Software Requirements Specification “Dean Planning & Development”

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**1. Introduction**

**1.1 Purpose**

The software requirement specification document is specifically designed to delineate the boundaries of the Dean Planning and Development (office) design and functionality. Parties interested in this documentation would include, but not be limited to the system owners, the system users, the project manager and the design team.

This is a software designed to manage different activities related to Planning and Development of PDPM IIITDM Jabalpur. The software is designed to provide automated features to the P&D Office, students and faculty to handle different construction, expansion and related affairs. The different activities that come under Planning and Development are Request for work (either civil or electrical), approval and forwarding of the work request and distribution of day to day maintenance work .

**1.2 Scope of the Document**

This document will identify the pertinent software products We will develop including a SQLite and Python supported framework and web-based user interface for planning and development. Finally, utilizing the security attributes we hope to address the valid security concerns about the networking and transmission of confidential work requisition ad estimate information

In addition to the specific design components of this software, this document will make clear the design team’s goals of creating value-added software which not only correctly receives work requisition from complainant but also store estimates, book workers according to the request and gets the compliance from complainant.

This software is deliberately focused on medical records and the associated diagnostics. It is important to point out that this system will have functionality regarding work requisition, estimate uploading, and approve/reject/change estimates.

**1.3 Intended Audience and Reading Suggestions**

The audience for the document reading are users of the system such as administration body, Engineer ,Dean(P&D) and Director. Developers of the software will use it as a basis for making design and coding.

**2. Overall Description**

**2.1 Product Perspective**

At present there is no such integrated automated system for work requisition (planning and development) in our college. All different activities are done manually and carried out independently. Current software will interact to provide necessary functionality in some activities.

Often files are misplaced, and /or duplicated unnecessarily. In a world which recognizes the improvement of data digitization and networking as a constructive force which often increases efficiency while lowering costs; it is our view that records networking could only benefit the quality of work offered without consumption of much time.

**2.2 Product Functions**

The major functions that product will perform are:

· **Online work requisition:**

Complainant (Staff etc.) can ask for any work to be done related to electrical and civil department.

· **Track requisition status:**

The complainant can track the status of the request that has been lodged and

the details of distribution of the work in case day to day maintenance is required. · **File forwarding:**

The concerned authority can forward the estimate to the higher level in the hierarchy to seek further approval.

· **Work distribution:**

In case of day to day maintenance, the concerned official can distribute the work accordingly to the worker as per requirement.

· **Recommendation:**

The authority can make necessary recommendations or give his inputs on the estimate and the file has to be sent back to the previous level.

· **Approve/Reject**

The competent authority can give the final approval or reject the estimate, as

per the viability and requirement.

**2.3 User Classes and Characteristics**

There are four types of users that interact with the system.

They are:

● Requester

● Enginner

● Dean (P&D)

● Director

Each of these four types of users has different use of the system so each of them has their own requirements.

1. **Requester**: A person who has been registered with PDPM IIITDM Jabalpur. a. Request any work in the department of electrical or civil works

b. Ask for maintenance of any service

c. Track the status of his request

2. **Engineer**: The authority to whom the requester submits his request. There are two JE’s – one each for Electrical and Civil Works Department.

a. Collects and checks the requirement of the request made

b. Assesses the viability and the necessity of the request

c. Prepares an estimate as per the requirement

d. Forwards the file and estimate to the AE after his approval

3. **Dean P&D** : The highest authority in the P & D office

a. Can give the final approval in case the estimate amount is less than 10 lakhs. b. After approval, gives the direction for uploading to the website

c. Forwards the file to the Director if the estimate amount is more than 10 lakhs.

4. **Dean (Students):**

a. Involved when the work is pertaining to hostel.

b. Approves the file in case it is related to hostel and forwards it to the Dean c. P&D

5. **Director:**

a. Receives the file from the Dean P&D and gives the final approval, but only when the estimated amount is more than 10 lakhs.

**2.4 Operating Environment**

The software will be web-oriented and will run on all web browsers.

**2.5 Design and Implementation Constraints**

The document contains many use cases so when forming a design for the software we need to consider appropriate design models that will help the developers, coders and testers to implement their tasks.

The Internet connection is also a constraint for the application. Since the application fetches data from the database over the Internet, it is crucial that there is an Internet connection for the application to function.

**2.6 User Documentation**

A use case diagram is provided with the functional requirements to represent the entire information in a single picture. Use case diagrams are explained later in the document.

**2.7 Assumptions and Dependencies**

It is assumed that the platform on which the software is operating is working correctly, such as Network connectivity, Operating system, as well as Hardware components such as Hard disk, RAM, processor, network interface card, are functioning as per requirements. Also, it is assumed that the required technology to run the software is present in the system.

**3. External System Requirements**

**3.1 User Interferences**

The software provides good graphical interface for the user. Any administrator can operate on the system performing the required tasks.

The user interface of this project is dependent on the UI Team. The theme used in the project will be provided by the UI Team.

**3.2 Hardware Interfaces**

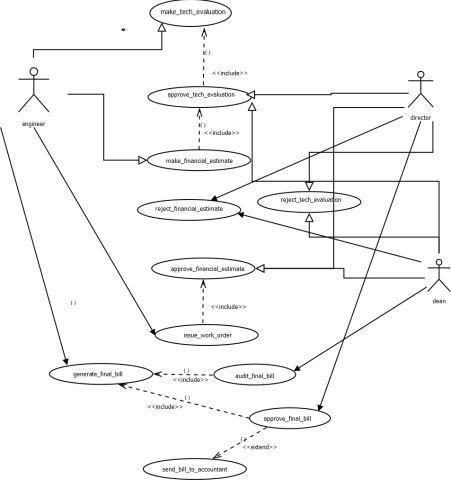
There is no need for specific hardware interfaces to run the software on the computer system.

**3.3 Software Interfaces**

As documented earlier that the software project is closely related with projects such as director module, EIS etc. The software interfaces used to combine all these projects will be discussed later.

**3.4 Communications Interfaces**

The software will support web browsers such as Google Chrome, Mozilla Firefox and Safari. The communication standard used can be FTP or HTTP.

**4.Functional Requirements(**USECASE DIAGRAM**)**

**Use Cases #1**

| Use Case Name | make\_tech\_evaluation |
| --- | --- |
| Description | Allow Engineer to make technical evaluation of project. |
| Actors | Engineer |
| Pre-Condition | Engineer is logged in |
| Main Flow | 1.Click project on which work is to be done.  2.Fill the technical details and documents of project in the form. 3.Submit the form. |
| Post-Condition | Successfully created technical evaluation about the project |

**Use Case #2**

| Use Case Name | approve\_tech\_evaluation |
| --- | --- |
| Description | Allow dean and director to approve the technical evaluation of project. |
| Actors | Dean, Director |
| Pre-Condition | Technical evaluation is created for the project. |
| Main Flow | 1. select the project to see the technical evaluation  2.approve the technical evaluation. |

**Use Case #3**

| Use Case Name | reject\_tech\_evaluation |
| --- | --- |
| Description | Allow dean and director to reject the technical evaluation of project. |
| Actors | Dean, Director |
| Pre-Condition | Technical evaluation is created for the project. |
| Main Flow | 1. select the project to see the technical evaluation  2.reject the technical evaluation if needed. |

**Use Case #4**

| Use Case Name | Make\_financial\_estimate |
| --- | --- |
| Description | Create financial estimate of the project whose technical evaluation is approved |
| Actors | Engineer |
| Pre-Condition | Technical evaluation of project is approved. |
| Main Flow | 1.Engineer will be able to see if the technical evaluation is approved or rejected.  2.If technical evaluation is approved , engineer will create Financial estimate. |
| Post-Condition | Financial estimate is created |

**Use Case #5**

| Use Case Name | approve\_financial\_estimate |
| --- | --- |
| Description | Allow dean and director to approve the financial estimate of project. |
| Actors | Dean, Director |
| Pre-Condition | Financial estimate is created for the project. |
| Main Flow | 1. select the project to see the financial estimate.  2.approve the financial estimate. |

**Use Case #6**

| Use Case Name | reject\_financial\_estimate |
| --- | --- |
| Description | Allow dean and director to reject the financial estimate of project. |
| Actors | Dean, Director |
| Pre-Condition | Financial estimate is created for the project. |
| Main Flow | 1. select the project to see the financial estimate.  2.reject the financial estimate. |

**Use Case #7**

| Use Case Name | Issue\_work\_order |
| --- | --- |
| Description | User will issue the work order of the project whose financial estimate is approved |
| Actors | Engineer |
| Pre-Condition | Financial estimate is approved |
| Main Flow | Work order is passed |
| Post-Condition | Work on the approved project will start. |

**Use Case #8**

| Use Case Name | Generate\_final\_bill |
| --- | --- |
| Description | User will generate the final bill of project. |
| Actors | Engineer |
| Pre-Condition | User is logged in and work on the project is completed. |
| Main Flow | 1. When the work on the particular project is completed , engineer will generate the final bill of entire project. |
| Post-Condition | Generated final bill will go for audit |

**Use Case #9**

| Use Case Name | Audit\_final\_bill |
| --- | --- |
| Description | User will verify the final bill generated by the engineer |
| Actors | Dean p&d |
| Pre-Condition | User is logged in and final bill is generated by engineer. |
| Main Flow | 1.Engineer will create final bill and send to dean  2. Dean will audit the final bill and send to director if the bill is correct. |
| Post-Condition | Director will approve or reject the final bill after audit is done. |

Use case#10

| Use Case Name | approve\_final\_bill |
| --- | --- |
| Description | User will approve the final bill which has been verified. |
| Actors | Director |
| Pre-Condition | User is logged in and final bill is already verified by dean. |
| Main Flow | 1.After dean has verified the bill, he will send it to director. 2.Director will verify and approve the bill received from dean. 3. Director will send the approved bill to accountant. |
| Post-Condition | Final approved bill will be sent to accountant. |

**5.Non-functional Requirements**

**5.1 Performance Requirements**

· The database should be designed in such a manner that it can handle heavy loads on the server.

· Response in database should be visible as soon entry is made.

**5.2 Safety Requirements**

The different safety requirements are as follows:

· Logs and check-points in the database should be used to handle transaction failures.

· Backup and recovery features should be present in the database.

· There should be a mechanism to handle loss of data over the network.

· When transferring password over the network, the method used must be secure. · When transferring password, it should be in encrypted form.

**5.3 Software Quality Attributes**

The different software quality attributes are as follows:

· Availability: The software should be made available 24 X 7.

· Correctness: When carry out calculations, the software should be precise till 3 places after decimal.

· Maintainability: The software should be designed in such a manner so that when incorporating new changes, it should be an easy task.

· Reliability: The software should be reliable as it contains confidential information of staff and institute related information.

· Usability: The user interfaces should be design in such a manner so that they are interactive and user can easily interpret different functions of the software without studying any user manual.

**6. Conclusion**

This SRS document is used to give details regarding planning and development system.

In this all the functional and non-functional requirements are specified in order to get a clear-cut idea to develop a project.

**7. References**

· Planning and Development office staff