Hospital Management System (HMS)

Business Type

- Computer or web-based system
- Facilitate managing the functionality of hospital
- Integrate all the information regarding patients, doctors, nurse, staff, hospital administrative details etc.

Requirements

- Admissions
- Doctor appointments
- Test appointment
- Login
- Add doctor/staff
- Delete doctor/staff
- Edit doctor/staff
- Patient information

Functional Requirements

- Adding patients
- Assigning an ID to each patient
- Deleting patient ID
- Adding appointments
- Deleting appointments
- Checking information of patients
- Updating information of patients

Non-functional Requirements

- **Security** - checking patient identification, login ID, modification, front desk staff rights, administrator rights
- **Performance** – response time, capacity, user-interface, conformity
- **Maintainability** – back-up, errors
- **Reliability** – availability

Test case & Test plan

- Verify that the portal for new patient registration has all the mandatory fields required for registering a patient.
- Verify that after filling the patient details.
- Verify the information like patient details, doctor assigned, department, the application number etc.
- Verify that after patient check-up based on the requirement the details are updated in the patient details database.
- Verify that for existing patients based on the application number of the patient, their records are added/updated in the database.
- Verify that the system has an admin for doctors as well.
- Verify that for each doctor's details like their timings, specialty, patient visited etc is visible to the authorized users.
- Verify that new details of new doctors can be added to the system.
- Verify that the details of existing users can be updated in the system.
- Verify that the doctor's record can be deleted from the system.
- Verify that the admin has the record of all the patients, nurses and doctors and the same gets updated when used or added to the system.
- Verify that the admin has a record of appointments availability and the same gets updated.

Client-Server Architecture

- The information system for a single hospital is best built around a Multi-tiered Client-Server Local Area Network (LAN) architecture. By this, it is meant that users enter and retrieve data using clients i.e. computers with display monitors and data input devices such as keyboard and mouse, obtain various applications software from the Application server and store the data via the Storage server into Storage devices (hard disks). All the tiers are linked through a network consisting of cables joined by switches and routers. Part of the network can also be wireless. A typical HMS System Architecture implementation is shown below:

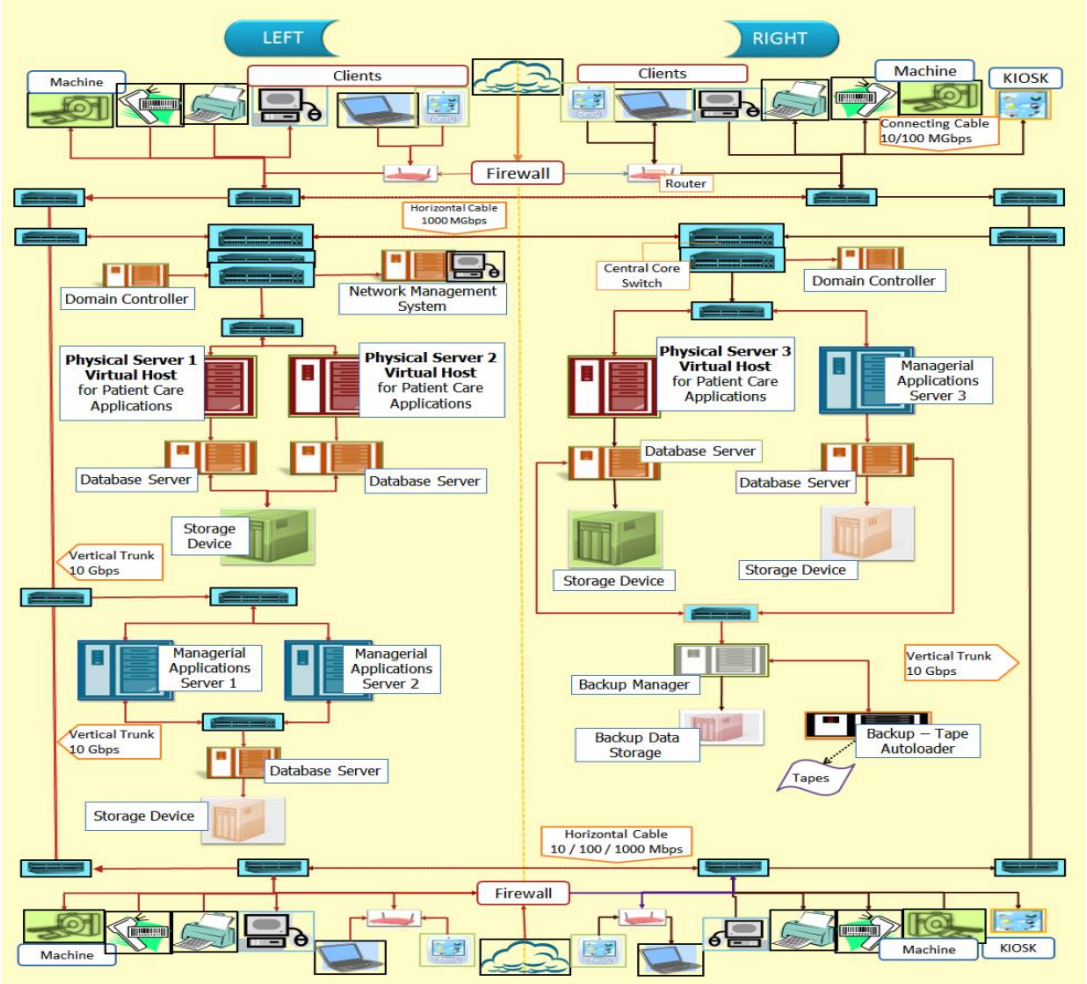

Fig. HMS system architecture

- If the HIS is to be shared at locations that are far apart, then a wide area network perhaps using secured internet connections may be used. The client is the computer that provides the interface between the user and the system. It is equipped with:
- A sufficiently fast processor
- Sufficient ready access memory (RAM) to retain data temporarily while being viewed or entered
- A display monitor for viewing both applications and data.
- Data input tools such keyboard, bar-code reader and image scanners and pointing devices e.g. mouse
- A front-end Operating system (OS) that allow all the above hardware to function and to facilitate interaction with the server
- Video/graphic cards for locations where complex images are used