

Mobile Applications Coursework Proposal - Rugby Place Kicking App

App Description:

The app would allow users to track and analyse their rugby place kicking performance. It would include screens for recording kicks and viewing their session's statistics

Features:

- Allow users to record their kicking position by selecting from a limited number of fixed positions on the pitch, and record the outcome of their kick by selecting from a limited number of fixed positions around the goalposts
- Show a user's activity by displaying each session individually, showing the recorded date of each session, the session type (match or training) and the success rate and number of successful kicks
- Users may click on a session, showing a more detailed breakdown of the session's statistics, including the longest successful kick and a journal of each kick of the session which shows its distance and its success or failure
- Users may share the details of a session on social media platforms (implicit intent, ShareActionSheet)

Implementation:

Screens

- Login Screen : screen allowing the users to log into the app and load their personal data
- Home Screen : list of the user's sessions ordered by date, and an overview of the user's performance including the number of successful kicks, total attempts and success rate (optional)
- Kick Recording Screen : screen allowing the user to record details of each kick, such as the distance from the goal, angle and result (successful/missed)
- Statistics Screen : displays detailed statistics of the user's performance within a given session

Navigation Component

- Uses Jetpack Navigation for app navigation.
- Defines destination screens with a sealed class.
- Composable functions define the UI for screens.
- Handles passing arguments to screens.
- Implements navigation within composable functions.

Intent to move to an outside app

- Implements share functionality for session information.
- Uses Intent to share data with other apps.
- Handles share action with an activity chooser dialog.

App Lifecycle

- Tracks app lifecycle using MainActivity lifecycle methods.
- Uses Bundle to save and restore UI state.
- Uses lifecycle-aware UI components from Jetpack Compose.

Local Storage

- Uses Room Database for local storage.
- Implements ViewModel for data interaction.
- Uses coroutines for asynchronous database operations.

Firebase Authentication

- Implements authentication using Firebase Authentication.
- Uses FbViewModel for authentication tasks.
- Manages authentication state for UI components

Custom notifications

- Implements custom notifications using LiveData and Event wrapper.
- Handles exceptions to generate notification messages.

Android Share Sheet

- Implements Android Share Sheet for sharing session information.
- Creates ShareableSessionElement Composable for sharing UI elements.
- Constructs Intent to share session content.

Mock Screens

I used Figma to create mock screens for my app. You can find these within the zip file.