Chatbot

Customer: A global IT & consulting company

Problem Statement

The customer, which serves clients across six continents has a complex IT landscape to manage. The underlying infrastructure supports a huge employee base and all critical applications, including myApp - the digital platform for self-service that gives employees a seamless experience across various processes and workflows. myApp enables all its employees and contractors to manage business transactions, access productivity tools, news, videos, communications, and other content via one single application interface. Tens thousands of its employees worldwide depend on MyApp and an associated suite of 150+ applications for their day-to-day activities. But the existing approval-based systems for requests rendered it difficult to handle higher numbers of transactions and larger volumes of data resulting in delays in approvals and decreased employee satisfaction. The customer needed a smart Artificial Intelligence (AI) solution which uses advanced decision-making and machine learning to not only resolve this but also customize the process as per the request while also reducing the number of inputs by the user.

Proposed Solution

Powerup conducted an in-depth study of myApp's systems and interacted with the users to understand the challenges. The major bottleneck was not the sheer number of requests being received on the portal, but the systems' inability to understand user context and the number of steps involved in getting simple issues resolved.

Powerup designed a solution for Customer, which will integrate with their myApp portal as a voice engine to automate user journey on the system. This also has to be voice-first solution which executes action on voice inputs of the user. The engine backed by strong neural networks, understands the user context and personalizes the engine for the user. The engine is built on an unsupervised learning model, where the engine personalizes the conversation based on user's past interactions. Thus, providing a unique and easy to navigate through journey for each user. In this

process, the users can get rid of the transactional system and get issues resolved, from approval to task submission, within 2-3 steps.

Powerup also implemented Botzer, chatbot platform with Amazon Lex & Polly. Customer calls gets diverted from IVR to the chatbot, which takes customers' requests as voice input, does entity matching, triggers workflows and answers back immediately. The voice engine supports 2 languages today – English and Hindi. Customers can get details like Statement of Account, EMI tenure, Balance Due etc. The intelligence built into the system allows it to behave differently with different users during different time of the day, thus if the user accesses different applications during the morning than the evening hours, the engine will respond accordingly during the respective hours.

Below is a high-level Solution workflow of the engine, being developed on AWS Lex & Polly, utilizing Botzer APIs at the backend.

Following is the high level technical architecture of the implementation. The engine is hosted on customer's AWS VPC, ensuring data integrity & security. The current architecture is capable of hosting 1lakhs+ Customer employee, with 150+ applications on myApp.

Cloud platform

AWS.

Technologies used

Amazon S3, DynamoDB, Redis, Route 53, Amazon EC2.

Benefit

Faster ticket resolution and better communication with third-party application providers led to an increase in the number of tickets resolved. At the same time, the number of false positives decreased.