

“Dolce”

— Menu Assistant to rescue
you from confusion



01 Why *“Dolce”*

_ Problems Discovery



Menu Confusion_
Hungry customers get overwhelmed by the menu when entering an unfamiliar restaurant



International students
get confused when ordering food in a local restaurant in U.S



Travelers
can't tell what the dish is when looking at the menu

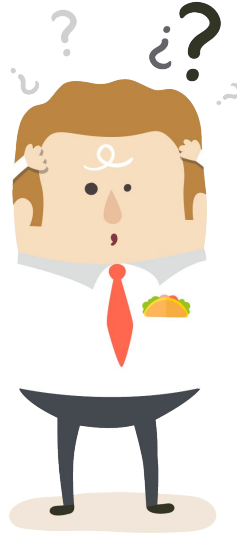


Locals
don't fully get the dishes on the menu when going to the restaurant for the first time

_ Problems Discovery

There is **no picture** on the menu. I can't tell what the food taste like by the name.

The **fancy name** of the menu describe nothing to me.



Some restaurants have its own **jargons**. It's quite hard to understand the waitress.

I feel too shy to ask about **how to order** but I don't want to do anything wrong!

_ Goal What bot should achieve

What & How to order



Feature

Part 1_Menu Consulting

Help explain the menu to ease the user's frustration and confusion

Part 2_Order Helper

Help crafting the phrase user need to order when the user make the decision



Criteria

Meet **people's expectations** through the process

Give **feedbacks** to user when needed - Help direct user back to the conversation when error occurs



Character

Make people feel like having a conversation with **a friend** while taking the advice

02 Creation of “*Dolce*”

_ Overall Process

Analyze the **interaction** between users and the bot



01

How the bot can meet people's expectation in this system

Decide the **logic & structure**



02

Develop intents & entities to build the structure

Build the bot for explaining **one dish**



03

Able to jump from one detail of the dish to another

Develop the bot for explaining **five dishes**



04

Able to jump from one dish to another

Develop the bot for **ordering**



05

Able to cut into ordering at any point

_ Sample Dishes

Chosen Restaurant:

Orient Express

5 Dishes:

General Tso's / Hunan /
Kung Pao / Sichuan/ Lo Mein



Lunch Special \$7.65
Monday - Friday: 11am - 3pm
Except holidays

1 Entree:

- ✓ V Ma Po Tofu -
- ✓ V Stir Fried Green Beans -
- ✓ V General Tso's Tofu or Chicken
- ✓ V Sweet & Sour Sauce Tofu or Chicken
- ✓ V Broccoli Tofu, Chicken, Pork, Beef, or Shrimp
- ✓ V Hunan Tofu, Chicken, Pork, Beef, or Shrimp
- ✓ V Garlic Sauce Tofu, Chicken, Pork, Beef, or Shrimp
- ✓ V Kung Pao Tofu, Chicken, Pork, Beef, or Shrimp
- ✓ V Cashew Tofu, Chicken, Pork, Beef, or Shrimp
- ✓ V Sichuan Tofu, Chicken, Pork, Beef, or Shrimp
- ✓ V Steamed Mixed Veg Tofu, Chicken, Pork, Beef, or Shrimp
- ✓ V Eggplant w. Garlic Sauce Tofu, Chicken, Pork, Beef, or Shrimp
- ✓ V Green Bean Tofu, Chicken, Pork, Beef, or Shrimp
- ✓ V Lo Mein Veg, Chicken, Pork, Beef, or Shrimp
- ✓ V Shanghai Lo Mein Veg, Chicken, Pork, Beef, or Shrimp

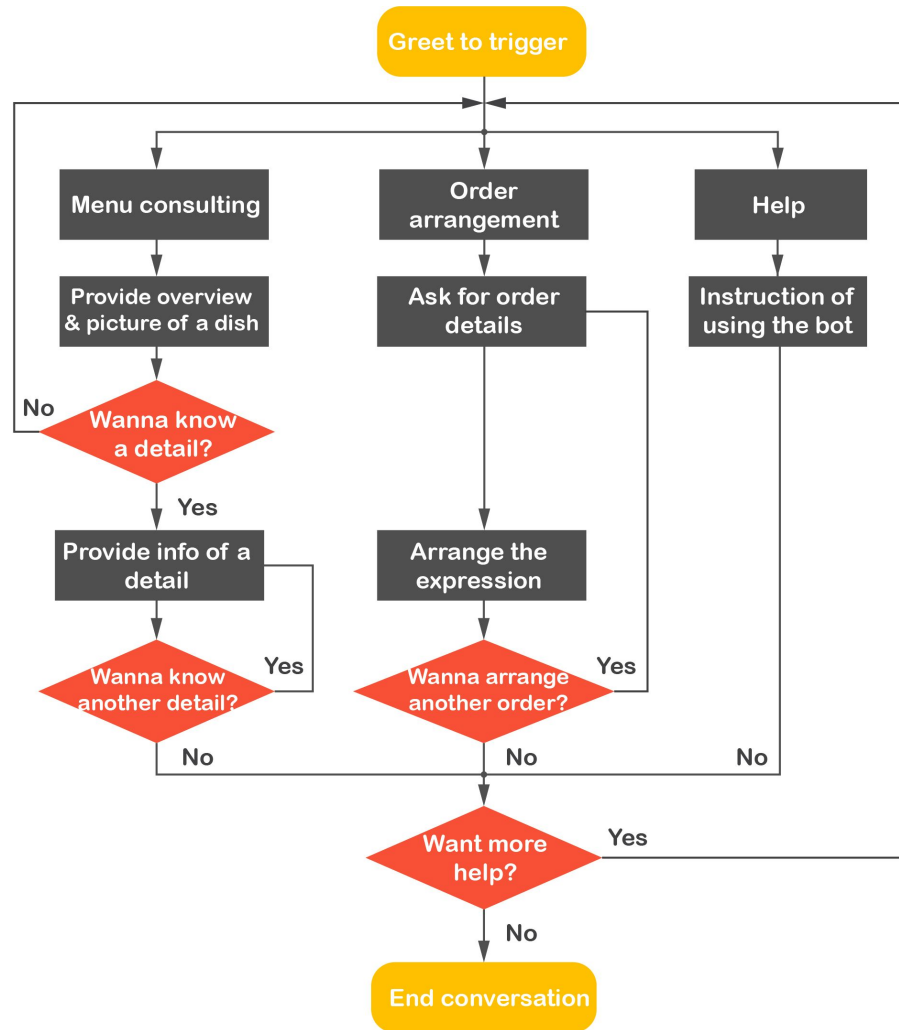
2 Rice: Steamed Rice -or- Fried Rice

3 Side: Veg Spring Roll -or- Teriyaki Chicken Skewer

_ Overall Task

2 Main Features

- Menu Consulting
- Order Helper



_ Menu Consulting Structure

Separated intents

2 Groups of intents and using the **input contexts** to help scoping down the targeted intents



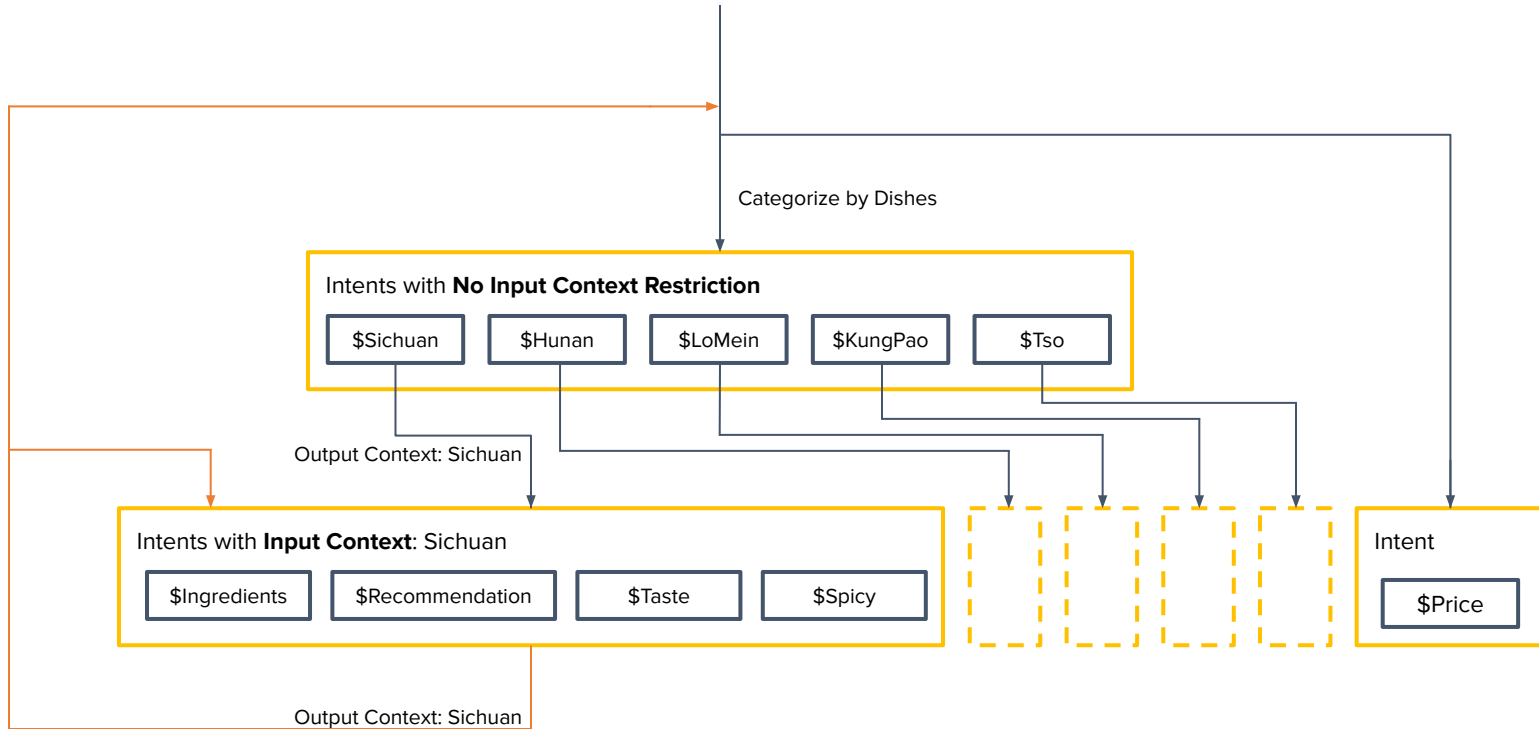
01 Recognize the menu

@Sichuan, @Hunan, @LoMein,
@KongPao and @GeneralTso

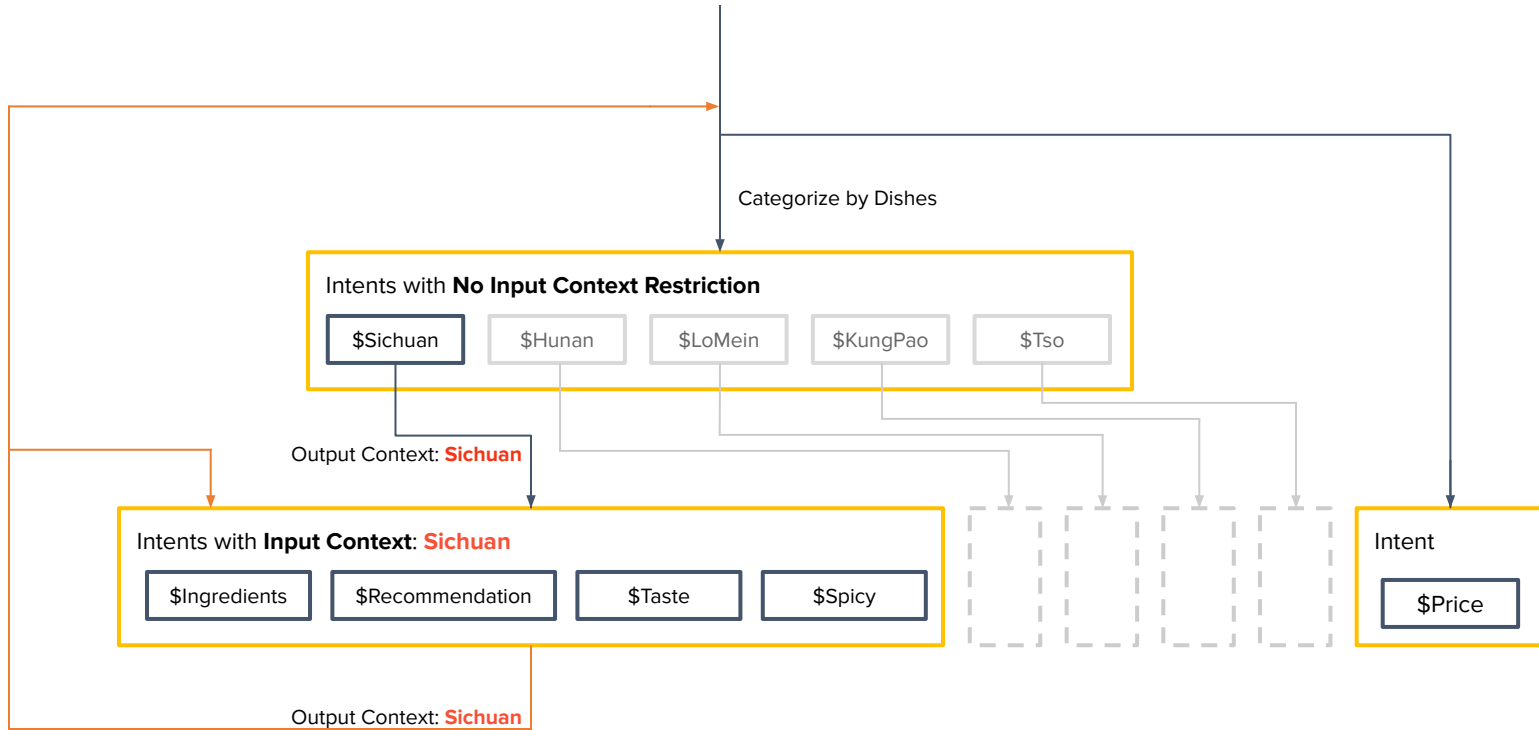
02 Detailed Questions

- General Tso's
- General Tso's - ingredient description
- General Tso's - ingredient recommendation
- General Tso's - taste

_ Menu Consulting Structure



_ Menu Consulting Structure



_ Order Helper Structure

Follow up intents

To be able to **remember and refer back** to the previous answer

Use **different entities** to store users' answer

@DishName, @ChosenIngredient, @ChosenRice and @ChosenSide

Call the value from previous questions by using **#xxxx.followup.entity**

● OrderHelper ^

● ↳ OrderHelper - menu ^





● ↳ OrderHelper - menu - ingredient ^

● ↳ OrderHelper - menu - ingredient - rice ^

● ↳ OrderHelper - menu - ingredient - rice - conclusion

_ Error Handling Structure

- **Default fallback intent**
- **Fallback intent in specific topic** with instruction to direct user back to the conversation

 Default Fallback Intent
 Default Welcome Intent ^
 ↳ Default Welcome Intent - Customer Name and ask about menu ^
 ↳ Default Welcome Intent - Customer Name and ask about menu - fallback Contexts: DefaultWelcomeIntent-CustomerNameandaskaboutmenu-followup

_ Casual Talk Structure

- Special intents such as Casual talk, How to

Small Talk

QUESTION

You're boring.

ANSWER

1 Really? Do you know why did the can crusher quit his job?
Because it was soda pressing.

2 Enter a Answer variant

- Howto

Training phrases 

” Add user expression

” what can I ask?

” dolce

” what can I ask the bot?

” how to use?

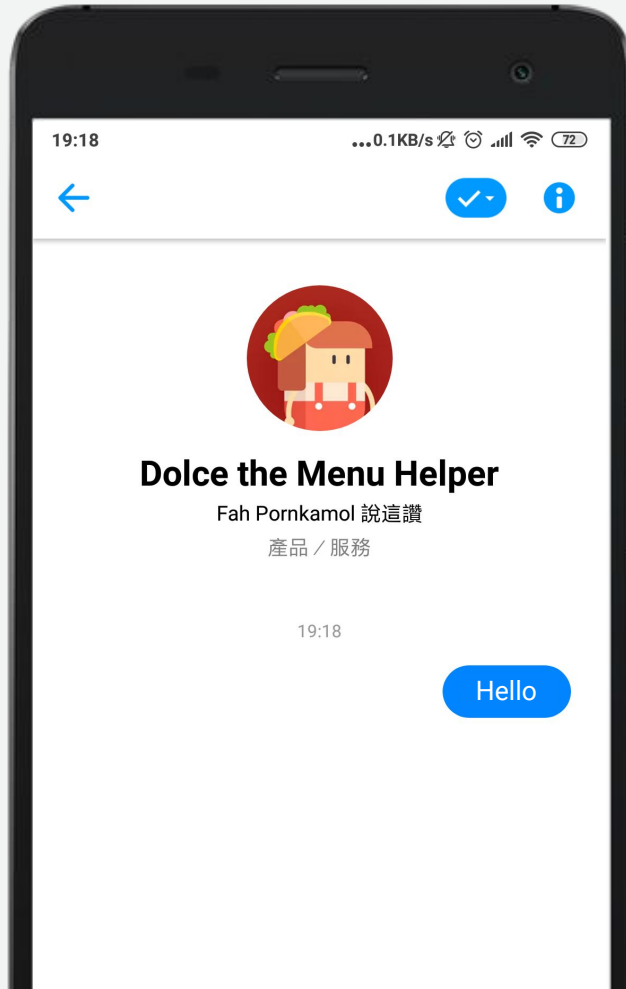
03 It's time to meet *"Dolce"*

03 It's time to meet



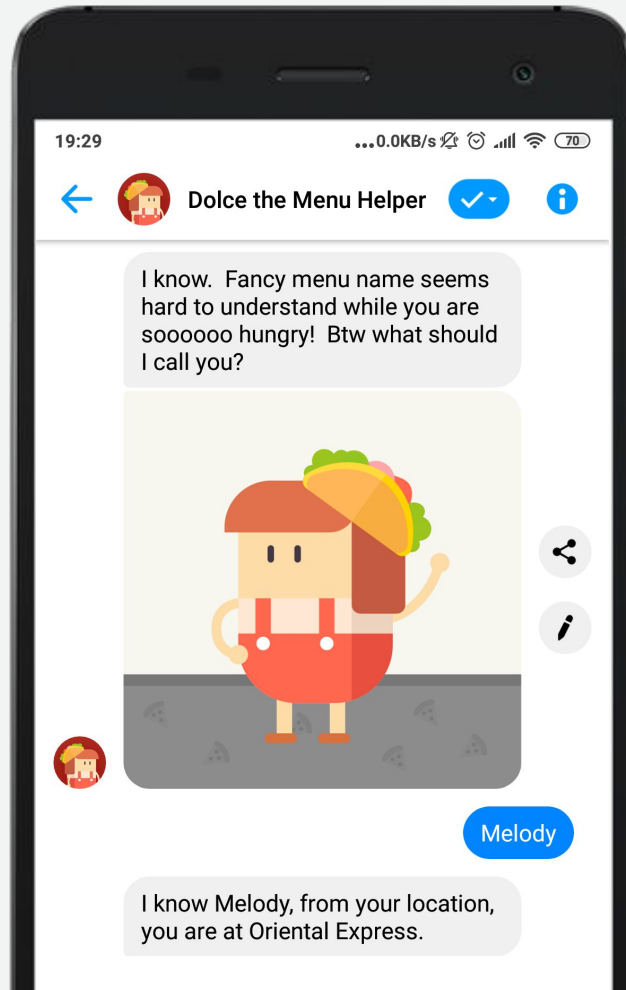
- At Orient Express -





_Menu Consulting

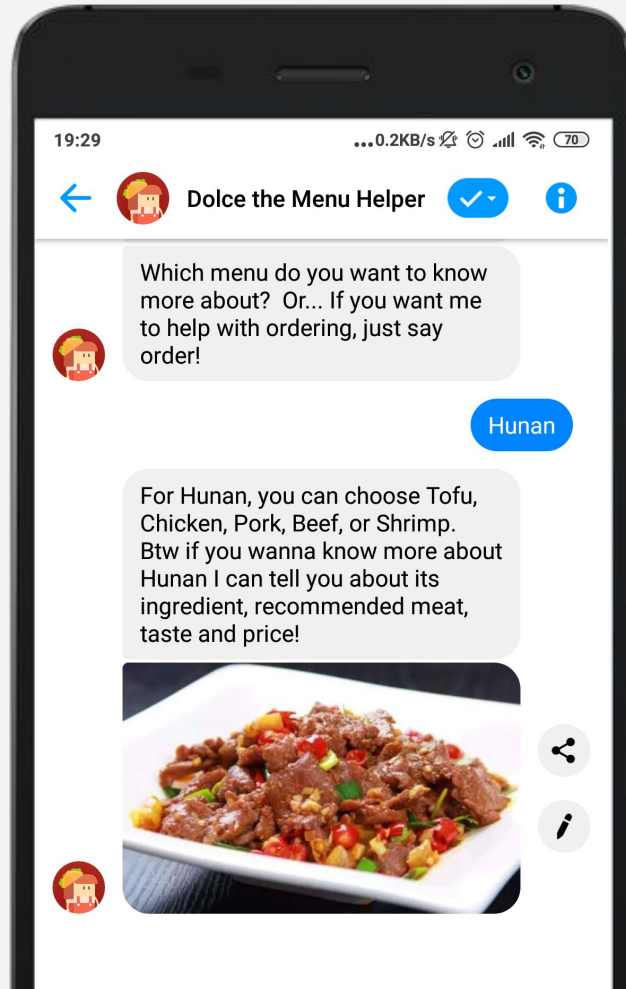
Greet the user and
ask to offer help



_Menu Consulting

Introduce what
Dolce can help

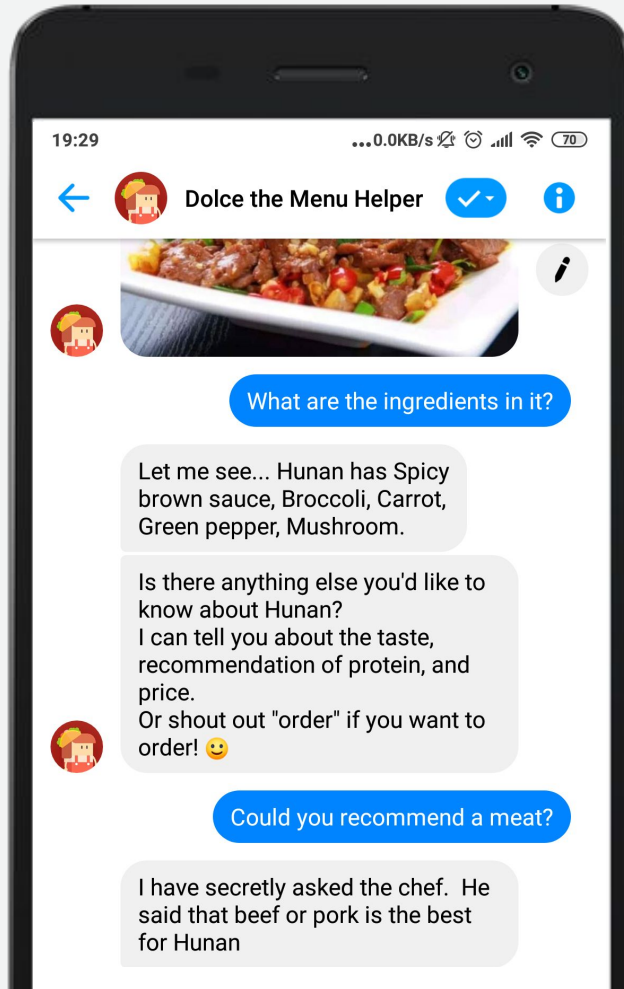
Briefly introduce
the dish in casual
language and
provide image



_Menu Consulting

Provide specific
details of the dish
if asked

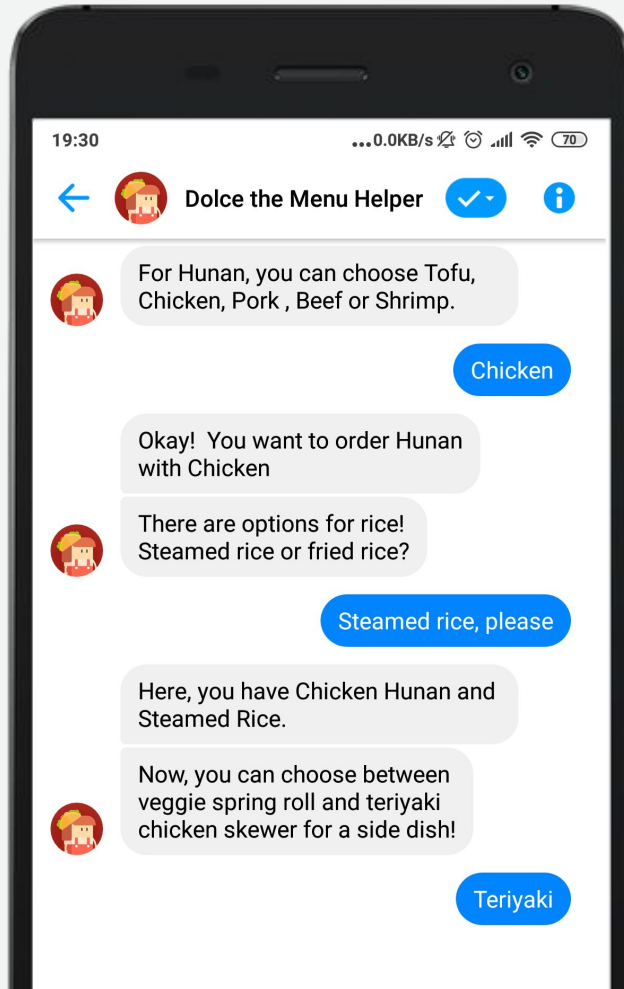
**Taste, Ingredients,
Recommended
Protein, Price**



_Order Helper

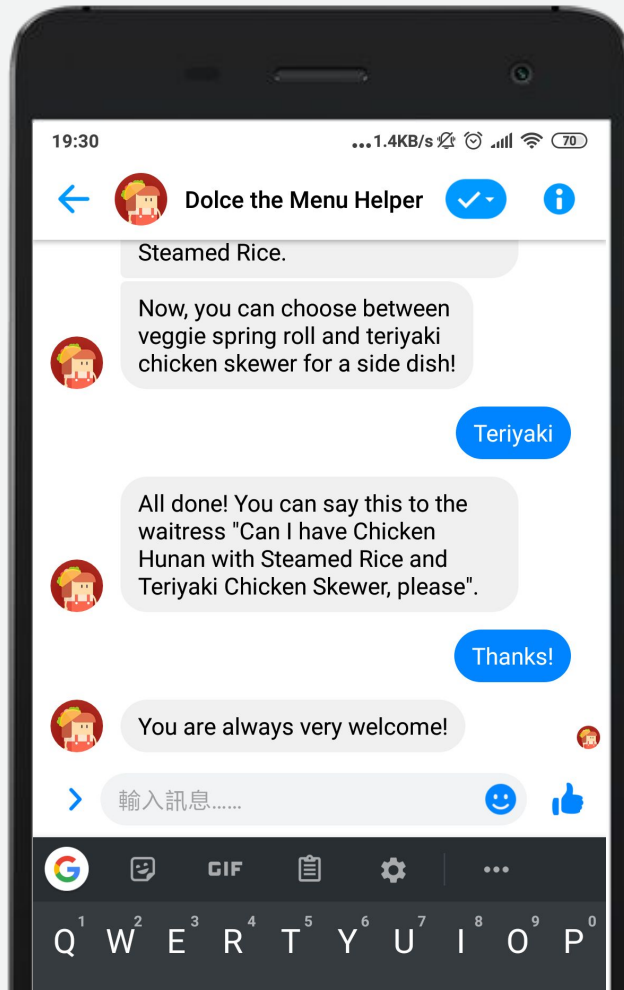
Confirm what the user answered and ask follow-up questions (Rice Options)

Ask follow-up questions (Side Dish Options)



_Order Helper

Help guiding **how user**
can order their menu
correctly!



04 The future of *“Dolce”*

_ Opportunities of Dolce

- **Integrate** with chat application such as **Messenger, Wechat, Line**
User can use instantly without downloading new application
- **Expand** restaurant database
which might be scalable by integrating comments or description about the menus from existing online platform.
- **Include Location Tracking**
Users do not need to inform Dolce about the restaurant they want to ask about





Thanks!

Sources

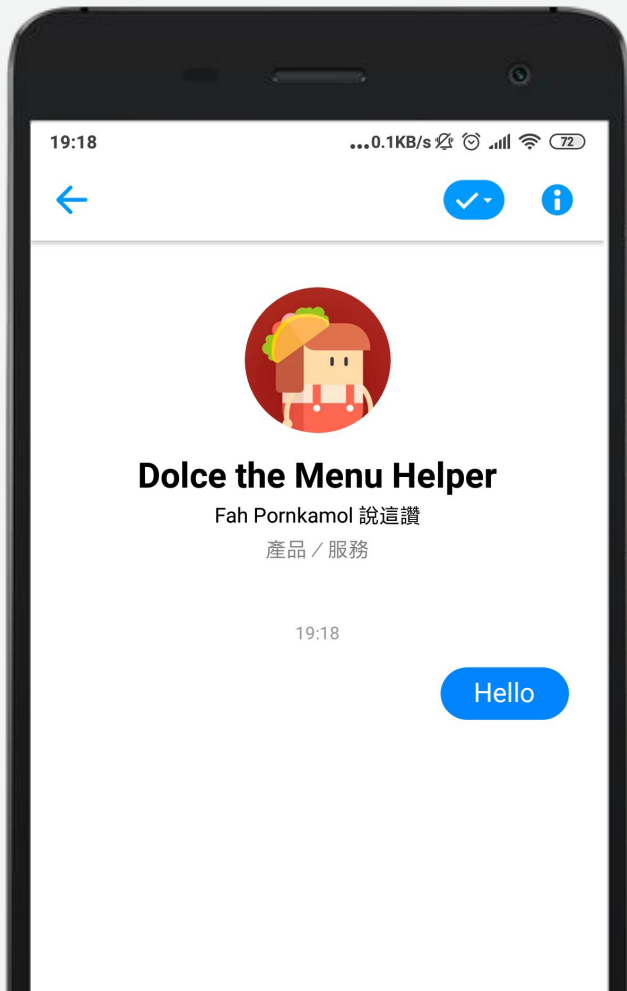
- Icons : Thenounproject
- Illustration : Freepik



Fah is working on the report

"Dolce"

_The Menu Helper



User intent:
Default Welcome

“Dolce”

_The Menu Helper

Bot:
Greet the user
and offer help



Bot:
Call user name by **\$Person**

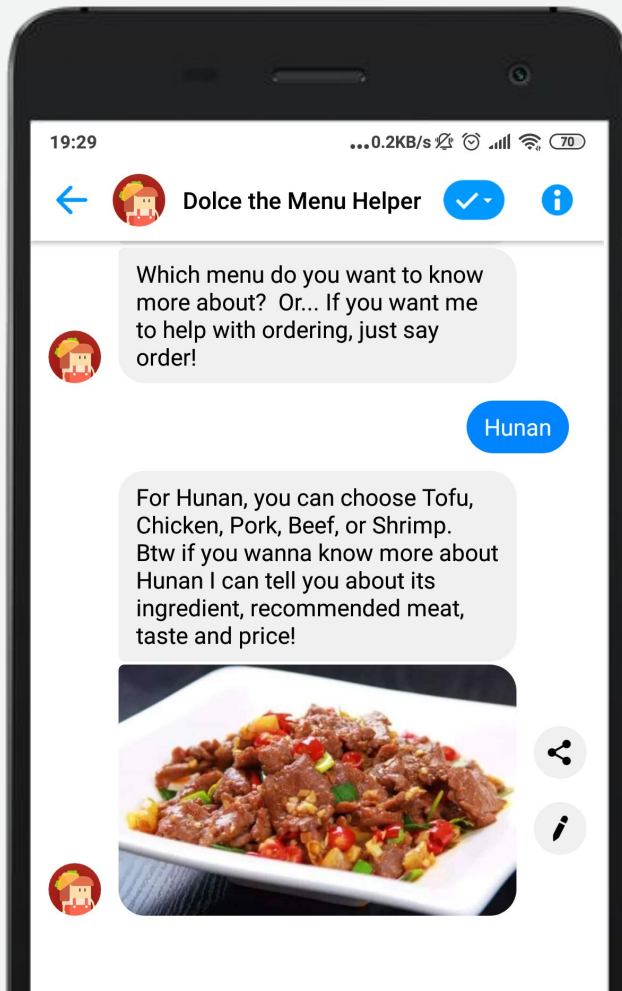
User follow-up intent:
Customer Name **@s.y.s.person**

“Dolce”

_The Menu Helper

Bot:
Introduce what
the bot can help

Bot:
Briefly **explain the dish**
in casual language
and provide **photo**

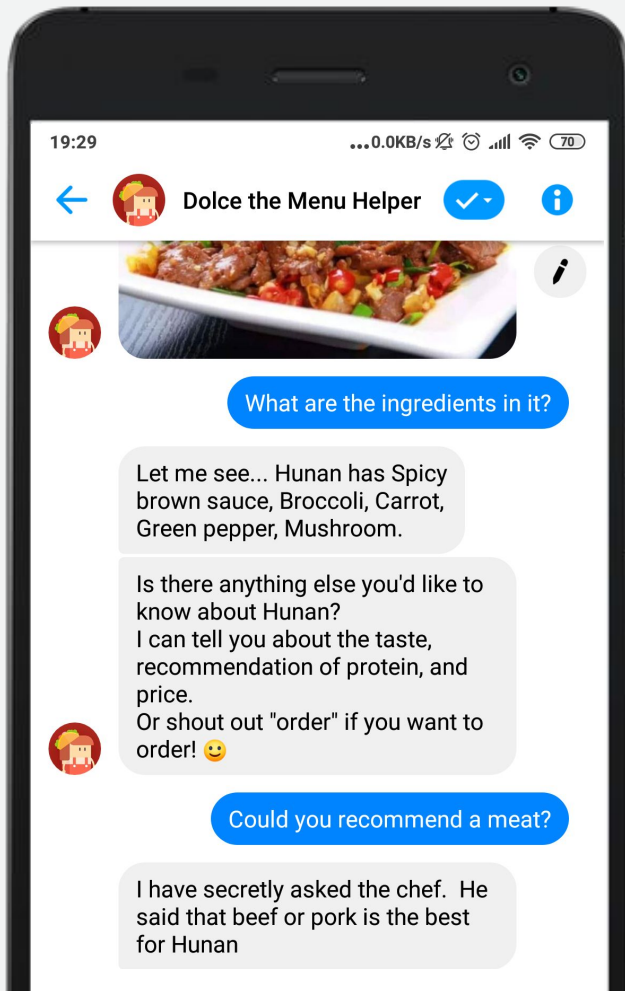


User intent:
Hunan @Hunan

"Dolce"

_The Menu Helper

Bot:
Provide specific **details**
of the dish if asked



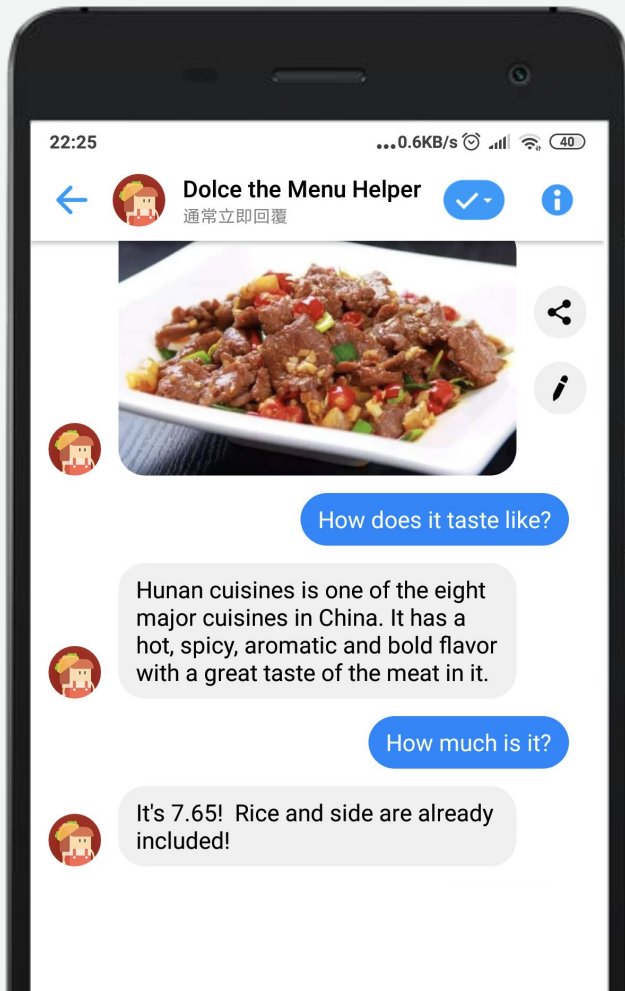
User intent:
Hunan - ingredient
description

User intent:
Hunan - ingredient
recommendation

“Dolce”

_The Menu Helper

Bot:
Provide specific **details**
of the dish if asked

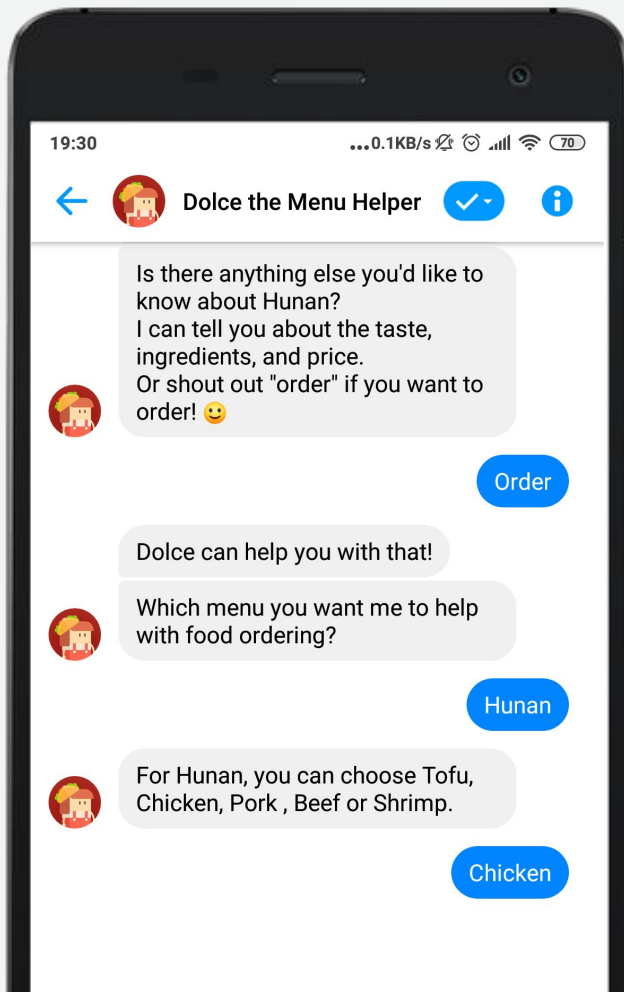


User intent:
Hunan - taste

User intent:
Price

“Dolce”

_The Menu Helper



Bot:
Ask for the menu

Bot:
Repeat the dish name by
\$Dishname and ask for
protein user want to order

User intent:
OrderHelper

User follow-up intent:
Menu @Dishname

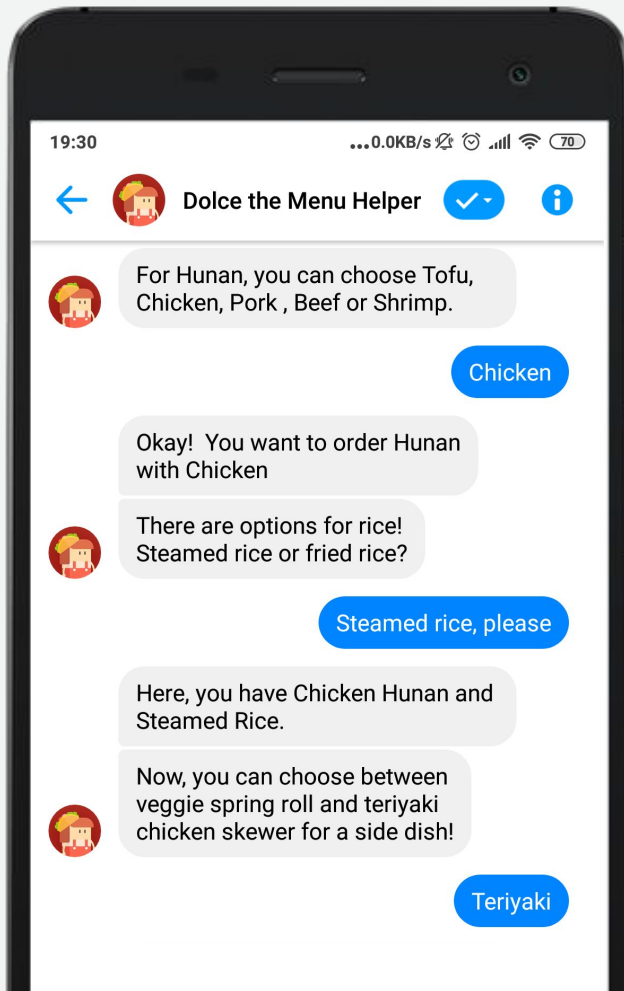
User follow-up intent:
Ingredient @ChosenIngredient

“Dolce”

_The Menu Helper

Bot:
Confirm answers and ask
about rice options

Bot:
Continue to ask
about side dish

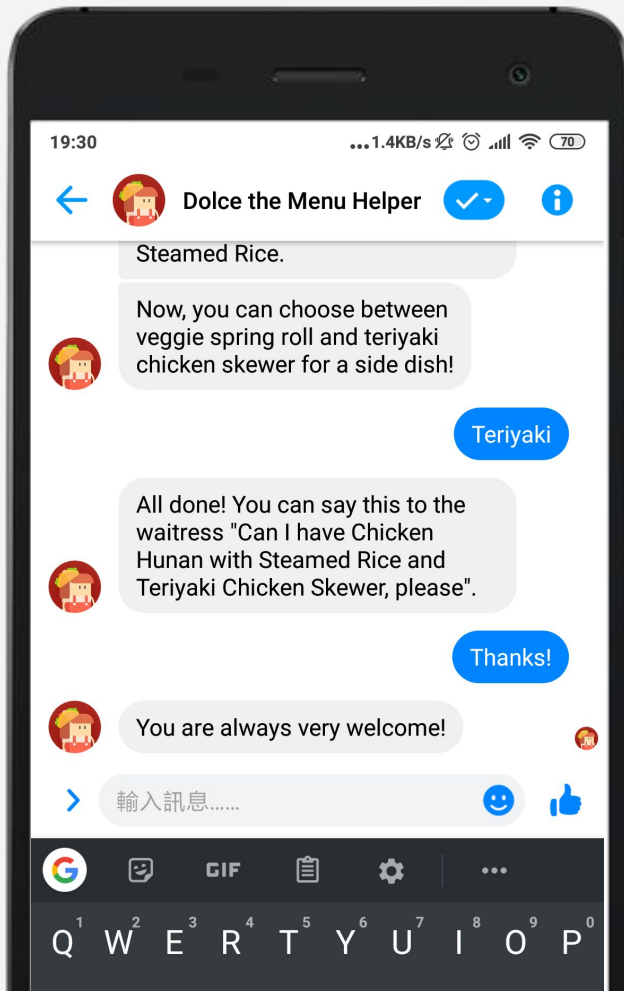


User follow-up intent:
Rice @ChosenRice

"Dolce"

_The Menu Helper

Bot:
Help guiding how user should
place order the menu using
#OrderHelper-menu-ingredient-
followup.choseningredient
#OrderHelper-menu-followup.
dishname
#OrderHelper-menu-ingredient-
rice-followup.chosenrice and
\$ChosenSide

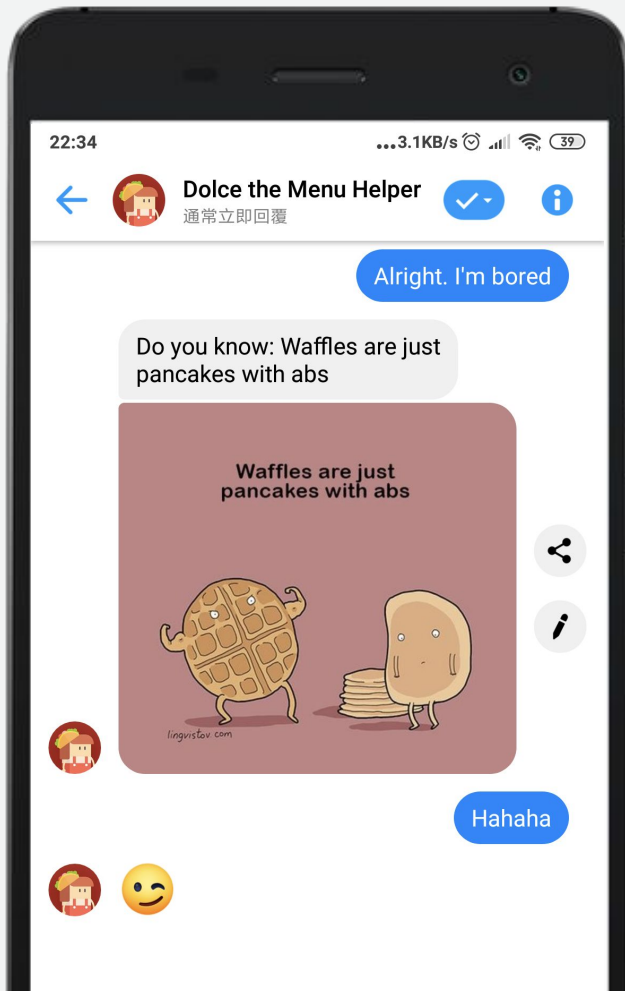


User follow-up intent:
Conclusion @ChosenSide

“Dolce”

_The Menu Helper

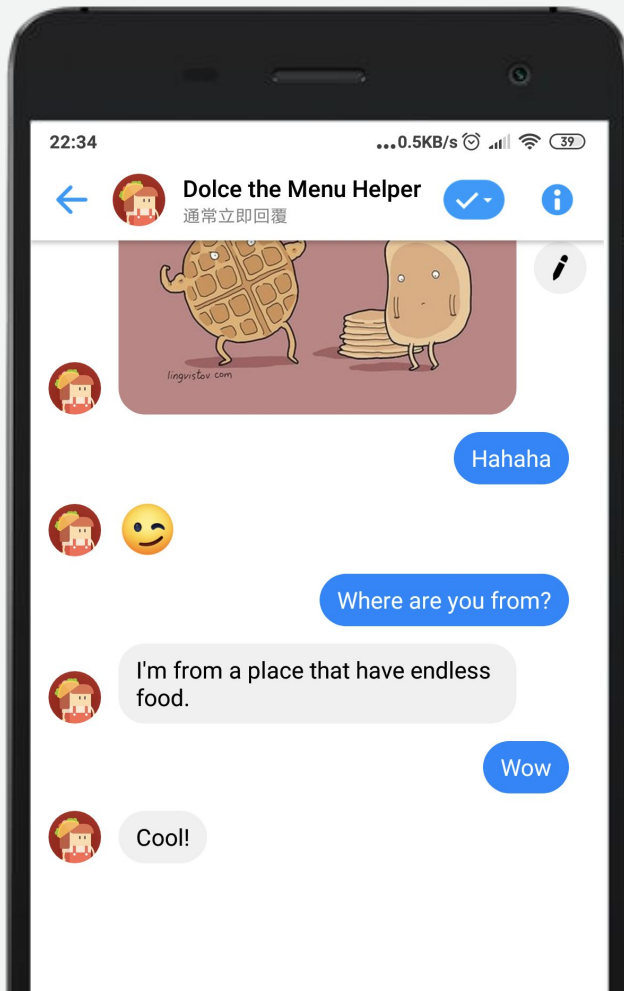
Bot:
Provide some
funny food
stories with a picture



User intent:
Casual Talk

“Dolce”

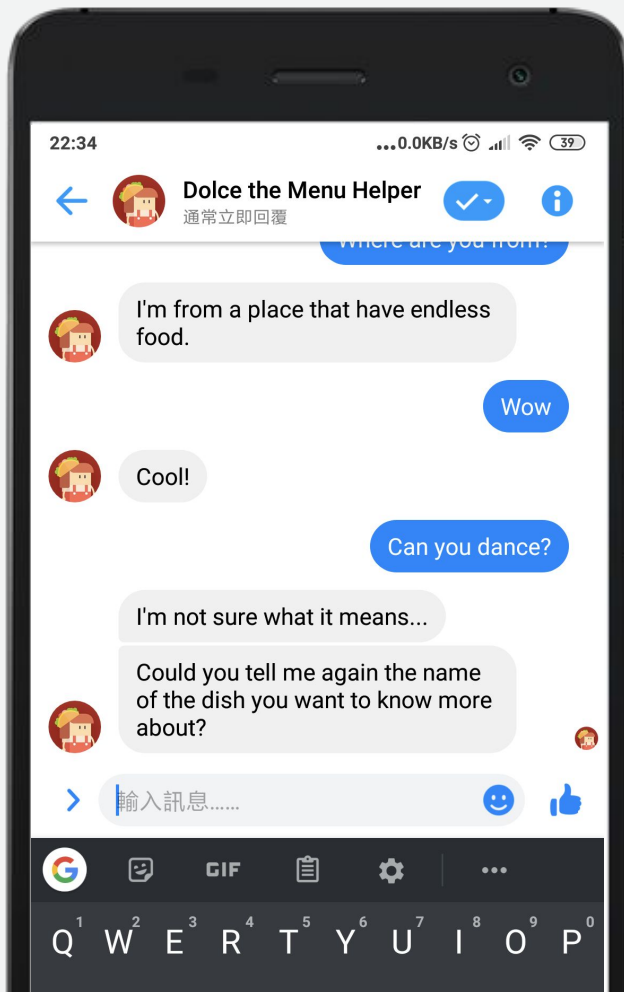
_The Menu Helper



Small Talk
With predefined phrase

"Dolce"

_The Menu Helper



Bot:
Provide some
guidances to direct user back
to the conversation

User Intent:
Default Fallback

“Dolce”

The Menu Helper Chatbot

Menu Assistant to rescue you from confusion

Designing Smart Systems, Fall 2019

