Conversational HealthBot Powered by Azure Cognitive Services

Client Business Description

The client is a **US-based leading pediatrician partner**. Established in July 2005, they have the mission of providing high-quality, compassionate, and holistic **pediatric care to the infants, children, and adolescents** of the community. The client has a team of board-certified Pediatricians, Physician's Assistants, and Pediatric Nurse Practitioners.

Background

Given that, people often want immediate answers and most traditional customer support systems are not equipped to handle these conversations, our **Healthcare industry** client was looking forward to **implement the chatbot** which could help them to solve some of his prevailing issues. The client wanted a way to make their services **available 24/7**,**provide instant responses** to customer questions, have an ability to **understand the natural language,** and make their **booking procedure as seamless** and accessible as possible. Analyzing the problems, the evident solution which came in the mind was having a AI powered chatbot or a **healthcare bot**!

Our Solution

- **Beyond Key** developed and **deployed a chatbot** on the client's website which is available **24/7** to **instantly answer to visitor's questions**, and enables **faster query resolutions** by guiding the user through every step. This means that human agents do not need to spend their time answering these basic questions.

- **Finding the right doctors** for their problem and **booking an appointment** is easily handled with the help of a chatbot. Whenever someone requests an appointment, the bot first checks the doctors' calendar and proceeds further with slots for which doctor is available. Not only that, an appointment will get fixed only after both parties accept invite.

- The bot is powered with **Language Understanding (LUIS)** and **QnA Maker** (Azure Bot Service). LUIS helps build natural language into a bot. The bot can answer questions defined in a knowledge set or FAQ using **Cognitive Services QnA Maker**. The bot is capable **of storing any new question** asked by the user in the database.

- Along with this, we have also introduced a new feature called use of **Adaptive cards or Hero cards** within our Bot framework. Adaptive Cards are a newer feature to the Bot Framework, and while still in preview mode, they are a valuable tool for developers to use inside and outside of chatbots. Adaptive Cards can be a great option **for displaying meaningful information** to users in an **image/picture or graphic form** where text might not be the best option.

Chatbot Highlights

- Natural Language Understanding
- Provide answers to frequently asked questions quickly and efficiently
- Schedule appointments and consultations
- 24/7 assistance
- Easy integration with any platform
- Complete automation
- Easy-to-use system for patients
- Use of Adaptive or hero cards to display information in picture form

Values Delivered

Offloading simple queries to the chatbot helped reduce the call volume client receives on their customer support center leading to reduced costs for the company.

With the bot in place, there is ease in the business process, and it gives a personalized experience to patients while scheduling an appointment.

Bot helps in taking appointments for patients and checking the availability of the doctor/physician for any medical purpose. Also, helps in tracking the details for check-up timings for the doctor's visit scheduled for patients.

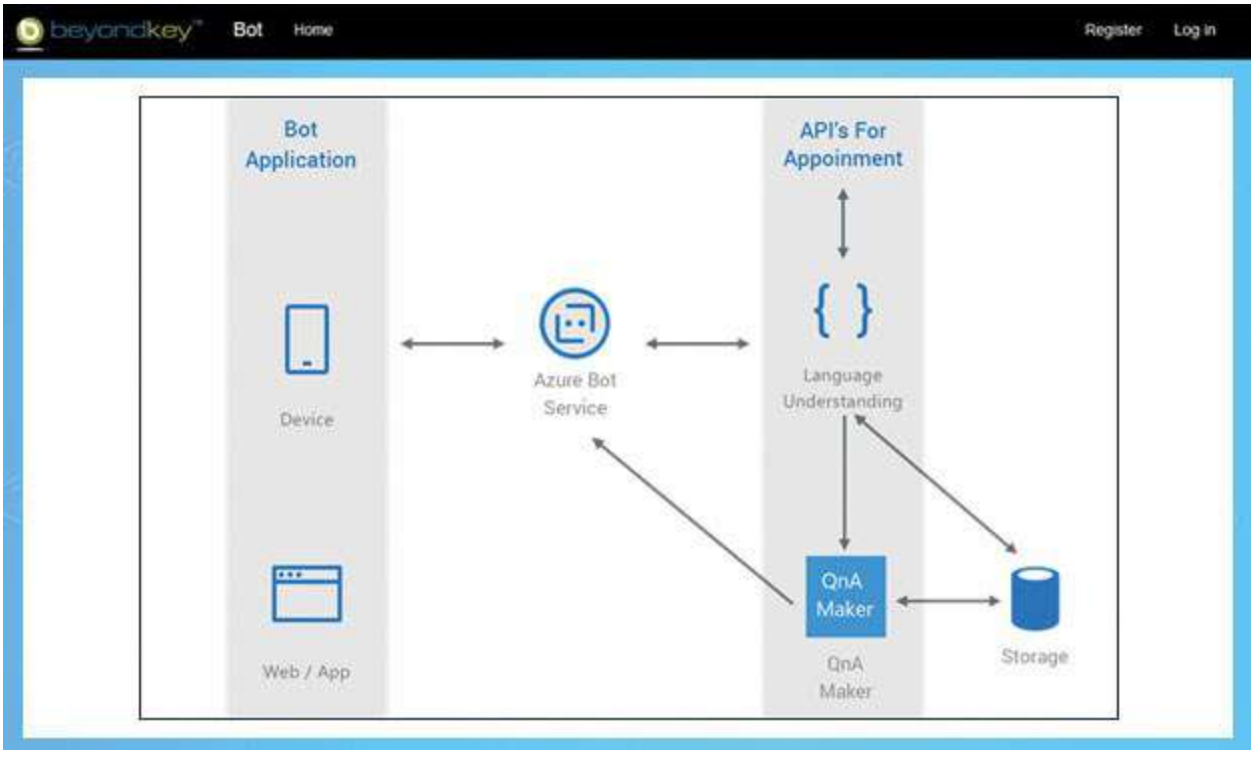
How It Works

Steps to set up knowledge base or FAQs

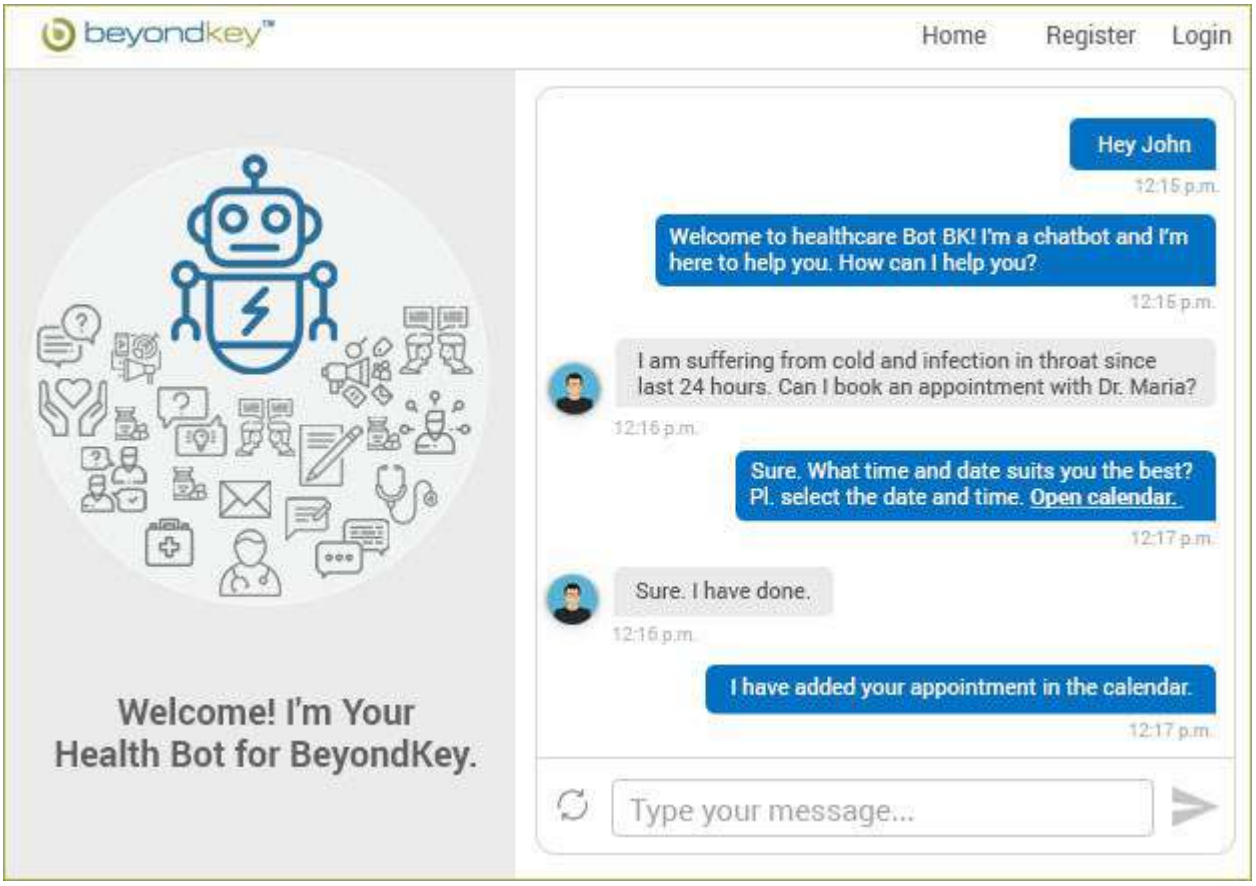
- First, multiple questions mapped with a suitable answer are saved with in the saved in separate module.
- Using the custom application bot, the user requests information.
- Cognitive Services (LUIS) helps process the natural language request and identifies the module in which the answer is written.
- LUIS also helps to find the most suitable answer of the query.
- The response is returned to the customer by LUIS.
- If LUIS is not able to answer, the question goes in fallout and QnA maker answers the question.

Steps to set up a new appointment with doctor

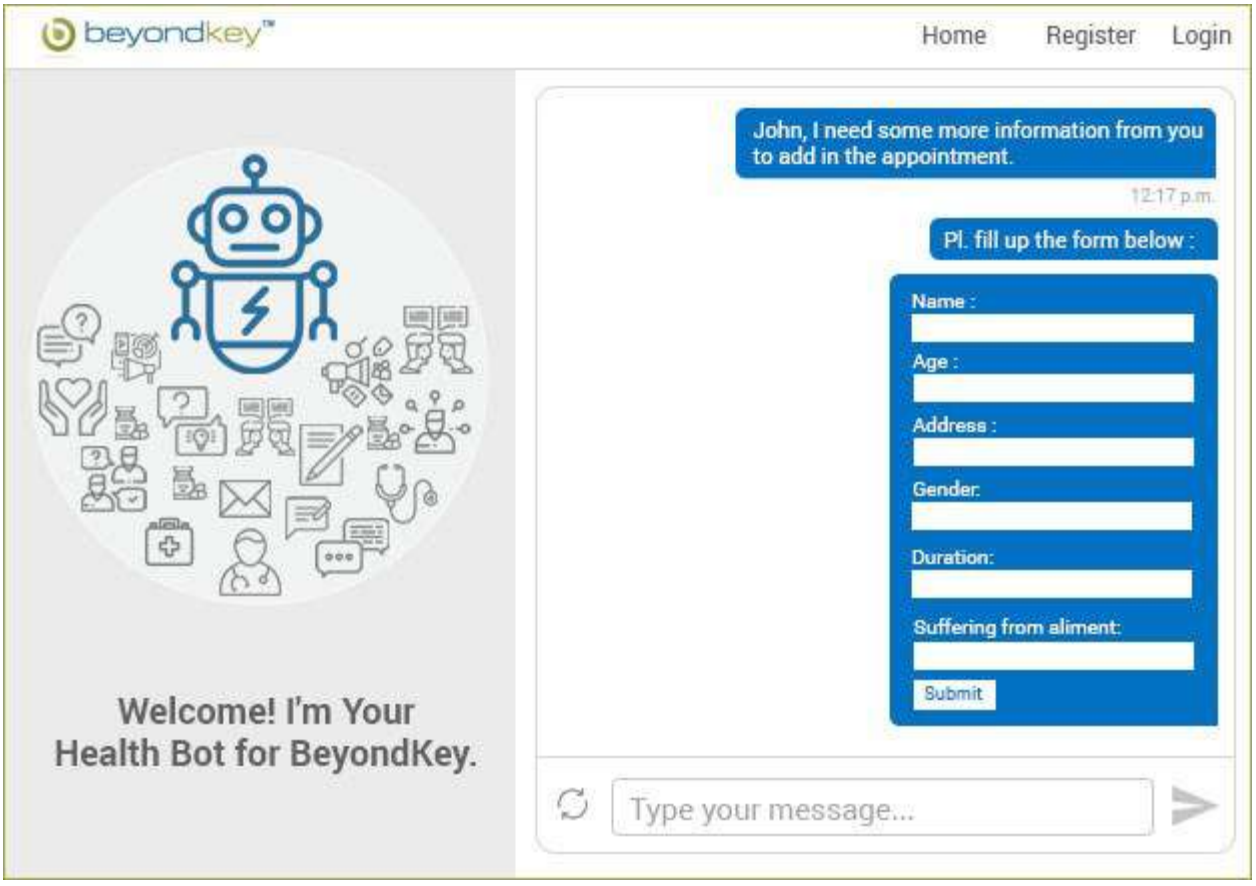
- Using the custom application bot, the user requests to book an appointment.
- The bot asks the visitor details and checks with the clinic/ doctor calendar.
- If the slot is free, it sends message to both the parties and books appointment.
- Using the API's, the appointment is booked and LUIS returns the result to the bot.



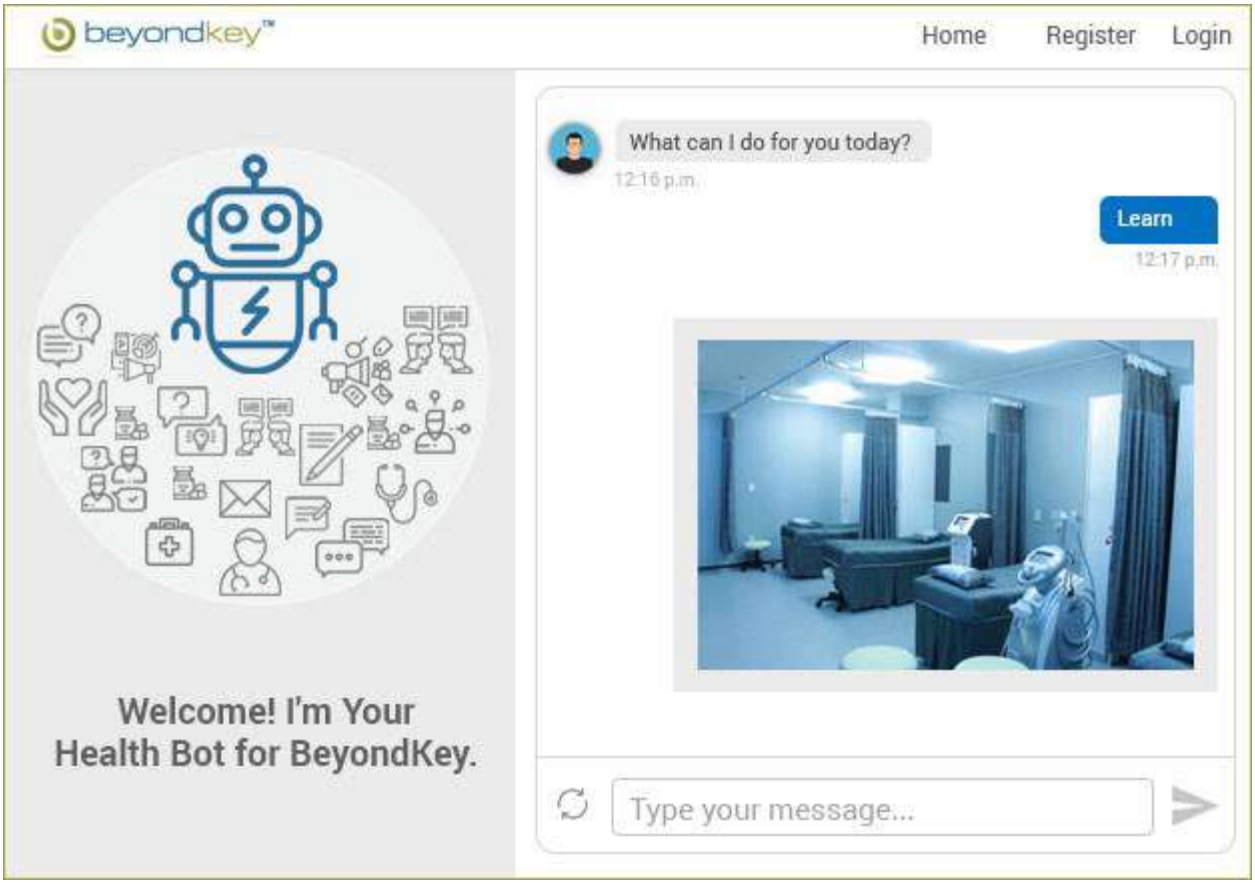
Architecture of a Healthcare bot



Chatbot answering simple questions



Booking an appointment with a chatbot



Adaptive or Hero cards- displaying information as pictures