IT-314 Project
Aegis Secure
Automated GUI Testing

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Automated GUI Testing

Automated GUI Testing is a process used to verify that an application's user interface behaves as expected without requiring manual interaction. Instead of tapping, typing, and navigating the app manually, automated scripts perform these actions consistently, quickly, and accurately. This helps identify UI issues, navigation errors, unresponsive elements, or unexpected behavior early in the development cycle.

For this project, automated GUI testing was performed to validate different user flows such as signing in, verifying emails, scanning SMS messages, analyzing text, navigating through settings, and interacting with various buttons and widgets. These test cases ensure that every essential part of the UI is functional, responsive, and able to handle user interactions reliably.

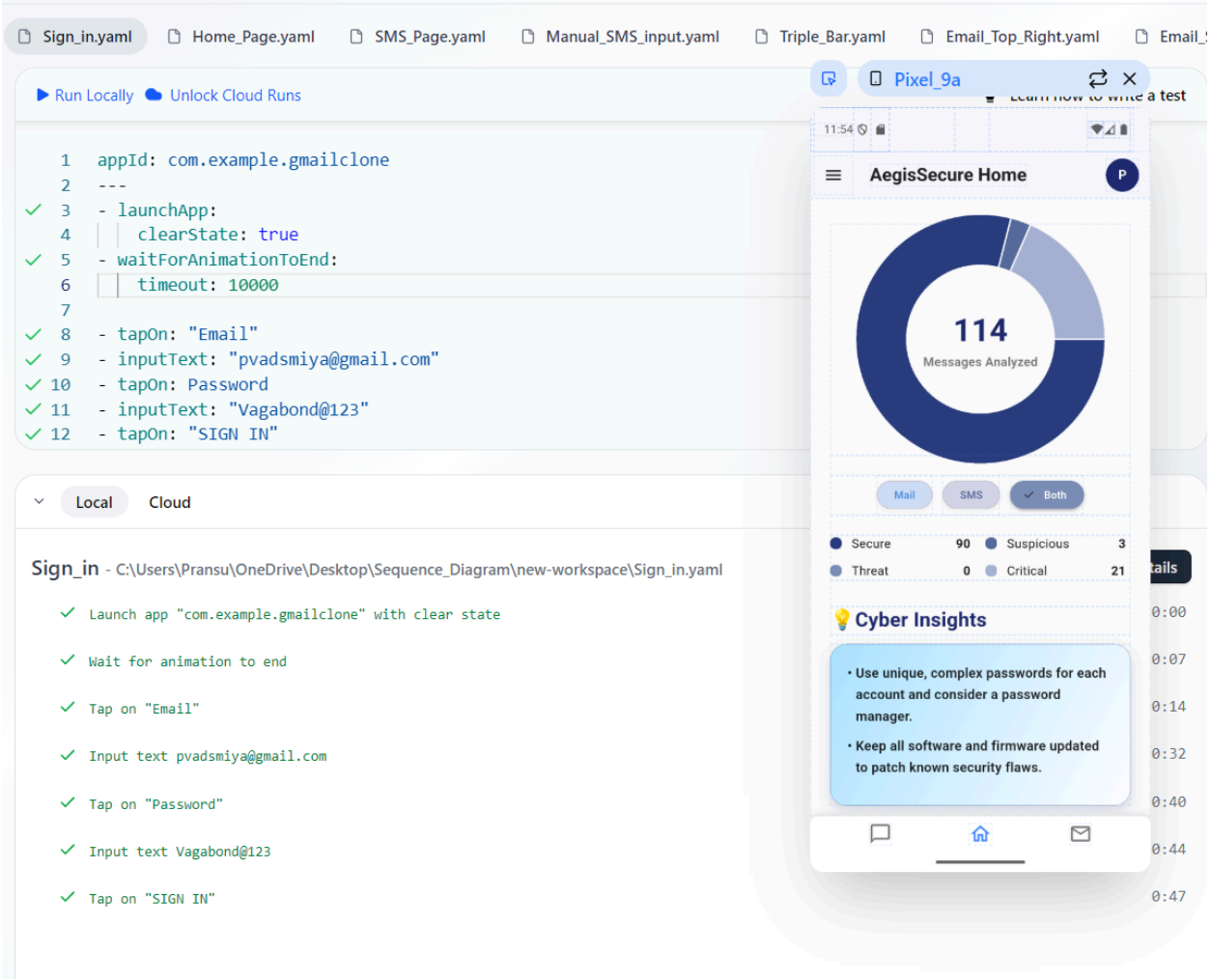
Notes on Maestro Studio (Tool Used)

Maestro Studio was used as the primary tool to create and execute the automated test cases. It provided a visual and intuitive environment for recording actions, inspecting screen elements, and converting interactions into YAML-based test scripts.

Why Maestro Studio Was Useful?

- **Visual Interface:** Allowed me to see the app screen live, making it easy to identify UI elements.
- **Record & Convert to YAML:** Every tap, long press, scroll, and text input could be generated automatically as YAML code.
- **Element Inspection:** I could inspect labels, coordinates, and text to precisely target buttons or fields.
- **Real-time Debugging:** The tool showed failures instantly, helping to correct scripts quickly.
- **Multi-step Flows:** Ideal for testing long sequences like login → OTP screen → home page → settings.

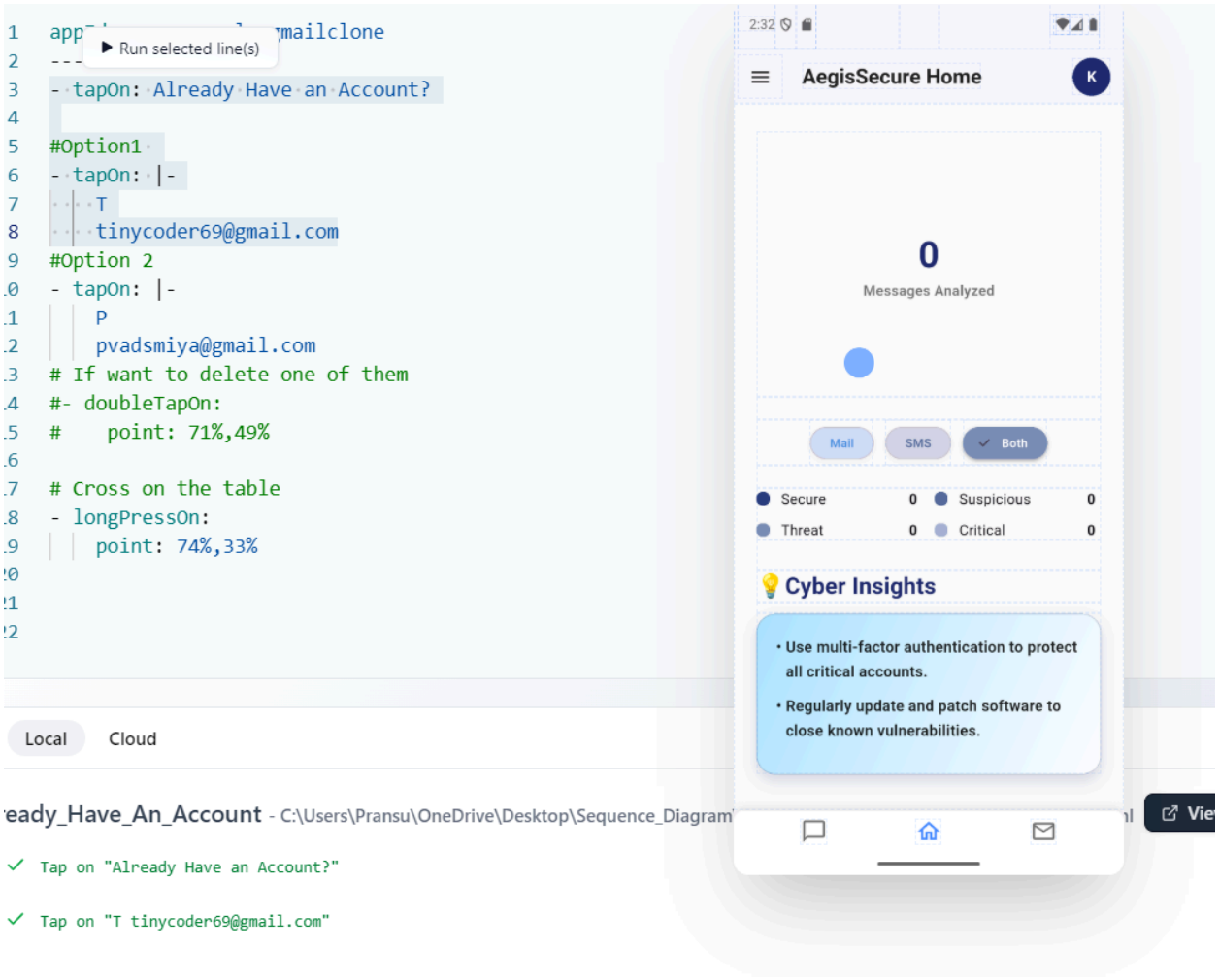
Sign In :-



- The Email field was detected correctly and accepted user input.
- The Password field responded properly and allowed secure text entry.
- The “SIGN IN” button was active, clickable, and responded immediately.
- The screen was scrollable, and all UI elements remained accessible while scrolling.
- All interactive components were responsive, confirming that the Sign-In screen UI works smoothly and as expected.

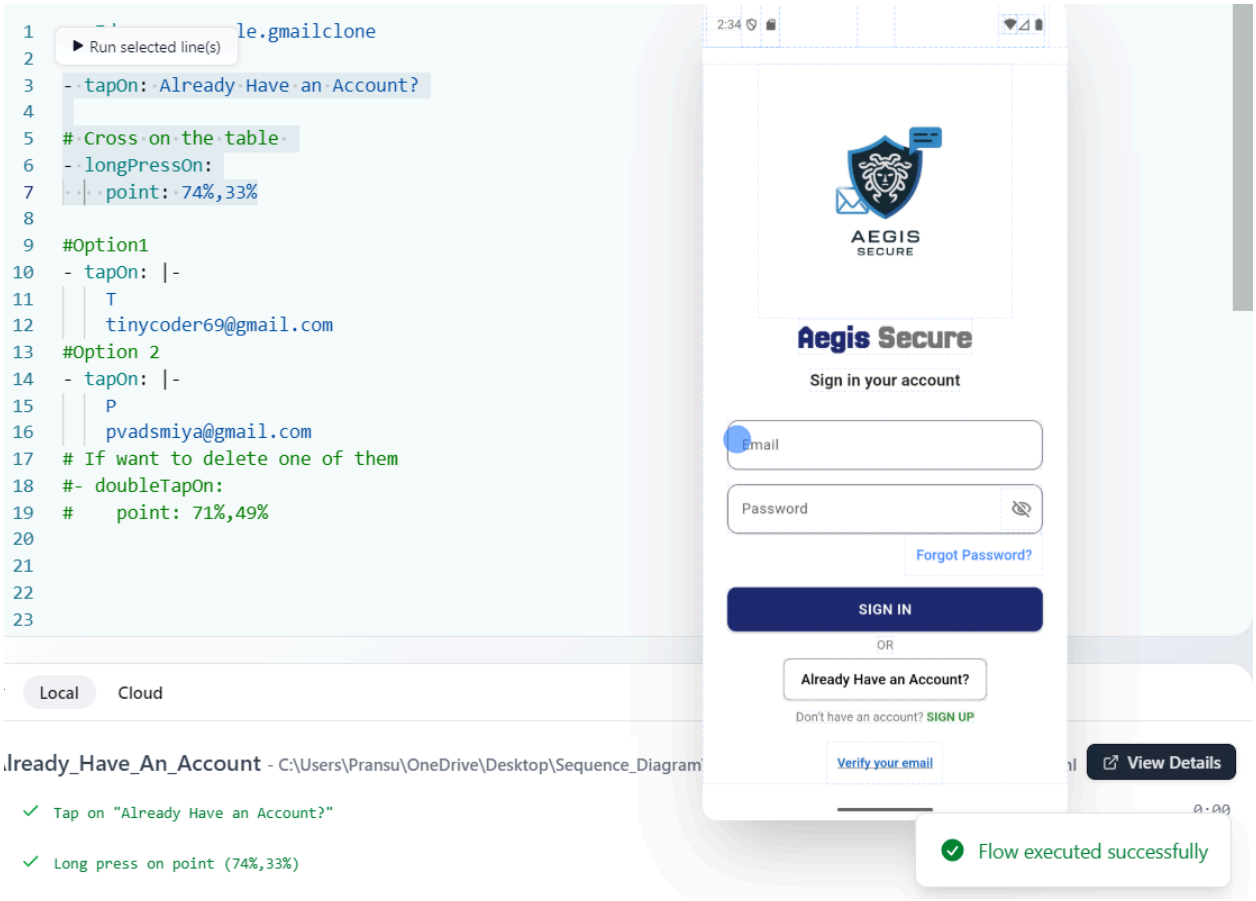
Already Have An Account ?

1.Signing in using pre-registered email ID :



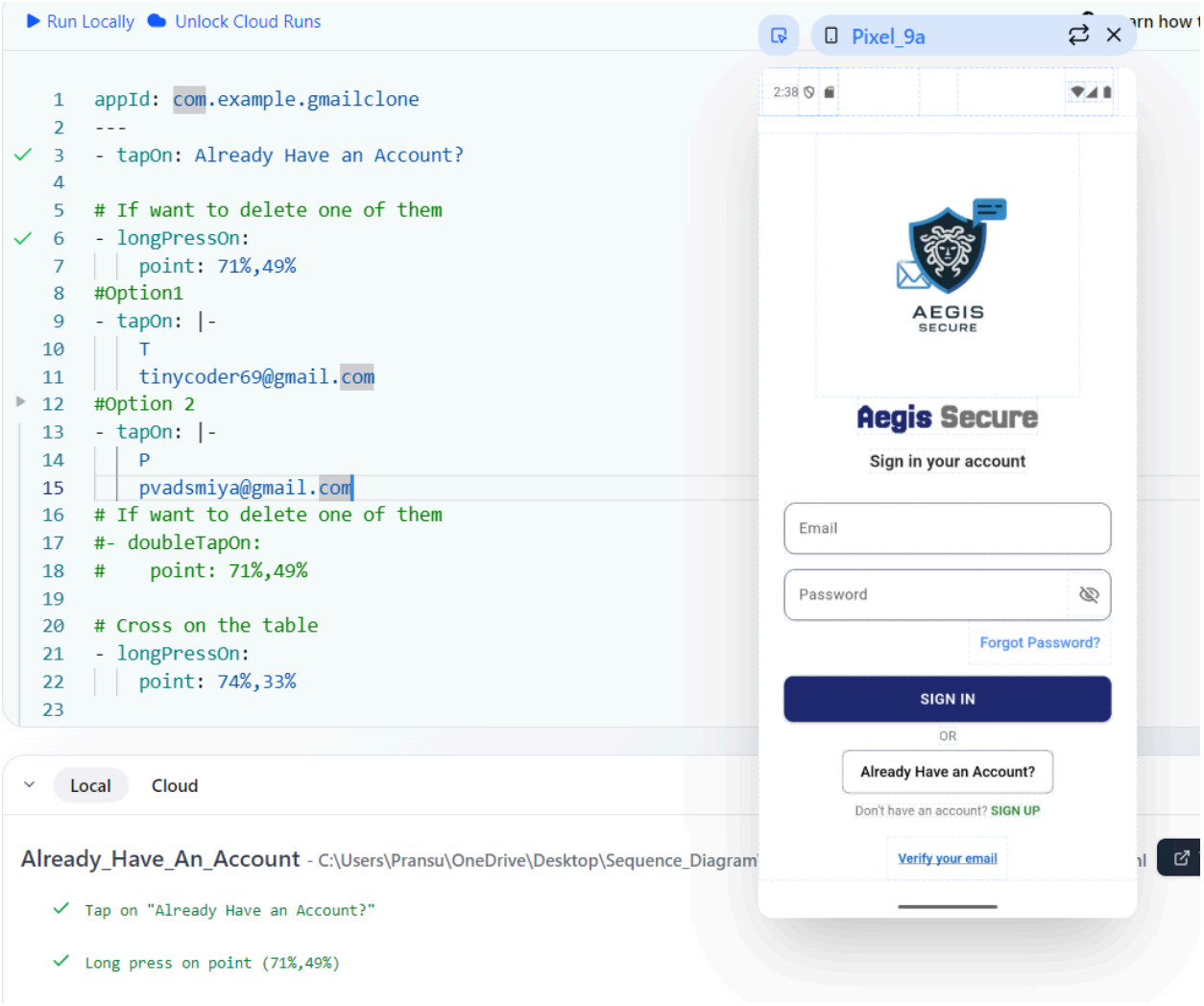
- The “Already Have an Account?” button was detected and responded correctly.
- The app displayed the account selection options properly.
- Tapping on a pre-registered email (e.g., *tinycoder69@gmail.com* or *pvadsmiya@gmail.com*) worked as expected.
- All clickable elements on the screen were active and responsive.
- The app successfully proceeded to the Home Page after selecting an account, confirming stable and correct UI behavior.

2.Clicking on the cancel/cross button after opening the ‘Already Have an Account?’ screen



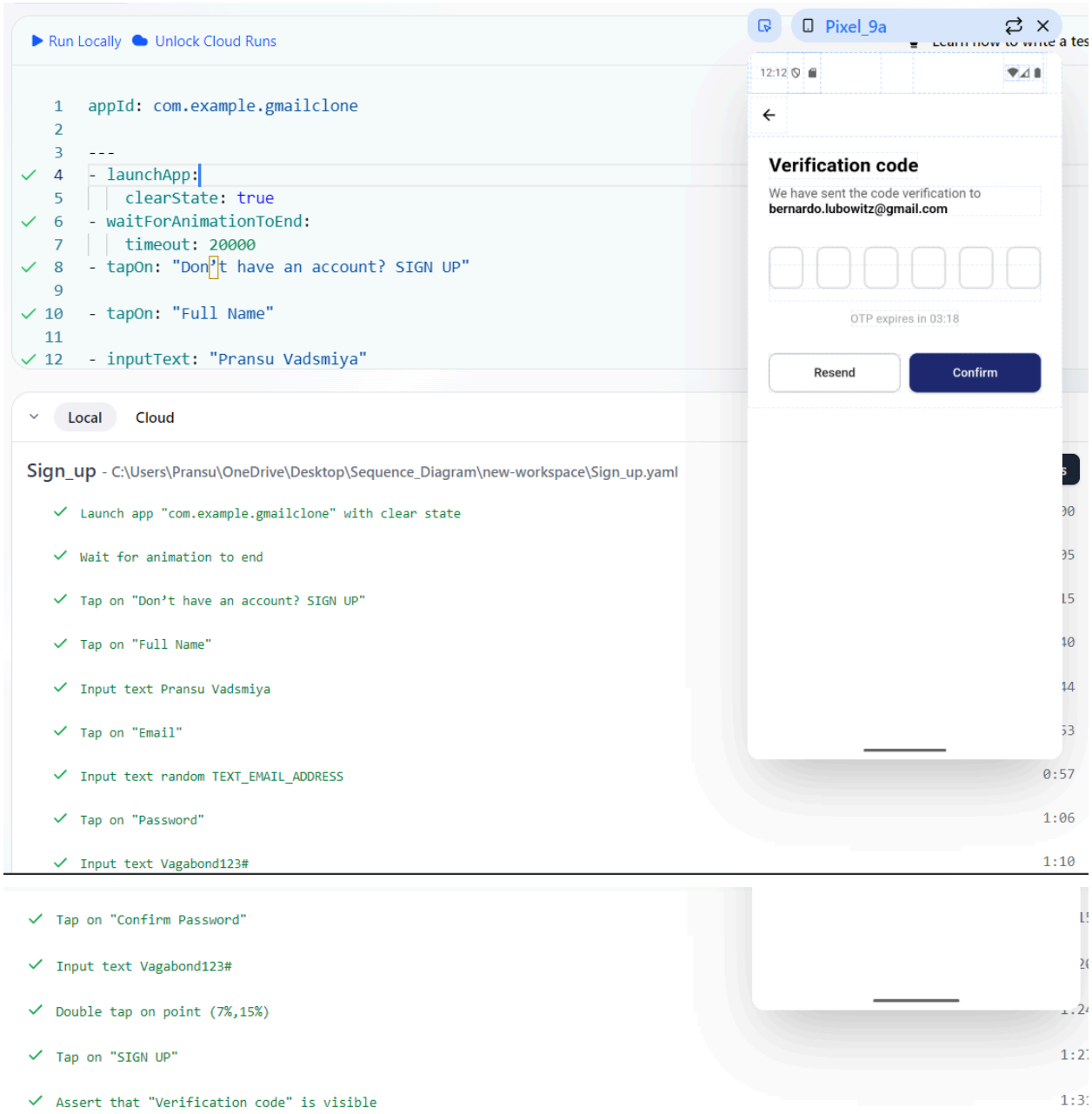
- The “Already Have an Account?” option opened the account selection screen correctly.
- The cancel/cross button was detected successfully through the long-press action.
- Tapping the cancel/cross button returned the user back to the Sign-In screen without any issues.
- All UI elements on this screen were responsive, confirming that the cancel action works properly and the navigation flow behaves as expected.

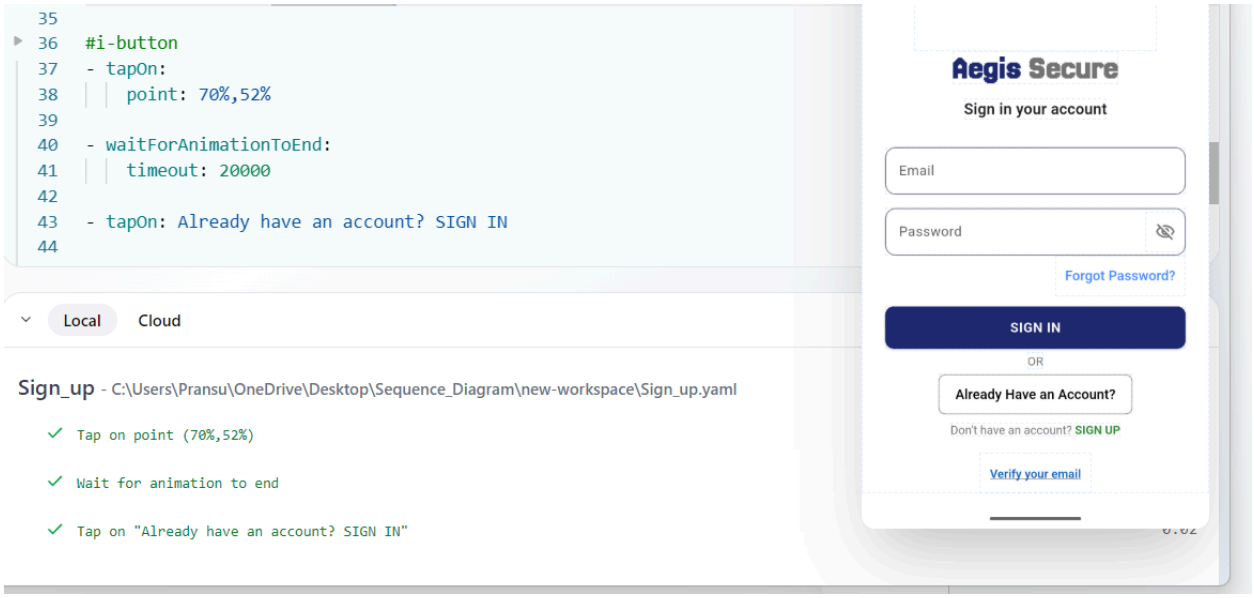
3.Clicking on the bin widget/icon on the side of the mail ID when ‘Already have an account?’ is pressed,deletes corresponding email address.



- The “Already Have an Account?” option opened the saved email list correctly.
- The bin/delete icon beside each email was detected and responded to user interaction.
- Long-pressing the bin area successfully removed the selected email from the list.
- The UI updated immediately after deletion, confirming proper functionality.
- All elements on the screen were responsive, showing that the email deletion feature works smoothly and as expected.

Sign up


Run Locally
Unlock Cloud Runs
1 appId: com.example.gmailclone
2
3 ---
4 - launchApp:
5 clearState: true
6 - waitForAnimationToEnd:
7 timeout: 20000
8 - tapOn: "Don't have an account? SIGN UP"
9
10 - tapOn: "Full Name"
11
12 - inputText: "Pransu Vadsmiya"
Local
Cloud
Sign_up - C:\Users\Pransu\OneDrive\Desktop\Sequence_Diagram\new-workspace\Sign_up.yaml
Launch app "com.example.gmailclone" with clear state
Wait for animation to end
Tap on "Don't have an account? SIGN UP"
Tap on "Full Name"
Input text Pransu Vadsmiya
Tap on "Email"
Input text random TEXT_EMAIL_ADDRESS 0:57
Tap on "Password" 1:06
Input text Vagabond123# 1:10
Tap on "Confirm Password"
Input text Vagabond123#
Double tap on point (7%,15%)
Tap on "SIGN UP" 1:27
Assert that "Verification code" is visible 1:31
Pixel_9a
12:12
Verification code
We have sent the code verification to
bernardo.lubowitz@gmail.com
OTP expires in 03:18
Resend
Confirm

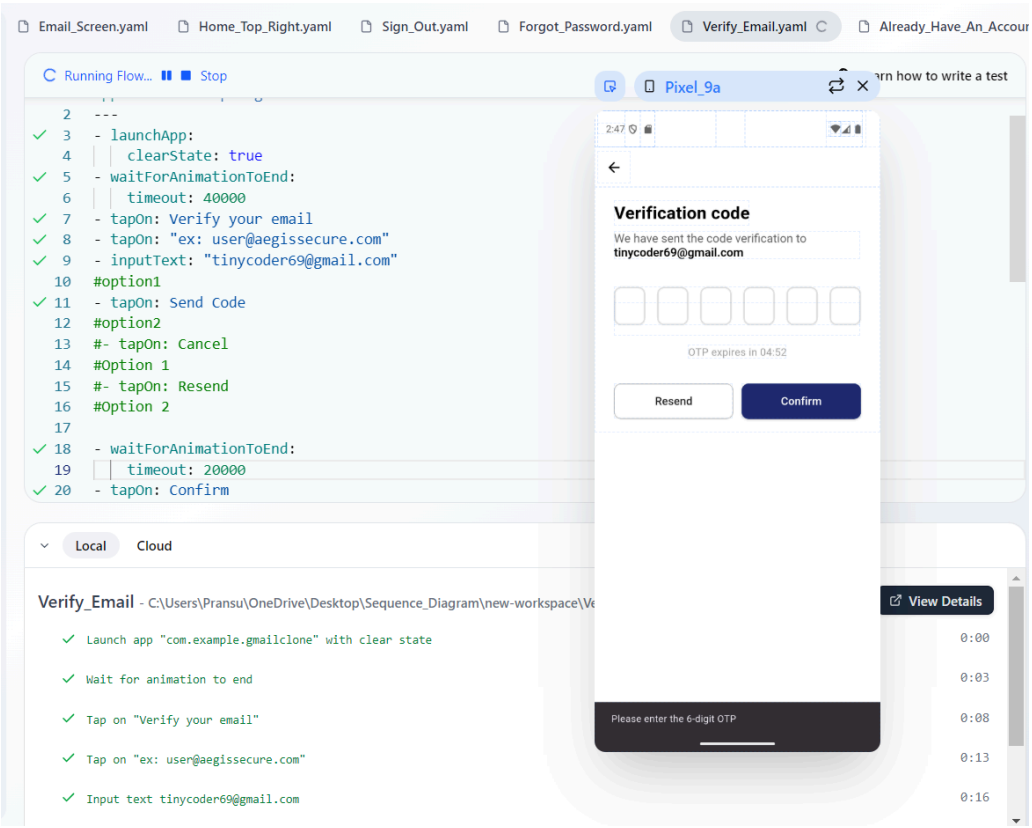


- The “Don’t have an account? SIGN UP” link worked and opened the sign-up form correctly.
- All input fields (Full Name, Email, Password, Confirm Password) were active and accepted user inputs without issues.
- Buttons like “SIGN UP” responded properly when tapped.
- After submitting the information, the app successfully moved to the Verification Code (OTP) screen.
- This shows that the Sign Up screen UI is working smoothly and all main elements behave as expected.

Verify the email

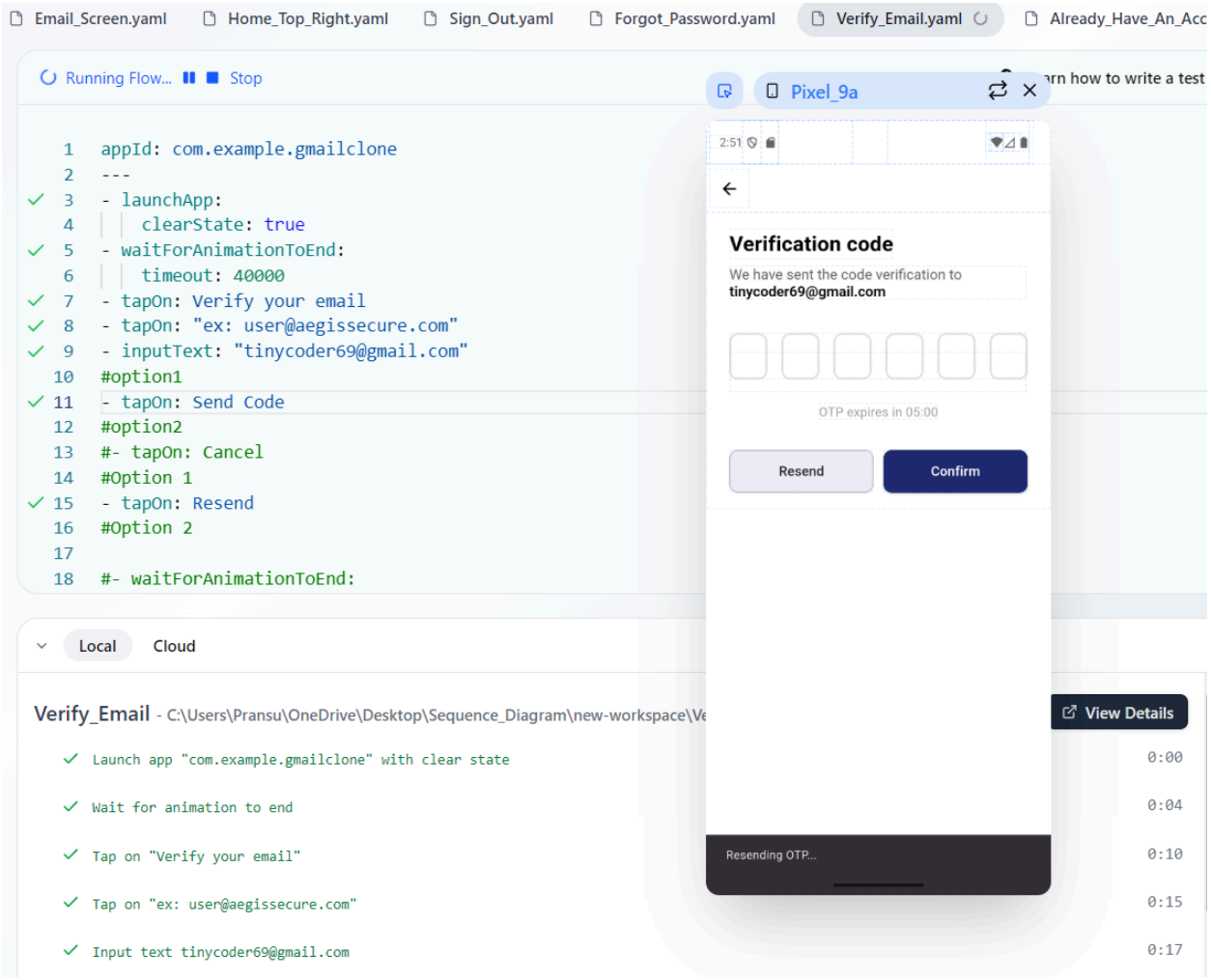
1.When we don’t want to cancel after writing the email.

OTP confirm button clicked



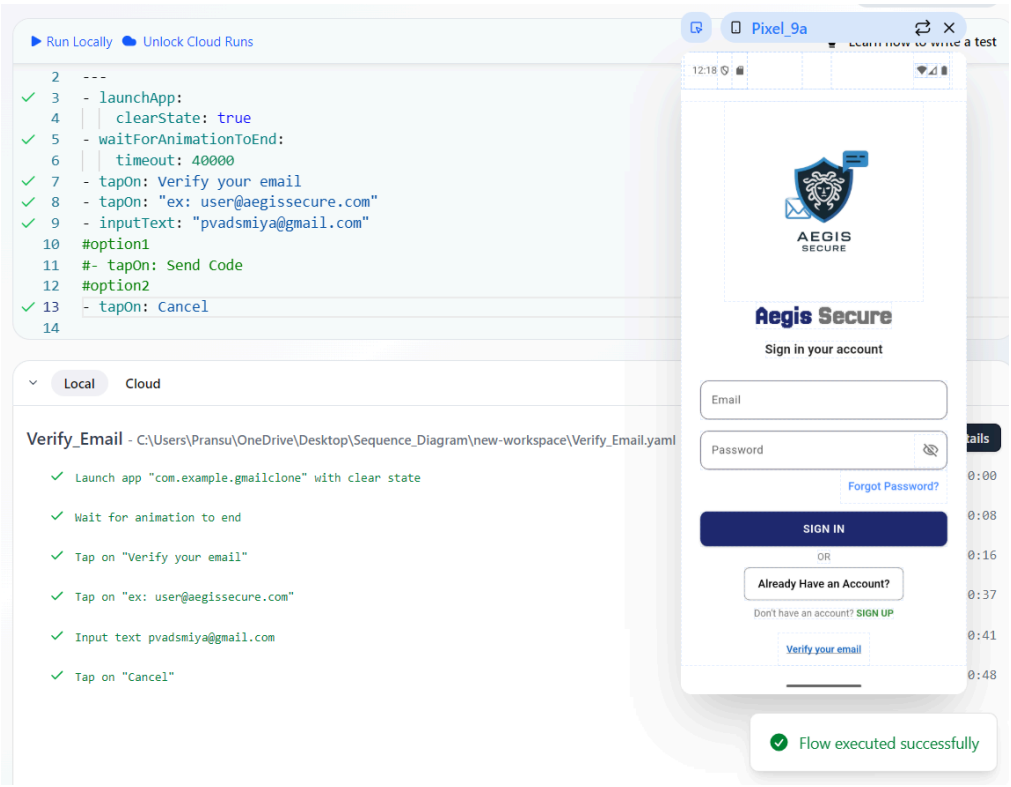
- The “Verify your email” option opened the OTP verification screen correctly.
- The app accepted the entered email and displayed the OTP input interface without issues.
- The “Send Code” and “Confirm” buttons were responsive and triggered the expected actions.
- The verification screen loaded properly and all interactive elements behaved as intended, confirming that the email verification flow works smoothly.

The OTP was resend :-



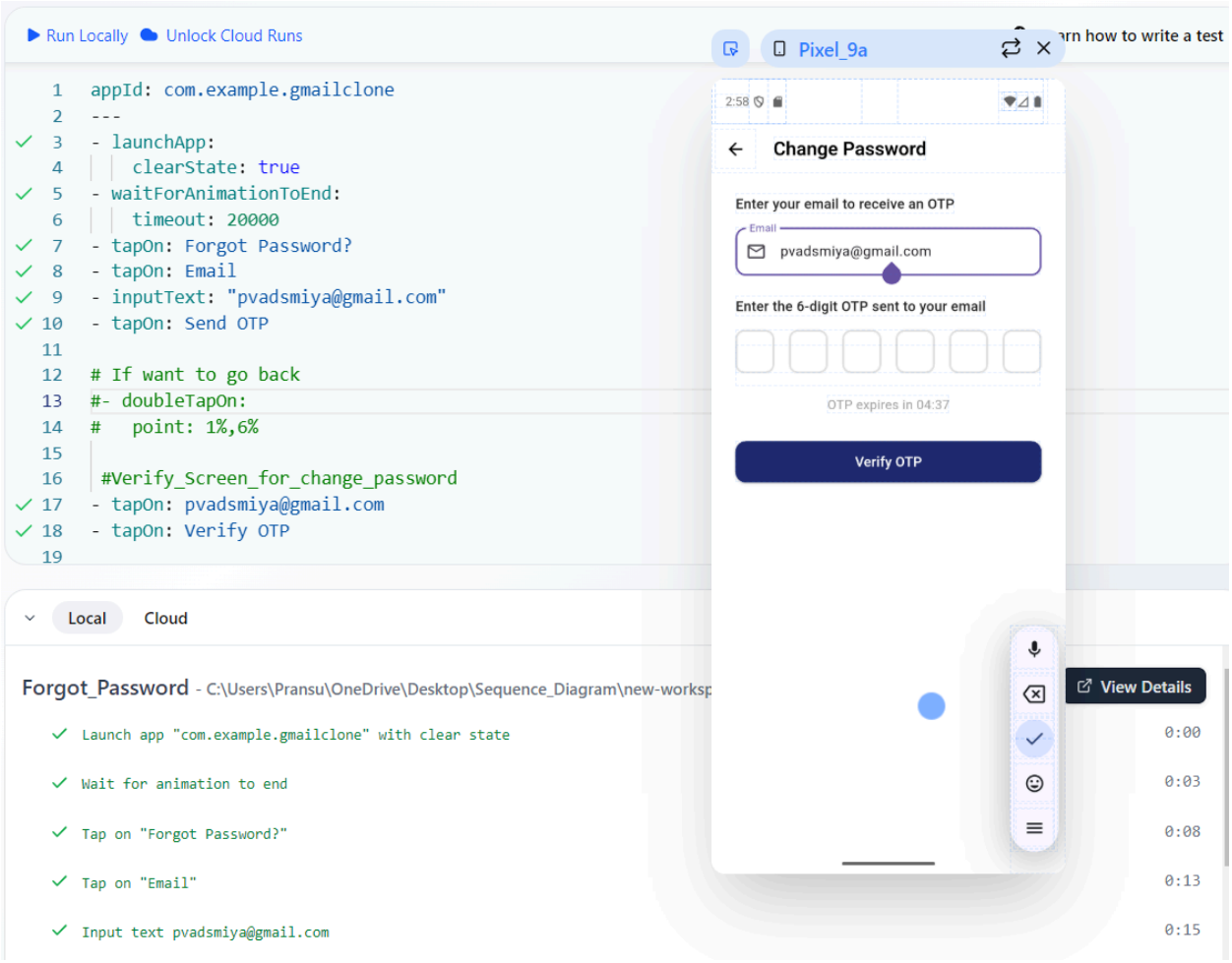
- After entering the email, the OTP verification screen loaded correctly.
- The “Resend” button was active and responded immediately when tapped.
- The app successfully triggered the OTP resend process, confirming the expected behavior.
- All interactive elements remained functional, showing that the resend feature works smoothly and reliably.

2.When we want to cancel after adding the email

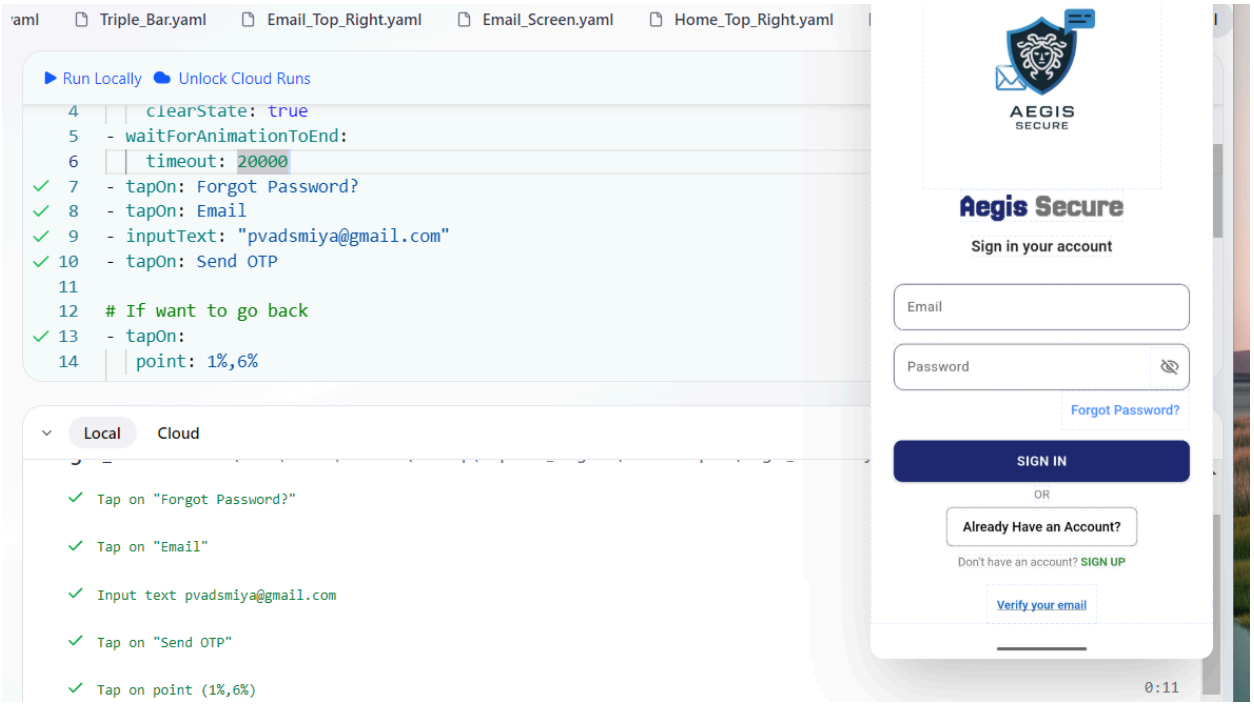


- The email field allowed the user to enter their email normally.
- The “Cancel” button was clickable and responded correctly.
- After pressing Cancel, the app returned safely to the Sign-In screen without errors.
- This shows that the cancellation flow works properly and the user can back out of the verification process anytime.

Forgot password



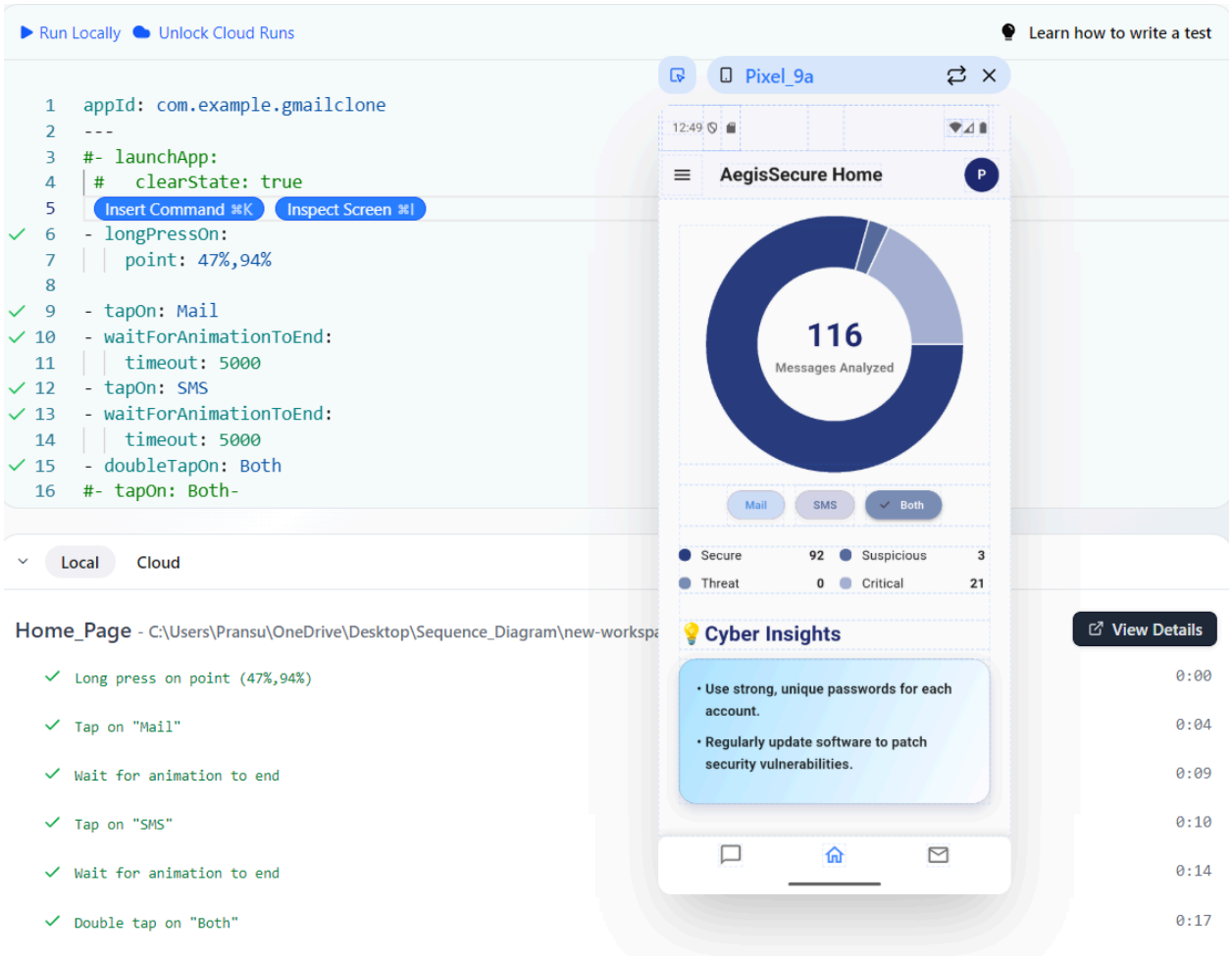
- The “Forgot Password?” button was detected and opened the password recovery screen correctly.
- The Email field accepted user input without any issues.
- The “Send OTP” button responded properly and navigated to the OTP verification section.
- The verification screen loaded smoothly, and all elements—including the email display and “Verify OTP” button—were active and responsive.
- Overall, the Forgot Password workflow functioned correctly and behaved as expected.



- The “Forgot Password?” button opened the correct password-reset screen.
- The email field accepted the user’s input without any problems.
- The back action (double tap/tap on the top-left/back area) worked correctly.
- After going back, the app returned safely to the main Sign-In page.
- This shows that the back-navigation from the Forgot Password screen works properly and the user can return without completing the reset.

Home Page

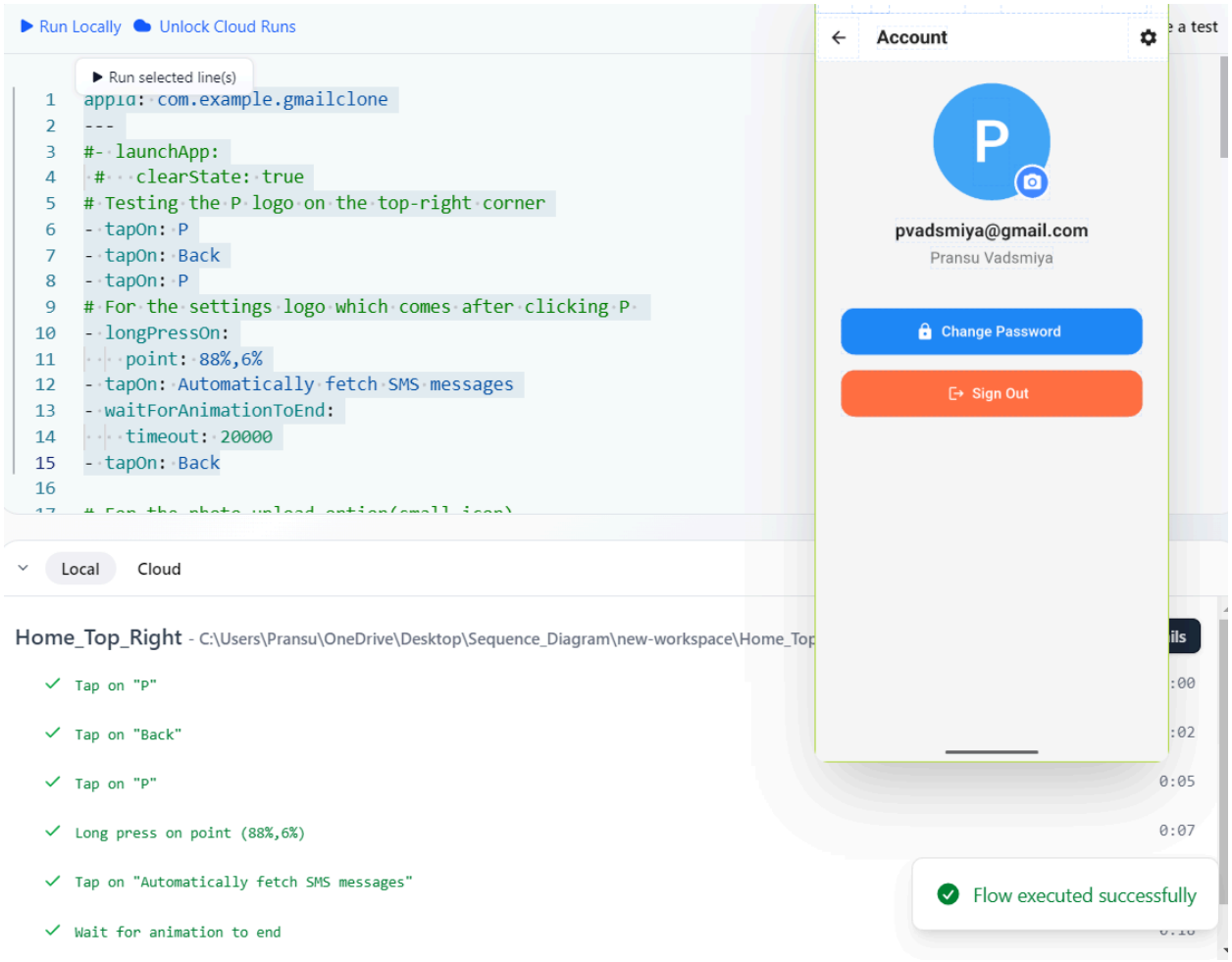
1.Analysis Page



- The Home Page loaded correctly and all visible elements appeared as expected.
- The “Mail,” “SMS,” and “Both” filter buttons were active and responded instantly when tapped.
- The long-press and double-tap actions were recognized successfully on the Home Page.
- The UI updated properly after each interaction, confirming that the Home Page is fully functional, responsive, and stable.

Home Page (Top Right)

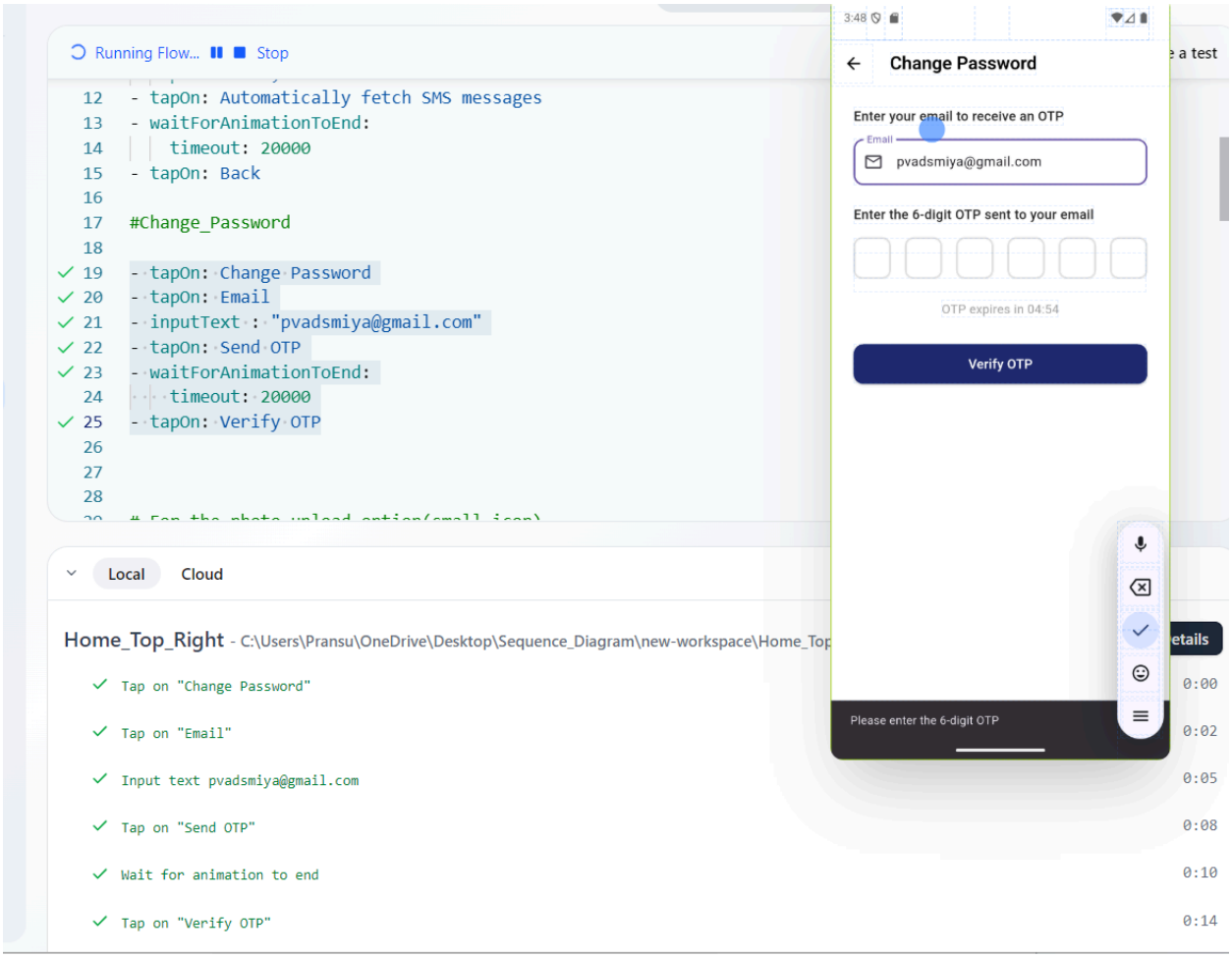
1.Settings



- Tapping the profile icon in the top-right corner opened the Account/Settings screen correctly.
- Inside the Settings tab, “Automatically fetch SMS messages,” was active and responded as expected.
- Navigation actions such as opening Settings and returning back worked smoothly.

- The interface remained responsive throughout, confirming that the top-right Settings section functions properly and consistently.

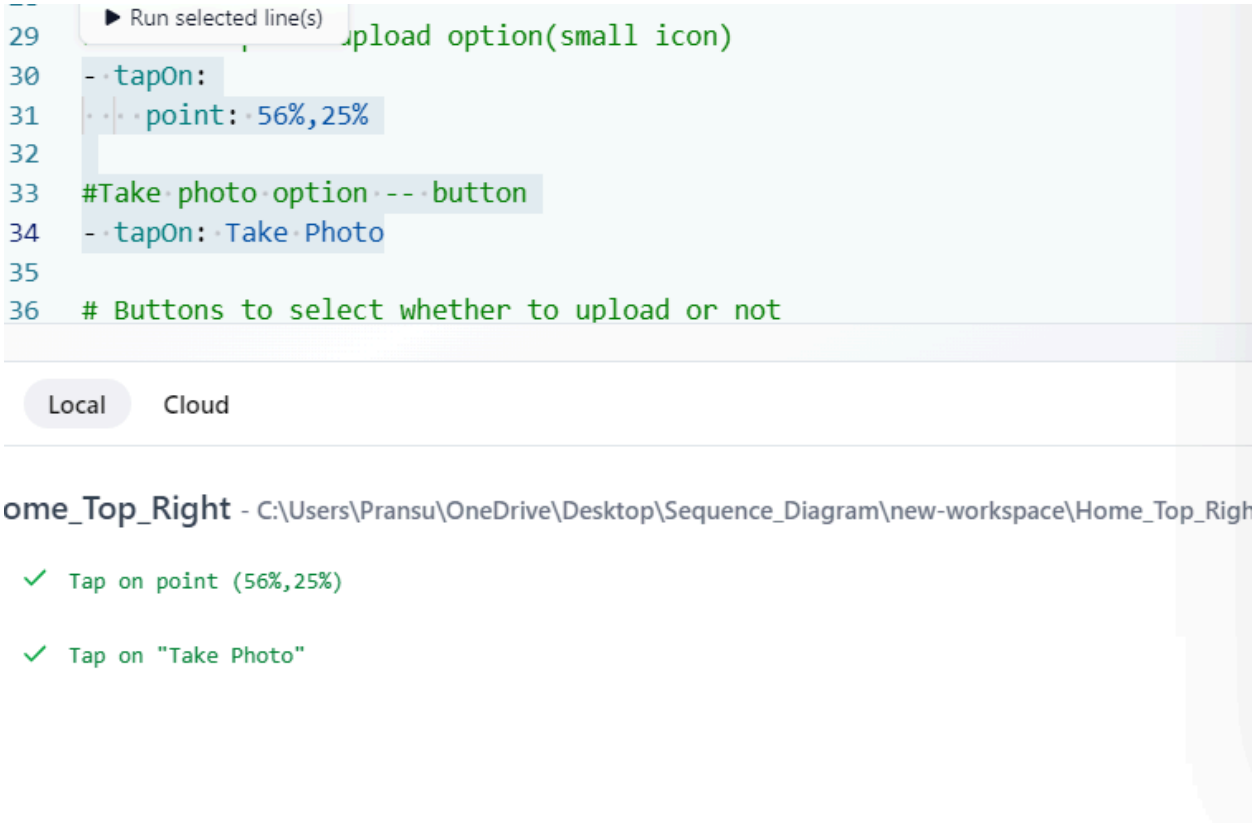
2.Change Password



- The “Change Password” option opened the password reset screen successfully.
- The Email field accepted input correctly and without delay.
- The “Send OTP” button responded immediately and loaded the OTP verification section.
- The “Verify OTP” button was active and clickable on the verification screen.

- Overall, the Change Password flow functioned smoothly, and all UI elements behaved as expected.

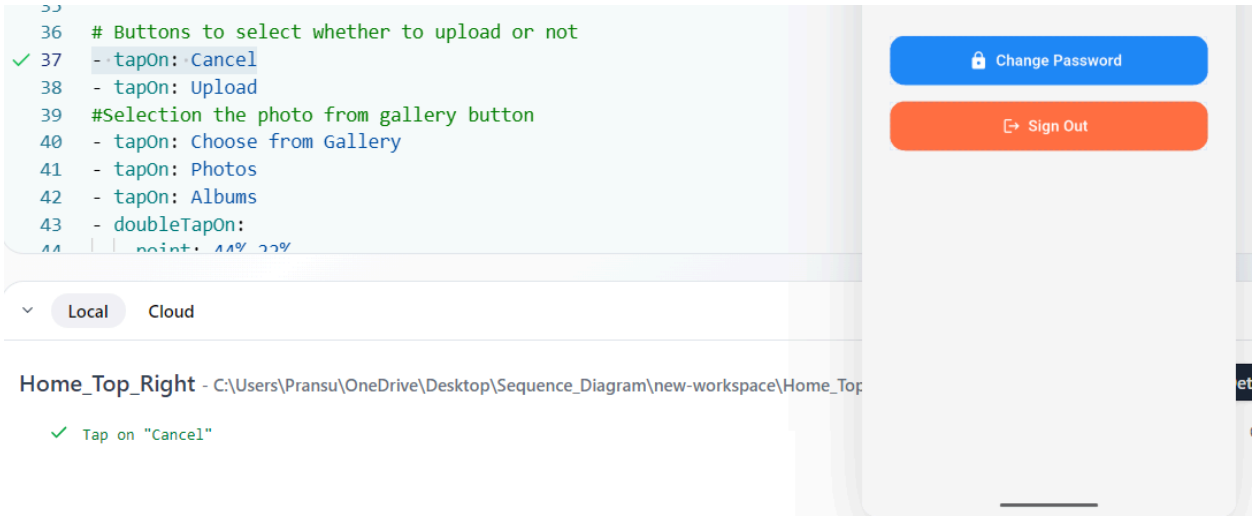
3.Taking photo



- The double-tap action at the specified screen position (56%, 25%) worked correctly and successfully opened the photo options menu.

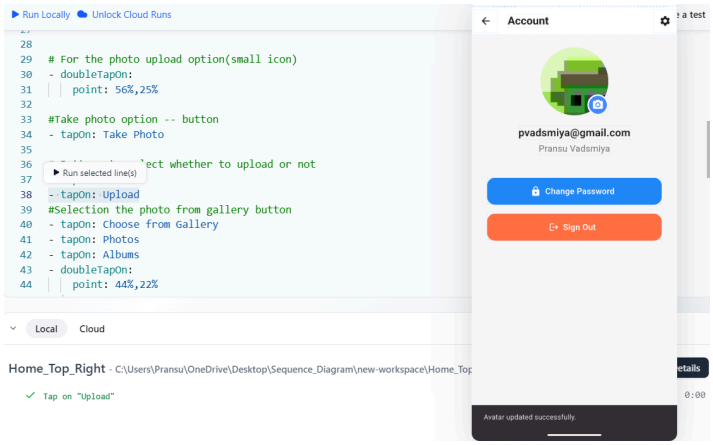
- The “Take Photo” option responded immediately when tapped, confirming that the menu interaction and button functionality are working as expected.

4. Cancelling the taken photo



- Tapping the “Cancel” button worked correctly and dismissed the photo upload options.
- The app returned to the previous screen smoothly, confirming that the cancel action is responsive and functioning as intended.

5.Uploading the photo taken

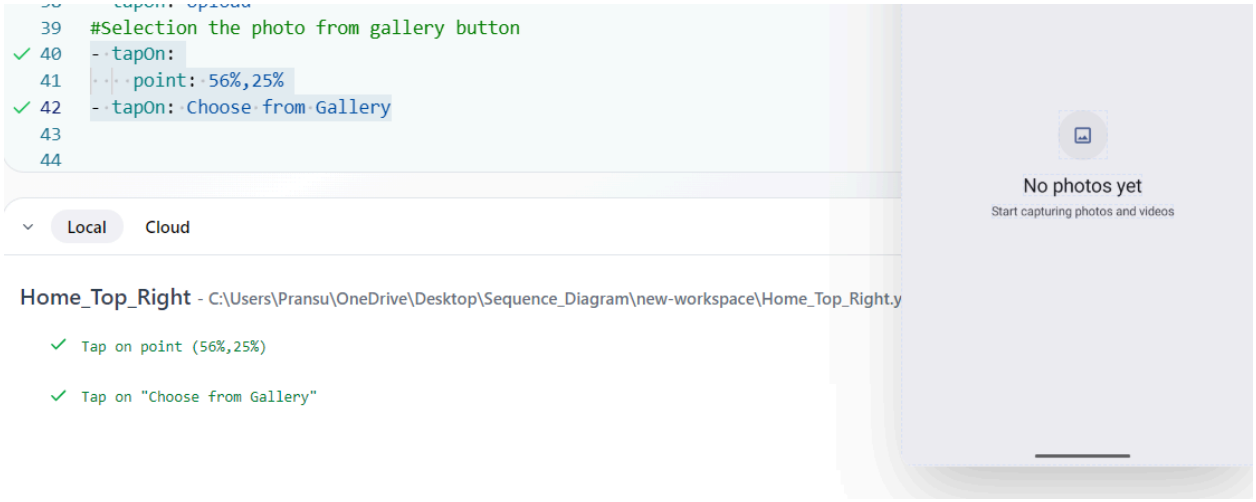


- The “Upload” button responded correctly when tapped.

- The selected photo was uploaded successfully, and the profile avatar updated immediately.

- This confirms that the photo upload functionality works smoothly and behaves as expected.

6. Checking the select from gallery button



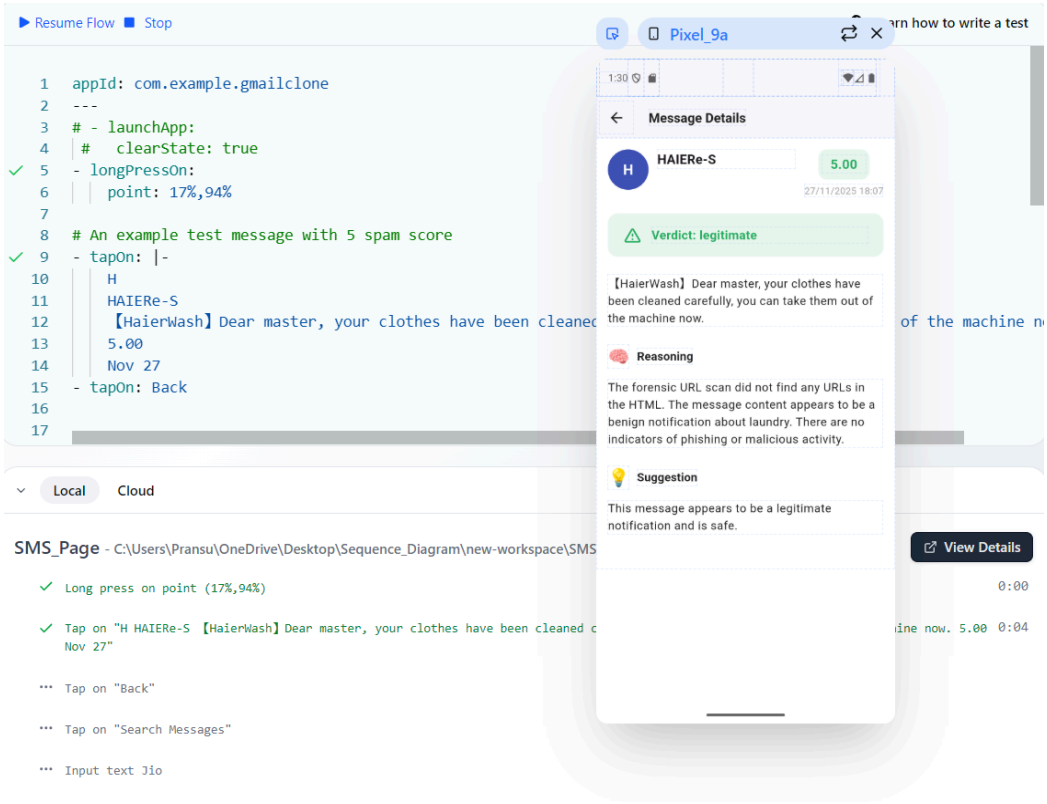
- The double-tap action successfully opened the photo selection options.

- Tapping on “Choose from Gallery” worked correctly and opened the device’s gallery screen.

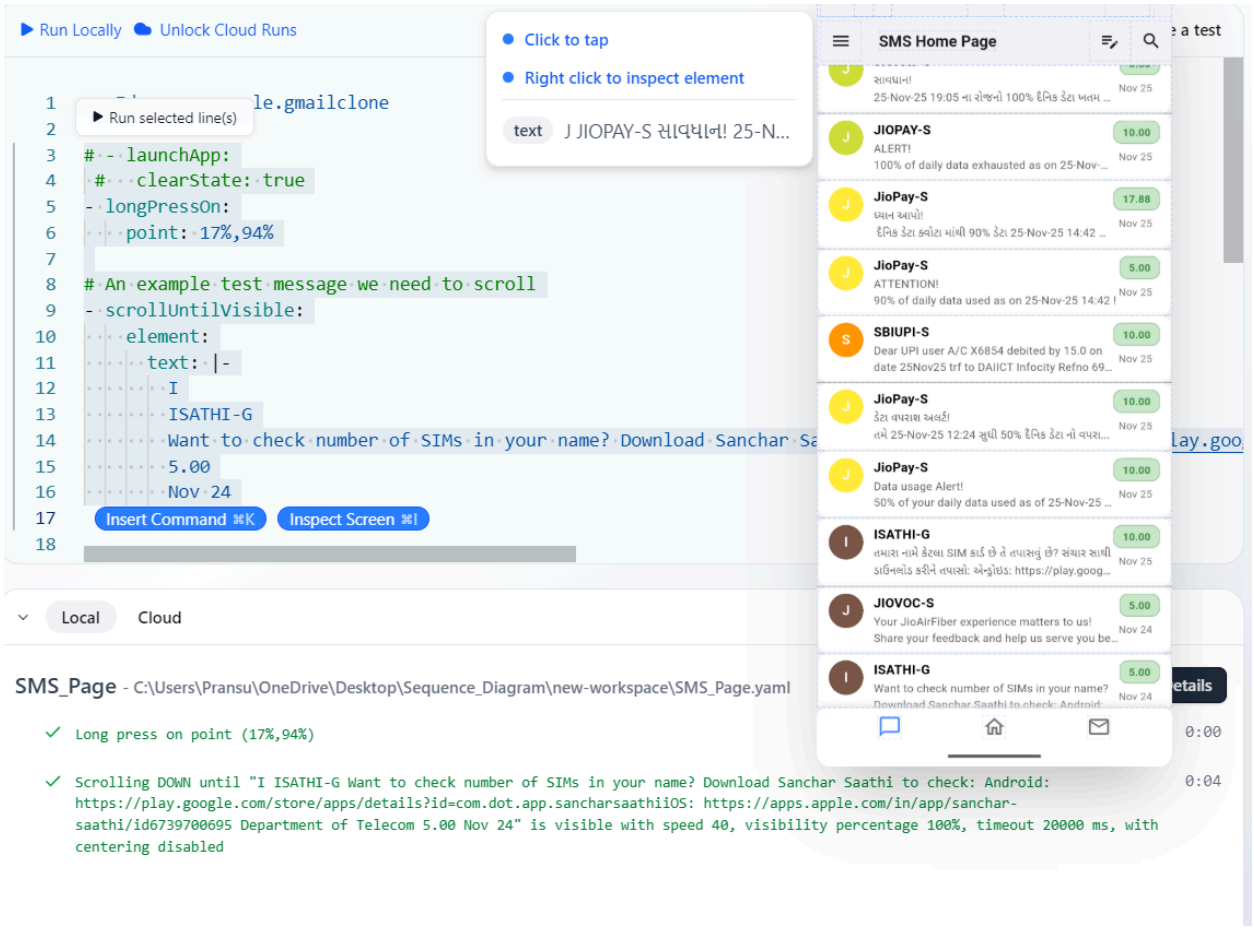
- The gallery interface loaded properly, confirming that the gallery selection feature is fully functional.

SMS Page

1.Checking if SMS opens :



- The long-press action correctly selected the SMS from the list.
- The chosen SMS opened successfully, and all message details were displayed without delay.
- The UI inside the SMS details screen was fully responsive, confirming that SMS messages open and load correctly as expected.



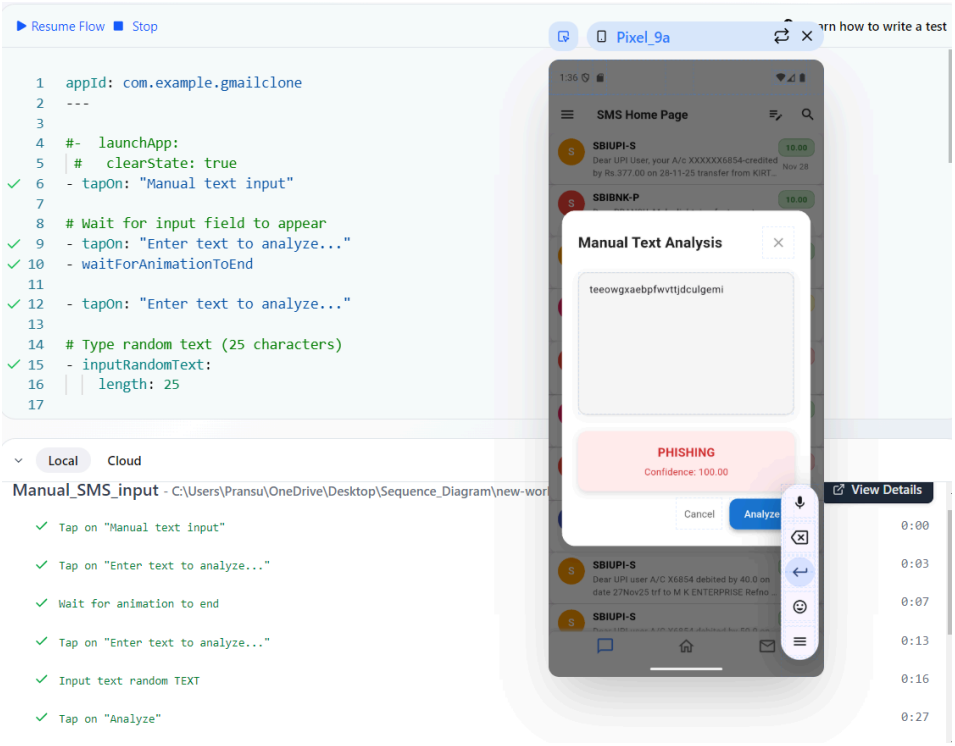
- The scroll action worked correctly, moving down the list until the target SMS became visible.
- The target message appeared after scrolling, confirming that the SMS list is fully scrollable and responsive.

2. Checking if Search bar is responsive:

- The search bar accepted the input (“Jio”) correctly and filtered the SMS list instantly.
- The scroll action worked within the search results, successfully finding the target SMS.
- The filtered list remained responsive while scrolling, confirming that both the search functionality and scroll behavior work properly.

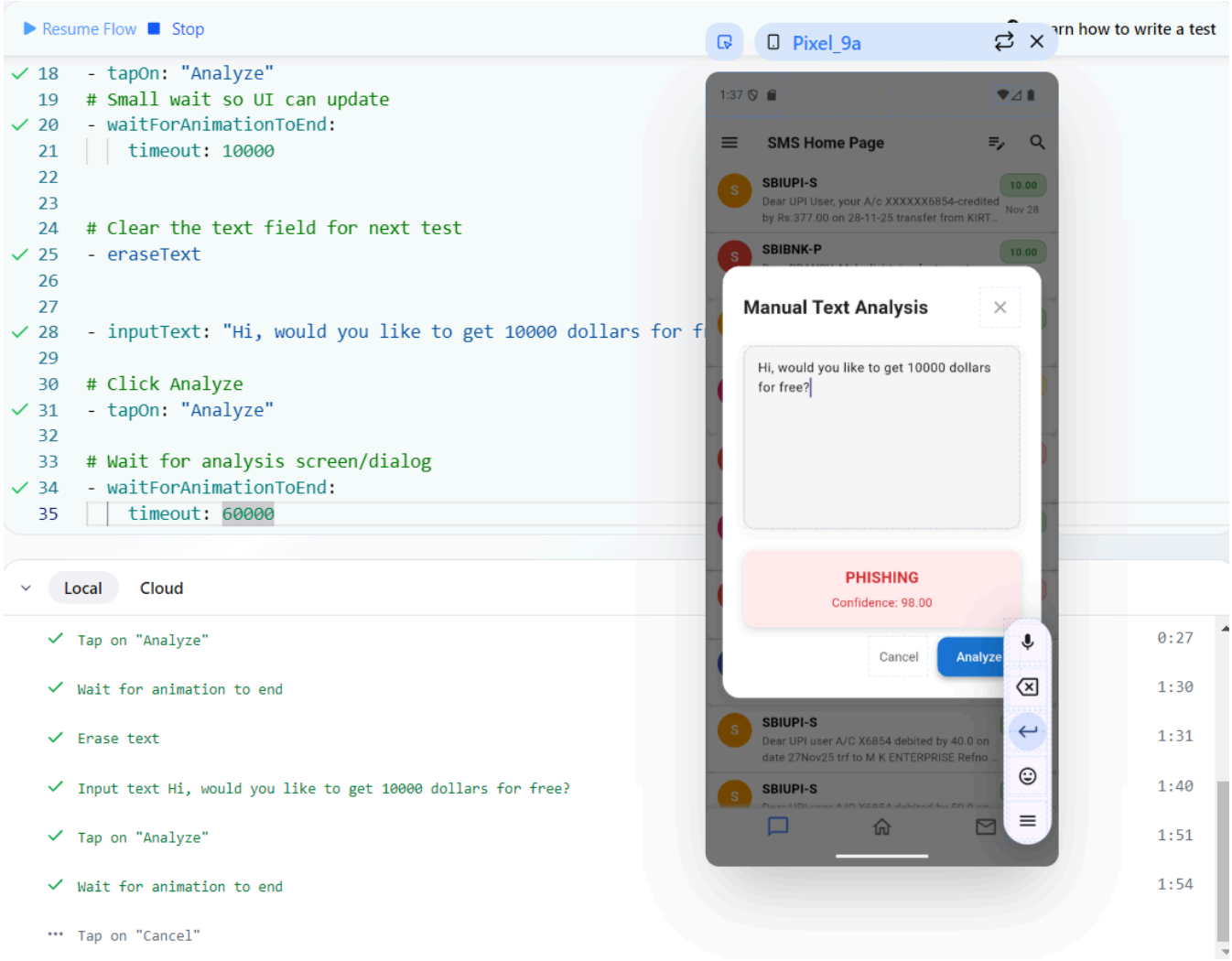
Manual Text Input

1.Entering some random text input



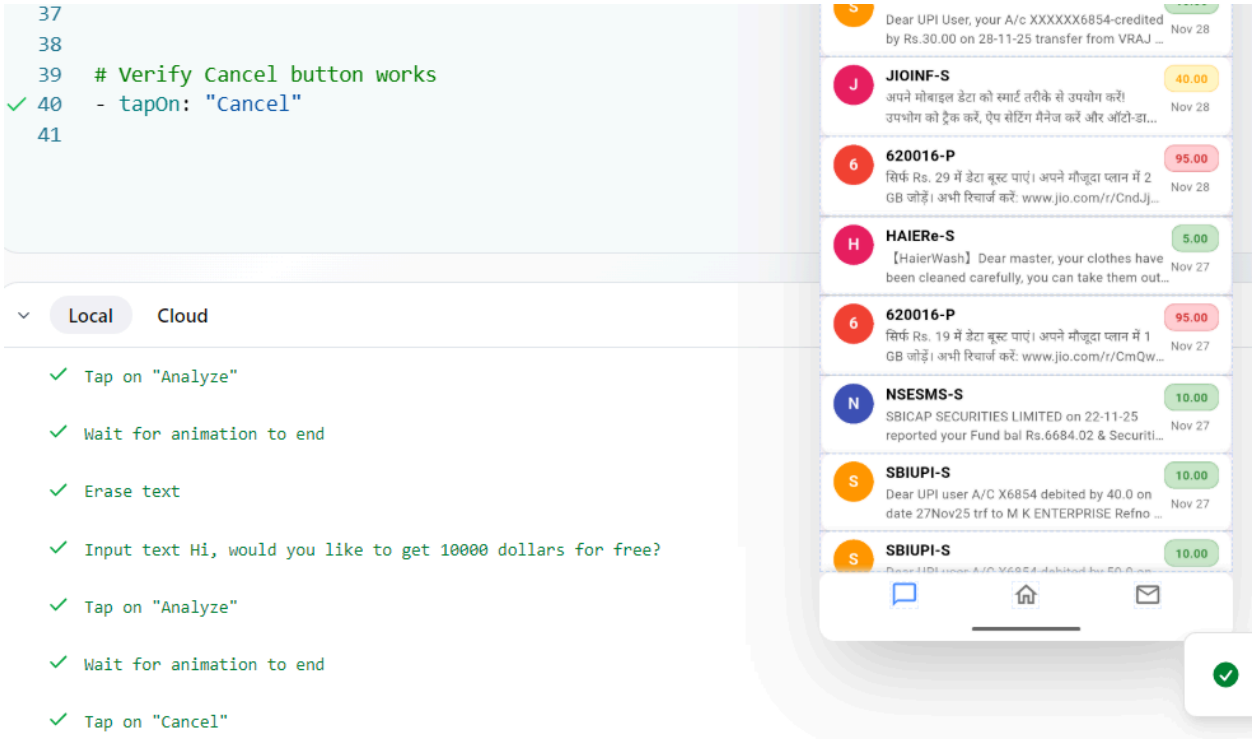
- The “Manual text input” option opened correctly and displayed the text analysis dialog.
- The input field responded and accepted randomly generated text without any issues.
- Tapping the “Analyze” button worked properly, and the system generated a phishing analysis result instantly.
- This confirms that manual text entry and analysis functionalities are fully responsive and working as expected.

2.Entering meaningful text input :



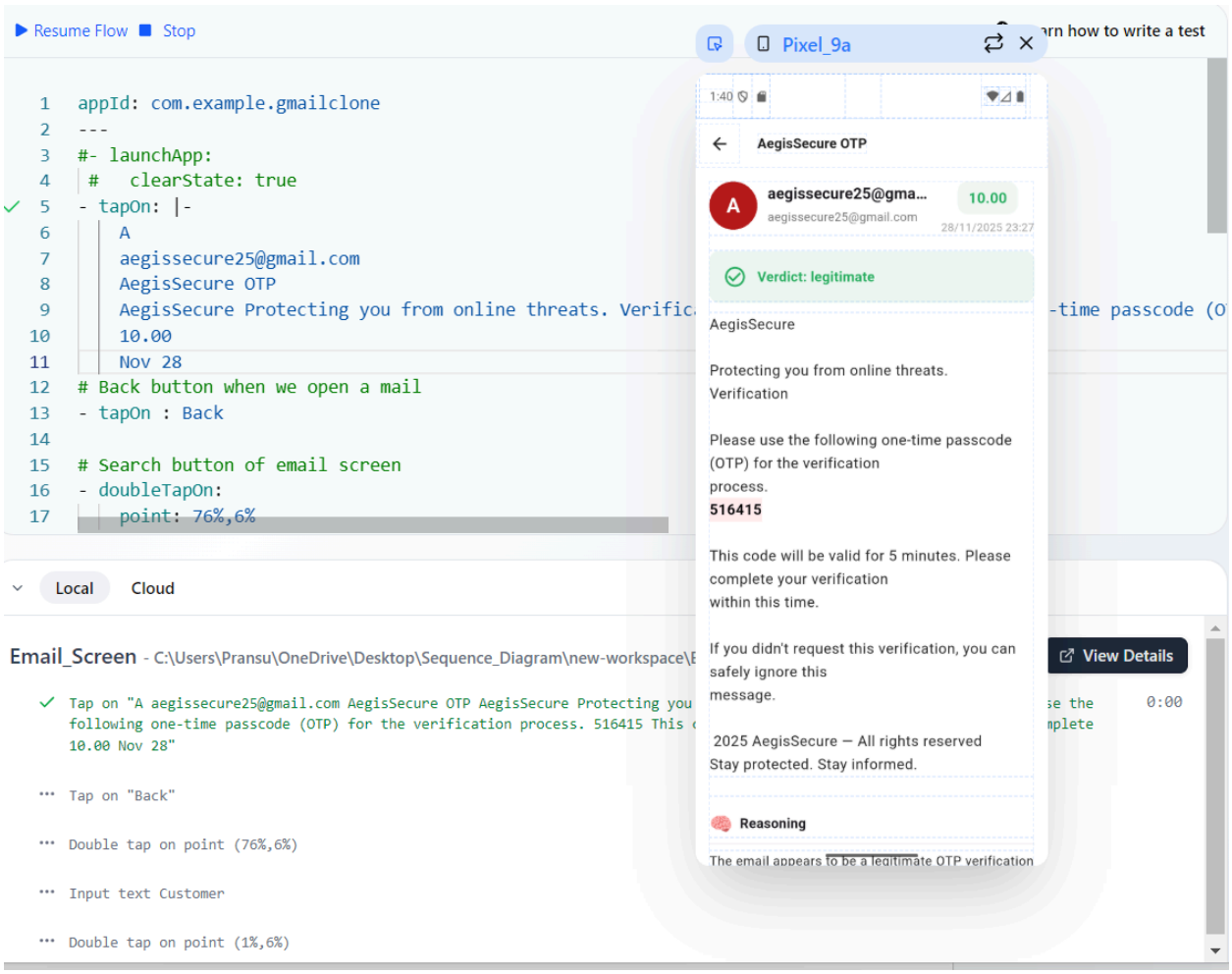
- The input field was cleared successfully and accepted the meaningful text without any issues.
- The “Analyze” button responded correctly and triggered the text analysis process.
- The analysis result appeared smoothly, identifying the message as phishing with a high confidence score.
- This confirms that meaningful text input and analysis functionalities are fully responsive and working as intended.

3. Checking the cancel button

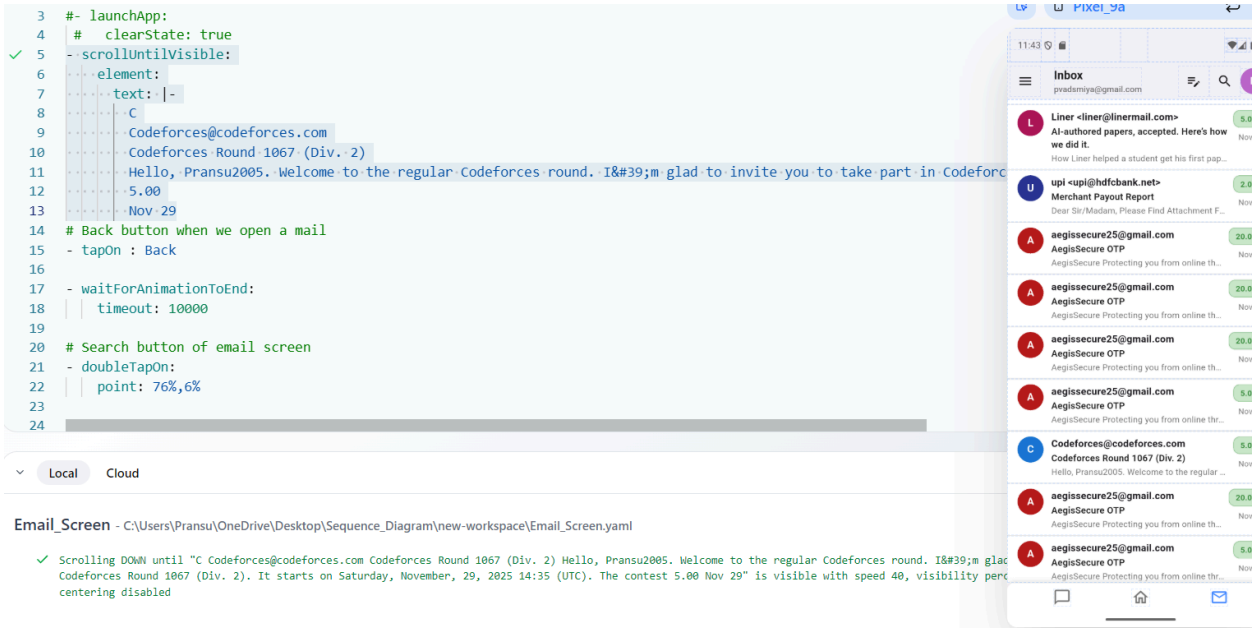


- The “Cancel” button responded immediately when tapped.
- The manual text analysis dialog closed successfully and returned to the SMS list view.
- This confirms that the Cancel button is fully functional and performs the expected dismissal action

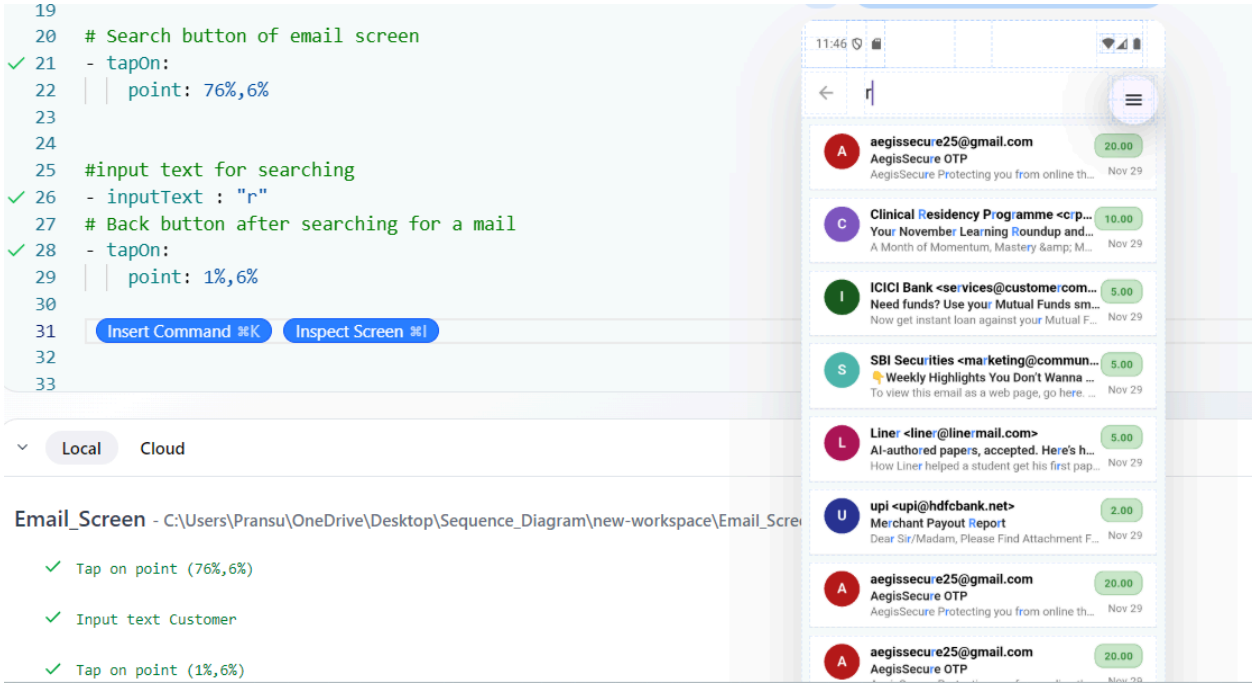
Email



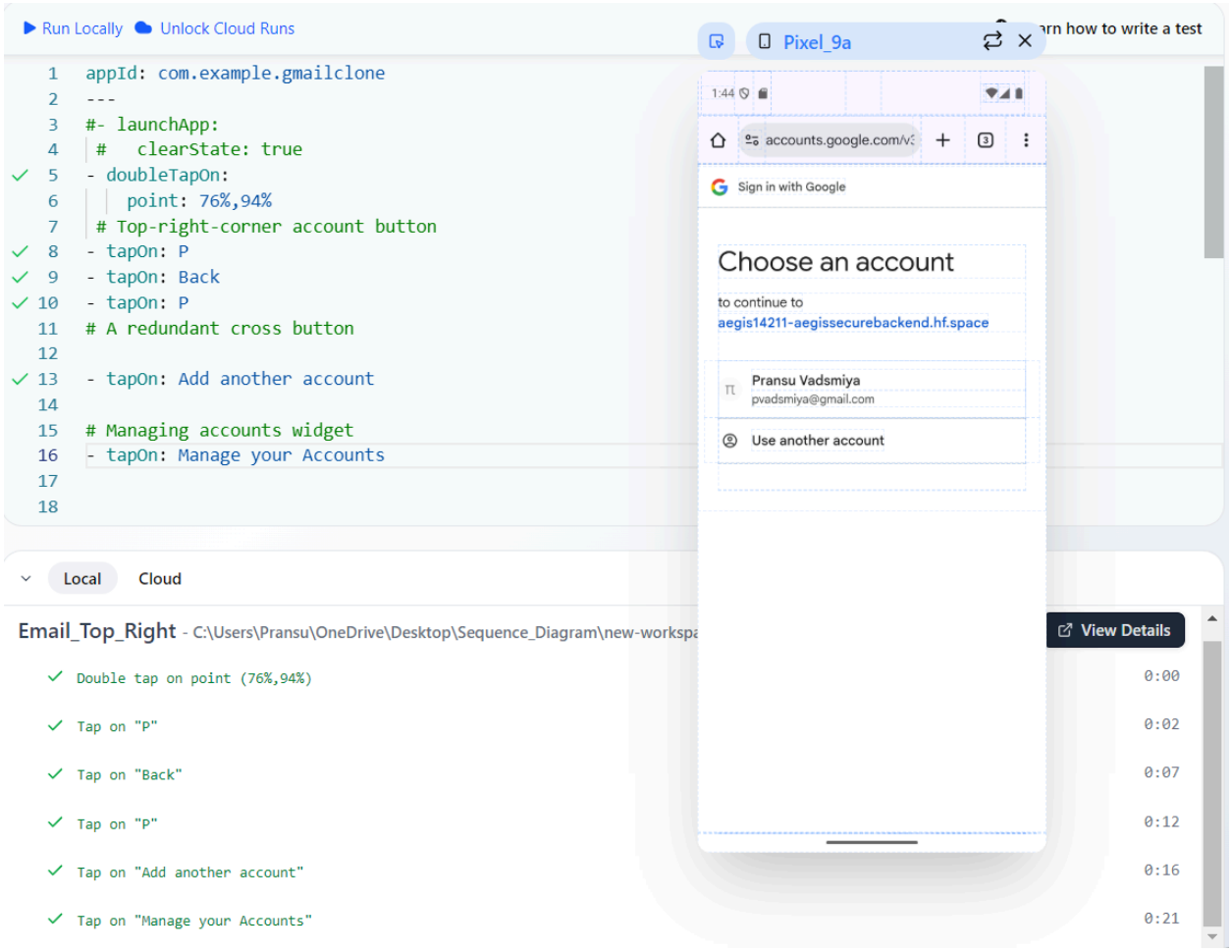
- The selected email opened correctly and displayed all details without delay.
- The Back button responded properly and returned to the email list screen.
- The search icon on the email screen was detected and reacted instantly to the double-tap action.
- These actions confirm that the email view and its navigation elements are fully functional and responsive.



- The scrolling functionality on the Email screen worked correctly and was able to locate the target email even when it was partially off-screen.
- The test successfully identified the Codeforces mail by matching its subject, sender, and content snippets.
- The back navigation also responded as expected, returning to the inbox without errors.

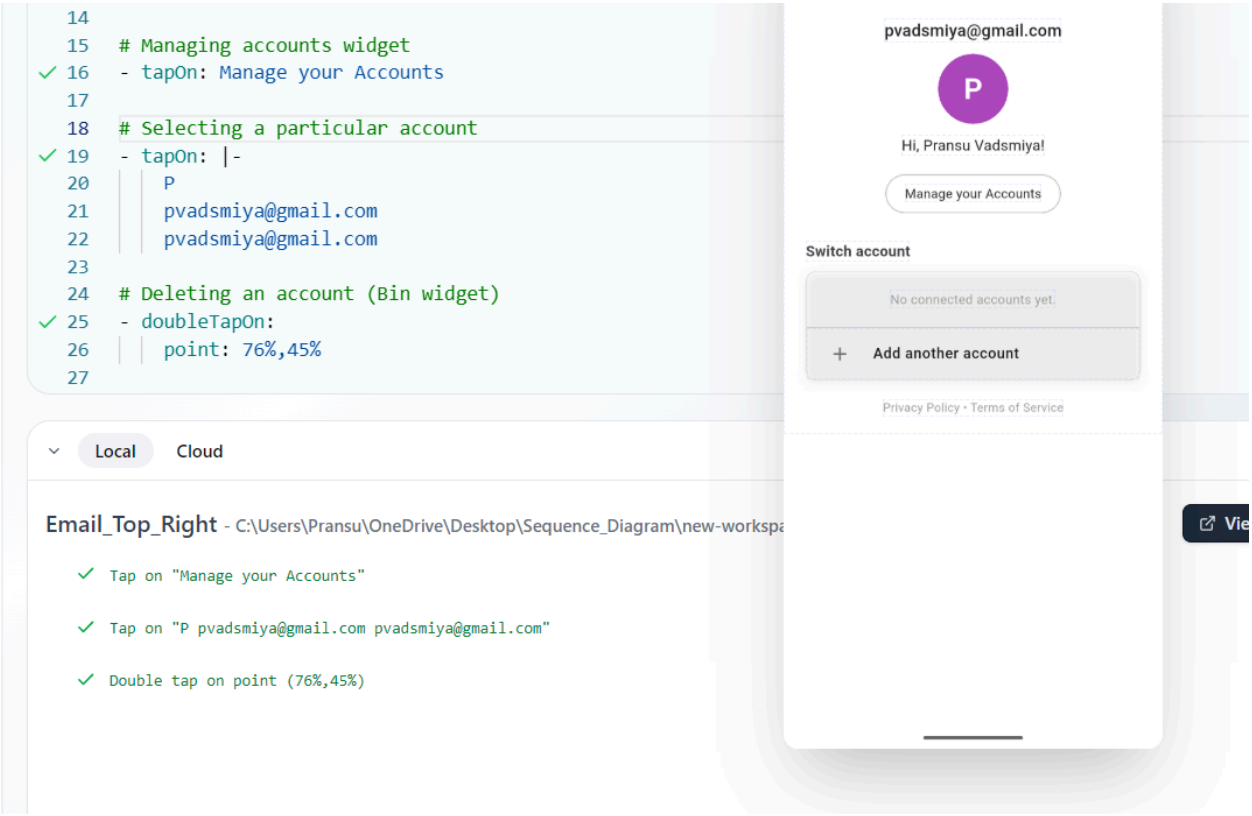


- The search button on the email screen responded correctly to the double-tap and opened the search bar.
- Entering the keyword **“r”** worked properly, and the system searched through the emails.
- The UI correctly displayed **“matching emails”**, confirming that the search function behaves accurately.
- The back button navigated back from the search screen without any issues.



- The tap on the top-right profile icon was detected correctly and opened the account menu.
- Navigation through the Back button and re-opening the menu worked smoothly.
- The “Add another account” option responded immediately and opened the Google account selection screen.

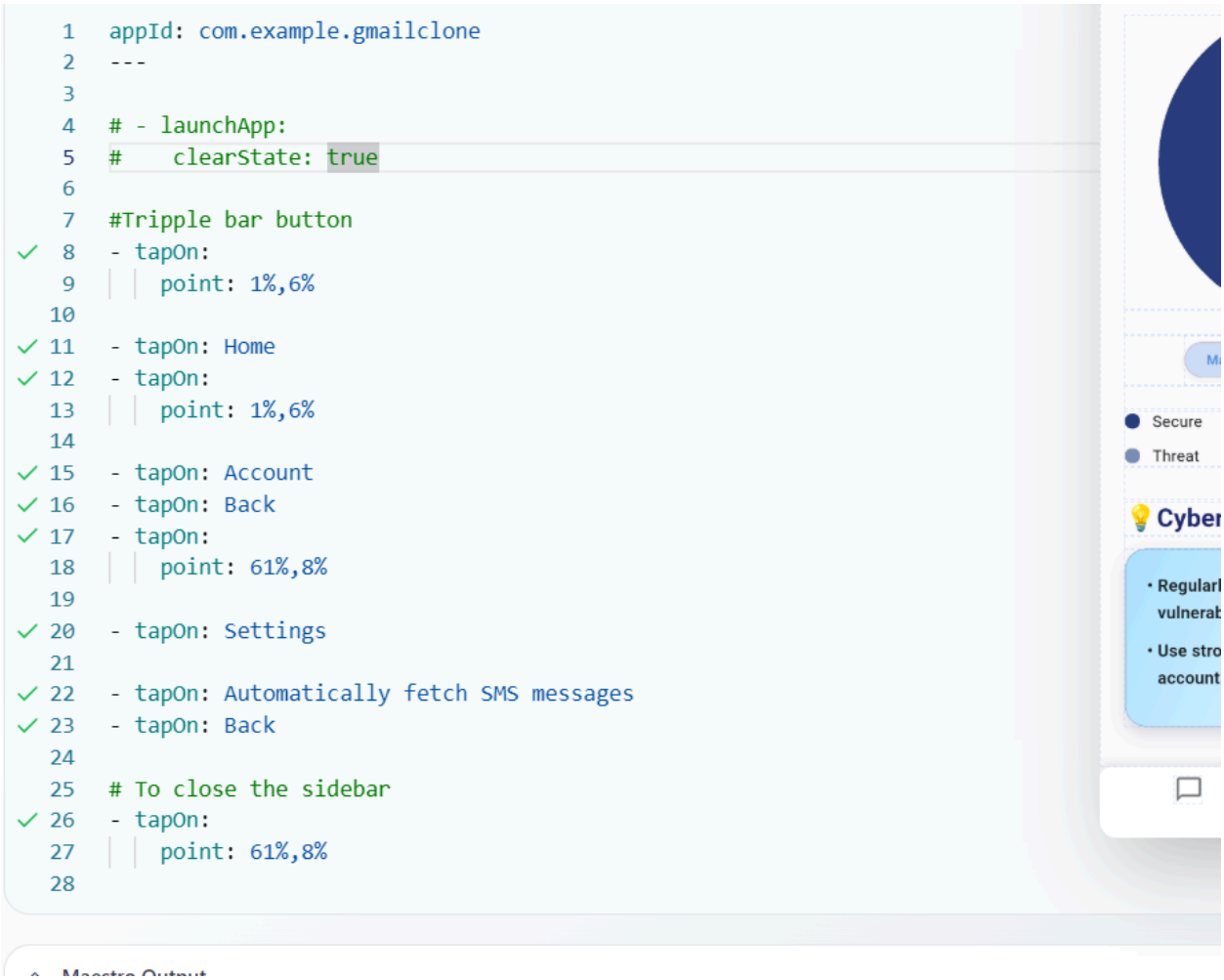
- However, the **“Manage your Accounts” button did not work as expected**, indicating an issue with its functionality or navigation flow.



- Selecting a particular account from the list worked correctly and responded immediately.
- The double-tap on the bin icon functioned properly and initiated the delete action on the selected account item.
- Aside from the non-responsive “Manage your Accounts” button, all other interactions performed as intended.

SIDEBAR

1.Testing the buttons



```
appId: com.example.gmailclone
---

# - launchApp:
#    clearState: true

#Tripple bar button
- tapOn:
    point: 1%,6%

- tapOn: Home
- tapOn:
    point: 1%,6%

- tapOn: Account
- tapOn: Back
- tapOn:
    point: 61%,8%

- tapOn: Settings

- tapOn: Automatically fetch SMS messages
- tapOn: Back

# To close the sidebar
- tapOn:
    point: 61%,8%
```


- The sidebar opened successfully on double-tap, confirming the hamburger menu is responsive.

- The **Home**, **Account**, and **Settings** options were all clickable and navigated correctly to their respective screens.

- The **“Automatically fetch SMS messages”** option responded properly and allowed navigation back without issues.

- Tapping again correctly **closed the sidebar**, showing that the menu toggles as expected.