

Case Study - Amazon Lex



In the current digital age, business processes are being completed at the speed of light and companies need technology solutions that enable fast and efficient ways to gather information. Especially in a customer-driven market like Fintech, time is money and decisions must be made quickly and precisely to remain competitive and keep customers happy.

CHALLENGE:

In several Fintech applications, important data is gathered and viewed through reporting solutions, presentations, charts, etc. What Fintech companies find difficult in this necessary business operation is the high number of mouse-clicks it takes in their current solution to dig out the specific report. Aside from a simple data retrieval method, it then takes the user quality time analyzing the information to gather appropriate data and compile a conclusion. Our customer with an Asset-Based Lending software product approached us to help them increase customer engagement on their application's reporting system.

An example piece of information required to do so is: ***"Who are the borrowers who have their payments due in 3 days?"***

In the manual process, the user must search for, locate, and click the correct report to download, then sort and locate the accounts within that download. During a timed simulation, we observed the result had about 1000 rows and took around 15-20 seconds to retrieve this result in its current reporting system. Another challenge addressed was that some accounts' might be nearing payment dates and require communication with the borrower. Presently, there was no automated system to notify the customer about this from the reporting system. If the report was not pulled, then accounts are left unmonitored, sometimes leading to delinquency, which leads to unhappy lenders and borrowers.

SOLUTION:

After collaboration with the client to determine the proper solution, the Idexcel team built a customized chatbot to address the client's challenges. Built on top of AWS Lex, this solution harnesses deep learning technology powering Amazon Alexa, giving our customer eagle-eye visibility to its clients. Customers can interact with the chatbot via text or voice to retrieve information. For example, for a question from the user such as "Which of the clients have a balance amount of more than \$150,000?"

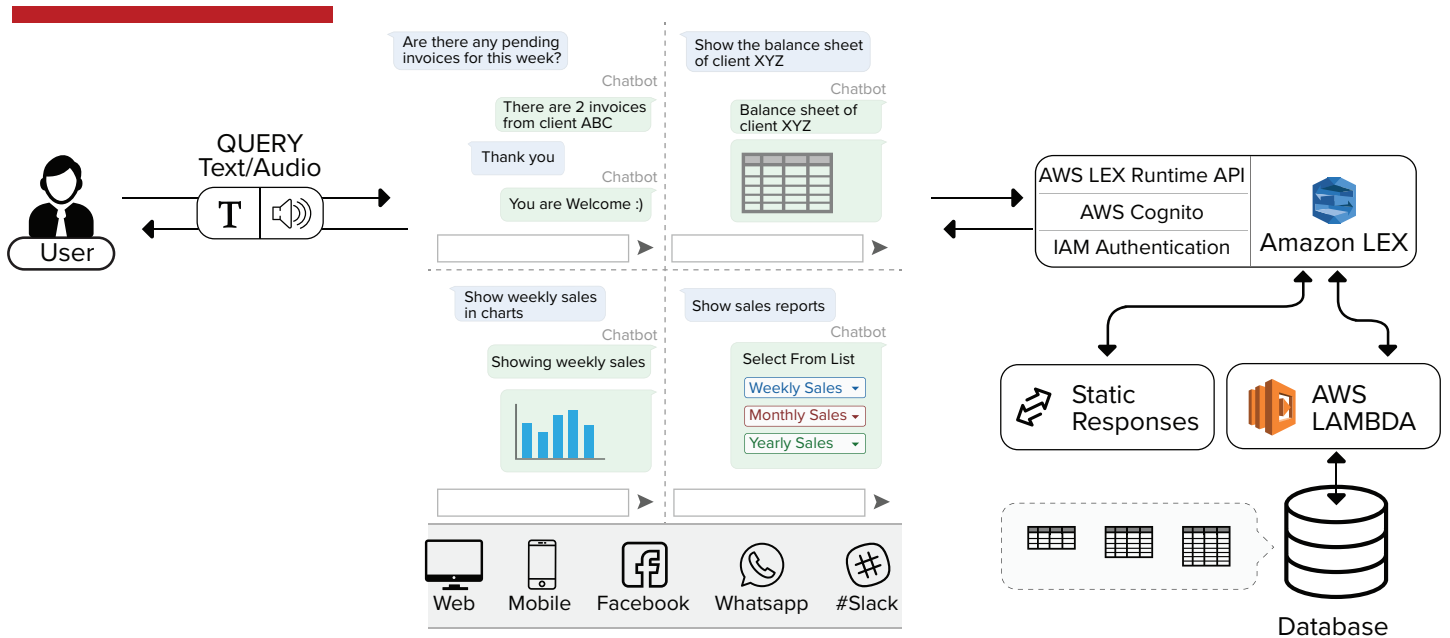
The response from the chatbot would be "There are 12 accounts which have a balance amount of more than \$150000 USD"

The chatbot also has the capability to display responses in various ways as desired by the user. From a response text, a table, or even in the form of charts, the user has a customized view of the data requested. An additional capability incorporated in the chatbot solution is the capability of locating and displaying accounts that require immediate review. For example, if there was a payment due on a specific account in 2 days, it alerts the user. Because the Chatbot uses Machine Learning, it continuously learns your information requirement pattern, reducing the overall time it takes to complete a specific information retrieval operation.



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The solution depicted in the picture above shows how chatbot users get their responses. The text/voice user-interface of the chatbot is connected to the AWS Lex backend. This connection is enabled with the help of three services: AWS Cognito, AWS Lex Runtime API, and IAM Authentication. These services help us to authenticate users seamlessly and securely deliver relevant content at the user level. Lex is further connected to AWS Lambda and Relational Databases of the users' choice. With granular customizations, we can engineer conversion of Natural Language into a query for these databases. The Idexcel approach also facilitates reporting extraction, chart creation and much more. The strongest link in the chain is AWS Lex, which holds everything together and helps in seamless communication with the user. Also, Lex chatbot agents can be integrated into the customer's application portal or their own mobile app for business users. This can be further extended for end users via other popular chat applications like Facebook Messenger, WhatsApp, Slack, etc.

BENEFITS

Faster Processing Time: The primary benefit of the applied Idexcel solution was the ability to find relevant information much quicker, reducing the time it takes to complete the business operation.

Precise, Accurate, Valuable Information: Another major benefit of this chatbot is the clarity of the information retrieved and status notifications of operating accounts, allowing for closer monitoring.

Minimal Effort: The Idexcel's team approach enabled our client to get more information, efficiently, with minimal effort.

Increased Efficiency: Chatbots not only help in reducing the time taken to perform a task, but also improve overall workplace operations by freeing up other team members to focus on higher priority goals.

Fast Results: The usual turnaround time in getting reports from the BI team was at least a day, but using the bot built by the Idexcel team, the reports were generated for the user instantly.

OUR AWS COMPETENCIES



- Public Sector
- Solution Provider
- DevOps Services Competency

- Financial Services Competency
- Migration Services Competency

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