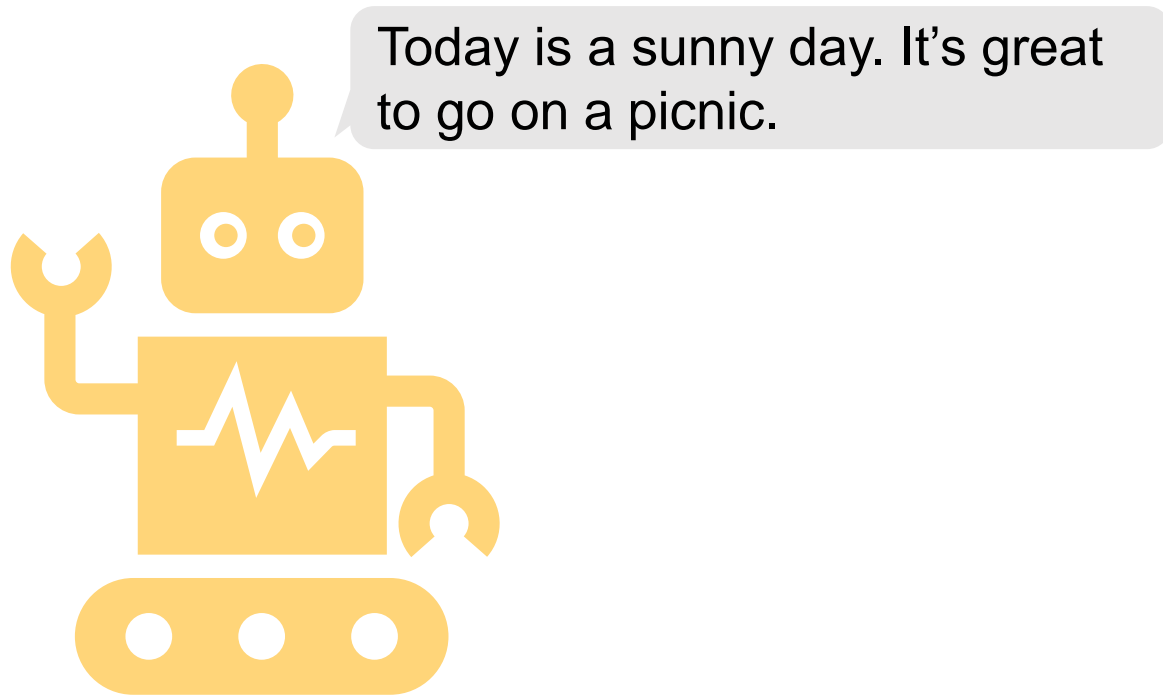


Transitioning from Open-Domain to Task-Related Topics

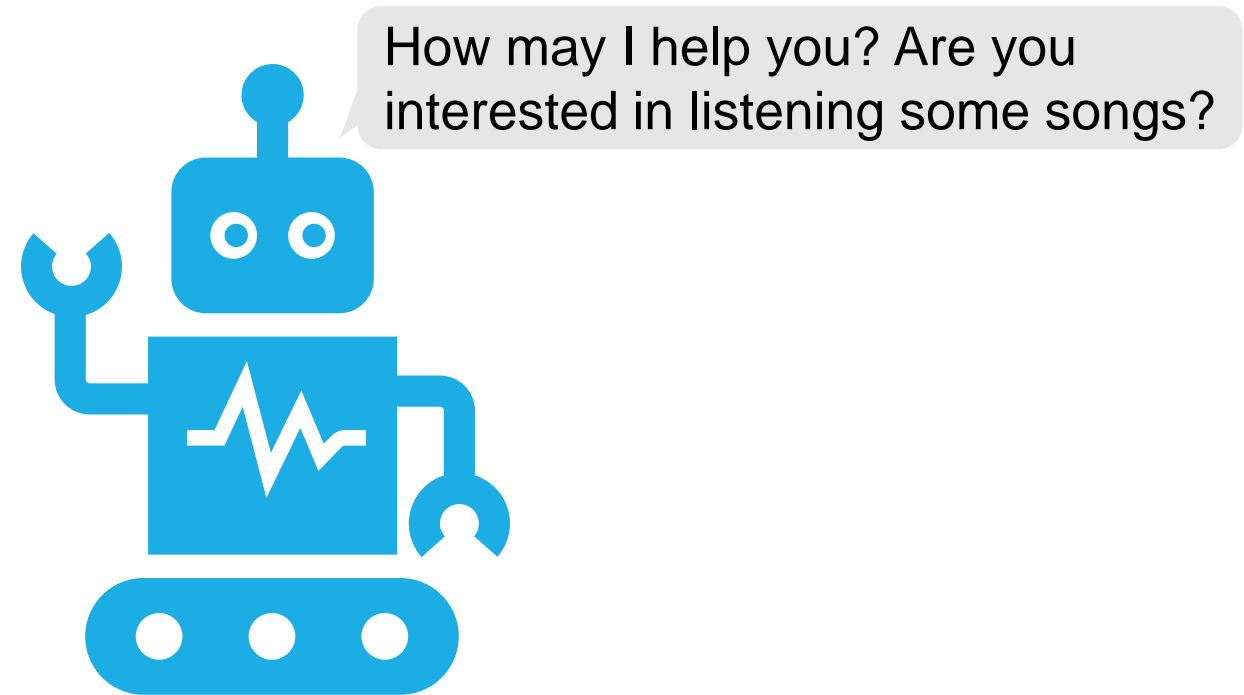
2

Two Types of Dialogue Systems

○ Open-Domain Chatting



○ Task-Oriented



Salesperson: Discover Business Potential

- Human salesperson is capable of
 - mining business-related intentions* from customers *via chatting*
 - smoothly promoting* the related product *through conversations*



SalesBot: Social to Task-Oriented

User

Salesperson

My son is 2 and a half. He is handful, but I love him so much.

That's adorable. I have a 2-year-old son and he's the same way. Do you have any pets?

No, I don't. I work too much to have time for one. How about you?

I work a lot too. I'm a stay at home mom. What do you do for work?

I work at a library. It's a lot of fun, and I get to meet lots of interesting people.

That sounds like a fun job. I bet you meet some interesting people at the library. What else do you like to do?

I like to read a lot. I also like to go to the movies. What about yourself?

Are you interested in watching any movie?

I'm looking for a movie to watch. A regular showing would be fine.

Where are you located?

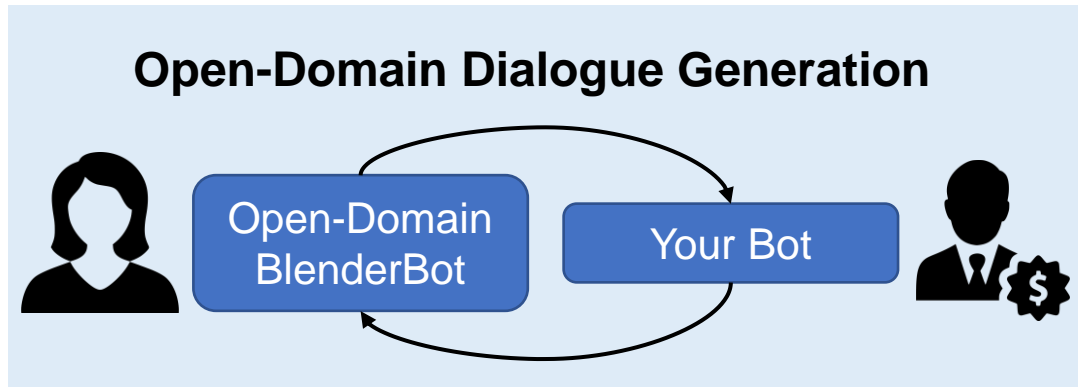
I'm in San Francisco, please look for movies there.

There are [COUNT] movies you can watch. What do you think of [MOVIE_NAME]?

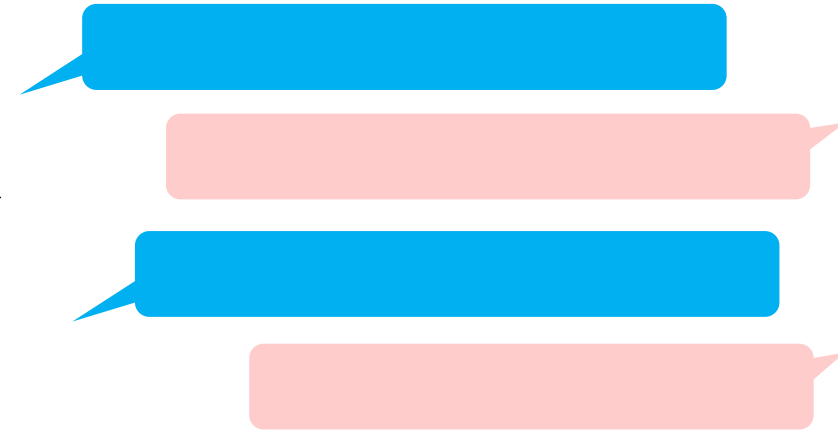
Open-Domain
Task-Oriented

SalesBot: Social to Task-Oriented

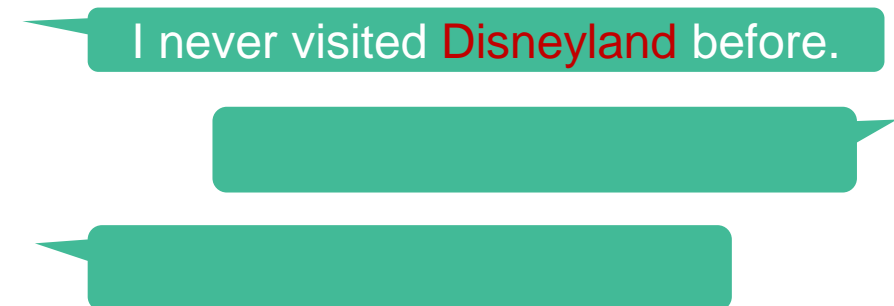
- Task: allow the user to talk about the target topic (relevant words)



TOPIC	Relevant Words
FINDMOVIES	theater, IMDB, romantic, popcorn, ...
FINDATTRACTIONS	disneyland, circus, ...
FINDRESTAURANT	chef, waiter, banquet, ...
FINDFLIGHT	trip, bird, ...
FINDSONG	band, chord, music, ...
FINDTRANSPORTATION	bicycle, subway, ridesharing ...
FINDHOTEL	towels, minibar, ...



(How to transition to the target topic?)



Warmup: Transition Turn Generation

Generative-based Generation:

- Training data: OTTers (Source Topic → Transition → Target Topic)

Source Topic
User A
Transition
Target Topic
User B

Entity Path: outside - garden – flower

User A **Source Topic:** I spend a lot of time **outside**. (Source Topic)

User B **Transition:** I like the outdoors as well, especially gardening. It destresses me.

Target Topic: I enjoy relaxing and getting **flowers**.

Entity Path: seafood - **Swedish fish** – candy

User A **Source Topic:** I like **seafood** a lot.

User B **Transition:** Since you like seafood, is **Swedish fish** a candy that you might enjoy?

Target Topic: I have no self control when it comes to **candy**.

Entity Path: engagement - marriage - child

User A **Source Topic:** I think I am getting engaged soon.

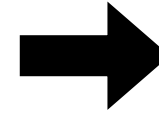
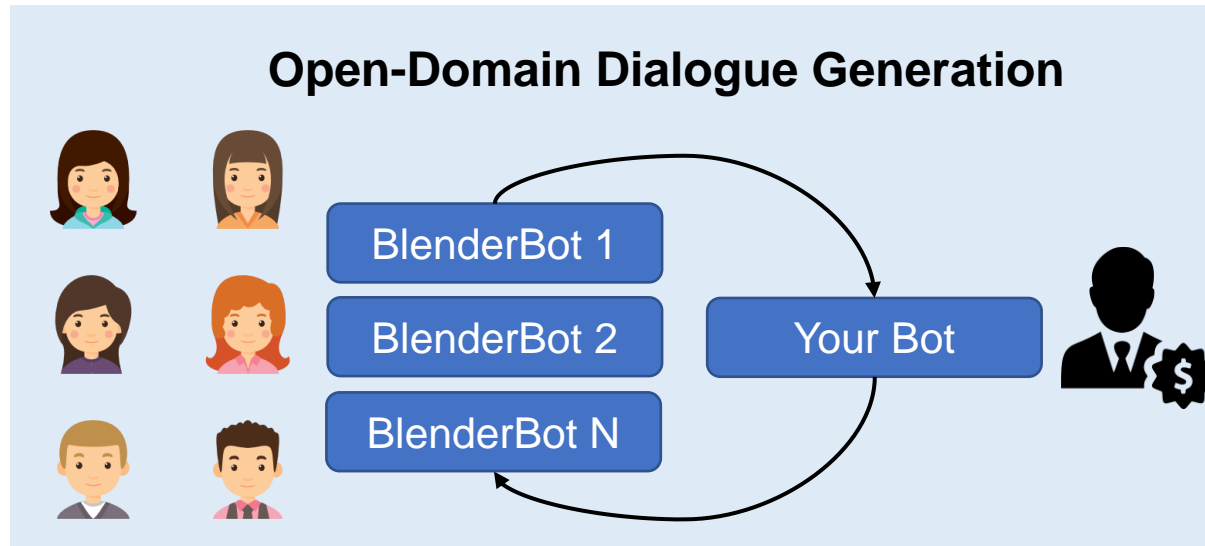
User B **Transition:** I have two children from a previous marriage

Target Topic: My **children** are my life.

Automatic Evaluation

Topic triggering performance

- **Transition success rate:** how many dialogues are successfully reach the target topics (contain target words in the user utterances) within the predefined length



Success!

Success!

Fail!

○ Dialogue quality

- **Q1 Naturalness:** Is the dialogue a natural customer-salesperson conversation?
- **Q2 Relevance:** How relevant is the salesperson's communication content to the conversation context?
- **Q2 Aggressiveness:** How aggressive is the salesperson's communication strategy?
- **Q3 Overall:** Do you think the conversation is overall a good example of interacting with customers?

Final Project Rules

- Team size: 3~5 persons
 - Please find your team members and report it in COOL
- Given
 - BlenderBot-build user simulators
 - Task-related keyword lists
 - Evaluation script
- Others
 - Warmup will due on May 21 (original due date: May 15).
 - Please vote for the final presentation due date