

TECHNOLOGY STACK

THIS DOCUMENT WILL GIVE YOU A DETAILED EXPLANATION ABOUT THE HOW AND WHAT TECHNOLOGY STACKS WERE USED IN THIS PROJECT.

1. MEDICUS: THE AI POWERED CHATBOT

Medicus was built combining the IBM Watson assistant and JAVA script programming. Chatbots use natural language recognition capabilities to discern the intent of what a user is saying, in order to respond to inquiries and requests. It knows when to search for an answer from a knowledge base, when to ask for clarity and when to direct users to a human. Watson Assistant can be deployed in any cloud or on-premises environment – meaning smarter AI is finally available wherever you need it. Medicus is designed as a Smart Doctor itself which will be able to respond to the user as a Doctor. Making a chatbot through IBM involves making suitable Dialogues, Intents and Entents.

The implementation of IBM Watson gives us three major features:

- Skill Routing: Watson Assistant will determine whether to provide a direct answer or reference search results from a document or database.
- Secure and Trusted: Watson Assistant can live in an isolated cloud environment or on-premises, allowing you to build and scale.
- AI powered: This means that Medicus is a chatbot which can learn on the go. It uses it's customer experience to better it's skills, this really makes it easy to manage.

Flow Chart:

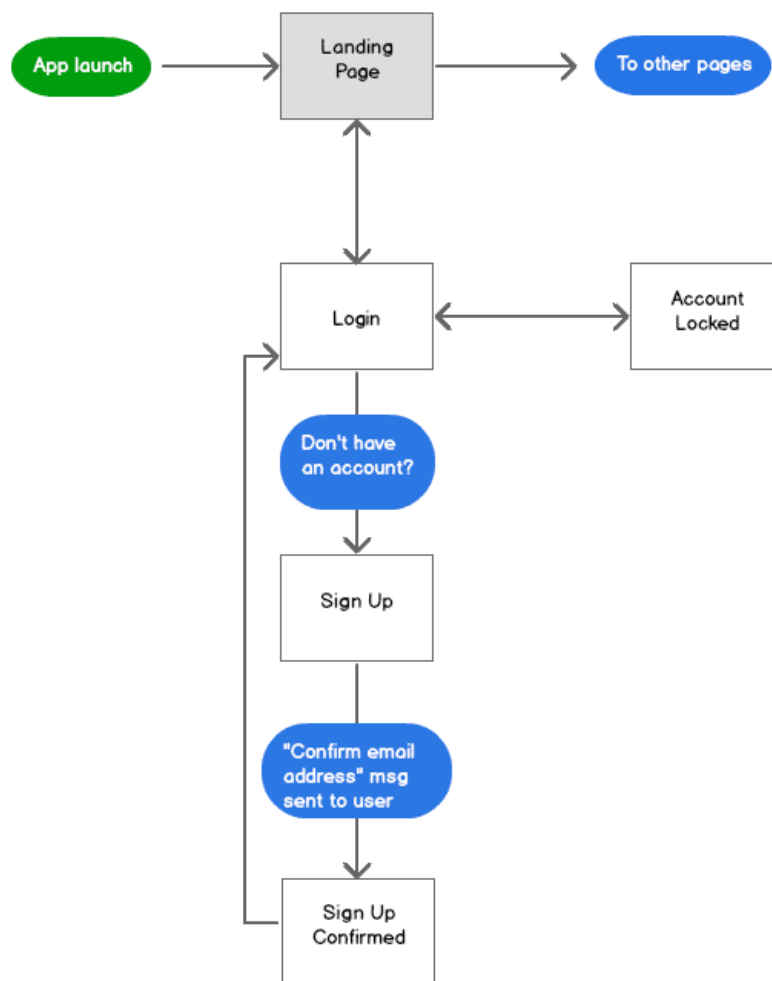


1. User sends dialog to cloud-based Node.js application.
2. Application interacts with Watson Assistant and uses slots.
3. Replies from Watson Assistant are returned to user via application.

The chatbot is deployed on our website and mobile app by the IBM Watson API.

2. AR Medicus: Android App

The AR Medicus android app was developed by the android studio and andro app maker application. Through the andro app maker we designed and created the APK file and again modified it on opening it in the Android Studio. The mobile app is fully responsive including the chatbots and customized login pages of the users as shown in the screenshots of the mobile app.



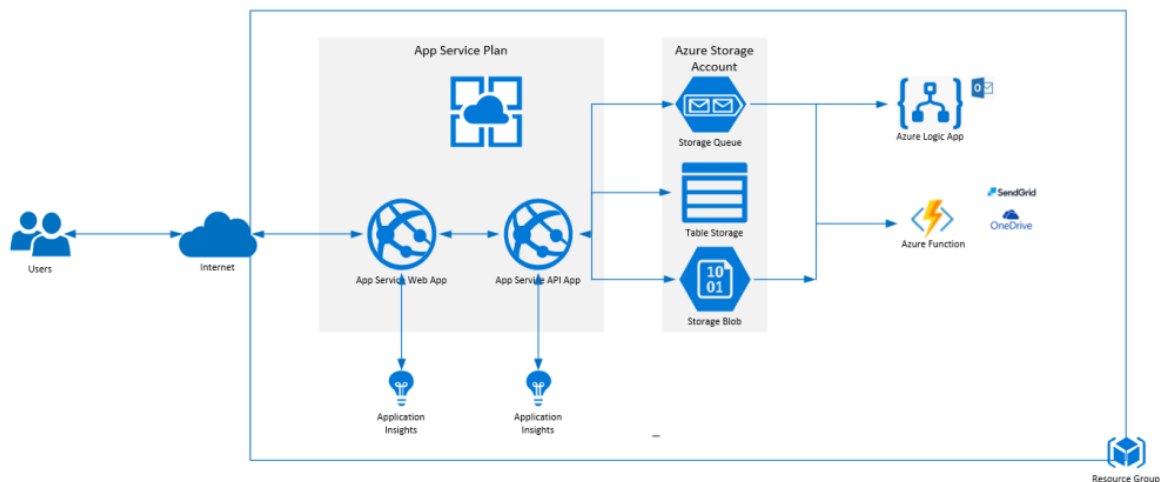
The android app was loaded into a smartphone through the android studio. For the prototype phase we have created an android app. We plan on working on even an IOS app using X code. The mobile app is the front end of the project.

3. AR Medicus Website:

The website has been developed using HTML. The domain “projectarmedicus.in” is hosted by GoDaddy and managed by WordPress. There are a few plugins integrated from WordPress to provide the user with their customized dashboards. The Website is front end.

4. Microsoft Azure Cloud:

An Azure storage account contains all of your Azure Storage data objects: blobs, files, queues, tables, and disks. The storage account provides a unique namespace for your Azure Storage data that is accessible from anywhere in the world over HTTP or HTTPS. Data in your Azure storage account is durable and highly available, secure, and massively scalable. All the databases, tables and data is stored into the blob storage and containers in the Azure cloud. The subscription used is the Azure Student subscription. Microsoft Azure cloud is the backend of this project.

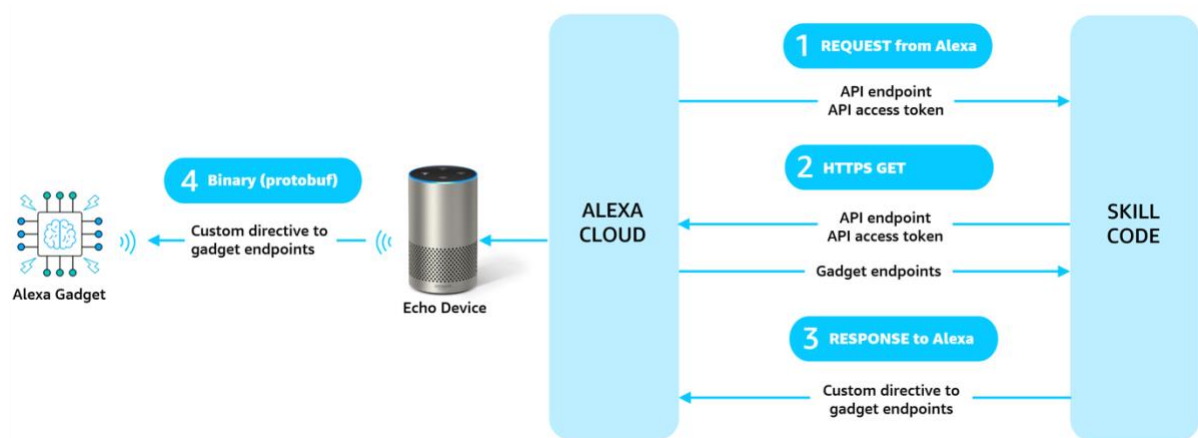


5. MYSQL Workbench:

The MySQL workbench is used to assemble and create databases which are to be used further. The MYSQL workbench 8 was used in this project. This database when created in the MYSQL workbench is then uploaded into the Microsoft Azure Cloud Storage account in the container. From where the website can easily access it using HTTPS requests. MYSQL workbench is a backend of this project.

6. Alexa enabled Medicus App:

The android app Medicus has been integrated with Amazon's Alexa through which the user can ask Medicus questions about his/her difficulty he/she is facing and Medicus through amazon's Alexa will be able to suggest some solutions to the user. This skill is developed by integrating the android app with the amazon developer API. We have customized the Alexa skill of the app through which Medicus will be able to speak a range of solutions.



7. API (application programming interface):

There are a range of APIs and other services used in this project here is a list of them:

- IBM Watson
- Amazon Web services Alexa API
- Andro app maker API
- Zoom calling API
- Rest API
- Microsoft Azure SQL database management
- IBM cloud service
- Godaddy/Wordpress
- Foursquare API
- Gmail API
- Microsoft Azure Network management API
- Microsoft user subscription API

