

Novo Home Assistant

252 Term Project



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Nov 30, 2021
CMPE 252

Motivation for Novo

Unique home assistant that goes beyond Alexa or Google Home's capabilities.
Specifically for use in my household.

Examples:

- 1) Adjusting Pool Temperature(s)
- 2) Turning Crypto miners on / off
- 3) Feeding the dogs
- 4) Starting / Stopping Robot Vacuum

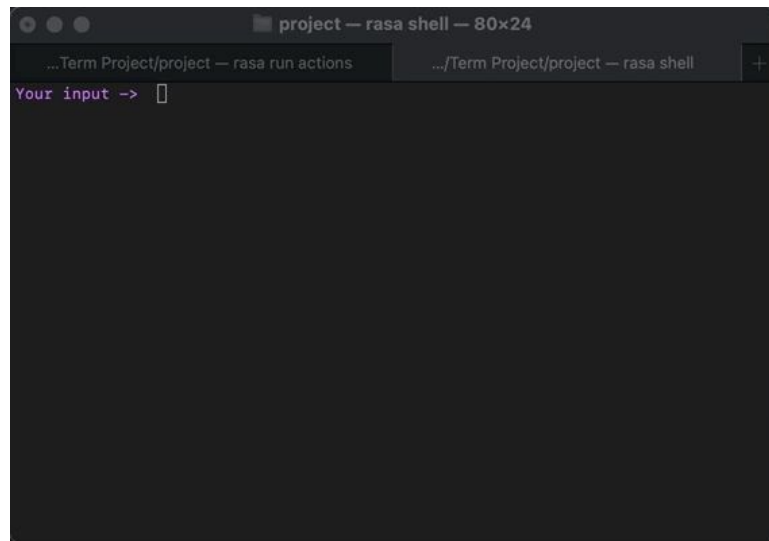
Conversation Flows Implemented

41 intents

```
4  examples: |
5      - Hi!
6      - Hey!
7      - Hello
8      - Hi
9      - What's up
10     - How are you?
11     - How are you
12     - How you doing
13     - Hey
14     - Hellop
15 - intent: robot_joke
16   examples: |
17     - Are you a robot?
18     - Are you a robot
19     - Are you a human
20     - robot
21     - human
22     - Are you a bot?
23     - Are you a human?
24 - intent: alarm_system
25   examples: |
```

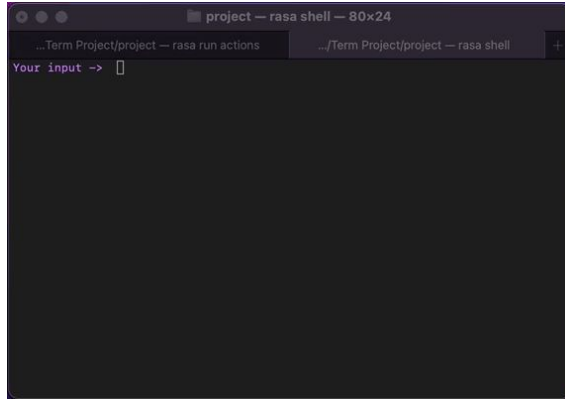


4 Multi-Turn convos

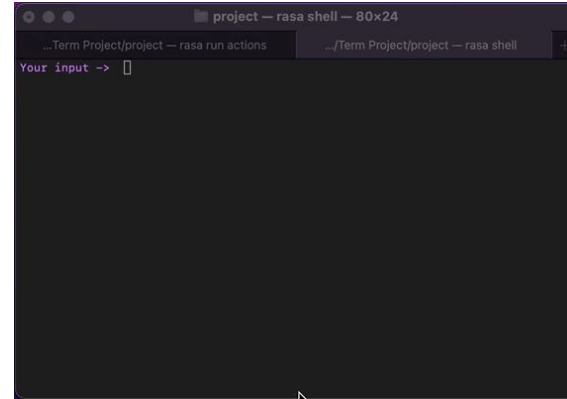


Conversation Flows Implemented (2)

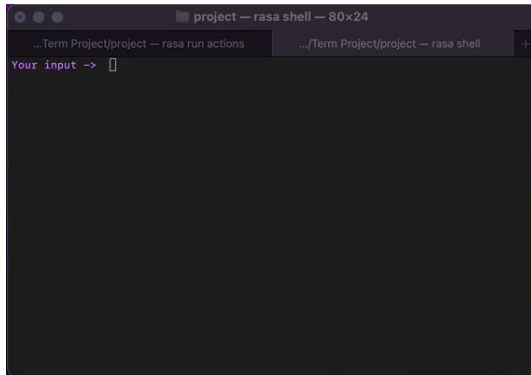
Crypto



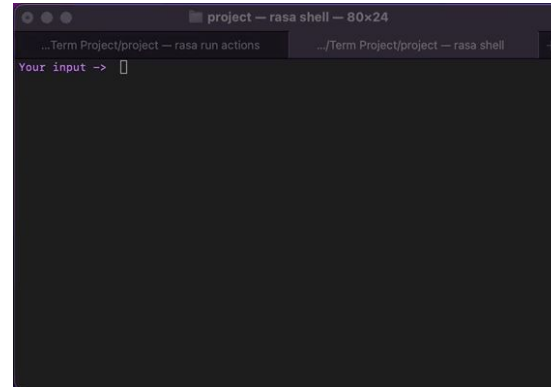
Robot Vacuum



Drive Time





Pool



Struggles

RASA Docs

Introduction

Rasa Playground

Building Assistants

Installation

Migrate From (beta)

Command Line Interface

Best Practices

Conversation Patterns

Intents

[Your input -> lights on
Turning lights on!
[Your input -> Lights on
The lights are now off.

Domain

```
version: '2.0'
config:
  store_entities_as_slots: true
session_config:
  session_expiration_time: 60
  carry_over_slots_to_new_session: true
intents:
- greet:
  use_entities: true
- inform:
  use_entities: true
- subscribe:
  use_entities: true
- robot_joke:
  use_entities: true
- alarm_system:
  use_entities: true
- pool:
  use_entities: true
- blinds_open:
  use_entities: true
- blinds_closed:
  use_entities: true
- lights_on:
  use_entities: true
- lights off:
```

Struggles (2)

ERROR asyncio occurring on other machine

```
Bot loaded. Type a message and press enter (use '/stop' to exit).
Your input -> turn the lights off
2021-11-29 13:00:37 ERROR asyncio - Task exception was never retrieved
future: <Task finished name='Task-2' coro=<configure_app.<locals>.run_cmdline_
omeAssistant/env/lib/python3.8/site-packages/rasa/core/run.py:131> exception=T
Traceback (most recent call last):
```

```
2021-11-29 13:15:29 INFO root - Rasa server is up and running.
Bot loaded. Type a message and press enter (use '/stop' to exit):
Your input -> what's the time?
2021-11-29 13:15:58 ERROR asyncio - Task exception was never retrieved
future: <Task finished name='Task-2' coro=<configure_app.<locals>.run_cmdline_io() done, defined at /mnt/c/Users/amanb/desktop/work/Fall 2021/CMPE 252/252TermProject-NovohomeAssistant/env/lib/python3.8/site-packages/rasa/core/run.py:131> exception=TimeoutError()>
Traceback (most recent call last):
  File "/mnt/c/Users/amanb/desktop/work/Fall 2021/CMPE 252/252TermProject-NovohomeAssistant/env/lib/python3.8/site-packages/rasa/core/run.py", line 135, in run_cmdline_io
    await console.record_messages()
  File "/mnt/c/Users/amanb/desktop/work/Fall 2021/CMPE 252/252TermProject-NovohomeAssistant/env/lib/python3.8/site-packages/rasa/core/channels/console.py", line 182, in record_messages
    async for response in bot.responses:
  File "/mnt/c/Users/amanb/desktop/work/Fall 2021/CMPE 252/252TermProject-NovohomeAssistant/env/lib/python3.8/site-packages/rasa/core/channels/console.py", line 135, in _send_message_receive_stream
    async with session.post(url, json=payload, raise_for_status=True) as resp:
  File "/mnt/c/Users/amanb/desktop/work/Fall 2021/CMPE 252/252TermProject-NovohomeAssistant/env/lib/python3.8/site-packages/aiohttp/client.py", line 1117, in __aenter__
    self._resp = await self._coro
  File "/mnt/c/Users/amanb/desktop/work/Fall 2021/CMPE 252/252TermProject-NovohomeAssistant/env/lib/python3.8/site-packages/aiohttp/client.py", line 544, in _request
    await resp.start(conn)
  File "/mnt/c/Users/amanb/desktop/work/Fall 2021/CMPE 252/252TermProject-NovohomeAssistant/env/lib/python3.8/site-packages/aiohttp/client_reqrep.py", line 905, in start
    self._continue = None
  File "/mnt/c/Users/amanb/desktop/work/Fall 2021/CMPE 252/252TermProject-NovohomeAssistant/env/lib/python3.8/site-packages/aiohttp/helpers.py", line 656, in __exit__
    raise asyncio.TimeoutError from None
asyncio.exceptions.TimeoutError
```

This is currently an open Rasa issue that is occurring with some users.

<https://github.com/RasaHQ/rasa/issues/7828>

Insights / Lessons Learned

Insights:

- 1) Spend more time watching the videos
- 2) Dive deeper into Custom Actions and their capabilities
- 3) See about adjusting the Config.yml file that could potentially lead to better training and testing errors

Lessons Learned:

- 1) Can use Rasa Interactive to train model rather than writing it by hand
- 2) Using Forms / Slots and Storing the info using Custom Actions
- 3) Adding more training data (NLU “examples”) had a huge impact on how accurate my model was/is.

Live Demo