HMS Requirements

Functional Requirements (perspective-wise):

Receptionists:

1. Register an account for a new patient.
2. To schedule doctor's appointments with new and follow-up patients.
3. Be able to view patients' basic details including bill status for transparent communications.
4. Have information regarding all the occupancies in various wards and the availability of doctors.

Patients:

1. Patients should be able to view and edit their personal information.
2. They should be able to view their past and present medical information.
3. They should be able to view their hospital bills (including pharmacy bills).
4. They should be able to view their medical test and lab reports.

Medical Assistant:

1. Should have the details of the patients who are assigned to the doctor he's allotted to.
2. Should be able to create and write a report for patients before their interaction with doctor (like the patient's problem, symptoms, the medication they are under (if any), his/her understanding of the problem and other relevant details).
3. Should update the corresponding report by adding all the necessary information given by doctor (like doctor's observations, suggestions, prescriptions, tests suggested (if any) and other required information).
4. Assigns patient to diagnosis (by providing the patient's details/report) if suggested by doctor and add the regarding details in the patient's report.
5. After the diagnosis department uploads the lab report, he/she should be able to see it and update it further after the patient's interaction with doctor (if happens so).
6. Assigns patient to ward under patient's consent and doctor's suggestion and add the regarding details in the patient's report.
7. Should be able to update the reports of in-patients when visited (depending on the information given by ward clerk).

Doctor:

1. Should be able to see the details of the patient (assigned to him).
2. Should be able to see the report made by his/her medical assistant (along with the lab reports if any) at different stages and make changes if necessary (as long as the patient is still under his/her care).
3. Should be able to see the status/reports of in-patients residing in wards.

Diagnostician:

1. Diagnostician should be able to view the current patient information who are referred for diagnosis.

2. They should be able to upload the diagnosis reports which are later viewed by respective patients.
3. They should have the ability to re-upload reports if found any error and notify the patients immediately.

Ward Clerk:

A ward clerk maintains and updates data regarding:

1. The number of patients in the ward.
2. The number of beds available in the ward.
3. Patients' diagnoses and treatment information throughout the patient's stay in the ward.
4. List of doctors attending the patients and number of visits by each doctor.

Additionally, a ward clerk generates:

1. Discharge summaries of patients.
2. Bills for the patient's treatment during the stay in the ward.

Pharmacy technician:

1. View the patient's prescription by using the patient's unique id.
2. Generate a bill for the patient's prescription that can be added to the patient's hospital bill or paid separately.

Billing Desk:

1. The Biller should be able to see the pending bills of any patient when patient ID is given.
2. The biller should also be able to see any active schemes or insurances patient has.
3. The system should facilitate updating the status of bills of the patient.

Administration:

1. The Administrator should be able to view all the information of patients, doctors, and all the staff.
2. The administrator should also be able to see all the diagnostics information, Blood and Oxygen supply status, total bills, etc.
3. The Administrator should be able to update the information of all the staff.
4. The Administrator should be able to create accounts for any staff.

Non-functional Requirements:

Response time (Efficiency):

At the time of getting vital information especially during the times of emergency, the system should retrieve information quickly.

Reliability:

The system should not hang under any circumstance.

At the time of filling any forms or updating any data, information should not be lost, at the time of power loss, or any other situation.

System should not allow any duplicates, which may lead to wrong treatments or any other mishap.

Scalability:

The system should be able to manage an adequate number of users simultaneously.

Security:

The system needs the users to recognize themselves using their login credentials.

Users cannot view or edit the data if they don't have the specific authorizations to ensure Doctor-Patient confidentiality. (View level data abstraction)

Availability:

The system should be available all the time.

Maintainability:

It should be able to accommodate changes or incorporate new features according to the hospital's needs.

The system will track every mistake as well as keep a log of it.