

# System Expansion & Architecture

## Modeling

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### Travel Project (Selected as Final Project)

An application for providing travelers with real-time neighborhood safety ratings and local safety news alerts.

#### 1. Use Cases & User Stories

ID	Use Case Name	Description / User Stories
UC-1	Scouting Mode (Red Zones)	View unsafe areas and tap for details before traveling. Includes 2 user stories.
UC-2	News Announcements	View or post news markers related to safety and local events. Includes 3 user stories.
UC-4	History Events (Past Event Watching)	Review past safety/news events for selected time ranges. Includes 2 user stories (viewing trends and filtering by category).

#### 2. Assumptions and Dependencies

- 2.1. Relies on third-party map SDKs and safety/news data providers.
- 2.2. Requires a stable internet connection.
- 2.3. System accuracy depends on the timeliness of external data sources.

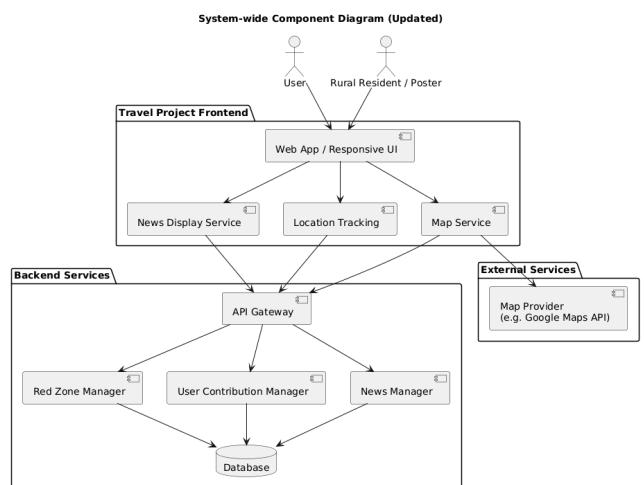
### 3. Moscow Table

Priority	Requirement / Feature	Related UC	Notes
<b>Must Have (M)</b>	View unsafe (red zone) areas on a map.	UC-1	Core feature for scouting unsafe areas.
<b>Must Have (M)</b>	Highlight unsafe areas and show details (risk type, severity, time, source) when tapped.	UC-1	Essential for user decision-making.
<b>Must Have (M)</b>	Fetch and display local news updates for selected areas.	UC-2	Core real-time awareness.
<b>Must Have (M)</b>	Display news markers/pins and allow opening for title, source, time, and summary.	UC-2	Ensures usability of news updates.
<b>Must Have (M)</b>	Allow posting of news or alerts (title, description, location, optional media) with validation.	UC-2	Enables rural community contribution.
<b>Must Have (M)</b>	View historical events by time range (1M, 6M, 1Y, 5Y) with category filters.	UC-4	Key feature for long-term safety trend analysis.
<b>Must Have (M)</b>	Basic map search or area selection.	General	Required for all UC flows.
<b>Should Have (S)</b>	Filtering alerts/news by type, severity, or time.	UC-2 / UC-4	Improves user control and relevance.
<b>Should Have (S)</b>	Color-coded pins by event type/severity for history mode.	UC-4	Enhances data clarity.
<b>Should Have (S)</b>	News list view (in addition to markers).	UC-2	Improves accessibility for users who prefer lists.
<b>Should Have (S)</b>	Simple, low-complexity UI suitable for non-technical users.	General	Affects adoption rates.
<b>Could Have (C)</b>	Suggested alternative routes when an unsafe area is detected.	—	Useful enhancement but not essential for MVP.
<b>Could Have (C)</b>	Logging of viewed news/events for personalization or later review.	UC-2 / UC-4	Supports future recommendations.

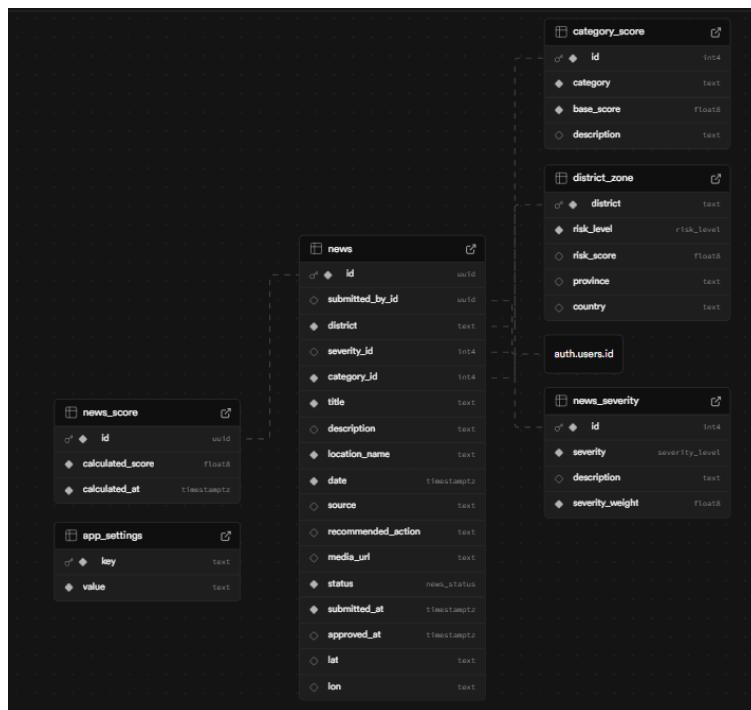
<b>Could Have (C)</b>	Optional media attachments for posted news.	UC-2	Adds richness to user contributions.
<b>Won't Have (W)</b>	Push notifications for nearby risks (formerly UC-3).	—	Explicitly removed per your request.

## 4. System Architecture

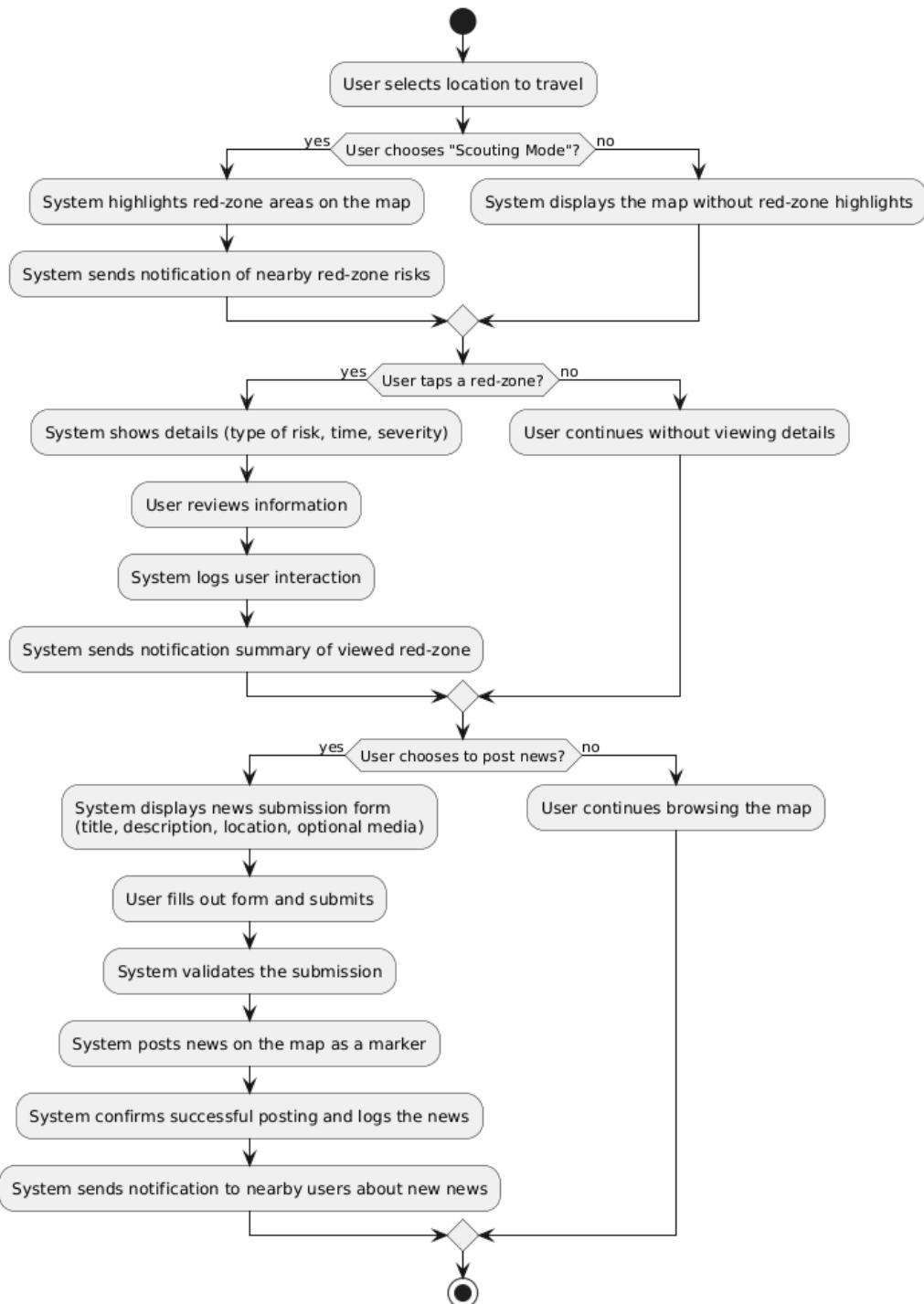
### 4.1. Component Diagram (system-wide)



### 4.2. Class Diagram (domain model)

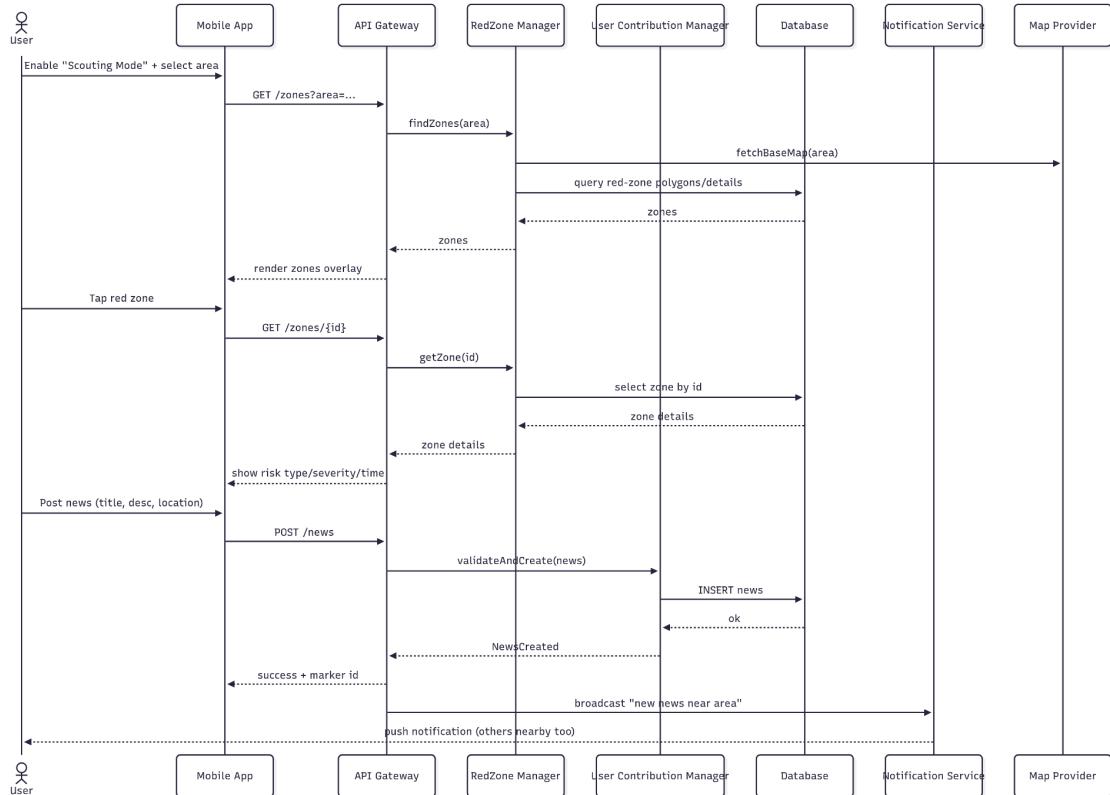


### 4.3. Activity Diagram (workflow)

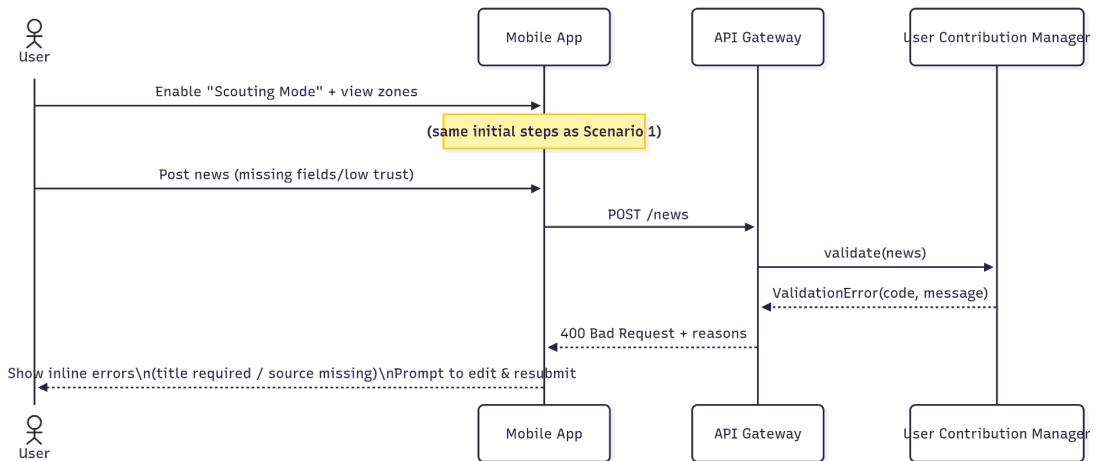


## 4.4. Sequence Diagrams

### 4.4.1. Scenario 1 (Happy Path: view red zone & post news)



### 4.4.2. Scenario 2 (Alt/Error: news submission fails validation)



## 4.5 Package Diagram

