



# **Unity University**

## **Department of Computer Science**

### **Mobile Application Development Project**

**Title: Expense Tracker Functional And Non Functional Requirements**

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## Expense Tracker App

# Functional and Non-Functional Requirements Document

### Introduction

The Expense Tracker App is an Android mobile application designed to help users monitor and manage their daily expenses efficiently. The application is developed in Java and operates fully offline, ensuring privacy and security of user data. This app allows users to record, track, and analyse spending habits, making it easier to maintain personal budgets and gain insights into their financial behaviour.

The purpose of this document is to describe the functional and non-functional requirements of the Expense Tracker App. These requirements will guide the development and ensure that the final product meets the expectations of both users and the course project standards.

### Functional Requirements

Functional requirements describe the features and capabilities of the application. These are the actions the app must be able to perform to fulfill its intended purpose.

1. Expense Entry: Users shall be able to add new expenses including the following details:
  - Amount of money spent
  - Category of expense (e.g., food, transport, bills)
  - Date and time of the expense
  - Mood at the time of spending
  - Context or notes related to the expense

## EXPENSE TRACKER UI

2. View Expenses: Users shall be able to view all recorded expenses in a clear, chronological timeline. The timeline shall display key information such as amount, category, and mood indicators.
3. Edit and Delete Expenses: Users shall be able to update existing expense entries or delete them individually. This ensures that all records remain accurate and up to date.
4. Search and Filter: Users shall be able to search for specific expenses by keyword, category, or date. Additionally, users shall be able to filter expenses by categories or moods to analyse their spending patterns.
5. Templates for Frequent Expenses: Users shall be able to create templates for frequently recorded expenses. One-tap entry shall allow users to quickly record recurring or common expenses without typing details each time.
6. Recurring Expense Prediction: The app shall analyze historical expense data to identify recurring payments and forecast future spending. This feature will assist users in planning budgets and preparing for variable costs.
7. Budget Management: Users shall be able to set monthly or weekly budgets for different categories. The app shall notify users when they are approaching or exceeding their set limits.
8. Offline Functionality: The app shall store all data locally on the device, allowing full functionality without an internet connection. Users' data will remain private and secure at all times.

## Non-Functional Requirements

Non-functional requirements describe the qualities or constraints of the system. These requirements ensure the application is usable, reliable, secure, and performs well under expected conditions.

1. Performance:
  - o The app shall allow fast data entry and retrieval, ensuring a smooth user experience.

## EXPENSE TRACKER UI

- Expense records should load quickly, even when there are thousands of entries.
2. Usability:
- The user interface shall be simple, clean, and intuitive, making navigation easy for all users.
  - Minimal interaction steps shall be required to perform key actions such as adding or editing an expense.
3. Reliability:
- All data operations shall be transactional to prevent accidental loss or corruption of information.
  - The app shall automatically handle unexpected errors and recover gracefully from crashes.
4. Security:
- Users' expense data shall be stored securely and encrypted to protect privacy.
  - Optional security measures, such as PIN or biometric authentication, shall be available to prevent unauthorized access.
5. Compatibility:
- The application shall be compatible with Android devices running version 8.0 (Oreo) or higher.
  - The layout shall adapt to various screen sizes and resolutions to ensure a consistent experience across devices.
6. Maintainability and Extensibility:
- The application shall be designed using a layered architecture separating presentation, logic, and data management.

## EXPENSE TRACKER UI

- Future updates or additional features, such as cloud backup or analytics modules, shall be easily integrated with minimal changes to the existing system.

### 7. Portability:

- The app shall be installable and fully functional on a wide range of Android devices without requiring high-end specifications.
- Users shall be able to use the app offline without dependence on external servers.

## Summary

The Expense Tracker App provides users with a reliable and efficient tool for managing personal finances. Its functional requirements ensure the app performs all necessary operations, such as recording, viewing, and managing expenses. Non-functional requirements guarantee that the app is fast, secure, reliable, and user-friendly.

This combination of functional and non-functional requirements will guide the development of the Expense Tracker App to meet user expectations and fulfil course project objectives.

## EXPENSE TRACKER UI

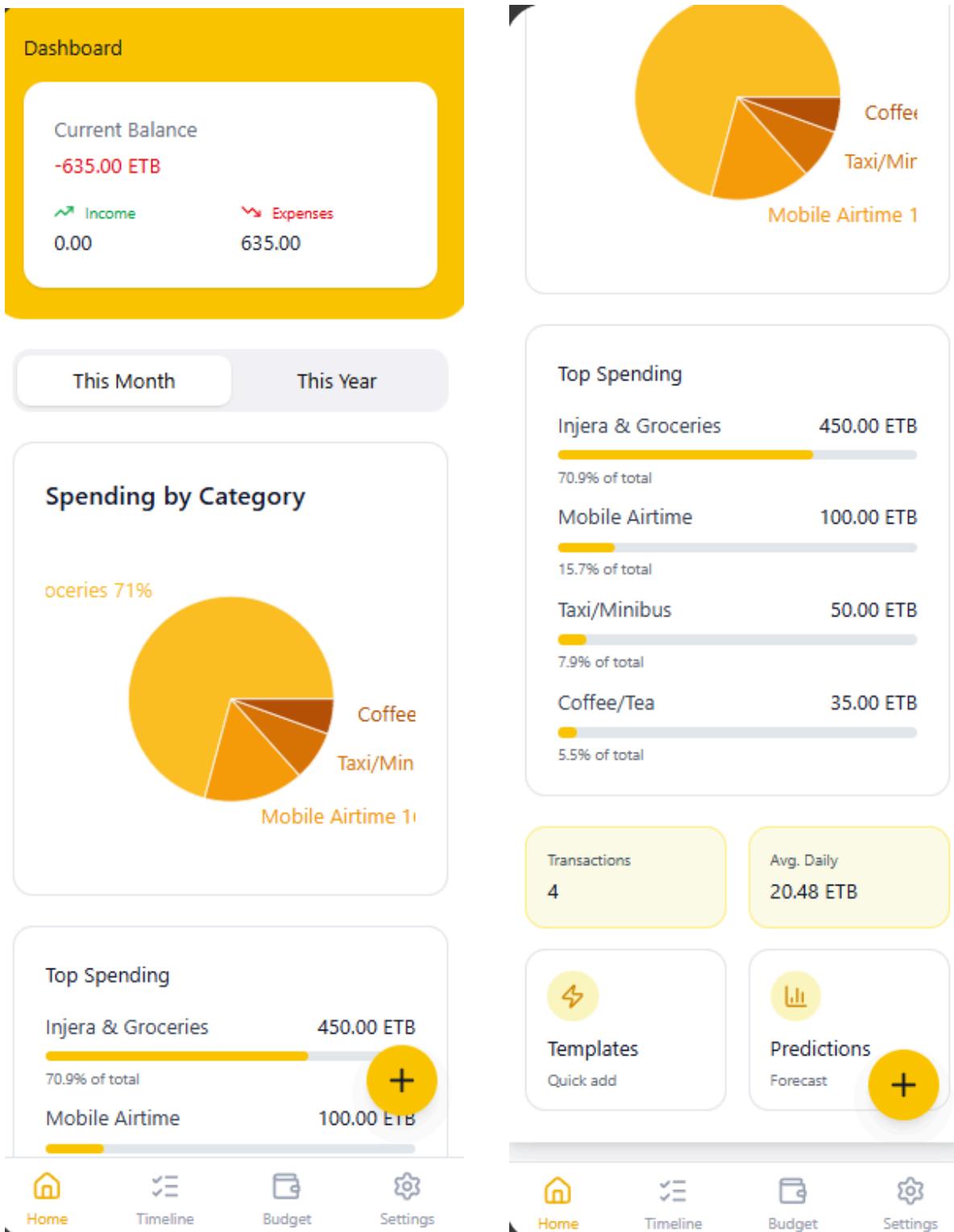


FIGURE: HOME PAGE SCREEN

## EXPENSE TRACKER UI

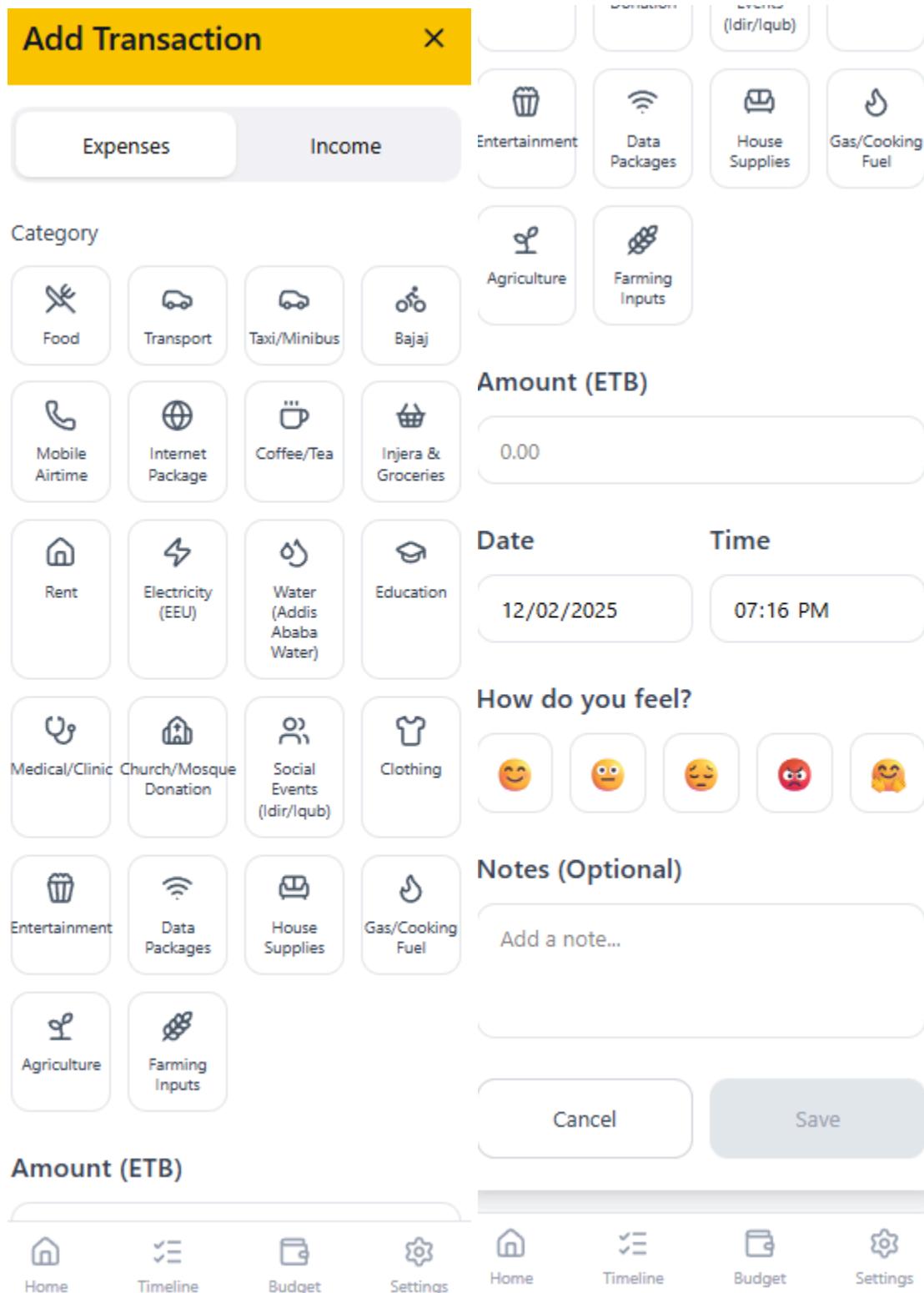


FIGURE: ADD EXPENSE SCREEN

## EXPENSE TRACKER UI

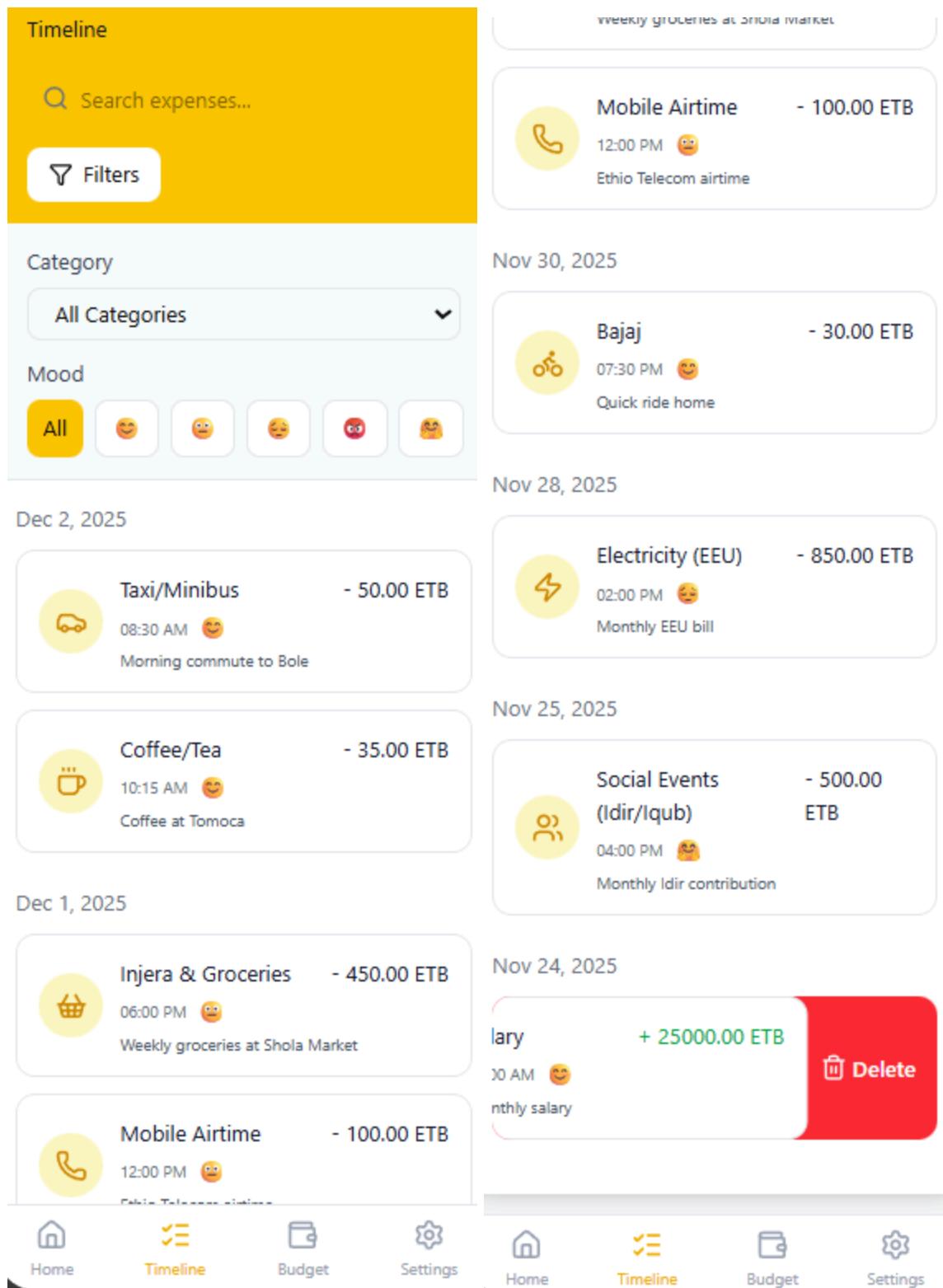


FIGURE: TIMELINE SCREEN

## EXPENSE TRACKER UI

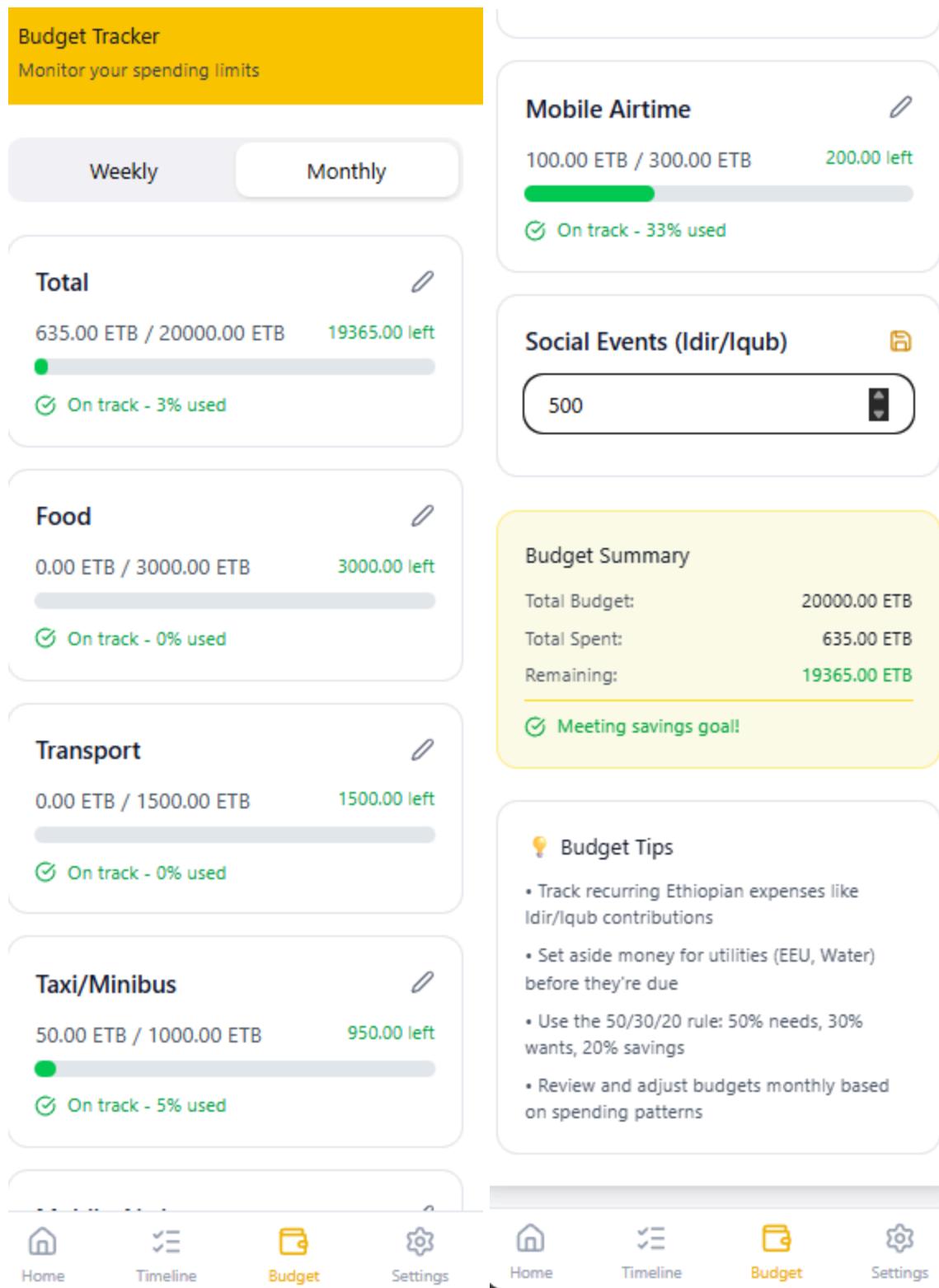


FIGURE: BUDGET SCREEN

## EXPENSE TRACKER UI

The screenshot displays the settings screen of an expense tracker application. At the top left is a yellow header bar labeled "Settings" with the sub-instruction "Manage your app preferences". To the right is a white card for "Push Notifications" with a yellow bell icon, the text "Budget alerts & reminders", and a yellow toggle switch set to "On".

The main content area is organized into several sections:

- SECURITY**: Contains two items: "PIN Lock" (protect data with PIN) and "Biometric Lock" (use fingerprint or face ID), each with a toggle switch.
- APPEARANCE**: Contains one item: "Dark Mode" (switch to dark theme) with a toggle switch.
- NOTIFICATIONS**: Contains one item: "Push Notifications" (budget alerts & reminders) with a yellow toggle switch.
- DATA MANAGEMENT**: Contains three items: "Export Data" (download expenses), "Backup & Sync" (cloud backup settings), and "Clear All Data" (delete all expenses).
- ABOUT**: Contains three items: "Help & Support", "Privacy Policy", and "Terms of Service". Below these is a "Version" field showing "1.0.0".
- ABOUT**: A separate section containing a yellow callout box with the heading "Your Privacy Matters" and the text: "All your financial data is stored locally on your device. We don't collect or share your personal information with third parties."
- Bottom Navigation**: A grey bar with five tabs: "Home" (selected), "Timeline", "Budget", and "Settings".

FIGURE: SETTING SCREEN

## EXPENSE TRACKER UI

**Predictions**

Forecast your upcoming expenses

**Quick Templates**

Add common expenses with one tap

↗ Next 30 Days Forecast

# 1450.00 ETB

Based on 3 recurring expenses

Taxi to Work  
50 ETB

Injera Purchase  
100 ETB

**Upcoming Expenses**

<p>Social Events (Idir/Iqub) Monthly   <span style="font-size: small;">Dec 25, 2025 23 days</span>  <span style="border: 1px solid #ccc; border-radius: 10px; padding: 2px 5px; font-size: small;">? Low confidence</span></p>	<p>Airtime Top-up 100 ETB</p>	<p>Monthly Rent 8000 ETB</p>
<p>Electricity (EEU) Monthly   <span style="font-size: small;">Dec 28, 2025 26 days</span>  <span style="border: 1px solid #ccc; border-radius: 10px; padding: 2px 5px; font-size: small;">? Low confidence</span></p>	<p>Idir Contribution 500 ETB</p>	
<p>Mobile Airtime Monthly   <span style="font-size: small;">Jan 1, 2026 30 days</span>  <span style="border: 1px solid #ccc; border-radius: 10px; padding: 2px 5px; font-size: small;">? Low confidence</span></p>	<span style="font-size: 1.5em;">+</span> Create New Template	

**Monthly Breakdown**

December 2025 1350.00 ETB

💡 Templates help you quickly add recurring expenses like daily taxi rides, coffee purchases, or monthly contributions to Idir/Iqub groups.

[Home](#)

[Timeline](#)

[Budget](#)

[Settings](#)

[Home](#)

[Timeline](#)

[Budget](#)

[Settings](#)

**FIGURE: PREDICTION AND TEMPLATE SCREEN**