Emma Pinto, Aughdon Breslin

Initial Proposal:

Alexa has been used inside many households to keep track of errands, weather, Google searches, and miscellaneous reminders. We want to be able to create new skills for Alexa to expand our knowledge on the inner workings of Alexa and its capabilities. We want to familiarize ourselves with how to accomplish this and the language under which Alexa operates. Together we will look online for guides and tutorials, and any useful information to help us interact with Alexa. If there is an instruction manual, that will also be scoured through. The final method for working with Alexa would be the IDE we are using for its code.

The main roles for Emma and Aughdon would be pretty similar. We both will spend a large amount of time researching and learning the skills Alexa already has that we can incorporate into the skills we make. We also will both be involved in the coding and physical workings to connect with Alexa. We will most likely be working on the same thing together throughout the entire project, so any obstacles we face will be overcome before continuing on other parts. On the first couple of days, most likely day 1 and 2, we will watch videos, tutorials, and guides to familiarize ourselves with Alexa, and look at Alexa itself to see the options we have in order to interact with it. For days 3 and 4 we will spend time learning basic skills we can make for Alexa, and brainstorm some of the skills we want to custom make. Days 5 and 6 will be understanding the details of how our skill would work and the materials and coding involved to make it happen. Day 7 and 8 would be spent solving any obstacles and polishing our skill to make sure it works the way we want.

Daily Log

1. Day 1 (10/25/18): We researched how Alexa skills work and what it takes to make them. We successfully created an Alexa Developer account which will allow us to make the skills. We are also in the process of making an Amazon AWS account and that will allow us to connect our skills to the Echo Dot. In order to finish making the account we just need to hear back from Amazon’s reviewal of our application.
   1. //Guide <https://medium.freecodecamp.org/how-to-use-your-tech-skill-to-create-alexa-skills-a3e9f210a952>
   2. //Guide <https://developer.amazon.com/docs/custom-skills/understanding-custom-skills.html>
2. Day 2 (10/26/18): We heard back from Amazon today and we were able to log into both the Alexa Developer website and Amazon AWS Educate site. There were quite a few complications in terms of logging in consistently for the AWS sites, but we were able to overcome those. We found a basic template for an Alexa skill on AWS Lambda, and are looking into resources on how to properly build an Alexa skill.
   1. //Step-by-step setting up the components of a skill <https://www.codecademy.com/courses/learn-alexa-skills-kit/lessons/intro-to-alexa/exercises/create-skill-add-info?action=resume_content_item&course_redirect=learn-alexa>
   2. //Console AWS Lambda, place to actually write the skill <https://us-east-2.console.aws.amazon.com/lambda/home?region=us-east-2#/create/new?bp=alexa-skill-kit-sdk-howtoskill>
   3. //Create a skill

<https://developer.amazon.com/alexa-skills-kit?&sc_category=Owned&sc_channel=WB&sc_publisher=Website&sc_content=Content&sc_detail=SubNav&sc_funnel=Visit&sc_country=US&sc_medium=Owned_WB_Website_Content_SubNav_Visit_US_SiteVisitors&sc_segment=SiteVisitors>

1. Day 3 (10/30/18): We have created the interaction model to trigger the Alexa model and provide it with the information needed to operate its skill, and are now deciding how to go about writing the function. The programming will allow Alexa to interact with Netflix’s directories, finding the correct show and displaying it. The skill we are trying to create might require an Amazon Fire TV (Netflix’s Help Center) since Alexa needs some way to display the results, and the easiest way would be through something that has Alexa in it. We may be able to connect Alexa to Netflix via smartphone apps as well. Going through the Alexa app, we found an option to synchronize Alexa with music streaming apps such as Spotify, so an alternative skill may be finding a song or Album.
   1. <https://www.amazon.com/gp/help/customer/display.html?nodeId=202104940>
   2. <https://developer.amazon.com/docs/custom-skills/steps-to-build-a-custom-skill.html> (steps to building an Alexa skill)
   3. <https://dzone.com/articles/calling-aws-lambda-functions-from-alexa-part-1>
2. Day 4 (10/31/18): Today we created an Alexa skill and got Alexa to connect online and to our Alexa App. We worked on getting Alexa to respond to a basic skill we created. We tried just making Alexa repeat the lines we wrote in the maker.
   * 1. <https://voiceapps.com/project/4614e820-8591-4653-8630-7735c8c6bc27/true#>
3. Day 5 (11/1/18): Today we had more trouble getting our Alexa skill to work. The Alexa and the skill on Alexa Developer were not connecting to each other. We are also trying to figure out how to get the Echo Dot to open Spotify. We started looking at other skills to see why ours wasn’t working to hopefully work out some issues.
   1. Aughdon watched tutorials on how to get Alexa to interact with the skills designed on Voice Apps on (11/4/18) from 10:30 to about 11:40 am. I looked to Youtube for guides to get the Alexa to follow the instructions we made for it.
4. Day 6 (11/5/18): Today we successfully made a simple skill in which Alexa responds to short phrases. This helped us understand what components we need in order for a skill to work. We built on this using features we discovered from sample skills to create options and variables among other things. We were able to create a method that can refer to other methods and have an impact on the final results. We were also able to interact with Alexa and have her use the prompts we listed to navigate throughout the project.
   1. (11/5/18) Emma worked on VoiceApps for an hour at home on and looked at sample skills and watched YouTube videos for tutorials on key aspects of Alexa skills that we need to incorporate in order for our skill to work. (8:00-9:00)
5. Day 7 (11/6/18): We finished building the structure of our skill in VoiceApps and we know how we are going to go about the effects of each option. We learned how to initialize and change variables based on decisions made by the user, as well as make and exit while loops.
   1. (11/6/18) Aughdon worked on editing the intents within our skill and navigating through demo skills to see what options we have in terms of manipulating variables and using Alexa to access websites or use tools (7:30-8:30 pm).
   2. (11/6/18) Emma looked at demo skills and changed some of the code to see how it would affect the skill’s performance. This helped her understand how variables work and the outcomes of different changes made to the code. (5:00-6:00 pm)
6. Day 8 (11/7/18): We continued developing the intent-tree within our skill, adding data to the options. We were able to create multiple pathways that can return to previous intents and affect the data. Today was spent troubleshooting and proofing the Alexa to make sure our skill would run correctly.

Final Report:

Emma Pinto and Aughdon Breslin worked on programming an Alexa skill for this learning module. Our original idea for the skill we wanted to create was to have Alexa open Netflix and look for a show that we requested. This ended up needing to have the Alexa be synchronized with an Amazon Fire Cube TV which was something obviously not within our budget. Instead, we decided to create a skill that would explore the capabilities of Alexa, starting out with a basic interaction and using various demo projects to continue setting up more and more complex features. Some demonstration projects included Rock, Paper, Scissors, and Battle Royale. These demo projects showed us how to enact an intent as a result of a previous intent (like picking Rock, but only after being prompted to choose between the three). Battle Royale showed us how to incorporate data into our intents and change the values throughout. We ended up successfully creating a skill that can respond to our actions, will give us options to continue more in-depth actions, and return us to the starting phase as well as produce an end result with statistics and probabilities. The skill itself revolves around launching a brigade to seize control of a castle. Options include setting up artillery, where we would then be prompted with the option to supply the catapults or build the battering rams. We would pick one of the two options, each of which will affect three stats, our strength, strategy, and siege ability (siegeAbility). Once we pick one, we will have to continue planning, exploring other options that include briefing the infantry and coordinating with allies.

Our largest struggle at the beginning of the project was getting Alexa to actually respond to the keywords we used. Using the Alexa Developer sight proved to be harder to program in than we anticipated. We then switched to a website called VoiceApps where we were able to easily program an Alexa skill and look at demo skills to see that we had all the components of a successful skill. If we had known that in order to access Netflix we needed a Fire TV, we could have spent more time working on our brigade skill. It also would have been helpful if we had started using VoiceApps sooner because Alexa Developer took up more time to set up and learn. We would suggest for other groups interested in programming Alexa to start off with the VoiceApps website. It is much more efficient and easier to learn.

Overall, we had a lot of success in programming an Alexa skill. Getting started was a slow and tedious process. We spent a lot of time creating Alexa website accounts before we could start coding. Learning to program the skill was a fun process because we could make Alexa say whatever we wanted when we ran an intent. Building the skill was so interesting; we figured out what did and didn’t work and worked out problems within the layers of intents. Some of these problems included ordering the sequence of actions correctly and making sure Alexa waits before listing off her next lines. It required a lot of proofreading and consulting demo projects, but it was definitely a great feeling when we got our entire skill, and all the intents within it, to work. With these skills that we learned, we hope to be able to connect Alexa with other devices and get her to make them do tasks like turn on a light bulb or turn up music on a phone. Programming an Alexa skill was an extremely fun process and we hope to be able to program Alexa to do more in the future.