**REQUIREMENT INCEPTION**

**HOSPITAL MANAGEMENT SYSTEM**

**Gain Agreement on the Problem Definition**

**Problem-I**

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| **Element** | **Description** |
| **Problem** | Lack of immediate retrieval of patient’s data. |
| **Affects** | Doctor, Doctors Personal Assistant, Clerk, Patient, Hospital Administrator. |
| **Results** | * Doctors will not be able to entertain enough patients for a day because regular visiting patient will consume extra time while their record is being retrieved. * Doctors Personal Assistant will have a very hectic job because he will have to go through the old heavy pile of registers looking for regular patients records. * Clerk who maintains the registers will have an even tougher job while looking for regular patient’s records for making updates. * Main hospital administrator will first of all gain a bad name in society as the hospital will be known for making patients wait for long intervals. More over as it is a private hospital, the time wasting gaps will disturb the business growth. * The long (time wasting) intervals between finding patients records will cause a decline in the business growth. |
| **Benefits** | Proposed solution is developing an efficient database search module for the hospital software that is to be developed.  Benefits are:   * Rapid retrieval of patient’s medical data record will be possible. * Time wastage factor for doctors and patients will be eliminated. * More patients will be entertained each day. * No store rooms will be required for maintaining heavy pile of data record registers. * Patient’s record will be centrally collected and located which makes it easier for excess to all concerned. |

**Problem-II**

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| **Element** | **Description** |
| **Problem** | Complex Patient registration. |
| **Affects** | Clerk, Receptionist, Patient |
| **Results** | * Receptionist will have to update new entries in to multiple registers and keep a track of each register for future requirements. * In case of losing his/ her registration record, a patient will have to be allocated with a fresh registration (as without the registration number etc finding patients previous registration record may be doubtful). This will pose problems for the patient and it will result in duplicate registrations. * More over if the patient has to see multiple doctors or departments then the receptionist will have to make multiple copies of registration/ refer form for him. This is a hectic job for the receptionist. * Patient will have to wait much longer for the completion and possession of refer/ registration form. More over the patients will have multiple pieces of paper to stick to at all times. * Clerk will have to maintain new entries on different ledgers for future retrievals, and obviously a large pile of registers will have to be carefully maintained. |
| **Benefits** | Proposed solution is developing an effective and quick patient registration module.  Benefits are:   * Quick registration process. * Backup of the data will me regularly maintained. * Allotment of a unique ID to every new patient. * Patient’s record will be stored in an e-file so that there will be no requirement of new file every time the patient visits the hospital. * One time registration will be valid for all hospital departments. * No pages (refer forms) will be carried by the patients (only registration number will do the job). |

**Problem-III**

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| **Element** | **Description** |
| **Problem** | Error prone manual calculation/ data entry |
| **Affects** | Receptionist, Patient, Clerk, Doctor, Cashier |
| **Results** | * Patient may be charged more by mistake by the cashier or if by mistake a wrong disease entry is made against a patient’s name; he/ she might receive a wrong medicine which may result in a serious situation. * Receptionist may entry wrong information regarding the patient (and incase the information entered proves to ignite a serious situation for the patient) which may result in receptionist carrier crash. * Clerk may enter wrong patient or other information in to the ledgers or may insert right information in to the wrong ledger. This may end up in loss of data. * Doctor requires the exact medical history and other current patient reading (e.g. temperature, blood pressure, blood test results etc). The doctor may make wrong diagnoses in case wrongly entered information is forwarded. * A wrong treatment to a patient may result in cancelation of hospital license. |
| **Benefits** | Proposed solution is developing an intelligent patient data entry module which asks for and makes counter check confirmations before entering the data in to the data base. A built in calculator will also be required for calculation etc.  Benefits are:   * Right diagnoses by doctors. * No inconvenience for the patients. * Data entry counter checks. * No or less cashier calculations mistakes. * Easy for maintaining correct patient data. |

**Problem-IV**

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| **Element** | **Description** |
| **Problem** | Lack of speedy information sharing between departments. |
| **Affects** | Doctor, Patient, Hospital Administrator, departments. |
| **Results** | * Doctors will not be able to see complete patient history picture unless provided with one. In this old physical filing system the sharing will take place but with little accuracy and more time delay. * Main hospital administrator may lose the license for the hospital and face serious charges in case of an incident where patients **A’s** history is by mistake swapped with patients **B’s** and the result of which is a patient casualty. * Patients are of top priority to the hospital and they may face difficulties in digging out and compiling their medical history themselves all the time. * Department do not have centrally located database which results in incomplete information sharing. |
| **Benefits** | Proposed solution is developing centrally located database with access to each department and concerned personal.  Benefits are:   * Complete incoming information is centrally located and available to all concerned. * Sharing of data is easy. * No multiple entries are required by patients in each department. |

**Problem V**

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| **Element** | **Description** |
| **Problem** | Preparation of accurate and prompt lab reports. |
| **Affects** | Doctor, Patient, Hospital Administrator, Lab Assistants. |
| **Results** | * Wrong lab reports will pose a false problem for the patient and he/ she may result in receiving a not needed treatment for it. * Patients will have to make extra visits to the lab to collect reports. * Doctors need exact patient blood picture etc to advice any further. * In case of any wrong reporting ending up in a casualty; the hospital administration will be held responsible. * Lab assistant has a very sensitive as to avoid any wrong reporting. |
| **Benefits** | Proposed solution is developing an efficient and prompt lab report module.  Benefits are:   * Clear an accurate patient blood picture and other reports etc. * No wrong reports means, no wrong diagnoses by the doctor. * Unwanted casualties will be avoided. * Lab reports can be collected over email and SMS. |

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| **Element** | **Description** |
| **Problem** | Difficulty in maintaining patient history |
| **Affects** | Doctor, Patient. |
| **Results** | * Wrong lab reports will pose a false problem for the patient and he/ she may result in receiving a not needed treatment for it. * Patients will have to make extra visits to the lab to collect reports. * Doctors need exact patient blood picture etc to advice any further. * In case of any wrong reporting ending up in a casualty; the hospital administration will be held responsible. * Lab assistant has a very sensitive as to avoid any wrong reporting. |
| **Benefits** | Proposed solution is developing an efficient and prompt lab report module.  Benefits are:   * Clear an accurate patient blood picture and other reports etc. * No wrong reports means, no wrong diagnoses by the doctor. * Unwanted casualties will be avoided. * Lab reports can be collected over email and SMS. |

**Addressing the Root Cause:**

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| **Elements** | **Description** |
| **Problem** | **An obsolete and error prone manual patient data record and registration system.** |
| **Affects** | **Departments, organization, general manager, patients, doctors, administration, management.** |
| **Results** | **Increased scrap, excessive handling costs, customer dissatisfaction, and decreased profitability** |
| **Benefits** | **A new system to address the problem include**   * **Increased accuracy of sales orders** * **Improved reporting of sales data** * **Higher profitability** |

**Identifying the Stake Holders**

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| **Users** | **Other Stakeholders** |
| Doctors | Software Design Engineer |
| Clerks | Development team |
| Doctors PA’s | Production manager |
| Receptionist | General Manager of the hospital |
| Laboratory Assistants | Patients |
| Cashier |  |
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**Vision Statement**

* + **For**: The software is intended for hospital management.
  + **What**: For a better and well managed patients management system.
  + **Name**: HM&PCS (Hospital Management and Patient Care System).
  + **Is**: DBMS (Database Management System).
  + **That**: Facilitate patient and hospital staff. Effective tool for hospital managing.
  + **Unlike**: Manual data management system that exists.
  + **Our product**: Best available hospital management system in the market for private hospitals.

**Project Scope**

**identifies what portion of the ultimate long-term product vision the current project will address**

* + **Draws boundary between what is in and what is out**

**Identifying Constraints**

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| **Source** | **Consideration** |
| **Economic** | **Financial or budget constraints** |
|  | **Costs of goods or products** |
| **Political** | **Inter-departmental problems** |
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| **Technical** | **Restriction in choice of technology** |
|  | **Constraints within existing platform** |
| **System** | **Existing system to be used** |
|  | **Compatibility with existing solutions** |
|  | **OS to be supported** |
| **Environmental** | **Environmental or regulatory constraints** |
|  | **Legal issues** |
|  | **Security requirements** |
| **Schedule and Resources** | **Is the schedule defined?** |
|  | **Restriction to use existing resources** |
|  | **Can resources be expanded? Temporary? Permanent?** |