

Chatbots

Workshop

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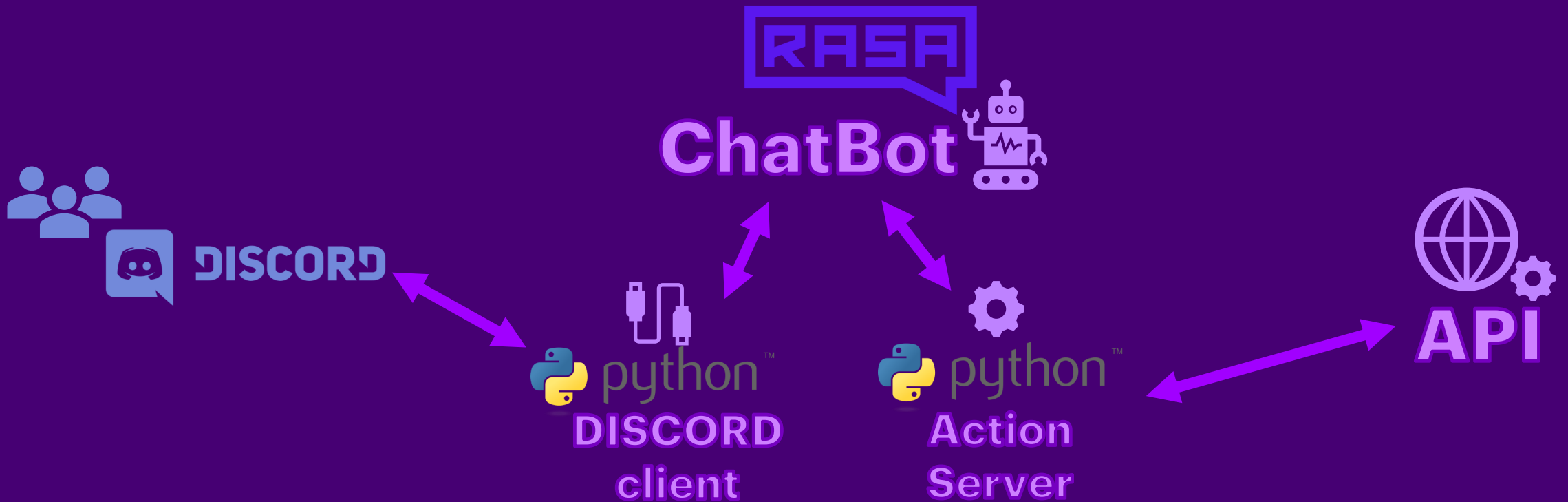
Agenda

A plan for today

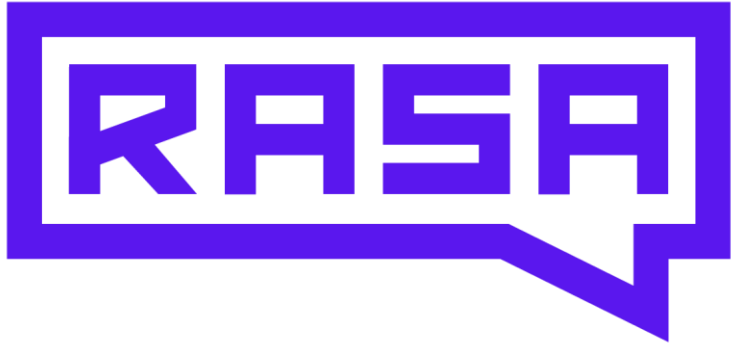
- #1** Agenda (yes, current slide)
- #2** Brief look at what we will try to achieve
- #3** Quick run through the tools we will be using
- #4** Introduction to Chatbots
- #5** Building a simple chatbot (with RASA)
- #6** Adding actions to chatbot (API calls with Python)
- #7** Publishing chatbot (Discord integration)
- #8** Improving chatbot (based on time still left)



Brief look at what we will try to achieve

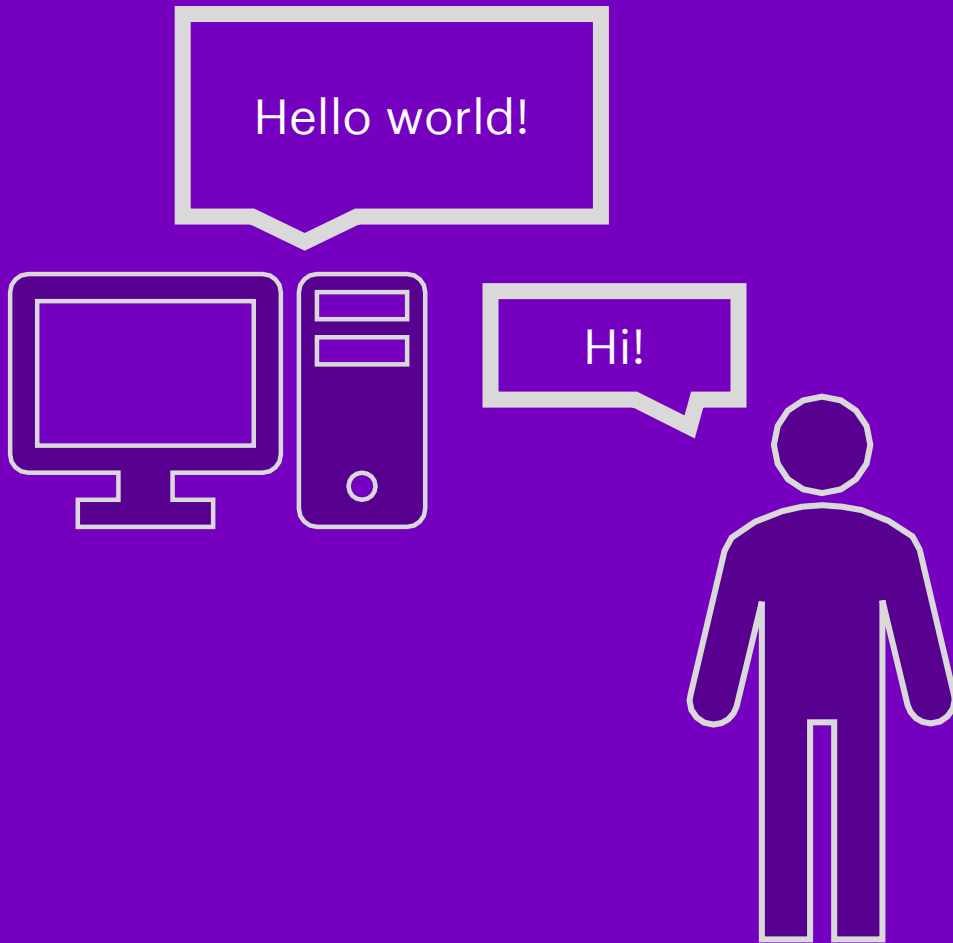


Tools



Chatbots (intro)

Short history



- 1950 the Turing test
- 1966 ELIZA – considered to be the first chatbot
- 1972 PARRY – first with “personality”
- 1988 Jabberwacky – based on machine learning
- 1995 ALICE - the first online chatbot, AIML
- 2001 SmarterChild - first practical one
- 2010 Siri – first? personal assistant

Chatbot approaches

Pattern matching approach

- match the user input to a rule pattern and select a predefined answer
- the more extensive the database with the rules is, the more capable a chatbot is
- fast response time (simple calculation)
- needs thousands of rules
- difficult to deal with grammatical and syntactic errors in the user's responses

Example Knowledge Base written in AIML

```
<aiml>
  <category>
    <pattern>HELLO</pattern>
    <template>Hello there!</template>
  </category>
  <category>
    <pattern>I like *</pattern>
    <template>I like <star/> too!</template>
  </category>
  <category>
    <pattern>Hi</pattern>
    <template>
      <random>
        <li>Hi!</li>
        <li>Hello!</li>
        <li>Hello, how are you?</li>
      </random>
    </template>
  </category>
</aiml>
```


Chatbot approaches



Machine learning approach

- extract the content from the user input using Natural Language Processing (NLP)
- ability to learn from conversations
- consider the whole dialog context, not just the current turn
- do not require a predefined response for each possible user input
- need extensive training set

Chatbot development choices

- Using programming languages like Java or Python
- Chatbot development platform/framework (few popular examples):
 - RASA (NLU)
 - Pandorabots (AIML 2.0)
 - Google DialogFlow (NLU)
 - Amazon Lex (NLU)

Questions?

RASA hands on

API

(Application Programming Interface)

Python

Thank You!