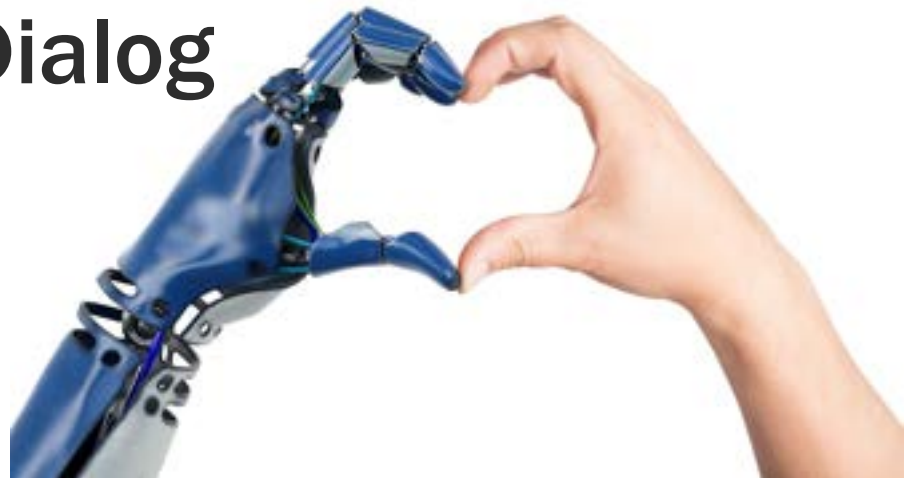# AAII

Conversational AI – Class Assignment

An AAII Conversational AI – Business Track Course

Module 4 Assignment –
Design and Configure Dialog Skills in
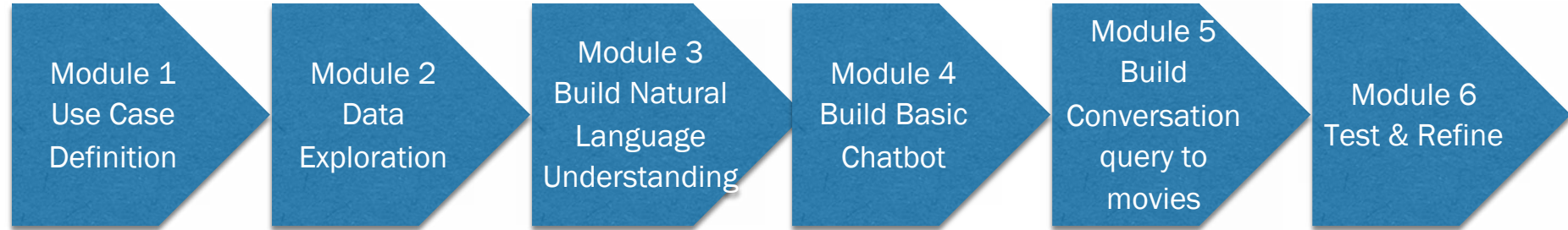# Watson Assistant

Agenda

- Class Assignment - Overview

- Module 4 - Assignment Details

- Class Assignments - Schedule

Class Assignments - Overview

Module 1
Use Case Definition

Module 2
Data Exploration

Module 3
Build Natural Language Understanding

Module 4
Build Basic Chatbot

Module 5
Build Conversation query to movies

Module 6
Test & Refine

Module 1
- Select & expand Use Case
- Define Benefit Case

Module 2
- Review Data sets
- Build views on Data Exploration
- Classify Movie Genre using NLU engine

Module 3
- Configure Watson Discovery for unstructured queries
- Configure Watson Action skills

Module 4
- Define Intents
- Define Entities
- Build recommendation engine
- Build Chatbot with simple Dialog

Module 5
- Build Advanced Dialog
- Build IBM Function
- Integrate Dialog with Watson Discovery

Module 6
- Define Experiment Design
- Define final architecture
- Create Final presentation

Class Assignments - Overview

Last week

Module 1 Use Case Definition	Module 2 Data Exploration	Module 3 Build Natural Language Understanding	Module 4 Build Basic Chatbot	Module 5 Build Conversation query to movies	Module 6 Test & Refine

- Select & expand Use Case
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Class Assignments - Overview

This week

Module 1
Use Case Definition

Module 2
Data Exploration

Module 3
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Build Conversation query to movies

Module 6
Test & Refine

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Assignment 4 – Design and Configure Dialog Skills - Overview

Your chatbot should assist your users to answers any questions associated with their query. In this assignment, we will classify and configure various queries as candidate for Dialog Skills

1. Classify your queries into appropriate Dialog skill
2. Create and upload all intents to support Dialog skill
3. Create and upload entities to support Dialog skills
4. Define Conversational flow and Chemistry of your Conversational AI Engine
5. Customize Welcome node to match the chemistry of your Conversational AI Engine
6. Extend Dialog node to handle various Intents as defined in Task 2. Test various intents using "Try It" button
7. Configure Search skills within Dialog node
8. Configure Thanks node and loop back in Watson Assistant
9. Summarize key learnings

Task 1 – Classify queries for Dialog skill

In this task, you will classify all your queries or FAQs into appropriate Dialog skills
This can be an excel file, see example below

No	Question	Skill
1	Can you find me a musical	Dialog
2	Does your collection contain any comedies?	Dialog
3	What is the movie Phonix?	Dialog
4	Do you know anything more about this movie	Dialog
5	I would like to know more about Toy Story 2	Dialog
6	Can you give me more details	Dialog
7	Can you recommend a disco era comedy	Dialog
8	I would like to see a romantic movie	Dialog
9	Can you suggest a western	Dialog
10	I am in the mood for a comedy movie	Dialog
11	An Oscar winning screenplay	Search
12	James Bond movie	Search

AAII Task 2 – Design and upload intents

2-1: List all intents you will need to support configuration of Dialog Skill in Watson Assistant.

Example: Intents for our Movie Recommendation Use Case
1.   count_movies_by_genre
2.   list-of-genres
3.   provide-movie-details
4.   recommend-movie-by-decade
5.   recommend-movie-by-genre

Task 2 – Design and upload intents (Cont.)

2-2: Create a CSV file containing all your utterances and intents.

Ensure there are 10-15 utterances per intent.

Example Intent file for our Movie Recommendation Use Cases (See attached Excel file also)

How many romantic movies do you have in your collection?	count_movies_by_genre
Do you have any action movies to watch	count_movies_by_genre
Can you find me a musical	count_movies_by_genre
Does your collection contain any comedies?	count_movies_by_genre
I would like to get a count of western movies in your collection	count_movies_by_genre
How many horror movies do you have	count_movies_by_genre
Which genres are included in your collection	list-of-genres
Can you list genre	list-of-genres
How many types of movies do you have	list-of-genres
What is in your movie collection	list-of-genres
Can you describe your movie collection	list-of-genres
Can you give me some details regarding this movie	provide-movie-details
What is the movie Phonix?	provide-movie-details
Do you know anything more about this movie	provide-movie-details
I would like to know more about Toy Story 2	provide-movie-details
Can you give me more details	provide-movie-details
Can you recommend a beetle era movie	recommend-movie-by-dec
Can you find a 70s movie	recommend-movie-by-dec
I would like to see a new movie	recommend-movie-by-dec
I would like to see a 1950s movie	recommend-movie-by-dec
Can you find a movie from 1940s	recommend-movie-by-dec
Can you recommend a disco era comedy	recommend-movie-by-dec
I would like to see a romantic movie	recommend-movie-by-ger
Can you suggest a western	recommend-movie-by-ger
I am in the mood for a comedy movie	recommend-movie-by-ger
I would like to see a science fiction	recommend-movie-by-ger
Please find me a western	recommend-movie-by-ger

Task 3 – Design and upload Entities

List all entities you will need to support configuration of Dialog Skill in Watson Assistant. This should be a CSV file.

Please also include all synonym for your entities.

Example: Entities for our Movie Recommendation Use Case
1. Decades
2. Genre
3. Movie

Task 3 – Design and upload Entities (Cont.)

Example Entities file for our Movie Recommendation Use Cases (See attached Excel file also)

Entity: decades

decades	1940s		
decades	1950s		
decades	1960s	beetle era	
decades	1970s	disco era	
decades	1980s		
decades	1990s		
decades	2000s		
decades	silent era		
decades	2010s	New Movies	new

Microsoft Excel
Worksheet

Entity: genre

Genre	Adult
Genre	Adventure
Genre	Animation
Genre	Biography
Genre	Children
Genre	Comedy
Genre	Crime
Genre	Documentary
Genre	Drama
Genre	Family
Genre	Fantasy
Genre	FilmNoir
Genre	GameShow
Genre	History
Genre	Horror
Genre	Music
Genre	Musical
Genre	Mystery
Genre	News

Task 4 – Design dialog nodes and Chemistry

4-1. Define Dialog Usage Scenario

Example:

1. Welcome

2. Ask what type of movies they would like to watch (Genre)

3. Ask for any specific time period if needed

4. Provide answers to user's intent

5. Ask for another movie

6. Closing statement

7. Exit

Task 4 – Design Dialog nodes and Chemistry

4-2. Define System Chemistry for your conversational AI engine

Example:

User Persona
Demographics – Households
Age group - 8 and above
Movie knowledge – varied
Ideal time to connect – any time

Role
Assistant
Consultant - Yes
Consoler
Teacher

Personality Trait
Outgoing
Sweet
Funny
Goofy
Geeky
Helpful - Yes

Task 5 – Customize Welcome node

5-1. Customize Welcome node to match the chemistry of your conversational AI Engine
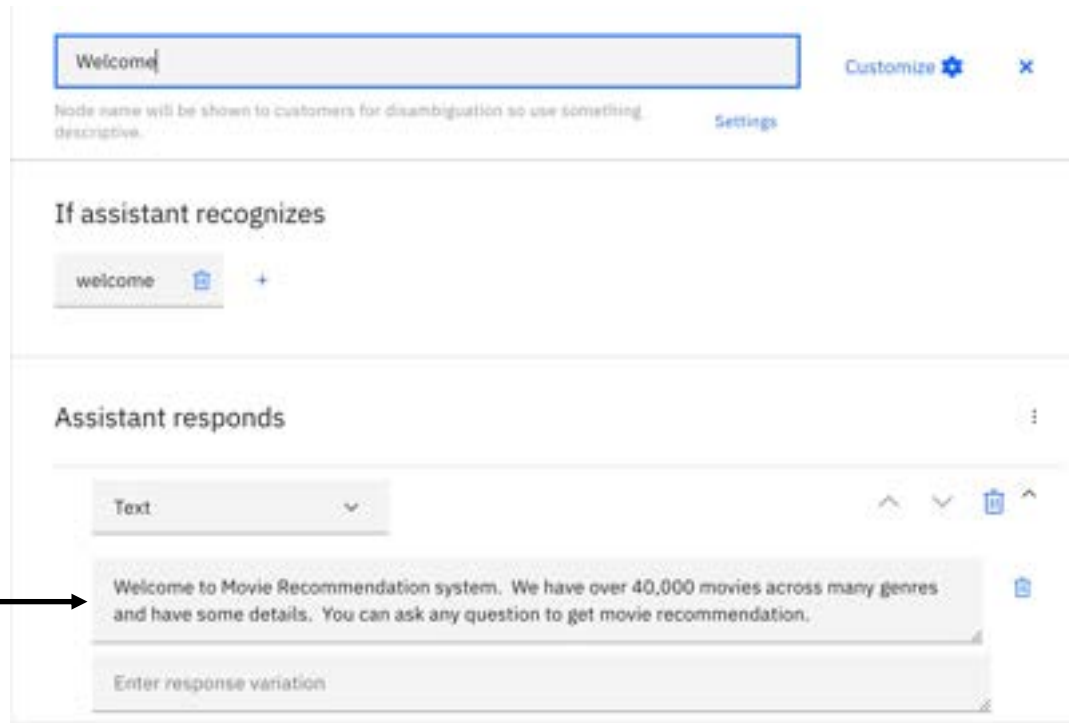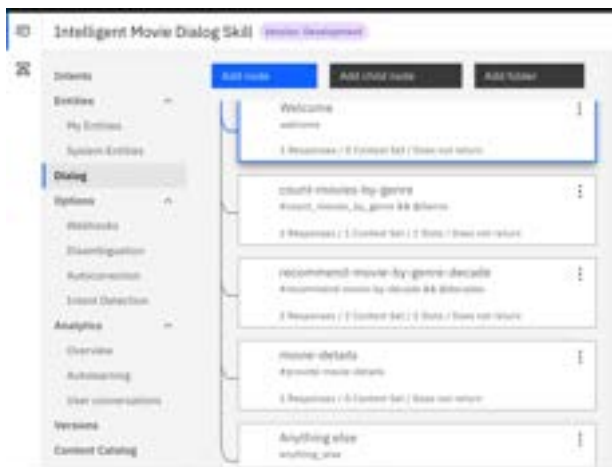
Example:

Task 6 – Extend Dialog to include Intents

6-1. Design additional Dialog nodes to handle various Intents as defined in Task 2

Example:

Level	Intent	Entities	Response
2	#Welcome		Welcome to COVID Help desk. I can provide key COVID statistics for any given continent or country. For USA, I can provide statistics at state level within USA. Hope you are healthy and safe. How can I help you?
2	#query_cases_daily	@sys-date, @continent	For @continent, on a daily basis for @sys-date, here is COVID statistics Total COVID Cases = 1234 New COVID Cases = 1234 Total Deaths =1234 New Deaths 1234
2	#query_cases_daily	@sys-date, @country	For @country, on a daily basis for @sys-date, here is COVID statistics Total COVID Cases = 1234 New COVID Cases = 1234 Total Deaths =1234 New Deaths 1234
2	#query_cases_daily	@sys-date, @cases	On a daily basis @cases = 1234. This COVID statistics is valid world-wide
2	#query_cases_daily	@sys-date, @cases, @continent	For @continent, on a daily basis COVID-19 @cases = 1234
2	#query_cases_daily	@sys-date, @cases, @country	For @country, on a daily basis @cases = 1234
2	#query_cases_daily	@sys-date,	At world-wide level on a daily basis for @sys-date, here is COVID statistics Total COVID Cases = 1234 New COVID Cases = 1234 Total Deaths =1234 New Deaths 1234
1	#Thanks		Thanks for using COVID Conversational Bot. Have a wonderful and safe day

Task 6 – Extend Dialog to include Intents

6-1. Design additional Dialog nodes to handle various Intents as defined in Task 2

Example:

Intent	Entities	Response
#Welcome		Welcome to Movie Recommendation system. We have over 40,000 movies across many genres and have some details. You can ask any question to get movie recommendation.
#count_movies_by_genre	Genre	We have 1500 Action movies
#list-of-genre		Our database includes 21 genres. They include Action, Adventure, Animation, Children, Comedy, Crime, Documentary, Drama, Fantasy, FilmNoir, Horror, IMAX, Musical, Mystery, Romance, SciFi, Thriller, War
#provide-movie-details	movies	Toy Story is 81 min long English movie from 1995, made with a budget of $30,000,000. It can be classified as Adventure, Animation, Children, Comedy, Fantasy. It received a rating of 7.7 from our reviewers.
#recommend-movie-by-decade	decade	For a 1990s movie, my recommendation is for Casino which received a viewer rating of 7.8.
#recommend-movie-by-genre	Genre	For a children movie, my recommendation is for Toy Story which received a viewer rating of 7.7.

Task 6 – Extend Dialog to include Intents

6-2. Configure additional Dialog nodes to handle various Intents into Watson Assistant and test various intents using "Try It" button.

Example

Task 6 – Extend Dialog to include Intents

6-3 Provide details on your configured Dialog skill

Example:

Intelligent Movie Search under Team 5 project within Watson Assistant Resource group

Task 7 – Configure Search Skill within Dialog

7-1. Configure your search skill within Dialog using Anything Else

Example:

Task 8 – Configure Thanks Dialog node

8-1. Define Thanks Intent and Configure Thanks node to match the chemistry of your conversational AI Engine

Example:

Intent: Thanks

Thanks	Thanks
Thank you	Thanks
See you	Thanks
Bye	Thanks
No further question	Thanks

Can you also develop a loop back so a user can ask for multiple recommendations?

Task 9 – Summarize Findings

List 3-5 key findings from your experience in configuring Dialog skills in

Watson Assistant

Class Assignments - Schedule

Module	Deliverable	Medium	Due Date
Assignment 1	Use Case Definition	PowerPoint	Thu Feb 10, 2022
Assignment 2	Data Exploration	Python, Excel	Thu Feb 17, 2022
Assignment 3	Build Natural Language Understanding (Configure Search and Action Skills)	Excel, Watson Assistant, Watson Discovery	Fri Feb 25, 2022
Assignment 4	Build Basic Chatbot (Intents, Entities and Dialog)	Watson Assistant	Thu March 3, 2022
Assignment 5	Build Conversation query (Integration - Webhooks and queries)	Watson Assistant, Function	Thu March 10, 2022
Assignment 6	Test Results, Confusion Matrix	PowerPoint, Excel	Thu March 17, 2022
Final Project	Final Presentation	Video	TBD