

Evaluating an approach to adapt an existing Flutter app source code to fit the needs of Seniors

- We have developed a prototype low code/code generation approach to adapt Flutter app source code to fit age-related needs of seniors.
- We wanted to evaluate it with actual Flutter app developers (you!) and use your feedback to further refine it.



None of the following questions are compulsory!

Please don't answer questions you are not comfortable with.

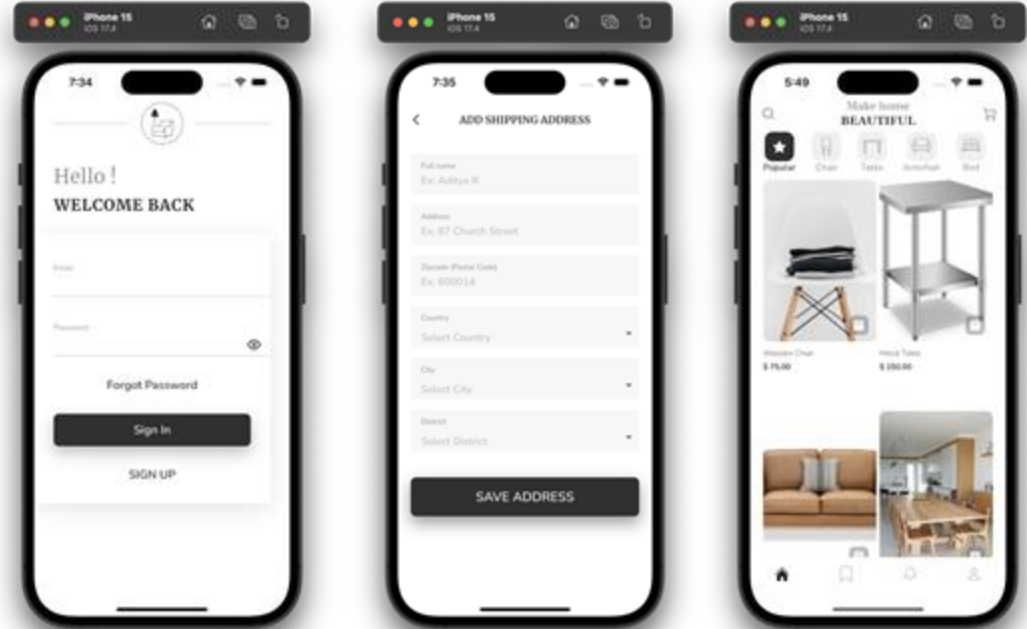
Audio recording starts



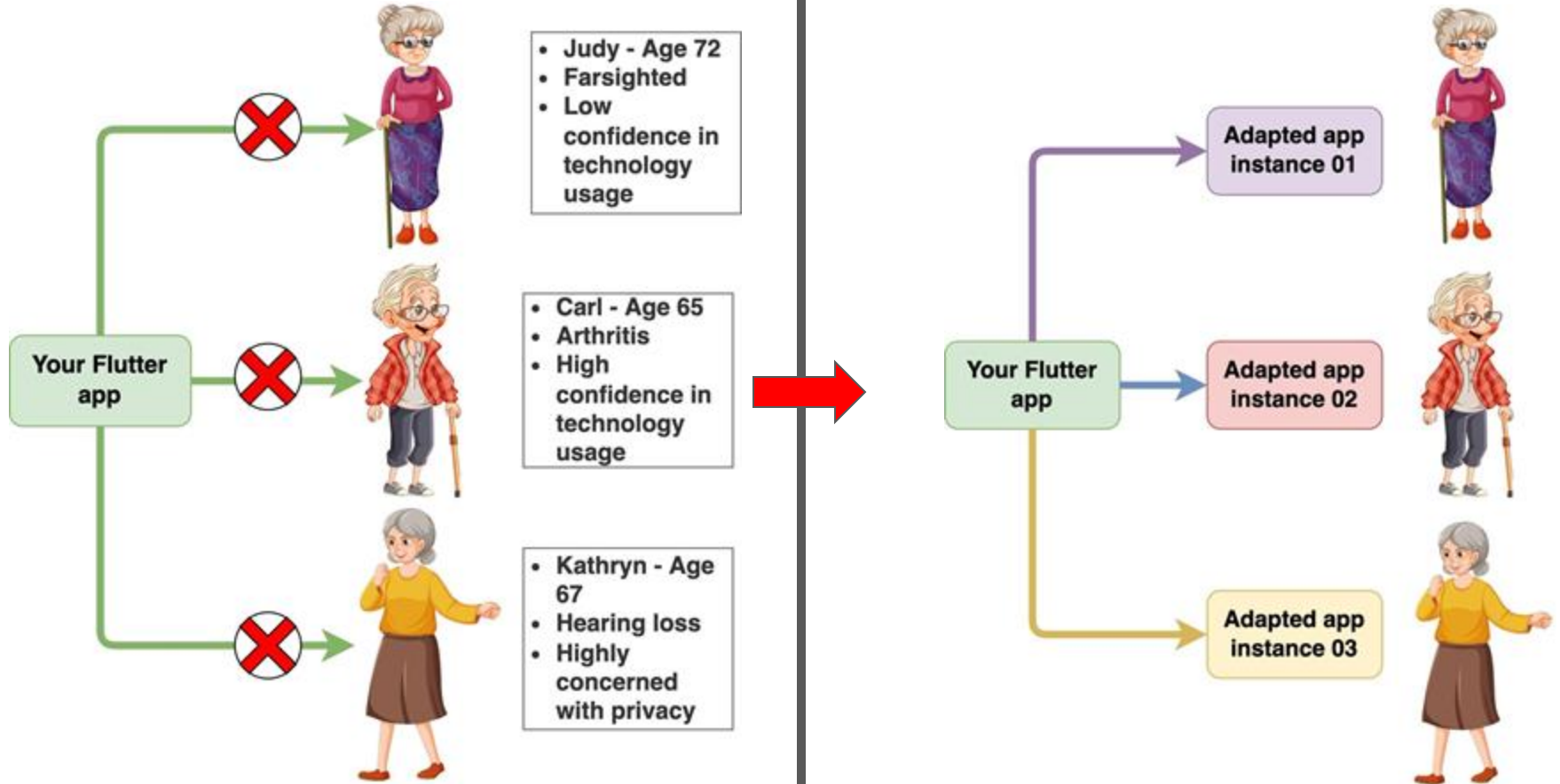
<http://clipart-library.com/>

2. Flutter app scenario

- You've developed a flutter app - Retail, Furniture.
- 30% of your user base is aged above 60.



2. Problem



Eclipse IDE interface showing the project structure and properties of the selected object (User 006).

Project Structure:

- platform:/resource/org.eclipse.sirius.contextdsl.contextmodel/model.contextdsl
 - User Container
 - User 001
 - User 002
 - User 003
 - User 004
 - User 005
 - User 006 (Selected)


Properties of User 006:

Property	Value
Age	72
Id	006
User Name	Judy Smith

Selected Object: User 006

PowerPoint Slide Show - [Jumei dev interviews V2]

3.1 Example persona



Name: Judy Smith

Age: 72

Age-related impairments:

- Low vision (Hyperopia/farsightedness) - requires reading glasses, Low visual contrast sensitivity
- Arthritis - swollen and dry fingers - hand tremors

Judy's needs

Judy wants to make the **contrast** in the app to be 'stronger'.

She doesn't want to use the **on-screen keyboard**.

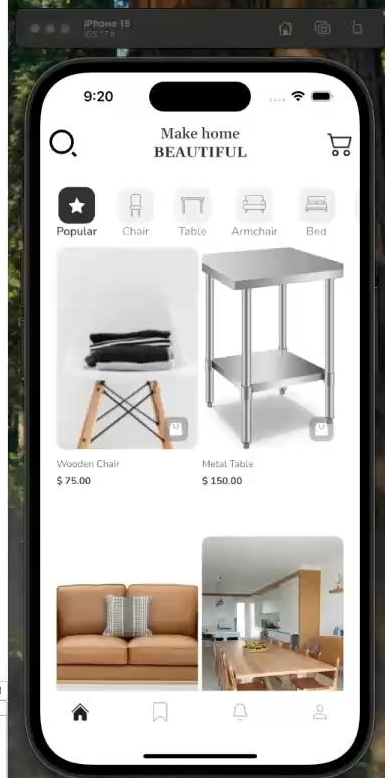
She would like to have audio modality but only when she's **at home**.

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3.3 Modelling the user

1. How **practical/useful** is this modelling tool to represent accessibility scenarios of older users?
2. How **user-friendliness** is it to represent accessibility scenarios of older users?
3. Do you have any **suggestions** to improve the modelling tool? (e.g. adding/improving features)
4. Would you adopt this modelling tool in a **real-life** app development project?

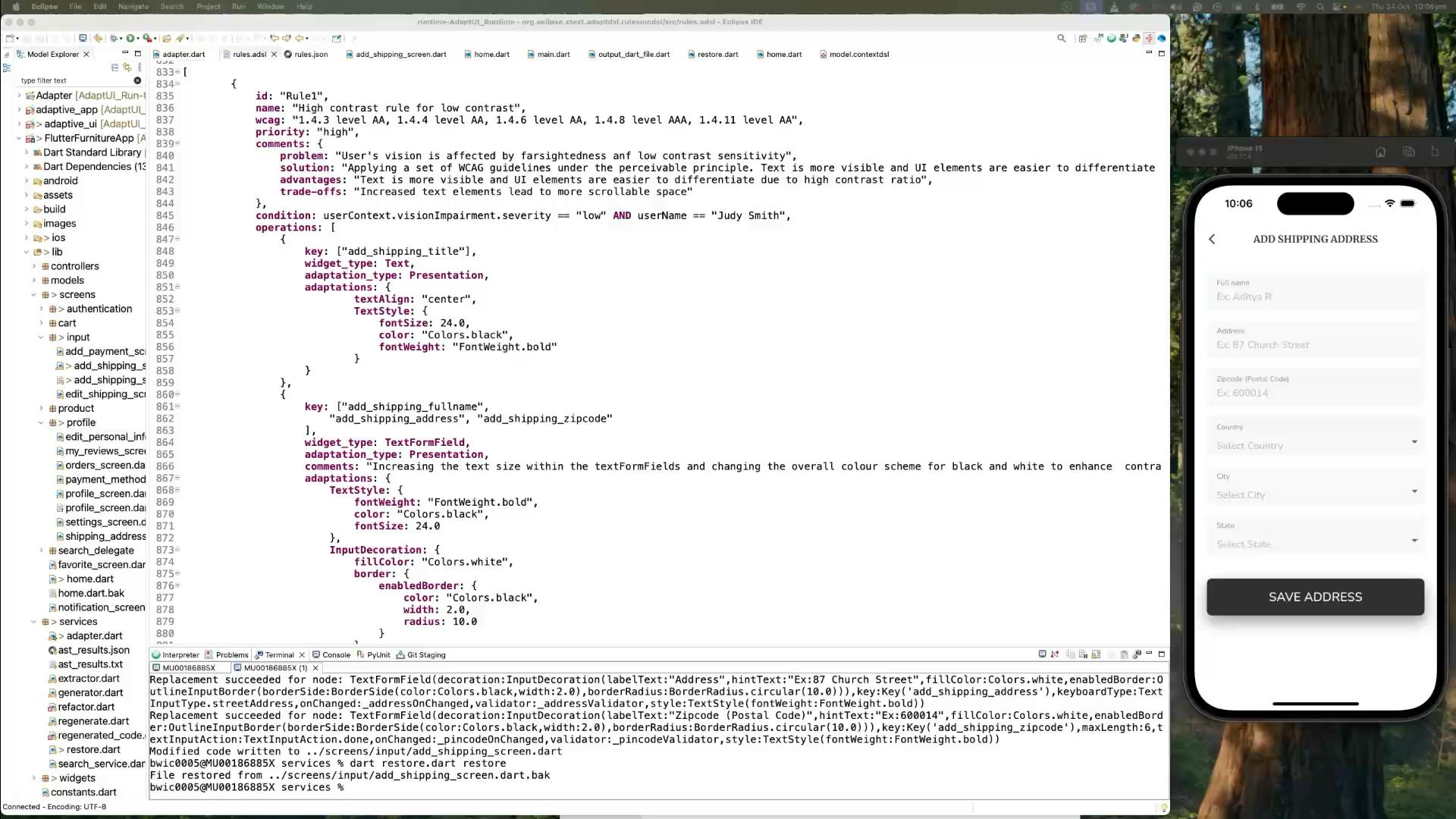
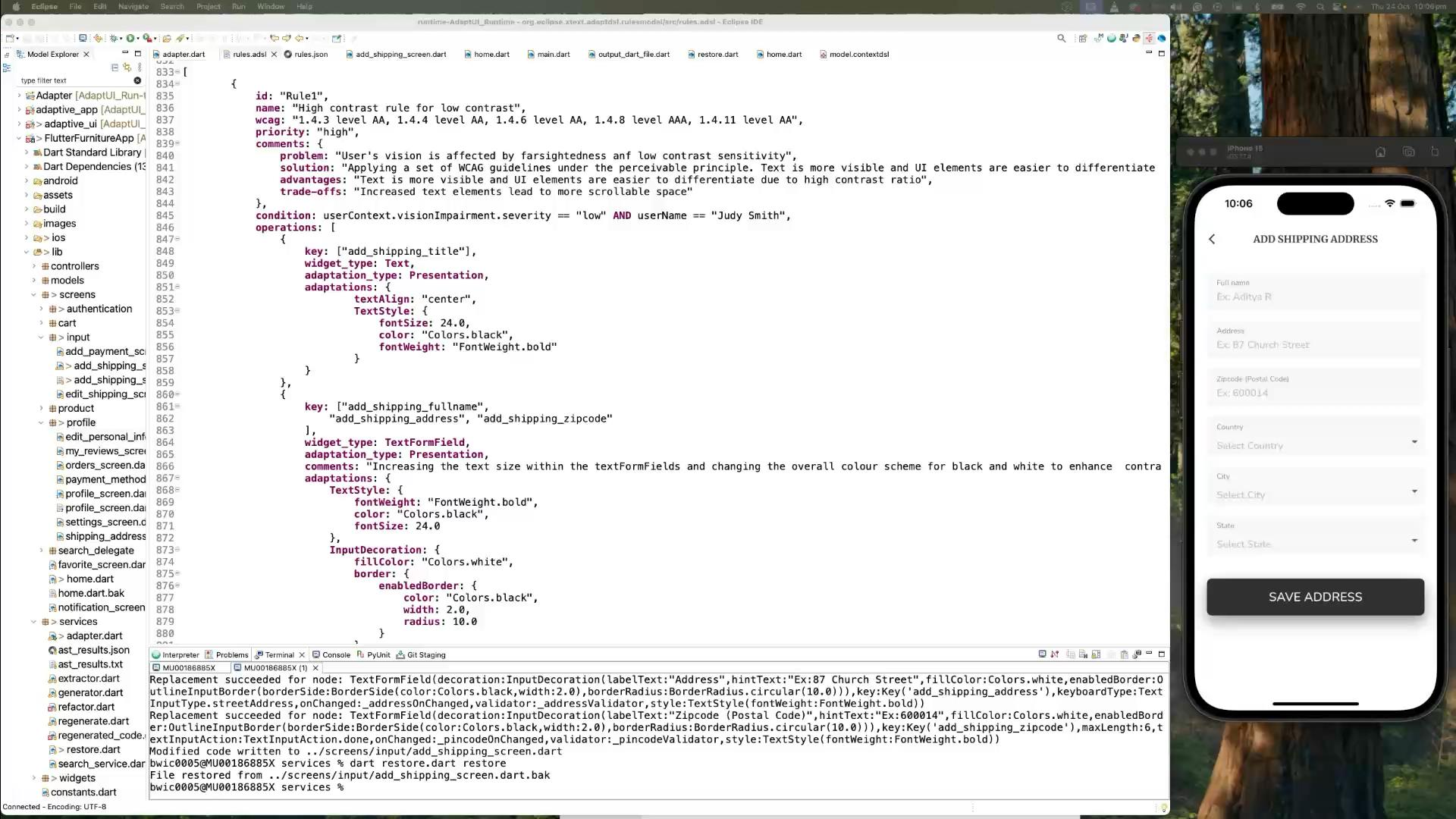
- ◇ User 001
 - ◇ User Context
 - ◇ User Preferences
 - ◇ Hearing Impairment false
 - ◇ Vision Impairment true
 - ◇ Platform Context
 - ◇ Screen Dimensions
 - ◇ Input Devices
 - ◇ Output Devices
 - ◇ Assistive Features
 - ◇ Device Details iPhone 11
 - ◇ Environment Context
 - ◇ Activity
 - ◇ Time
 - ◇ Location home
 - ◇ Weather sunny
 - ◇ Ambient Light 8000.0
 - ◇ Ambient Noise 75.0



4.2 Adapting presentation of apps - questions

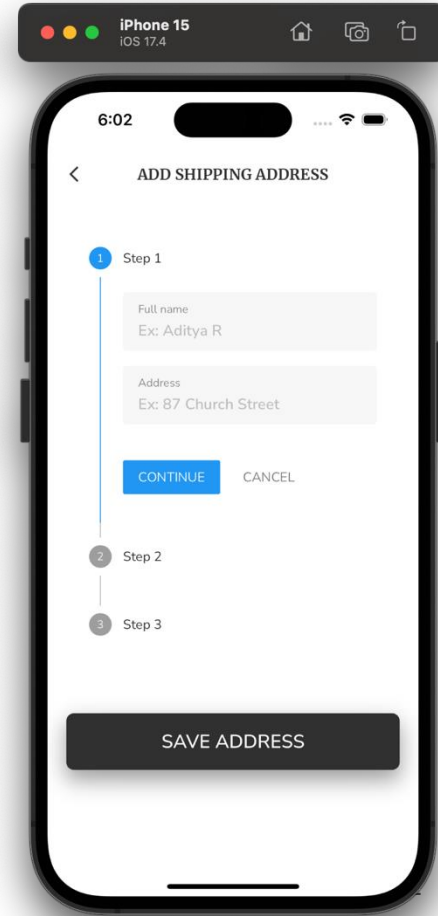
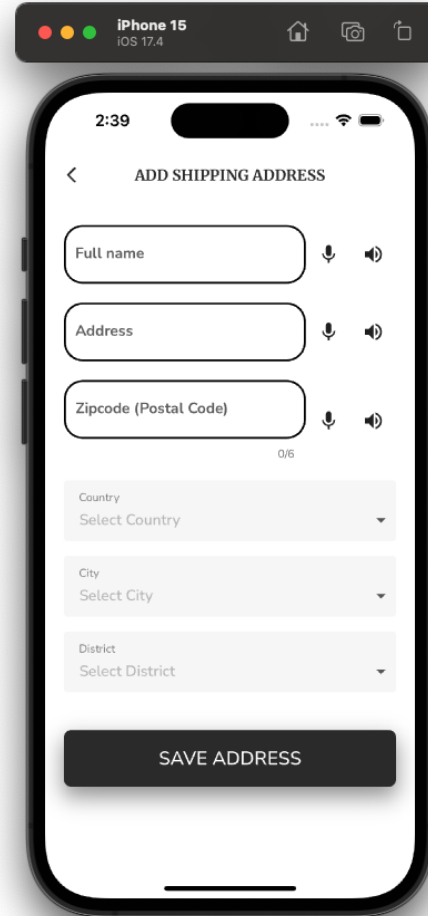
1. How practical/useful do you think **Adaptations Rules Models** are to define presentation adaptations to Flutter widgets?
2. What do you think about the user-friendliness of **Adaptation Rules models**?
3. Do you have any suggestions to improve the **Adaptation Rules modelling tool**? (e.g. adding/improving features)
4. Would you adopt this modelling tool in a real-life app development project?
5. What do you think about the overall **ease of integrating an existing Flutter code base** into our adaptation workflow? (e.g., adding a 'key' property)

```
{
  id: "Rule1",
  name: "High contrast rule for low contrast",
  wcag: "1.4.3 level AA, 1.4.4 level AA, 1.4.6 level AA",
  priority: "high",
  comments: {
    problem: "User's vision is affected by farsight",
    solution: "Applying a set of WCAG guidelines",
    advantages: "Text is more visible and UI elements are more accessible",
    trade-offs: "Increased text elements lead to more clutter"
  },
  condition: userContext.visionImpairment.severity == "high",
  operations: [
    {
      key: ["add_shipping_title"],
      widget_type: Text,
      adaptation_type: Presentation,
      adaptations: {
        textAlign: "center",
        TextStyle: {
          fontSize: 24.0,
          color: "Colors.black",
          fontWeight: "FontWeight.bold"
        }
      }
    }
  ]
},
```



5.2 Applying complex adaptations - questions

1. What do you think about how I changed the **input modality**? (speech-to-text & text-to-speech)
2. What do you think about how I changed the **form workflow**?



6 Overall impressions

1. What is your **overall impression** on the **Flutter source code adaptation workflow**?
2. Would you use this overall approach in **developing an app for seniors** in a **real-life** project?

5. Wrap up



Appendix