Using conversational AI with Robot Framework to create robotframework-test-assistant

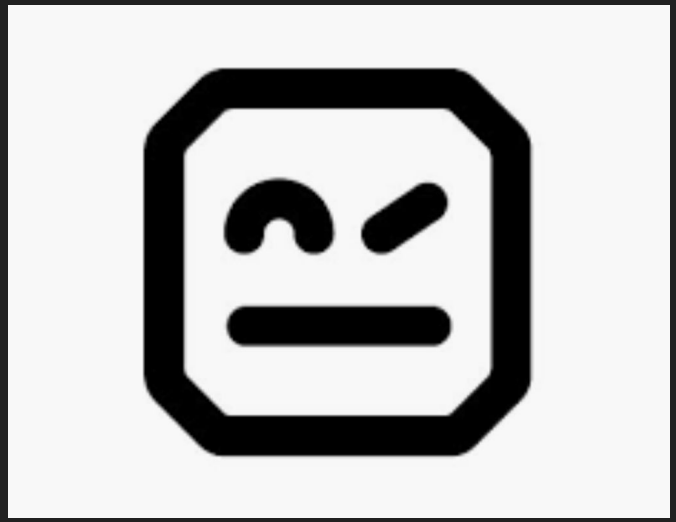
By Joshua Gorospe

Introduction

Some information about me…

- I work at Fuzz Productions as a senior test engineer and test lead
    - https://fuzzproductions.com/
- I enjoy experimenting with test tools.
- I like considering myself as simply a tester, I am proud of it.

Since 2018, I was curious to find out what would happen if...



I take Robot Framework's capabilities...

Combine them with capabilities similar to Amazon's Alexa...

Some ideas I had...

- Conversational assistants and conversational user interfaces have been around for a while, but I've never heard of anything used to assist with software testing.
  - So I thought, why not create one and call it "conversational test assistant"

- Large collections of your existing Robot Framework scripts could become more accessible to the entire team.

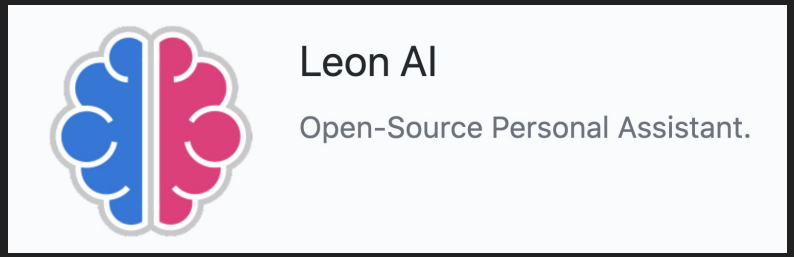
- Ease of use of a conversational test assistant might be able to lower technical barriers for non-technical people.
  - Testers might be out-of-office and team members may need to run a few quick automated checks.
  - Non-testers (technical or non-technical) on teams may find the assistant less intimidating than setting up and running Robot Framework themselves.

- Just uttering a word or simply typing short text commands to the conversational test assistant could trigger any Robot Framework RPA task or automated check.
  - Combine that with the various capabilities of the Robot Framework tool ecosystem and libraries...
  - Combine that with locally or remotely running Robot Framework processes (in Docker Containers)...

There are probably several more possibilities, but let's move on...

I experimented with many open-source assistants...

There are too many to list on this slide. To make a long story short, I decided to use Leon AI.



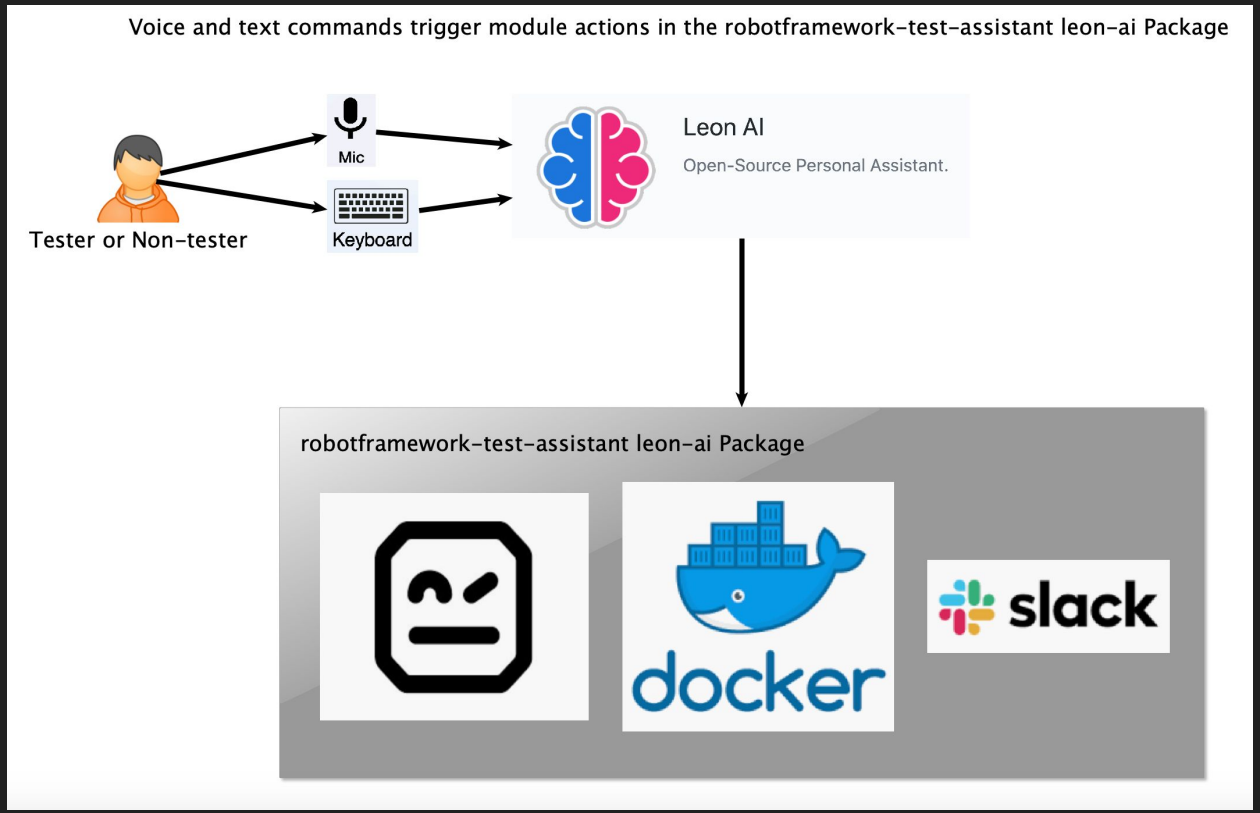
Why? Because Leon's author Louis Grenard was kind enough to provide:

- A re-usable core architecture
- A generic packages/modules structure, that has a similar purpose as Amazon's Alexa Skills
- An **offline mode** that allows you to communicate with leon-ai (text or voice) without any third party services
  - It's **great for protecting your privacy**, you can still use this without an internet connection
  - Speech-to-text uses Mozilla's DeepSpeech, a TensorFlow implementation of Baidu's DeepSpeech architecture
  - Text-to-speech uses Carnegie Mellon University's Flite, an open-source speech synthesis system
- An open source tool that anyone can contribute to

Combining Leon AI with Robot Framework

This is the result of my experiments → https://github.com/jg8481/leon/tree/develop/packages/robotframework-test-assistant

It is a Package in a fork of Leon AI. This is a simplified diagram of its capabilities.



Demonstrations

- Some video demonstrations
  - https://github.com/jg8481/leon/blob/develop/packages/robotframework-test-assistant/README.md
- Also live demonstrations
  - The "desktop browsers" command
  - The “jira task 321” command

The End…

:-) …for now.