

2024 – Lab Exam 03

Start Date: April 15, 2024

Deadline: April 28, 2024, Midnight

Viva Date: Starts from April 29, 2024

Overview:

This individual assignment requires you to develop a mobile game using Android Studio. The game should demonstrate your ability to utilize various Android development tools and principles effectively. The primary objective is to create an engaging game that incorporates the specified components and showcases your skills in Android app development.

Objectives:

- Design and implement an interactive mobile game (You can decide).
- Utilize Android Studio for the development process.
- Demonstrate knowledge of Android programming concepts.

Requirements:

1. **Layouts:** Employ different types of layouts to design the user interface of your game.
2. **Activities:** Utilize multiple activities and manage their lifecycle effectively.
3. **ViewModel:** Implement ViewModel for managing UI-related data in a lifecycle-conscious way.
4. **Intents:** Use intents for communication between components of your application.
5. **Shared Preferences/Local Storage:** Implement shared preferences or local storage to save game settings or player progress.

Game Features:

- The game should have at least two different screens (e.g., main menu and gameplay).
- Include interactive elements that require user input (e.g., tapping, swiping).
- Implement a scoring system and a way to save high scores using local storage or shared preferences.
- The game interface should be responsive and work across different Android devices.

Submission:

- Submit a zipped file of your Android Studio project via the courseweb.
- Include all the source code, resources, and a Report in PDF.
- The report should contain instructions on how to run the game, a brief description of the game, and screenshots of the app.

Evaluation:

- Code quality and organization.
- Functionality: How well your game works and adheres to the specified requirements.
- Creativity and user interface design.
- Performance: Game should not have significant bugs or issues.
- Viva: Be prepared to explain your code and design decisions during the viva session starting from April 29, 2024.

Plagiarism Violation Notice:

Plagiarism is strictly prohibited and will result in severe consequences. All submissions must be your original work. Cases of academic dishonesty, including but not limited to copying code, using unauthorized materials, or helping others to plagiarize, will lead to disciplinary actions as per institutional guidelines.

Marking Guide for Mobile Game Development Assignment

Total Marks: 10 Points

1. Code Quality and Organization (2 Points)

- **1.5 Points:** Code is well-organized, with clear naming conventions and proper use of functions and classes. There is no redundant or unnecessary code.
- **0.5 Points:** Code is well-documented with comments explaining the purpose of functions and key code segments.

2. Functionality (4 Points)

- **1 Point:** Game meets all basic functional requirements including layouts, activities, ViewModel, intents, and local storage or shared preferences.
- **1 Point:** Game has no critical bugs. All features work as intended across different device configurations.
- **2 Point:** Extra functionality beyond the basic requirements, such as additional game features or enhanced user interactions.

3. **Creativity and User Interface Design (2 Points)**

- **1 Point:** The game demonstrates creativity in design and gameplay elements. The interface is attractive and engaging.
- **1 Point:** The game UI adapts well to different screen sizes and orientations, providing a good user experience on a variety of devices.

4. **Performance and Stability (2 Point)**

- **1 Points:** The game loads and runs smoothly without performance issues.
- **1 Points:** Stability is maintained during gameplay with no crashes or significant glitches.