Dorset College Dublin

LECTURER NAME: BERNARD JOSEPH ROCHE	
STUDENT NAME: FILIPE LUTZ MARIANO	STUDENT ID: 25956
PROGRAMME: BSC20923	STAGE/YEAR: SEMESTER 2 / YEAR 2
MODULE NAME: MOBILE APP 1	
ASSIGNMENT NO. & TITLE: CONTINUOUS ASSESSMENT 2 (30%) – MOVIE BOOKING APP	
GROUP (Names & Student IDs):	

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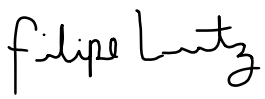
SIGNATURE* 

DATE: 08/04/2024

(* if this is a group assignment, each member of the group must sign).

Movie Booking Application Report

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Introduction

This report provides a comprehensive overview of the development process and implementation details of the Movie App project. The application was designed to allow users to browse movies, select seats, and view detailed movie information. This report outlines the achievements, challenges, and references used throughout the project.

Design and Implementation

Movie Class Structure

- Developed a MovieData class to encapsulate movie data, aligning with the structure specified in the provided movie.json.
- Populated movie data by sourcing relevant information from the Vue website, covering essential details such as movie name, image URLs, certification, description, starring actors, and running time.
- Assigned randomized values between 0 and 15 to the seatsRemaining property for each movie, simulating varying availability of seats.
- Initialized the seatsSelected property to 0 for all movies to start with no selected seats.

Movie Screen

- Created a dedicated MovieActivity screen responsible for presenting comprehensive movie details, including the movie poster, title, certification, description, cast, and duration.
- Implemented a flexible UI layout to ensure adaptability across different screen sizes and orientations.
- Utilized a scrollable layout to accommodate movies with lengthy descriptions, ensuring all content remains accessible.

Seat Selection Feature

- Enabled seamless navigation to the MovieActivity screen upon tapping on a movie item.
- Integrated intuitive plus and minus icons to facilitate seat selection and deselection, respectively.
- Implemented robust logic to dynamically update the seatsSelected and seatsRemaining properties based on user interactions.
- Implemented validation checks to disable the plus icon when no seats are remaining and the minus icon when no seats are selected.
- Ensured persistence of selected seats across screen transitions, enhancing user experience and interaction flow.

Bonus Features

- Introduced a visually informative "filling fast" badge to alert users when fewer than 3 seats are remaining for a particular movie.
- Used original movie images to elevate the application's visual appeal and user engagement.
- However, the "Roboto Condensed" font was not used due to personal preference regarding its appearance in the application.

Achievements

- Successfully implemented the core features outlined in the project requirements, including efficient movie data retrieval, intuitive seat selection functionality, and seamless navigation.
- Employed appropriate UI components and layouts to deliver an engaging and user-friendly interface tailored to meet user expectations.
- Integrated bonus features to enhance the application's functionality and visual aesthetics, elevating the overall user experience, for example, the different colors of seatsRemaining and seatsSelected.

Difficulties Encountered

- Faced initial challenges in handling image URLs and ensuring the seamless loading of movie images, which required extensive experimentation and troubleshooting.
- Encountered difficulties in implementing the LazyVerticalGrid, LazyColumn layout and integrating rememberAsyncImagePainter to load images from string URLs, necessitating thorough research and iterative development.
- Integrating routes and navigation within the application posed a significant challenge during the development process. Configuring the NavHost and defining navigation destinations required careful attention to detail and thorough understanding of Jetpack Compose's navigation components. Addressing issues related to proper route mapping and ensuring seamless navigation between screens necessitated extensive troubleshooting and iterative adjustments. The Lecture’s YouTube videos helped a lot with the navigation.

Lessons Learned

Understanding and implementing navigation architecture within a Jetpack Compose application was a crucial aspect of the project. Through experimentation and practical application, familiarity with concepts such as NavHost, navigation destinations, and route mapping was gained. This experience reinforced the importance of clear navigation design and efficient routing for seamless user experiences.

Managing data within a Compose application, including fetching and displaying dynamic content such as movie details and seat selection, was an enlightening experience. Integrating data sources, handling asynchronous operations, and updating UI components based on data changes highlighted the significance of effective data management practices for building responsive and interactive applications.

Overall, the Movie App project provided a valuable learning experience, equipping me with the knowledge, skills, and insights necessary for future mobile application development.

Conclusion

In conclusion, the Movie Booking App project represents a significant accomplishment, showcasing proficiency in mobile app development using Jetpack Compose and Kotlin. By addressing challenges such as handling routes and navigation, leveraging available resources, and adhering to best practices, a feature-rich and visually appealing movie browsing, and seat selection application was successfully developed.

References

The development process of this project was guided by official documentation and resources, including:

- Android Developers Docs: https://developer.android.com/docs
- Kotlin Docs: https://kotlinlang.org/docs/home.html
- Material Design Guidelines: https://material.io/
- YouTube: https://www.youtube.com/watch?v=XieUfEG9mBI

Additionally, inspiration and insights were drawn from the "ANDROID BASICS IN KOTLIN, Unit 4: Connect to the Internet" course: https://developer.android.com/courses/android-basics-kotlin/unit-4