

# CS 466/566: Voice Assistants

## Homework 1

### Homework 1 - Designing VUIs

In this homework assignment, you will choose a use case from the options provided and design a conversational user interface for that use case.

#### ☐ Step 1 - Select Use Case

- ☐ Select a use case from the options below and come up with a name for the application. The use case you select is the one you will use for all future homework assignments.

- ☐ Use Case 1: Create a food cart directory for your city
- ☐ Use Case 2: Book a conference room in the different buildings at your university
- ☐ Use Case 3: Create an inventory management and purchasing system for textbooks
- ☐ **Note:** You will use this same use case for all the homework assignments, as the homework assignments build on each other.

#### ☐ Example:

- ☐ Use Case: Order Coffee
- ☐ Application name: "Cup of Java"

#### ☐ Step 2 - Brainstorm Keywords

- ☐ Brainstorm 10-12 keywords
  - ☐ What are the key content words a dialogue related to your use case would need to have?
- ☐ Cup of Java Example:

- ❑ Keywords: coffee, tea, decaf, extra shot, large, medium, small, espresso, americano, latte, mocha, milk, sugar.

### ❑ Step 3 - Personality and Style

- ❑ What is the personality of your voice assistant?
  - ❑ What is the name of the voice assistant?
  - ❑ Does the voice assistant have a gender? What about the age?
  - ❑ What accent/dialect does the voice assistant have?
  - ❑ Brainstorm 3-5 adjectives about the voice assistant's personality.
- ❑ Cup of Java Example:
  - ❑ Fiona (she/her) is older with a British accent and a soothing voice. Fiona is friendly, lively, trustworthy, and quick-witted.

### ❑ Step 4 - Conversation Starters

- ❑ Write 3 example sentences that would start the dialogue.
- ❑ Write 3 follow up sentences from the user to the voice assistant to continue the conversation.
- ❑ Cup of Java Example:
  - ❑ Dialogue starter:
    - ❑ Hey Fiona, I need to order a double espresso this morning.
  - ❑ Follow up sentence:
    - ❑ Can I add milk and sugar to my order?

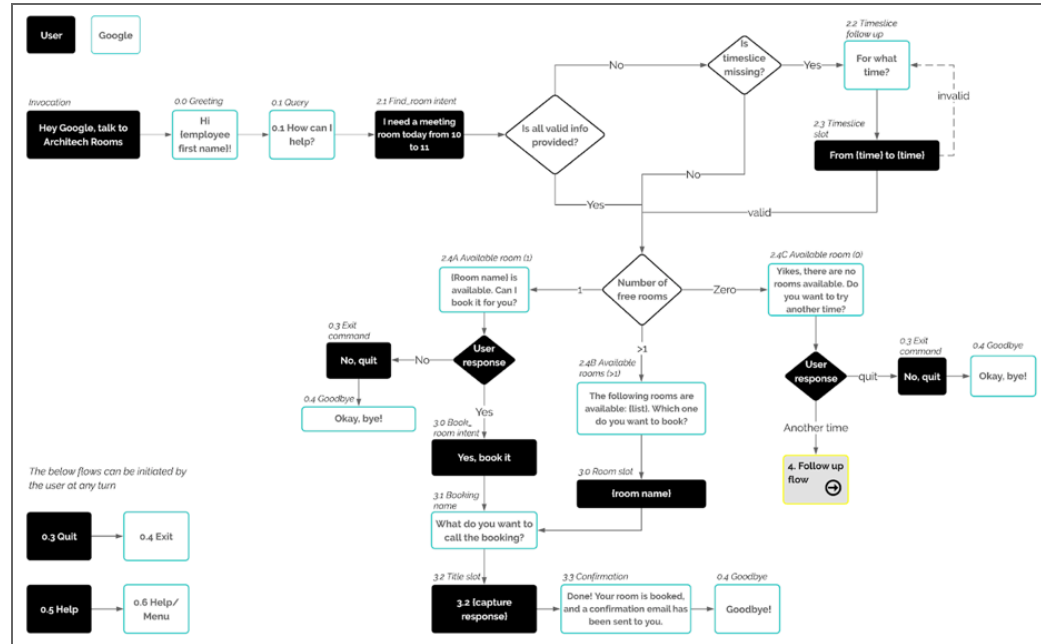
### ❑ Step 5 - Sample Dialogs

- ❑ Write **five sample dialogs**. Each sample dialog should be a short conversation and include at least three turns.
- ❑ Each sample dialog should address a different aspect of the use case you have selected. Get creative!
- ❑ Cup of Java Example:

Human	Voice Assistant
1. Hey Fiona, I need to order a medium black coffee this morning.	
	2. Of course. Will this be a hot drink? And would you like to add any milk and sugar?
3. I would like this as an iced drink with a splash of cream.	
	4. Great. I have an iced medium black coffee with a splash of milk. Anything else?
5. No, that was it. Thanks so much!	
	6. Your drink will be \$3.20 and it should be ready in a few minutes.
7. Perfect, thanks.	

#### ❑ Step 6 - Conversational Flow Diagram

- ❑ Select one of the sample dialogs above and use it to create a conversational flow diagram. The flow should include going from the conversation starter to the completion of the specific task. This may require more than the three turns that were created in the sample dialog.
- ❑ The flow should include more than the happy path; there should be error checking, cancellation strategies, and more. Visualizing the user's journey will map out potential dead ends or infinite loops in the conversation, so make sure those are handled.
- ❑ Example from [Conversing About Conversation](#)



## Step 7 - Review and Reflection

- In this step, you will need to answer the following questions thoughtfully and thoroughly. You are expected to show critical thinking and careful reflection in your answers.

  - First Impressions:** What were your first impressions of building a conversation? What parts were the most enjoyable? What parts were the trickiest to figure out?
  - Personality:** Why did you choose the personality traits you choose for the voice assistants? Did you consider anything else?
  - Success:** Do you consider the sample dialogs and the conversational flow diagram you created to be successful? What are you judging your answer upon?
  - Future:** What do you think works well so far and what do you still need to do more work on?

## Grading Guidelines

- Your submission should be very well-organized and easy to follow.

- ❑ Include each step in your report, but do not include the instructions above.
- ❑ This assignment will primarily be graded on the thoughtful and thorough completion of the steps above.

## **Submission Guidelines**

- ❑ Turn in your submission in PDF format on Canvas.
  - ❑ Make sure to include an individual version of the Conversational Flow Diagram in PDF, PNG, or JPEG format. We need to be able to zoom in to review the Conversational Flow Diagram, and this is often hard to do when the diagram is included in the PDF file.
- ❑ **Due Date:** See Canvas for the exact date.