**Enhance voicemail handling capability using NLP**

**Background:**

Timely response to huge number of voicemail messages received by Health Insurance companies that have millions of customers is indeed a challenge in the real world and can be a defining factor when it comes to retaining customer base and improving customer experience.

**Objective:**

Model a real-time system that performs NLP on voicemail texts and route these voicemails to appropriate departments within the Health Insurance Company.

Perform language detection, named entity recognition, key phrase extraction on the voicemail text and notify concerned departments via email

**Functionality:**

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**Benefits:**

* Enables faster response by alerting the concerned department about the customer’s issue for a fast resolution and improved customer experience.
* Capability to analyze missed calls from voicemail text and notify respective department along with sentiment, date, person entity and voicemail content details within a few seconds.

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A. Technical components

**Platform**

Amazon Web Services (AWS) Cloud

**AWS Services Used**

AWS S3 (Simple Storage Service) for storing incoming voicemail text files and for archiving processed files

AWS Lambda serverless compute for launching the application when a voicemail is received

AWS Comprehend for NLP

AWS Simple Email Service (SES) for sending real-time email notifications

AWS Identity and Access Management (IAM) for provisioning necessary access to different components

**Python Packages**

Json, Urllib, boto3, botocore, datetime

B. Process flow:

Diagram

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