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Mukesh Patel School of Technology Management & Engineering

AN EXECUTIVE SUMMARY ON

# HEALTHCARE CHATBOT

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Course: MBA TECH CS

Batch: 2017-2022

A report submitted in partial fulfilment of the requirements of 5 years Integrated MBA (Tech) Program of Mukesh Patel School of Technology Management & Engineering, NMIMS

## ABSTRACT

Normally Users are not aware of all the treatment or symptoms regarding the particular disease. For small problems, the user has to go personally to the hospital for a check-up which is more time-consuming. Also handling the telephonic calls for the complaints is quite hectic. Such a problem can be solved by using medical healthcare ChatBot by giving proper guidance regarding healthy living. Today's people are more likely to be addicted to the internet but they are not concerned about their personal health. Big disease can start from small problems such as headaches which feels normal but it may beginning of big diseases such as brain tumour .most of the disease can be identified by common symptoms so the disease can be predicted if the patient's body is analysed and reported periodically.

## INTRODUCTION

The main objective of this project is to create a simple yet efficient and handy tool that can be used by any age group to get the essential healthcare guidance. This chatbot can be accessed by many platforms as the key goal is to reach maximum audience. The user just need to answer to the questions regarding to the user details for the further assistance. The next step is to just enter the symptom that the user is facing and the chatbot will provide the required feedback to the user i.e. if the disease can be diagnosed the bot will answer to the user stating the disease he/she may have and the other symptoms that might be present if you have that disease else the bot will ask the follow up question to better understand multiple symptoms and better analyse the problem. The email feature is also added to the bot in which as soon as the conversation cycle is completed, the user will get the email from the chatbot team stating the disease that he/she might be facing and the contact information of the customer support for further assistance. The bot is trained for specific prognosis, but if the symptom that the user is facing is not present in the system, the user will get a message that the symptom could not be detected by the symptoms and he/she will be contacted soon by the customer care department and help him/her with the healthcare needs.

## PROJECT DETAIL

This project requires us to understand the user needs and keeping in mind the major aspect “ease of access” in order to help people navigate through our chatbot. We’ve made it as easy as possible. We used Python, javascript, Node.js and SQL for this project. Further we used technologies such as Machine Learning, Deep Learning and Natural Language Processing for better interaction and detailed help to the user.

We aim to tie up with famous websites that help patients setup online appointments and consultations like Practo, MedGenome, NetMed, etc. That will be convenient to patients so they can make easy appointments in their city by our chatbot. The Dialogflow provided easy use of different API’s which will enable this Appointment feature.

## Why choose our Healthcare chatbot instead of other healthcare chatbots?

There are various healthcare websites which a user can visit to get the proper healthcare attention he/she requires but this Healthcare chatbot is developed using Machine Learning and Natural language processing. Other chatbots require user to enter the exact name of the symptom that the user is facing i.e. if the user is facing ”yellow crust ooze ” the user has to enter it the same way i.e. yellow crust ooze, he/she cannot enter that “my nose in having yellow crusty part inside”. This is one of the key goal’s in developing this chatbot i.e. simplicity because we understand that not all people know that what they are facing is called what. User describing their problems in simpler words and letting the system understand their problem is the key distinctive feature objective of this chatbot. The development of this chatbot was done with one thing in mind i.e. “The simple the better”.

## WORKING AND SECURITY MEASURES

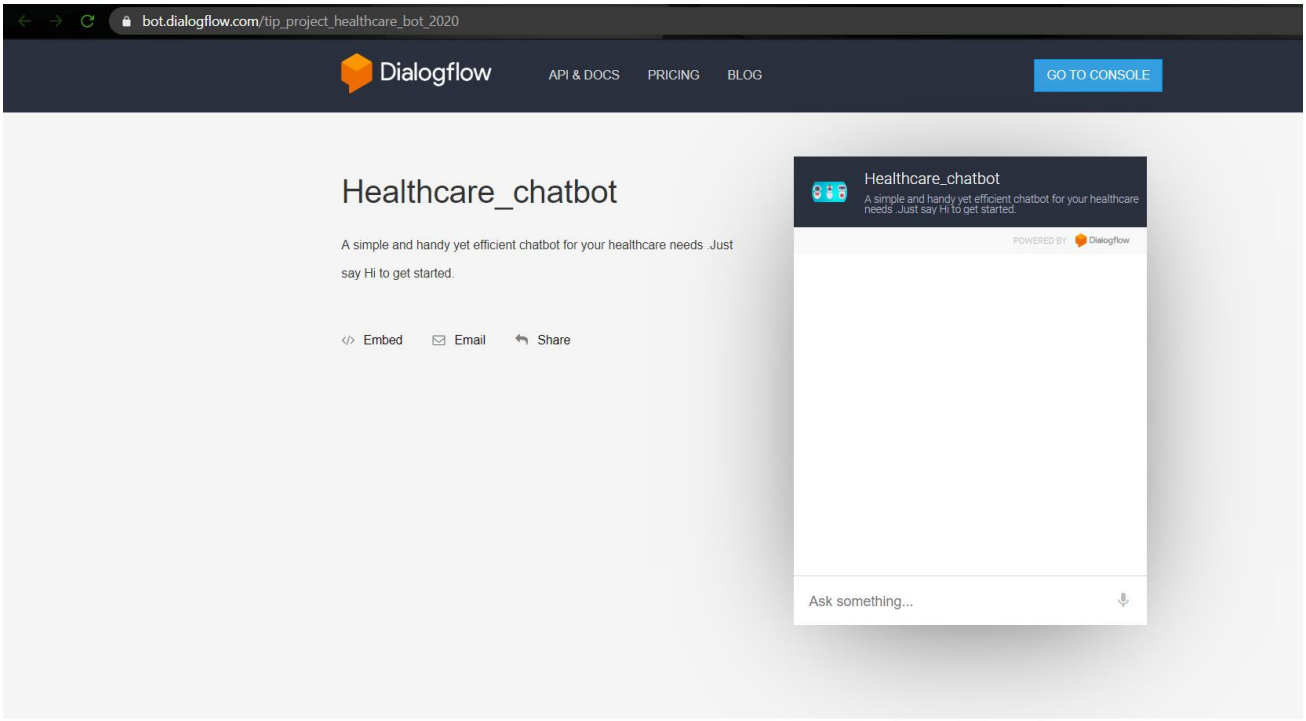
- The user will have to start by entering the name.
- The next step is user entering his/her contact number.

- In the next step the user enters his/her email id which will be later used to get in touch with the user. This marks the completion of the registering process. All the user details are then saved to the Firebase which is cloud database.
- Then the user is asked that if he/she wants the health diagnosis to be done.
- If the user enters/clicks no, the conversation is ended and the email is sent by the system to the entered email id of the user. All the algorithms are stored on cloud datastore.
- If the user enters/clicks yes, the user is asked to enter which symptoms is concerning him/her the most and if the user is not sure with the name of the symptom he/she can describe the problem is his/her own words. if the spelling of the symptom is incorrect the system uses the fuzzy matching feature to understand the word. When the user is done entering the symptom or describing the problem, the chatbot picks up the symptoms and use passes it to the cloud where Machine Learning model which is trained by the data of 7000 different cases of person, gets the disease recognized. If the disease cannot be recognized by just one or two symptom, the chatbot asks the follow-up questions which are yes or no questions. The disease is then identified soon. And this marks the end of the conversation.

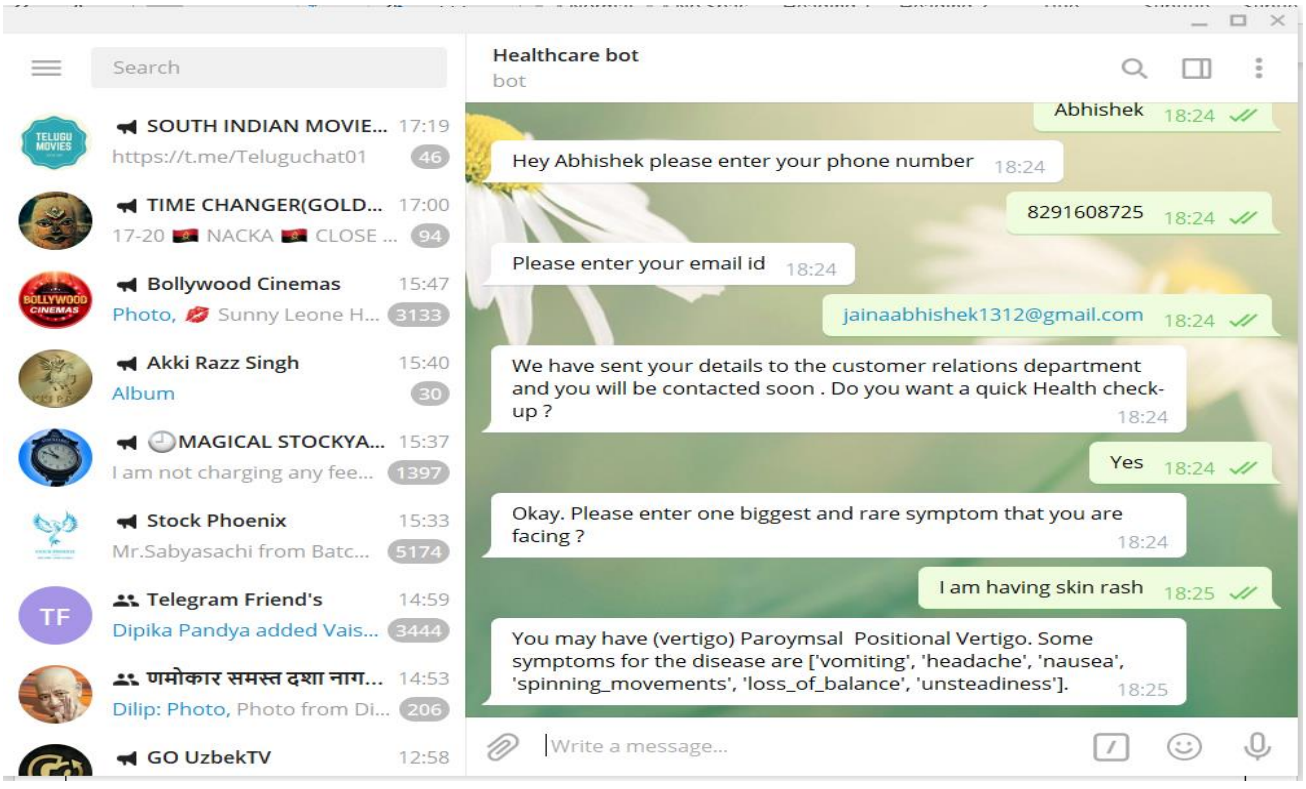
## LAYOUT

The chatbot is deployed on 2 platforms currently :-

1. Online link using Dialogflow web which can be accessed using the link provided https://bot.dialogflow.com/tip_project_healthcare_bot_2020




2. Telegram by searching “ProjectHealthcarebot”



## CONCLUSION

The key of this chatbot is to ensure that majority of population can access and therefore benefit from this technological disruption. If India is successful in doing so, there is an opportunity to benefit from the positive changes that technology will bring to healthcare. Artificial intelligence has a range of applications across the healthcare sector. By performing descriptive, predictive and prescriptive functions, AI in healthcare in India is currently augmenting Human capacity rather than to replacing human labour Altogether and this chatbot is one example of it.