Artificial Intelligence Chat Bot

Boy Scouts of America

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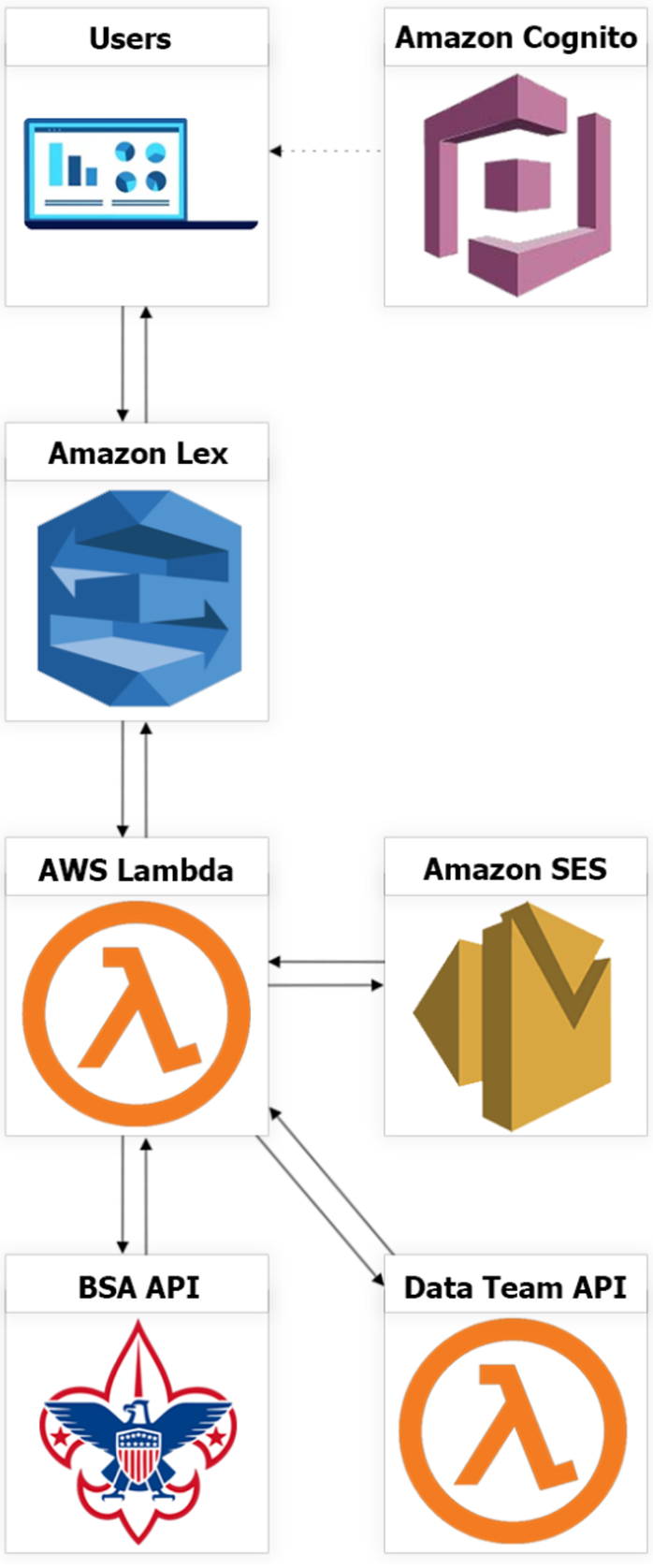
Abstract

To minimize call traffic and the generated support tickets within a call center, the Boy Scouts of America (BSA) is looking to assist their end users by deploying a user-friendly support chat bot that integrates with their online resources on their website. The purpose of this project was to develop a conversational chat bot that would resolve the most common end user issues when using BSA's deployed platforms. This task was accomplished by utilizing Amazon Web Services (AWS), BSA APIs, and the data team's APIs.

Keywords: API, AWS, Chat bot, Boy Scouts of America

Architecture



User
- User Interacts with the chat bot on a website.

Amazon Lex
- Service for building conversational interfaces into an application.

AWS Lambda
- Service that runs code in response to events.
- Using Node.JS runtime.
- AWS Lex returns all parameters to AWS lambda

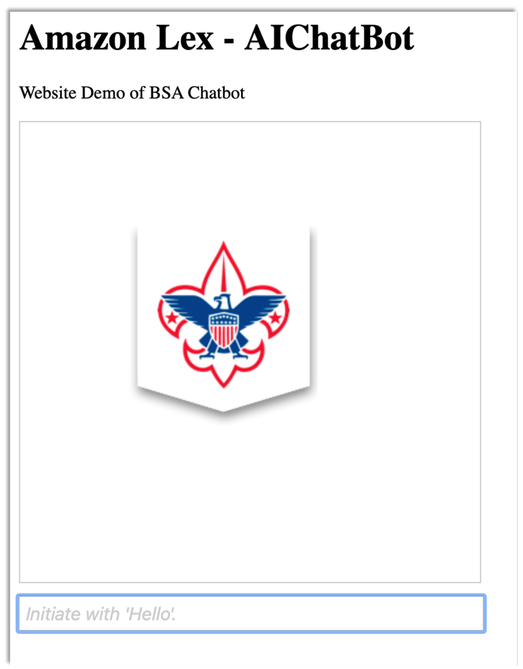
Amazon SES
- Simple Email Service (SES)
- Cloud-based email service.
- Implemented to send a support ticket to the end-user if the chatbot cannot resolve their issue.

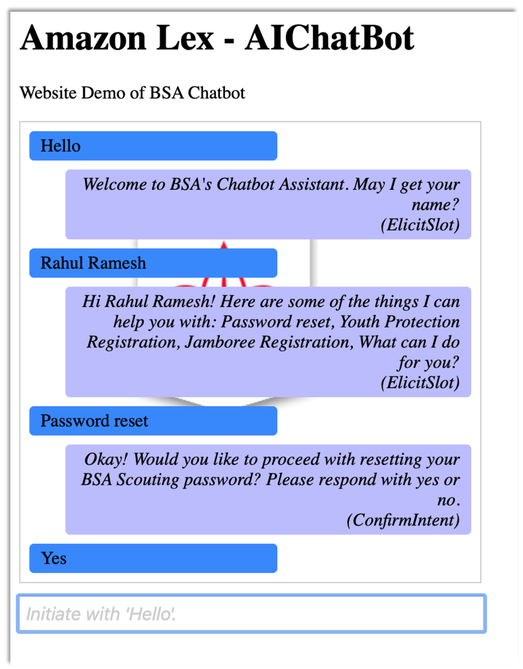
Data API
- Knowledgebase API for the Chat bot.
- Retrieves the user input and responds with a category of which issue the end user is having.
- If the user agrees with the category, the input is retrieved and is updated to the knowledgebase to improve accuracy.

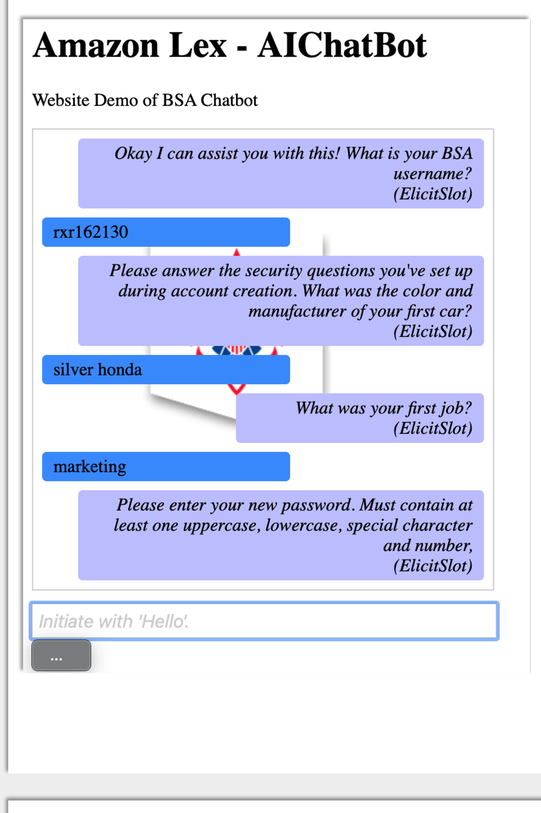
BSA API
- Provides the access to BSA data resources to automate various tasks.

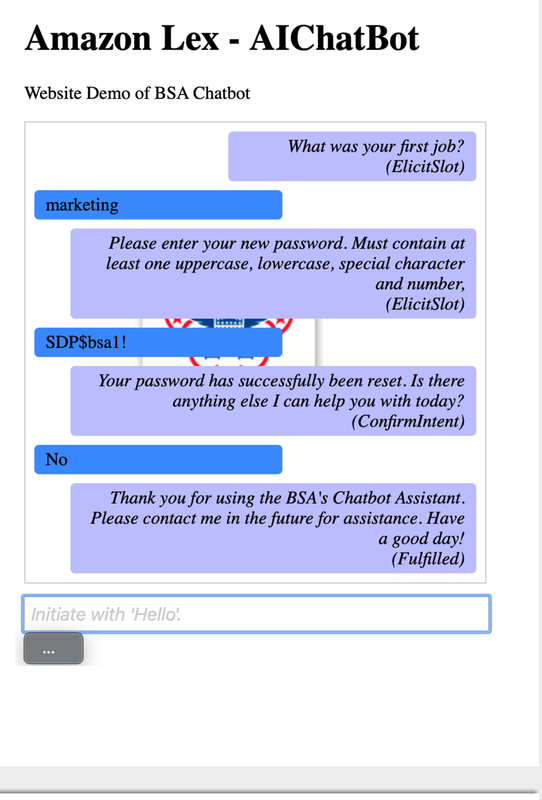
Amazon Cognito
- Provides user management and authentication functions to serve the backend API.
- Used to deploy bot to HTML.

Results









Performance Metrics

- Main feature, password reset functionality implemented in chatbot environment
- Integrated all APIs provided by data team

Impact

- The chat bot engages in a conversation with the end user to resolve their issues.
- Implementation of the chat bot minimizes BSA's call volume.
- Reduces human error by automating tasks such as a password reset.