

INWARD AND OUTWARD MANAGEMENT SYSTEM

Software Requirements Specification(SRS)

Version 1.0

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Group-M

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Revision History

Date	Description	Author	Comments
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Document Approval

The following Software Requirements Specification has been accepted and approved by the following:

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1. Introduction

The **INWARD-OUTWARD MANAGEMENT SYSTEM** is a comprehensive software solution designed to optimize and centralize the inward and outward processes within the Finance and Accounting Department of IIT INDORE. This dynamic system caters to three primary user domains - Administration of the Dept., Finance & Accounting (FA) Employees, and Claimants.

ADMIN : Possess the central role in the system management, overseeing the user access and and the control to edit the fields in the system universally.

F/A EMPLOYEE : Possession of the partial edit access in the view of their designation hierarchy in the department. Plays a key role in updating the status of the claims.

CLAIMANT : Interacts with the system to initiate, track, and view the status of the inward and outward processes of the claims they have raised. Lacks the edit access.

1.1 Purpose

The prime objective of the Inward and Outward Management System is to streamline and enhance the communication for claimants regarding the status of their Finance Reimbursement claims submitted to the Finance Department. This system aims to professionalize the process, avoiding the frequent messages, emails or in-person meetings with the Finance employees or officers, providing claimants with efficient and transparent updates on the progress of their claims.

1.2 Scope

- The product is explicitly confined to the Software Domain i.e. a web application for the customized usage.
- Specifically this product doesn't serve a generic usage for all sets of users.
- Once the Claimant submits his/her Reimbursement Claim, as per the regulations of the department, the claim would be circulated amongst the F/A employess in order with their designation hierarchy.
- The Web application extends the ability to maintain the database of the claims and update its status.
- Claimants possess the access of viewing the status of the claim while the F/A employees possess the edit access of the database (in a restricted mode) besides updating the status..

1.3 References

The product is being developed for the customized usage of the Finance and Accounting (F/A) Department of IIT INDORE. Hence the details specified in the description field, solely refers to the requirements of the F/A department.

1.4 Overview

The following sections of the SRS document highlights the workflow and the connectivity of different domains of the web application besides specifying the technical and non technical requirements contributing to the phase of building the specified software application.

2. General Description

The inward and outward management system serves as a dynamic and efficient tool to enhance the workflow within the Finance and Accounting department, promoting transparency and accountability in the processing of reimbursement claims.

Once a Claimant submits a Reimbursement Claim, the system adheres to departmental regulations by circulating the claim among F/A employees in order of their designation hierarchy. The web application facilitates the maintenance of the claims database, allowing F/A employees to update claim statuses in a restricted mode, while Claimants possess access to view the status of their claims.

2.1 Product Perspective

Our solution focuses on creating a tracking system for reimbursement documents going through various stages. It is similar to how the customer could become aware of the status of the delivery of the product ordered in an e-commerce platform.

2.2 Product Functions

The website would provide the claimants the ability to submit claims and track their requests and the F/A staff to update status of the same. It would allow one-way communication from the F/A staff's side to the claimants and would also have the ability to send automated emails via external services like g-mail.

2.3 User Characteristics

Typical use cases would include, users who want to keep track of official documents in an enterprise, our current user base would be limited to the Financial office of IIT Indore.

2.4 General Constraints

The development and implementation of the Inward and Outward Management System are subject to various constraints, both technical and non-technical. Understanding and addressing these constraints is crucial for successful project delivery and user satisfaction.

2.5 Assumptions and Dependencies

1. We assume that the deployment servers provided by IIT Indore's finance department have the ability to support NodeJS runtime, as such no restrictions on our preference of usage of any tech stacks has been assured to us.
2. Our database and user entry related fields depend on the schema of how the current infrastructure of the inward outward system handles requests.

3. Specific Requirements

3.1 External Interface Requirements

3.1.1 User Interfaces

3.1.1.1 Web-Based User Interface

1. The system shall provide an intuitive and user-friendly web interface for claimants and finance officers.
2. The interface shall support claim submission, claim status tracking, and other relevant functionalities.

3.1.2 Hardware Interfaces

3.1.2.1 Browser Compatibility

1. The system shall be accessible through desktop and mobile devices at a later stage if time permits.
2. The hardware interface shall support common web browsers.

3.1.3 Software Interfaces

3.1.3.1 Authentication Integration

1. The system shall integrate with IIT Indore's authentication system for secure user login.
2. It shall follow security protocols to ensure user data confidentiality.

3.1.4 Communications Interfaces

3.1.4.1 Notification System

1. The system shall implement a communication interface for notifying claimants and finance officers about updates in claim statuses.
2. Notifications shall be sent in a timely manner and include relevant information.

3.2 Functional Requirements

3.2.1 Claim Submission

3.2.1.1 Introduction

1. Claimants shall be able to submit reimbursement forms through the web interface besides submitting them physically in the Finance office so as to acquire the unique ID associated with the claim.
2. The system shall capture details such as purpose, amount, and supporting documents. As of now, this implementation of this particular feature is under the stage of discussions among the Finance Authorities.

3.2.1.2 Inputs

1. Claimants shall provide necessary information, including personal details and reimbursement details.

3.2.1.3 Processing

1. The system shall validate submitted data for accuracy and completeness.
2. Claim submissions shall be time stamped for tracking purposes.

3.2.1.4 Outputs

1. Claimants shall receive confirmation of successful submission.
2. Submitted claims shall be stored in the system for further processing.

3.2.1.5 Error Handling

1. The system shall provide clear error messages for incomplete or inaccurate submissions.
2. Error notifications shall guide users to correct their submissions.

3.2.2 Claim Status Tracking

3.2.2.1 Introduction

1. Claimants shall have access to a dashboard displaying the status of their reimbursement claims.
2. Finance officers shall update claim statuses as they progress through the approval process.

3.2.2.2 Inputs

1. Finance officers shall have the ability to review submitted claims and update their status.

3.2.2.3 Processing

1. The system shall automatically update claimant dashboards when the status changes.
2. Notifications shall be triggered for claimants upon status updates.

3.2.2.4 Outputs

1. Claimants shall view real-time updates on their claim status.

3.2.2.5 Error Handling

1. Finance officers shall be able to rectify errors in claim status updates.
2. The system shall log and notify relevant parties of any processing errors.

3.3 Use Cases

3.3.1 Claimant Submits Reimbursement Form physically in the Finance office

1. Claimant logs into the system.
2. Claimant submits reimbursement form or fewer details of it in the Web portal.
3. System validates and confirms successful submission.
4. Claimant receives notification of submission.

3.3.2 Finance Officer Updates Claim Status

1. Finance officer logs into the system.
2. Finance officer reviews submitted claims.
3. Finance officer updates claim status.
4. Claimant receives notification of status update.

3.4 Classes / Objects

3.4.1 Claim

3.4.1.1 Attributes

1. Claim ID
2. Claimant Details
3. Purpose
4. Amount
5. Status
6. Timestamp

3.4.1.2 Functions

1. Submit Claim
2. Update Status

3.4.2 Finance Officer

3.4.2.1 Attributes

1. Officer ID
2. Name
3. Designation
4. Claims Assigned

3.4.2.2 Functions

1. Review Claims
2. Update Claim Status

3.5 Non-Functional Requirements

3.5.1 Performance

1. Claim status updates shall occur within 5 seconds of approval.
2. The web interface shall load in under 3 seconds.

3.5.2 Reliability

1. The system shall be available 24/7 with no more than 1% downtime for maintenance.

3.5.3 Availability

1. The system shall support concurrent access by at least 50 users-F/A employees (at max in the view of the current employee count in the Finance office)

3.5.4 Security

1. User authentication shall follow industry-standard encryption protocols.
2. Access to sensitive data shall be restricted based on user roles.

3.5.5 Maintainability

1. The system shall be designed for easy updates and maintenance.
2. Regular backups of data shall be performed to ensure data integrity.

3.5.6 Portability

1. The system shall be accessible on various devices and browsers without compromising functionality.

3.6 Inverse Requirements

1. In the event of system downtime, users shall be informed in advance through notifications.

3.7 Design Constraints

1. The system design shall comply with IIT Indore's data protection and privacy policies.

3.8 Logical Database Requirements

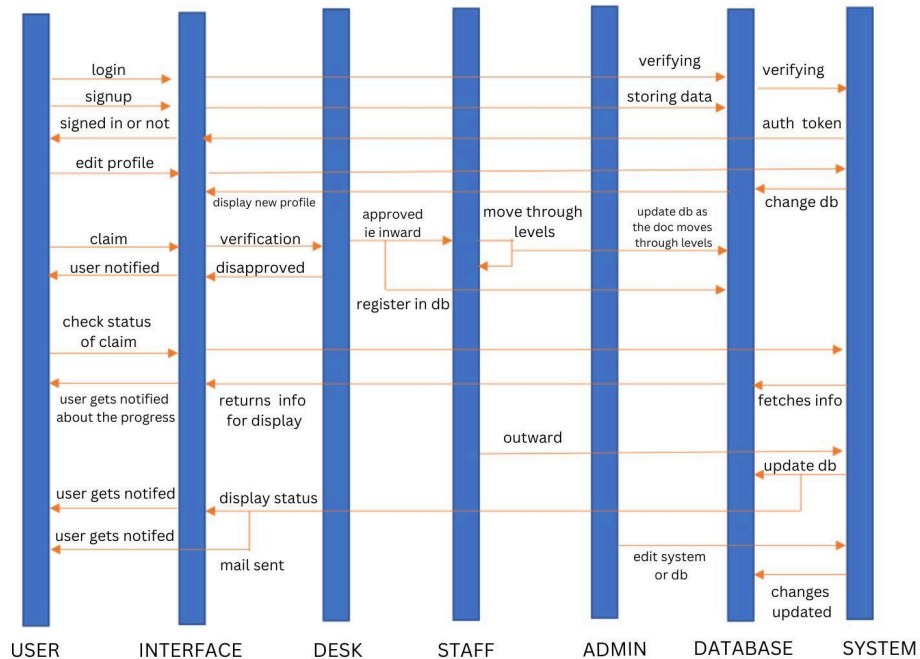
1. A relational database shall store claim and user information.
2. The other database shall have the data of the claims, its amount, claimant and payment party. etc.
2. Data integrity measures shall be implemented, and regular backups shall be conducted.

3.9 Other Requirements

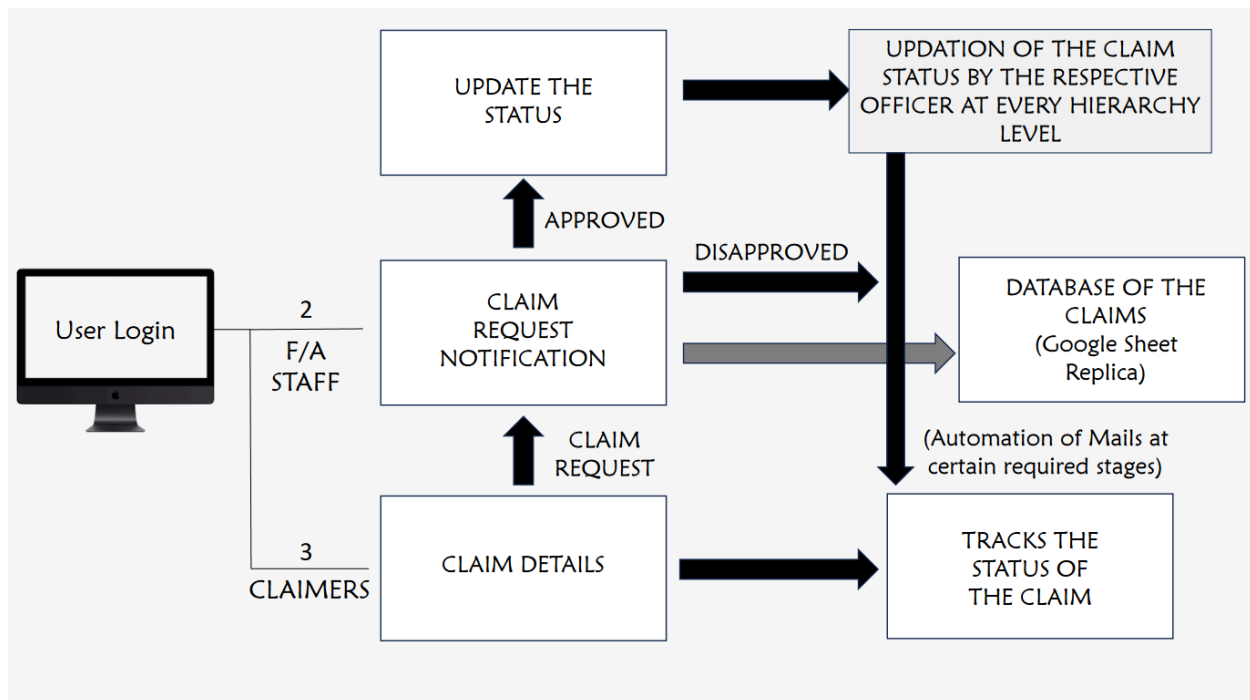
1. The system shall comply with relevant legal and regulatory requirements.
2. A feedback mechanism shall be provided for users to suggest improvements.

4. Analysis Models

4.1 Sequence Diagrams



4.2 State-Transition Diagrams (STD)



5. Change Management Process

If the client wishes to modify the details of a feature or introduce new functionality to the website, they can communicate their requirements to the project lead. Following a discussion on the feasibility of the proposed changes, the project lead will proceed to update the Software Requirements Specification (SRS) document accordingly, ensuring that the necessary adjustments are implemented.