🗃️ Finance Manager App - MAD Project

Participants:
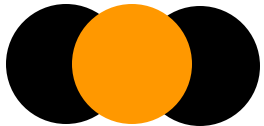
- Andres Cuervo
- Gregory Vaughan

User Problem

01   **Problem:** Users struggle with tracking personal finances.

02   **Input:** User logs income, expenses, savings goals, and transaction data such as categories, optional notes

03   **Output:** Visual reports, categorized expenses, and goal tracking.

04   **Requirement:** Local data storage, category filtering, clean UI

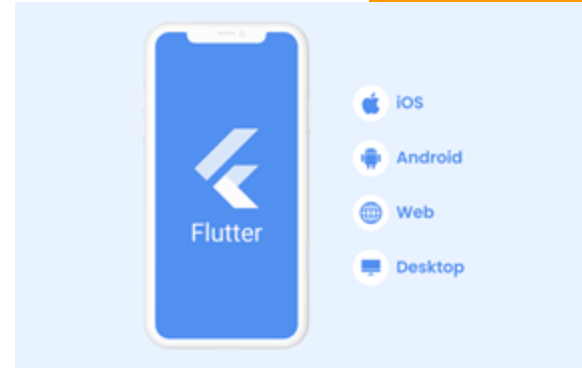**05**   **Outcome:** Financial awareness, avoid overspending.

💡 Design Overview & Key Features

Design Approach

The app follows a modular design using Flutter, we separated logic into different screens like Dashboard, Income/Expense tracker and Reports among others.

iOS
Android
Web
Desktop

Flutter

Key Features

Features include Income and Expense logging, Savings goals that provide progress tracking, Category Tracking, Interactive reports and a dashboard that offers easy access to all windows.
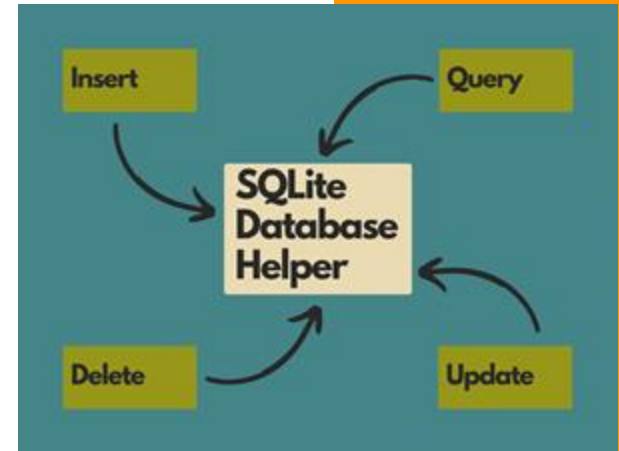
Architecture

- **Main.dart**

Contains our running code, classes, handles all windows, and navigation

- **Database_helper.dart**

The database helper handles all data storage as well as its retrieval as its needed, for example, for the Reports window.
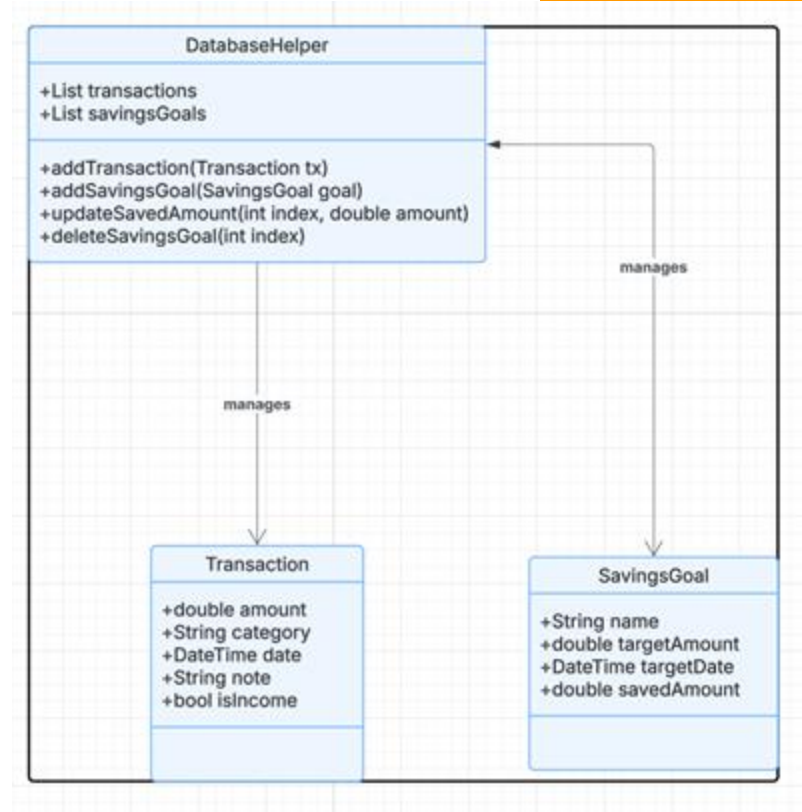
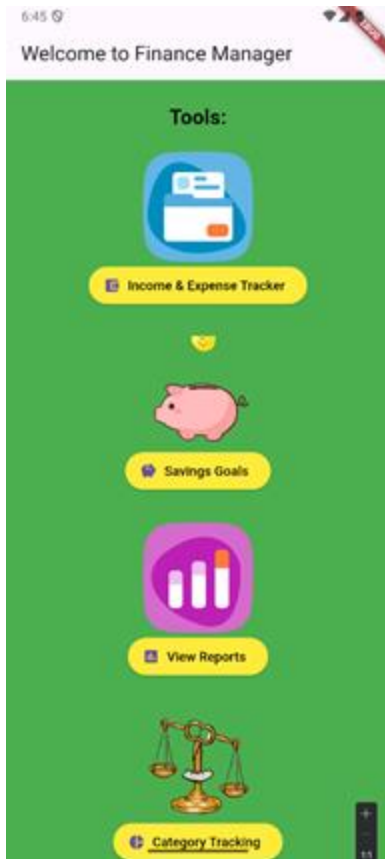# UML Class Diagram

- **Database Helper**

It acts as a single source of truth for all financial data,
Including all transactions and savings goals.

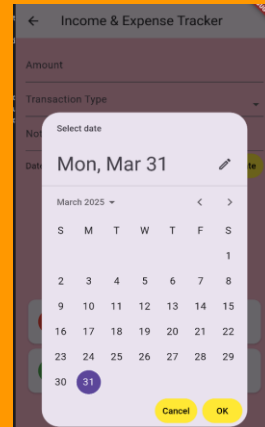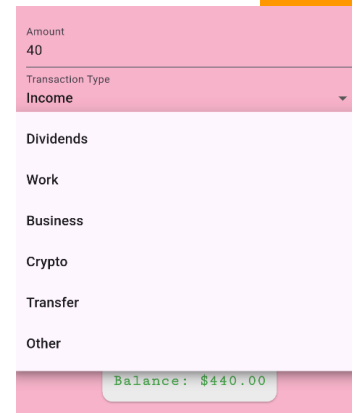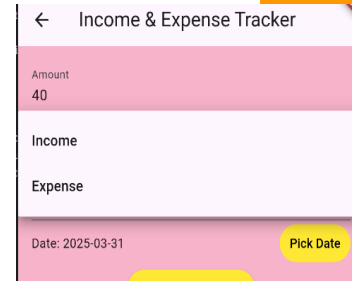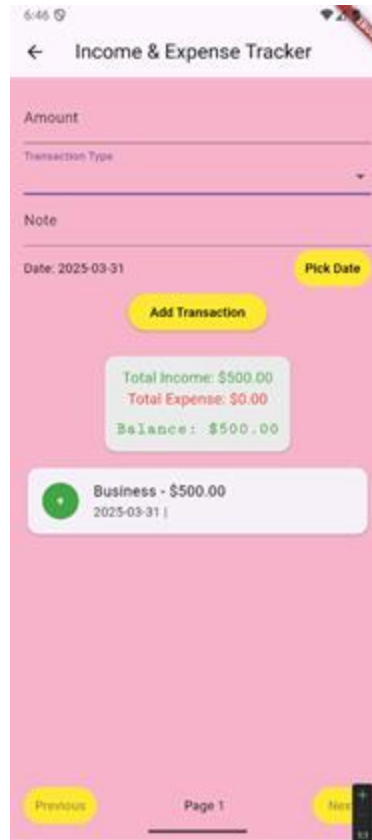Int ensures consistent access, updates, and tracking across
all screens

UI Design

1) Dashboard

2) Income Expense Tracker

UI Design

3) Category Breakdown
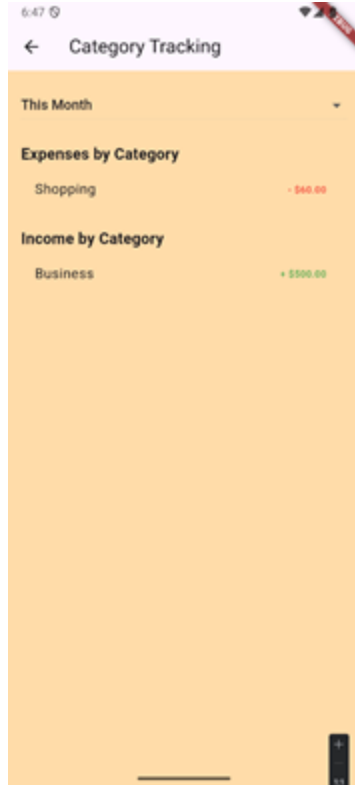
4) Reports Screen
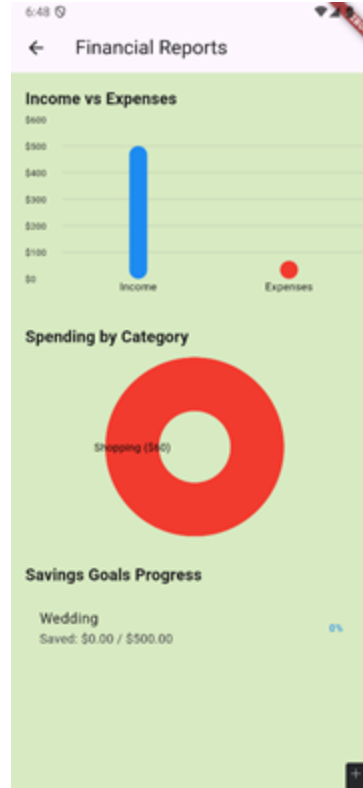
5) Savings Goals

💻 Code Snippets - Sample Logic

Transaction Adding

```
void _addTransaction() {
  if (_amountController.text.isEmpty || _selectedCategory == null || _isIncome == null) return;

  final newTx = Transaction(
    amount: double.parse(_amountController.text),
    category: _selectedCategory!,
    date: _selectedDate,
    note: _noteController.text,
    isIncome: _isIncome!,
  );

  setState(() {
    db.addTransaction(newTx);
    _clearInputs();
  });
}
```

```
DropdownButtonFormField<bool>(
  value: _isIncome,
  decoration: const InputDecoration(labelText: 'Transaction Type'),
  items: const [
    DropdownMenuItem(value: true, child: Text('Income')),
    DropdownMenuItem(value: false, child: Text('Expense')),
  ],
  onChanged: (value) {
    setState(() {
      _isIncome = value;
      _selectedCategory = null;
    });
  },
), // DropdownButtonFormField
```

UI Interaction

🧪 Testing Process

Test Plan

We used a Test-as-we-code approach, we implemented new windows, tested them to any edge cases we thought of and any bug we found we promptly fixed.
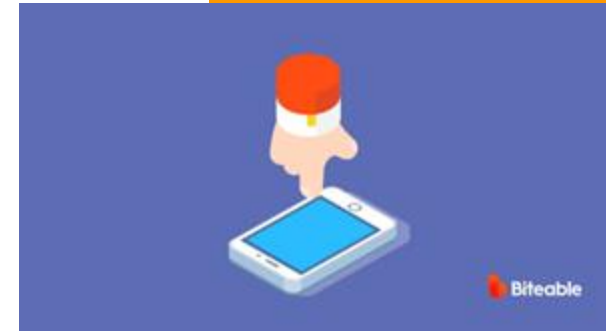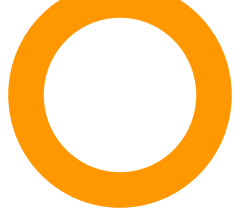
Bug Tracking

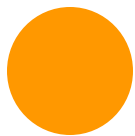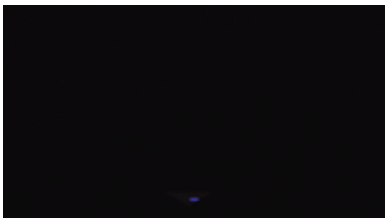Bugs were tracked during real-time usage and testing using an emulator in Android Studio.

Data Used

Test data used for testing was manually entered by us as 'users' to see if functionality worked as expected and to identify edge cases

Biteable

👥 **Summary & Demo**

Summary

Features

Demo

The app provides an all-in-one solution for managing personal finances.

- Tracks Income and Expenses.
- Supports Savings goal planning
- Provides Visual reports
- Uses Local Storage for Data
    Built with Flutter

Next, lets walk you through a demo of our application.

Thank You!

Feel Free to visit our Linktree below!