

Oracle Digital Assistant

AI in practice

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ORACLE

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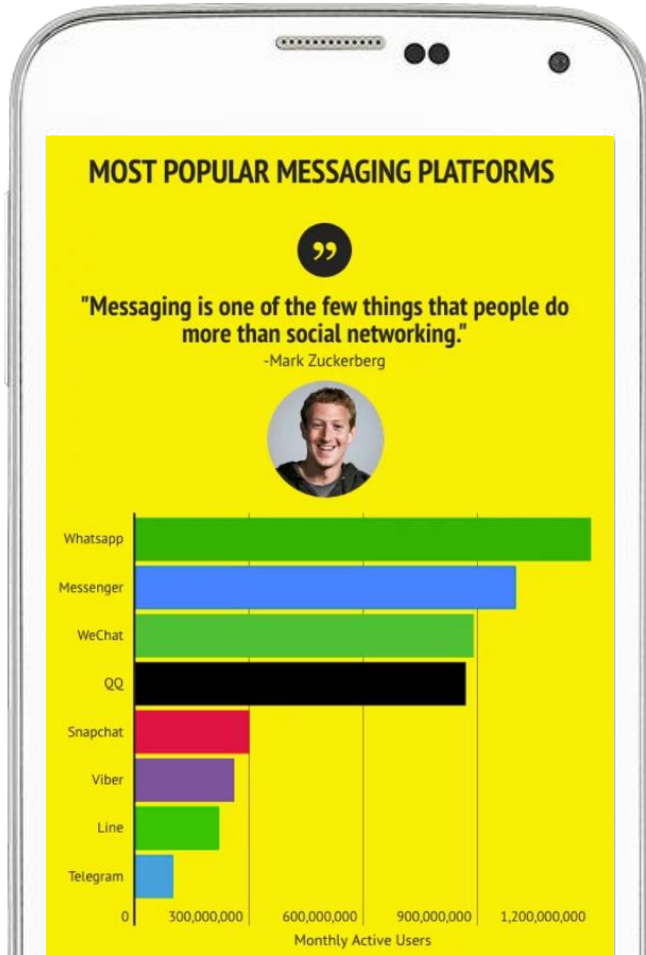
Agenda

1. Digital Assistant Overview
2. Digital Assistant Demo
3. Conversation Design

1. Digital Assistant Overview

Conversational Interfaces

The most natural interfaces is no interface



Cortana



Assistant



Alexa



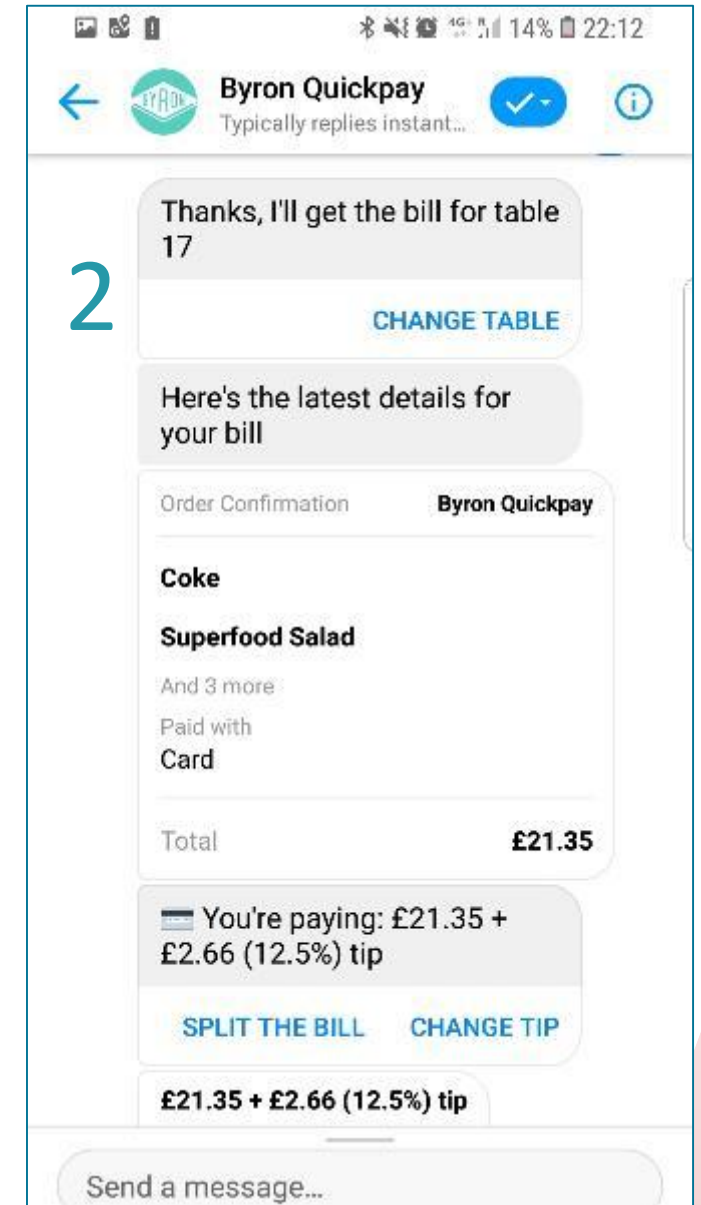
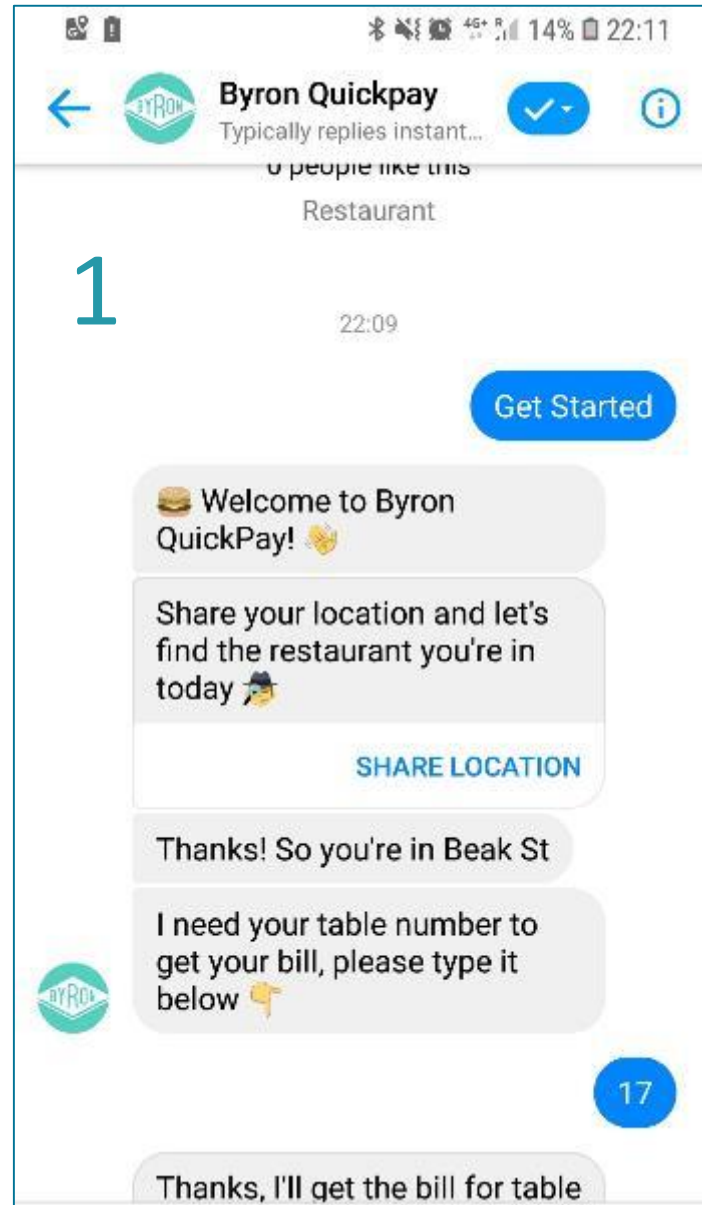
Siri



OOW Pepper



Byron Experience



**WELL IT'S 1 FOR THE
MONEY, 2 FOR THE
SHOW, 3 TO GET READY**



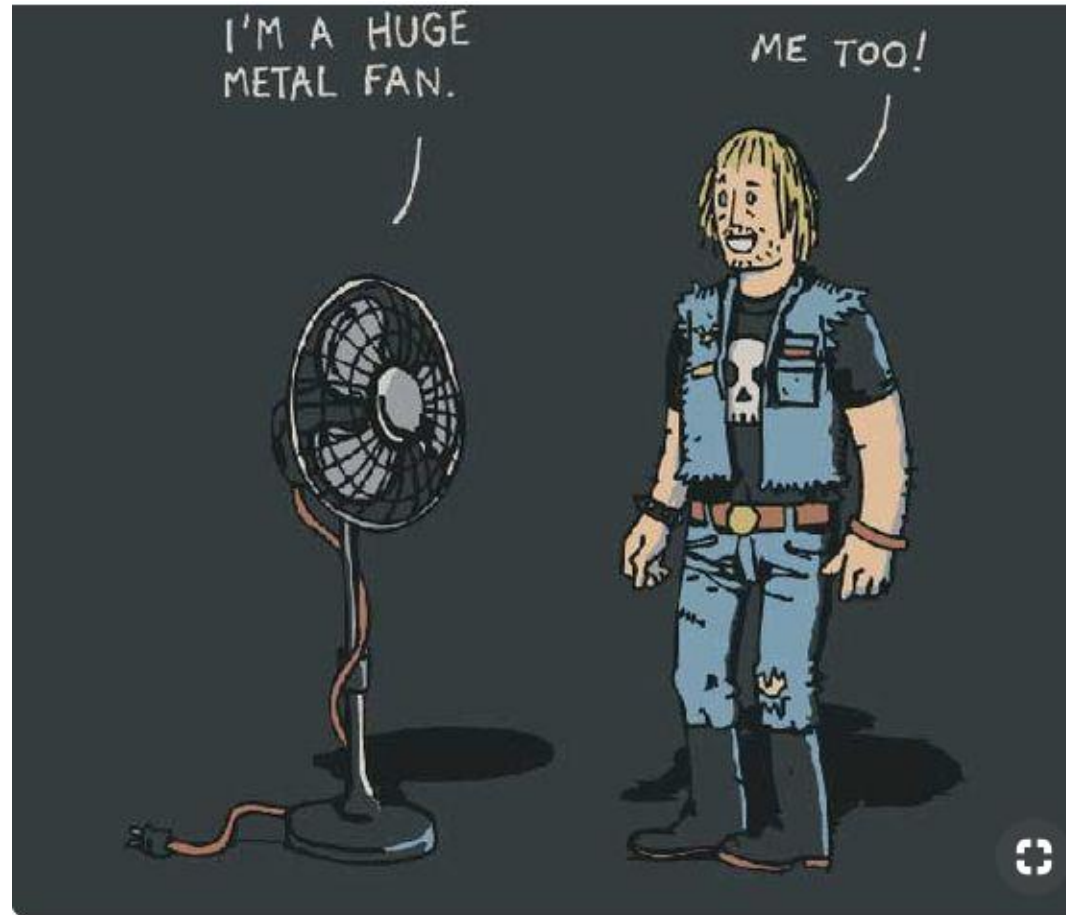
**4 FOR SALES, 5 FOR CUSTOMER
SERVICE, OR PRESS 6
TO HEAR THESE OPTIONS AGAIN**

*Hint: this is not a
Conversational
Interface*

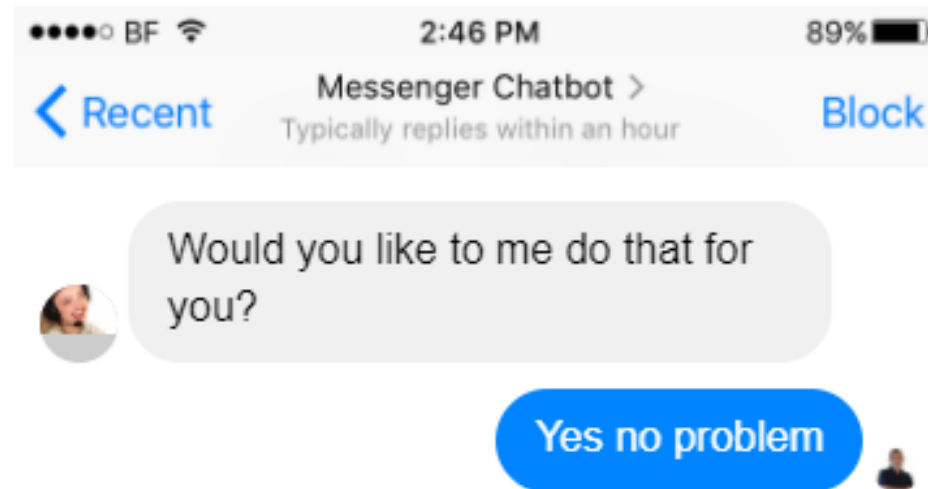
Why language can be difficult



Why language can be difficult



Why language can be difficult



Conversation

Conversation is the most natural form of communication for humans.

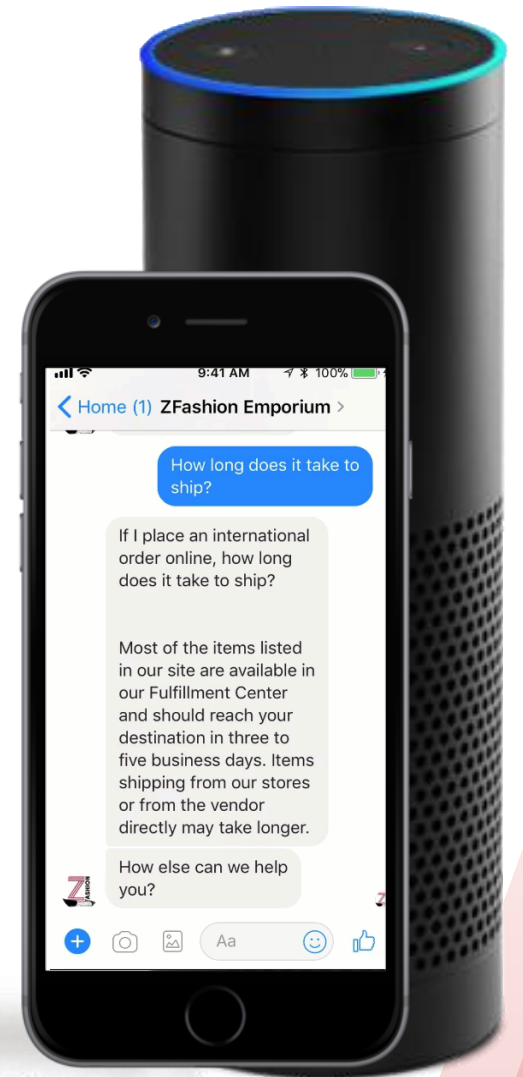
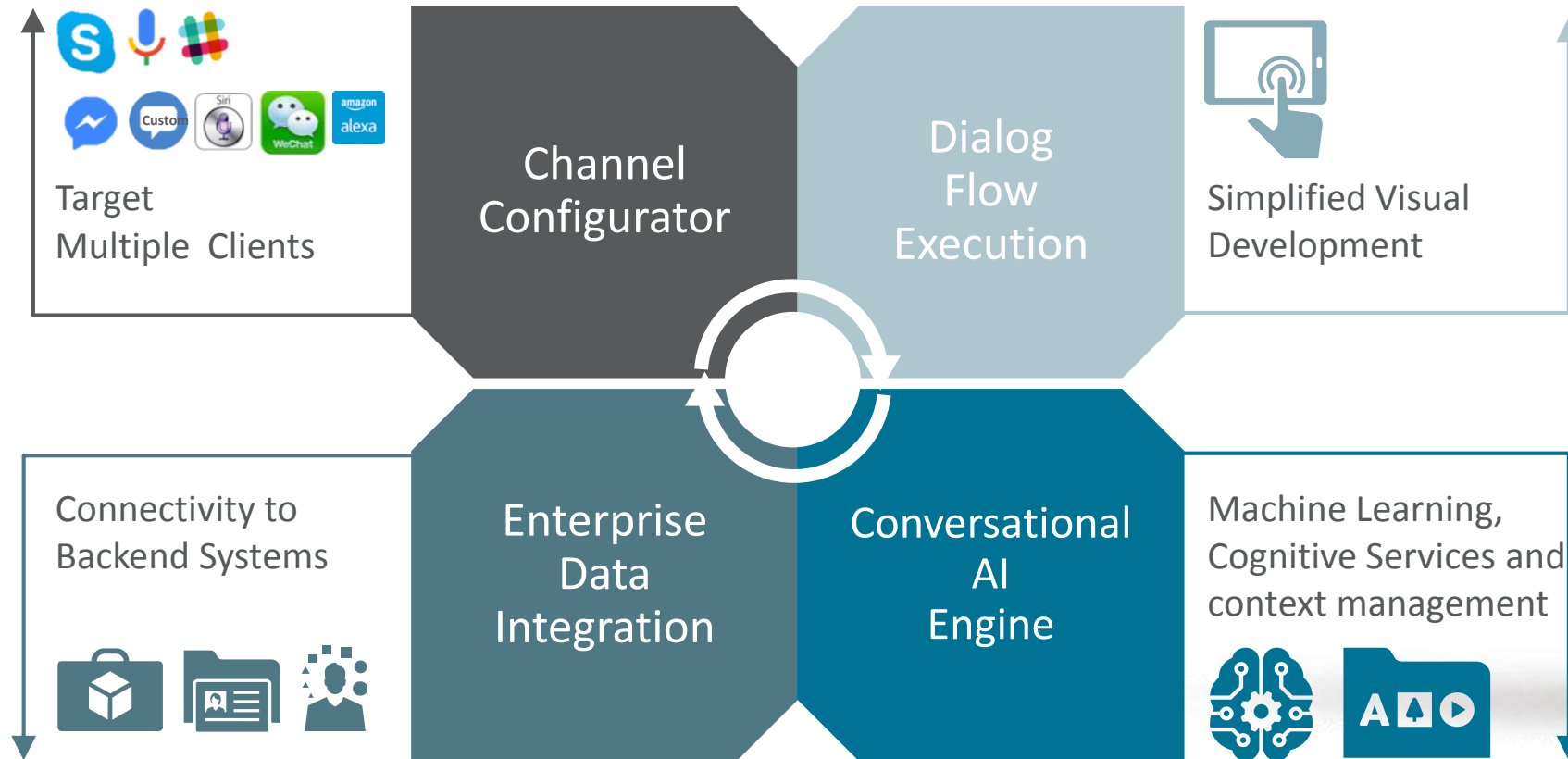
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Natural Language Processing

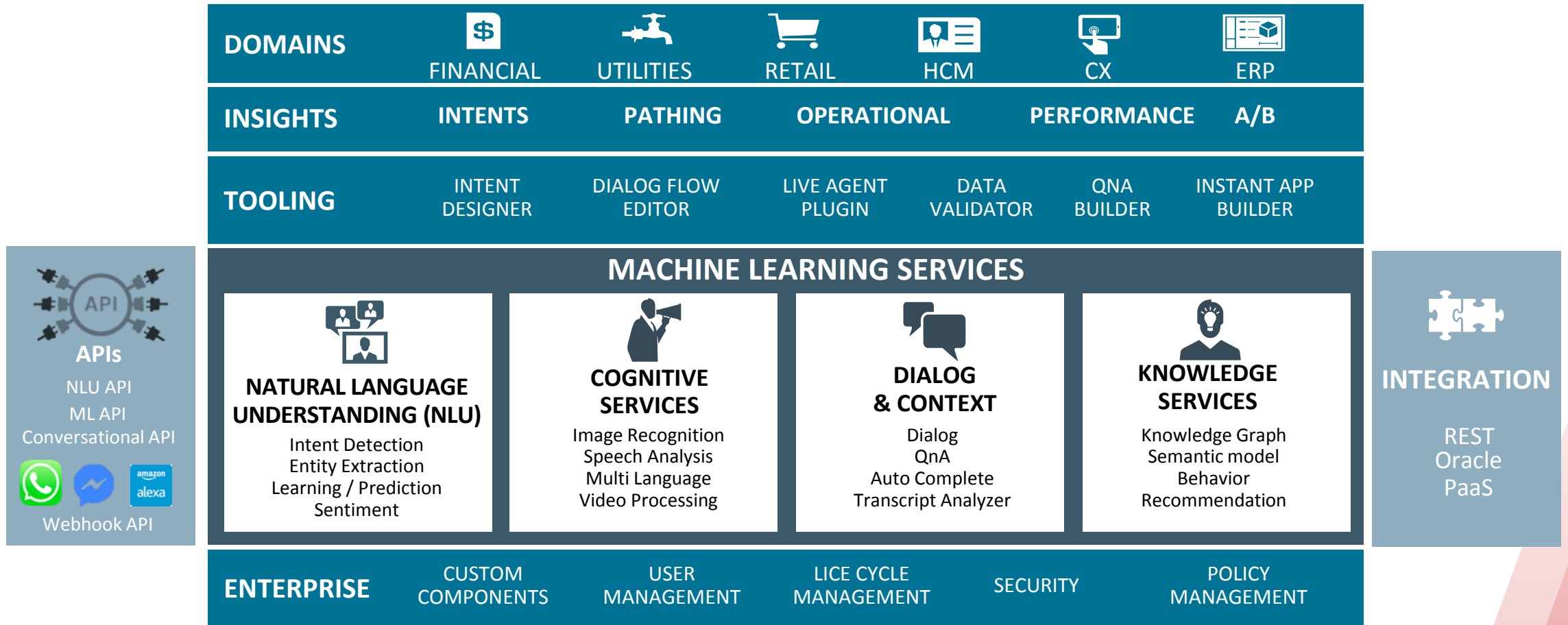
Natural Language Processing (NLP)

The art of distilling **intents** and associated information (**entities**) from user messages provided in the user's native tongue.

Oracle Digital Assistant



Conversational AI Platform



Understanding the Terminology of Chatbots

- **Intents**
- **Utterances**
- **Entities**
- **Machine Learning/NLP**
- **Dialog Flow**

Intent

Check Balance

Transfer Money

Track Spending

“How much money do I have in my checking account?”

Intent

Check Balance

Transfer Money

Track Spending

“How much money do I have in my checking account?”

Entity

Check Balance
Entity: AccountType

Checking

Savings

Credit Card

“How much money do I have in my checking account?”

Entity

Check Balance
Entity: AccountType

Checking

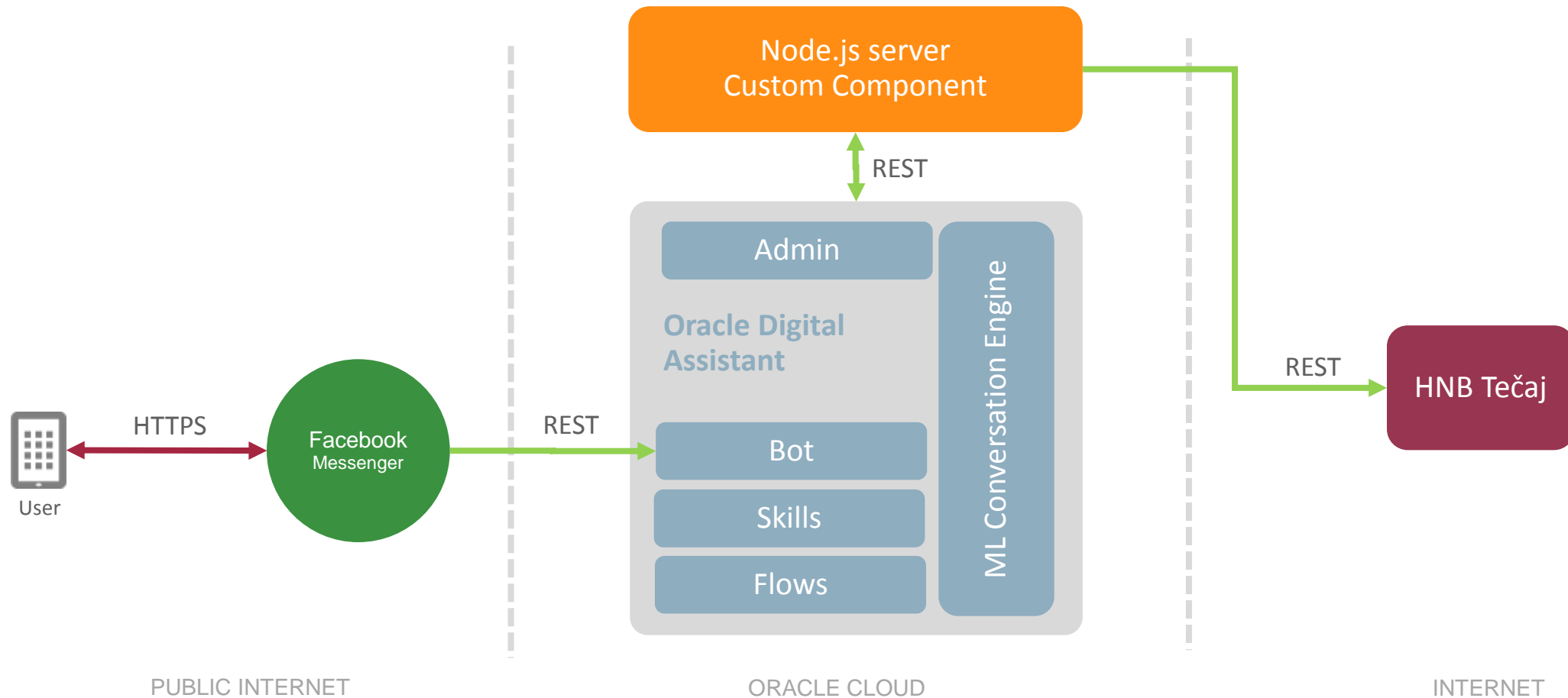
Savings

Credit Card

“How much money do I have in my **checking** account?”

2. Digital Assistant Demo

Digital Assistant Architecture



Digital Assistant Demo

Trainer Ht (Sakura)

- ## Trainer Tm (Tamao)

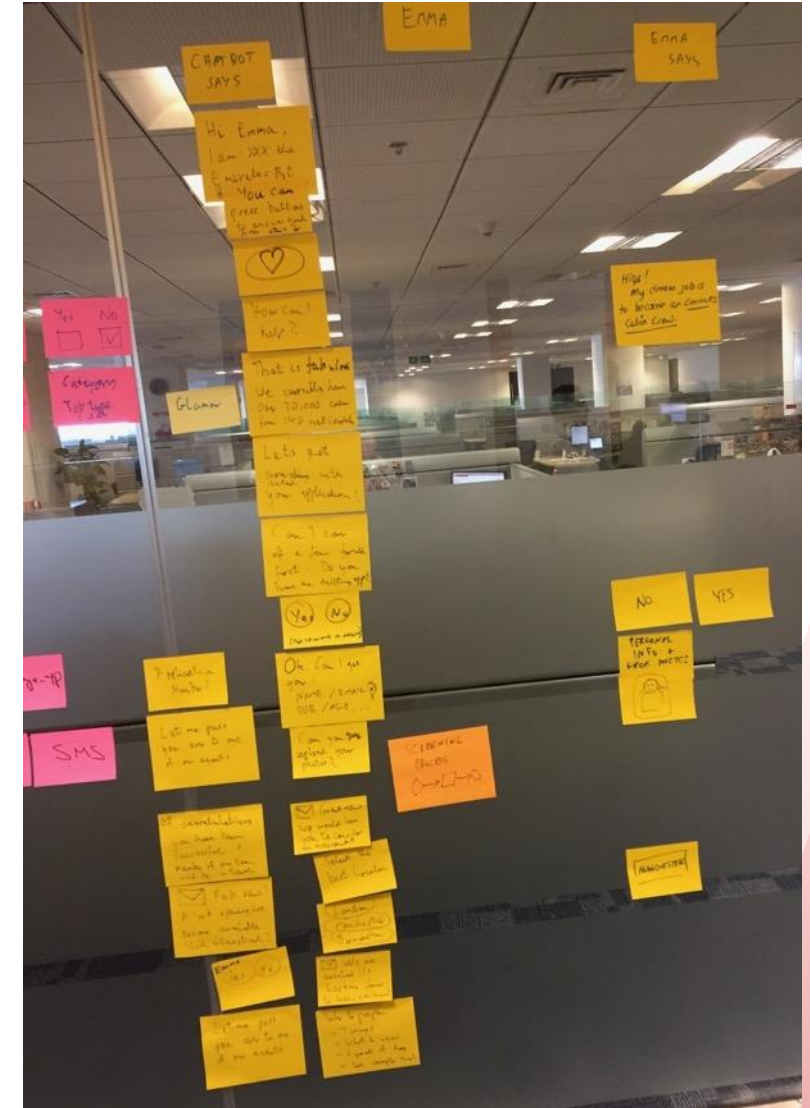
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- perturb dastardly plain unpleasant contradictory collapse
 horrendous alarming stuck
 naughty unjust fear petty stormy cold-hearted
 sinister horrible shoddy hideous mean
 filthy unlucky grimace missing spiteful slimy
 deplorable sorry feeble annoy revolting
 disgusting never confused harmful
 apathy damage injure nobody hate
 old stupid messy greed unsatisfactory
 no menacing dismal impossible
 unsightly ease disheveled insane infernal sick inelegant



3. Conversation Design

Conversational design

- **Business goals**
- **User personas**
- **User journey**
- **Channels**
- **Dialog design**
- **Backends**
- **Sample entities**



Consider your bot personality

Your voice IS your brand

Consider your bot personality

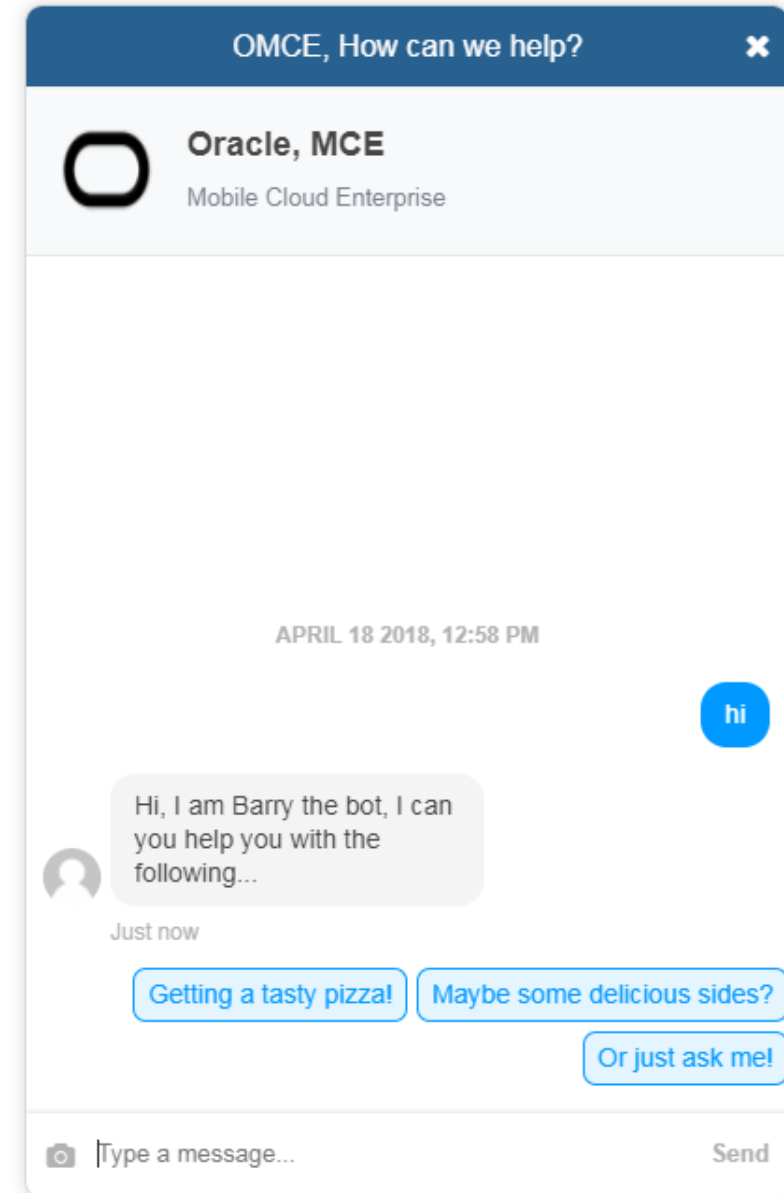
- **We have in-built expectation that a conversation should be engaging**
- **Decide on your bot persona**
 - Formal? Hip? Reflection of your target audience?
- **Give it a name and avatar, but not necessarily human**
- **Give a positive and welcoming introduction**
- **The voice and tone of your bot is your brand**
- **Words carry emotions**
 - “You neglected to supply” vs “If you could tell us..”

Offer guidance & help
Including human help



Offer guidance and help

- Not always clear how to start a conversation
- The bot should give guidance on what services it can support
- Use “quick replies” to indicate most common options
- Remind & offer some sort of “help” or “reset” option
- Offer human hand off as required



Handle smalltalk

It's part of a conversation

Handle smalltalk

- **About 40% of conversations with a bot is “small talk”**
- **Prepare to handle smalltalk**
 - Generically or specifically
 - Beware of controversial jokes or news
- **A chance to manage the conversation BACK to the known use cases**
 - “Ok, so that’s the best joke I’ve got, how about I get back to helping with your order”
- **Every step in the conversation is a chance to reinforce the bot personality**

Context is king

Ambiguous meaning

Context is king

- **Context is implied in human conversation, we need to explicitly manage context in bots**
- **Meaning can change based on context**
 - “Piece of cake”
 - “Who is his manager”
 - “What about Friday”
 - “Get me a taxi home”
 - “and 2019”

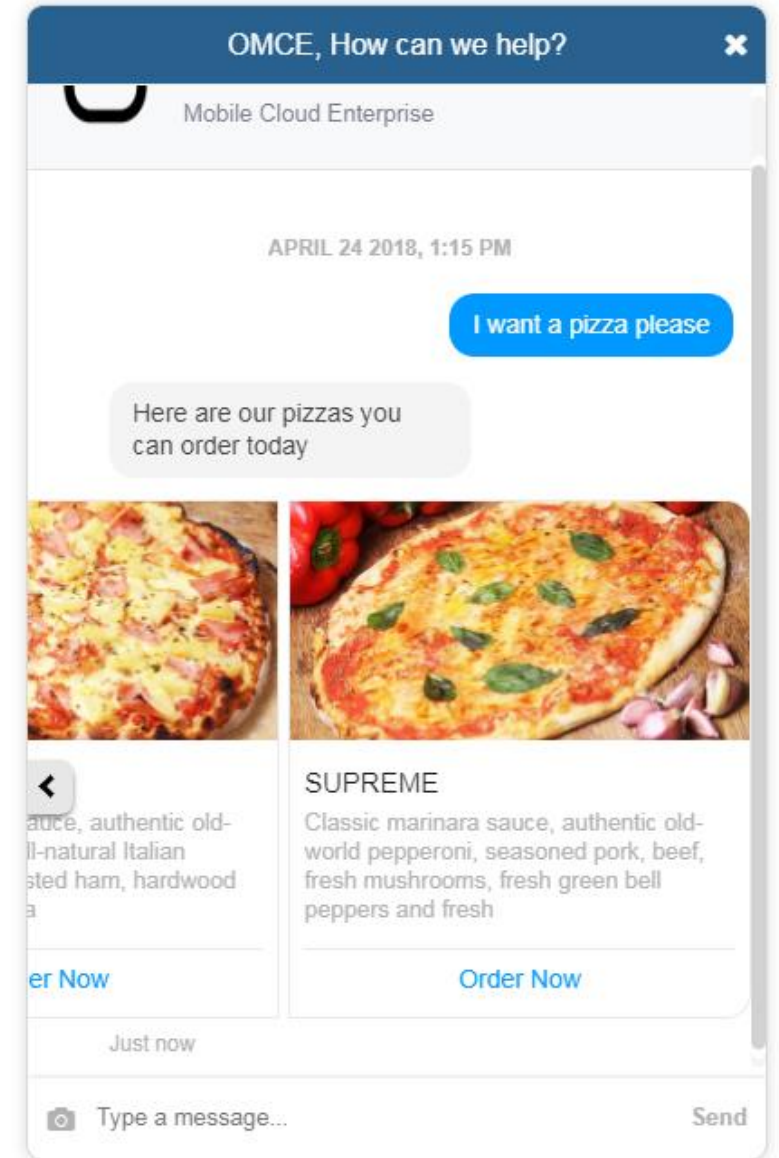


Limit the surface area for errors

Help the user make “right” decisions

Limit the surface area for errors

- **Use quick replies, cards and carousels to select**
 - Easier to read
 - Quicker and more accurate to select
- **Guide the conversation back to the happy path**
- **Avoid open ended questions**
 - “Do you want anything else”
 - “Do you want to order drinks, dips or cookies?”
- **Ask before committing a transaction**
 - Verbs and nouns instead of simple Yes/No

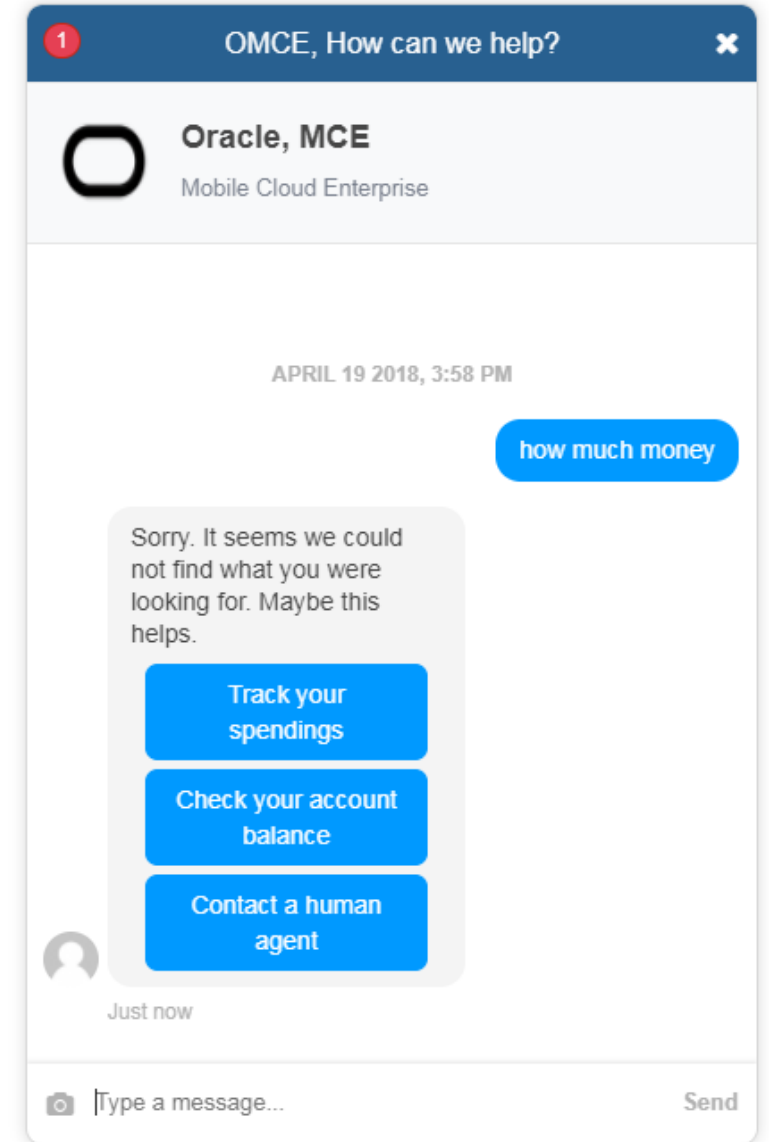


Fail gracefully

Or at least try your best

Fail gracefully

- **Fail gracefully**
 - Don't blame the user
 - An opportunity to re-enforce the bot personality
- **Be careful with language**
 - “That order doesn't exist” vs “I couldn't find order”
- **Give the user intelligent options to get back on track**
 - Show the nearest resolving intents
 - Give an option to reset the conversation
 - Human agent hand-off

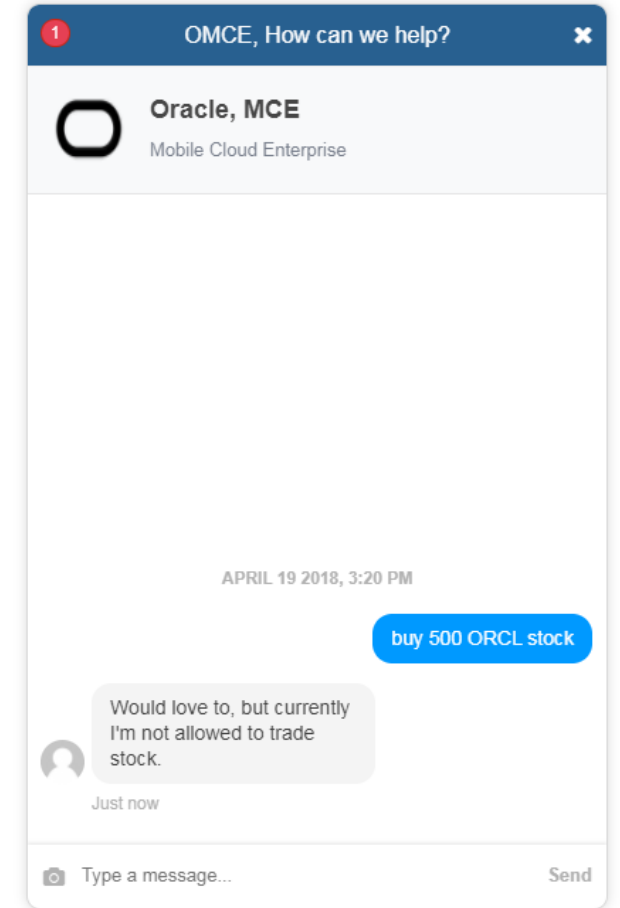
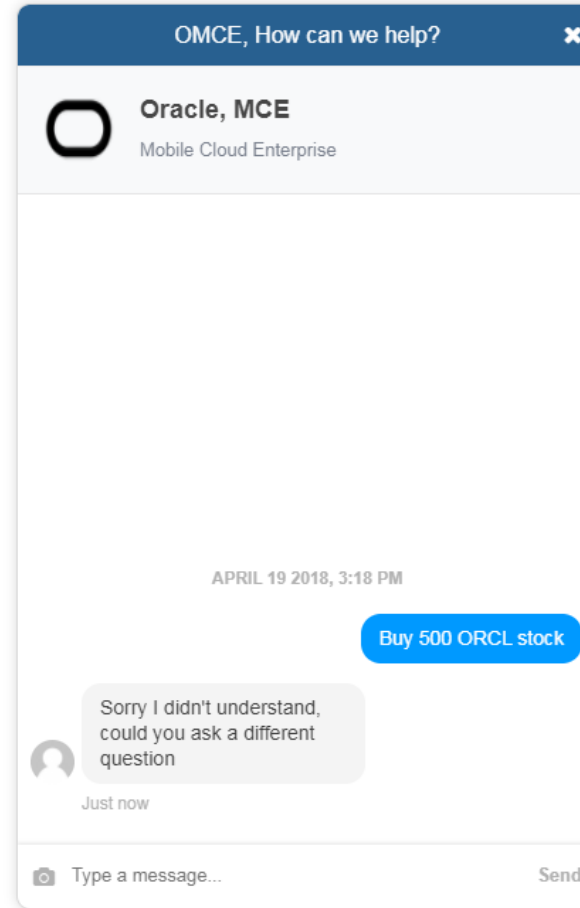


Handle the things you
know you don't know

More precisely handle failure

Handle the things you know you don't know

- **Create intents for the use cases you know you can't handle**
 - Your bot likely handles a subset of business functions
 - Gracefully handle the business function NOT supported by the bot
- **Allows the bot to more precisely handle failure**
 - User knows input was understood



Test, fix, repeat

Good data comes from testing



Test, fix, repeat

- NLP is only as good as the data you train it with
- Real data comes from real users
- 80/20 split training/test data
- Use batch testing
- Use analytics and insight
- Test, fix, repeat

Test

Reset

Bot

Intent

Q&A

Load

Batch ☒

Test complete - 93 passed, 4 failed.

93

Successes

4

Failures

✗

Can you get me a human to speak to

>

✗

I want to send flowers to my wife

>

✗

I want to speak ti a manager

>

✗

dude, are you there!

>

✓

are you robbly to robots illegitimate child

>

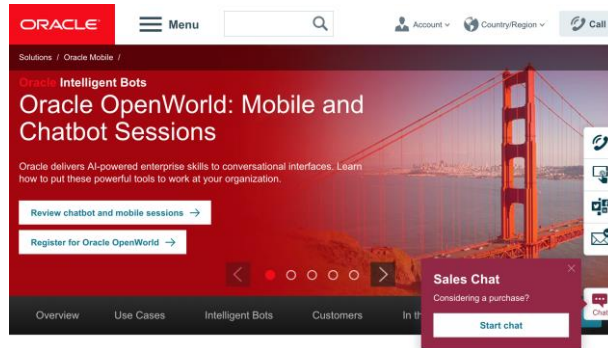
✓

Lalalalala land

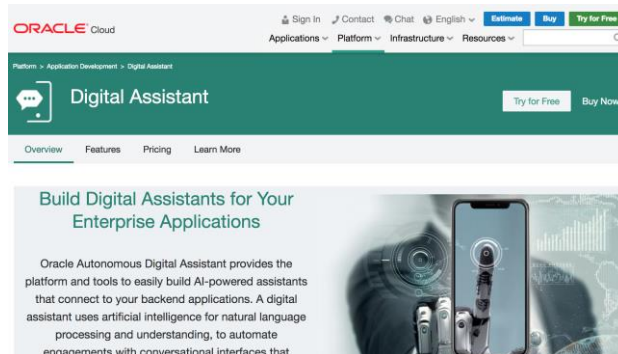
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Where to find out more

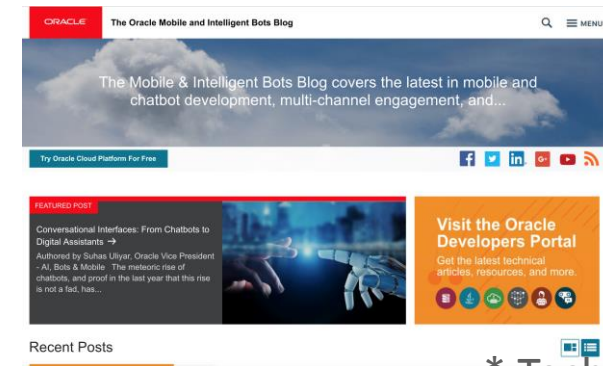
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