

# Business analysis and requirements

## Business Domain: Family Budget Management System

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### Contexts:

1. Identity
  2. Expenses
  3. Budget Planning
  4. Reminders
  5. Savings Goals
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### Identity

- **Scope Identification:**
  - Manages user accounts, authorization and authentication
- **Stakeholder Identification:**
  - Users, developers, testers
- **Functional Requirements:**
  - User registration and authentication
  - Role-based access control
  - Password reset functionality.
- **Non-Functional Requirements:**
  - Security
  - Availability
  - Scalability
- **External Dependencies:**
  - Email/SMS services
  - Identity Providers
- **Regulatory and Compliance Factors:**
  - GDPR and ISO compliance for handling user data
  - Audit Trails
- **Environmental Constraints:**
  - Third-party services for enhanced security
  - Cross-platform responsiveness
  - Secure via HTTPS
  - Data encryption for securing personal information
- **Use Cases and Scenarios:**
  - A user registers and verifies their account/phone
  - Logging with 2FA
  - Resets password if forgotten

- **Data Flow and Interactions:**
    - User submits registration data, which is later verified and stored in the database, and after a certain time the Identity is confirmed and access is granted.
  - **Risk Assessment:**
    - Data Breaches
    - Identity Theft
    - Compliance Failure
  - **Documentation:**
    - User Agreement
    - Privacy Policy
    - Security Protocol Guides
    - GDPR official documentation
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## Expenses

- **Scope Identification:**
  - Allows users to log, categorize and review expenses.
- **Stakeholder Identification:**
  - Users, developers
- **Functional Requirements:**
  - Add, view, edit and delete expenses.
  - Assign expenses to categories.
  - Filter expenses by category, amount, date.
- **Non-Functional Requirements:**
  - Usability
  - Reliability
  - Performance
- **External Dependencies:**
  - Database with data
- **Regulatory and Compliance Factors:**
  - Terms of Service
- **Environmental Constraints:**
  - Reliability of database records
- **Use Cases and Scenarios:**
  - A user adds a new expense with a category and description
  - A user filters expenses to analyze spendings
- **Data Flow and Interactions:**
  - Inputs expense details and gets the database records
- **Risk Assessment:**
  - Data loss during update or deletion.

- Incorrect categorization affecting analytics.
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## Budget Planning

- **Scope Identification:**
    - Enables users to set and track budgets for specific categories and periods
  - **Stakeholder Identification:**
    - Users
  - **Functional Requirements:**
    - Create budgets by category or timeframe
    - Track actual expenses against budgets
    - Provide warnings or notifications for overspending
  - **Non-Functional Requirements:**
    - Accuracy
    - Scalability
  - **External Dependencies:**
    - Notification system for alerts.
  - **Environmental Constraints:**
    - Handle real-time updates as users add expenses.
  - **Use Cases and Scenarios:**
    - A user sets a monthly budget and tracks progress.
    - A user receives a notification when nearing their limit.
  - **Data Flow and Interactions:**
    - Inputs budget parameters and expenses.
    - Outputs real-time budget tracking updates.
  - **Risk Assessment:**
    - Miscalculations leading to user frustration.
    - Overuse of notifications.
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## Reminders

- **Scope Identification:**
  - Provides reminders for bills, overspending and financial updates
- **Stakeholder Identification:**
  - Users
- **Functional Requirements:**
  - Schedule and send bill payment reminders.
  - Notify users when they exceed budget limits.
- **Non-Functional Requirements:**
  - Reliability
  - Configurability

- **External Dependencies:**
    - Notification services
  - **Use Cases and Scenarios:**
    - A user receives a reminder for an upcoming bill.
    - A user gets notified after exceeding a budget limit.
  - **Data Flow and Interactions:**
    - Input: User preferences and scheduled events.
    - Output: Notifications to the user.
  - **Risk Assessment:**
    - Missed notifications
    - Incorrect timings
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## Savings Goals

- **Scope Identification:**
  - Enables users to set and track savings goals (e.g., saving for a vacation, an emergency fund, a house, etc.).
  - Allows users to define target amounts, timelines, and progress towards their goals.
- **Stakeholder Identification:**
  - Users
  - Developers
- **Functional Requirements:**
  - Users can create multiple savings goals.
  - Users can set a target amount and target date for each goal.
  - Users can track progress against their goals (i.e., see how much they've saved towards their target).
  - Allow users to contribute funds to each goal and adjust progress.
  - Provide recommendations based on user behavior or set target (e.g., save more each month to meet the goal).
  - Provide progress visualizations like progress bars or charts.
- **Non-Functional Requirements:**
  - Usability
  - Reliability
  - Scalability
- **External Dependencies:**
  - Financial services for transferring or tracking funds (optional integration with banking systems or third-party apps).
  - Notification services for reminders on goal contributions.
- **Regulatory and Compliance Factors:**
  - GDPR and ISO compliance for handling user financial data.
  - Data privacy and security
- **Environmental Constraints:**
  - Cross-platform functionality
  - Real-time updates

- **Use Cases and Scenarios:**
  - A user sets a savings goal for a vacation in 6 months, with a target of \$3000. They contribute \$500 this month and track the progress visually. They receive a reminder each month to ensure they're on track.
  - A user sets a goal for an emergency fund, with a \$10,000 target over a year. They can see their monthly progress and adjust contributions as needed.
- **Data Flow and Interactions:**
  - **Input:**
    - User's savings goal details: target amount, target date, recurring contributions, etc.
    - User's contributions to the savings goal.
  - **Output:**
    - Real-time progress updates.
    - Notifications or reminders based on goals and target deadlines.
    - Visual progress tracking (e.g., progress bars, charts, or graphs).
- **Risk Assessment:**
  - Goal Mismanagement
  - Incorrect Progress Tracking
  - Data Loss

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## Features Evaluation

Feature	Feasibility	Importance
1. User Registration and Login	5	4
2. Password Recovery	4	4
3. Multi-User Account Management	4	3
4. Add Income Sources	5	4
5. Expense Tracking	5	4
6. Expense Categorization	5	4
7. Monthly Budget Setup	4	4
8. Recurring Expense Automation	1	2
9. Customizable Expense Categories	4	3
10. Quick Add for Expenses	4	3
11. Expense Analytics	4	4
12. Expense Comparison	4	3
13. Highest Expense Tracker	4	4
14. Financial Summary Report	3	3
15. Income-Expense Ratio Indicator	3	3
16. Bill Payment Reminders	3	3

17. Budget Alerts	3	3
18. Savings Goal Tracking	3	3
19. Data Export (PDF)	2	3
20. Data Export (Excel)	2	3
21. Data Backup and Restore	1	2
22. Dashboard Overview	3	4
23. Notifications Configuration	2	2
24. Dark Mode Theme	2	2
25. Offline Expense Logging	2	3
26. Annual Budget Summary	2	2
27. Spending Recommendations	1	2
28. Integration with Banking APIs	1	2
29. Shared Budgets with Family	2	2
30.Tax Report Generation	2	2



Domain Design Model

