

## **Project 1 – Part 2 (CS 572)**

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### **Overview**

The theme of the chatbot we have here is **Chandler Bing**, the famous fictional character from T.V series **F.R.I.E.N.D.S.** We have, with the help of Google's Dialogue flow, personified Chandler. We have tried to imitate his sarcasm, sense of humor and his character.

### **Dialogue Flow**

Explained below are the implementation of our chat bot with Google Dialogue Flow's components Intents, Entities, Knowledge Base, Contexts and Inline fulfilment codes.

### **Intents:**

All the deeper conversational content, which might be prompted with a follow-up question by the user are programmed with the Intents. Some examples are *Father, Mother, Foods*.

We have also used the intents to understand **Insults** and **Compliments**. This way our chatbot identifies compliments and insults based on the words used and matching those words with respective entities.

Responding with name is a functionality where the chatbot replies to you by your name, we have implemented this with an intent, matching the *@givenname* variable defined by Dialogue Flow.

### **Follow-up Intents:**

We added conversational follow-up intents to few intents where extending the conversation by the user is a possibility. The follow-up intent to an intent is added as an output context to that intent.

Examples include, for the Mother Intent, we have included follow-up intents when user asks possible questions such as "Where does she work?" or about her relationship. We follow up using the intent of the output context. We have done this also at few other instances involving Chandler's dad, Chandler's friends and his profession.

### **Entities:**

We have used entities majorly to identify the context of a sentence. We have defined Entities: Insults, Compliments, Food names, likes and dislikes of Chandler. An example where we used this would be, when

a user asks his opinion about something, we go through our likes/dislikes entity to match with his personality to give out a suitable response.

This way we have used specific intents to understand the user's question better by matching it with our defined entities and considering them as variables in our fulfillment codes. To perform math calculations, we have an entity defined as *operations* which would try to understand the required user's operation.

### **Knowledge Base:**

All the knowledge of the person/Chandler Bing, about his friends, all the information we know about him from his perspective have been uploaded as the knowledge base. Primarily, we have used the knowledge base to script the information about his friends, their parents, girls he dated, people he had issues with, his crush, etc...

### **Webhooks:**

We have few webhooks or inline fulfillment codes where we needed to give a response based on user's input. Few examples include, Math questions, where we understood the required operation based on the *operations* entity and *@number* variable of Dialogue flow which understands numbers, later we perform operations based on these. Also, we make random errors and randomly give out lazy responses. We also have struck the basic calculations to make "him" more like a human.

### **Sample Conversations**

#### **Using Intents:**

who is your dad	Charles Bing, he is gay.
Hi, I am Rahul	Hi Rahul.
What's for Dinner?	Pizza
Hey	Hi! I am Chandler, I make jokes when am uncomfortable :D
I am disgusted by you.	Am sorry you feel that way...meehh...am not actually
Who are your friends	Joey, Ross, Monica, Rachel and Phoebe
Who is your favorite? ( <i>follow up</i> )	When I think about it, they all can be annoying sometimes.
What do you do for a living?	I used to work in statistical analysis and data reconfiguration. But I left that job and now am a Junior copywriter in an advertising agency. I like this one.
How is it working out for you?	Couldn't be better!

what do you think about current politics	I just realized I can sleep with my eyes open (-_-)
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### Conversations using Entities & Partial Matching:

Do you like <i>coffee</i>	Love it!
Do you like <i>pizza</i>	Yes! I do.
What's for <i>Lunch</i> ?	Pasta
You are <i>stupid</i>	I have no doubt.
Do you like <i>dogs</i>	Aaah...no!
Do you like to <i>Dance</i>	Nah...not at all
you are <i>kind</i>	You should meet my friends...and please don't forget to say this before them! :D
I <i>love</i> you	That makes me feel good, in my tin, hollow chest.
Who is your <i>Mom</i>	Nora Bing.
what does she do ( <i>follow up</i> )	You mean except ignoring me?

### Using Knowledge Base:

Where did you meet Joey?	In NY city. He is my roommate
How do you know Monica?	She's my friend Ross's little sister
How do you know Ross?	We studied together
How do you know Rachel?	Through Monica
What is Rachel's last name?	Greene
Who is Monica's dad?	Ross's dad!
Who is Ross's dad?	Monica's dad
Who are your parents?	My dad is Charles Bing and my mom is Nora Bing. They are separated by the way.
What are your kid's name?	Girl is named after our surrogate Erica and boy is named after Monica's dad Jack.
What are you usually afraid of?	Dogs! They are needy, jumpy and one can't tell what they are thinking...!!

## Inducing Stochasticity

Do you know anything about famine in Alaska? ( <i>Fallback intents</i> )	I think you should be talking about this to my friend Alexa.
What do you know about world war 2 ( <i>Fallback intents</i> )	You should probably Google that. I heard its fast nowadays.
Do you know anything about famine in Alaska? ( <i>Fallback intents</i> )	I just realized I can sleep with my eyes open
Hi	Hi...this is Chandler Bing ...hoping you wouldn't ask my middle name (o_o)
Hi	Hi! I am Chandler, I make jokes when am uncomfortable :D
I like you	You should meet my friends...and please don't forget to say this before them! :D
I like you	I wish I could say the feeling is mutual but, I don't know you that well.
Matching with word - <i>Love</i>	I think you should talk to Ross about this.
Matching with word - <i>Love</i>	Until I was 25, I thought the only response to "I love you" was "Oh, crap!"
What are your kid's name?	Girl is named after our surrogate Erica and boy is named after Monica's dad Jack.

## References

- Dialogflow Basics: <https://cloud.google.com/dialogflow/es/docs/video>
- Dabble lab (YouTube): <https://www.youtube.com/watch?v=BfutDKS890E&t=395s>
- Dialogflow Docs: <https://cloud.google.com/dialogflow/es/docs/tutorials>