

SideQuest

Life Is A Quest

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Context & Motivation

People struggle with:

- boredom / lack of engagement
- repetitive routines

Rise of:

- gamification
- personalized experiences

Opportunity:

- Turn real-world activities into dynamic quests

Inspiration:

Pokémon GO game



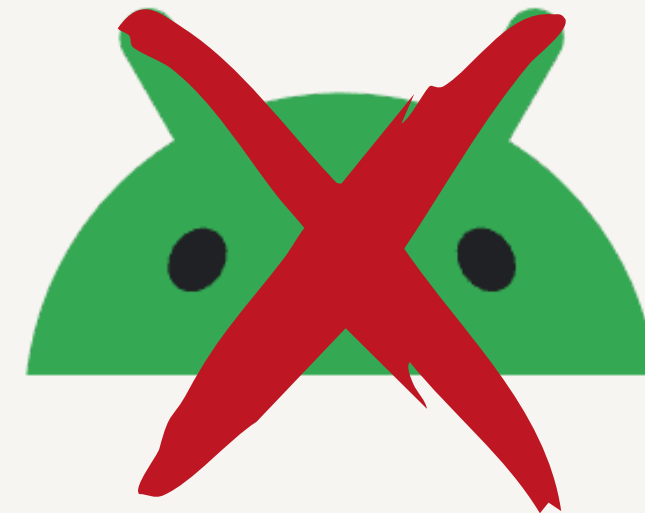
Problem Statement

Existing apps:

- not personalized
- static content
- no real-world interaction

No system that combines:

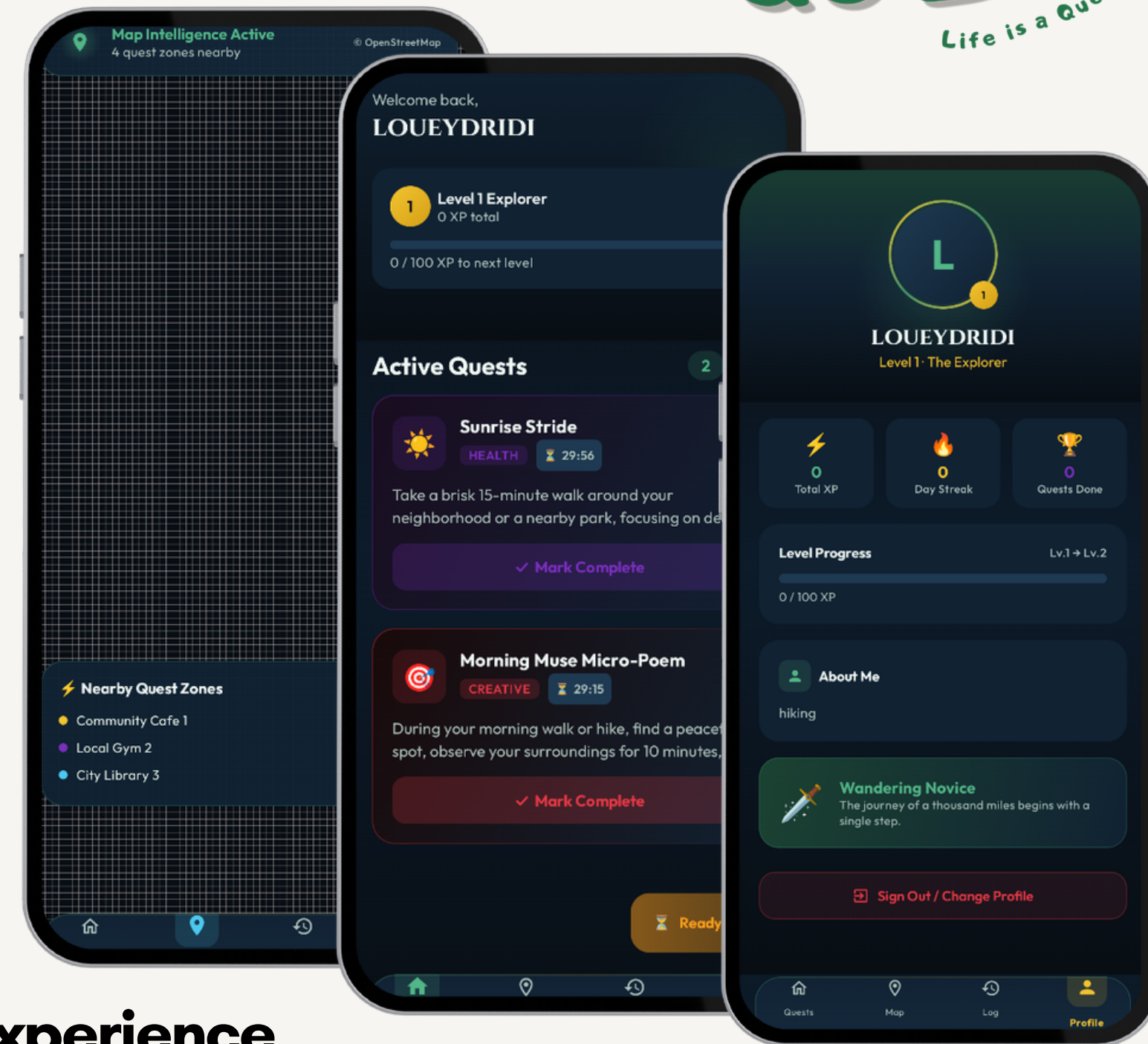
- AI-generated tasks
- geolocation
- gamified progression



Proposed Solution

Mobile app that:

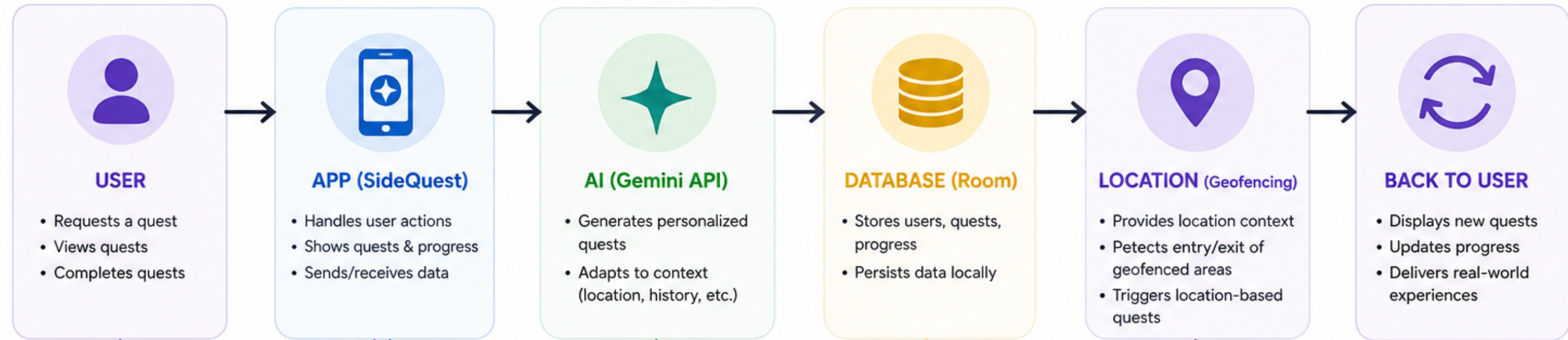
- generates quests dynamically
- adapts to user context
- integrates real-world location
- Location-aware gameplay
- Persistent user progress



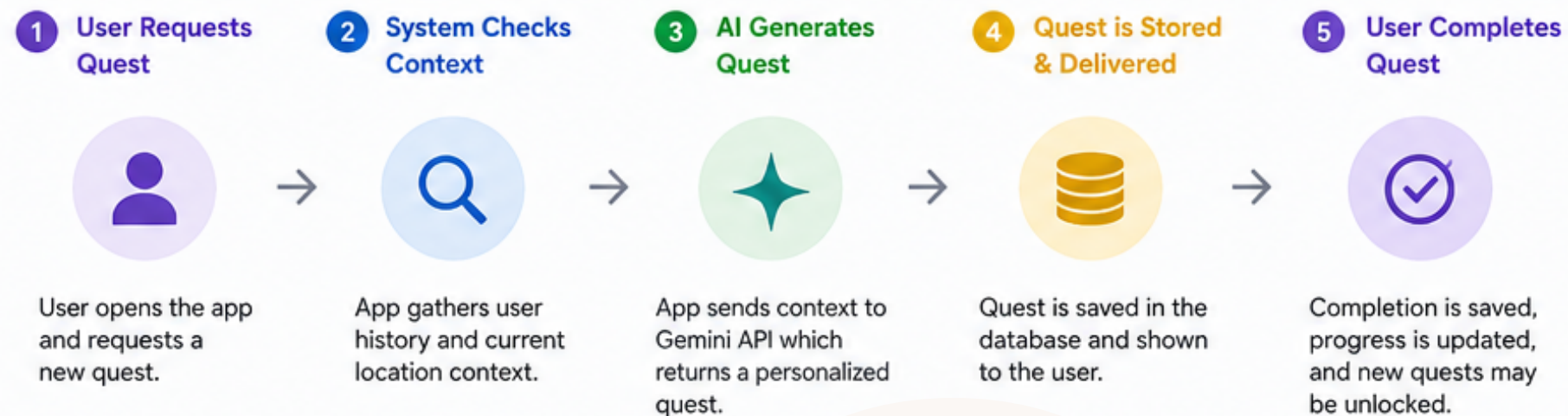
TO DO List + Gamified Experience + Customized Experience

A N D M O R E . . .

System Overview



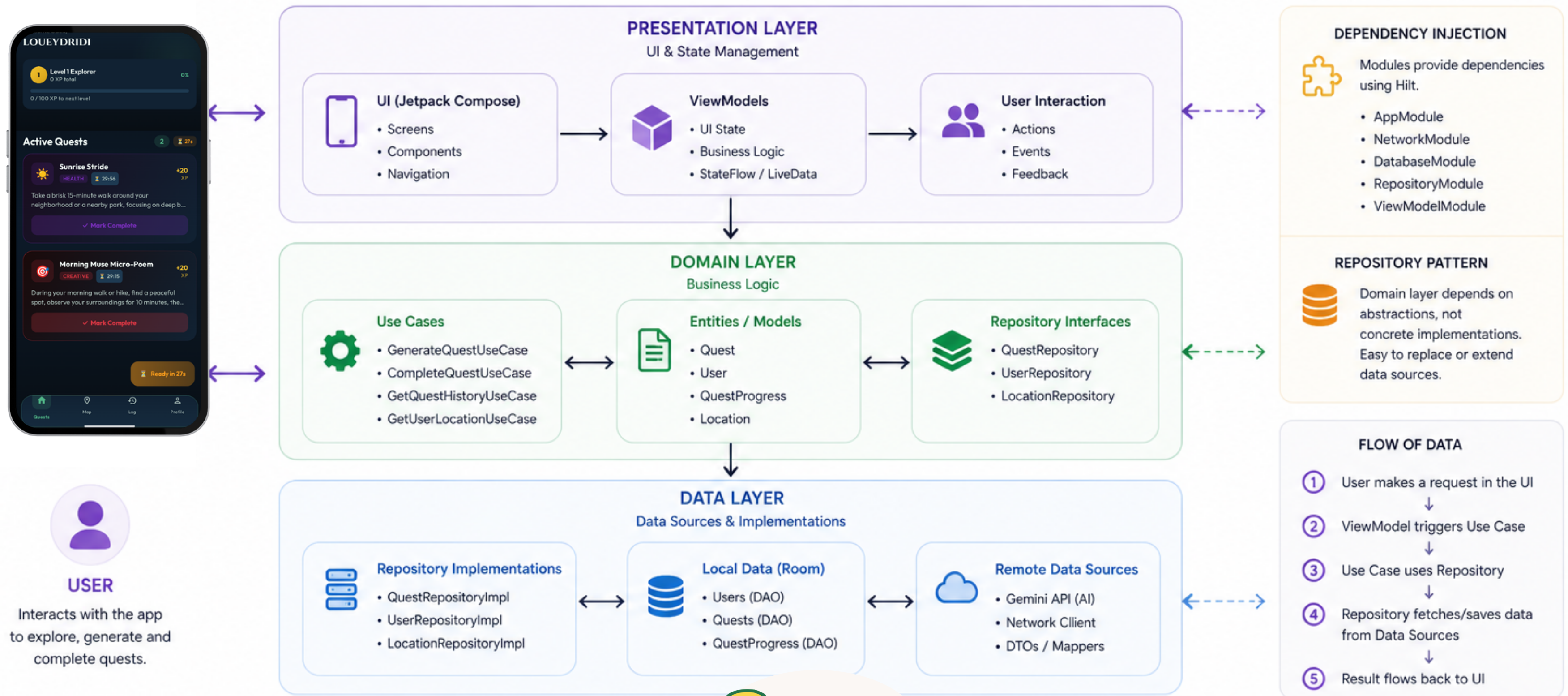
HOW IT WORKS



KEY COMPONENTS

- Android App**
User interface and logic built with Kotlin.
- Gemini AI API**
Generates smart, context-aware quests using AI.
- Room Database**
Local storage for users, quests, progress, and history.
- Geofencing**
Tracks real-world location and triggers location-based events.

Architecture & Design



Core Features

1 User Authentication



- Secure sign up / login flow
- Session management
- User data protection
- Built with **AuthManager**

2 AI-Powered Quest Generation



- Integrates with **Gemini API**
- Generates personalized quests based on context (location, history, prefs)
- Dynamic and diverse quest content

3 Quest Completion Tracking



- Mark quests as complete
- Track progress in real-time
- Update user stats and achievements
- Unlock new quests

4 Local Database Storage (Room)



- Offline-first data persistence
- Stores users, quests, progress and history
- Fast and reliable with **Room DB**

5 Location-Based Triggers (Geofencing)



- Uses geofencing to detect entry/exit of areas
- Triggers location-aware quests and events
- Makes quests contextually relevant

6 Robust Error Handling



- Handles API, network, location and DB errors
- User-friendly error messages
- Graceful fallbacks to ensure smooth experience

7 Logging & Observability



- Centralized logging system
- Tracks key events and errors
- Helps in monitoring, debugging and improving app reliability

AI Integration

Integration with Gemini API

AI role:

- generating quests
- adapting to context

Flow:

- User request → API call → AI response → structured quest

Tech Stack

Mobile

- Kotlin
- Android SDK

Architecture

- Clean & SOLID Architecture

Data

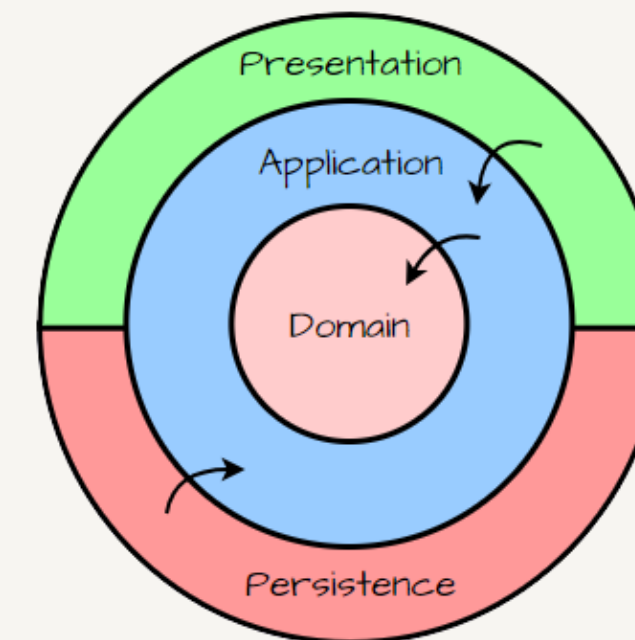
- DAO pattern
- Room Database(local DB/ SQLite)

AI / Backend

- Gemini API

Other

- Dependency Injection
- Location services (Geofencing/OpenStreetMap)
- JWT security and Oauth



Gemini



Strengths & Innovations

- **Modular architecture**
- **Real-world interaction (location-based)**
- **AI-driven personalization**
- **Scalable design**
- **Good separation of concerns**
- **Observability (logging, crash reporting)**
- **Gamified Experience + Productivity increase**

Limitations

- **Dependency on internet (AI API)**
- **Limited dataset/history for personalization**
- **Battery usage (location tracking)**
- **No advanced UI/UX polish**
- **AI unpredictability**
- **No ranking system**
- **No confirmation system beyond user's word**

Future Work

- **Offline mode with cached quests**
- **More advanced personalization (user behavior learning)**
- **Social features (multiplayer quests)**
- **Gamification:**
 - rewards
 - levels
- **Better AI fine-tuning**

Conclusion

“SideQuest transforms everyday activities into engaging, personalized experiences.”



**Built for Real-World
Adventures**



Personalized
Quests adapt to you.



Context-Aware
Location makes it real.



Engaging
Complete, earn, explore.



Reliable
Secure, stable, and scalable.

A Game + A Productivity Tool all in one!

THANK YOU

F o r Y o u r A t t e n t i o n