

Virtual Assistant based on IoT

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Abstract

With the demand of automation into today's world, all the fields are moving towards the automation and that brings the invention of AI (artificial intelligence). The demand of automation has actually reduced the human efforts. The discovery is to perform all the basic human stuffs automatically just on the command of the person. The assistant chatbot is built in the python language and also does include the use of C language in some functionality of the chatbots. The chatbot will let user to search the stuffs that they generally surf on the web like distance of places, search for a celebrity or any person and also will allow to control the home appliances. Likewise, will reduce the human time and will be proved to be the best and the efficient way for use.

Keywords: Chatbot, home control, assistant, home automation

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INTRODUCTION

Nowadays, people are more engaged in their work and need the technology that could help them into their work in any of the manner. Their main aim is to save time; and keeping these in mind, the idea of creating a chatbot was created. There are lot of chatbots available throughout the world, all with the different functionalities depending on the demand and the need of the person, for e.g., the software company will need to develop their chatbot to give assistance to their users for the functionality of the software, likewise, Siri in Apple, and Google Assistant in android phones have different assistant contents according to their requirements and the functionalities. So, the reason we have different contents and that is in concern to any individual person, those who wish to do basic operations like searching, calculating, Gmail notification, face recognition, home controlling with few or more appliances, can make the better use of our built chatbot and make their task easier.

Chatbots are something where the person types something of their interest and that must be related to the bot on which it is made of. The user can get the response in any manner, it can be any task or the instruction for the system to perform and get the desired results.

EXISTING SYSTEM

There may be the number of chatbots available as discussed into the introduction part that several chatbots are available for different tasks. The problem with the present chatbot is its limited functionality. Everything has some pros and cons and hence these chatbots also have. The functionality that we provide is not available in other chatbots; or it may be available in indirect manner that we provide.

If the functionality that we provide is available in others, then also it is available into different chatbots. We have actually merged the contents of the two or more chatbots and have made it whole available at once.

PROPOSED SYSTEM

Our virtual assistant is an AI system which controls our home and performs basic tasks, such as turning the lights off or on, controlling a particular room's temperature, playing music, daily news, and so on. The home AI uses natural language processing and speech recognition to understand the user's voice, and the context of the command in order to perform the tasks it is asked to do. It also has facial recognition capabilities and so on. (Figure 1).

Problem with the Current System

- Limited functionality,

- Cannot be able to use web application,
- Requires manual efforts, and
- Strictly based on single language.

Objective of Our System

- To create personal assistant for user,
- To reduce human effort,
- To provide global information at one place for the user, and
- To provide home automation.

System Requirements

Software Requirements

Application Browser: Chrome, UC, IE, etc.

Operating System: Windows, Mac, Linux.

Hardware Requirements

Processor: Any

Minimum memory: 1 GB

Memory required: 8 GB

Diagrams

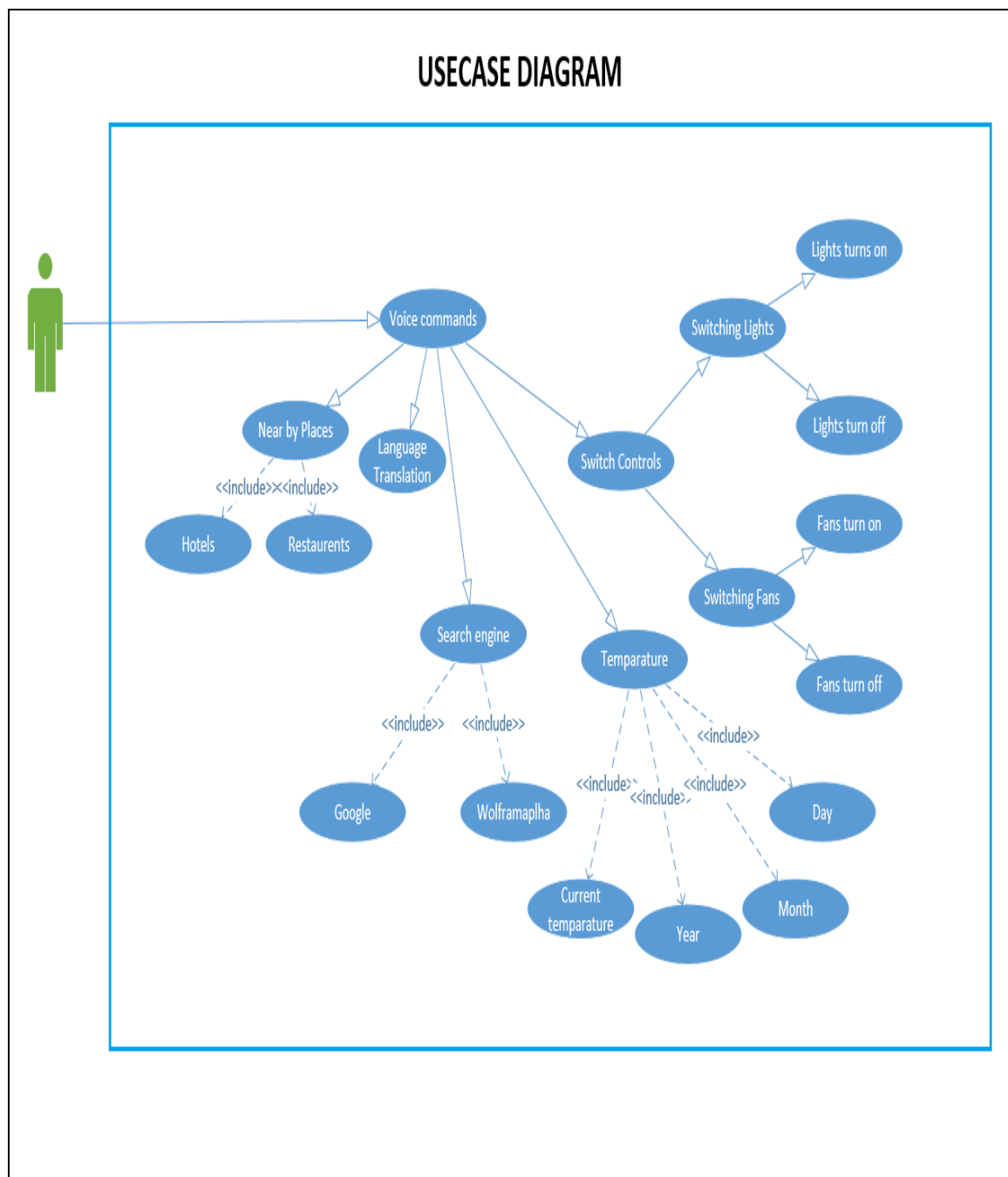


Fig. 1: UML Diagram.

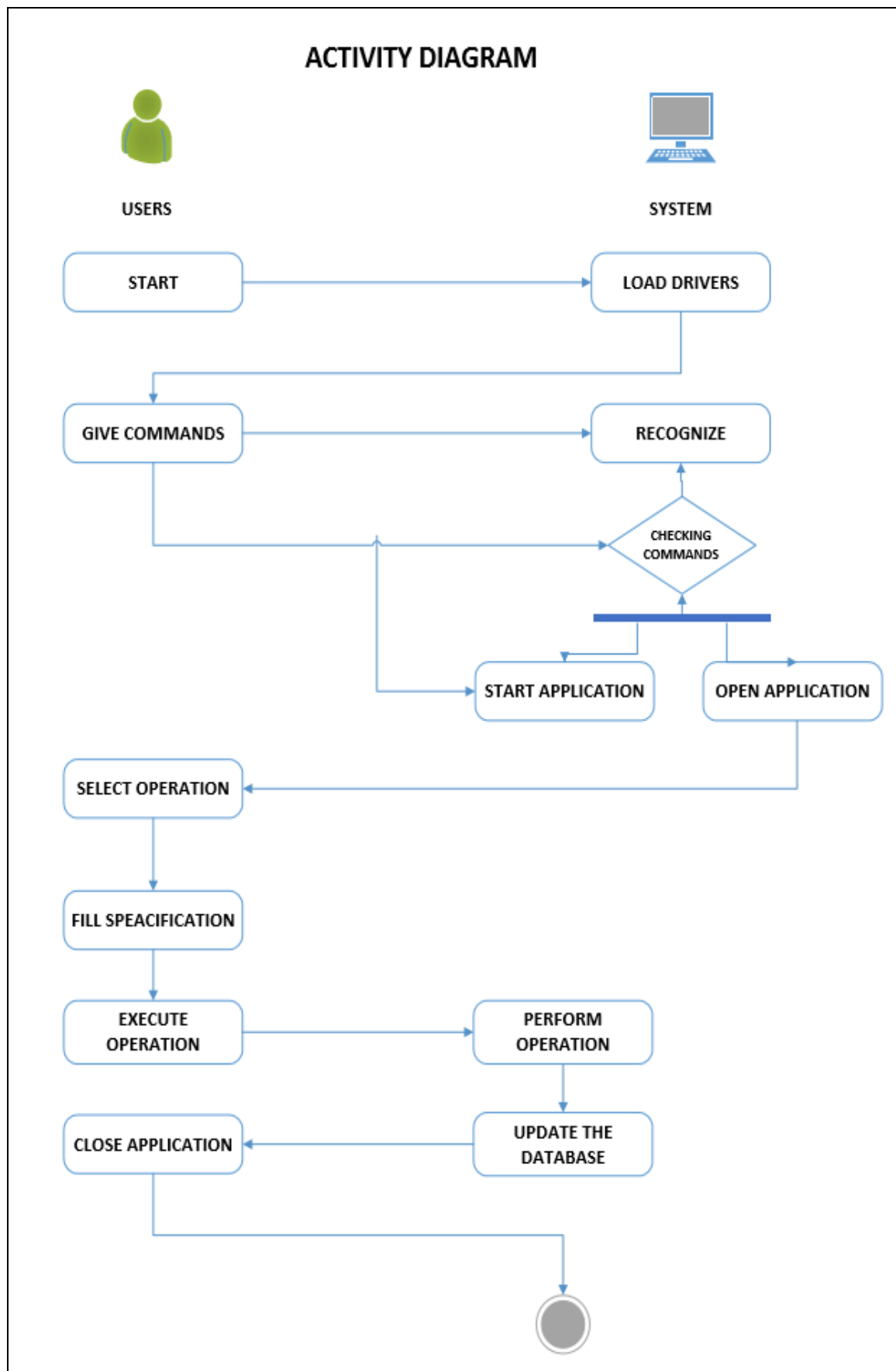


Fig. 2: Activity Diagram.

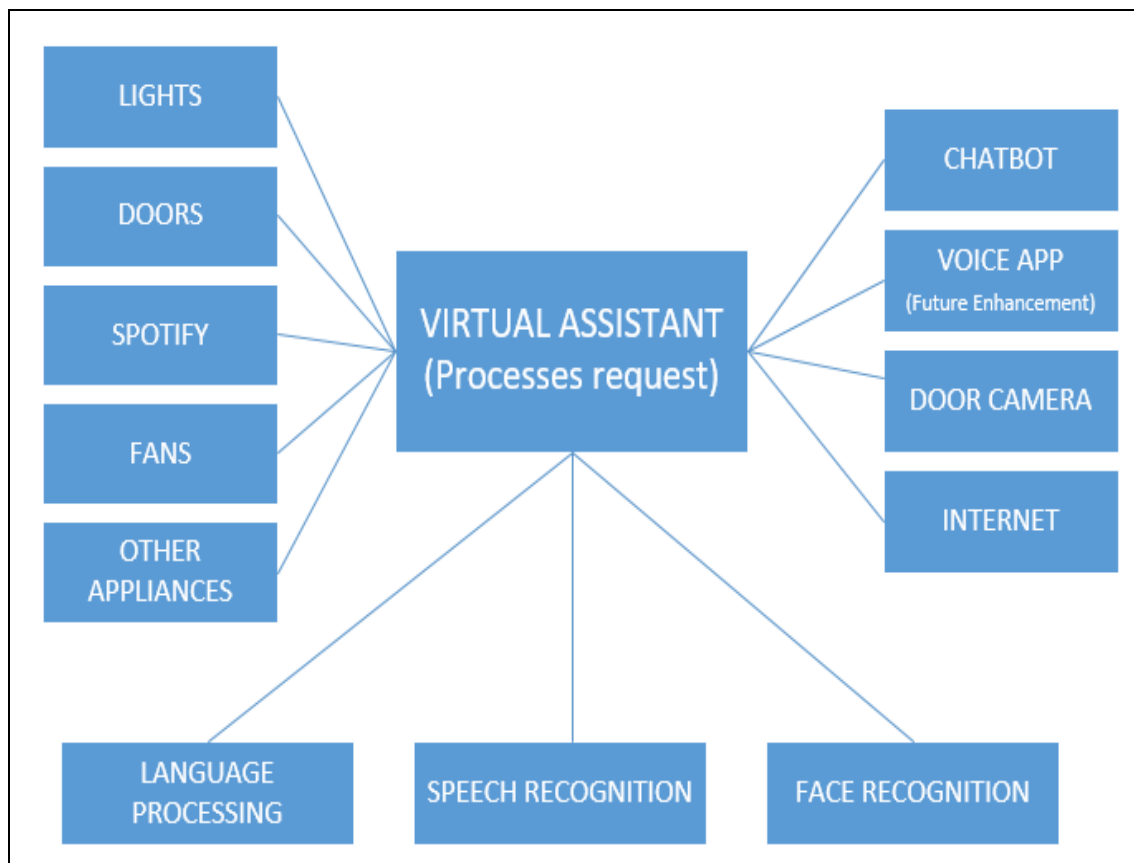


Fig. 3: Control Flow Diagram.

FEASIBILITY STUDY

Technical Feasibility

It happens that after a framework is readied another innovation emerges and the client needs the framework in light of that innovation. In this way it is essential to check the framework to be in fact plausible.

Here the framework is Global Info Source at Cell; it needs enormous capacity for word reference of address, sites, support, application, client profile and so forth. Additionally, it requires rapid internet association for easy to understand application yield.

Economic Feasibility

Monetary possibility takes a gander at the budgetary parts of the undertaking. Monetary plausibility worries with the profits from the interests in venture.

In this framework we are utilizing plans to secure the fundamental equipment and programming required for the framework and

their need of equipment to buy. A concise portrayal of the equipment and programming required in the framework is given above in the report. As this framework is likewise giving administrations specifically associated web, the application and also the home apparatuses controlling.

As per this application is extremely valuable for general individuals.

Implementation Feasibility

The implementation possibility manages the examination whether the administration, which is being created will keep running on the earth accessible with us.

This administration can keep running in any condition with one limitation that there is web association for the application to be seen and gotten to.

After every one of the tests we can ready to give conclusion that as far as administration prefer access to all, speed in handling, information administration and security.

SCREENSHOTS

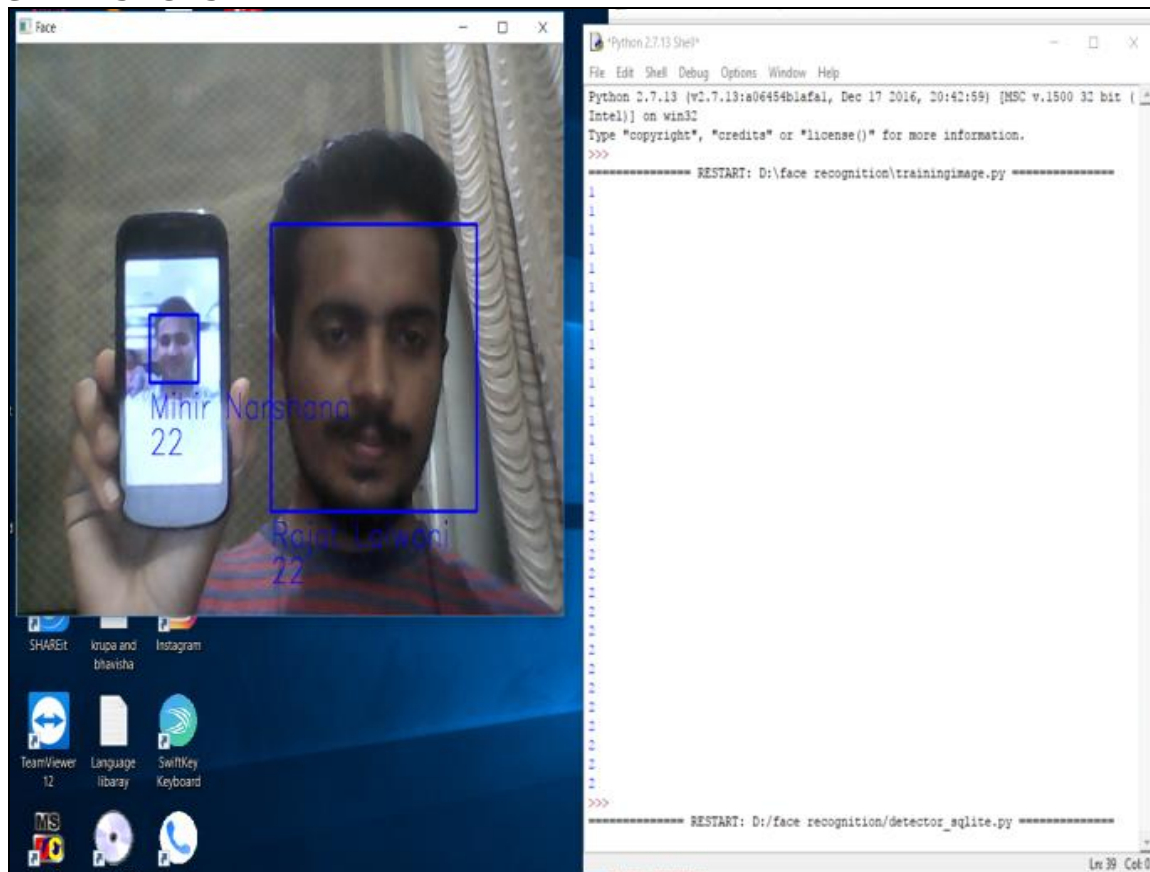


Fig. 4: Face Recognition.

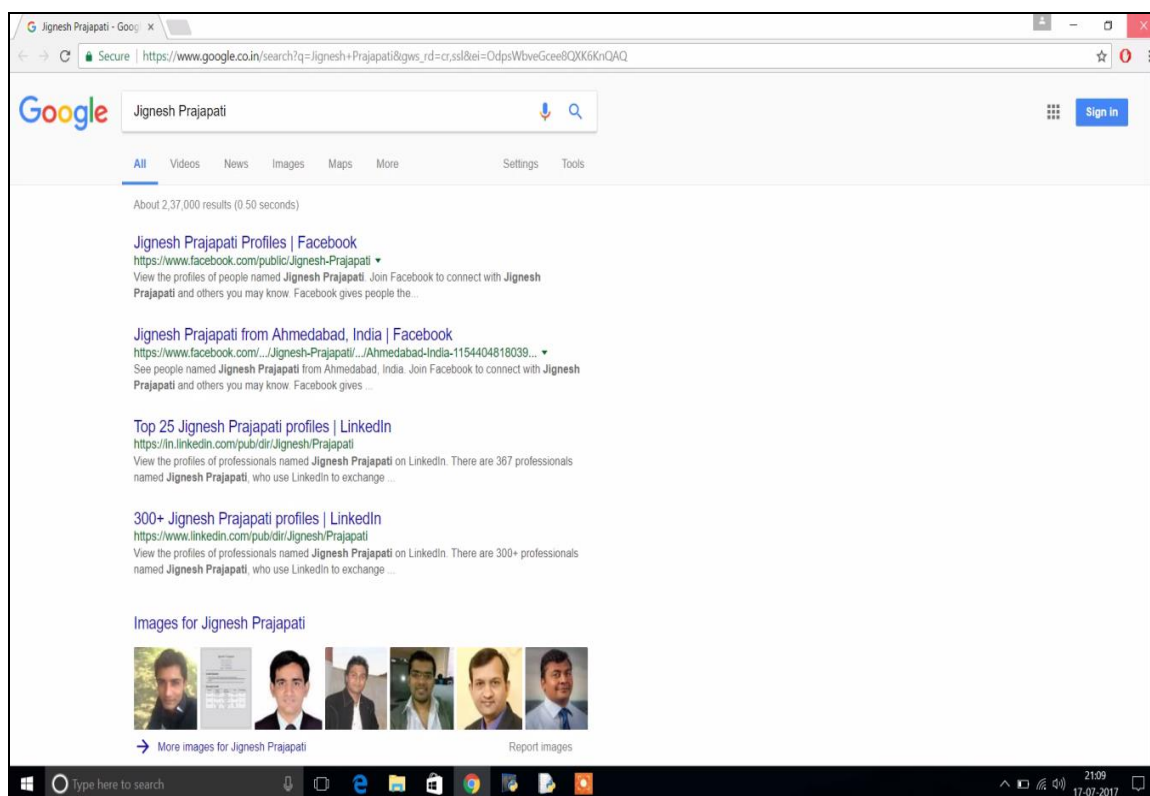


Fig. 5: Search for Person.

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Python 2.7.13 Shell
File Edit Shell Debug Options Window Help
Python 2.7.13 (v2.7.13:a06454blafal, Dec 17 2016, 20:42:59) [MSC v.1500 32 bit (Intel)] on win32
Type "copyright", "credits" or "license()" for more information.
>>>
RESTART: D:\final year project\project file\main file\artificial intelligence sts_initial_main_edit.py
For a list of commands, please say: 'keyword list'...
You said: keyword list

Say search for to return a Google search
Say academic search to return a Google Scholar search
Say deep search to return a Wolfram Alpha query
Say tell me about to return a Wikipedia page
Say read this text to read the text you have highlighted and Ctrl+C (copied to clipboard)
Say save this text to save the text you have highlighted and Ctrl+C-ed (copied to clipboard) to a file
Say bookmark this page to bookmark the page your are currently reading in your browser
Say video for to return video results for your query
For more general questions, ask them naturally and I will do my best to find a good answer
Say stop listening to shut down
Say today's date and time to display date and time
Say today's news to display todays news
Say play some song to play some songs

You said: search for Jignesh Prajapati
Google Results for: Jignesh Prajapati
For a list of commands, say: 'keyword list'...
For a list of commands, say: 'keyword list'...
For a list of commands, say: 'keyword list'...
You said: tell me about Narendra Modi
You said: who is the president of India

The answer is: Pranab Mukherjee (from 25/07/2012 to present)

For a list of commands, say: 'keyword list'...
You said: weather in Delhi
You said: what is the distance between Vadodara and Delhi
The answer is: 812.6 km (kilometers)

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Fig. 6: Calculate Distance.

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Python 2.7.13 Shell
File Edit Shell Debug Options Window Help
Python 2.7.13 (v2.7.13:a06454blafal, Dec 17 2016, 20:42:59) [MSC v.1500 32 bit (Intel)] on win32
Type "copyright", "credits" or "license()" for more information.
>>>
RESTART: D:\final year project\project file\main file\artificial intelligence sts_initial_main_edit.py
For a list of commands, please say: 'keyword list'...
You said: Evil Dead
You said: keyword list

Say search for to return a Google search
Say academic search to return a Google Scholar search
Say deep search to return a Wolfram Alpha query
Say tell me about to return a Wikipedia page
Say read this text to read the text you have highlighted and Ctrl+C (copied to clipboard)
Say save this text to save the text you have highlighted and Ctrl+C-ed (copied to clipboard) to a file
Say bookmark this page to bookmark the page your are currently reading in your browser
Say video for to return video results for your query
For more general questions, ask them naturally and I will do my best to find a good answer
Say stop listening to shut down
Say today's date and time to display date and time
Say today's news to display todays news
Say play some song to play some songs

You said: today's date and time
'todays date is'2017-07-17'and the time is'21:34
You said: value of Rupee against Dollar
64.345
You said: weather in Vadodara
{'u'speed': 3.66, u'deg': 238.501}
92
95
{'press': 1004.12, 'sea_level': 1014.57}
Rain

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Fig. 7: Weather Forecast.

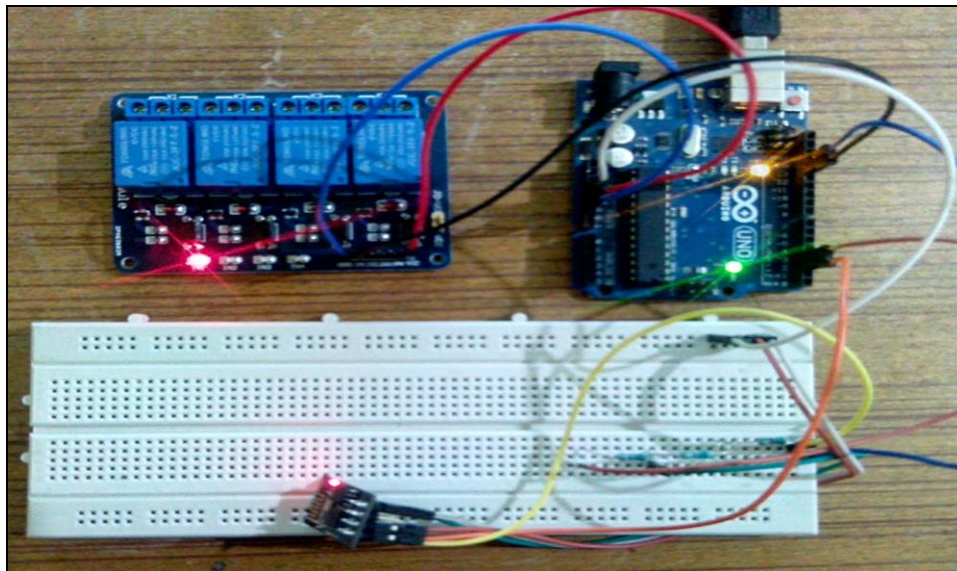


Fig. 8: Home Controlling.

FUTURE ENHANCEMENTS

We have implemented and tested *the proposed system* with the limited functionality, so, further many more functionalities can be added. There is no limit to add more functions and operations. The things that should be kept in mind while adding functions is *that* it should be compatible with the hardware.

CONCLUSIONS

Finally with our chatbot, any individual person could easily use it but should have a good internet speed. Person could perform their regular net surfing so easily and in efficient manner without much effort. Also the system or the chatbot could be connected with more home appliances so that it is scalable and can easily be configured if needed by making few changes into the code.

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