

# CSE305 Software Engineering - Agile Process Model (Revize)

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Project: My Budget Flow (Budget & Cash Flow Manager)

## 1. Agile Hierarchy: Themes & Epics

Theme: Personal Financial Flow Management

The overarching goal is to provide a comprehensive tool for individuals to manage their cash flow (Income vs. Expense), track monthly recurring payments, and achieve financial goals.

### Epics (High-Level Features)

The project is divided into 5 main Epics:

1. Epic 01 - User Authentication: Secure access, user profile management, and account recovery.
2. Epic 02 - App Architecture & Navigation: The application shell, menu structure, UI skeletons and localization infrastructure
3. Epic 03 - Transaction Management: Logging, tracking, and viewing daily income/expenses.
4. Epic 04 - Recurring Transactions & Dashboard: Automating fixed monthly payments and visualizing financial health.
5. Epic 05 – Goal Management And Extended Features: Goal Management and advanced profile management, notifications, settings.

## 2. User Stories & Tasks Breakdown

### Epic 01: User Authentication

- US 1.1: As a user, I want to register, login, and recover my password so that my data is secure.
  - *Task:* Set up Firebase Auth.
  - *Task:* Implement Login & Register Screens with Form Validation.
  - *Task:* Implement 'Forgot Password' screen and reset logic.
  - *Task:* Create 'Auth Wrapper' for auto-login persistence.

## Epic 02: App Architecture & Navigation (Shell)

- US 2.1: As a user, I want a main menu to navigate between major app sections.
  - *Task:* Implement BottomNavigationBar (Dashboard, Transactions, Calendar, Goals).
  - *Task:* Configure Localization (TR/EN support).
- US 2.2: As a user, I want to access auxiliary screens (Profile, Settings, Notifications) via a drawer or app bar, even if they are currently empty.
  - *Task:* Implement AppBar actions and Side Drawer.
  - *Task:* Implement Logout logic in Drawer.
  - *Task:* Create Placeholder UI for Notifications, Profile, About and Settings Screens.
- US 2.3: As a user, I want to set the language to English or Turkish from the application's settings tab.
  - *Task:* Configure Localization (TR/EN support).
  - *Task:* Add a language change option to the settings page.

## Epic 03: Transaction Management

- US 3.1: As a user, I want to log my daily income and expenses with categories.
  - *Task:* Create Transaction Data Model.
  - *Task:* Design 'Add Transaction' form (Amount, Date Picker, Category Dropdown).
  - *Task:* Implement Firestore 'Add' function.
- US 3.2: As a user, I want to view my transactions in a list or calendar view.
  - *Task:* Design Calendar View screen.
  - *Task:* Implement Firestore 'Stream' for real-time listing.

## Epic 04: Recurring Transactions & Dashboard

- US 4.1: As a user, I want to define fixed monthly payments (Rent, Salary) to automate my budget.
  - *Task:* Create RecurringTransaction Model.
  - *Task:* Design 'Recurring Items' management screen.

- US 5.1: As a user, I want to see my "Remaining Budget" (Income - Expense) on the dashboard.
  - *Task:* Implement Dashboard Logic (Calculate totals from Firestore collections).

## Epic 05: Goal Management And Extended Features

- US 6.1: As a user, I want to set a savings goal and track progress.
  - *Task:* Create Goal Model.
  - *Task:* Design Goal Cards with progress bars.
- US 6.2: As a user, I want to edit my profile details and view real notifications.
  - *Task:* Implement Profile Update logic (Edit Name/Surname).
  - *Task:* Implement Notification System logic.
- US 6.3: As a user, I want to view app info and manage preferences.
  - *Task:* Populate About Screen with version/contact info.
  - *Task:* Implement Settings toggles (e.g., Theme, Notification permissions).
- US 6.4: As a user, I want to see my budget details with visual charts.
  - *Task:* Design visual charts and implement to Dashboard screen.

## 3. Product Backlog (Prioritized)

This backlog is ordered by business value and dependency logic.

1. [High] Project Setup & Firebase Config
2. [High] User Auth (Login/Register/Forgot Pass) (US 1.1)
3. [High] App Shell & Navigation (BottomNav, Drawer, Localization) (US 2.1)
4. [High] Auxiliary UI Skeletons (Profile, Settings, Notif Placeholders) (US 2.2)
5. [High] App Localization Localization (TR/EN support). (US 2.3)
6. [High] Transaction Management (Create/List) (US 3.1)
7. [High] Dashboard Calculation (Income - Expense = Balance) (US 5.1)
8. [Medium] Calendar View for Transactions (US 3.2)
9. [Medium] Recurring Transactions (Fixed Monthly Items) (US 4.1)
10. [Medium] Goal Management (Create/Track) (US 6.1)
11. [Low] Profile Management (Edit Data) (US 6.2)
12. [Low] Notification System Logic (US 6.2)

13. [Low] Settings & About App Content (US 6.3)
14. [Low] Visual Charts (Pie Chart) (US 6.4)

## 4. Sprint Planning

### Sprint 1: Foundation & App Structure (Nov 24 - Dec 14)

- Goal: A working app where users can secure login, navigate through the complete UI skeleton, and logout. Auxiliary screens are implemented as placeholders.
- Scope: Backlog items #1, #2, #3, #4, #5.
- Key Tasks: Auth Setup, UI Navigation Structure Setup, App Localization.

### Sprint 2: Budgeting Engine (Dec 14 - Dec 28)

- Goal: Complete transaction tracking (List & Calendar) and dashboard summary.
- Scope: Backlog items #6, #7, #8, #9.
- Key Tasks: Transaction CRUD, Recurring Logic, Calendar View Integration.

### Sprint 3: Goals & Extended Features (Dec 28 - Jan 11)

- Goal: activating the placeholder screens (Profile, Notifications, Settings, About) and adding Goal tracking.
- Scope: Backlog items #10, #11, #12, #13, #14.
- Key Tasks: Enable editing on Profile Screen, Connect Notifications to backend, Goal Management, Pie Charts & Visuals.

## 5. PSI (Potentially Shippable Increment)

- Target for Sprint 1: A functional "App Shell". Users can securely login/register, reset passwords, and navigate through the complete UI skeleton (Dashboard, Settings, Profile, etc.) without crashes. The auxiliary pages (Profile, Notifications) are visible but static.
- Target for Sprint 2: A fully working "Budget & Transaction Tracking" module. Users can add income/expenses, view them on a calendar, and see their net balance on the dashboard.
- Target for Sprint 3: A polished "Goals & Analytics" experience. Users can create goals, track progress visually, and use an improved UI with charts. Profile editing is active, notifications work, settings are functional, and users can track savings goals with visual charts.

## 6. MVP Definition (End of Semester)

The final delivery will include:

1. Auth: Secure Login/Register/Recovery.
2. App Structure: Full navigation with Profile/Settings/Info pages.
3. Budgeting: Income/Expense logging with Calendar view.
4. Recurring: Automated management of fixed monthly bills/salary.
5. Dashboard: Real-time calculation of financial flow.
6. Goals: Basic savings tracking.
7. Cloud: Firestore data persistence.

## 7. Trello Board Management

The project utilizes a Kanban board on Trello.

- Columns: Product Backlog, Sprint Backlog, In Progress, Done / PSI.
- Process: Cards are moved from Product Backlog to Sprint Backlog at the start of each sprint.

