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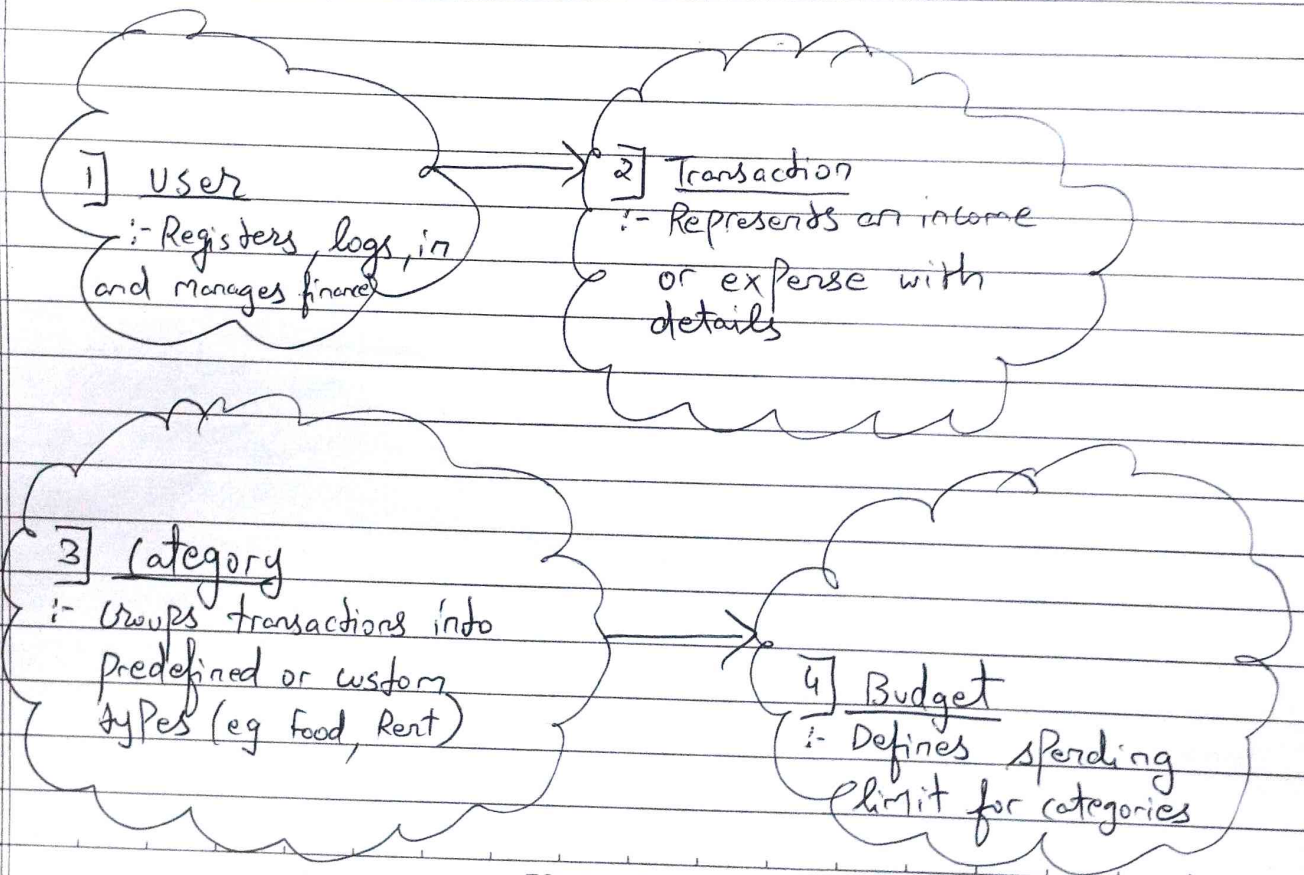
UI Assignment

Expense Tracker Web App Analysis

:) Primary Analysis of any project consists of 3 types

1] Domain Analysis
2] User Analysis
3] Task Analysis

1] **Domain Analysis :-**

→ **Problem Domain :-** The Expence Tracker Project addresses personal finance management by helping users log income and expenses, categories transactions, and analyze spending patterns.

→ **Domain Entities & Roles**

1] **User**
:- Registers, logs, in and manages finance

2] **Transaction**
:- Represents an income or expense with details

3] **Category**
:- Groups transactions into predefined or custom types (eg food, Rent)

4] **Budget**
:- Defines spending limit for categories

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5] Report
:- Provides insights through charts and summaries

6] Authentication System
:- Manages user login and security.

Functional Requirement for Expense Tracker Project.

1] User Management
= :) Users can register, login and log out securely.
:) Password hashing and authentication for security.

2] Transaction Managment
:) Users can add, edit and delete transactions.
:) Transactions must have details like amount, category, type (income/expense), and date.

3] Category Management
:) Users can create, edit, and delete categories
:) Default categories should be available (eg:- Food, Rent, Salary

4] Expense and Income Tracking
:) Users can view total income, total expenses, and rem balan
:) Users can filter transactions by date, category, or type.

5] Budget Management
:) Users can set monthly budgets for specific categories.

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i) Alerts when spending exceeds the budget.

6] Reports & Analytics
=:) Graphical representations (Pie chart, bar graphs) of income vs expense
:) Monthly and yearly spending reports.

7] Search & Filter
:) Users can search for transactions by Keyword.
:) Filter based on date range, category and type.

Non - functional Requirements
i) Performance
:) The system should process user requests within 2 seconds.
:) Must handle multiple concurrent users without slowdowns.

ii) Scalability
:) The application should be scalable to support increasing user data without performance degradation.

Domain Constraints
1) Data Integrity and Constraints :-
:) Each transaction must have a valid amount (greater than zero)
:) Transactions must be categorized as either income or expense
:) Users cannot delete predefined categories only custom ones.

2) Authentication Constraints
:) Users must have a unique email ID for registration.
:) Passwords must be hashed and meet security requirements (eg. minimum 8 characters, including numbers and special characters)
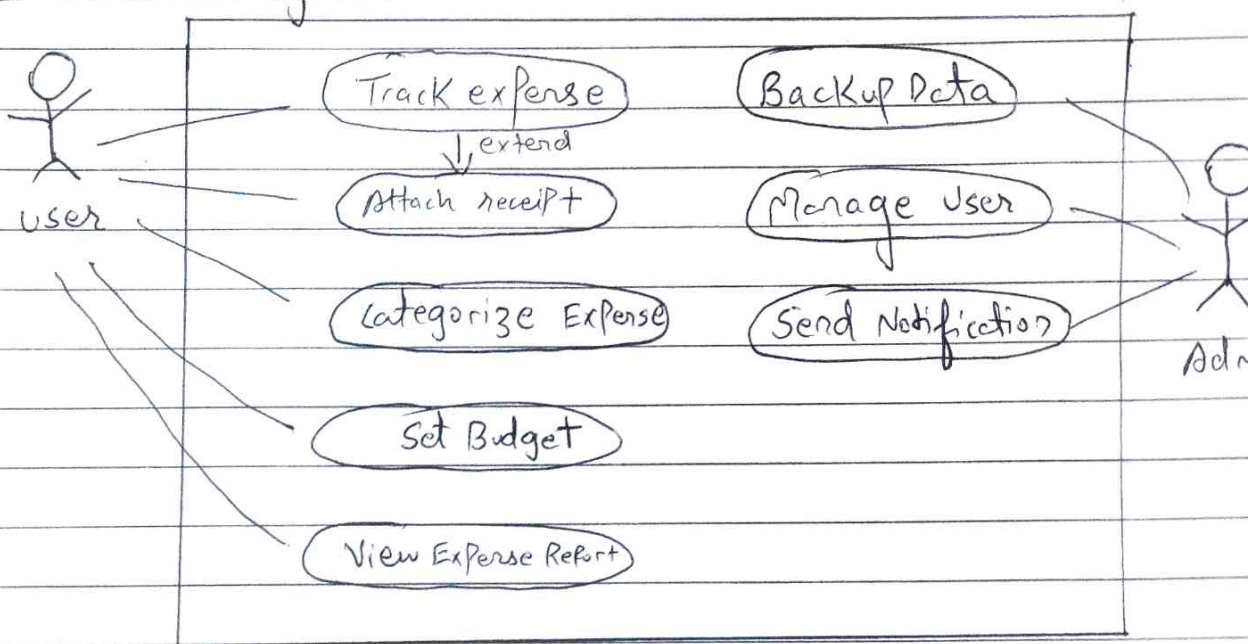
3) Budget Constraints

∴) Users cannot set a budget below zero or exceed a predefined system limit.

∴) Budget alerts must trigger if spending exceeds 90% of the limit.

4] Transaction Constraints

∴) The transaction date cannot be in the future.

∴) Users cannot edit/delete transactions older than a certain period (eg: 6 months) unless explicitly allowed.

✶ Use Case Diagram

user

Track expense
↓ extend
Attach receipt

Categorize Expense

Set Budget

View Expense Report

Backup Data

Manage User

Send Notification

Adm

✳ Customer User Persona

→

.) who
- i) Individual adding expense
- ii) Students adding expense
- iii) Businesses adding expense

.) Pain Points
- i) No Bulk Entry options
- ii) No ~~bul~~ multi delete options
- iii) Lack of multi currency support

.) Key Requirements
- i) Easy of use
- ii) Expense Management
- iii) Budgeting & insights
- iv) Data security & syncing.
- v) Accessibility & Multi Device Support.

✳ Admin User Persona

.) who
- i) Developer who developed the expense tracker App.

.) Pain Points
- i) User Management Challenges
- ii) Expense Monitoring Issues
- iii) limited Reporting & Insights

.) Key Requirements
- i) User management
- ii) Expense oversight
- iii) Analytics & Report
- iv) System Configuration
- v) Security & Data Management

✳ Task Analysis

1) Customer/User Experience

    Goal → The app for the customer should be easy browsing and place adding expenses.

    Steps Involved

    i) Open the App and Login :- User login using username and password or google login.

    ii) Add expenses :- User adds expenses by adding the expense name category, amount, etc

    iii) Dashboard Access :- View an overview of expenses, budget and reports.

    iv) Managing Expenses :- Edit, delete, or categorize expenses for better tracking.

    v) Setting Budget & Goal :- Define spending limits for different categories.

    vi) Logging out & Security - Securely log out and manage account settings.

2) Admin

    Goal → Maintainance grievance solving and making sure the app functions smoothly.

    Steps Involved

    i) Admin login :- Secure authentication to access the admin panel

    ii) User Management :- Add, edit, or deactivate users and manage roles / permissions.

    iii) Expense Monitoring :- View, filter, and audit user expenses for accuracy and fraud detection.