# PROJECT TEST REPORT

# MAGANG BERDAMPAK 2025 -

# MOBILE DEVELOPER INTERN -

# SUITMEDIA

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## ABSTRACT

This project is an assignment for the 2025 Impact Internship Test - Mobile Developer Intern - Suitmedia. This project was completed within 24 hours according to the instructions provided. This report discusses the assignment given, which was to develop an application with several specifications. I chose to create a native mobile application for the Android platform using Kotlin and XML with a minimum SDK of 21 and a target SDK of 34. The application consists of three main screens: name input and palindrome checking, a welcome message screen with user options, and a user list retrieved from an external API. The use of Retrofit for API consumption, View Binding for UI access, and navigation management between screens are discussed in detail. The application layout is customized according to the prototype design in Figma.

*Keywords: Android Native, Kotlin, Mobile App, API*

## CHAPTER I

## INDTRODUCTION

### 1.1 Background

This native Android mobile application project is part of an internship test given as a form of learning and practical application of mobile programming knowledge. In this internship assignment, participants are asked to develop an Android application using this specification. The application is created with the aim of providing direct experience in building mobile applications that involve user interface interaction, data retrieval from external APIs, and navigation between application screens. Additionally, this assignment teaches how to manage temporary data storage using Shared Preferences and facilitates UI design according to the prototype from Figma. By completing this project, as a prospective intern, I hope to master the basic to intermediate technical skills relevant for modern Android app development.

### 1.2 Problem Statement

In accordance with the assignment given, the problem statement to be solved is as follows:

Create iOS / Android application with this specification:

**For Android Native** : Use kotlin with XML View, min SDK is 21 and target SDK 34 (experience with Jetpack Compose is a plus)
**For iOS Native** : Use Swift with UIKit / SwiftUI and min iOS version is 15
**For Flutter** : Use State Management (Provider, GetX or Bloc) and flutter version is 3.32 or above

1. This application has 3 screens.

**2. First Screen**

a. It has two inputTexts and two buttons.

b. One inputText for name input and the other for input sentence text, to check whether the sentence is palindrome or not.

Example :

e.g isPalindrome(“kasur rusak”) -> true

e.g isPalindrome(“step on no pets”) -> true

e.g isPalindrome(“put it up”) -> true

e.g isPalindrome(“suitmedia”) -> false

c. A button with a “Check” title below the inputTexts

d. Show as dialog with message “isPalindrome” if it’s palindrome and message “not palindrome” if it’s not palindrome when clicking the button check

e. And a button with a “Next” title below the Check Button.

f. Go to the Second Screen when clicking the Next button.

3. **Second Screen**

a. It has a static “Welcome” text label/textview

b. And it has two dynamic labels / textviews for the show name from the first screen and the other one is the **Selected User Name** label.

c. It has a button “Choose a User”.

d. Action click button “Choose a User” for goto third screen.

**4. Third Screen**

a. It has a List / Table view of Users

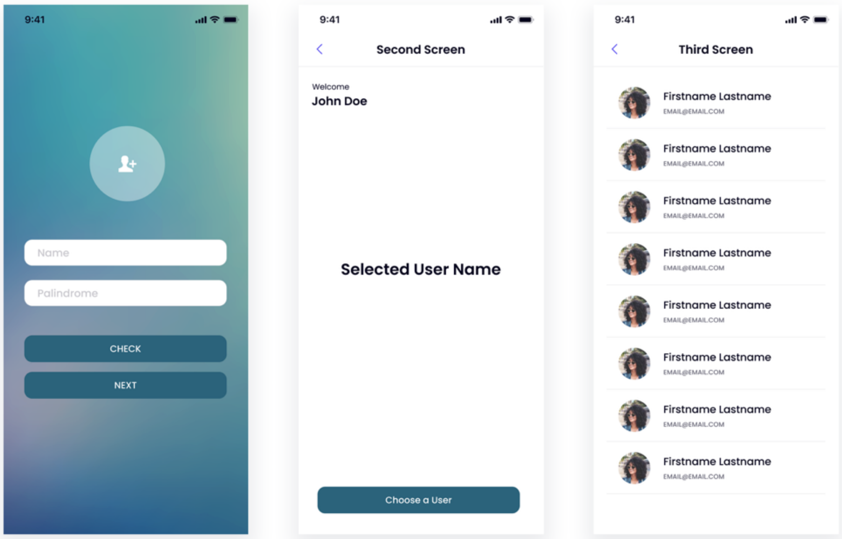
b. Collect data from api from regres.in with email, first_name, last_name & avatar

c. Add a pull to refresh and load the next page when scrolling to the bottom of the list, and prepare an empty state if data is empty. You can use the API with adding parameter page & per_page to get next page data.

d. When a User on an item list is clicked, the **Selected User Name** label in “**Second Screen**” will be replaced by the selected User’s name (don’t create a new screen, just continue the current screen).

5. For illustration wireframe design you can see it on the next page.

You can login using figma to look the prototype and have the assets



## 1.3 Objectives of the Study

I chose to create an Android Native application: Use Kotlin with XML View, min SDK is 21 and target SDK 34 (experience with Jetpack Compose is a plus), so the limitations I set are

- Developing applications with Kotlin and XML Layout
- Implementing the View Binding concept for accessing UI components
- Integrating external APIs using Retrofit to display a list of users
- Creating navigation features between three screens with storage for selected user data
- Customizing the interface based on the design prototype in Figma

## CHAPTER II
## METHOD

This project was executed through several stages as part of the mobile application development process during the internship assignment:

1. Requirement Analysis: Understanding and analyzing the assignment brief, including the app specifications and functional requirements involving API integration, UI layout, and navigation flow.
2. Design: Creating the UI layout and user interaction design based on the Figma prototype provided. This included designing three screens with the required input components, user lists, and navigation.
3. Development: Coding the Android native application using Kotlin and XML layouts, implementing View Binding to handle UI components. The Retrofit library was used to consume external API data for displaying user lists. State management and navigation between screens were implemented, along with local temporary data storage using Shared Preferences.

Endpoint

GET https://reqres.in/api/users

Response Body:

```
{
  "page": 1,
  "per_page": 6,
  "total": 12,
  "total_pages": 2,
  "data": [
    {
      "id": 1,
      "email": "george.bluth@reqres.in",
      "first_name": "George",
      "last_name": "Bluth",
      "avatar": "https://reqres.in/img/faces/1-image.jpg"
    },
    {
      "id": 2,
      "email": "janet.weaver@reqres.in",
      "first_name": "Janet",
      "last_name": "Weaver",
      "avatar": "https://reqres.in/img/faces/2-image.jpg"
    }
  ],
  "support": {
    "url": "https://reqres.in/#support-heading",
    "text": "To keep ReqRes free, contributions towards server costs are appreciated!"
  }
}
```

4. Testing: Performing functionality testing for each screen feature: palindrome checking, user selection, API data loading with pagination, and UI consistency. Fixing bugs and making improvements based on test results.
5. Documentation: Preparing the final report documenting the methodology, implementation, results, and conclusions from the project.

## CHAPTER III

## RESULT

The project successfully produced a native Android mobile application the assignment requirements

1. The app consists of three main screens:
    - First Screen: Accepts user input for name and a sentence. Implements palindrome checking logic with dialog feedback. Navigation to next screen is functional.
    - Second Screen: Displays a welcome message with dynamic labels for the input name and the selected user from the third screen. A button allows navigation to the user list screen.
    - Third Screen: Shows a paginated list of users fetched from the external API (regres.in). Features pull to refresh and infinite scrolling to load more data. Selecting a user updates the label on the second screen dynamically.
2. The implementation of View Binding ensures safe and efficient UI interactions.
3. The Retrofit API integration was successfully used to fetch user data with proper pagination parameters.
4. The UI layout closely matches the Figma prototype, providing a consistent user experience.
5. Local data persistence with Shared Preferences stores selected user data between screens.

6. The application runs smoothly on devices with minimum SDK 21 and target SDK 34, fulfilling all tasks within the given time frame.

# CHAPTER IV
# CONCLUSION AND SUGGESTION

## 4.1 Conclusion

This internship project has effectively demonstrated the ability to develop a native Android application using Kotlin with XML layouts, implement API consumption through Retrofit, and handle navigation between multiple screens using View Binding. The project provided practical experience in understanding mobile app architecture, UI design implementation, and asynchronous data handling. The final application fulfills the specifications of the internship assignment and achieves the objectives of learning and development within the scope of mobile development fundamentals.

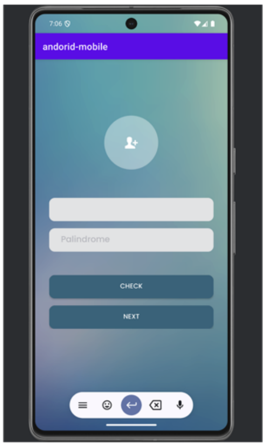
## 4.2 Suggestion

For further improvement and scalability, maybe i will consider:

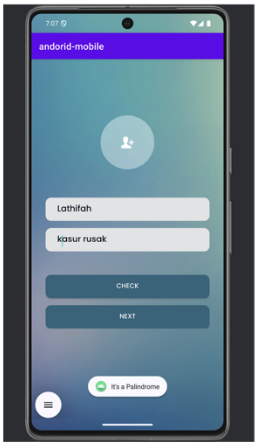
- Integrating Jetpack Compose for a more modern and flexible UI development approach.
- Adding more comprehensive error handling and user feedback mechanisms during API calls.
- Implementing data caching strategies for offline support.
- Extending the application with additional features such as user profile editing or search functionality in the user list.
- Improving UI animations and transitions for a smoother user experience.

# DOCUMENTATION

## Documentation 1. First Screen with two inputTexts and two buttons



## Documentation 2. First Screen checking if it’s palindrome

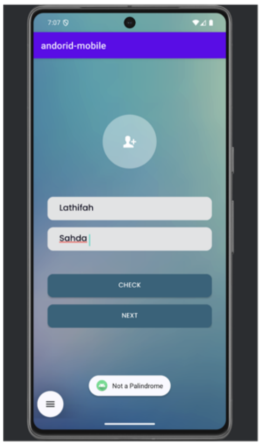


Lathifah

kasur rusak

It's a Palindrome

## Documentation 3. First Screen with check if it’s not palindrome

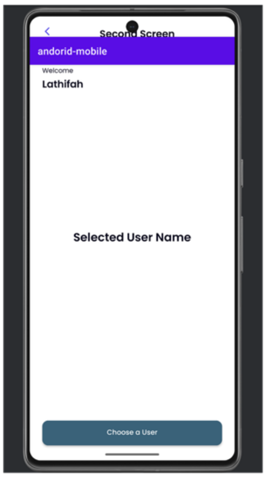


Lathifah

Sahda

Not a Palindrome

### Documentation 4. Second Screen with static “Welcome” and Choose User

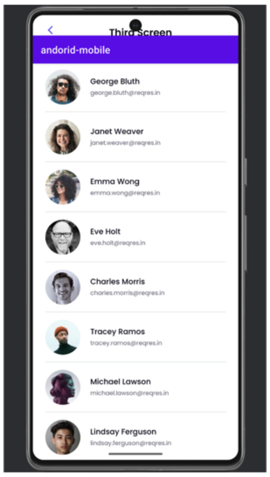


Welcome

Lathifah

Selected User Name

### Documentation 5. Third Screen for Choosing a User from API data



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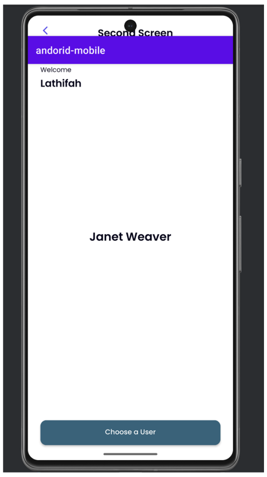
### Documentation 6. Second Screen after Choosing a User

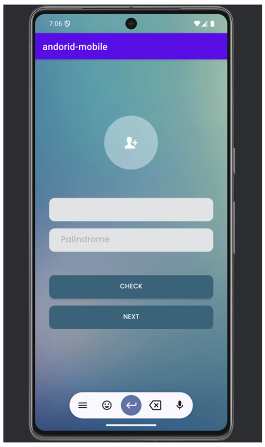


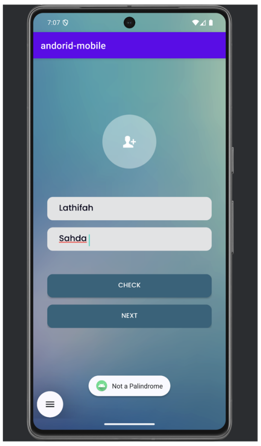
Welcome

Lathifah

Janet Weaver

## Others Documentation

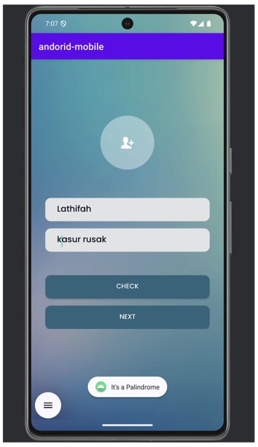




Lathifah

Sahda

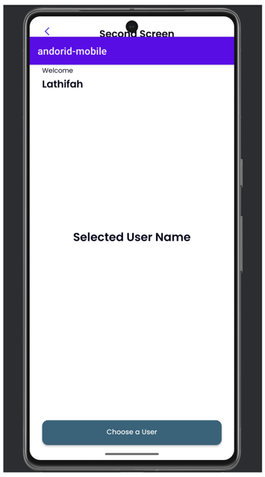
Not a Palindrome



Lathifah

kasur rusak

It's a Palindrome



Welcome

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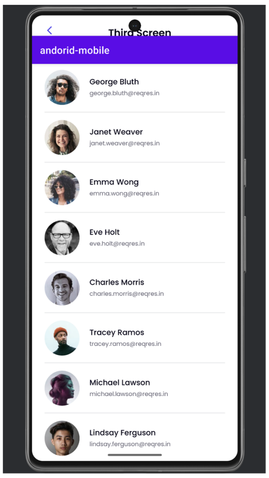
Selected User Name



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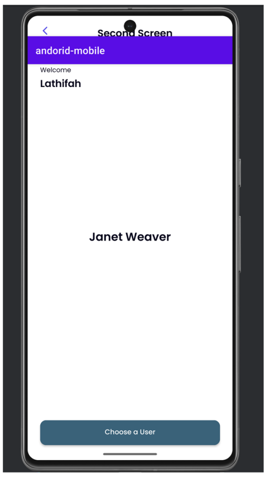

Welcome

Lathifah

Janet Weaver

- Github

  https://github.com/newofthifash03/test_android_mobile.git