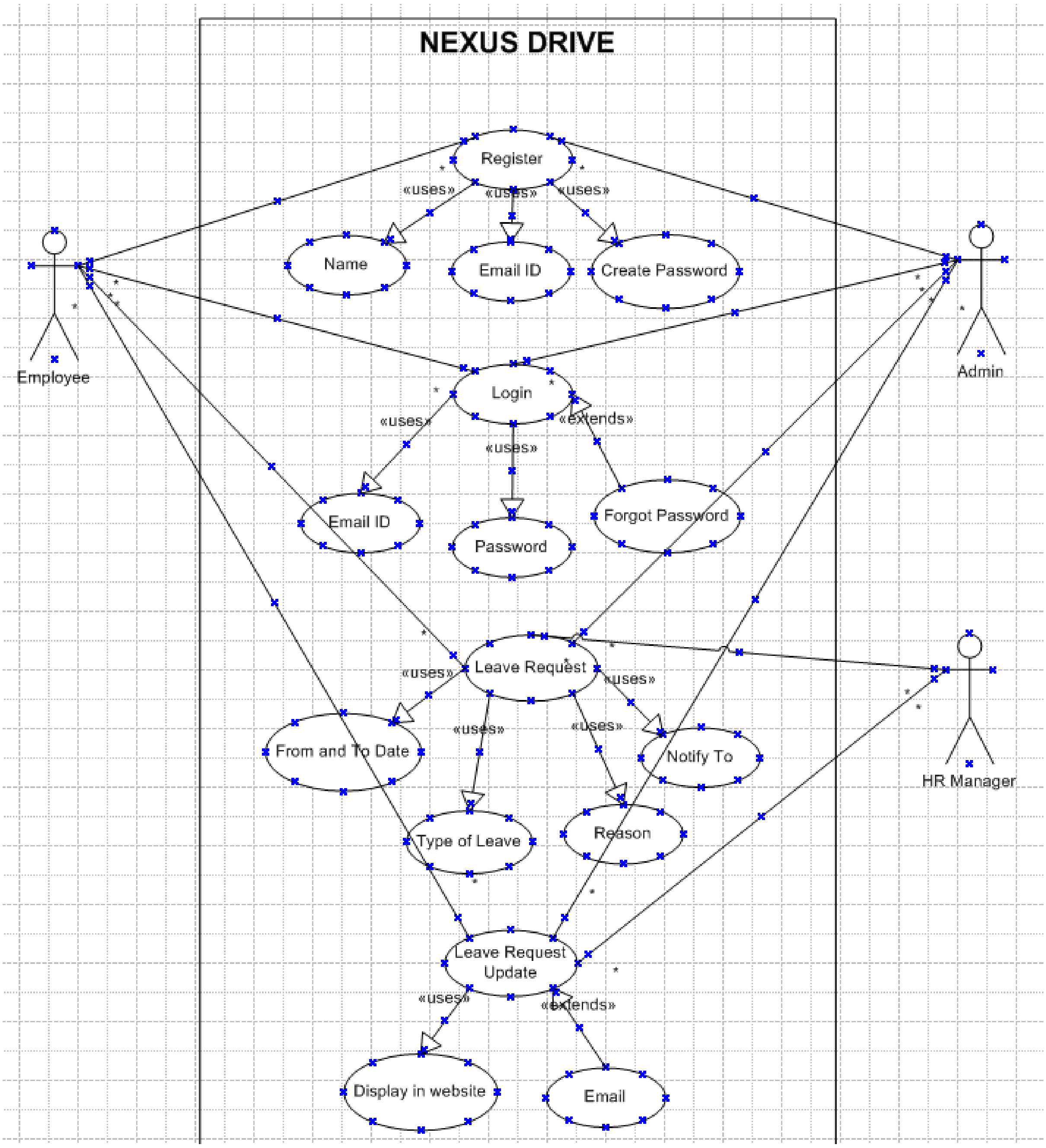
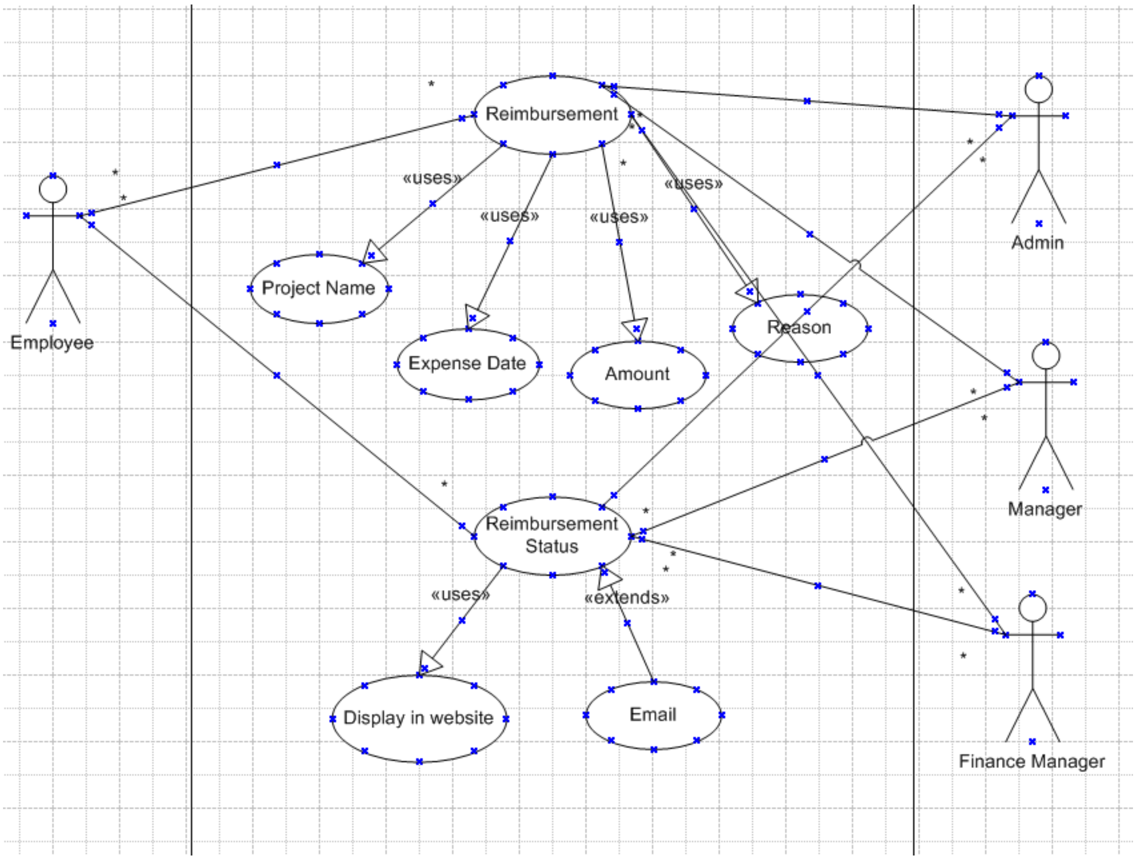
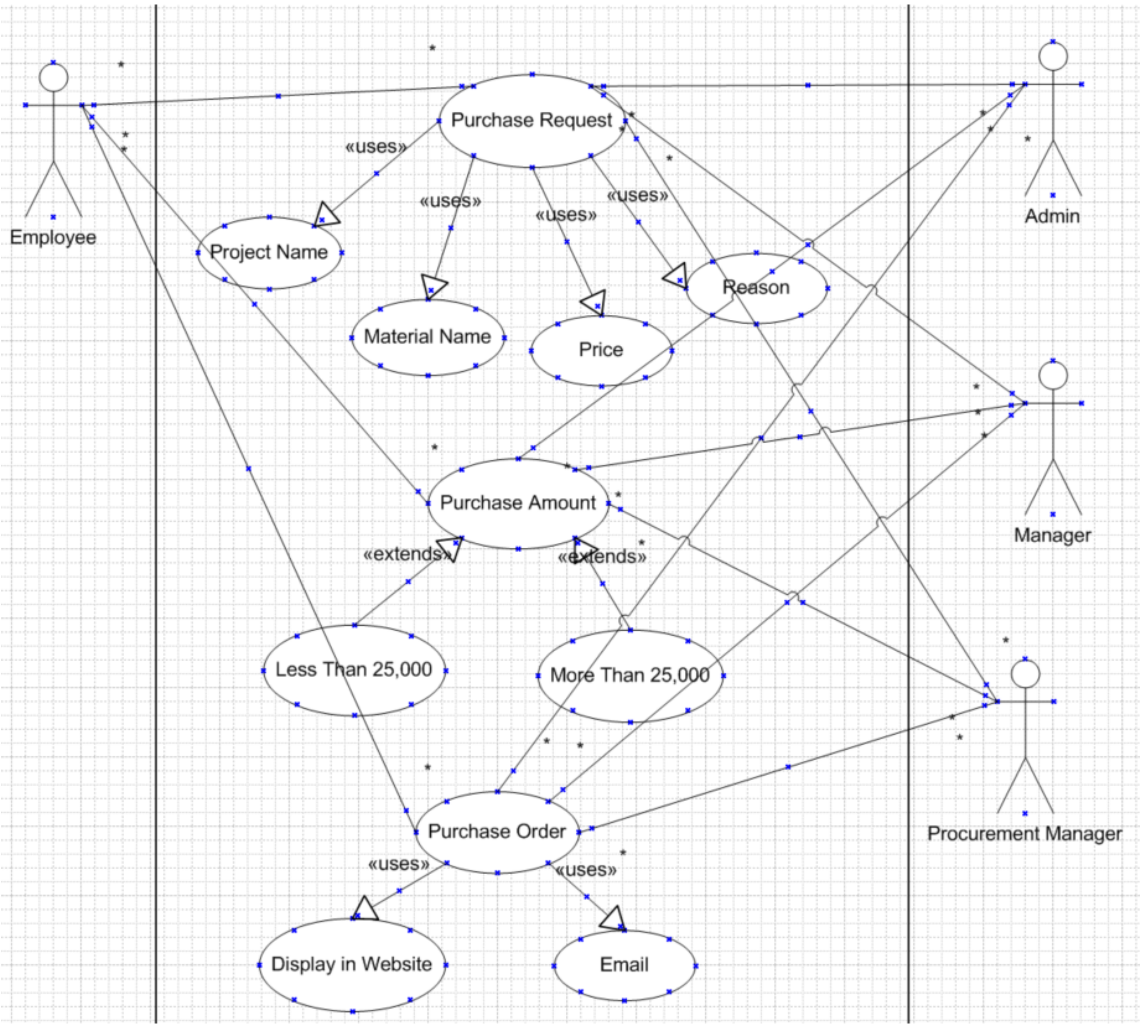
Waterfall Model Documents Deliverables – Part-2/2

Document – 6 (Use Case Diagram)

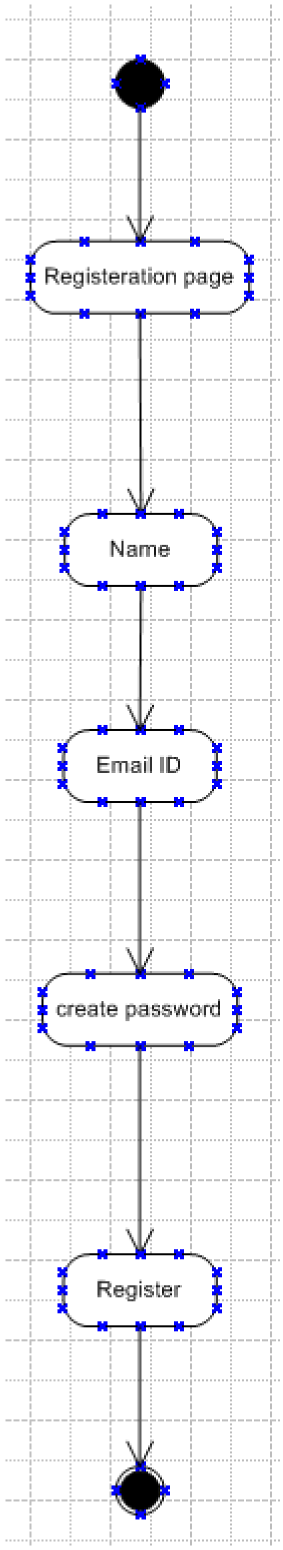



Reimbursement
«uses»
«uses»
«uses»
«uses»
Project Name
Expense Date
Amount
Reason
Employee
Admin
Manager
Reimbursement Status
«uses»
«extends»
Display in website
Email
Finance Manager

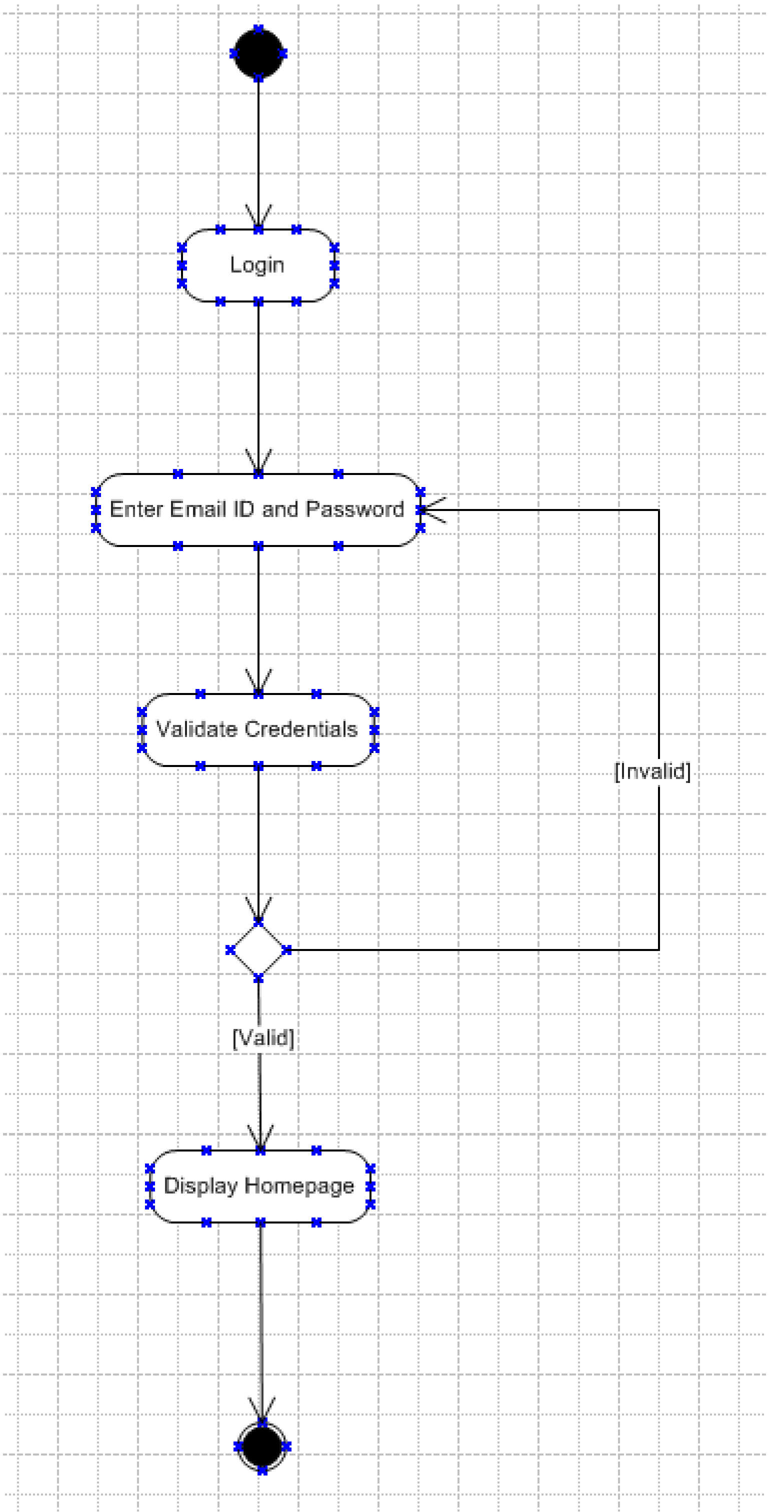

Employee
Admin
Manager
Procurement Manager
Purchase Request
«uses»
Project Name
Material Name
Price
Reason
Purchase Amount
«extends»
Less Than 25,000
More Than 25,000
Purchase Order
Display in Website
Email

Activity Diagram

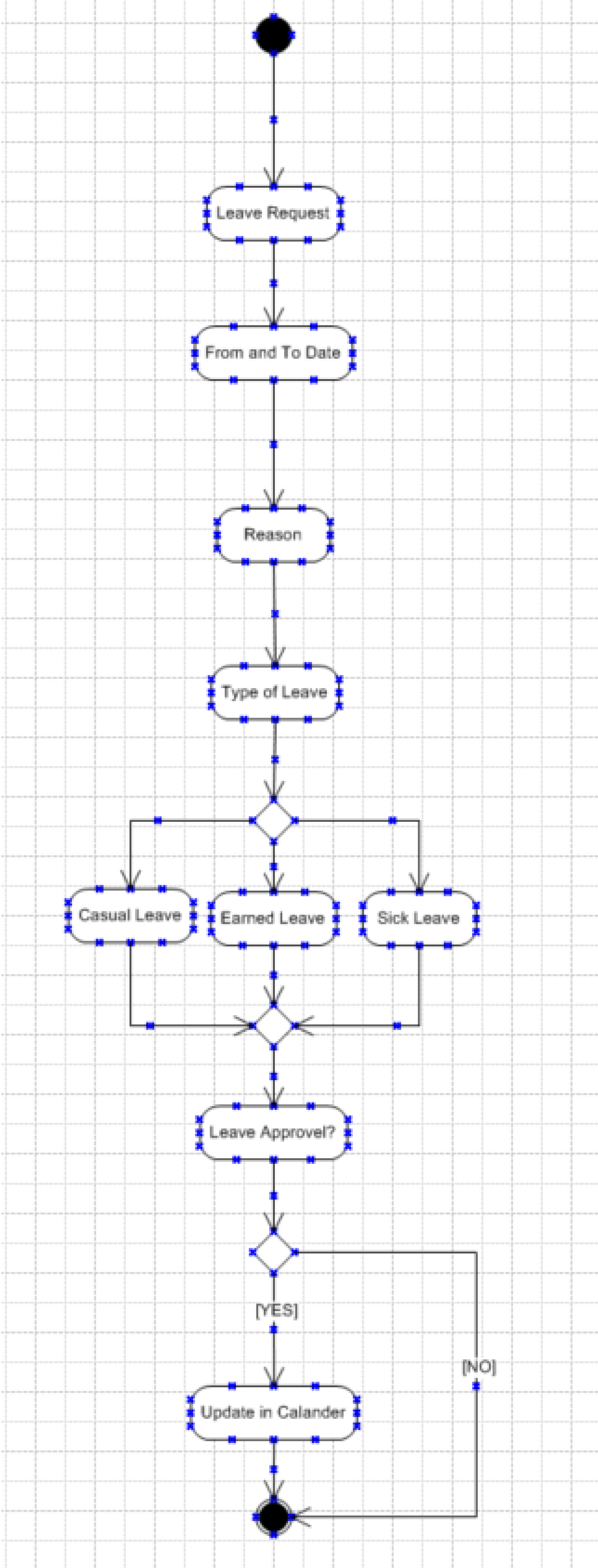
Activity Diagram:1



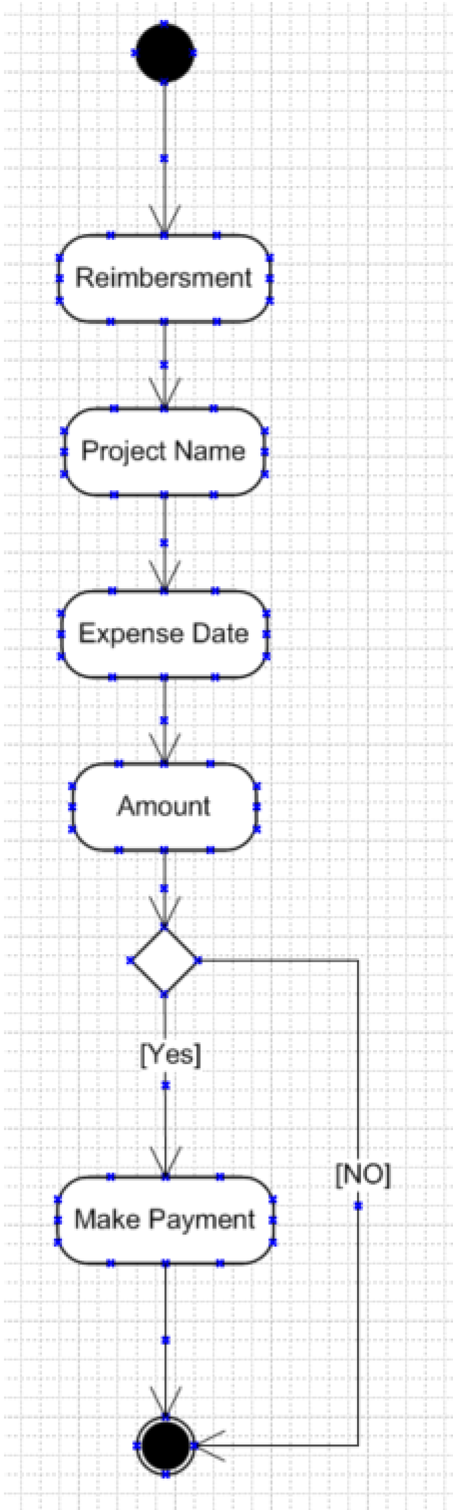
Activity Diagram:2



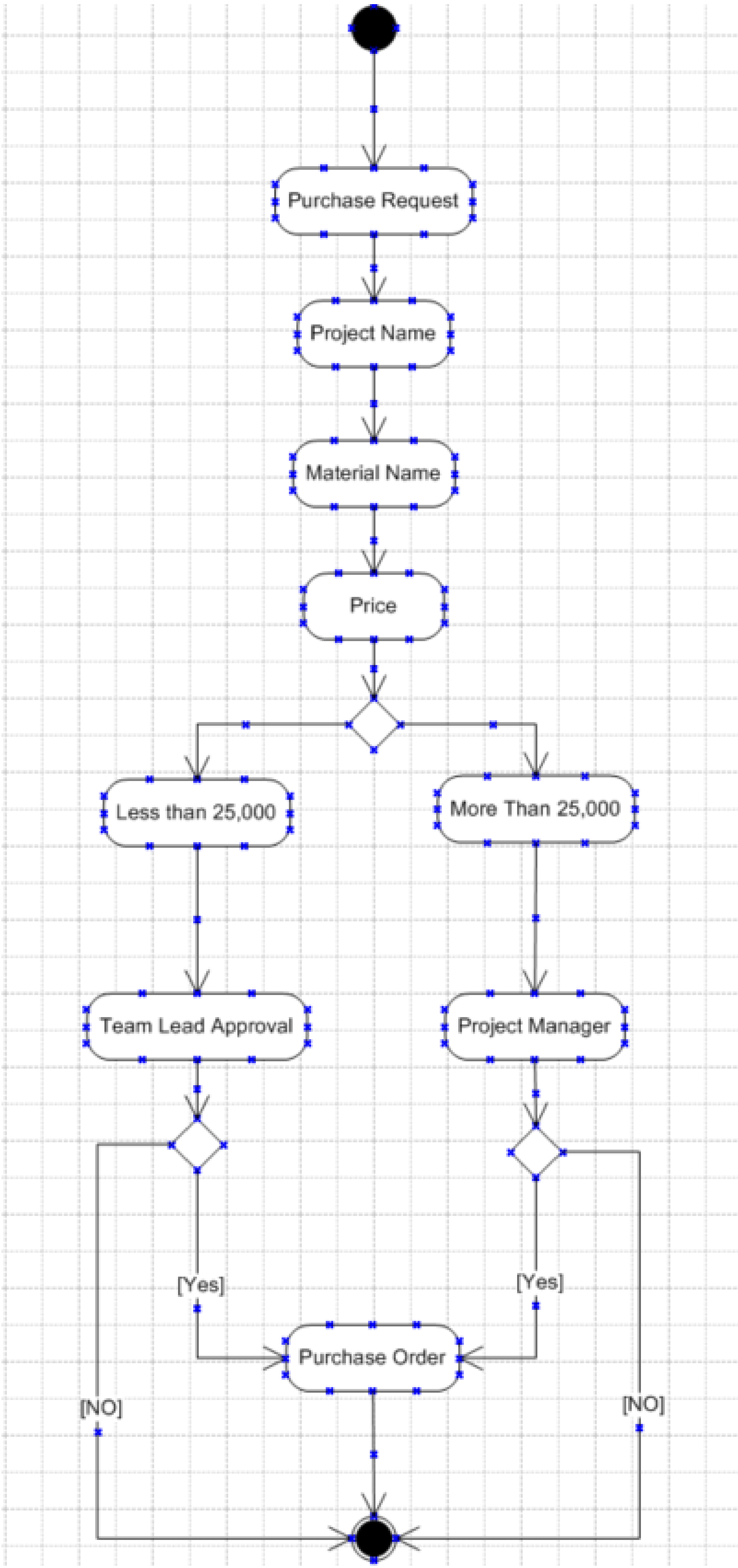
Activity Diagram:3



Activity Diagram:4



Activity Diagram:5



Use Case Specification

User Case ID	UC001		
Use Case Name	Create User Account		
Created By	Mr. Iftikhaar	Last Updated By	October 9^{th} 2025
Date Created	September 5^{th} 2025	Last Revision Date	September 26^{th} 2025
Actor	HR Manager		
Description	This use case allows the HR Manager to create a new user account for an employee by capturing their Name, Email ID, and creating a password.		
Pre-Condition	The HR Administrator must be logged into the platform with administrative privileges.		
Post-Condition	A new user account is created, and an automated welcome email with login instructions is sent to the employee.		
Normal Flow or events/Basic flow Happy Path	Step 1- HR Admin logs into the system. Step 2- HR Admin navigates to the "User Management" dashboard. Step 3- HR Admin clicks the "Add New User" button. Step 4- System displays a registration form. Step 5- HR Admin enters the employee's Name and official Email ID. Step 6- System auto-generates a secure, temporary password. Step 7- HR Admin clicks "Create User." Step 8- System validates that the email is unique and creates the account. Step 9- System sends a welcome email with the temporary password and login link to the employee.		
Alternative Flow	1. Duplicate Email ID: - This flow begins at step 8 of the Normal Flow. - The System validates the data and finds that the Email ID already exists. - The System displays an error message: "User with this email already exists." - The HR Admin can then search for the existing user or correct the email address.		
Exceptions	If the email system fails at step 9, the System will create the user but display a notification to the HR Admin that the welcome email could not be sent.		
Frequency of Use	Moderate		
Assumptions	Customer is registered, understands online payment process. The provided employee email address is valid and active.		

User Case ID	UC002		
Use Case Name	User Login		
Created By	Mr. Iftikhaar	Last Updated By	October 9^{th} 2025
Date Created	September 5^{th} 2025	Last Revision Date	September 26^{th} 2025
Actor	Employee, Manager and Admin		
Description	This use case allows a registered user to securely access their account using their Email ID and Password, and includes a Forgot Password option.		
Pre-Condition	The user must have an active account.		
Post-Condition	The user is successfully authenticated and redirected to their role-specific dashboard, or they have successfully reset their password.		
Normal Flow or events/Basic flow Happy Path	Step 1- User opens the platform's login page. Step 2- User enters their registered Email ID and Password. Step 3- User clicks the "Login" button. Step 4- System validates the credentials. Step 5- Upon success, the System redirects the user to their dashboard.		
Alternative Flow	1. Invalid Credentials: - This flow begins at step 4 of the Normal Flow. - The System fails to validate the credentials. - The System displays an error message: "Invalid Email ID or Password." 2. User Forgets Password: - On the login page, the User clicks the "Forgot Password" link. - The System prompts for the user's Email ID. - The User enters their email and submits. - The System sends a password reset link to the registered email.		
Exceptions	- If an account is locked after multiple failed login attempts, the System displays an error: "Your account is locked. Please contact support."		
Frequency of Use	Moderate		
Assumptions	- The user has access to their registered email account to perform a password reset.		

User Case ID	UC003		
Use Case Name	Submit Leave Request		
Created By	Mr. Iftikhaar	Last Updated By	October 9th 2025
Date Created	September 5th 2025	Last Revision Date	September 26th 2025
Actor	Employee		
Description	Allows an employee to submit a request for time off by providing From and To Date, Type of leave, Reason, and notifying a specific team member (Notify To member).		
Pre-Condition	The employee is logged into the platform.		
Post-Condition	A leave request is created with "Pending" status, and the designated manager is notified.		
Normal Flow or events/Basic flow Happy Path	Step 1- Employee logs in and navigates to the "Leave Management" module. Step 2- Employee clicks "New Request." Step 3- System displays the leave request form. Step 4- Employee selects the From and To Date, Type of leave, and enters a Reason. Step 5- System displays the designated approver (Notify To member). Step 6- Employee clicks "Submit." Step 7- System creates the request, logs it, and notifies the manager.		
Alternative Flow	1. Insufficient Leave Balance: - This flow begins at step 6 of the Normal Flow. - The System validates the request and detects an insufficient leave balance. - The System displays a warning: "You have an insufficient leave balance. Do you want to submit as unpaid leave?" - The Employee can choose to proceed or cancel.		
Exceptions	- If the system is down during submission, the request will not be saved, and the user will be notified to try again later.		
Frequency of Use	Moderate		
Assumptions	- The company's leave policies are correctly configured in the system.		

User Case ID	UC004		
Use Case Name	View Leave Request Status		
Created By	Mr. Iftikhaar	Last Updated By	October 9^{th} 2025
Date Created	September 5^{th} 2025	Last Revision Date	September 26^{th} 2025
Actor	Employee and Manager		
Description	Allows users to view the status of a submitted leave request via a Display in the website dashboard and receive an automated Email.		
Pre-Condition	A leave request has been submitted.		
Post-Condition	The user is aware of the request's status (e.g., Pending, Approved, Rejected).		
Normal Flow or events/Basic flow Happy Path	1. A Manager approves or rejects a leave request. 2. The System immediately updates the status of the request in the database. 3. The System updates the status Display in the website on the employee's and manager's leave dashboards. 4. The System simultaneously sends an Email notification to the employee with the updated status.		
Alternative Flow	1. Proactive Status Check: - The Employee can log in at any time and navigate to their leave dashboard to check the status without waiting for an email notification.		
Exceptions	- Email delivery may fail due to external mail server issues, but the status on the website dashboard will remain the single source of truth.		
Frequency of Use	High		
Assumptions	- The email addresses in the system are correct and active.		

User Case ID	UC005		
Use Case Name	Submit Reimbursement Claim		
Created By	Mr. Iftikhaar	Last Updated By	October 9th 2025
Date Created	September 5th 2025	Last Revision Date	September 26th 2025
Actor	Employee and Manager		
Description	Allows an employee to submit a claim for business-related expense reimbursement, including Project Name, Expense Date, Amount, and Reason.		
Pre-Condition	The employee is logged into the platform.		
Post-Condition	An expense claim is created with "Pending" status, and the manager is notified.		
Normal Flow or events/Basic flow Happy Path	Step 1- Employee logs in and navigates to "Expense Management." Step 2- Employee clicks "New Claim." Step 3- Employee selects the Project Name, enters Expense Date, Amount, and Reason. Step 4- Employee uploads a digital receipt. Step 5- Employee clicks "Submit." Step 6- System creates the claim and notifies the manager.		
Alternative Flow	1. Save as Draft: - The Employee can click "Save as Draft" at any point before submission to save their progress and complete the claim later.		
Exceptions	- If a required field (e.g., Amount, Receipt) is missing, the System will prevent submission and highlight the missing field.		
Frequency of Use	Moderate		
Assumptions	- The list of project names is up-to-date and available for selection.		

User Case ID	UC006		
Use Case Name	View Reimbursement Status		
Created By	Mr. Iftikhaar	Last Updated By	October 9th 2025
Date Created	September 5th 2025	Last Revision Date	September 26th 2025
Actor	Employee, Finance User and Manager		
Description	Allows users to track the status of a reimbursement claim from submission to payment via the website and Email.		
Pre-Condition	An expense claim has been submitted.		
Post-Condition	The user is aware of the claim's status (Pending, Approved, Paid, Rejected).		
Normal Flow or events/Basic flow Happy Path	Step 1- A Manager approves a claim. The status changes to "Approved." Step 2- The System notifies the Finance User. Step 3- The Finance User processes payment and updates the status to "Paid." Step 4- The System updates the status Display in the website on the employee's dashboard. Step 5- The System sends an Email notification to the employee confirming payment.		
Alternative Flow	1. Claim is Rejected: - A Manager or Finance User rejects the claim and provides a reason. - The System updates the status to "Rejected" and notifies the employee via the dashboard and email, including the reason.		
Exceptions	- If there is a delay in synchronization between Finance and the System, the displayed status may temporarily show as “Processing.”		
Frequency of Use	Moderate		
Assumptions	- Finance users have the necessary permissions to update claim statuses to "Paid."		

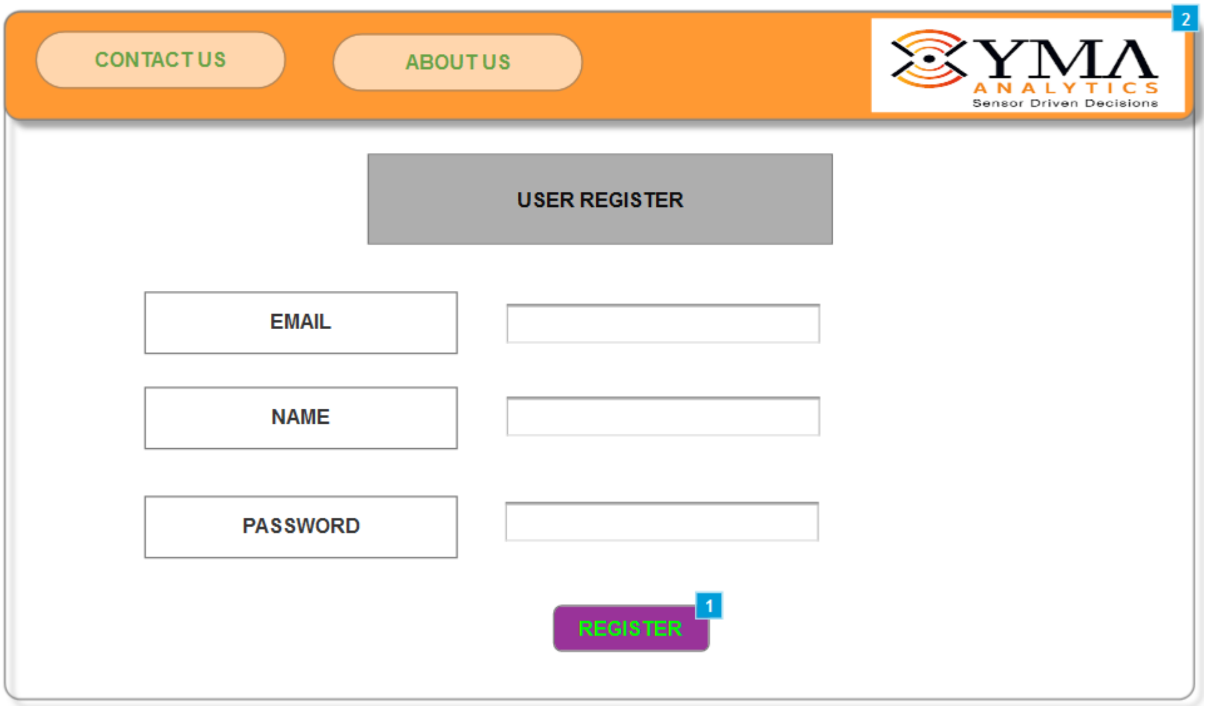
User Case ID	UC007		
Use Case Name	Create Purchase Request		
Created By	Mr. Iftikhaar	Last Updated By	October 9th 2025
Date Created	September 5th 2025	Last Revision Date	September 26th 2025
Actor	Employee and Manager		
Description	Allows a user to submit a request to procure materials or services, detailing Project Name, Material Name, Price, and Reason.		
Pre-Condition	The user is logged in and has permission to create purchase requests.		
Post-Condition	A Purchase Request (PR) is created with "Pending Approval" status and routed for approval.		
Normal Flow or events/Basic flow Happy Path	Step 1- User logs in and navigates to the "Procurement" module. Step 2- User clicks "New Purchase Request." Step 3- User selects the Project Name. Step 4- User enters the Material Name, estimated Price, and Reason. Step 5- User clicks "Submit." Step 6- System creates the PR and routes it for approval based on the amount.		
Alternative Flow	-At Step 4 (before clicking "Submit"), the user realizes the entered information (Material Name, Price, or Reason) is incorrect. -The user clicks “Edit” to modify the entered details. -The system updates the fields and displays the corrected information. -Alternatively, if the user decides not to proceed, they can click “Cancel” to discard the request. -The system exits the “Create Purchase Request” screen and returns to the Procurement Dashboard without saving the data.		
Exceptions	- If the entered price is not a valid number, the system will display an error.		
Frequency of Use	Moderate		
Assumptions	- The user has accurate pricing information for the requested material.		

User Case ID	UC008		
Use Case Name	Multi-Level Purchase Approval		
Created By	Mr. Iftikhaar	Last Updated By	October 9th 2025
Date Created	September 5th 2025	Last Revision Date	September 26th 2025
Actor	Manager and Department Head		
Description	Routes a Purchase Request for approval based on whether its value is Less Than 25,000 or More than 25,000.		
Pre-Condition	A Purchase Request has been submitted.		
Post-Condition	The PR is routed to the correct sequence of approvers.		
Normal Flow or events/Basic flow Happy Path	Purchase Amount Less Than or Equal to 25,000: Step 1- The System receives the submitted PR. Step 2- The System determines the amount is within the single-approval limit. Step 3- The System routes the request to the user's direct Manager for approval.		
Alternative Flow	1. Purchase Amount More than 25,000: - The System determines the amount requires multi-level approval. - The System first routes the PR to the direct Manager. - After the Manager approves, the System automatically forwards the PR to the Department Head for final approval. 2. Request is Rejected: - An approver rejects the request and provides a reason. - The System updates the PR status to "Rejected" and notifies the original requestor.		
Exceptions	- If an approver in the hierarchy is not assigned, the system will flag the request for administrative review.		
Frequency of Use	High		
Assumptions	- The approval hierarchy for all users is correctly configured in the system.		

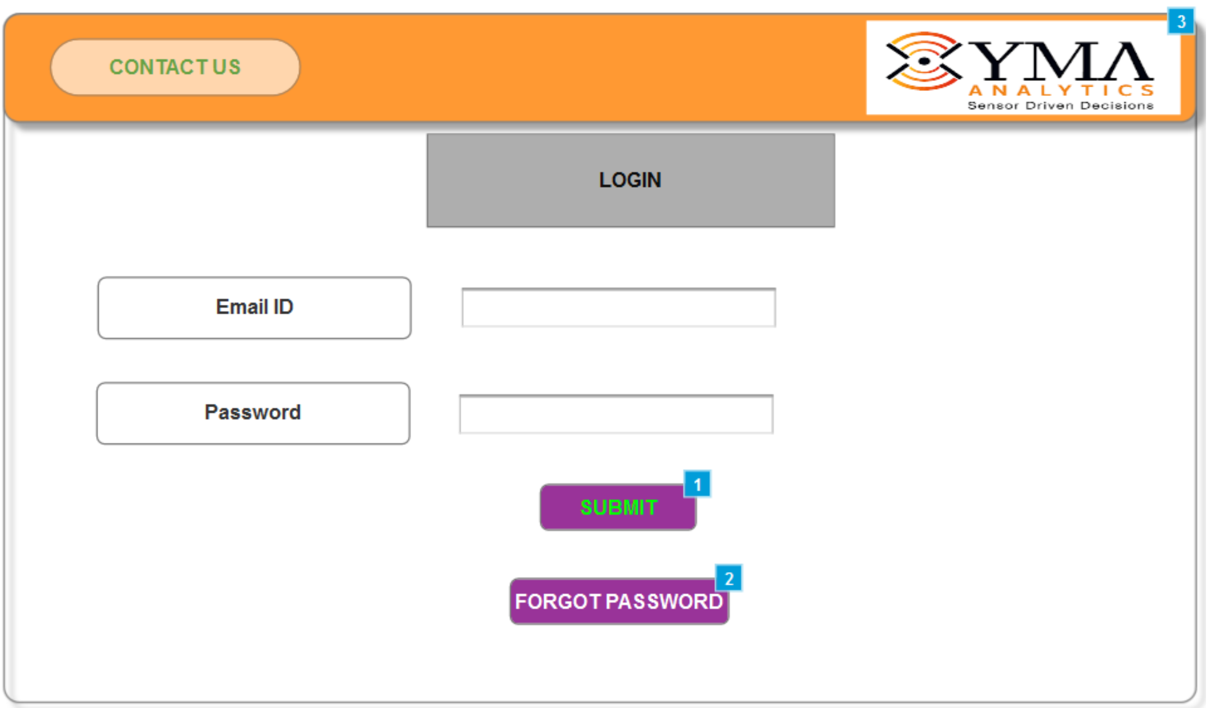
User Case ID	UC009	UC009	UC009
Use Case Name	Track Purchase Order Status	Track Purchase Order Status	Track Purchase Order Status
Created By	Mr. Iftikhaar	Last Updated By	October 9th 2025
Date Created	September 5th 2025	Last Revision Date	September 26th 2025
Actor	Department User and Procurement Team	Department User and Procurement Team	Department User and Procurement Team
Description	Allows users to track the status of an approved PR as it is converted into a Purchase Order, with status updates on the website and via Email.	Allows users to track the status of an approved PR as it is converted into a Purchase Order, with status updates on the website and via Email.	Allows users to track the status of an approved PR as it is converted into a Purchase Order, with status updates on the website and via Email.
Pre-Condition	A Purchase Request has been fully approved.	A Purchase Request has been fully approved.	A Purchase Request has been fully approved.
Post-Condition	A PO is created, and its status is visible to the requestor.	A PO is created, and its status is visible to the requestor.	A PO is created, and its status is visible to the requestor.
Normal Flow or events/Basic flow Happy Path	Step 1- A PR status becomes "Approved." Step 2- The System notifies the Procurement Team. Step 3- The Procurement Team converts the PR into a PO. Step 4- The System updates the status to "PO Created." Step 5- The new status is displayed on the website for the Department User. Step 6- The System sends an Email notification to the user with the PO details.	Step 1- A PR status becomes "Approved." Step 2- The System notifies the Procurement Team. Step 3- The Procurement Team converts the PR into a PO. Step 4- The System updates the status to "PO Created." Step 5- The new status is displayed on the website for the Department User. Step 6- The System sends an Email notification to the user with the PO details.	Step 1- A PR status becomes "Approved." Step 2- The System notifies the Procurement Team. Step 3- The Procurement Team converts the PR into a PO. Step 4- The System updates the status to "PO Created." Step 5- The new status is displayed on the website for the Department User. Step 6- The System sends an Email notification to the user with the PO details.
Alternative Flow	1. Manual Status Updates: - The Procurement Team can manually update the PO status to provide more detail, such as "PO Sent to Vendor" or "Awaiting Delivery."	1. Manual Status Updates: - The Procurement Team can manually update the PO status to provide more detail, such as "PO Sent to Vendor" or "Awaiting Delivery."	1. Manual Status Updates: - The Procurement Team can manually update the PO status to provide more detail, such as "PO Sent to Vendor" or "Awaiting Delivery."
Exceptions	- The system could fail to send the email notification with the PO details to the user due to an email service outage or incorrect email address	- The system could fail to send the email notification with the PO details to the user due to an email service outage or incorrect email address	- The system could fail to send the email notification with the PO details to the user due to an email service outage or incorrect email address
Frequency of Use	High	High	High
Assumptions	- The Procurement team has the authority to create and issue Purchase Orders.	- The Procurement team has the authority to create and issue Purchase Orders.	- The Procurement team has the authority to create and issue Purchase Orders.

Document 7 – Screens and Pages

1. Registration

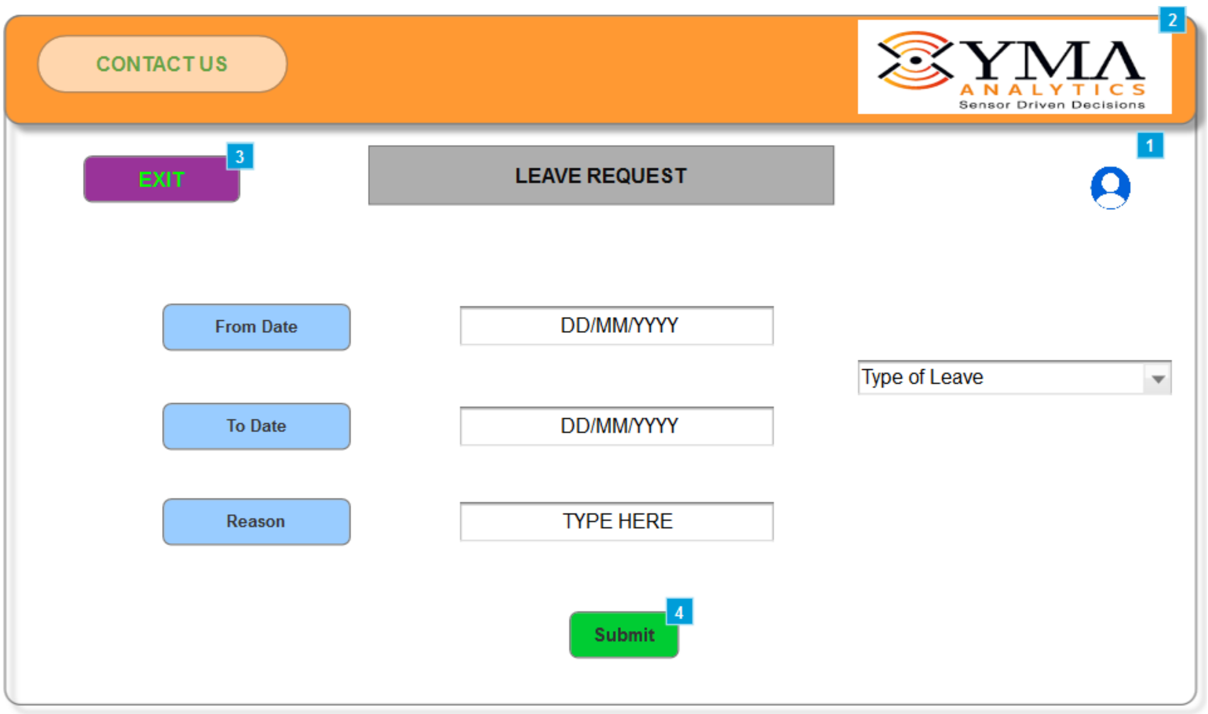


2. Login

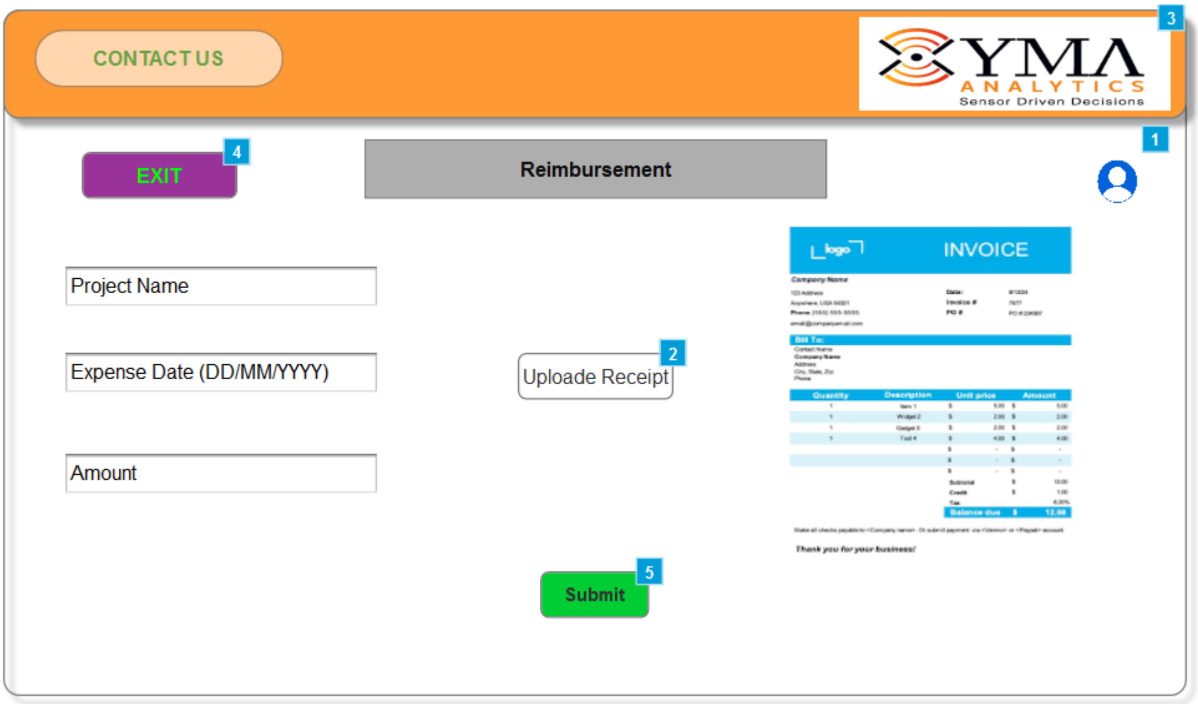


3. Home Page

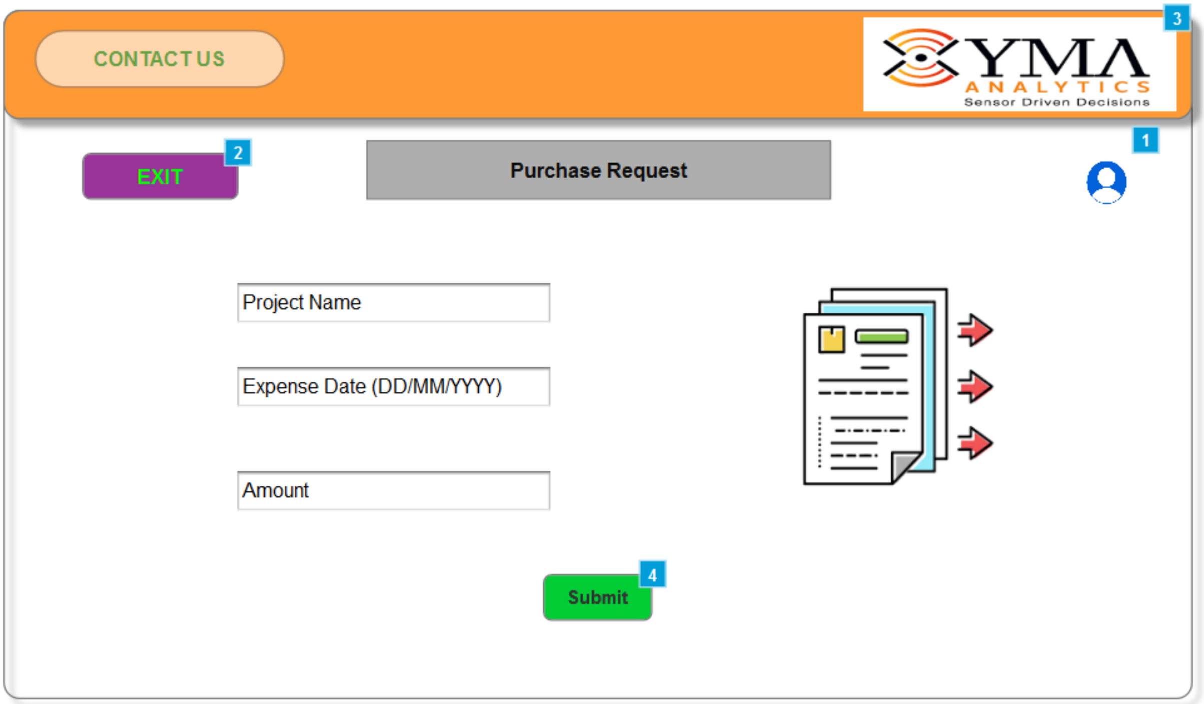
4. HR Page



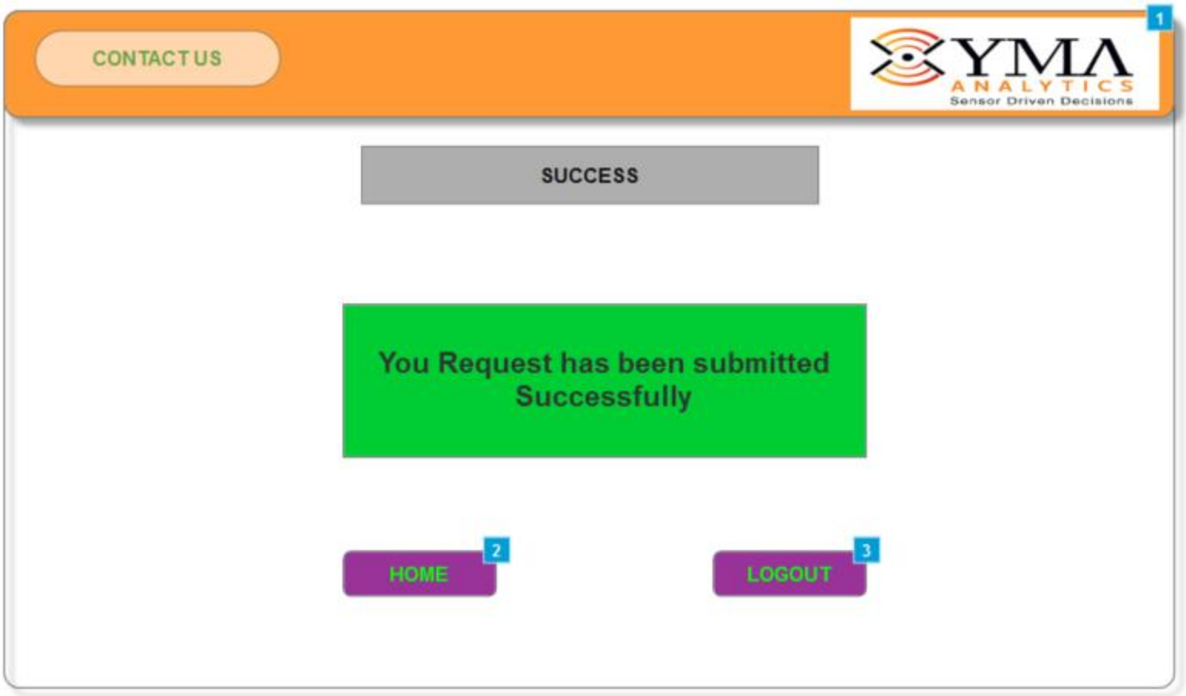
5. Finance Page



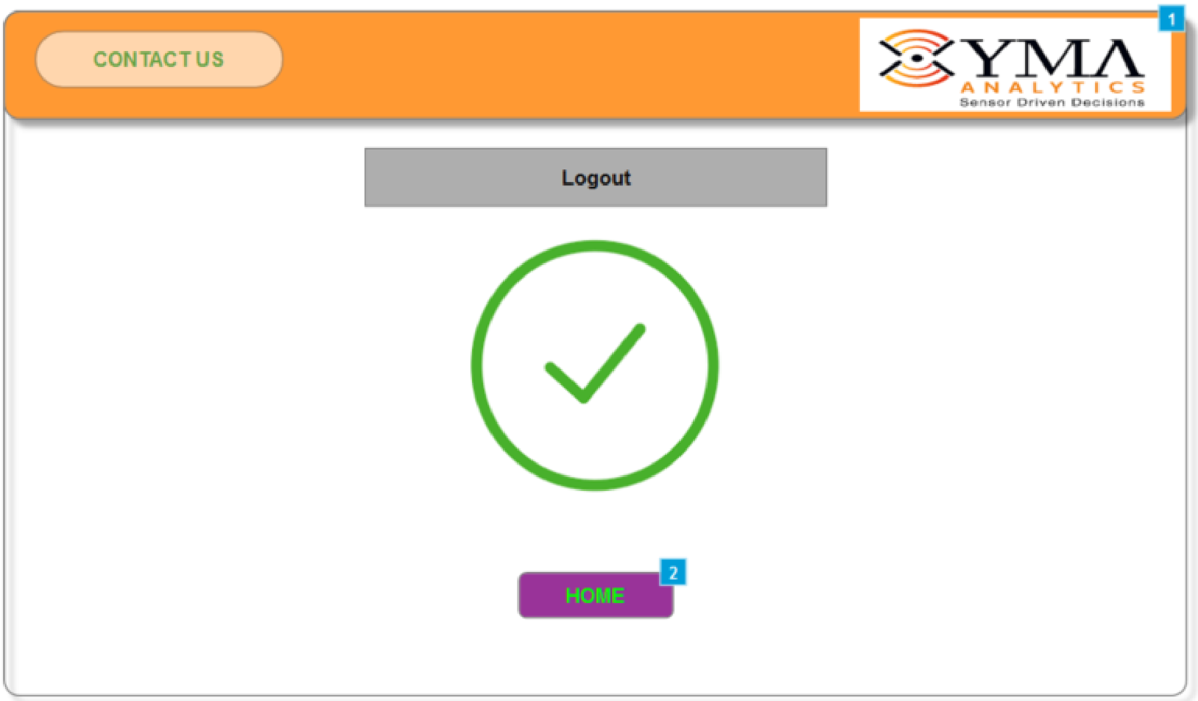
6. Procurement Page



7. Process Completion Page



8. Logout Page



Document 8 – Tools-Viso and Axure

Visio:

As a Business Analyst, I used Microsoft Visio to design detailed Use Case Diagrams and Activity Diagrams that clearly represented system interactions and business process flows. These visual models helped bridge the communication gap between stakeholders and the development team, ensuring everyone had a common understanding of functional requirements. Visio's intuitive interface made it easier to organize complex workflows, identify dependencies, and streamline the analysis and documentation process.

Axure:

I utilized Axure to develop interactive prototype web pages that provided a realistic view of the proposed system's interface and user experience. By transforming requirements into clickable prototypes, stakeholders could visualize the final product early in the project. This approach facilitated effective feedback, helped validate requirements before development, and minimized potential design and functionality issues later in the project lifecycle.

Document 9 – BA Experience

1. Requirement Gathering

- Conducted stakeholder analysis using a RASCI Matrix to define roles and responsibilities.
- Organized and led workshops, interviews, and meetings with heads of various departments, including HR, Finance, and technical teams.
- Developed wireframes to elicit and clarify more specific requirements from stakeholders.
- Prioritized all gathered requirements utilizing the MoSCoW method to manage scope and deliverables.
- Produced the Business Requirement Document (BRD) as the key deliverable for this phase.

2. Requirement Analysis

- Visually mapped all departmental processes with UML diagrams to ensure a clear understanding of workflows.
- Collaborated with architects to detail functional needs and establish technical specifications.
- Compiled all requirements into a comprehensive Software Requirements Specification (SRS) document, which served as the official guide for the project.
- Created a Requirement Traceability Matrix (RTM) to monitor each requirement throughout the project lifecycle.
- Delivered the Functional Requirements Specification (FRS), Supplementary Support Document (SSD), SRS, and RTM as key documents.

3. Design

- Created detailed UI/UX wireframes that incorporated all specified features.
- Defined the integration strategy for connecting different system modules such as HR and Finance.
- Authored the High-Level Design Document (HDD) and Application Design Document (ADD) to guide the development phase.

4. Development

- Oversaw the frontend development of user-facing dashboards and forms.
- Guided the backend team in building the core logic for all business processes.
- Ensured the successful integration of different modules to facilitate seamless data flow across the system.
- Managed the creation of the Functional and Non-functional Requirement Document.

5. Testing

- Performed comprehensive system and integration testing to confirm the platform's stability and intended functionality.
- Established a process to identify, document, and track software defects and bugs for resolution.
- Conducted regression testing to ensure that new code changes did not negatively affect existing features.
- Facilitated User Acceptance Testing (UAT) by allowing a selected group of end-users to validate the software in a real-world environment.
- Gathered and analyzed feedback on usability, functionality, and overall user experience from the UAT participants.
- Obtained formal sign-off from stakeholders, which provided the final approval for deployment.
- Key documents for this phase included the Test Cases Document and the final Sign-off Document.

6. Deployment

- Managed the deployment of the application to the live server environment.
- Conducted comprehensive training sessions for all employees to ensure smooth adoption.
- Provided initial post-launch support to address any immediate user issues or questions.
- Prepared the Deployment Plan and User Guides as the primary documents for this stage.