**Mobile app lambda triggering ticket E-mail reply**

I understand you want to trigger a Lambda function from your mobile app based on the voice input given by a user and you do not want to use Alexa Voice Services (AVS). In that case, you can use Amazon Transcribe [1] which analyses audio files that contain speech and uses advanced machine learning techniques to transcribe the voice data into text. You can then use the transcription text with your custom logic to invoke the required Lambda function(s). The flow would be as follows:

1. Record the user's voice input on your mobile app and upload the same to S3. Supported formats: mp3, mp4, wav, flac.

2. Create a transcription job via the StartTranscriptionJob API [2] and specify the S3 URI of the uploaded audio file in the API request.

3. Wait for the transcription job to be completed by periodically checking the job status via the ListTranscriptionJobs API [3].

4. Once the status of the job is 'COMPLETED', use the GetTranscriptionJob API [4] to get a link to a JSON file containing the transcribed results.

5. Download the JSON file containing the transcribed text and use custom logic to identify which Lambda function has to be invoked and the input for the function.

6. Invoke the required Lambda function(s) via the Invoke API [2] of AWS Lambda.

You can also use the 'custom vocabulary' feature of Amazon Transcribe to help the service recognize words that are specific to your use case and improve its accuracy in converting speech to text.

**Links explanation**

[1] : <https://docs.aws.amazon.com/transcribe/latest/dg/what-is-transcribe.html>

This link explains that the functionality of amazon transcribe API is to convert the English and Spanish audio files to text.

[2] : <https://docs.aws.amazon.com/transcribe/latest/dg/API_StartTranscriptionJob.html>

This explains the StartTranscriptionJob action of the transcribe API. This action defines the audio file which is to be sent as input for transcription. The location parameter will be URI to the S3 bucket.

[3] : <https://docs.aws.amazon.com/transcribe/latest/dg/API_ListTranscriptionJobs.html>

This explains the ListTranscriptionJob action of the transcribe API. This action tells the status of the transaction jobs, what all jobs are completed. whether it is completed or still in process, once the transcription job is completed the result is stored as JSON object. The output location can be set as attribute value.

[4] : <https://docs.aws.amazon.com/transcribe/latest/dg/API_GetTranscriptionJob.html>

This explains the GetTranscriptionJob action of the transcribe API. This action takes place once the transcription job is completed. It stores the transcribed result as JSON object. The output location can be set as attribute value.

[5] : <https://docs.aws.amazon.com/lambda/latest/dg/API_Invoke.html>

This explains the invoke action of the transcription API. To be able to invoke any lambda function the creation of event source mapping is required. The lambda function will be triggered whenever an event like addition of a new file object in S3 or deletion of a file in S3.

[6] : <https://docs.aws.amazon.com/transcribe/latest/dg/getting-started.html>

This link explains the step of setting up aws account and CLI to use transcribe API.

[7] : <https://aws.amazon.com/transcribe/pricing/>

This link explains the rates of transcribing audio files, 60 minutes are free monthly for one year.

**Issues and concerns**

1. Interaction model 🗙

Although multiple transcription jobs can be set but the issue is how to hit the lambda function with the next slot value after completion of one dialogue. How the lambda function will request for next slot value in the interaction model. One solution is to fill all the slot values in a single dialogue transcribed.

1. Lambda function transcribe API calling **✔**

The code for calling the transcribe API from the lambda function can be found on the link as follows <https://stackoverflow.com/questions/51423618/aws-transcribe-javascript-api-unexpectedparameter-unexpected-key-outputbucketn>

1. Output bucket creation **✔**

The output S3 bucket location can be set by specifying the URI in TranscriptionFileUri field of GetTranscriptionJob action.

1. Invoke action code**✔**

The code for put events in S3 can be found on the following link [https://docs.aws.amazon.com/lambda/latest/dg/eventsources.html#eventsources-s3-put](https://docs.aws.amazon.com/lambda/latest/dg/eventsources.html%23eventsources-s3-put)

And invoking action parameters can be found on the following link

<https://docs.aws.amazon.com/lambda/latest/dg/API_Invoke.html>

1. Lambda output 🗙

Where will the lambda output or response go after it uses the transcription API resulting JSON file objects as input parameters in custom logic.