TripBook Application Documentation(PostActivity)

**1. Introduction**

This document provides a professional technical documentation for the TripBook Android application based on the provided Kotlin source code. It covers class descriptions, class diagrams (in table format), and use case descriptions.

**2. Project Overview**

TripBook is a social app that allows users to create posts with captions and images, view home and profile screens, and navigate between these screens using a bottom navigation bar.

**3. Class Diagrams**

**3.1 MainActivity**

|  |  |
| --- | --- |
| Attributes | Methods |
| None (uses Compose functions and setContent) | onCreate(savedInstanceState: Bundle) |

MainActivity is the entry point of the app. It sets up the Compose UI and enables edge-to-edge mode. It uses Scaffold and calls MainScreenWithNavigation composable to display the main UI.

**3.2 MainScreenWithNavigation**

|  |  |
| --- | --- |
| State Variables | Functionality |
| selectedItem: Int (mutable state) | Manages bottom navigation bar with 3 items: Home, Post, Profile. Handles item selection and navigation to PostActivity when Post is clicked. |

MainScreenWithNavigation contains the bottom navigation bar and controls navigation between HomeScreen, PostActivity, and ProfileScreen.

**3.3 PostActivity**

|  |  |
| --- | --- |
| Attributes & State | Methods & Composables |
| caption: String (mutable state) imageUri: Uri? (mutable state) launcher: ActivityResultLauncher for image picking | onCreate(savedInstanceState: Bundle) PostScreen(): Composable UI for creating and uploading a post uriToBase64(context, uri): Converts image Uri to Base64 string |

PostActivity provides a UI for creating posts with captions and images. It allows selecting an image from the gallery, converts the image to Base64, and uploads the post data to Firebase Firestore.

**4. Use Case Diagram Description**

The main actors and use cases for the TripBook application are described below:

Actors:  
- User: The person using the app to create posts and view content.  
  
Use Cases:  
- View Home Screen: The user views the home timeline or feed.  
- Create Post: The user creates a post by entering a caption and selecting an image, then uploads it.  
- View Profile: The user views their profile screen.  
- Navigate Between Screens: The user uses the bottom navigation bar to move between Home, Post, and Profile screens.

These use cases are managed through the composables and activities in the app, facilitating smooth user interaction.

**. Components Description**

* - Firebase Firestore: A cloud-hosted NoSQL database used to store user posts, including images and captions.
* - Jetpack Compose: A modern toolkit for building native Android UI, used throughout the application for defining UI components.
* - NavigationBar: Provides bottom navigation within MainActivity, allowing users to switch between Home, Post, and Profile sections.

**5. Future Enhancements**

* - FeedActivity: Implement a screen to display a feed of posts from all users.
* - ProfileScreen: Develop user profile functionalities, including viewing and editing user information and posts.
* - Error Handling: Enhance error handling during image selection and upload processes.



