Software Requirements Specification

GAD-2 IWD (WEB)

Team Details

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1. Introduction

1.1 Introduction about the Fusion

Fusion IIIT stands as a testament to the seamless integration and automation of diverse functions within IIIITDM JABALPUR Crafted with precision using Python 3.8

and powered by the Django Web framework, this initiative is a student-driven endeavour designed to elevate the institute's operational landscape. Encompassing everything from the client administration management to academic prowess and miscellaneous departmental tasks, Fusion IIIT is a holistic solution that harmonizes the intricacies of campus life.

Imagine it as a digital wizard that takes care of everything, from organizing the administrative to making academics smoother. It's not just limited to the usual tasks Fusion IIIT jumps into various departments and sections, making sure every corner of campus life runs smoothly. In the admin side, it handles the complicated paperwork and processes. For academics, it brings a digital touch, making learning and managing courses easier. But it doesn't stop there, Fusion IIIT is like a friendly companion for all the different parts of the campus, making sure everything works well.
In simpler terms, Fusion IIIT is not just a tool – it's a helpful friend, making life at PDPM IIITDM Jabalpur more organized and enjoyable for everyone.

1.2 **Purpose of the module**

The IWD Module within Fusion is dedicated to overseeing the upkeep of campus property, ensuring that it is efficiently maintained.

Its primary responsibility is to guarantee the smooth functioning of all on-site assets, promptly addressing any malfunctions that may arise.

1.3 **Scope of the module**

The scope of the IWD module extends to comprehensive property management within the campus. This encompasses not only the maintenance of existing assets but also the implementation of measures to enhance their efficiency. The module’s preview includes proactively addressing any issues related to malfunctioning property and implementing solution to optimize the overall functionality of campus assets.

Additionally, it involves strategic planning and coordination of resources to ensure a well-equipped and smoothly operating campus environment.

2.User/Actor Description(characteristics):

2.1 Dean :

Role: Processes the requests from the engineer and passes it on to the director and he is the one who audits the final bill generated.

Specific Functionalities:

1. Efficiently processes the requests from the engineer.
2. Audits the final bill and keeps a comprehensive record of all the items used.

2.2 Director :

Role: the director is the one who approves or rejects the requests from the engineer, processed by the dean.

Specific Functionalities:

1. The director on his/her will can approve or reject the request after thoroughly examining the request.

2.3 Auditor :

Role: The auditor reviews all submitted documents comprehensively.

Specific Functionalities:

1. The auditor reviews all the documents.
2. The auditor verifies the authenticity and accuracy of all the submitted documents.

2.4 Account Admin :

Role: The account admin settles the bill generated from the engineer and then sends it to the dean for a final audit.

Specific Functionalities:

1. The account admin settles the generated bill.
2. The auditor verifies the authenticity of all the items mentioned in the bill.

2.5 Employee :

Role: The employee initiates a new work request.

Specific Functionalities:

1. The employee can raise a new work request if there is a malfunction in any of the property.

2.6 IWD Admin :

Role: The IWD Admin oversees the inventory, providing engineers with access to manage and utilize the available resources.

Specific Functionalities:

1. The IWD Admin manages the inventory.
2. The IWD Admin provides all the resources available to the engineers.

2.7 Complaint Manager :

Role: The complaint manager is responsible for forwarding the received complaints to the relevant authorities.

Specific Functionalities:

1. The Complaint Manager systematically organises and stores all received complaints for w=easy reference.

2.8 Engineer :

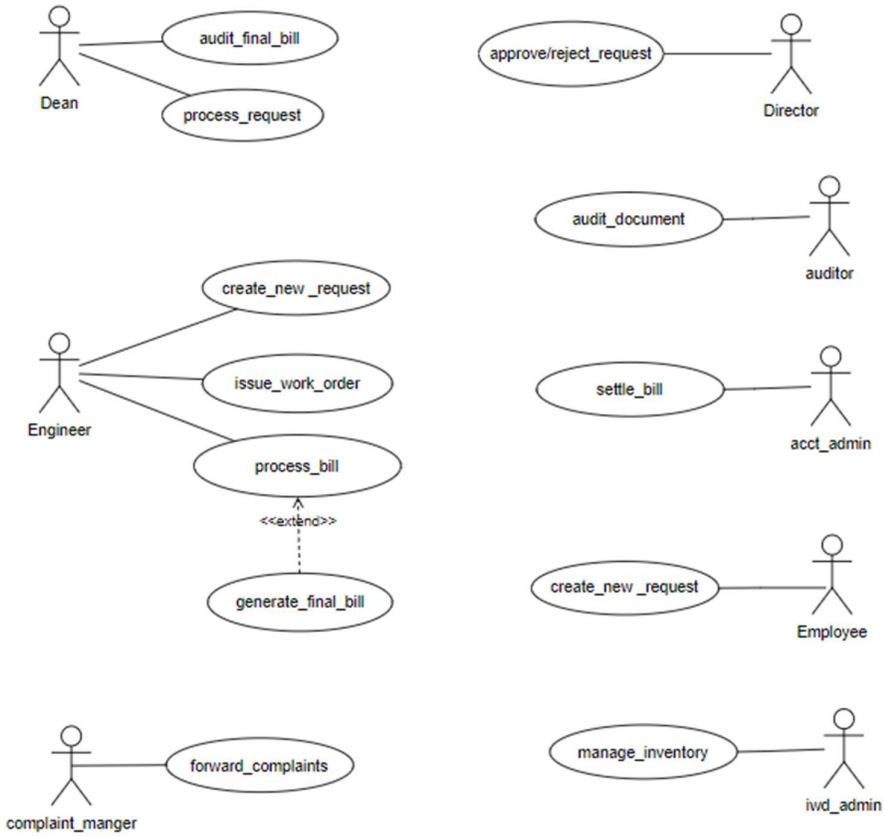
Role: The Engineer initiates a new service request, issues the corresponding work work order, facilitates the processing of the associated bill to be submitted to higher authorities.

Specific Functionalities:

1. The Engineer initiates a new request and the corresponding work order.
2. The Engineer process the bill to the higher authorities.

3. Functional Requirements

3.1 Use Case Diagram



3.2 Use case Description

This section describes each use case Description in the use case diagram in all details.

1)

UC ID	UC#1	
Use Case Name	create_new_request	
Description	The “Create new request” use case is used to create a new request to the higher authorities.	
Actor	Engineer, Employee	
Precondition	The engineer or the employee is logged into the portal.	
Main Flow	M1	The employee or the engineer goes to the “Create new request” tab.
	M2	They fill all the necessary and relevant Information related to their request.
	M3	They click on the submit button.
	M4	The request is now submitted to The higher authorities.

Post Condition	The request is now submitted to the higher authority.	
Sub Flow	NIL	
Global Alternate Flow	GA1	If a technical error occurs during the execution of any action (e.g., database failure, server issues), the system displays an error message and the request will not be submitted.

2)

UC ID	UC#2	
mark as read Use Case Name	Issue_work_order	
Description	The “issue_work_order” use case is used to Issue work order after the engineer’s or The emplyee’s request is approved.	
Actor	Engineer	
Precondition	The engineer should be logged into the portal and the request must be approved by the director.	
Main Flow	1	The request is approved by the higher authorities.
	2	Then the engineer issues the corresponding work order for the approved request.

Post conditions	The work order for the approved request is issued.
Sub Flow	NIL

3)

UC ID	UC#3	
Use Case Name	process_bill	
Description	The “process_bill” use case is used To list down all the items used and submit it to the higher Authorities for verfification.	
Actor	Engineer	
Precondition	The engineer should be logged into the Portal and the bill must be generated.	
Main flow	1	The engineer should navigate to the “Process Bill” Section.
	2	The engineer should then submit the bill of all the items used.
	3	The engineer should submit the form.
Post conditions	The bill will be submitted to the higher authorities for a final audit.	
Global Alternate Flow	NIL	

Sub Flow	NIL

4)

UC ID	UC#4		
Use case Name	Audit_final_bill		
Description	The “audit_final_bill” use case is used to audit the bill submitted by the engineer.		
Actor	Dean		
Precondition	The dean should be logged into the portal and the bill should be submitted by the engineer.		
Main Flow	1	The dean navigates to the “Bills” tab.	
	2	The dean then audits the bill.	
Post Condition	The final bill will be generated.		
Alternate Flow	A1	1	There might be corrections needed in the bill, so the bill will be sent back to the engineer and

			will be asked to correct it.
Sub Flow	NIL		
Global Alternate Flow	NIL		

5)

UC ID	UC#4	
Use case Name	Process_request	
Description	The “process_request” use case is used to process the request created by the engineer and pass it on to the director for approval or rejection.	
Actor	Dean	
Precondition	The dean should be logged into the portal and there should be at least one new request created by the engineer.	
Main Flow	1	The dean navigates to the “New Requests” tab.
	2	The dean processes the new request and sends it to the director.

Post Condition	The processed request will be submitted to the director for approval or rejection.		
Alternate Flow	A1	1	The dean might not process the newly created request by the engineer.
Sub Flow	NIL		
Global Alternate Flow	NIL		

6)

UC ID	UC#4
Use case Name	Approve/reject_request
Description	The “approve/reject_request” use case is used to approve or reject the request processed by the dean.
Actor	Director
Precondition	The director should be logged into the portal and there should be at least one request processed by the dean.

Main Flow	1	The director navigates to the “Requests” tab.
	2	The director then approves or rejects the request.
Post Condition	The request if approved then will be passed on to the engineer to issue work order.	
Alternate Flow	NIL	
Sub Flow	NIL	
Global Alternate Flow	NIL	

7)

UC ID	UC#4
Use case Name	Audit_document
Description	The “audit_document” use case is used to audit all the submitted documents for its authenticity.
Actor	Auditor

Precondition	The auditor should be logged into the portal and there should be documents submitted to be verified.	
Main Flow	1	The auditor navigates to the “Documents” tab.
	2	The auditor then audits all the submitted documents.
Post Condition	If the auditor feels the submitted documents are valid, he/she may ask the user to submit the documents again.	
Alternate Flow	NIL	
Sub Flow	NIL	
Global Alternate Flow	NIL	

8)

UC ID	UC#4	
Use case Name	settle_bill	
Description	The “settle_bill” use case is used to settle the bill and send it to the dean for further audits.	
Actor	account Admin	
Precondition	The account admin should be logged into the portal.	
Main Flow	1	The account admin navigates to the “Bills” tab.
	2	The account admin then settles the final bill and then sends it to the dean for a final audit.
Post Condition	The bill will be issued and then sent to the dean.	
Alternate Flow	NIIL	
Sub Flow	NIL	
Global Alternate Flow	NIL	

9)

UC ID	UC#4	
Use case Name	Manage_inventory	
Description	The “Manage_inventory” use case is used to manage all the available resources by the IWD admin.	
Actor	IWD admin	
Precondition	The IWD admin should be logged into the portal.	
Main Flow	1	The IWD admin navigates to the “Inventory” tab.
	2	The IWD admin then ensures all the important resources are available and well managed.
Post Condition	The inventory is fully equipped.	
Alternate Flow	NIL	
Sub Flow	NIL	

Global Alternate Flow	NIL	

10)

UC ID	UC#4	
Use case Name	Forward_complaints	
Description	The “Forward_complaints” use case is used to forward any complaint issued which is related to the property inside the campus.	
Actor	Complaint_manager	
Precondition	The complaint manager should be logged into the portal and there should be complaints issued.	
Main Flow	1	The complaint manager navigates to the “Complaints” tab.
	2	The complaint manager then forwards the complaints to the higher authorities.
Post Condition	The issued complaint will be forward to the respected autohority.	
Alternate Flow	NIL	
Sub Flow	NIL	

Global Alternate Flow	NIL	

3.3. Other Functional Requirements

1) All the modules will make use of the **IWD module** for issuing work order or if they want to report a problem related to the institute's property.
2) The **Super admin** of Fusion should be able to assign roles for IWD-Admin and all the other actors of the IWD module.
3) The system should be running all the time for the quick registration of requests to efficiently manage the institute's property.

3.4 Other constraints

3.4.1 User Interfaces

The user interface should comply with the colour scheming and dashboard design of the FUSION IIIT. Users should be able to navigate from one functionality to other. Inter module navigation should be smooth. All the functionalities should be easy to use and no specific training should be required for the usage of the module.

3.4.2 Tech Stack Used

1) Backend: Django(Python Based Web-Framework).
2) Frontend:(HTML ,CSS , JavaScript).

3.4.3 Business rules (if any)

NIL

4. Non- Functional Requirements

4.1 Performance:

The system should respond to user interactions quickly. Response time for creating new requests, generation of bills etc. should be less.

4.2 Scalability:

The system should handle a mass of concurrent users. System performance should be evaluated under increasing load conditions.

4.3 Availability:

The system should be available 99.9% of the time.

4.4 Security:

Ensure data confidentiality and integrity. Role-based authorization ensures that users can only perform actions relevant to their designated roles.

5. Module dependencies with other fusion modules

5.1. UI Level

Integration in Fusion :-

At UI level, IWD Module will seamlessly integrates with other Modules, As It followed exact theme followed by other modules.

5.2. DB Level Dependencies:

1. This databases used in the IWD module are not dependent on the database of the other modules.

5.3. Module Level Dependencies:

The IWD module will be interacting with the “Purchase and Store” module for efficient management of resources and with the “Complaint Management System” module for forwarding the registered complaints to the higher authorities.