DEPRESSION HANDLING SKILL FOR AMAZON ALEXA

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1. Clarity of the Project Idea

Amazon Alexa:
Alexa is Amazon's voice control system. It lets you speak your wishes and see them fulfilled—at least simple ones, like dimming your lights or playing music tracks. Alexa, the voice service that powers Echo, provides capabilities, or skills, that enable customers to interact with devices in a more intuitive way using voice.

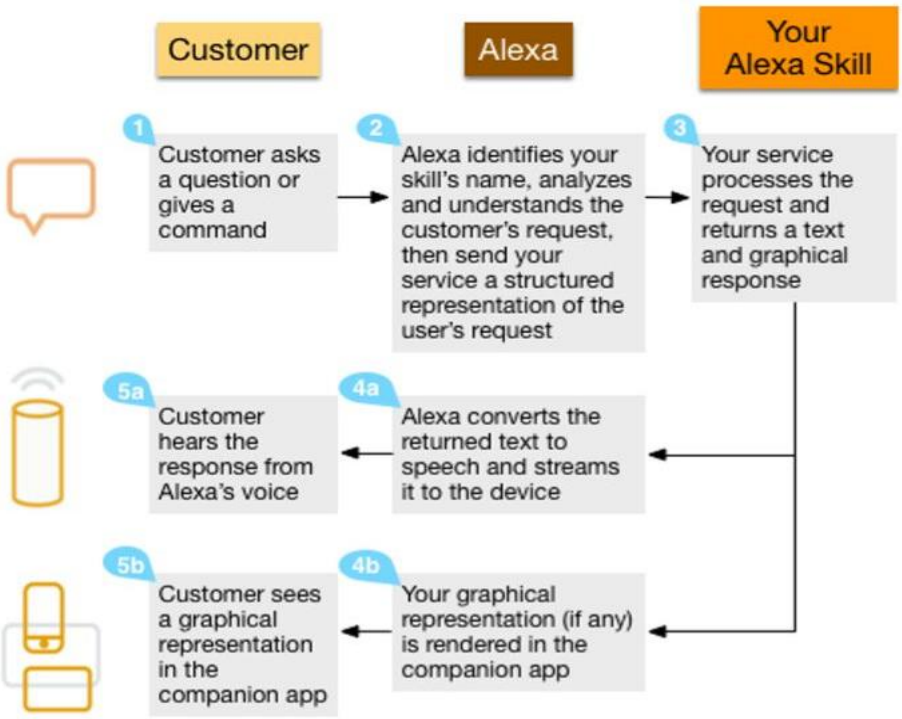
Amazon Echo:
Amazon Echo is a hands-free speaker you control with your voice. Echo connects to the Alexa Voice Service to play music, make calls, send and receive messages, provide information, news, sports scores, weather, and more—instantly. All you have to do is ask.

Alexa Skill kit:
The Alexa Skills Kit is a software development kit (SDK) that enables a developer to build skills, also called conversational applications, on the Amazon Alexa artificial intelligence assistant. The Alexa Skills Kit is comprised of tools, application program interfaces (APIs), code samples and documentation that enables a developer to add skills to the 10,000-plus voice recognition capabilities available on Alexa. Amazon Alexa is based in the Amazon Web Services (AWS) public cloud. A developer can upload Alexa skill code to AWS Lambda functions to execute code that is triggered by voice interactions. AWS automatically manages the compute resources for Lambda. A developer can certify, publish and update skills, which are made available through the Alexa Skills Store.

An organization can build an Alexa skill to connect to end users via the conversational Amazon Echo platform. A developer programs the voice user interface to return a variety of voices, accents and responses based on the code for the skill. Alexa provides a set of built-in capabilities, referred to as *skills*. For example, Alexa's abilities include playing music from multiple providers, answering questions, providing weather forecasts, and querying Wikipedia. The Alexa Skills Kit lets you teach Alexa *new skills*. Customers can access these new abilities by asking Alexa questions or making requests. You can build skills that provide users with many different types of abilities.

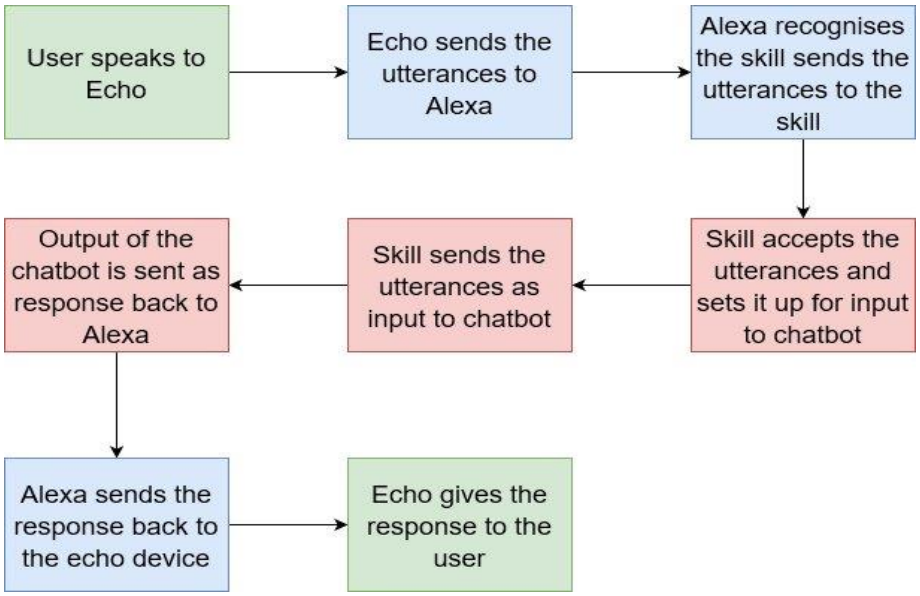
When designing and building a custom skill, you create the following:

- A set of *intents* that represent actions that users can do with your skill. These intents represent the core functionality for your skill.
- A set of *sample utterances* that specify the words and phrases users can say to invoke those intents. You map these utterances to your intents. This mapping forms the *interaction model* for the skill.
- An *invocation name* that identifies the skill. The user includes this name when initiating a conversation with your skill.
- If applicable, a set of images, audio files, and video files that you want to include in the skill. These must be stored on a publicly accessible site so that each item is accessible by a unique URL.
- A *cloud-based service* that accepts these intents as structured requests and then acts upon them. This service must be accessible over the Internet. You provide an endpoint for your service when configuring the skill.
- A configuration that brings all of the above together so that Alexa can route requests to the service for your skill. You create this configuration in the developer portal.



Working of Depression handling skill:

We aim on developing a Skill that tries the handle the depression of the user. In which the user will talk with the device and express his/her feelings, then Alexa will listen to the user and try to give a proper response back to the user.



When the user speaks to the Echo device, the device sends the utterances to Alexa which recognises the skill to which it is referred to. Once the skill is known, Alexa sends the utterances to the intent handler of the skill. The intent handler will recognise the utterance and give it as an input to the chatbot, the chatbot will process the input and formulate an appropriate response output which will be sent back to Alexa. Alexa will then send the response to the Echo device which will in turn speak back to the user

2. Technologies to be used

Hardware:

Amazon Echo / Amazon Echo Dot

Software:

1. AWS(Amazon Web Services) lambda
2. TensorFlow
3. Echosim.io

3. Work done from August till Review 1

- To understand how to make a skill.
- To find datasets.
- Explore ways in which the skill can be developed :
  1. Get data directly from a website
  2. Create a website with a database
  3. Use any machine learning technique

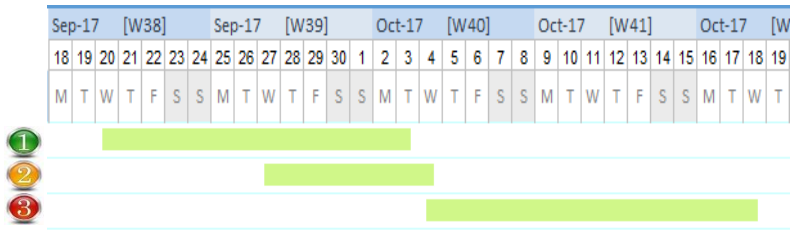
1. Getting data directly data from website:
   Here, we tried to collect data from the internet regarding depression. When the user asks a question, it would search a probable answer from the data available on the internet.

2. Creating a website with a database:
   Here, we had thought of making a website containing database. The user was supposed to ask a question and Alexa could take the information from the database.

3. Using machine learning technique:
   Here, we decided of making a chat bot, basically a process of request and reply between the user and Alexa.

4. Work To be Undertaken from Review 1 To Review 2

WBS	Task Name	Start	Finish
1	To learn and create basic skill.	Wed 20-Sep-17	Tue 03-Oct-17
2	Dataset Collection	Wed 27-Sep-17	Wed 04-Oct-17
3	To study how to create chatbots using Tensorflow.	Wed 04-Oct-17	Wed 18-Oct-17



5. References

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