

# Qzone

Nov 11, 2025

## **A Location Based Survey Platform**

Team member: Zhenyang Qian, Xuotong Fu, Yifei Bao



# Live Demo

Nov 11, 2025

**Team member: Zhenyang Qian, Xuotong Fu, Yifei Bao**

# Recap of proposal

What do we implement?

1. **Login/Register**: Firebase Email/Password authentication (no on device data persistence yet)
2. **Access**: Backend token system
3. **Location**: Real-time GPS location
4. **Survey**: Survey response submitted to backend
5. **Design**: Material 3 UI/UX

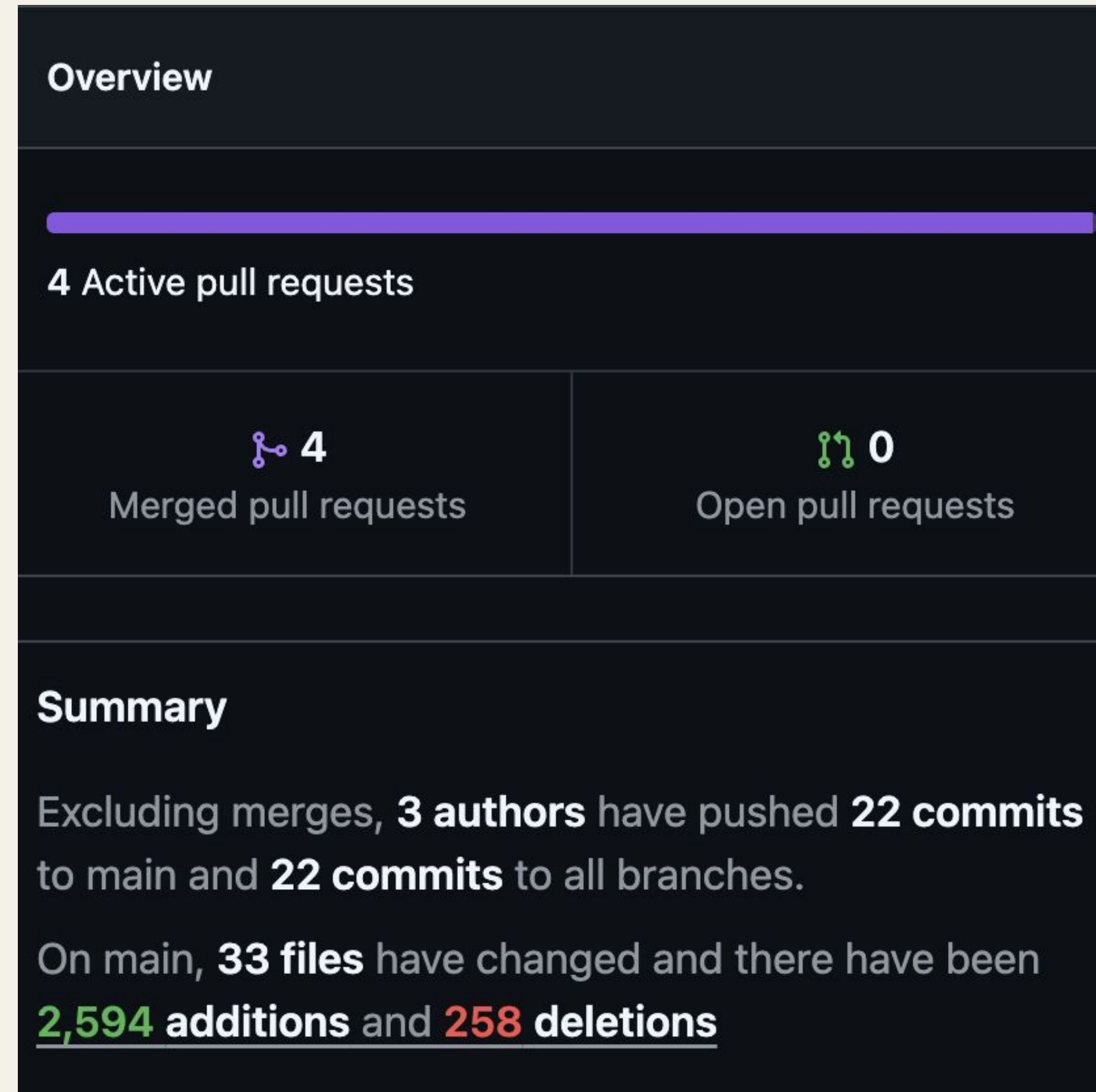
What's changed from proposal?

1. Change of reward system(todo.)
2. Backend Implemented: login/register, survey CRUD, get nearby location

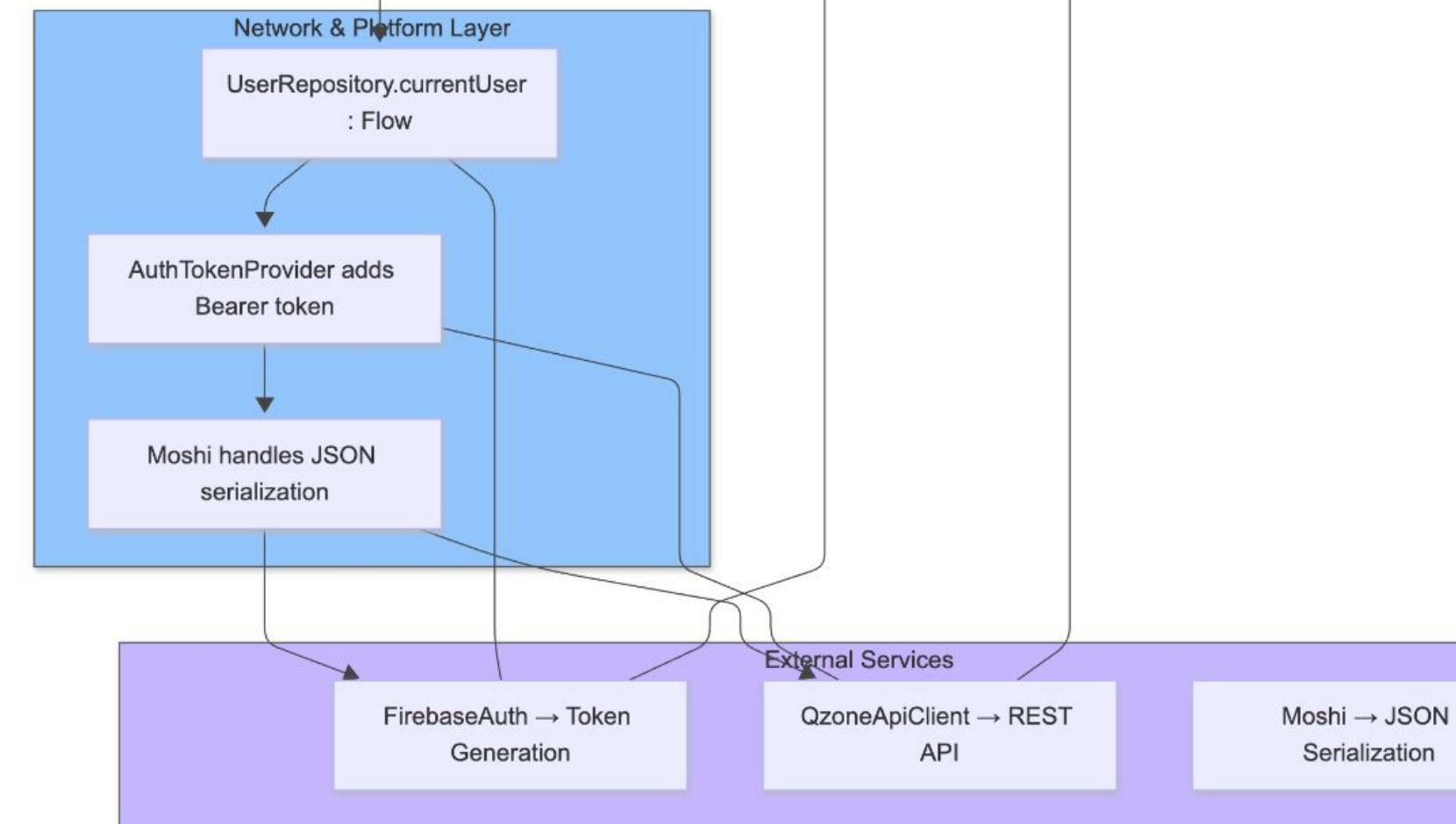
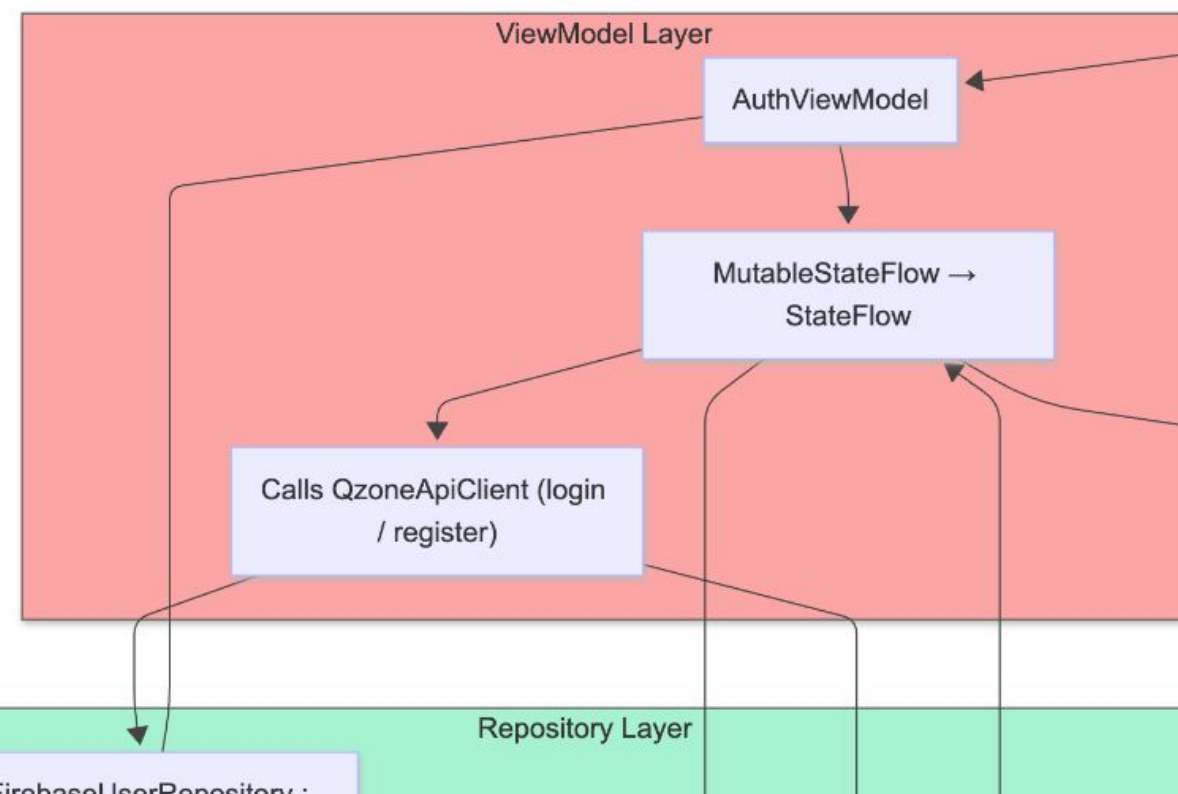
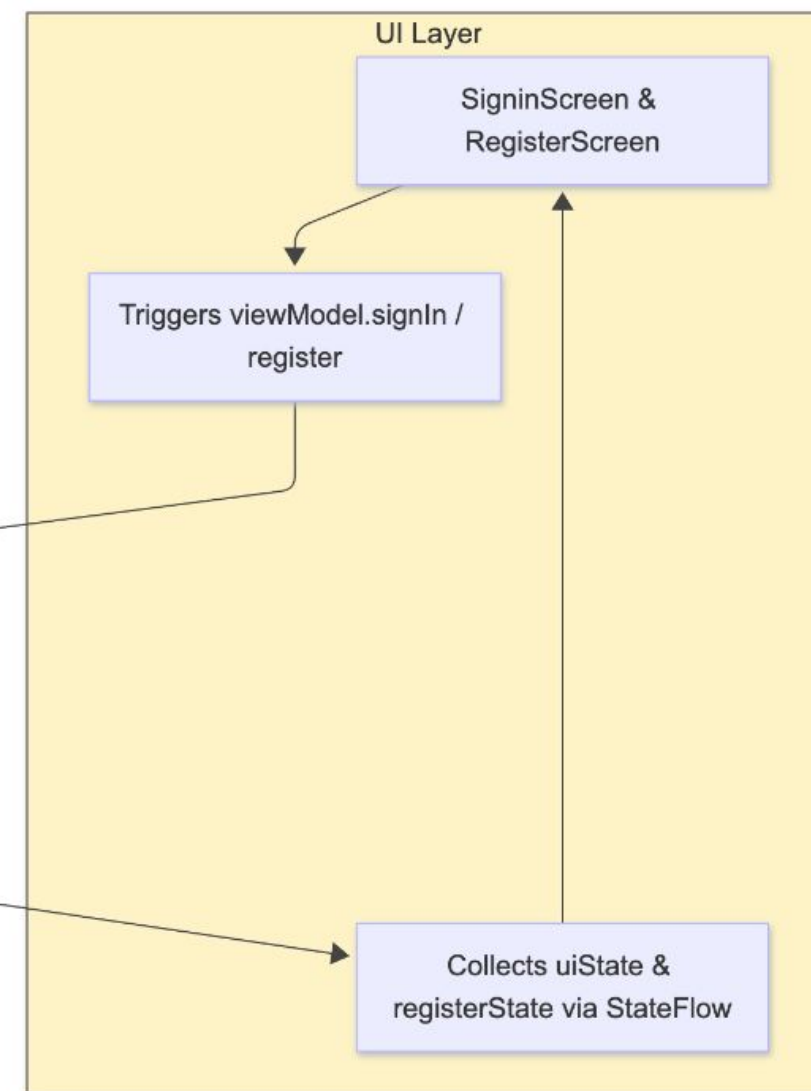
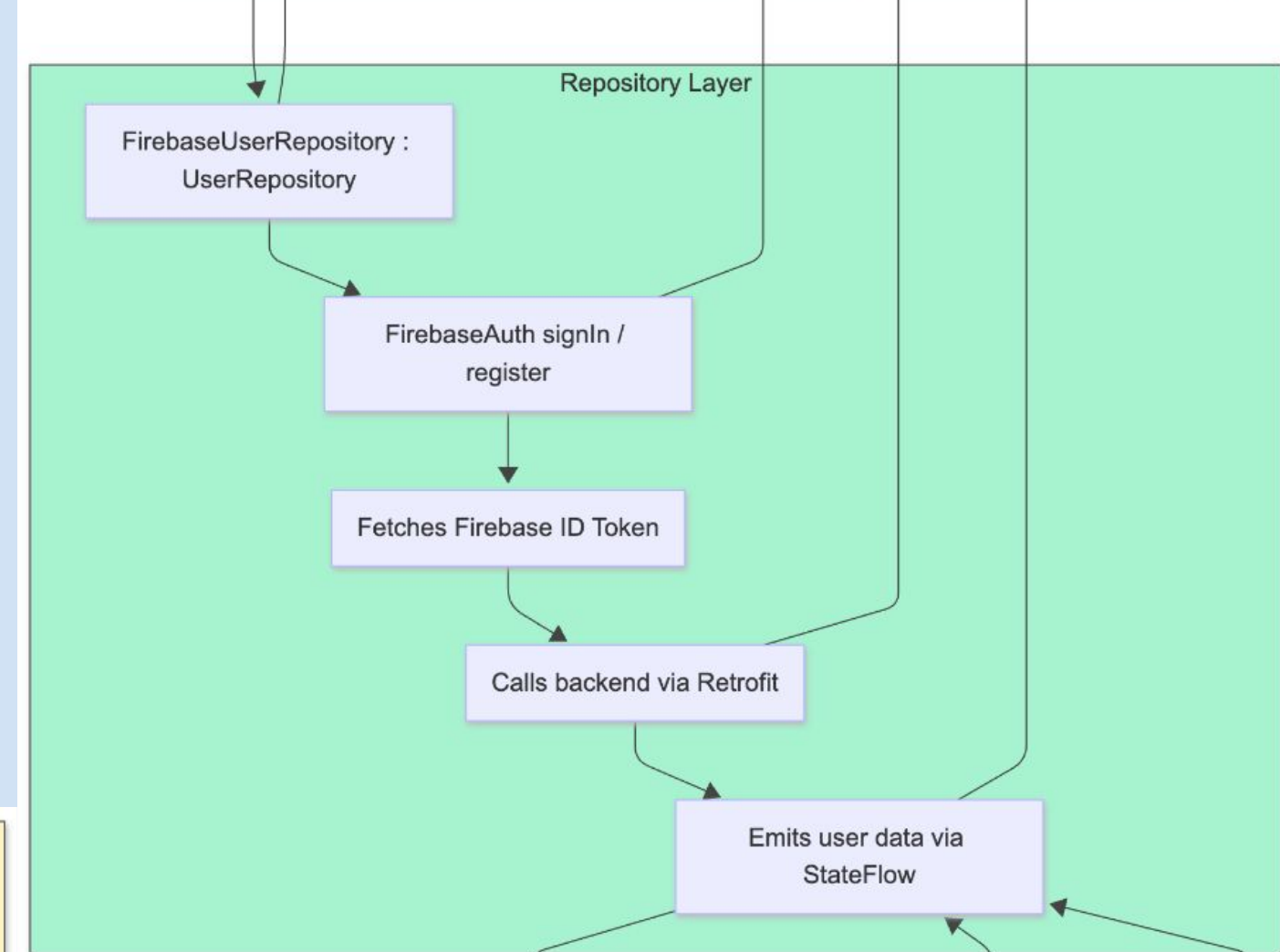
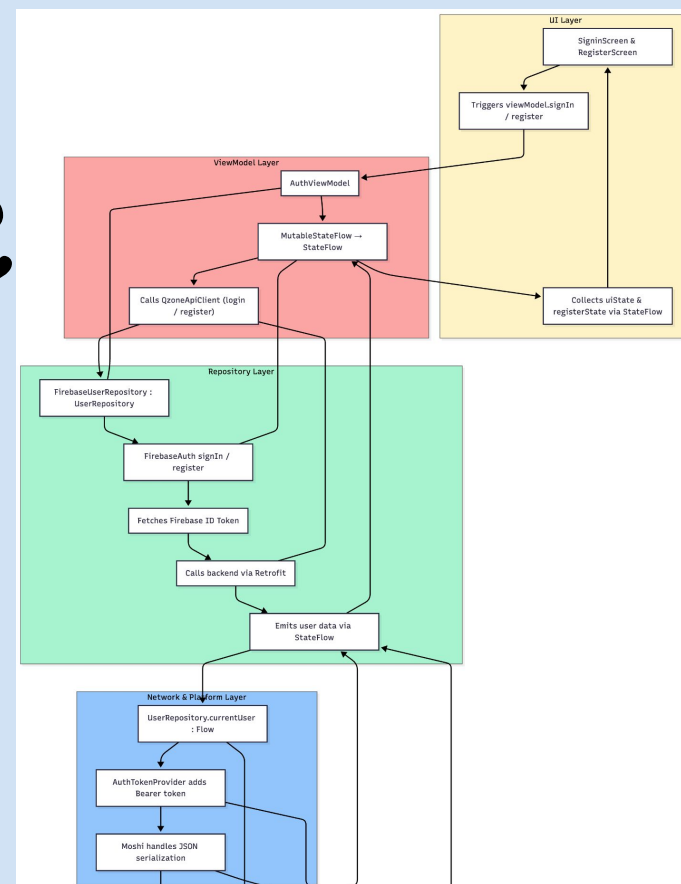


# Team Workflow

- Github Repo
- Branching
  - Each feature (e.g., Auth, Feed, Survey, Profile, Rewards) is developed on a separate branch named.
- All branches are merged into main via Pull Requests after code review.



# Architecture Overview





# Challenges faced + solutions tried

## State Management Complexity

- **Challenge:** Managing complex UI state across multiple screens
- **Solution:** Implemented MVVM architecture with StateFlow.

## Firebase Authentication Integration

- **Challenge:** Integrating Firebase Authentication with a custom Java backend requiring token exchange
- **Solution:** Created FirebaseAuthRepository with authentication flow

## Frontend + backend development

- **Challenge:** The team needs to start Android development before the Java backend API is completed
- **Solution:** Use mock data during development by creating a placeholder/abstraction layer