

Cloud-Based Chatbot App for eHealth & Telemedicine



Client Requirement

Client is a provider of a clinical vocabulary and decision-support systems to manage eHealth and telemedicine encounters.

The client needed an intelligent chatbot application that could enhance patient experience, intelligently query the patient for secondary symptoms and collect additional qualitative data (e.g., intensity of pain, duration of pain).

Given its expertise in artificial intelligence, Data Science and healthcare cloud technologies, CitiusTech built a Cloud-based chatbot service to help extend the client's current NLP, clinical vocabulary and symptom-checker platform.

CitiusTech Solution

Requirement Analysis

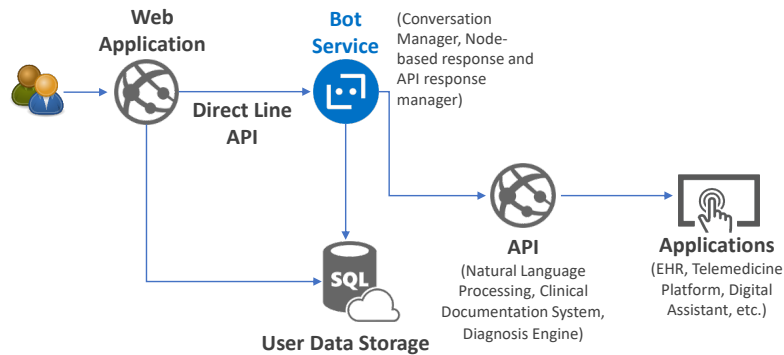
CitiusTech leveraged Microsoft Azure and onboarded a team of cloud specialists and data scientists to create a comprehensive Azure chatbot framework. CitiusTech integrated the client's existing APIs and built a Language Understanding Intelligent Service (LUIS)

model, including gender API and display conversation in the browser, using responsive UI. The application also leveraged NLP-based APIs to provide accurate, standardized information to downstream partner applications (EHR / telemedicine platform / digital assistant, etc.).

Solution Design

CitiusTech built a platform-agnostic chatbot service to demonstrate additional content including concept definitions, after care instructions, sources of care and provider specialties. The solution included:

- N-Layer architecture using ASP.NET MVC 5, LINQ to SQL, JavaScript, jQuery, HTML5, CSS3 - bootstrap for responsive UI (mobile, desktop, tabs)
- An Azure Bot framework for development of the bot service to manage the user conversation flow
- Storing conversation data in the bot data store
- A bot manager to interpret bot service response to the application layer



Solution Schematic

Value Delivered

By partnering with CitiusTech, the client was able to:

- Automate care processes, minimize human interaction with patients and improve efficiency
- Create an optimal view of applications across multiple devices
- Develop built-in sentiment analysis
- Integrate with 3rd party APIs for automatic gender detection

About CitiusTech

CitiusTech is a specialist provider of healthcare technology services and solutions to healthcare technology companies, providers, payers and life sciences organizations. With over 4,000 professionals worldwide, CitiusTech enables healthcare organizations to drive clinical value chain excellence - across integration & interoperability, data management (EDW, Big Data), performance management (BI / analytics), predictive analytics & data science and digital engagement (mobile, IoT). CitiusTech helps customers accelerate innovation in healthcare through specialized solutions, platforms, proficiencies and accelerators. With cutting-edge technology, world-class service quality and a global resource base, CitiusTech consistently delivers best-in-class solutions and an unmatched cost advantage to healthcare organizations worldwide.

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