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CISC480

Installing Alexa onto a Raspberry Pi 3

Hardware:
-Assembled Raspberry pi 3 or 4 with Raspian Buster installed. For guidance upgrading stretch to Buster, consult the following:
http://baddotrobot.com/blog/2019/08/29/upgrade-raspian-stretch-to-buster/
-Micro sd card (minimum 8 gb)
- HDMI Monitor with inbuilt speakers
- USB Keyboard, or remote SSH into the Raspberry pi.
- USB 2.0 Microphone

An Amazon Developer account is required for this project. To create one, consult the following:
https://developer.amazon.com/docs/app-submission/manage-account-and-permissions.html

To install Alexa onto a Raspberry pi:

1. Follow this guide:
   https://developer.amazon.com/en-US/docs/alexa/avs-device-sdk/raspberry-pi.html
2. Before following steps to set up the microphone, first plug the microphone into the pi and Check to ensure that the microphone is a recognized device by running:
   `arecord -l`
   In the terminal. If your recording device is not listed, try rebooting the pi and checking again. If the microphone is listed, you can proceed following the Amazon guide instructions.

3. If you receive the error message `rec FAIL formats: can't open input default: snd_pcm_open error: No such file or directory` while setting up the microphone, consult the following for help:
   https://developer.amazon.com/en-US/docs/alexa/avs-device-sdk/troubleshooting.html

4. To test your setup, run the sample application by writing and running the following as a bash script in /home/pi/sdk-folder/sdk-build:

```
#!/bin/bash
PA_ALSA_PLUGHW=1 ./SampleApp/src/SampleApp
./Integration/AlexaClientSDKConfig.json ../third-party/alexa-rpi/models
```