

Lab

Laboratory Work: Multi-Page App with Intents, Foreground Service, BroadcastReceiver, and Content Provider

Objective

In this lab, students will develop an Android application with multiple pages, each covering a specific Android development topic:

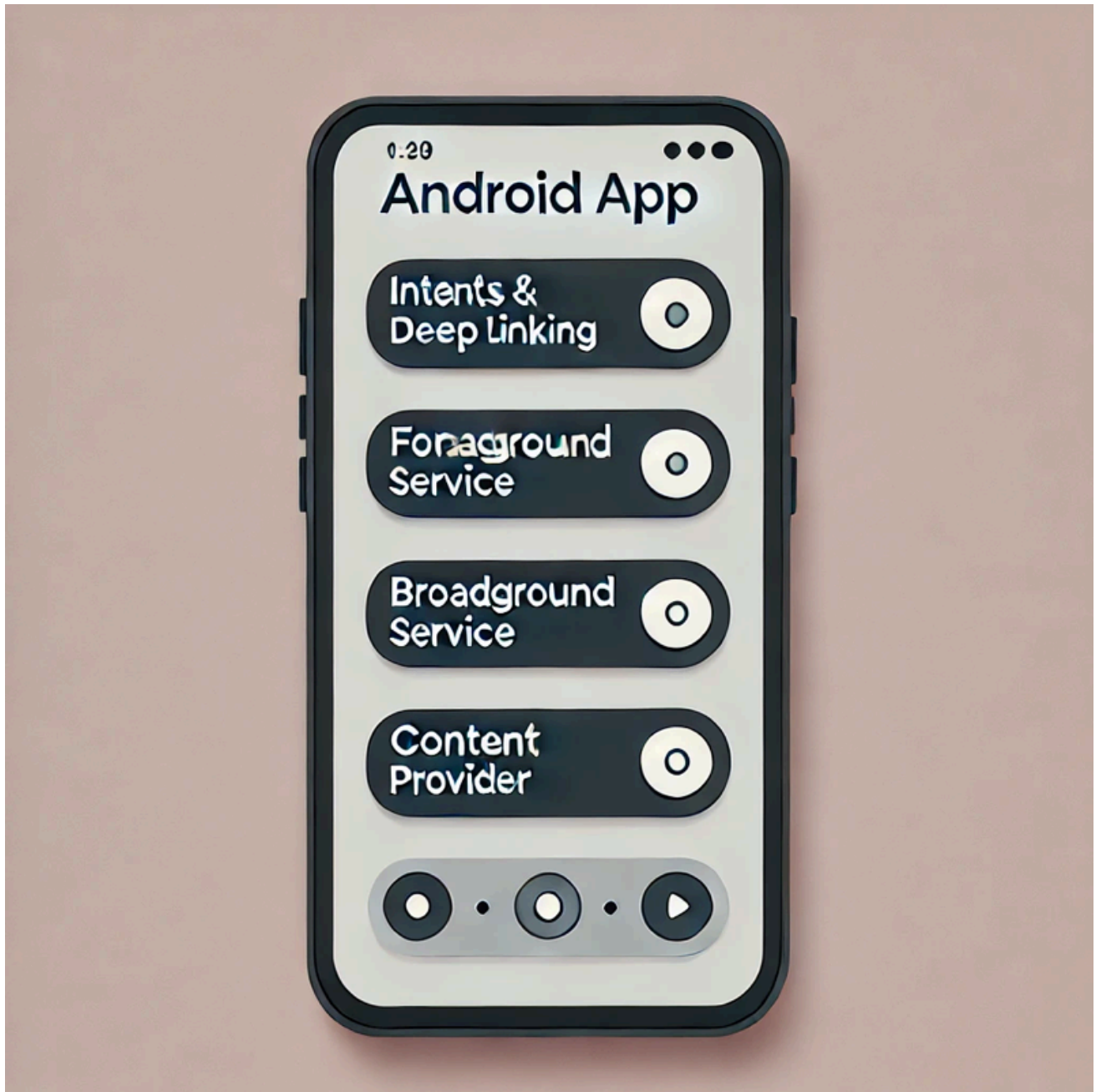
1. **Intents and Deep Linking** – Sharing an image to Instagram Stories.
 2. **Foreground Service** – Playing music from a pre-downloaded file.
 3. **BroadcastReceiver** – Responding to system events.
 4. **Content Provider** – Fetching data from the Calendar Provider.
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Project Requirements

1. Navigation Setup

- Create an Android application with multiple fragments.
- **Add four buttons on the main page, each navigating to a different task-specific fragment using the Navigation Component.**

- Below is a sample layout of the main page:



2. Intents and Deep Linking (Image Sharing to Instagram Stories)

- Implement functionality to **pick an image from the gallery** using an Intent.
- Use **Facebook's official API** to share the selected image as an **Instagram Story** via deep linking.

3. Foreground Service (Music Player)

- Implement a **Foreground Service** that plays a music file stored in the `assets` folder.
- Show a **persistent notification** when the service is running.
- Implement **start, pause, and stop** controls using buttons in the UI.

4. BroadcastReceiver (System Event Handling)

- Implement a **BroadcastReceiver** that listens for the following system event:
 - **Airplane Mode Toggle**: Detect when airplane mode is turned on/off and display a Toast message or update the UI.

5. Content Provider (Fetching Calendar Events)

- Implement functionality to fetch upcoming calendar events from the **Calendar Provider**.
 - Display the fetched events in a `RecyclerView`.
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Submission Requirements

- Submit a GitHub repository with the project.
 - Ensure the app runs without crashes and meets all specified requirements.
 - Record a short screen recording demonstrating the working features. The recording should be included in the GitHub repository README.
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Bonus Task (Optional)

- Extend the music service by adding **media controls in the notification**.
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Deadline

 01.03.2025 23:59