. (High)
* A HMS branding elements shall be incorporated into the user interface design to maintain consistency with their brand identity. (Medium)

**Non-Functional Requirements:**

* **Security:**
* ***Patient Identification***: The system requires patients to verify their identity using their phone.
* ***Logon ID***: Users accessing the system must possess a unique Logon ID and password.
* ***Database Modifications***: Database modifications such as insertion, deletion, and updates are swiftly synchronized and can only be executed by the ward administrator.
* ***Front Desk Staff Access***: Front desk staff have access to view data within the HMS and add new patient records, but they lack authority to modify existing data.
* ***Administrator privileges***: The administrator holds rights to both view and modify any information stored within the Hospital Management Software.
* **Performance:**
* ***Response Time:*** The system promptly acknowledges patient information checks within one second of initiation.
* ***Capacity:*** With a capacity to support at least 1000 concurrent users, the system ensures seamless operations even during peak usage.
* ***User-Interface:*** The user interface acknowledges user interactions within a maximum of five seconds, promoting swift navigation and usability.
* **Maintainability:**
* ***Back-Up:*** The system provides efficient data backup capabilities, ensuring the integrity and security of hospital records and information.
* ***Error Tracking:*** Comprehensive error tracking functionality enables the system to monitor and log every mistake, facilitating prompt identification and resolution of issues for seamless operation and maintenance.
* **Reliability:**
* ***Availability***: The system maintains constant availability, ensuring uninterrupted access and operation for users.
* ***Resilience***: As a software as a service (SaaS) solution, HMS demonstrates high resilience against technology disruptions, downtime, or crashes common in other systems. It possesses offline capabilities to ensure the continued functionality even in the absence of internet connectivity.

**Use Case Diagram:**

