



BSc in Science in Computing & Multimedia

Year 2, Semester 2, 2024

Movie Booking App

Continuous Assessment 2

Module Title: DevOps
Module Code: BSC2
Assessment Type: Individual Project
Weighting: 60% (Part 1: 30% + Part 2: 30%)
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Requirements:

1. Movie screen:

- 1.1. Create a Movie class with the structure specified in movie.json.
- 1.2. Obtain and fill data (minimum of 4 movies)
 - 1.2.1. Obtain relevant movie data from Vue (<https://www.myvue.com/cinema/dublin/whats-on>) or your favourite provider and add data credits at the bottom of the app.
 - 1.2.2. Generate a random number between 0 and 15 for each movie and assign to seats_remaining.
 - 1.2.3. Start with an initial default seats_selected value of 0 for all movies
 - 1.2.4. You shall fill random URLs for images from pixabay or other free image providers to begin with
- 1.4. If any seats are selected, show how many seats are selected and hide remaining seats

2. Seat selection feature:

- 2.1. Clicking any item (anywhere on the item) on the movie screen should open a new MovieActivity, refer to movie_activity_*.jpg
- 2.2. Add plus and minus icons, show seats_selected in the middle
- 2.3. On click plus/minus, update both seats_selected and seats_remaining for that movie
- 2.4. Add validation, when 0 seats selected minus is disabled, when 0 seats remaining plus is disabled
- 2.5. When back is pressed, the selected seats are retained and reflected in the screen. (Hint: If you don't see any updates, call adapter notifyItemChanged as soon as you return to the screen activity)

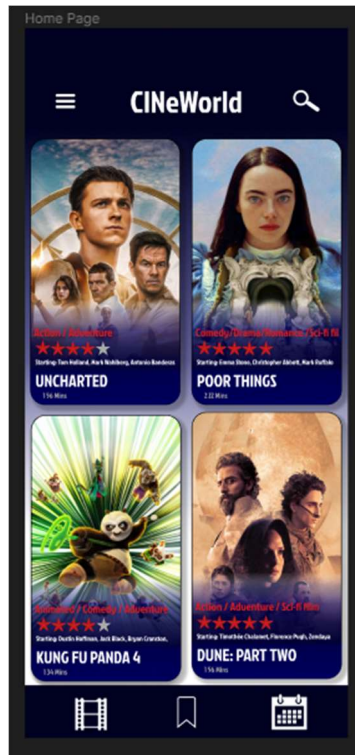
3. Bonus:

- 3.1. Add "filling fast" badge if less than 3 seats remaining
- 3.2. Use "Roboto Condensed" font to replicate same style
- 3.3. Use original movie images from myvue.com or your favourite provider (Hint: check get_movie_image_url.gif)

Movie Screen Implementation Report



Application Design:



The design of the application began with the creation of a screen prototype in Figma, a widely used interface design platform in application development. I carefully selected the background colors to provide a pleasant and consistent visual experience for users. The company logo was designed with reference to a star, a symbol commonly associated with movie ratings, which reinforces the identity of the application and its purpose.

Following the guidelines provided by the class instructor, I divided the screen into three main sections: **TopBar**, **BottomBar**, and **Content**. This structure is common in application design and allows for intuitive and efficient navigation. The main goal during the design was to create an application that was both interactive and dynamic. I sought to allow users to interact with the application fluidly and for the application to respond to these interactions effectively. To achieve this, I paid special attention to the design of the user interface and the implementation of interactive features.

In addition, I incorporated several features and functionalities to enhance the user experience. For example, I included search and filtering functions to help users easily find the movies they are interested in. I also added personalization features, allowing users to save their favorite movies and receive personalized recommendations. In summary, the design of the application focused on providing an exceptional user experience, combining an attractive and easy-to-use user interface with interactive and dynamic functionalities.

- **TopBar:**

The TopBar, or top bar, is an essential component in the design of the user interface. It provides a quick and easy way to navigate and access the main functions of the application. In your application, the TopBar includes:

- **Navigation Icon:** This icon allows users to navigate through the different sections of the application.
- **Title (Company Logo):** The company logo not only serves as a visual representation of the brand but can also function as a home button to take users back to the main screen.
- **Search:** The search function allows users to search for specific content within the application.

- **BottomBar:**

The BottomBar, or bottom bar, is another crucial component in the design of the user interface. It provides quick access to other important functions of the application. In your application, the BottomBar includes:

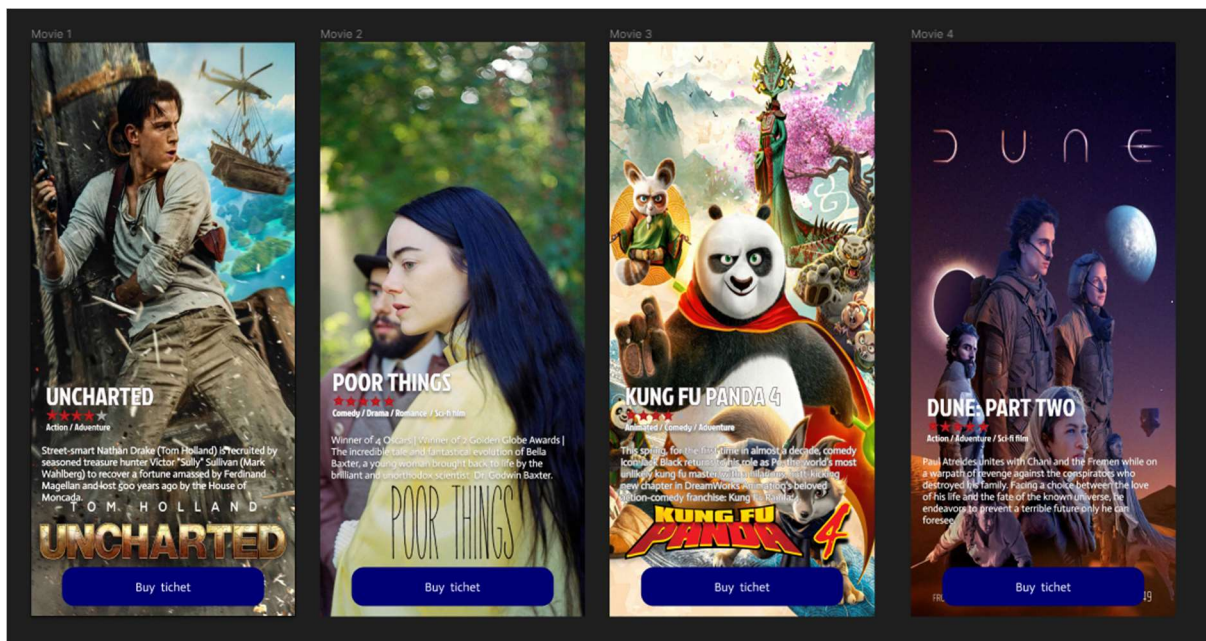
- **Gallery Icon:** This icon takes users to a screen where they can view movies that are not shown on the day's billboard.
- **Saved Icon:** This icon takes users to a screen where they can view the movies they have saved to watch later.
- **Calendar Icon:** This icon displays a calendar with the dates on which the movies are available.

- **Content:**

The Content, or content, is the central part of the screen that contains all the information visible to the customer. It is interactive and dynamic. In your application, the Content includes:

- **Column:** Columns are used to organize and present content in an orderly and easy-to-read manner.
- **Row:** Rows are used in conjunction with columns to create a grid that helps organize content.
- **Buttons:** Buttons provide an interactive way for users to perform specific actions.

In addition, I have divided the screen into four sections to highlight the most important movies of the day. Each movie has relevant information such as the movie's name, genre, star rating, and the names of the main actors. This information helps users make informed decisions about which movies they want to watch.



With the same format of TopBar, BottomBar, and Content, the following screens were designed. Each one contains a button to return to the main screen, a button to buy tickets, and as content, we have the image of the movie with relevant information and a summary.

- **Additional Screens:**

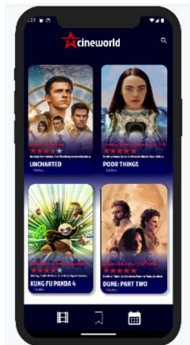
The design of the additional screens followed the same structure as the main screen, with a TopBar, BottomBar, and Content. In these screens, the following elements were included:

- **Back Button:** This button allows users to return to the main screen, providing easy navigation throughout the application.
- **Buy Tickets Button:** This button provides an interactive way for users to purchase movie tickets directly from the application.
- **Movie Content:** This includes the movie image, relevant information about the movie, and a summary. This information is crucial for users to make informed decisions about which movies they want to watch.

By incorporating these elements into the design of the additional screens, I have created a user-friendly interface that not only looks good but also functions effectively. This design approach enhances the user experience, making the application more engaging and enjoyable to use. Remember, the goal is to create an application that meets the needs of the users while also providing an exceptional user experience. Please note that this is a report for the university. Also, keep the format with bullets, bold, etc. in mind.

Development of a Movie Booking Application:

Upon completion of the application design in Figma, the production phase commenced in Android Studio. This involved creating files for the main page, utilizing a Scaffold, and implementing the same concept as with the Framework, namely TopBar, BottomBar, and Content. These elements form the foundation for all templates that contain client-facing information.



Given the multi-screen nature of the application, an AppNavigation, ProjectButtons, and Roles were created to facilitate the linking of all buttons. This phase presented some challenges as this system operates in conjunction with the HomePage, necessitating accurate information across all files.

HomePage Creation:

The creation of the HomePage began with the selection of a background color for the application. The TopBar was then created, which houses the company logo and a search function. Following this, the BottomBar was developed, containing various icons for user interaction.



The Content section was then populated with images and linked to direct users to the corresponding screen upon interaction. This approach encountered initial difficulties due to the complexity of shaping buttons on the screen. After exploring several options, the decision was made to create images and link them to direct users to the corresponding screen, which proved to be an effective solution.

The application also includes a feature for highlighting the most important movies of the day, divided into four sections. Each movie is accompanied by relevant information such as the movie's name, genre, star rating, and the names of the main actors. This information aids users in making informed decisions about which movies they wish to view.

Seat Selection:

Once the files containing the movie information were created, I added a "Buy Tickets" button, which leads to a link for seat selection and then the purchase of the same. This part was challenging as I struggled to design the shape of the seats and place the numbers on them. Similar to the HomePage, I made them as if they were buttons, which are difficult to handle, including the size modification which helped but did not solve the problem. By using another method, I will be able to add a significant number of seats to choose from. Please note that this is a report for the university. Also, keep the format with bullets, bold, etc. in mind.



In conclusion, the development process involved a combination of design and technical skills, with a focus on creating an intuitive and user-friendly interface. Despite some challenges during development, effective solutions were found to ensure a smooth user experience. The application now serves as a robust platform for movie enthusiasts to explore, save, and book their favorite movies. This report serves as a comprehensive overview of the development process, highlighting both the successes and challenges encountered. It underscores the importance of iterative development and problem-solving in creating a successful application.

