COEN 241:Project Midterm Review

UNIVERSITY ADMISSION PORTAL CHATBOT

USING AMAZON LEX

TEAM MEMBERS:

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Project Goals:

1. Assisting prospective/current students with their application process and queries 24/7.
2. Help students from different time zones to access the chat bot simultaneously with a large number of requests and address queries instantaneously.
3. In case of complex conversations where the chat bot is not able to resolve the queries, a detailed transcript is sent to the chatbot admin making sure that no query goes unanswered.
4. It helps save time for both the students and the admission team.

Project Motivation:

1. Being international students we understand the challenges faced during the application process due to different time zones and work hours.
2. Having a chatbot would enable students to get answers to their queries without having to wait for a staff member to respond.

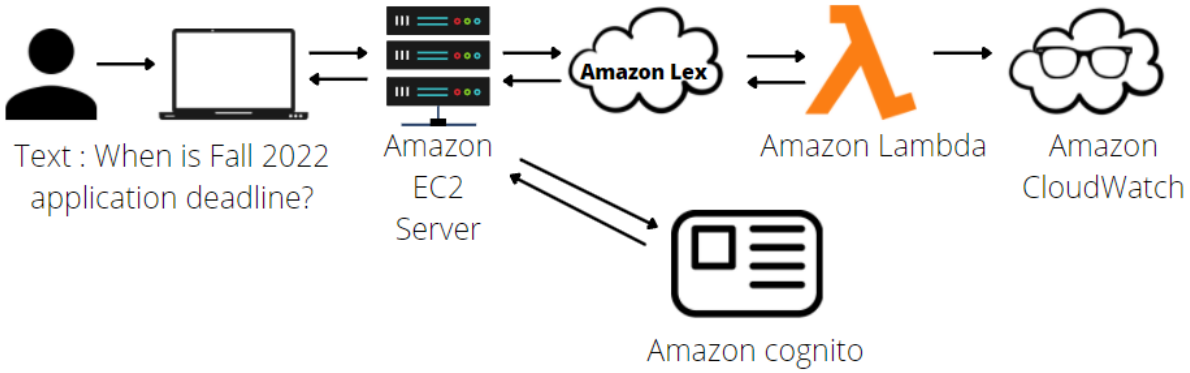
Future Enhancements:

1. The chatbot data can be used for sentiment analysis to tailor for a better user experience. This can be implemented using NLP models(Word embeddings).
2. We also envision having a speech to text conversion for fast query addressing.
3. Plan to Integrate with multiple social media platforms. ie, accessing respective chat bot by tagging the university.
4. Access the chatbot interface through a mobile application.

Cloud Technologies:

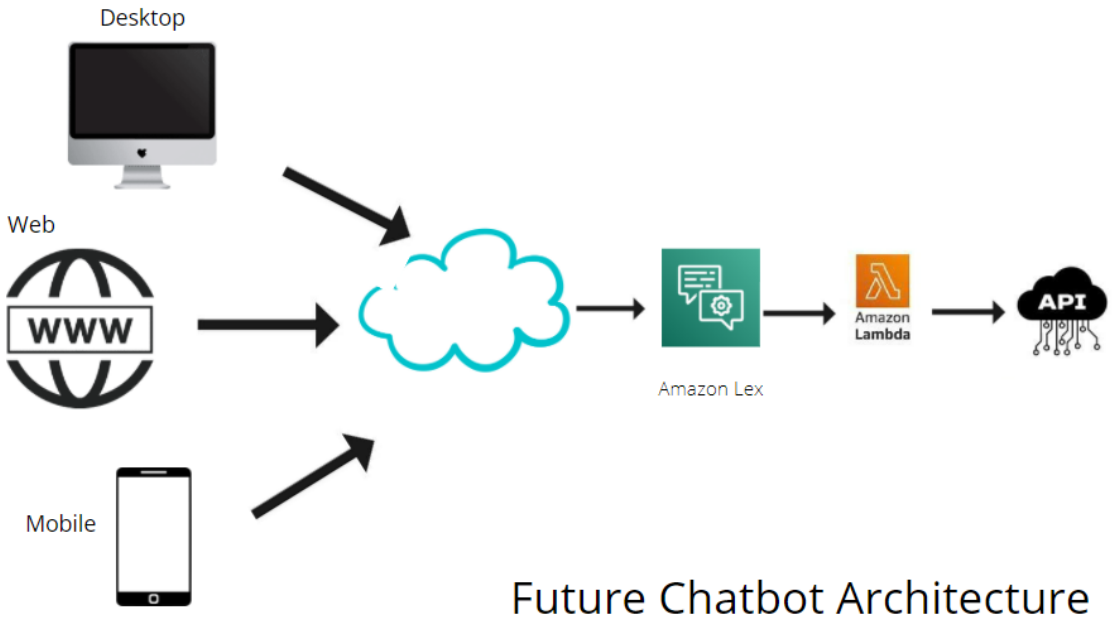
1. AWS
2. Amazon Lex
3. Amazon Lambda
4. Amazon Cognito
5. Amazon EC2 server
6. Amazon cloudwatch

Cloud Architecture :



Chatbot Architecture

When the user inputs a query, it passes on to EC2 server, which then passes it on to amazon lex. The query then goes to amazon lambda for processing. Instead of using it to deploy an entire server, we are using lambda to process serverless requests. Then the request will be sent to Amazon Cloud Watch for monitoring. Then once the request has been processed, it will be sent back to Lex, and from there to the user.



Future Chatbot Architecture

Proposed Architecture:

Servers: Amazon EC2
Containers: Docker Image for Chatbot

Implementation Plan :

1) Tanvi Pandey : Configuring Amazon Lex.
2) Surya Kiran Udaya Kumar : Implementing Amazon EC2 instance.
3) Ashish Kumar : Configure interface between Amazon Lex and Lambda.
4) Pragya Kathpalia : Containerize the Application.