Alexa based Flashcard Website

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Objective

1

Create an application powered by Alexa which enables a user to practice Flashcards

2

Enable a user to create flashcards on a web-browser and make it available for customized practice using Alexa's Voice Interface

3

Make Alexa flashcards accessible to one or more users.

Progress

1

Developed independent alexa skill which tests user with questions from flashcards.

- Programming Languages Set
- Verbiage

2

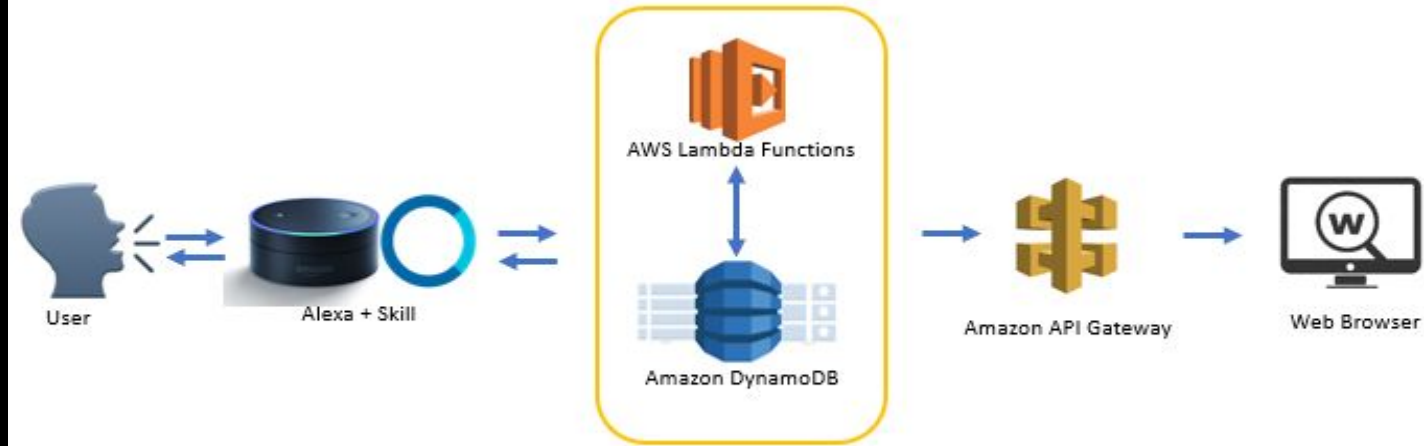Connected website with DynamoDB and Alexa using API Gateway

- Atomic Flashcards

Project Features

Four AWS features and one Web Domain:

- Alexa Skills Kit
- AWS Lambda
- DynamoDB
- API Gateway
- Techbyks.com

Current Architecture Diagram - Demo 1

Architecture Diagram - Demo 2

Demo of Progress

Demo 1 - [Click here for demo video](#) Atomic Flashcards

Demo 2 - live demo Verbiage

Voice User Interface - Demo 1

Alexa: Welcome to Atomic Flash! To see elements, tell me an atomic number between 1 to 20 or say 'all' to see all elements.

User: {number}

Alexa: Element with atomic number {number} is {element}

User: {all}

Alexa: These are all available elements on Atomic Flash

User: Help

Alexa: You can ask for an element picture by saying the atomic numbers or say all to see all elements on the webpage.

User: Stop

Alexa: Thank you for visiting atomic flash. Have a good day!

Voice User Interface - Demo 2

Alexa: Welcome to Verbiage Flashcards. In this session, Would you like to practice {Subject1}, {Subject2} or {Subject3}?

User: {Subject3}

Alexa: Here is your first question. {Question}?

User: {Correct Answer}

        OR

    {Wrong Answer}

Alexa: Correct Answer. You score 1 point.

        OR

    Wrong answer. The correct answer is: {Correct Answer}

User: Stop

Alexa: Bye, bye. Let's play again soon.

Methods used to Connect Database Layer

Methods that got Ruled Out

1. Php and MySql
2. External domain to AWS RDS
3. S3 to DynamoDB
4. AWS Lightsail based Wordpress site connected to DynamoDB

Methods that Worked

1. External domain connects with DynamoDB using API
2. Alexa reads data from dynamoDB

Schedule

Got domain, Developed first few Alexa Apps

Proposal Defense

Final Capstone Defense

Jan-Feb 2019

Mar-Apr 2019

May 2019

Sep-Oct-Nov 2019

Dec 2019

Developed Verbiage and Atomic Flash; Considered, shortlisted and practiced best Web UI technologies

Developed web UI using React JS, connected it to Lambda's CRUD operations using API Gateway, Developed Alexa's Quiz Wire App

Next steps

Assignment 1

Connect Alexa's front-end with the DynamoDB data

Assignment 2

Improvise the website's user-interface
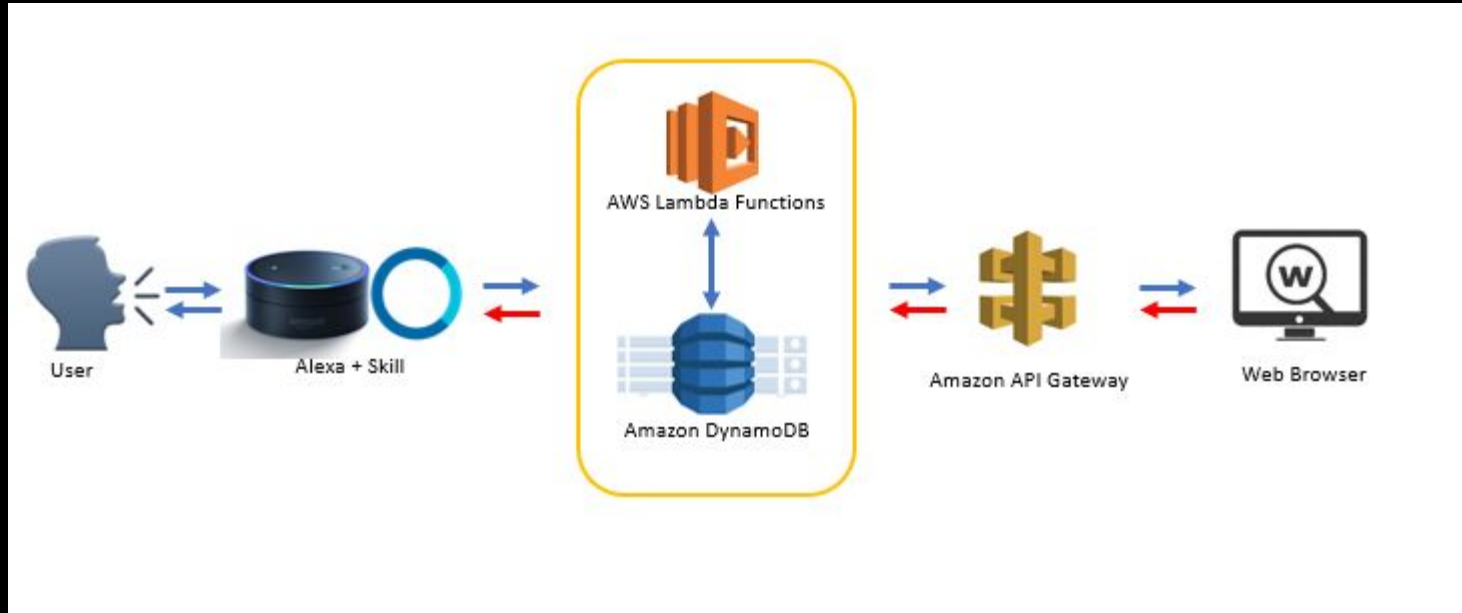
Assignment 3

Develop a user evaluation plan with a human subjects' experiment to determine the ease of use and acceptability of the tool

Assignment 4

Deploy the final application developed

Future Architecture Diagram

References

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2. Alexa Skills Kit Documentation <https://developer.amazon.com/alexa-skills-kit>
3. Codecademy <www.codecademy.com/alexa>
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5. Youtube <https://www.youtube.com/playlist?list=PL2KJmkHeYQTNwlZqLh_ptZhSNZf93e8Sp>
6. Big Nerd Ranch - Javascript <https://developer.amazon.com/alexa-skills-kit/big-nerd-ranch>
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Thank you :)

Questions?