IT314 Software Engineering

Group 26

Project : Xpense Tracker

Documentation :

➢ **Use Case Diagram :**
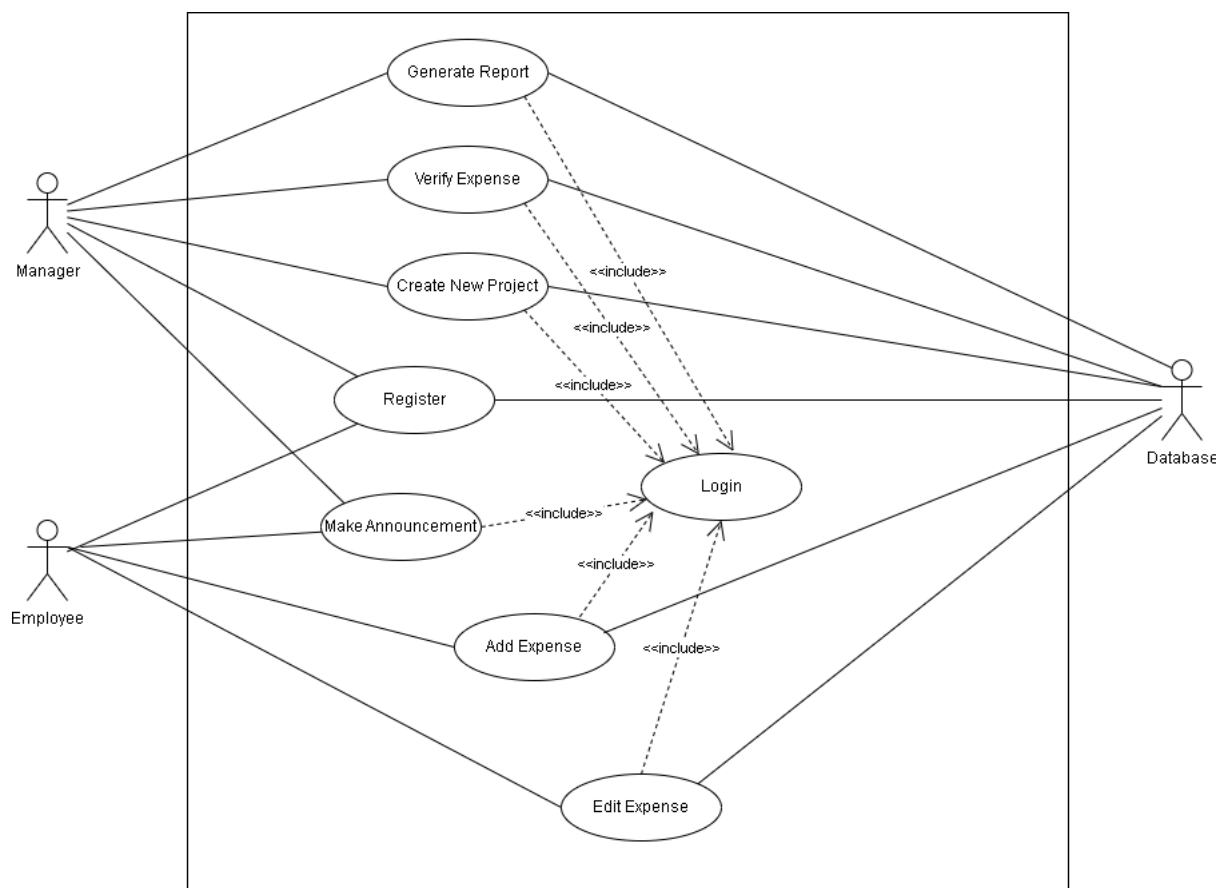
Functional Requirements:

1. **User registration/login and Authentication**
   - Users (employees and managers) should be able to register and login securely with unique credentials.
   - Different levels of access should be implemented based on user roles (employee, manager).
2. **Project creation and invite employees**
   - Manager can create new projects, providing essential details.
   - The system allows manager to invite employees to join a project.
3. **Expense Submission:**
   - Employees should be able to submit expenses through the system.
4. **Expense Tracking:**
   - Employees should have the ability to track the status of their expense submissions.
   - Managers should be able to view a list of submitted expenses for review.
5. **Expense verification:**
   - Managers should have the ability to review and verify submitted expenses
6. **Notification System:**
   - Managers receive notifications for new expense submissions and employee invitations/acceptances.
   - Employees receive notifications regarding the status of their expense submissions and project invitations.
7. **Budget Monitoring:**
   - The system should notify employees when their expenses approach given limit by the manager.
8. **Expense Categorization/filtering:**
   - Expenses should be systematically categorized to analyze.
   - Users should be able to filter from predefined categories.
9. **Reporting:**
   - The system should generate detailed and insightful reports on expenses.

Non-Functional requirements:

1. **Security**
   - The system ensures security through the use of JWT (JSON Web Token) for user authentication, authorization, and secure data transmission.
2. **Usability**
   - The interface is designed for user-friendliness, providing an user-friendly experience for both employees and managers.
3. **Performance**
   - The system responds promptly, ensuring efficient execution of tasks such as expense verification.
4. **Reliability**
   - The system is consistently available during regular working hours
5. **Scalability**
   - The system can handle increased users and data without compromising performance.
6. **Compatibility**
   - The application is compatible with commonly used web browsers
7. **Maintainability**
   - The system's use of a NoSQL database allows for flexibility in data entry modifications without impacting existing data, resulting the maintainability and adaptability to changing requirements.
8. **Data integrity**
   - The system maintains data integrity, ensuring the accuracy and consistency of information throughout various processes

User Stories:

User Story 1

Front of the card:

As a user, I want to register so that I can create my profile.

Back of the card:

Success:

- If the manager option is selected, then create a manager profile, else employee profile is created.
- If registration is successful direct the user to the login page

Failure:

- Employee ID not valid.
- Invalid request for managerial profile creation due to invalid ID.

User Story 2

Front of the card:

As an employee, I want to log in so that I can manage my expenses.

Back of the card:

Success:

- Direct to the home page and give access to edit and view previous transactions

Failure:

- The employee is not registered.
- The email is not valid.
- The password is incorrect.

User Story 3

Front of the card:

As a manager, I want to log in so that I can check the expenses.

Back of the card:

Success:

- Direct to the home page and give access to validate and view previous transactions

Failure:

- The manager is not registered.
- The email is not valid.
- The password is incorrect.

User Story 4

<u>Front of the card:</u>

As an employee, I want to submit my expenses by uploading images of receipts and providing a brief description so that I can get reimbursed for my work-related spending.

<u>Back of the card:</u>

Success:

- The system successfully uploads the receipt images and associates them with the expense submission.

Failure:

- The image upload process fails, preventing the employee from submitting expenses with receipts.

User Story 5

<u>Front of the card:</u>

As an employee, I want to be able to see my various expenses categorized so that I can easily keep track of them.

<u>Back of the card:</u>

Success:

- Can immediately see a clear and organized overview of the expenses categorized by relevant categories.

User Story 6:

Front of the card:

As an employee, I want to track the status of my submitted expenses so that I can know whether they have been approved, rejected, or pending for review.

Front of the card:

Success:

- Employees can view the status of their submitted expenses and any comments provided by managers.

Failure:

- The status tracking feature is not functional, preventing employees from knowing the progress of their submitted expenses.

User story 7:

Front of the card:

As an employee, I want to be able to apply for an insurance claim so that the insurance claim procedure can be immediately started.

Back of the card:

Success:

- Display message: "Waiting for Manager Approval."

Failure:

- 1. Required documents are not in valid format or missing.

User story 8:

Front of the card:

As an employee, I want to get notified if 75% of the total budget has already been spent so that I can plan for my upcoming expenses accordingly.

Back of the card:

Success:

- User receives the notification on time

Failure:

- User don't get notified on time due to some technical issues.

User Story 9:

Front of the card:

As a manager, I want to review and approve/reject expense submissions made by employees, so that I can ensure expenses adhere to company policies.

Back of the card:

Success:

- The manager can view expense submissions, approve them if they meet the criteria, and reject them with appropriate feedback if necessary.

Failure:

- The approval/rejection process malfunctions, making it impossible for managers to review and respond to expense submissions.

User Story 10:

Front of the card:

As a manager, I want to generate monthly/quarterly report of expenses so that I can get an idea of budget and spending trends.

Back of the card:

Success:

- The system generates accurate expense reports based on specified periods displaying relevant spending information.

Failure:

- The generated expense reports contain incorrect data or fail to generate altogether, impeding financial analysis.

User Story 11:

<u>Front of the card:</u>

As a manager, I want to be notified when an employee submits an expense so that I can review/approve their submissions

<u>Back of the card:</u>

Success:

- The manager receives notifications for new expense submissions and pending approval tasks.

Failure:

- The notification system fails to work, causing managers to miss important expense-related tasks and updates.

User Story 12:

<u>Front of the card:</u>

As a manager, I want to add employees to a specific project so that they can submit their expense reports under the same project.

<u>Back of the card:</u>

Success:

- Employees are added to a given project.

Failure:

- Employee not added to the project due to technical difficulties.

User Story 13:

<u>Front of the card:</u>

As a manager, I want to create a new project and allocate a budget so that project expenses can be managed efficiently.

<u>Back of the card:</u>

Success:

- The managers are able to create a new budget for a project.

Failure:

- The budget creation process encounters errors, preventing manager from properly defining and allocating funds for the project's expenses.