CSC 202: Intro to Machine Intelligence
Lab 10: Watson Assistant

Watson Assistant is a digital assistant for building conversational interfaces to applications.

Some key components of Watson Assistant are described below:

- An **_intent_** is a purpose or goal (such as to make a reservation, ask about store hours, etc). Watson Assistant learns how to recognize intents by training on examples.

- An **_entity_** represent information in the user input that is relevant to the user's purpose, such as a produce, a reservation time, etc. Entities are specified through keywords, synonyms, or patterns.

- A **_context variable_** is a variable used to store information that may persistent during a conversation, such as the user's name. Context variables are set in the dialogue, and can store entities or other variables. To clear a context variable, set it to _null_.

- The **_dialogue_** is a conversation flowchart that determines how Watson welcomes the user, responds to different intents, and converses with the user.

Watson Assistant Tutorial

1. Sign up for an account by clicking the Get Started Free button at https://www.ibm.com/cloud/watson-assistant/

2. Then go back to https://www.ibm.com/cloud/watson-assistant/ and click the Get Started Free button again, and log in when prompted.

3. Click the Create Assistant button to get started

4. Give your assistant a name, and an optional description, and then click Create Assistant.

Create Assistant

Create an assistant to deploy the skill that addresses your customers' goals.

Name

Name your assistant, for example **Banking** or **Customer Care**.

Eastern Assistant

Description (optional)

Add a description for this assistant

Preview Link ⓘ

☑ Enable Preview Link

Create assistant

5. Click the button to add a Dialog skill.

Skill

A dialog skill provides specific responses you've created. Choose one for your assistant. **Learn more**

Dialog

Add a dialog skill to design your conversation flow

Dialog skills use Watson natural language processing and machine learning technologies to understand user requests and respond appropriately.

Add dialog skill

6. Select Use Sample Skill, and then click on the Customer Care Sample Skill under Dialog, to view the Intents.

Add Dialog Skill

Add an existing skill, or create a new dialog skill to add to your assistant.

Add existing skill   Create skill   **Use sample skill**   Import skill

Customer Care Sample Skill

TYPE: Dialog — English (US)

Sample simple customer service skill to get you started.

7. We can delete all the intents but the last 4, shown below. Click the Try it button on the top right to test whether the Assistant correctly recognizes an Intent.

	Intents (4) ▲	Description	Modified ▲	Examples ▼
☐	#General_Greetings	Greetings	2 minutes ago	30
☐	#Goodbye	Good byes	2 minutes ago	6
☐	#Help	Ask for help	2 minutes ago	8
☐	#Thanks	Thanks	2 minutes ago	8

8. Click the Create Intent button to create a new Intent with the name #Get_Contact_Info, and type 5 examples of how you might ask to reach somebody. For example, consider:

- Where is Dr. Smith's office?
- What is Dr. John's phone number?
- Where can I find Dr. Roberts?
- What are Dr. Jim's office hours?
- I need to e-mail Dr. Roberts.

   Click the back arrow when you are finished. Then click the Entities tab on the left. You can delete the current entities, and click the Create entity button to create a new one.

Customer Care Sample Skill

	Entity (6) ▲	Values	Mo
☐	@holiday	christmas eve, valentine's day, independence day, halloween, christmas, thanksgiving, mem...	18
☐	@landmark	empire state building, times square, grand central	18
☐	@phone	US Phone pattern	18
☐	@reply	no, yes	18
☐	@specialist	Derrik, Nicholas, Robert, Barbara, Brenda, Maria	18
☐	@zip_code	US Zip	18

9. Create the entity @professor with the value Dr. Dancik, and synonyms Dancik and Dr. Garrett Dancik. Click Add Value to add the entity, then create a similar entity for Dr. Tasneem.

10. Click the blue back arrow to and then select the dialog tab. Delete everything except for the nodes shown below.

11. Add a node called ContactInfo that responds if the assistant recognizes #Get_Contact_Info. Click the Customize button, turn slots On and click Apply.

Now we can check for @professor, and ask the user to enter one if one was not provided.

ContactInfo			Customize ⚙ ✕

If assistant recognizes

#Get_Contact_Info ⊗   ⊕

Then check for   ❶ Manage handlers

	CHECK FOR	SAVE IT AS	IF NOT PRESENT, ASK	TYPE		
1	@professor	$professor	ld you like to contact?	Required	⚙	🗑

Add slot ⊕

12. Click the blue customize slot wheel next to Required, and add an appropriate response if Dr. Dancik is recognized.

Configure slot 1   ⋮

Found

	IF ASSISTANT RECOGNIZES	RESPOND WITH	
1	@professor:(Dr. Dancik)	Dr. Dancik's contact info --Science R|	⚙ 🗑

13. Click the blue wheel, and configure slot 1 as shown below, and save the changes

Configure slot 1   ⋮   ✕

When user responds, if intent or entity is
Found

	IF ASSISTANT RECOGNIZES	RESPOND WITH	
1	@professor:(Dr. Dancik)	Dr. Dancik's office hours are...	⚙ 🗑
2	@professor	(not implemented yet)	⚙ 🗑

Add a response ⊕

You may optionally set a response if the intent or entity is Not Found, and can skip the current slot if desired (click the blue wheel under Not Found).

14. Save the changes, then click the three dots next to "Assistant Responds" to Open the Context Editor. Set $professor to null as shown below.

Then set context   ⋮

VARIABLE	VALUE	
$ professor	null	🗑

Add variable ⊕

Watson Assistant Assignment

1. Extend the Eastern Assistant to provide contact info (e-mail address and office location) for Dr. Dancik, Dr. Tasneem, and Dr. Gao (you can get this info from http://www.easternct.edu/computerscience/faculty/)

2. Add an additional intent so a user can get the office hours for Dr. Dancik, Dr. Tasneem, and Dr. Gao.

3. Click the 3 dots next to the final Skill to export it, and submit the JSON file through Blackboard.

Skill

A dialog skill provides specific responses you've created. Choose one for your assistant. **Learn more**

Dialog

Eastern Skills

Eastern Skills

LANGUAGE:	TRAINED DATA:		VERSION:	CREATED:
English (US)	5 Intents	4 Entities	15 Dialog Nodes	Development	Oct 17, 2019 9:39 PM EDT

View API Details
Export
Swap skill
Change skill version
Remove skill

UPDATED:

Oct 18, 2019 8:26 AM EDT

LINKED ASSISTANTS (1): Eastern Assistant Test