



# CHATBOT – AN APPLICATION OF BIG DATA

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'Whatsapp Launches World Health Organization Chatbot to answer COVID-19 Queries' read a news headline as I was frantically skimming articles amid the Coronavirus outbreak. A burst of sudden hysterical laughter broke my attention.

It was my brother, sitting on the couch alongside me, watching PewDiePie videos. As I got closer, it was one of his videos, where he chats with 'EvieBot' by asking her super-weird questions and in return getting amusing replies. It's really fascinating how chatbots have revolutionized the way computers and humans interact. According to estimates, more than 67% of consumers worldwide used a chatbot for customer support in the past year and around 85% of all customer interactions will be handled without a human agent by 2020. Our lives are constantly enveloped by the voices of Siri, Alexa, Bixby, Google Assistant. From lethargically asking them to remind us of anniversaries of our better halves, setting up automated reminders for meeting our deadlines, asking Siri to tell us to joke, controlling home appliances with Alexa, to asking them uncanny bizarre questions, we have tried it all. But, seldom do we care to know what magic goes inside them. Surprisingly, not many fathom to find the magic potion that goes into working to these 'ChatBots'. Let us dive deeper into the enchanted world of ChatBots and gear up our wits to understand the working, use-cases, and advancements of 'ChatBots'.

ChatBots use mechanisms of pattern-matching, response retrieval, Natural Language Processing for its applications. A typical chatbot maps the questions/queries from the user to a predefined set of responses in the database.



‘When will your shop open?’

‘What is the opening time?’

A chatbot initially identifies the user's intention called 'intent'. Intent refers to the fundamental purpose of the customer. In the queries above, the intent is ‘Knowing Timings’.

Using text mining techniques, the AI-based model trained on a dataset identifies the entities. A typical dataset would consist of a set of questions from the user and the appropriate responses are given. A term called ‘entity’ modifies user intent and provides more accurate responses. The entity deals with the specifics, which, in this case, is the ‘opening’ timing of the shop. After identifying the intent and entity, the algorithm retrieves one of the responses from the knowledge base and flashes it to the user.

‘We open at 10:00 am’.

Over a period of time, the responses become more accurate as the chatbot learns from its mistakes, as the data grows exponentially.

ChatBots find a plethora of applications in all sectors of life ranging from providing 24/7 customer service by answering customer queries, persuading the users to get a pristine understanding of the product and services, providing financial advice, acting as a reminder, answering health-related queries and acting as virtual assistants controlling home appliances, setting up alarms, to even planning our itinerary during a trip. The wide-spread applications of chatbots are just incredible. Don't believe me. Have a look at the most innovative applications of chatbots impacting different sectors of life :

**Wysa: Stress, Depression and Anxiety Relief Chatbot**

Wysa is packed with mood-boosters, the anxiety-relieving chatbot that is filled with spiritual meditation that improves mental health. It keeps a track of your mood with amicable chats that helps combat anguish, mental- strain, anxiety and depression. 93% of users find Wysa helpful.

**Rembo: Reminder, Alarm, and To-Do Chatbot**

Rembo's primary agenda is to remember things and make sure that people stay at the top of their tasks. With just simple chat messages, an individual can set organized deadlines, set alarms, and reminders. It even notifies the user about their medications and exercise regimen.

### **Erica: Finance/ Banking Chatbot by Bank of America**

Erica bolsters customer service by sending notifications to customers, giving them a balance check, sharing money-saving and investment tips, providing credit report updates, providing facilities for bill payment, answering queries, and assisting them with everyday transactions. As of 2019, Erica has captured over 6 million users whilst servicing over 35 million requests.

### **COVID-19 BOT: Launched by WHO through WhatsApp**

Having a massive user base of over 2 billion active users globally, WhatsApp has been the singular medium for communication and news coverage. Although, the fake news and rumor spread through WhatsApp is inevitable. To debunk all the myths and false propaganda and to educate the masses regarding the precautionary measures that one must adopt to curtail the spread of the virus, user queries are promptly answered by the bot. It is designed to provide official announcements and clear nuances regarding the pandemic.

From the above instances, it is quite evident how powerful chatbots can be. With the advent of high computational capability hardware and the advances in Artificial Intelligence, it is estimated that over 80% of the businesses are expected to have ChatBots by 2020 while cutting the customer support costs by up to 30%. Optimistically, ChatBots would pave a way to revolutionize traditional customer interaction methods by providing faster, more efficient, less time-consuming, 24/7 service and is truly a paragon of a technological renaissance.