

Conversational interfaces

Testing the bots!



 @lucianadrian

European Testing Conference

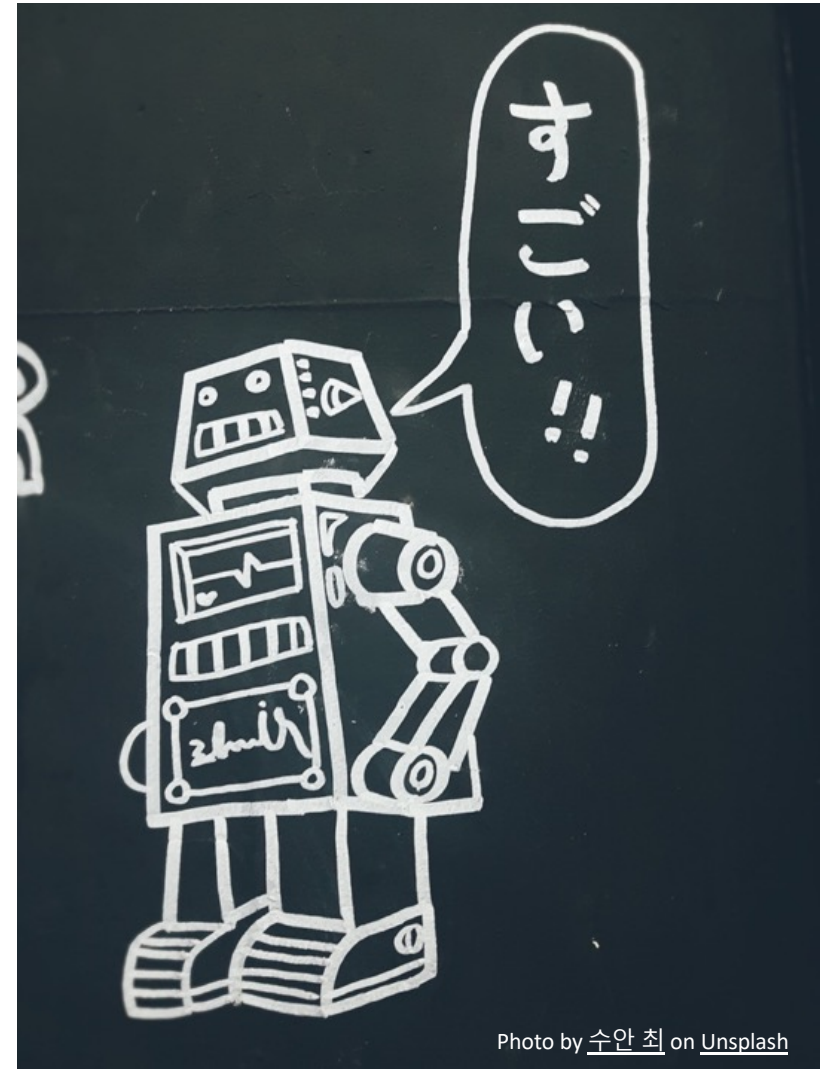


Photo by 수안 최 on Unsplash



Synchronet Main Menu

Read/Post Messages

N New message scan
R Read message prompt
Z Continuous new scan
B Browse new scan
Q QWK packet transfer

P Post a message
A Post auto-message

Message Search

F Find text in messages
S Scan for msgs to you

Message Area Selection

J Jump to new msg area

* List sub-boards
/* List groups
{ } # Select sub-board
[] /# Select group

Go to

T File Transfer section
G Text file section
C Chat section
X External programs

Electronic Mail

E Read/Send E-mail

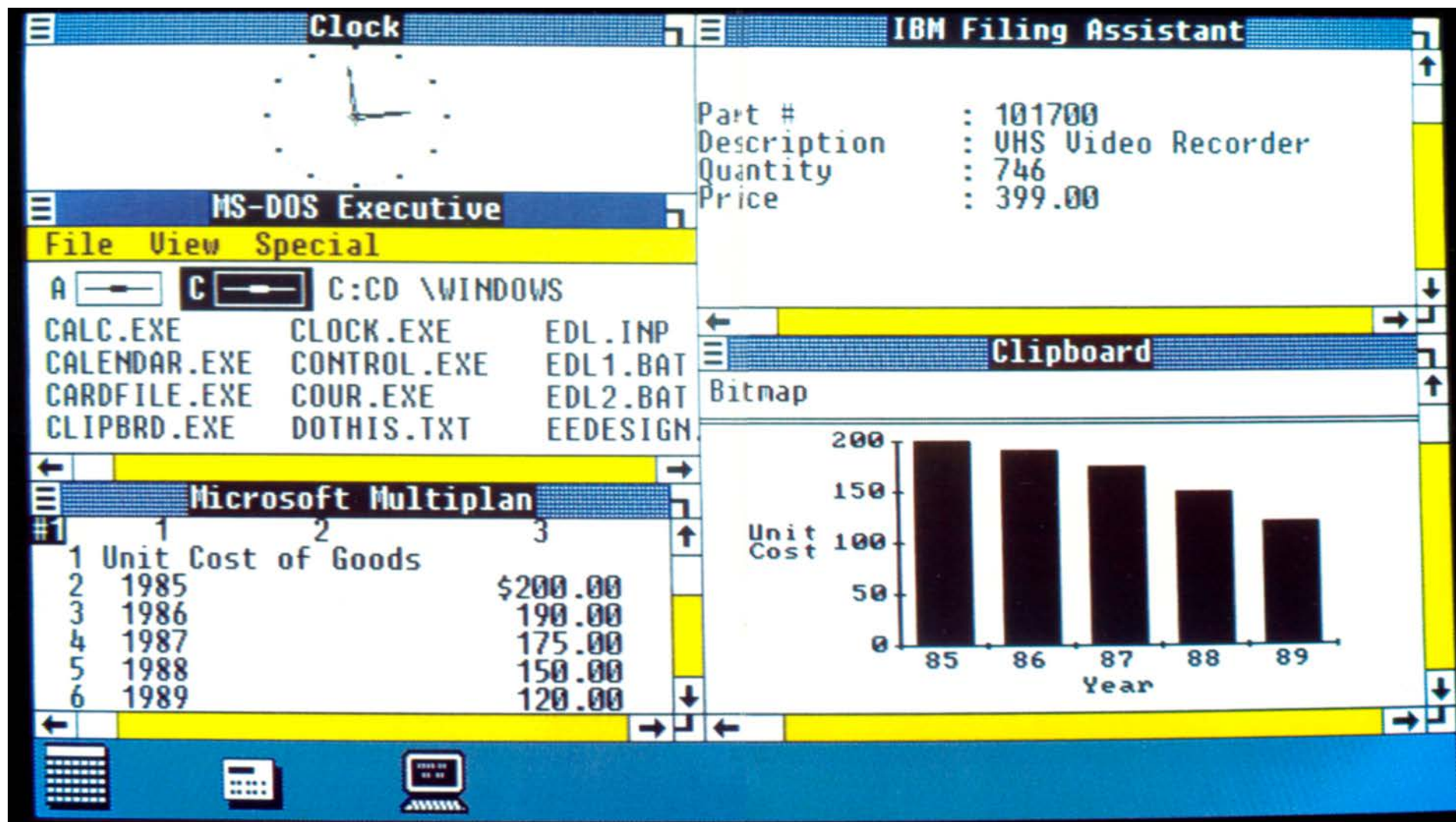
Other Commands

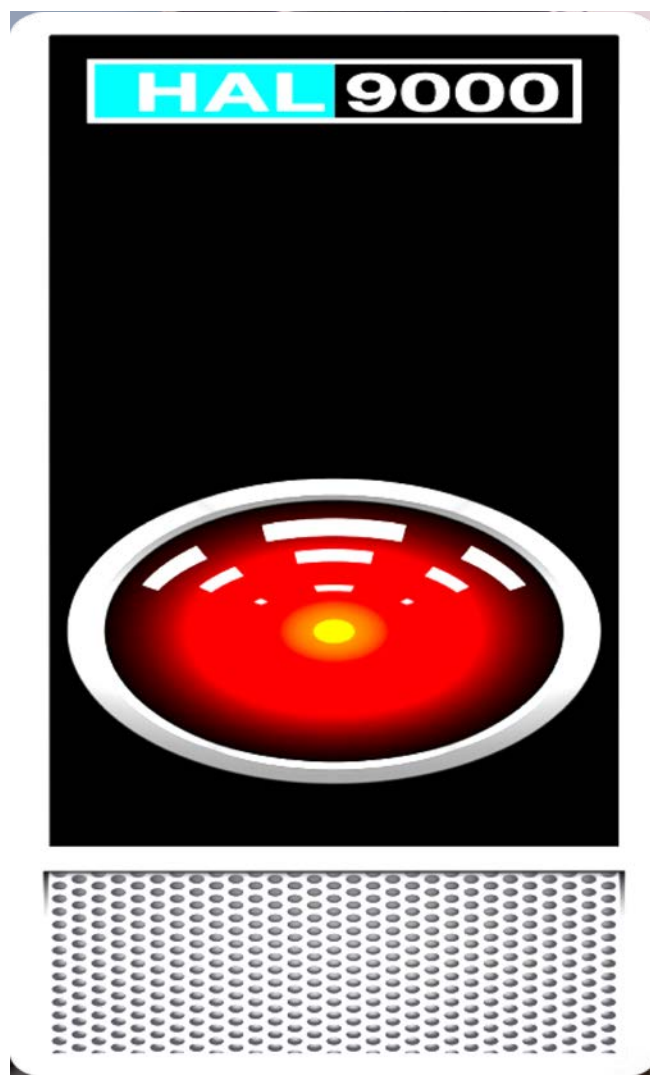
D Default user config
& Message scan config
U User lists
I Information
M Minute Bank
/L Node activity
^K Ctrl-key Menu

O Logoff BBS (or /O)

Anytime: Ctrl-U Who's online Ctrl-P Send private msg Ctrl-C Abort cmd/text

▪ Main ▪ 0:00:14 [1] Main [1] Notices: ■





Message Area Selection

J Jump to new msg area

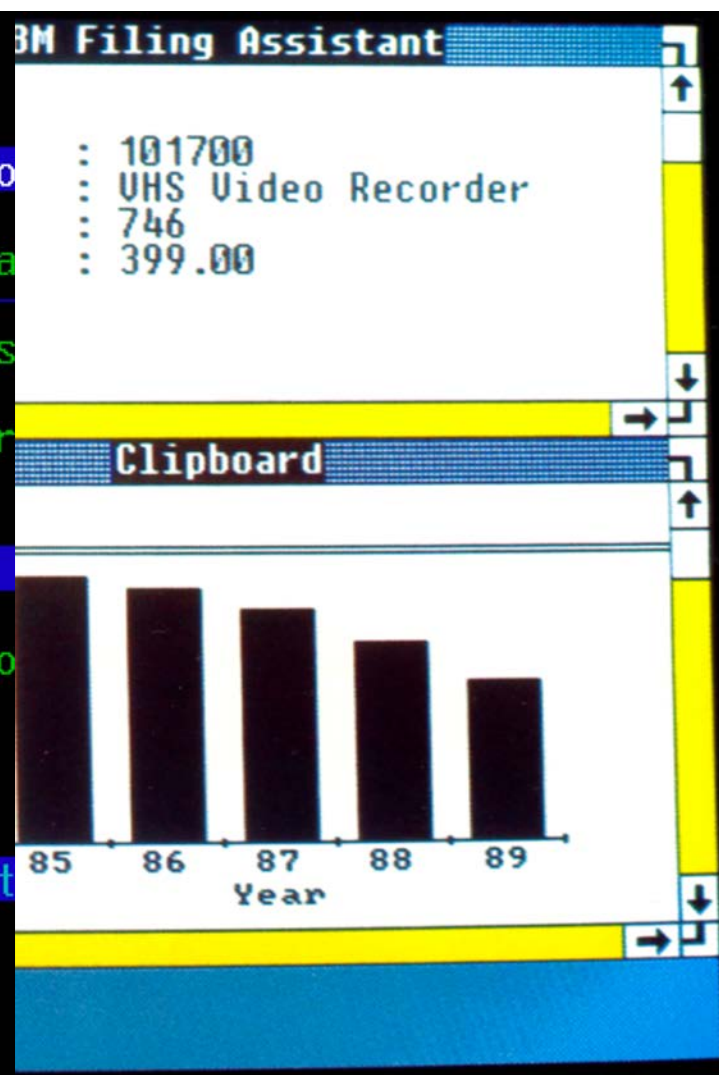
* List sub-boards
/* List groups
{ } # Select sub-board
[] /# Select group

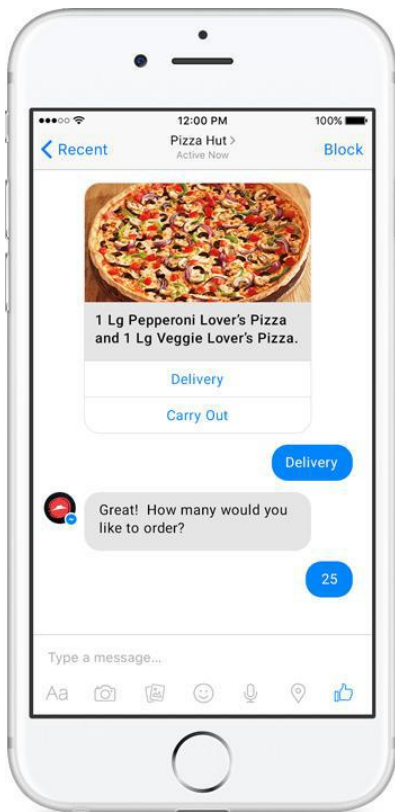
Go to

T File Transfer section
G Text file section
C Chat section
X External programs

line Ctrl-P Send private

ll Notices: ■





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Google



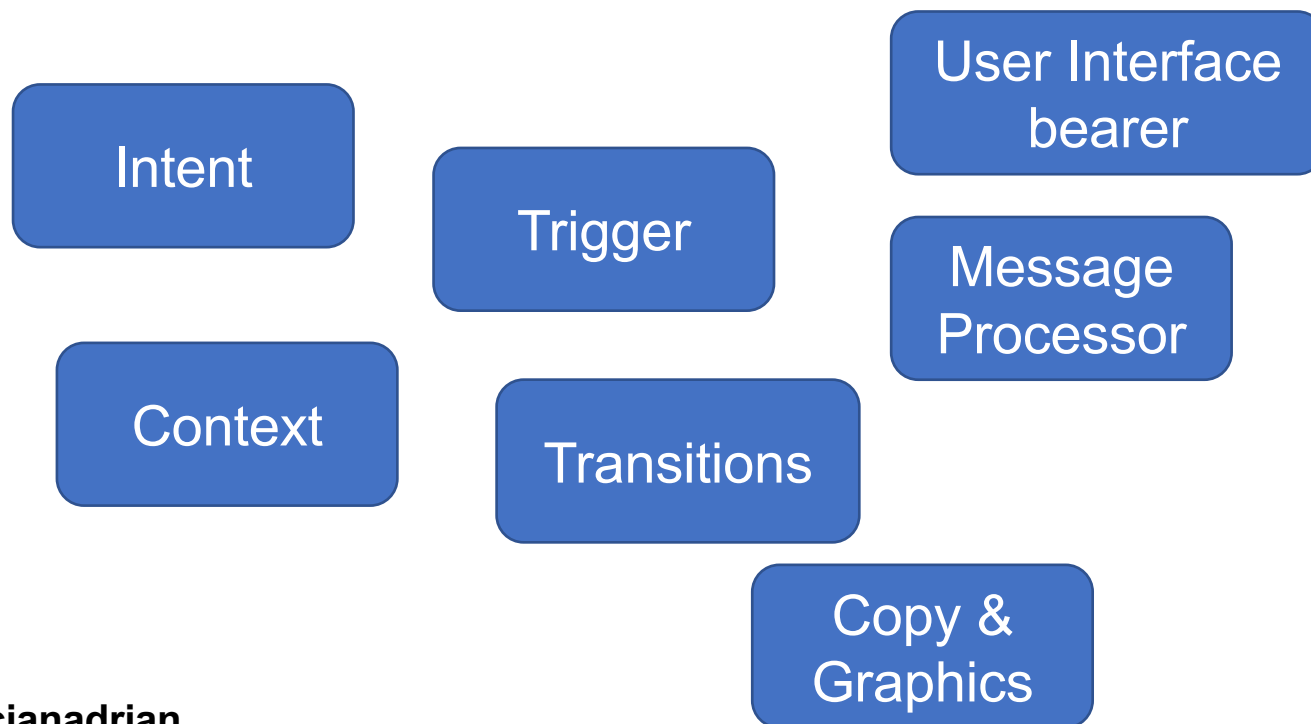
Microsoft

amazon

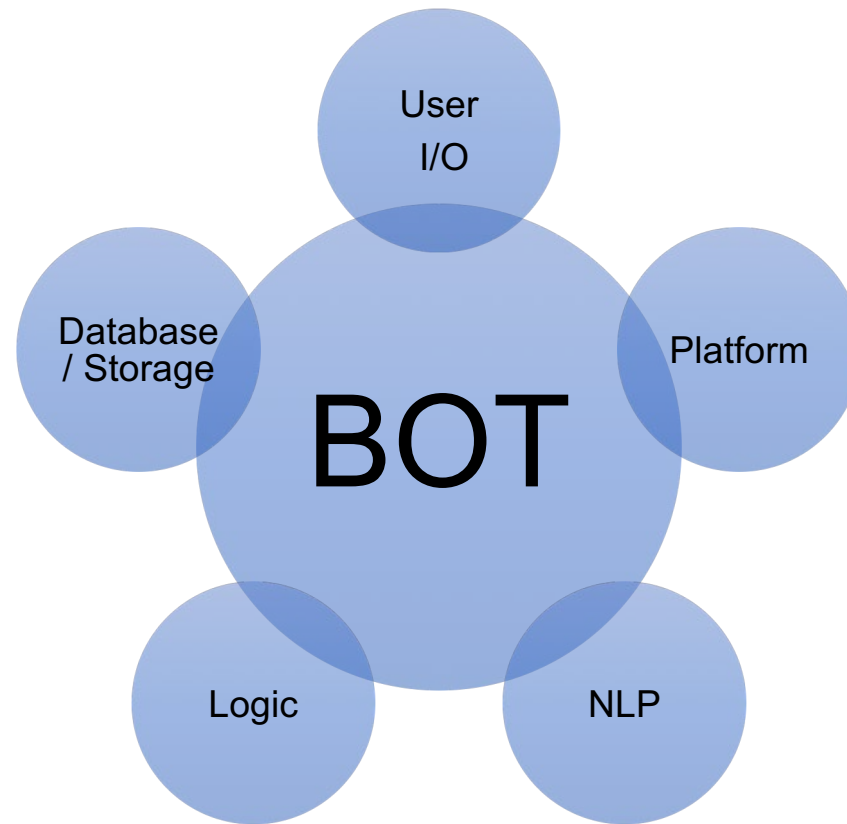
Tencent 腾讯

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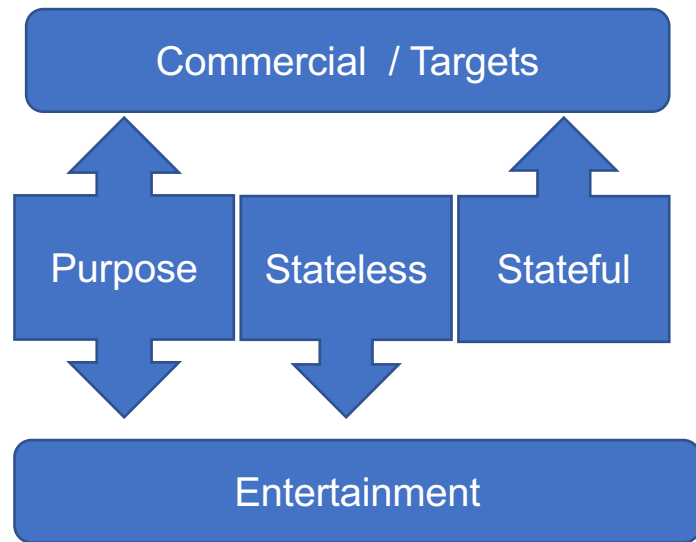
What are Conversational Interfaces made of ?



What to test ?

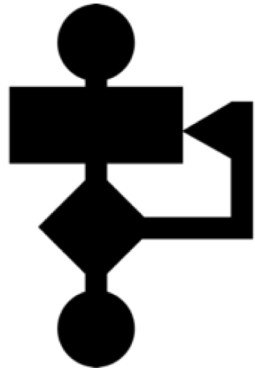


Context is King, again!



Turing Test?

Boundaries... blurring



Vs.



Static rules / matches

- Generate once / use multiple
- Easier to comprehend
- Clear boundaries
- Finite

Natural Language Processing

- Auto generated
- Difficult to comprehend
- Blurry / probabilistic boundaries
- Seemingly infinite

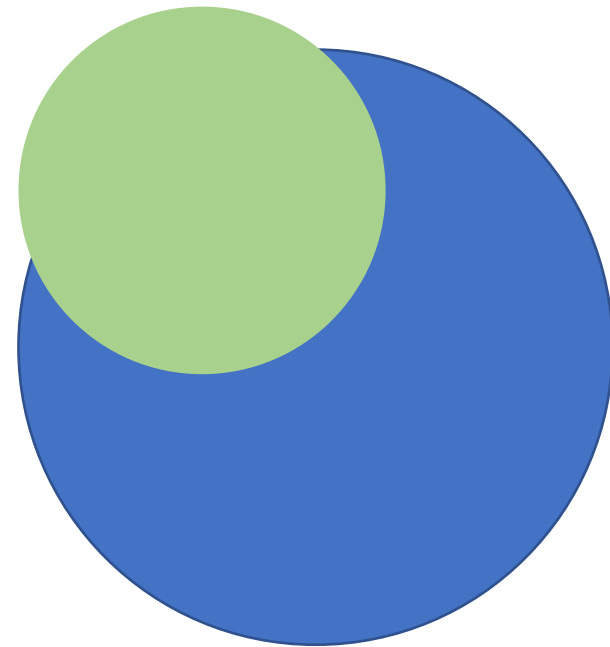
Complementing, not competing

Rarely alone

Interactions need testing attention

- User account sharing & interactions
- Mobile & Web apps
- Triggers for API & Web hooks
- Tracking & reporting via other channels

Complementing other channels

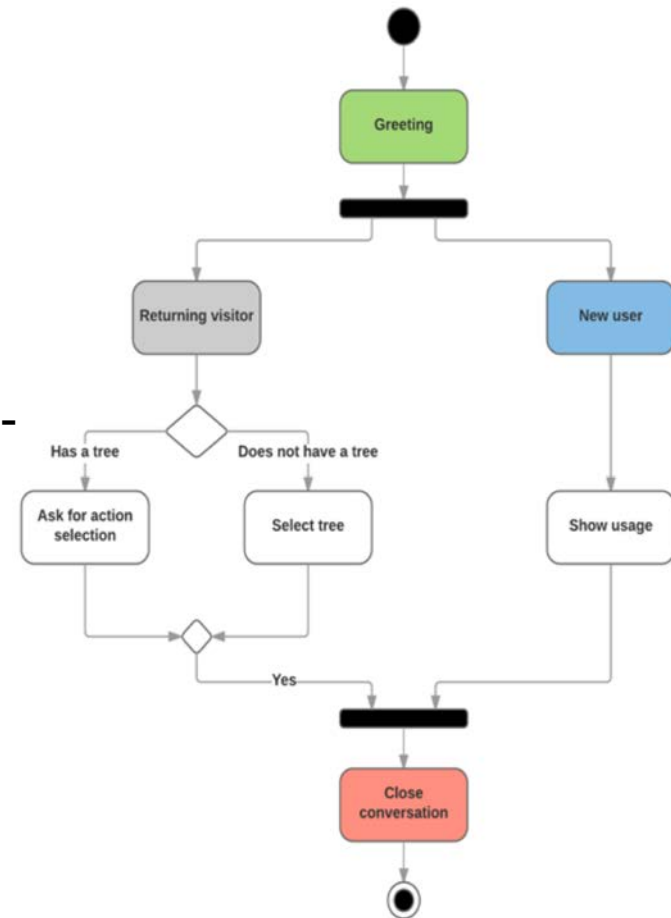


Transitions

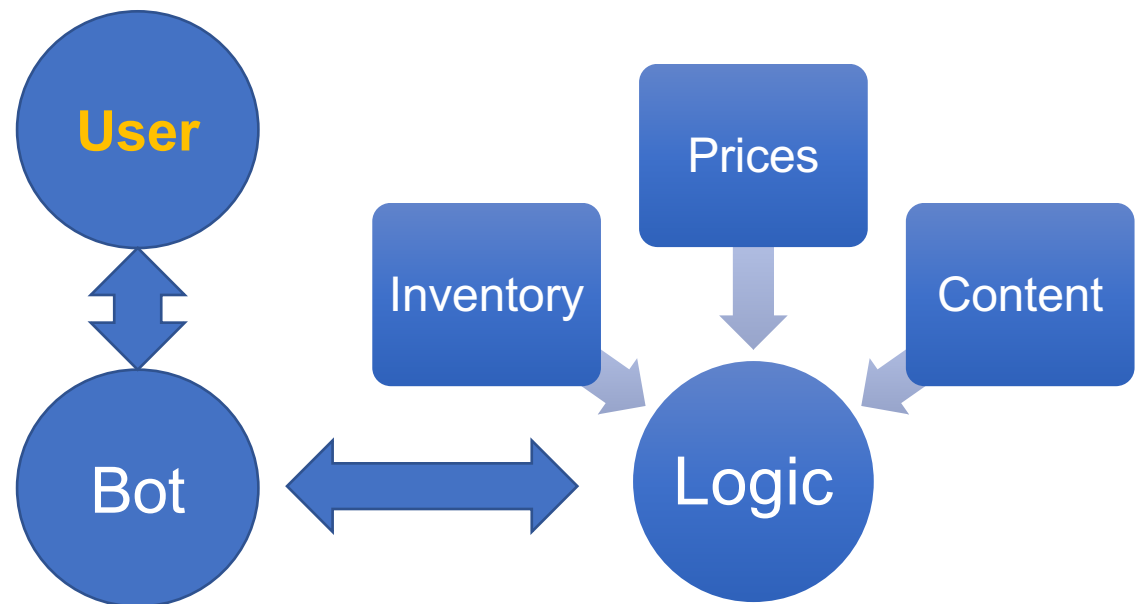
>

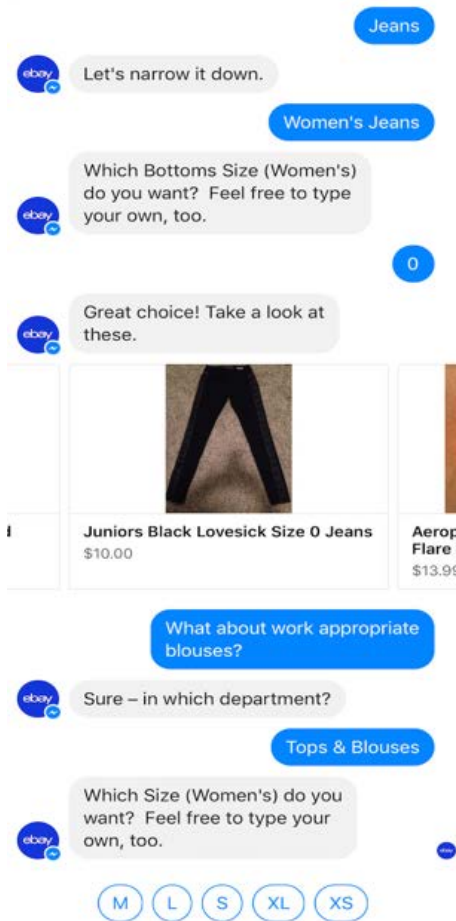
States

- Defining the **flow**
- Include **states** as end-points
- Initiated by **triggers**
- 1:n trigger relation



What else?

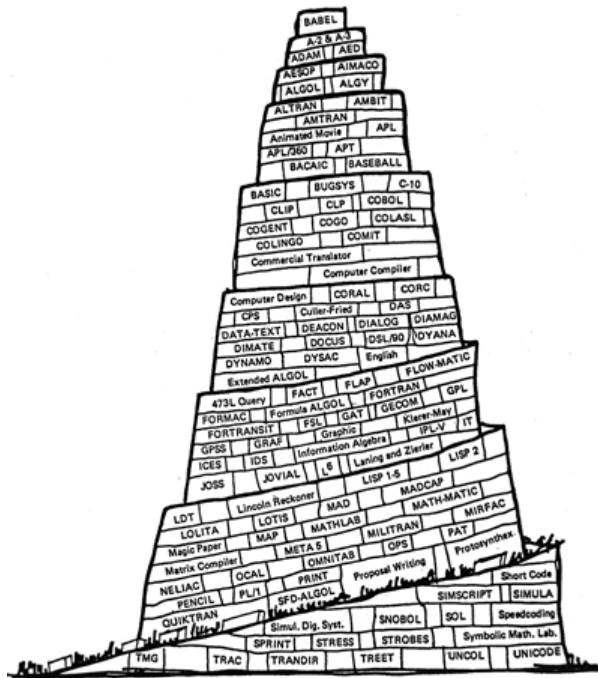




Visuals

- Carousels
- Selection buttons
- Text boxes

Virtual Babel



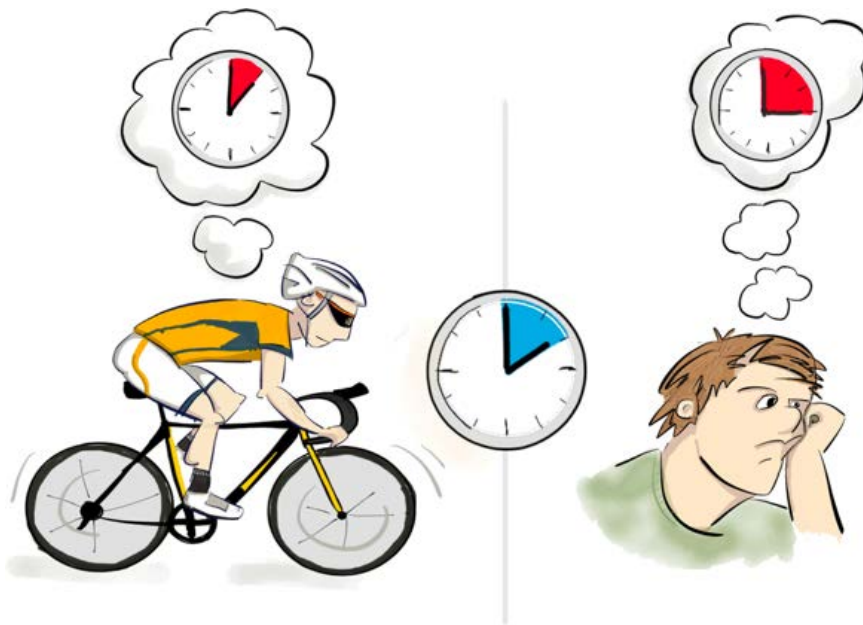
- Localization
- Comprehension
- Consistency
- Cultural match

"On tape" samples



- Consistency
- Repeatability
- Pitch & speed control
- Multiple audio samples
 - ✓ By gender
 - ✓ By accent /,
 - ✓ By accent

Perceived performance



- Latency
 - ✓ Lambda functions
 - ✓ Network impact
- Accuracy
- Fall-back
- Recovery

Old friends are still around

```
{
  "object": "page",
  "entry": [
    {
      "messaging": [
        {
          "message": {
            "text": "does this work?",
            "seq": 20,
            "mid": "mid.1466015596912:7348aba4de4cfddf91"
          },
          "timestamp": 1466015596919,
          "sender": {
            "id": "885721401551027"
          },
          "recipient": {
            "id": "260317677677806"
          }
        }
      ],
      "time": 1466015596947,
      "id": "260317677677806"
    }
  ]
}
```



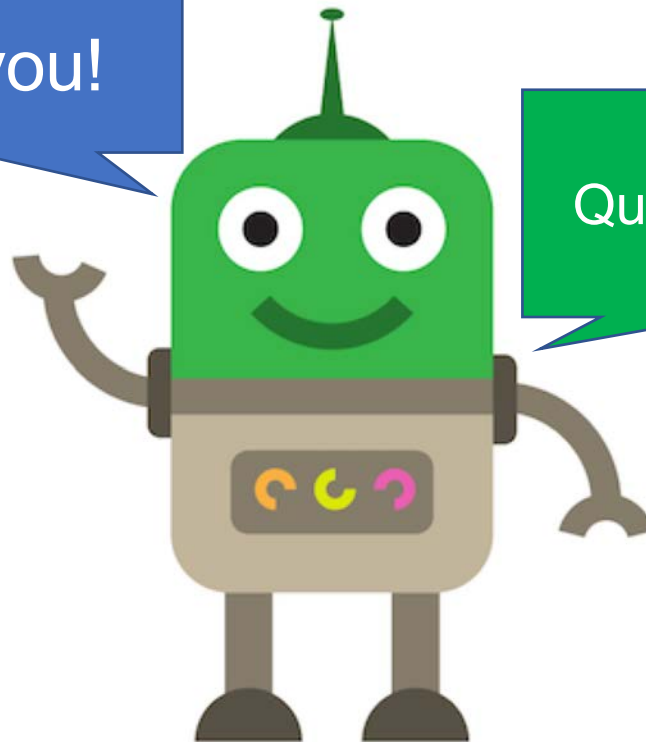
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Wrapping it up

- Collage of components & services interacting
 - Know your part & area of responsibility
 - Performance tweaking can be tricky & subjective
- Nature is not linear -> Language is nuanced -> So should be the tests
 - Visuals, language, cultural match need consideration
- Conversations are flexible -> Adaptiveness -> AI gets in the game
 - Transitions over states
 - Probabilities over clear cuts
 - Embrace ambiguity & consider the context
- API Heavy
 - Reuse API testing tools & rules



Thank you!



Questions time



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Further references

<https://developers.facebook.com/docs/messenger-platform/introduction/integration-components>

<https://developers.google.com/actions/extending-the-assistant>

<https://developer.amazon.com/alexa-skills-kit>

<https://smooch.io/state-of-messaging-2018/>

<https://www.amazon.com/Designing-Bots-Creating-Conversational-Experiences/dp/1491974826>

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