ESAT INNOVATION SCHOOL | ESCUELA SUPERIOR DE ARTE Y TECNOLOGÍA

ANDROID STUDIO DOCUMENTATION

Subject: Mobile Programming
Associated module: 3PVG
Teacher: Rubén Blanco
Course: 2023/2024
Author: Jaime Garrido Ramírez

1.- App Project

1.1 Introduction

The mobile application, developed using Android Studio Giraffe, introduces users to a collection of mystical objects. It provides a login system based on string comparison and showcases a list of mythical items, including Thor's hammer and others. Each item offers detailed insights into its mythological origins, unique powers, and other defining traits. Additionally, the app utilizes Beeceptor to store JSON data in the cloud and Retrofit for communication with the host server. Firebase integration has been included solely for crash detection to ensure app stability.

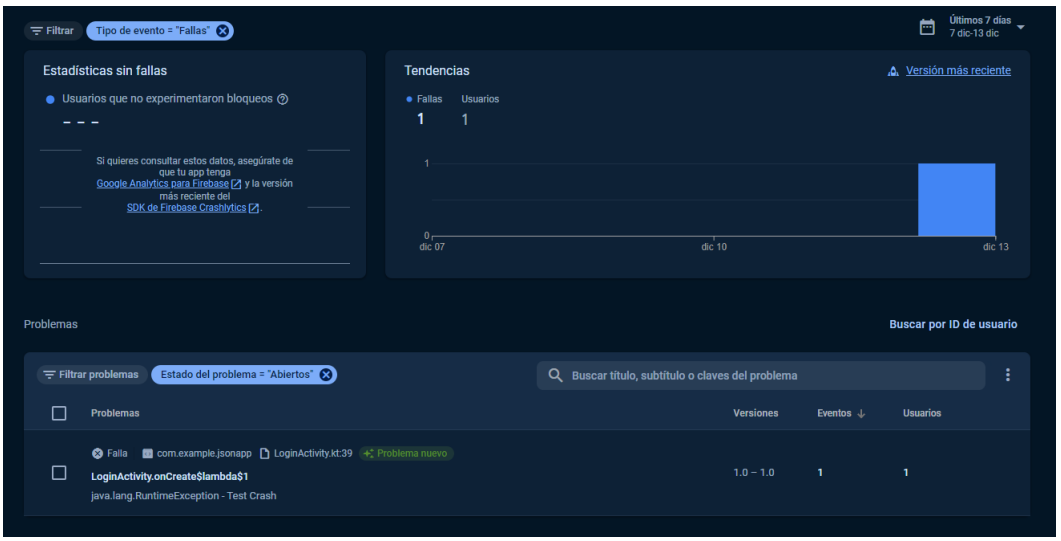
1.2 Technical Demo

The app uses a basic login system utilizing string comparison for user authentication. Once logged in, users access a scrollable list of mystical objects represented by clickable images. Selecting an image reveals extra information about the chosen object, including its mythological background and powers.

1.3 Development Features

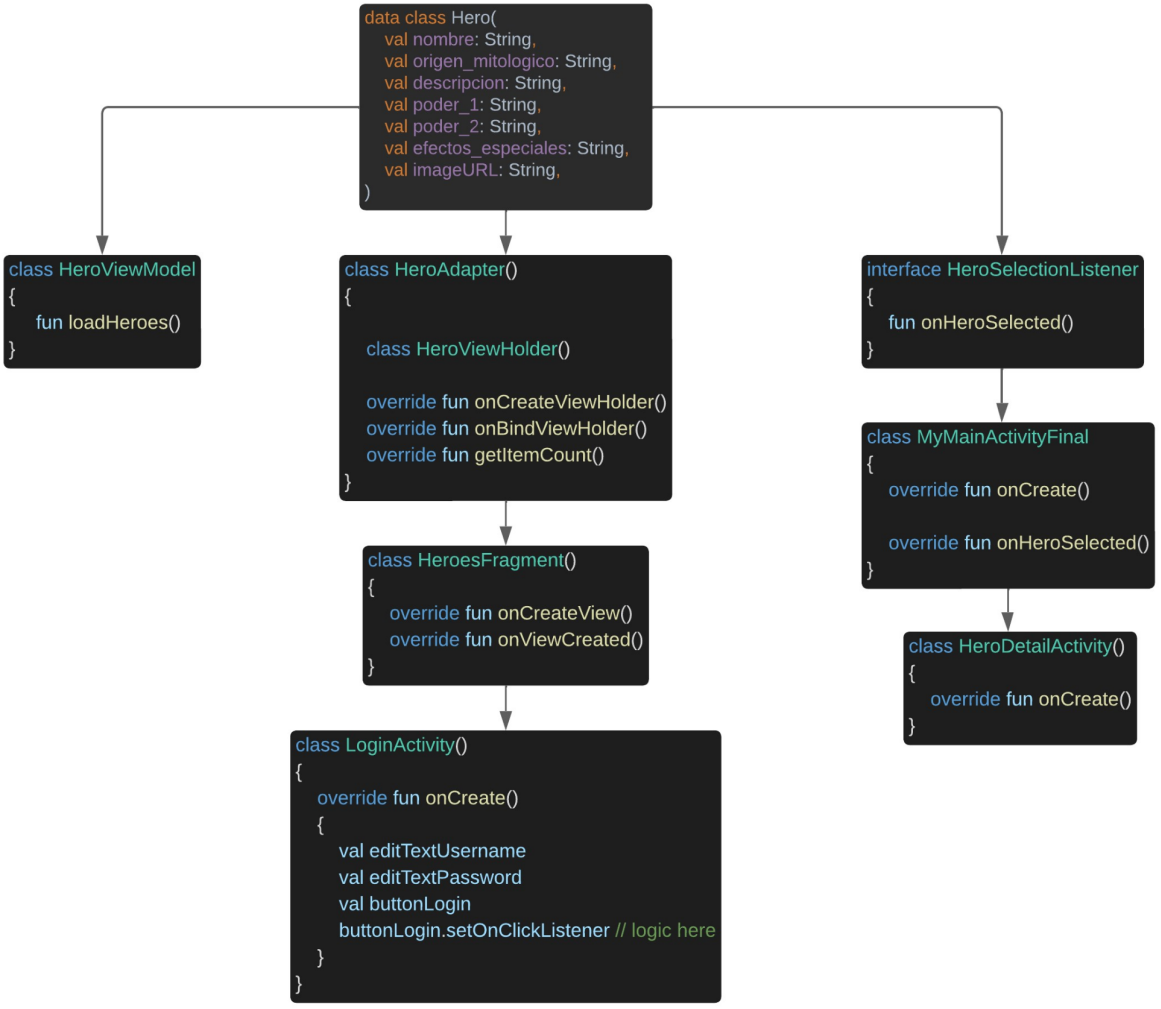
- Simple Login: Authentication relies on basic string comparison for user access.
- Mystical Objects List: Displays a scrollable list of mystical objects as clickable images.
- Object Details: Provides detailed information about each selected object, such as its mythological origins and powers.
- Beeceptor for Cloud Storage: Utilizes Beeceptor to store JSON data in the cloud.
- Retrofit for Host Communication: Employs Retrofit for seamless communication with the host server.
- Firebase for Crash Detection: Integrates Firebase for crash detection to enhance app stability without impacting performance.

FireBase crash detection



Button used to purposely crash app (just for testing, not implemented now)

1.4 Class Diagram

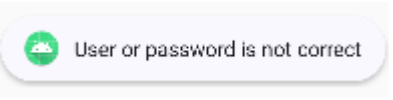


2.- UI/UX Flow Chart

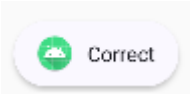
The user experience within the application follows a structured flow that encompasses login authentication, object exploration, and detailed information display about mystical objects.

2.1 Login

The user inputs credentials for login authentication. If successful, they access the main interface.



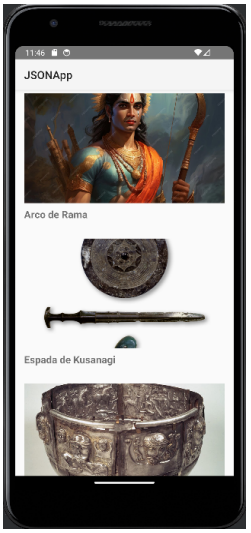
In case of failing, feedback is given to the user.

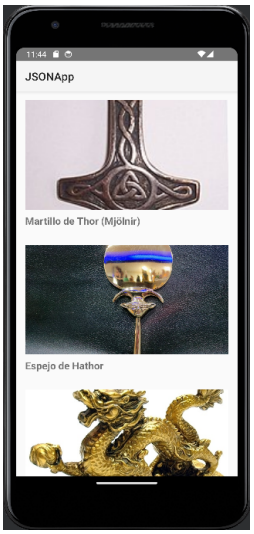


On the other hand, feedback is algo given when login success

2.2 Main Interface

In the main interface, a scrollable list of mystical objects is displayed. Each object is represented by a clickable image.





A list of 6 different mystical objects appear, each one of those is clickable and will lead to the next activity.

Feedback is given when any image is selected.

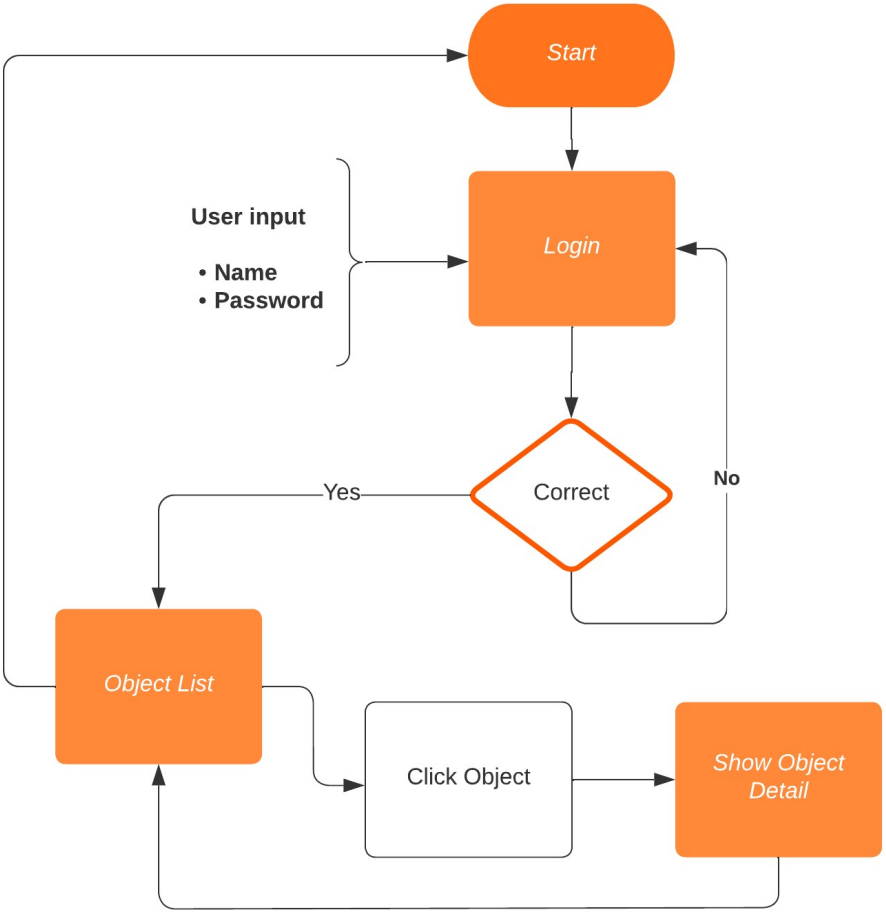
2.3 Object Details

Clicking on an image reveals detailed information about the selected object, including its mythological origins, description, powers and special effects.

The information is different for every object.

This flow chart provides an overview of the user's journey through the application, delineating login procedures, object exploration, and detailed information display.

2.4 Flow Chart



3.- Strategies and Solutions to the Development Problems

3.1 Challenges

It was tough because it was my first time doing a mobile app project, and I'm not really into mobile programming.
The main issue was not knowing much about mobile programming. It meant learning a lot about new tools and ideas, which was a bit tricky.

3.2 How I Dealt With Challenges

There weren't any big technical problems, but I had to spend extra time searching online and thinking hard to understand and use the new concepts.

3.3 Changes and Possible Improvements

I stuck to the original plan and didn't have to change anything along the way.

One thing I'd do differently with more time is to let users sign up with no limits using Firebase. It would make the login part of the app much better and accessible.

3.4 What I Learned

Even though I didn't try different solutions or get outside opinions, this project taught me a lot about how Android Studio works and about mobile programming. It's like a solid foundation for doing more stuff in this area in the future.

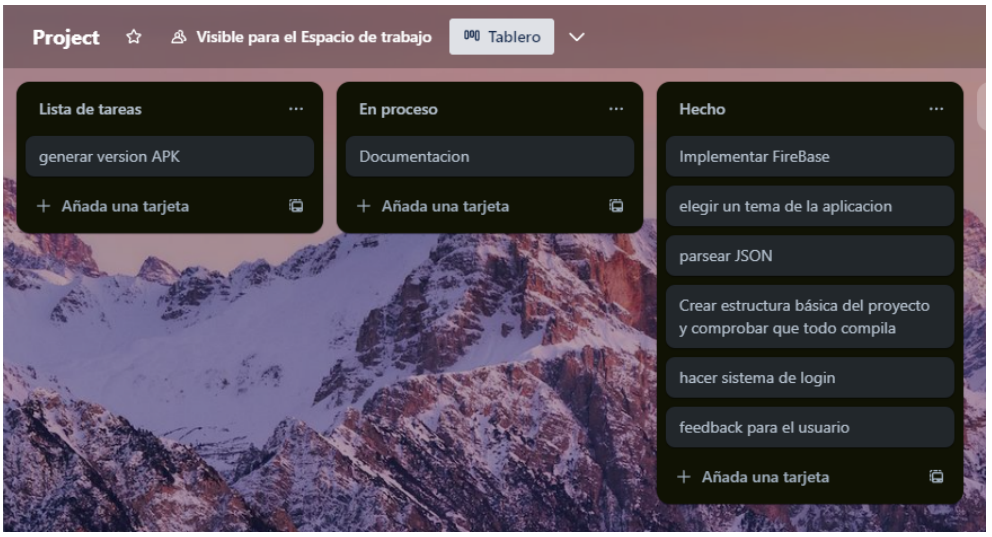
4.- Personal Task Plan

4.1 Project Structure and Challenges

The project was divided into three significant stages: implementing login functionality, integrating personalized JSON data, and adopting Firebase for stability enhancement and comprehensive documentation. Notably, troubleshooting a cloud-based JSON upload error consumed a considerable amount of time. However, resolving this issue provided substantial motivation upon its resolution.

4.1 Leveraging Trello for Task Management

Trello proved invaluable as an organizational tool, allowing for effective task management and providing a clear overview of progress throughout the project. Its features facilitated efficient workflow organization and ensured task clarity, contributing significantly to the project's efficiency and organization.



5.- Short User Manual and Demo Example

5.1 APK Installation (Android Device)

- Download the JSONApp APK file onto your Android device.
- Locate the downloaded APK file and install it on your device.
- Access the app through the installed icon to initiate the demo.

5.2 Android Studio Setup

- Open Android Studio and select 'Open Project.'
- Navigate to the JSONApp project folder.
- Upon loading the project, click the green arrow labeled "Run ‘App’" or use the shortcut Shift + F10 to execute the demo.

5.3 Login Credentials:

Use the following usernames and passwords for login:

- Username: jaime, Password: jaime123a
- Username: ruben, Password: a123456*

5.4 Demo Experience:

After logging in, explore a collection of six mythical objects within JSONApp.
Each object offers detailed insights upon selection.
To navigate back from exploring an object, use the device's "Back button" to return to the main object list.

6. Bibliography

Software / Apps used

Firebase | Google 's Mobile and Web App Development Platform. Firebase [en línea]. [sin fecha] [consultado el 13 de diciembre de 2023]. Disponible en: https://firebase.google.com

Intelligent Diagramming | Lucidchart. Lucidchart [en línea]. [sin fecha] [consultado el 13 de diciembre de 2023]. Disponible en: https://lucidchart.com

Manage Your Team’s Projects From Anywhere | Trello. Manage Your Team’s Projects From Anywhere | Trello [en línea]. [sin fecha] [consultado el 14 de diciembre de 2023]. Disponible en: https://trello.com

Chat GPT Prompts

I need a brief conclusion about UI/UX..
What’s FireBase and it’s uses in Android Studio.
Check for typos in text.
Name of a program to draw diagrams.