

PROFESSIONAL TRAINING REPORT

at

Sathyabama Institute of Science and Technology

(Deemed to be University)

Submitted in partial fulfillment of the requirements for the award of

Bachelor of Technology Degree in

Information Technology

By

R.N.Akash

(Reg. No.37120004)



DEPARTMENT OF INFORMATION TECHNOLOGY

SCHOOL OF COMPUTING

SATHYABAMA INSTITUTE OF SCIENCE AND TECHNOLOGY

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JANUARY 2020



SATHYABAMA INSTITUTE OF SCIENCE AND TECHNOLOGY

(Established under Section 3 of UGC Act, 1956)



SCHOOL OF COMPUTING

BONAFIDE CERTIFICATE

This is to certify that this Professional Training Report is the bonafide work of R.N.Akash (Reg. No. 37120004) who underwent the professional training in “Healthcare Chatbot” under our supervision from May 2020 to June 2020.

Internal Guide

DR. SENDURU SRINIVASULU

Head of the Department

DR.R.SUBHASHINI M.E.,Ph.D

Submitted for Viva voce Examination held on _____

Internal Examiner

External Examiner

DECLARATION

I, R.N.AKASH, hereby declare that the project report entitled "Healthcare Chatbot" done by me under the guidance of Dr.Senduru Srinivasulu is submitted in partial fulfillment of the requirements for the award of Bachelor of Technology degree in Information Technology

DATE:

PLACE:

SIGNATURE OF THE CANDIDATE

ACKNOWLEDGEMENT

I am pleased to acknowledge my sincere thanks to **Board of Management of SATHYABAMA INSTITUTE OF SCIENCE AND TECHNOLOGY** for their kind encouragement in doing this project and for completing it successfully. I am grateful to them.

I convey my thanks to **Dr. T.Sasikala M.E., Ph.D, Dean, School of Computing , Dr.SUBHASHINI M.E., Ph.D. ,** Head of the Department of Information and Technology for providing me necessary support and details at the right time during the progressive reviews.

I would like to express my sincere and deep sense of gratitude to my Project Guide Dr.Senduru Srinivasulu.,for his valuable guidance, suggestions and constant encouragement paved way for the successful completion of my project work.

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ABSTRACT

Healthcare Chatbot

Normally users are not aware about all the treatment or symptoms regarding particular disease. For small problem user has to go personally to the hospital for check-up which is time consuming activity. Also handling the telephonic calls for the complaints from user is quite hectic for the hospitals. These problems can be solved by using Healthcare Chatbot at the comfort of users in their home. The medical chat-bots functioning depends on Natural language processing that helps users to submit their problem about their health. The user can ask any personal query related to health care through the Health chatbot without physically available to the hospital. The chatbot can answer the users queries, keep them better informed and guide them properly for further .This way the Healthcare chatbot application saves users valuable time & avoids long queues in hospitals.

Project Guide: Dr.Senduru Srinivasulu



PERFICIENT
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TO WHOMSOEVER IT MAY CONCERN

This is to certify that Akash Nandagopal has successfully completed his Internship with Perficient India Pvt, Ltd, in Web application using MongoDB, Express, Angular, Node JS and Agile SCRUM Principles from December 11, 2019 to January 06, 2020.

During the training his conduct was GOOD.

We wish him good luck in his future endeavors.

For Perficient India Pvt Ltd

Parvez Fakir Maideen
Director

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Certificate of Completion

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Zaid Sabih *z Security*
Zaid Sabih, Instructor z Security, Instructor

&



Certificate no: UC-413c405f-eae3-4a74-8eec-74de59e78c08
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#BeAble

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Chapter – 1

Introduction

1.1 General Overview

In the medical context, AI-powered chatbots can be used to triage patients and guide them to receive the appropriate help. Chatbots are considered a more reliable and accurate alternative to online searches patients carry out when they're trying to understand the cause of their symptoms.

Healthcare providers believe that chatbots might help patients who aren't sure where they should go to receive care. Many people don't know when their conditions require a visit to the ER and when it's enough to contact their doctors via telemedicine.

At the end of the day, regular people aren't trained medically to understand the severity of their diseases. That's where chatbots can help. They collect basic information from patients, and then, based on the input, they provide patients with more information about their conditions and suggest the next steps.

1.2 Outline of the Project

Now a day's chatbots can be seen in every industry to guide the user as per their need. They are found in IRCTC with name of Dishachatbot, in banks and also in different online travel companies like MakeMyTrip. As we are moving toward the digitalization there demand in the market is keep on increasing day by day all the time.

The increasing population of the India and availability of the less doctors to serve the need of the increasing population is the major cause behind the need of the medical chatbot in the medical industry.

Even sometime doctors can make mistake while making decision regarding the cause of symptoms in patient thus risking the life of patient. For example, during the decade of 90's Mohammed Benaziza who was also known by the name of the 'Giant killer' was one of the dominating bodybuilder in the bodybuilding industry. He has died because of Hypokalemia (means high potassium level) in his body. Because of this excess potassium level, he was getting the cramps on the body.

The doctors were unable to understand what exactly is happening and they were came on conclusion that Mohammed is potassium deficient which creating the cramps on the body. Thus doctors have injected more potassium in his body result in spreading of the cramp toward his heart and ultimate death.

There is even lot more cases where even doctors can have made mistake. Thus to avoid such scenario there is the need of medical chatbot who can guide the doctors about what to do in such critical cases.

Its application is not only limited till the doctors but they can also be utilized by the normal human being as in the case of emergency where It can guide the user about the primary treatments which should be taken by the person under treatment. Along with that if person is suffering with a certain disease then by simply giving the answer of few of the questions asked by chatbot, it can judge the kind of disease a person is suffering with. After this if a person wants to know about the precautions and the remedies that he/she should take then chatbot can also give the information regarding it.

Chapter – 2

AIM AND SCOPE OF THE PRESENT INVESTIGATION

2.1 AIM AND SCOPE

Now a day's chatbots can be seen in every industry to guide the user as per their need. They are found in IRCTC with name of Dishachatbot, in banks and also in different online travel companies like MakeMyTrip. As we are moving toward the digitalization there demand in the market is keep on increasing day by day all the time.

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2.2 PROBLEM STATEMENT

Normally users are not aware about all the treatment or symptoms regarding particular disease. For small problem user has to go personally to the hospital for check-up which is time consuming activity. Also handling the telephonic calls for the complaints from user is quite hectic for the hospitals. These problems can be solved by using Healthcare Chatbot at the comfort of users in their home. The medical chat-bots functioning depends on Natural language processing that helps users to submit their problem about their health. The user can ask any personal query related to health care through the Health chatbot without physically available to the hospital. The chatbot can answer the users queries, keep them better informed and guide them properly for further. This way the Healthcare chatbot application saves users valuable time & avoids long queues in hospitals.

2.3 OBJECTIVE

This healthcare chatbot system will help hospitals to provide healthcare support online 24 x 7, it answers deep as well as general questions. It also helps to generate leads and automatically delivers the information of leads to sales. By asking the questions in series it helps patients by guiding what exactly he/she is looking for.

Chapter – 3

MATERIALS AND METHODS USED

3.1 OVERVIEW

Healthcare providers believe that chatbots might help patients who aren't sure where they should go to receive care. Many people don't know when their conditions require a visit to the ER and when it's enough to contact their doctors via telemedicine.

At the end of the day, regular people aren't trained medically to understand the severity of their diseases. That's where chatbots can help. They collect basic information from patients, and then, based on the input, they provide patients with more information about their conditions and suggest the next steps.

3.2 TECHNOLOGY USED

python 3.6

Flask==0.11

chatterbot==0.8.4

SQLAlchemy==1.1.11

3.3 HOW IT WORKS

An untrained instance of ChatterBot starts off with no knowledge of how to communicate. Each time a user enters a statement, the library saves the text that they entered and the text that the statement was in response to. As ChatterBot receives more input the number of responses that it can reply and the accuracy of each response in relation to the input statement increase. The program selects the closest matching response by searching for the closest matching known statement that matches the input, it then returns the most likely

response to that statement based on how frequently each response is issued by the people the bot communicates with.

3.4 PACKAGES USED

ChatterBot:

ChatterBot is a Python library that makes it easy to generate automated responses to a user's input. ChatterBot uses a selection of machine learning algorithms to produce different types of responses. This makes it easy for developers to create chat bots and automate conversations with users.

OS

The OS module in python provides functions for interacting with the operating system. OS, comes under Python's standard utility modules. This module provides a portable way of using operating system dependent functionality. The `*os*` and `*os.path*` modules include many functions to interact with the file system.

Flask

Flask is a popular Python web framework, meaning it is a third-party Python library used for developing web applications.

SQLAlchemy

SQLAlchemy is the Python SQL toolkit and Object Relational Mapper that gives application developers the full power and flexibility of SQL.

It provides a full suite of well known enterprise-level persistence patterns, designed for efficient and high-performing database access, adapted into a simple and Pythonic domain language.

Chapter-4

PERFORMANCE ANALYSIS AND RESULT

4.1 Performance Analysis:

An untrained instance of ChatterBot starts off with no knowledge of how to communicate. Each time a user enters a statement, the library saves the text that they entered and the text that the statement was in response to. As ChatterBot receives more input the number of responses that it can reply and the accuracy of each response in relation to the input statement increase. The program selects the closest matching response by searching for the closest matching known statement that matches the input, it then returns the most likely response to that statement based on how frequently each response is issued by the people the bot communicates with.

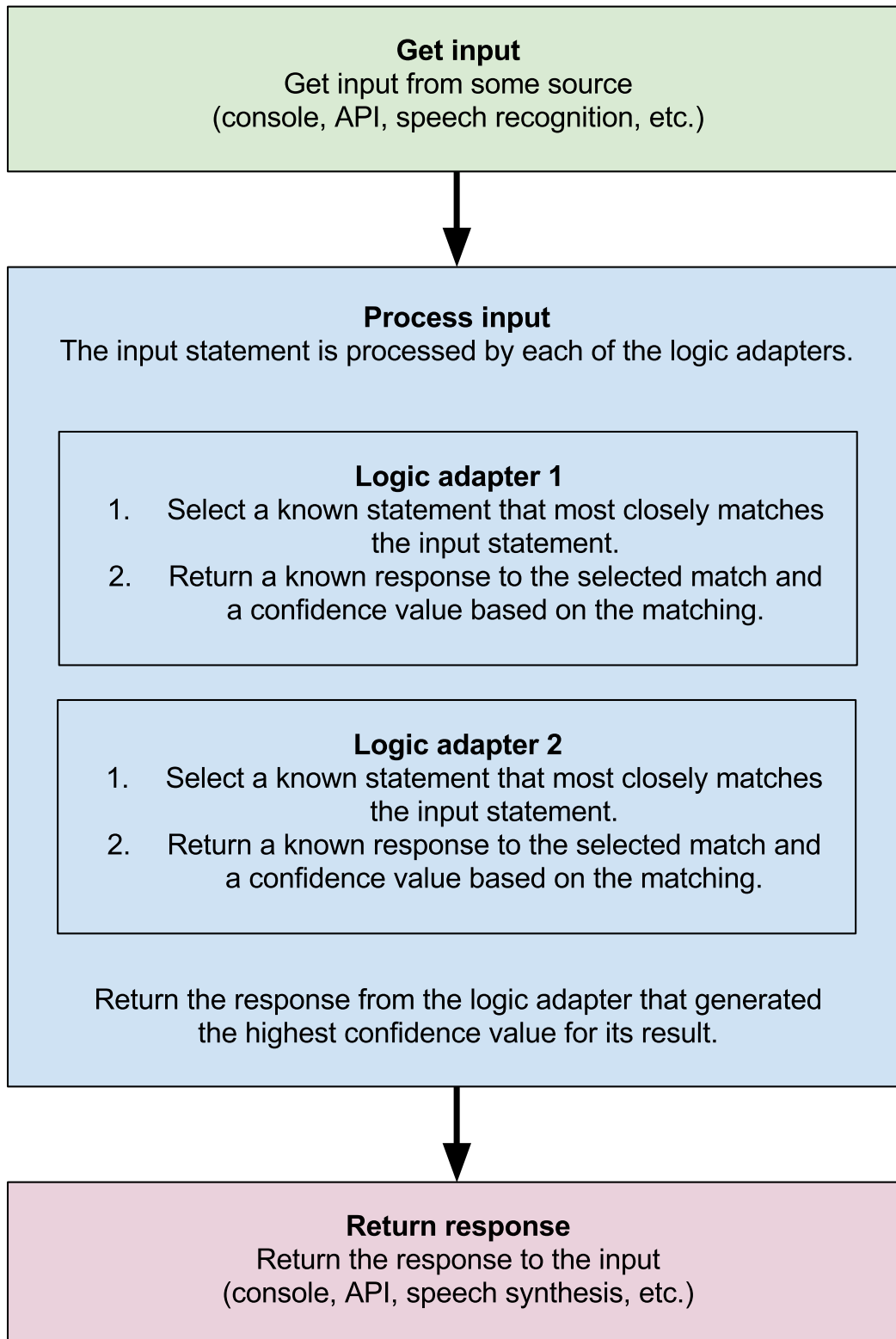
4.2 Hardware and Software Requirements:

- Modern Operating System:
 - Windows 7 or 10
 - Mac OS X 10.11 or higher, 64-bit
 - Linux: RHEL 6/7, 64-bit
- x86 64-bit CPU (Intel / AMD architecture)
- 4 GB RAM
- 5 GB free disk space

4.3 Result:

This healthcare chatbot system will help hospitals to provide healthcare support online 24 x 7, it answers deep as well as general questions. It also helps to generate leads and automatically delivers the information of leads to sales. By asking the questions in series it helps patients by guiding what exactly he/she is looking for. Healthcare providers believe that chatbots might help patients who aren't sure

where they should go to receive care. Many people don't know when their conditions require a visit to the ER and when it's enough to contact their doctors via telemedicine. In the medical context, AI-powered chatbots can be used to triage patients and guide them to receive the appropriate help. Chatbots are considered a more reliable and accurate alternative to online searches patients carry out when they're trying to understand the cause of their symptoms.



Chapter-5

CONCLUSION AND SUMMARY

5.1 CONCLUSION:

Our Medical Chatbot will have a great impact on the life of its users. It would provide them the advantage of carrying a virtual Doctor in their pockets. It would also give them the freedom to consult a doctor 24/7 and also can get a real doctor's advice if needed. This can be a most popular tool for people with busy schedule as they won't have to hamper their schedule to consult a doctor for minor health queries.

5.2 SUMMARY:

In the medical context, AI-powered chatbots can be used to triage patients and guide them to receive the appropriate help. Chatbots are considered a more reliable and accurate alternative to online searches patients carry out when they're trying to understand the cause of their symptoms.

Healthcare providers believe that chatbots might help patients who aren't sure where they should go to receive care. Many people don't know when their conditions require a visit to the ER and when it's enough to contact their doctors via telemedicine.