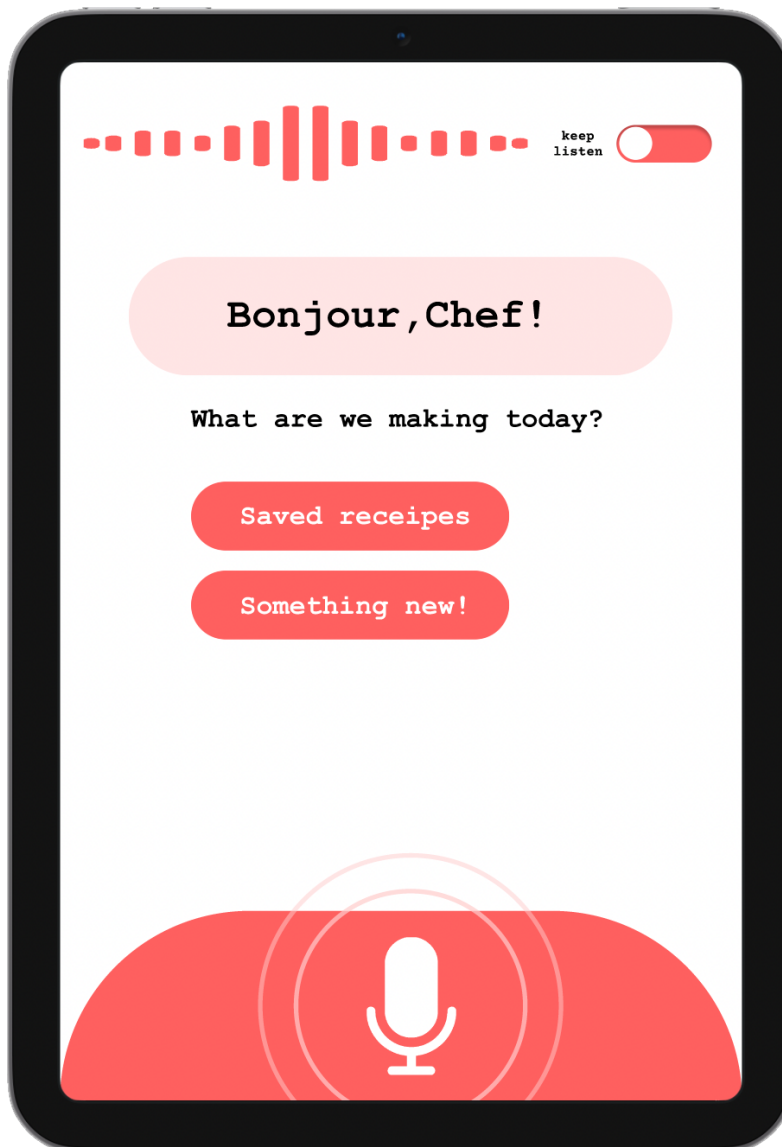


Dialogue Directors - Mori (Group 47)

By Ziqian Wang and Dingwen Liu

> “Hey, Mori ! ”



Target User

Adults over 18-year-old who have zero-to-minor experience in cooking.

Target Context

Sometimes people don't want to or cannot check recipes for what they are making on their digital devices or physical notebook when they are in the middle of cooking food. It is this situation that *Mori* will target with its voice-based interaction system.

Interviews:

- Recruiting Message:

Dear fellow students,

Hey everyone! We are a group of Berkeley summer session students from the CS160 User Interface Development class. We hope to invite you to participate in a research study that we are conducting about user interaction and experience with digital systems for kitchen assistance.

During the study, you'll participate in a 10 minutes interview with our team members, through which you can help us gain crucial information that can significantly improve our understanding about our research topic.

If you are interested in participating in the study, please feel free to reply to this email directly! You may also reply to this email with any question you have, and we'll be more than happy to answer them!

Best,
Ziqian Wang

- Interview Guide:

Highest value questions:

- 1.What kind of device do you use in the kitchen (ios, Android; pad or smartphone?)
- 2.What function do you prefer for your voice interface?
- 3.Do you prefer using your hand or voice to activate?
4. What kind of information do you need the most during cooking?
5. Do you prefer sound or visual information or both?
6. How did you feel about current AI such as Siri or Alexa?

- **Table of Interview Participants:**

#	Description of participants	Interview length
1	Person 1 is a 20 years old college student who is familiar with digital tools.	10 min
2	Person 2 is a 40 years old company manager who is not familiar with digital tools but has experience in cooking.	10 min
3	Person 3 is a 22 years old student who is familiar with digital tools.	10 min

Synthesized Findings:

1. People tend to have smart AIs which can play music and reply to messages.
2. People want to focus on cooking. Make sure the voice interface is less important and more helpful to the user.

User Persona:

The name of our first persona is Lucy. She is a UC Irvine student from New York. Her major is Art Design and she's one year before her graduation. During college, she learned how to operate many digital tools and applications for her design projects. However, she's not quite good at front-end programming since she's not interested in that area. After graduating from college, she wants to become an editor who is responsible for designing the layout and interfaces. During her teenage years, her father taught her a lot of cooking skills, so she's experienced at making good food.

System Persona:

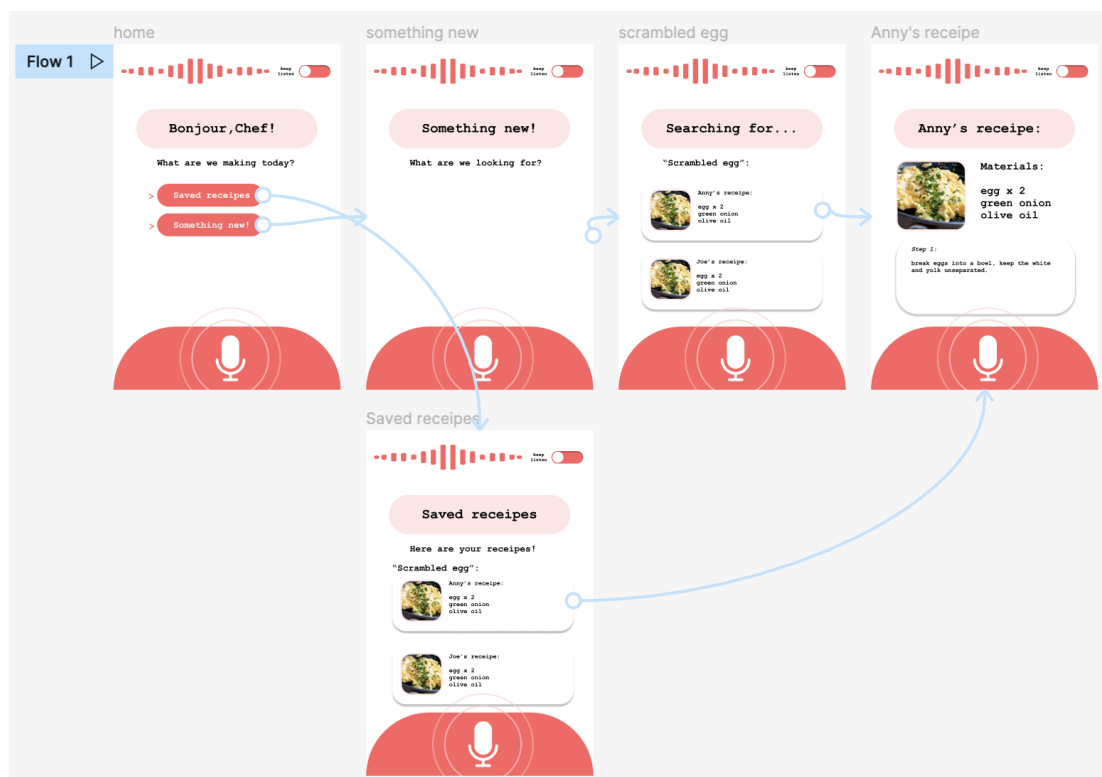
The name of our system personal is Mori. The voice is female. In our case, the environment for this AI is to provide information, help people cooking and be able to complete simple task such as reply to messages. So, a female voice can bring more comfort to user compared with a male voice. It's like an assistant inside the kitchen. Her tone should be kind, friendly and patient. It should sound like a real female assistant who will never get angry and be happy to assist users. Also, her voice should sound full of confident when she is giving a cooking tutorial. People love to have a confident teacher when they are watching a tutorial.

Narrative Scenarios:

1. It is *Lucy*'s first day of college, after a day of courseworks, she decides to make some food for herself. However, She's afraid that she can't check the recipe and cook at the same time, as she has never cooked by herself before. Therefore, *Lucy* decides to seek help from the new VUI kitchen assistance system, *Mori*. With the help of *Mori*, *Lucy* is able to look up the recipe she wants to make, and listen to directions while she cooks without having to look at the screen.
2. *Lucy* really liked the dinner she made with the help of *Mori* last week. So, she decided to save the recipe to her phone. Today, *Lucy* wants to cook that same food again, so she pulled up *Mori*, and called out her list of saved recipes. With the help of *Mori*, *Lucy* is able to keep track of her favorite recipes and make them how many times she wants.
3. *Lucy* likes cooking with the help of *Mori*, however, she's also annoyed by the fact that she has to call "Hey Mori" everytime she wants to move to the next step of her operations. Therefore, she turns on the switch for "keep listening" in *Mori*'s user interface, so *Mori* will continue to listen to her until she calls an end to it.

Figma Prototype

The prototype features five pages and can simulate 3 functionalities of the application with the Wizard of Oz technique. The prototype can take its user to their saved recipes, or search for new recipes in its database. There's also a switch for whether or not Mori should keep listening to the user until they call an end to it.



Link to Figma:

<https://www.figma.com/file/OtCxN23nvg3EIEVroZkh15/project-4-final-report?node-id=0%3A1>

Dialogue Flow Charts:

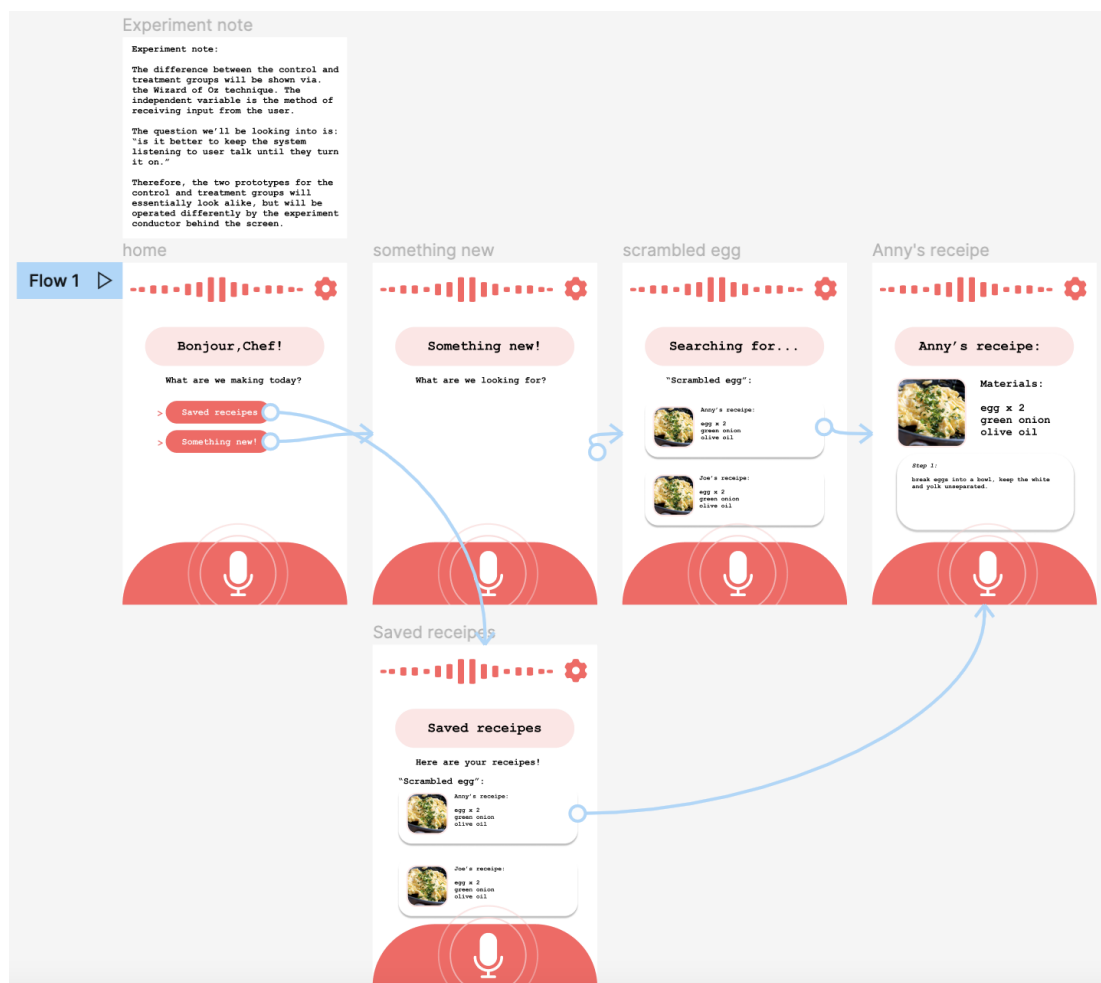
- Experiment Note:

The difference between the control and treatment groups will be shown via. the Wizard of Oz technique. The independent variable is the method of receiving input from the user.

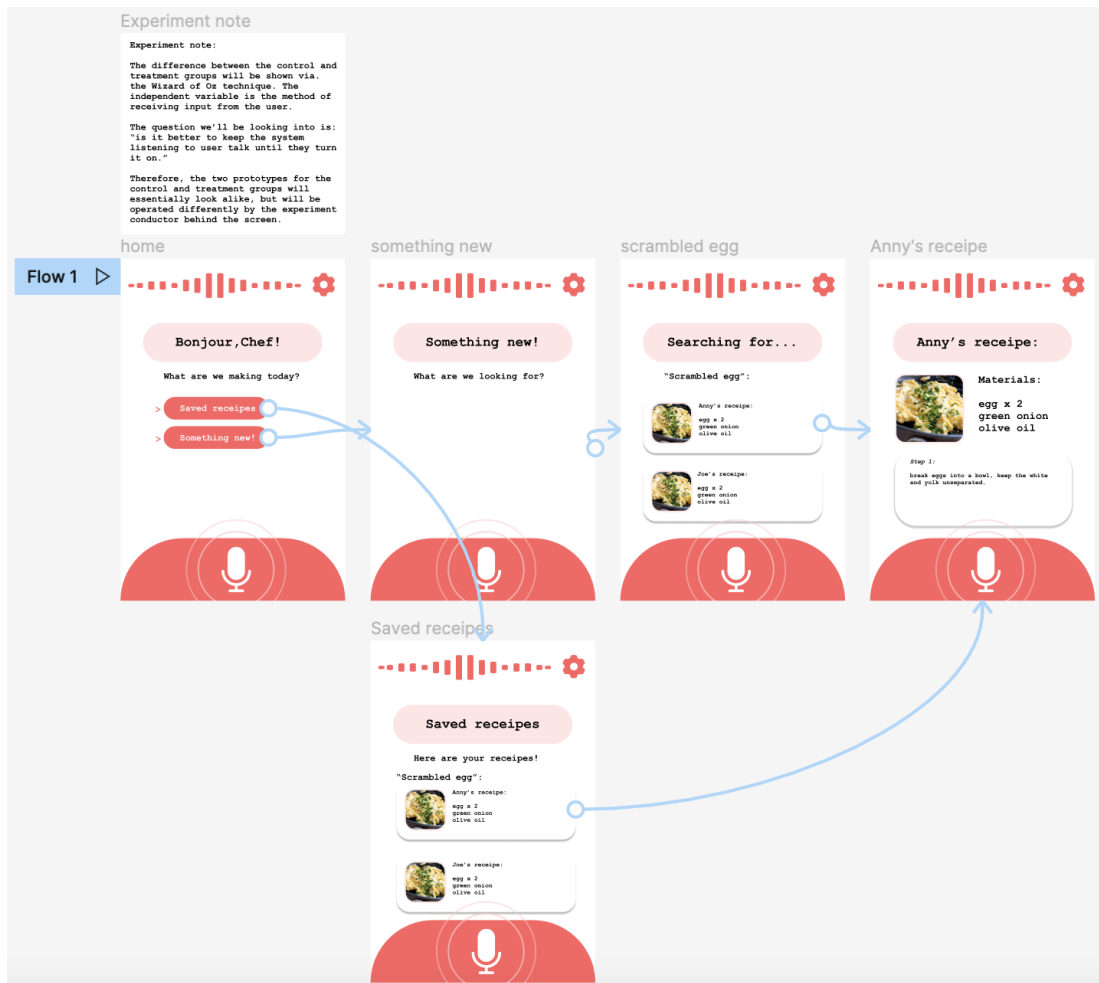
The question we'll be looking into is: "is it better to keep the system listening to user talk until they turn it on."

Therefore, the two prototypes for the control and treatment groups will essentially look alike, but will be operated differently by the experiment conductor behind the screen.

- Control:



- Treatment:



Experiment:

Key Questions

1. What other features, besides the listen-to-speech button, do you think should be on the homepage.
2. Is it better to keep the system listening to user talk until they turn it off, or to have the system turn off everytime after it completes a task?
3. Is it better to have the system show the recipe/instructions on screen for users when they are cooking, or to read it out?

Hypothesis

It depends on what the user is most concerned about. If they are most concerned about the system making mistakes when it is listening to everything people are talking, they'd probably prefer the later, and vice versa.

Independent Variables

The independent variable will be the method by which the system takes inputs from the user. To test this with a prototype, we'll simulate each inputting methods for the users to have them decide which one is more efficient.

Dependent Variables

The efficiency of the system (i.e. whether it will make a mistake, the time it takes)

Within subjects or between subjects

We'll perform a within subject experiment. This is in order to limit the effects of random variables that are related to the personal habits and experiences of the users we are testing with.

Tasks

They'll be asked to pretend they are doing some simple cooking, like a scrambled egg or toast for breakfast, with the assistance of our VUI. During which we'll take notes to record data of the time it took them to complete the task and the number of mistakes the system made. If it took them more than 8 minutes to complete the task, we'll stop them and jump right into the questions.

Participants and Conditions

1. Yailin Chavez was exposed to how the system takes inputs (screen).
2. Oliver Pan was exposed to how the system takes inputs (voice).

Results

The results from both participants were quite similar. Both participants tend to have both sound and visual feedback from the system.

Also, they provide some feedback on other options or improvements on the system. For example, Oliver said we can add more switches to make sure the system listens to the user at the right time. Rather than just let the system on hold forever.

Reflection on Hypothesis after conclusion of Usability Test

The results are a little bit different from our hypothesis. We thought the users will decide only one of two options or just be constrained by our options. However, the participants' reflections inspired us.

First, we can provide both sound and visual feedback at the same time. Second, we can give more options on receiving feedbacks such as giving a switch to let the system sleep or listen to users' commands.