

Web Hosting Issues Resolver Chatbot Using Node.js

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Abstract

Chabot stands for chat robot, a type of computer program that communicates, conversationally respond to human. The program usually runs on the server and then talks to us. The responds from machine may be using text or voice through various channels such as web sites, applications or chat programs. Chatbot programs are often designed to talk to people or talk to chatbot together. In general, these chatbot are used for answering questions in many businesses, providing customer information, providing train schedules, helping customer reservations, virtual assistants serve as call centers to serve ten million customers automatically.

The paper deals with the development of the chatbot for Web hosting Service provider. A user can ask multiple queries regarding any Web Hosting, Domains, Web Security and Website Marketing etc. Chatbot interacts with the user by answering all the queries. To deploy this chatbot we are using Node.js. The paper focuses on eliminating the issue of the Tensorflow.js compatibility with the Node.js in the existing chatbot. As Tensorflow.js can run on a normal browser but it cannot run on Node.js.

Keywords-Node.js; Tensorflow.js; Chatbot; Web Hosting;

I. INTRODUCTION

Web hosting is a service that allows organizations and individuals to post a website or web page onto the Internet. A web host, or web hosting service provider, is a business that provides the technologies and services needed for the website or webpage to be viewed on the Internet. Websites are hosted, or stored, on special computers called servers. When Internet users want to view your website, all they need to do is type your website address or domain into their browser. Their computer will then connect to your server and your web pages will be delivered to them through the browser. A web host, or web hosting service provider, is a business that provides the technologies and services needed for the website or webpage to be viewed on the Internet. Websites are hosted, or stored, on special computers called servers. If you do not have a domain, the hosting companies will help you purchase one.

A Chabot sometimes referred to as a chatterbot is programming that simulates the conversation or "chatter" of a human being through text or voice interactions. Chatbot virtual assistants are increasingly being used to handle simple, look-up tasks in both business-to-consumer (B2C) and business-to-business (B2B) environments. The addition of chatbot assistants not only reduces overhead costs by making better use of support staff time, it also allows companies to provide a level of customer service during hours

when live agents aren't available. Chatbot is a type of computer program that communicates; conversationally respond to human. Chatbot is used for answering questions, providing customer information, providing train schedules, helping customer reservations, virtual assistants; serve as call centers to serve ten million customers automatically. The chatbot is time savings and efficiency derived from AI chatbot conversing and answering reoccurring questions is attractive to companies looking to increase sales or service productivity. Chatbot is a virtual assistant programmed to automatically answer user requests. Chatbot can also be used in service departments, assisting service agents in answering repetitive requests.

The paper deals with the development of the chatbot for Web hosting service provider. A user can ask multiple queries regarding any Web Hosting, Domains, Web Security and Website Marketing, etc. Chatbot interacts with the user by answering all the queries. The project focuses on eliminating the issue of the tensorflow.js compatibility with the Node.js in the existing chatbot as tensorflow.js can run on a normal browser but it cannot run on Node.js.

A. Motivation

It is very time consuming and hectic to go on different sites and seek facilities like Web Hosting, Domains, Web Security and Website Marketing, etc. On the other hand, on chatbot, it's very much interesting and easy where you just have to type a text message and specify your requirements. The problem encountered in this system is to execute some libraries that are still unstable such as TensorFlow.js can run on a normal browser but cannot run with Node.js. So we are looking ahead for an optimal solution over this problem.

II. LITERATURE SURVEY

In [1] this research presents a method for developing a chatbot to serve their users. In general, these chatbots are used for answering questions in many businesses. The purpose of chatbots is to support and scale business teams in their relations with customers.

Andrew Kwok-Fai Lui et al [2] has developed a chatbot for selection of elective course selection often challenges students to make decisions concerning their academic interests and other practical issues such as graduation plan, class scheduling, and difficulty of course content. Conversations with academic advisors and peers are usually considered as a useful process for obtaining official and informal information, rearranging priorities, and making compromises in the decision. The paper describes the design and development of a conversational agent called EASElective for elective course selection. The paper also describes a study on the perceived usefulness of EASElective. The findings were found to be largely positive and EASElective has unique functions and characteristics when compared to other conventional academic advising services.

In [3] author presents a developing chatbot for College Student Programming Advisement Academic advising, in particular, course selection advising, has become an important component of student support. This chatbot is capable of giving precise responses to users asking for official course information and

student opinions. There are several limitations to the study.

James Pembridge et al [4] developed a pilot study integrating an AI-driven chatbot in an Introductory Programming Course. As AI software tools become more commonplace, their potential to transform the student experience has greatly increased. And the potential benefits for students are significant. This model allowed the chatbot to evolve with the needs of the students. For this research, the team sought to develop an intelligent chatbot interface for an introductory computer programming course. The interface had an initially limited knowledge base with the intent that it would be populated based on student's interactions with the chatbot. This model allowed the chatbot to evolve with the needs of the students. This paper seeks to present the methodology for how the chatbot was developed and integrated into the course, how the knowledge base was developed and the usage during the pilot, and the next steps for improving the chatbot interface. Additionally, the paper will discuss the mechanisms added to handle issues such as false-positive responses and how faculty may be able to integrate such tools into their courses as supplementary assistance.

In [5] this paper presents a survey on existing chatbots and techniques applied to it. It discusses the similarities, differences, and limitations of the existing chatbot. This paper also presented why a current chatbot model fails to take into account when generating responses and how this affects the quality of conversation.

In [6] this paper author aims to reduce the burden on the head of admissions, and potentially other users, by developing a convincing chatbot. A suitable algorithm must be devised to search through the set of data and find a potential answer. The program then replies to the user and provides a relevant weblink if the user is not satisfied with the answer. Furthermore, a web interface is provided for both users and an administrator.

The [7] author presents a novel response generation system that can be trained end to end on large quantities of unstructured Twitter conversations. A neural network architecture is used to address sparsity issues that arise when integrating contextual information into classic statistical models, allowing the system to take into account previous dialog utterances.

In [8] this paper the author shows that a simple language model based on this q2seqframework can be used to train a conversational engine. Our modest results show that it can generate simple and basic conversations, and extract knowledge from a noisy but open-domain dataset.

The [9] author present a Chatbot can be described as software that can chat with people using artificial intelligence. This software is used to perform tasks such as quickly responding to users, informing them, helping to purchase products and providing better service to customers. The author presents the general working principle and the basic concepts of artificial intelligence-based chatbot and related concepts as well as their applications in various sectors such as telecommunication, banking, health, customer call centers, and e-commerce. Additionally, the results of an example chatbot for donation services developed for telecommunication service providers are presented using the proposed architecture.

In [10] this paper the author focuses on how to verify the communication capabilities provided by the

chatbot. In particular, introduce an automated approach for generating communication sequences and carrying them out. The approach is based on AI planning where each action can be assumed to be a certain question that is given to the chatbot. The answer of the chatbot should make the action post-condition true, to proceed with the plan. In cases of deviations between the actual chatbot behavior and the expected one, re-planning is required.

The above survey shows the literature review for our system, from this review we are getting the idea for our project. For developing a chatbot different techniques are used such as deep learning, neural network, Node.js, etc. Some paper has limitations why current chatbot models fail to take into account when generating responses and how this affects the quality of conversation and also some chatbot gives limited information and the issue of the Tensorflow.js compatibility with the Node.js in the existing chatbot. To develop the chatbot to overcome this issue. Chatbot programs are often designed to talk to people or talk to chatbots together. Some programs respond and provide basic information.

III. PROPOSED SYSTEM

A. METHODOLOGY

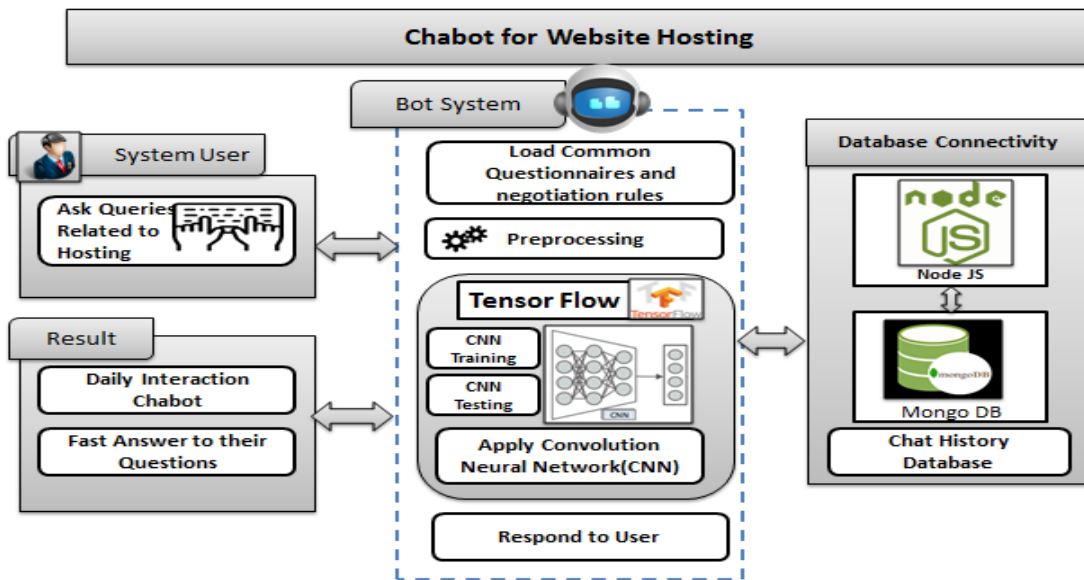


Fig.1: System Architecture

Whenever a user wants to buy a domain, launch website and also user has any query regarding the web hosting user can go on the web site on the website there is a chatbot user can interact with that chatbot. Users can daily interact with the system. Through this module, the user can ask their queries to the system. Users first, come to the domain hosting website and open the chatbot to raise the question. The questions are related to the Domain, launching a web site, web hosting, query server reliability, security policy, range of hosting offers, back-up policy, hosting offers, etc. The chatbot will search the most appropriate answer as per user question is returned to the user. Then the system can answer the user's query as a response. The system can pre-process the input question and then gives the response. The system can give a response to the user by using tensor flow. The algorithm used in this system is

Convolution Neural Network (CNN).

As shown in fig.1 the details of the proposed system are explained as follows.

Customer is the representative of the customer of the system which will communicate with the chatbot (server) regarding the queries which he will face while hosting the website. The server is the system behind the client (web application) which will receive a message.

Web Host A web page is a document that is suitable to act as a web resource on the World Wide Web. To graphically display a web page, a web browser is needed. This is a type of software that can retrieve web pages from the Internet. There is a chatbot for answering the question.

MongoDB Database for backend is a cross-platform document-oriented database program. Classified as a NoSQL database program, MongoDB uses JSON-like documents with schema. MongoDB is a non-relational database developed by MongoDB, Inc. MongoDB stores data as documents in a binary representation called BSON (Binary JSON). MongoDB document data model maps naturally to objects in application code, making it simple for developers to learn and use.

Node.js create a chatbot using node.js is a platform built on Chrome's JavaScript runtime for easily building fast and scalable network applications. Node.js uses an event-driven, non-blocking I/O model that makes it lightweight and efficient, perfect for data-intensive real-time applications that run across distributed devices. And also use a TensorFlow.js is a JavaScript library for training and deploying machine learning models in the browser and Node.js.

Chatbot is being made to ease the pain that the industries are facing today. The purpose of chatbots is to support and scale business teams in their relations with customers. Chatbot is a onetime investment that helps businesses reduce down on staff required. You could integrate a customer support chatbot in your business to cater to simple queries of customers and pass on only the complex queries to customer support agents. Humans react to others based on their mood and emotions. In our system chatbot is used to answering the question related to the web hosting web site and domain-related queries.

Convolution Neural Network(CNN) Algorithm:

CNN is a method of categorizing the images as a part of deep learning. In which we apply a single neural network to the full image. The steps in CNN are as follows: convolution, subsampling, activation and full connectedness. CNN is a specific type of artificial neural network that uses perceptron's, a machine learning unit algorithm, for supervised learning, to analyze data. CNN applies to image processing, natural language processing and other kinds of cognitive tasks.

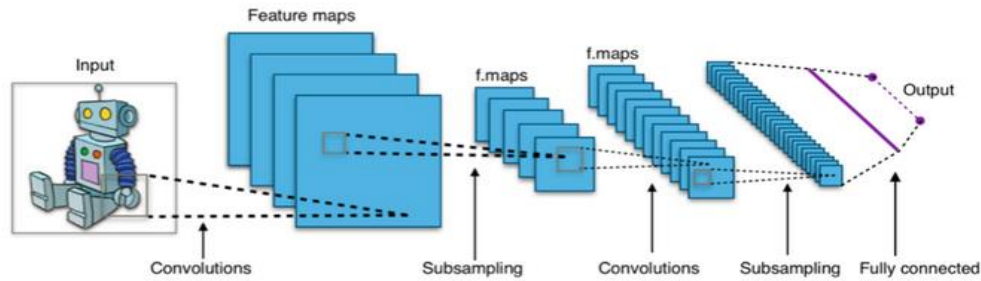


Fig.1: Convolution Neural Network(CNN)

Step 1: Convolution is the primary layer that accepts an input signal is called convolution filters. Convolution is a procedure where the network tries to tag the input signal by referring to what it has learned in the past.

Step 2: Subsampling Inputs from the convolution layer can be smoothed to decrease the sensitivity of the filters to noise and variations. This smoothing procedure is labelled as sub- sampling and can be attained by taking averages or considering the maximum over a sample of the signal.

Step 3: Activation the activation layer manages the signal flows from one layer to the subsequent Output signals which are strongly connected with past references would activate more neurons, enabling signals to be propagated more efficiently for identification.

Step 4: Fully connected the final layers in the network are fully connected, such that the neurons of preceding layers are connected to every neuron in subsequent layers. This imitates high-Level reasoning where all feasible pathways from the input to output are measured.

IV. CONCLUSION

Problems encountered in this system is to execute some libraries that are still unstable, such as TensorFlow.js for Node.js that can run on a normal browser but cannot run when running with Node.js Various researchers have put their best efforts to solve this issue. The literature review has yielded some of the useful approaches to face this problem. The best solution to face this problem is to make use of some libraries that try to overcome the compatibility issue of TensorFlow.js with Node.js.

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