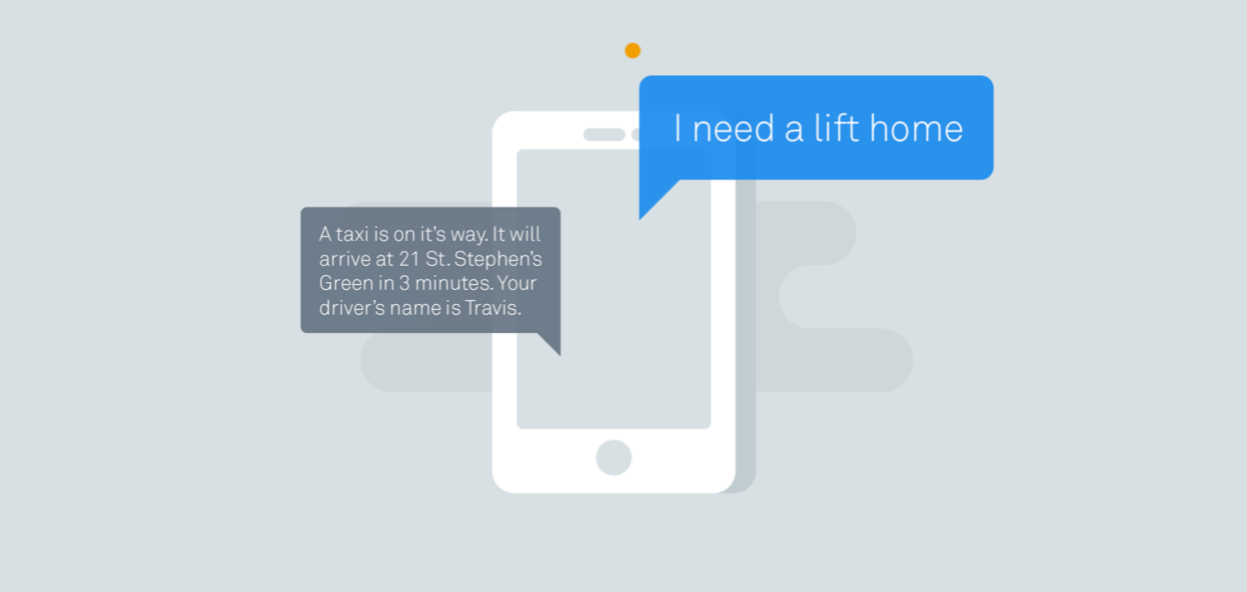
CS-639 Building User Interfaces, Fall 2019, Professor Mutlu

Assignments — Week 13 | Design
Experience Prototyping Conversational Interactions



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In this assignment, you will start your work toward designing and developing your Module 3 deliverable. We discussed in class that designing conversational interfaces has unique challenges and that ideation and prototyping methods that work very well in other design problems do not work well here. The good news is that we are also subject matter experts in conversation, but the bad news is that our expertise is locked into brain mechanisms and is not readily available for us to use, what we called *tacit knowledge*. This is where *experience prototyping* comes into the picture: by simulating the social and/or the physical setting for the interaction and acting out the interactions using methods such as *bodystorming*, we unlock our expert knowledge and apply it to the design problem. In the first part of the assignment, you will engage in experience prototyping of a *conversational shopping assistant*, which will serve as the basis for developing the intents and entities for the first prototype of your Dialogflow implementation.

Part 1. Experience Prototyping. In this step, you will follow a process very similar to the process we followed for the in-class activity on experience prototyping, paying particular attention to *bodystorming* for idea generation. In the context of designing a shopping assistant robot, follow the steps below:

1. *Define context* — This is given to you: users interacting with a conversational shopping assistant embedded within a clothing retail website.

2. *Develop scenarios* — Think about how the shopping assistant will help users. What are some tasks the shopping assistant can help users with? Develop 2-3 scenarios.
3. *Identify design goals* — Determine what the shopping assistants can do to assist in these tasks. Consider aspects of the task where the assistant can bring added value. Our goal is not designing a fully autonomous assistant that could take care of everything with minimal input from the user, but what is called a *mixed-initiative design* where the assistant does what it's good at and the user does what the user is good at.
4. *Set up environment* — You can use the retail store provided with Module 3 starter code and/or another clothing retail store as your environment.
5. *Act out interaction* — Ask a friend, family member, or another student in class to help you bodystorm user interactions with the shopping assistant to develop ideas and to more concrete define user and system behavior and interactions with the environment. Act out at least one interaction for each scenario.
6. *Develop insight* — Capture the conversations from your bodystorming session and any other insight you have gained from the previous step in notes and translate them into a flowchart representation of the interaction.

Your deliverables will be the scenarios and design goals you have focused on, the transcripts of the bodystorming sessions, and a flowchart representation of the conversational capabilities suggested by your experience prototyping. Your flowcharts can be in the form of a graph where the nodes are system behaviors and arrows are user behaviors. You can use a flowcharting application such as Smart Draw.

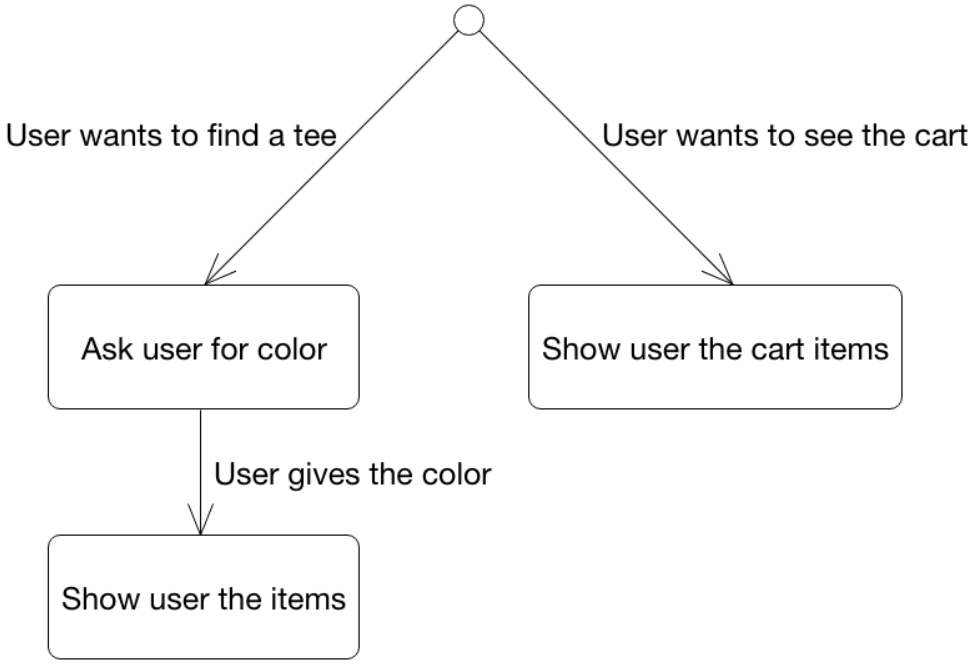
Develop scenarios	1) The user would like to find a particular product 2) The user would like to view the shopping cart
Identify design goals	1) The user would like to find a particular product • List the category (shirt, jacket, pants), colors, size and etc. • Filter the products according to the user's preferences • List some products the user prefers (name, picture, description and price) 2) The user would like to view the shopping cart • List items in the user's shopping cart (name, picture, description and price) • Give a summary of total price in the shopping cart

Scenario1: The user would like to find a particular product

User: I would like to buy a t-shirt.
Shopping assistant: I am glad to help, what color would you like?
User: I would like to buy a red one.
Shopping assistant: Shopping assistant: Sounds good. Here are the red shirts we have.
Shopping assistant: [product 1, product 2, product 3]

Scenario 2: The user would like to view the shopping cart

User: I would to have a look at my shopping cart.
Shopping assistant: Here's your items in your shopping cart.
Shopping assistant: [product 1, product 2, product 3]



Part 2. Dialogflow Implementation. In this step, you will apply what you learned in your Experience Prototyping to the design of the agent you will be creating. More specifically, you will draw on the outcome of your bodystorming session to determine the intents and entities that your agent will utilize in its conversation, and consider how you will use them and server data to provide responses. You will provide three main deliverables:

1. A list of all *intents* you will use (provide 10 training examples for each intent).
2. A list of all *entities* (provide 5 examples for each entity) you will be using with your agent.
3. For each *intent*, write a brief description of what the agent will *say in reply* and what it will *do* to change the GUI.

For a full description of what the GUI can do, and the requirements of the agent, see the Dialog flow Canvas Assignment and API readme.

Intents:

1. Query Product
 1) I would like to search for hats.
 2) I would like to see the hats.
 3) I want to have a look the hats.
 4) Could you help me find a hat?
 5) Could you please help me look for a hat?
 6) Show me the hats.
 7) Let me see the hats.
 8) I want to know what hats you have.
 9) List the hats you have.
 10) Get the hats you have.

When the user has a **Query Product** intent, the page will go to the page with all particular products

2. Apply the filter
 1) I prefer red hats.
 2) I like red hats.
 3) I want to see the red hats.
 4) List the red hats.
 5) Show me the red hats.
 6) I want to have a look at the red hats.
 7) Can I see the red hats?
 8) Get all the red hats.
 9) Do you have red hats?
 10) Can you find red hats for me?

When the user has a **Apply filter** intent, the page will show the filtered products.

3. Query Cart
1) May I have a look at my cart?
2) I want to check my cart.
3) I want to see what's in my cart.
4) I want to know what's in my cart.
5) I want to see my cart.
6) I want to have a look at my cart.
7) Show me my cart.
8) List my cart items.
9) Let me see my cart.
10) Let me have a look at my cart.

When the user has a **Query Cart** intent, the page will go to the cart page.

4. Add
1) Add the hat to my cart.
2) Put the hat in my cart please.
3) Send the hat to my cart.
4) Save the hat for me please.
5) I want this hat later.
6) I will get the hat later.
7) I will buy the hat later.
8) I will take the hat later.
9) I will purchase the hat later.
10) I will pay for the hat later.

When the user has a **Add** intent, the GUI will not change but the agent will give feedback with successfully added the product.

5. Remove
1) Remove the hat from my cart.
2) Take the hat away from my cart.
3) I no longer need the hat.
4) I do not need the hat anymore.
5) I don't want this hat.
6) I will not get the hat.
7) I will not buy the hat.
8) I will not take the hat.
9) I will not purchase the hat.
10) I will not pay for the hat.

When the user has a **Remove** intent, the GUI will not change but the agent will give feedback with successfully removed the product.

6. Confirm cart
1) I want all the products in my cart.
2) Check me out.
3) This is all I want.
4) I want to pay for the items in my cart.
5) Take me to the check out.
6) I want to buy all of these.
7) I want to take all of these
8) I want to pay for all of these.
9) I want to purchase all of these.
10) I want to check out.

When the user has a **Remove** intent, the page will go to the checkout page.

7. Navigate
1) I want to go back.
2) I want to go to the previous page.
3) Take me to the previous page.
4) I want to go to home page.
5) I want to go to the hats page.
6) Show me the hats page.
7) Take me to the hats page.
8) I want to see the details of the hat.
9) Show me the details of the hat.
10) Take me to the details of the hat.

When the user has a **Navigate** intent, the screen will jump to the exact page.

Entities:

1. Product
Hat, Visor, Sweatshirt, Hoodie, Plush…

2. Tag
White, Visor, red. logo, longsleeve…

3. Page
Home, Cart, Hats, Sweatshirts, Plushes…