

PREGBOT A CHAT BOT FOR WOMEN HELP DURING PREGNENCY

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Abstract: With a significant paradigm change affecting diagnostic procedures, medication research, health analytics, interventions, and much more, artificial intelligence is revolutionizing healthcare. In this article, we emphasize the use of AI-based Pregbot systems, which are primarily based on machine learning algorithms and Natural Language Processing, to recognize and address the requirements of patients and their families. We specifically outline an application scenario for an AI-Pregbot that supports expectant mothers, moms, and families with small children by providing them with guidance and instructions in pertinent circumstances.

Index Terms: - Revolutionizing Healthcare, Artificial Intelligence, Natural Language Processing.

I Introduction

Introduction Through an explanation of what Pregbots are, what they can do, and how to create them, this work provides a general introduction to them. There is no requirement for prior domain-specific knowledge. Pregbots have recently attracted a lot of media attention and investments from various players in the business, as of this writing. However, not many potential users are aware of Pregbots' existence or the circumstances in which they might be of use. Developers are equally ignorant of the subject. Although the phrase "Pregbot" is frequently used in the media, its exact meaning is often unclear. Pregbots need to be defined in more detail, and there has to be more research done to find applications for them that make sense. In addition to educating people about the potentials of Pregbots and their use cases, more developers should be enabled to create new, innovative Pregbots. Introduction Through an explanation of what Pregbots are, what they can do, and how to create them, this work provides a general introduction to them. There is no requirement for prior domain-specific knowledge. Pregbots have recently attracted a lot of media attention and investments from various players in the business, as of this writing. However, not many potential users are aware of Pregbots' existence or the circumstances in which they might be of use. Developers are equally ignorant of the subject. Although the phrase "Pregbot" is frequently used in the media, its exact meaning is often unclear. Pregbots need to be defined in more detail, and there has to be more research done to find applications for them that make sense. In addition to educating people about the potentials of Pregbots and their use cases, more developers should be enabled to create new, innovative Pregbots. More individuals will be able to use and build Pregbots as a result of explanations of what they are, how to use them, and how to construct them, which will hasten the growth of the Pregbot ecosystem. Technology innovation and the development of new solutions can assist in automating and simplifying more jobs, giving people the chance to concentrate on more fascinating subjects and complete more

tasks. Pregbots have the ability to streamline and automate a variety of current tasks, accelerating the pace of technological advancement. The three basic questions guide the structure of this work. To establish a definition and knowledge of what Pregbots are, terminology is first defined, and then uses are investigated. After then, use cases for Pregbots are found by compiling examples already in use as well as by exploring potential applications in the future by examining characteristics of pertinent technology. A case study for the creation of a Pregbot is presented in the second half of the book. The provided example walks through the process of building user interactions for a Pregbot and also describes architectural and technology decisions that other developers can use as a foundation.

2 Literature survey

TITLE 1: A Pregbot for Perinatal Women's and Partners' Obstetric and Mental Health Care: Development and Usability Evaluation Study

AUTHOR: Kyungmi Chung , Orcid Image ; Hee Young Cho Orcid Image ; Jin Young Park , Orcid Image

By using a text-mining technique and contextual usability testing (UT), respectively, this study aims to create and assess a user-friendly question-and-answer (Q&A) knowledge database-based Pregbot (Dr. Joy) for perinatal women's and their partners' obstetric and mental health care. By doing so, it will be determined whether this medical Pregbot built on mobile instant messenger (KakaoTalk) can offer its male and female users with good user experience. Methods: Thirteen women, ages 27 to 43, at various phases of pregnancy, and two males, ages 38 and 40, were enrolled. All participants successfully completed the seven-day UT, which required them to ask Dr. Joy at least three questions at any time or location, provide the Pregbot with positive or negative feedback using emoji, use at least one Pregbot feature, and send a facilitator via KakaoTalk all screenshots documenting the day's usage before midnight. One day after the UT was finished, each participant was

required to complete a questionnaire about the Pregbot's usability, perceived advantages and hazards, willingness to seek and share health information about it, strengths and flaws of its application, and demographic details.

TITLE 2: Artificial Intelligence in Pregnancy: A Scoping Review

AUTHOR M. C. Romero-Ternero ;Andreea Madalina Popescu ;Gloria Miró Amarant

The majority of research fields, including health and medicine, have extensively used artificial intelligence. Both the mother and the foetus' lives may be in danger from certain pregnancy-related problems or disorders. There is sufficient scientific evidence to back up the claim that emotional factors may be a significant risk factor for pregnancy (such as anxiety, stress or depression, for instance). In order to determine which methodologies, strategies, algorithms, and frameworks are employed in Artificial Intelligence and Affective Computing for pregnant health and well-being, this study presents a scoping assessment of the scientific literature from the past 12 years (2008-2020). This review was made using the PRISMA-ScR framework and the technique suggested by Arksey and O'Malley. One of the key conclusions of this study is that there is currently a paucity of literature on automatic analysis of emotion, despite the relevance of emotional status as a risk factor during pregnancy. Future research on this subject is highly recommended since affective computing or artificial intelligence-based gadgets can improve the health and well-being of pregnant women.

TITLE 3: A Comparative Study of Medical Pregbots

AUTHOR: Jitendra Chaudhary,Vaibhav Joshi,Atharv Khare,Rahul Gawali,Asmita Manna

Pregbots are gradually taking over as clients' first point of contact with practically all commercial companies in this era of digitization, particularly in the real estate, educational, and healthcare sectors. Pregbots are anticipated to take the position of human appointment setters, patient managers, reminder senders, and medical assistants in the medical field. The available medical Pregbots can't yet carry out all of a compounder's responsibilities, though. This essay compares the several medical Pregbots that are now on the market and lists their benefits and drawbacks. It is also suggested to create a multilingual Pregbot dubbed "HEALTHBOT." This Pregbot will communicate with patients in English and Marathi, take down their symptoms and the results of any pathological testing, recommend additional medical examinations for the patients, and make simple dietary and lifestyle suggestions. The relevant doctor will review the Pregbot-generated prescriptions before conducting additional research. In conclusion, this

HEALTHBOT would be a great help to doctors as a personal assistant. In addition, it would save both parties important time and close the gap in medical care.

TITLE 4: College Bot: A Conversational AI Approach to Help Students Navigate College

AUTHOR: Mohinish DaswaniKavina DesaiMili PatelReeya VaniMagdalini Eirinaki

It becomes nearly impossible to simply acquire information online or through other means in a large organisation like a university that has numerous unique departments and administrative bodies. Help over the phone or in person is frequently only available during business hours, and information online is dispersed among several (often nested) web pages that are frequently independently run and maintained by each division. In this paper, we introduce CollegeBot, a conversational AI agent that employs machine learning and natural language processing to help website users quickly find information relevant to their requests. We go over how we build the knowledge base by gathering and properly preparing data that is utilized to teach the conversational agent how to respond to questions that are specific to a given subject. For training the conversational model for the Pregbot, we tested two distinct algorithms: a semantic similarity model and a deep learning approach utilizing a sequence-to-sequence learning model. The suggested system can accurately determine the user's intent and swap contexts as necessary. Additionally, it makes use of the free and open-source AIML Pregbot ALICE to respond to any general enquiries. We offer a proof-of-concept prototype for San Jose State University to show how other academic institutions can quickly adopt this strategy.

3 Implementation Study

Pregbots receive increasing attention from media and industry, but at the same time it is not yet well known what Pregbots really are, what they can be used for and how to create them. The goal of this work is to answer these three questions by analyzing existing platforms, products and technologies, and additionally developing an exemplary Pregbot. Explaining what Pregbots are, demystifying what to use them for and showing how to create them will help more people to be able to use and create Pregbots and thereby accelerate the development of the Pregbot ecosystem. Starting by defining fundamental terms, the first half of the work focuses on showing available platforms, products and technologies, while the second half guides through the development of an exemplary Pregbot, including user interaction design and software architecture.

3.1 Proposed Methodology

This is an automated chat robot design to answer users frequently asked questions, earlier natural language processing techniques were using to design this robots but its accuracy of giving correct answer was less and now due to Deep Learning algorithms accuracy of giving correct answer increase, so here using python deep learning project we are building PREGBOT application to answer users questions.

To implement this technique first we train deep learning models with the train data (all possible question's answers) and whenever users give any question then application will apply this test question on train model to predict exact answer for given question.

Earlier companies were hiring humans to answer user's queries but by using this application we can answer user's question without using any man power. Chabot can be described as software that can chat with people using artificial intelligence. Chabot 's are generally used to respond quickly to users. Chabot's, a common name for automated conversational interfaces, present a new way for individuals to interact with computer systems. Traditionally, to get a question answered by a software program involves using a search engine, or filling out a form. A Chabot allows a user to simply ask questions in the same manner that they would address a human. There are many well-known voice-based catboats currently available in the market: Google Assistant, Alexa and Siri. Chabot's are currently being adopted at a high rate on computer chat platforms.

To implement this project we are using python deep learning neural networks and NLTK (natural Language Processing API) to process train and test text data.

3.2 Algorithm

DEEP LEARNING ALGORITHM:

The recent report by Grand View Research¹ states that 6 of the top 10 most used apps globally are messaging apps. 45% end consumers prefer Pregbots as the primary form of communication. Besides, the leading four messaging apps registered the highest number of active users globally in 2015 surpassing four top social networks. By definition, Pregbots are algorithms able to converse with people by understanding natural language, and most of them appear as traditional contacts in messaging applications. In practice, most Pregbots are algorithms that work in messaging applications and respond to natural language, keywords, buttons, audio or even images. The term "Chatterbot" was originally coined by Michael Mauldin in 1994 to describe these kinds of conversational programs. Pregbots offer several advantages compared to standard mobile applications: I) no need for users

to install another specialized application; II) multi-platform support out of the box because messaging applications already host clients for most of the operating systems; III) login, password reset, authentication, etc. are taken care of by the messaging application so it does not have to be managed by the Pregbot.

4. Methodology

MODULES:

- > Collecting Dataset
- > Pre-processing
 - o Data cleaning
 - o Data transformation
 - o Data selection
- > Data input
- > Result

MODULE DESCRIPTION:

Collecting Dataset

- Data Collection is one of the most important tasks in building a machine learning model.
- We collect the specific dataset based on requirements from internet.
- The dataset contains some unwanted data also. So first we need to pre-process the data and obtain perfect data set for algorithm.

Pre-processing

- It is the gathering of task related information based on some targeted variables to analyses and produce some valuable outcome.
- However, some of the data may be noisy, i.e. may contain inaccurate values, incomplete values or incorrect values.
- Hence, it is must to process the data before analyzing it and coming to the results.
- Data pre-processing can be done by data cleaning, data transformation, data selection.
- Data cleaning includes Fill in missing values, smooth noisy data, identify or remove outliers, and resolve inconsistencies
- Data transformation may include smoothing, aggregation, generalization, transformation which improves the quality of the data.
- Data selection includes some methods or functions which allow us to select the useful data for our system.

Data input

- Dataset values converted into array values which is going to give to the algorithm to find accuracy.

- Select the algorithm based on the accuracy and analyses the data by using the algorithm.

Result

- Based on that dataset we can get the result used our machine learning algorithm to predict the result.
- It will show the future values of particular stock.

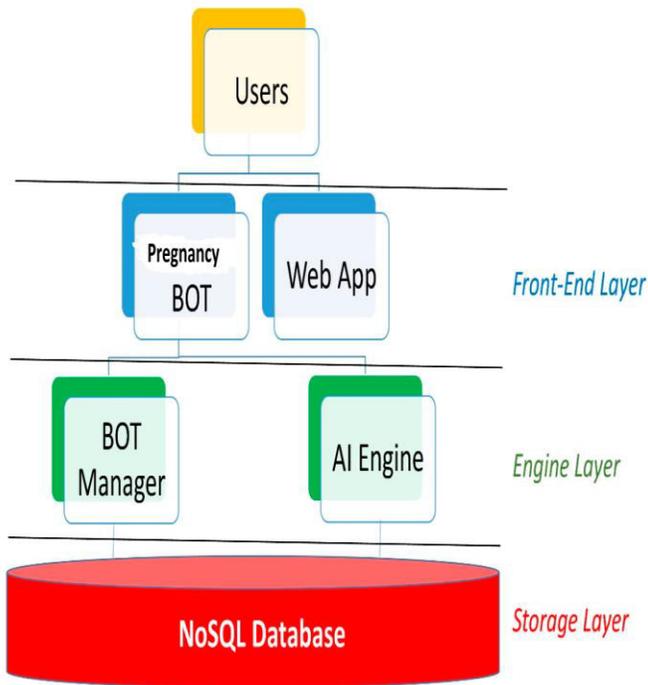


Fig 1:- System Architecture

5 Results and Evolution Metrics

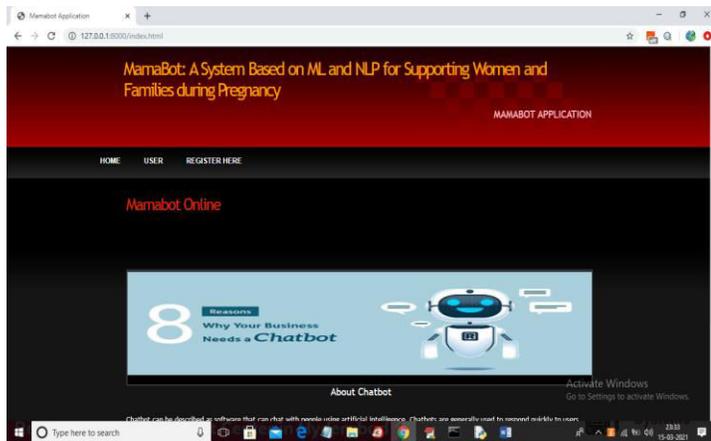


Fig1: In above screen click on 'Register Here' link to get below signup page

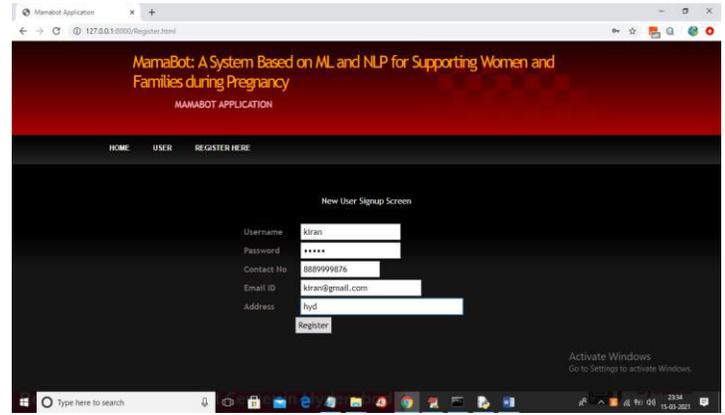


Fig2: In above screen user can enter some signup details and then press 'Register' button to get below screen

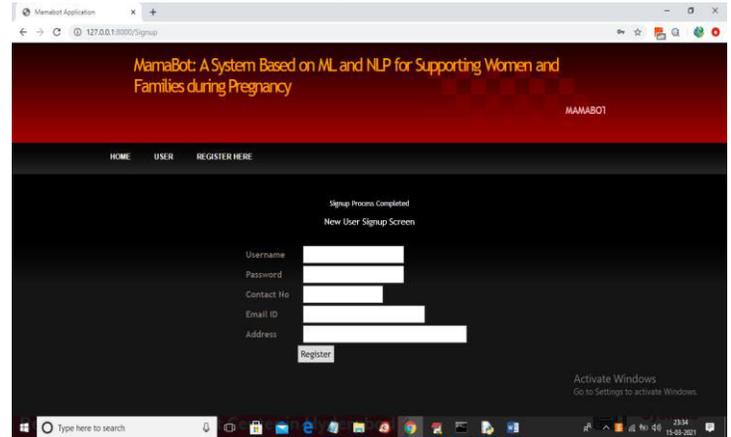


Fig3: In above screen user signup process completed and now user can login by clicking on 'User' link

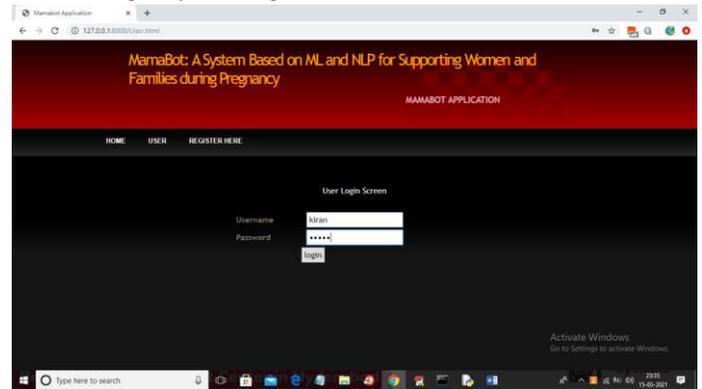


Fig4: In above screen user is login and after successful login will get below page

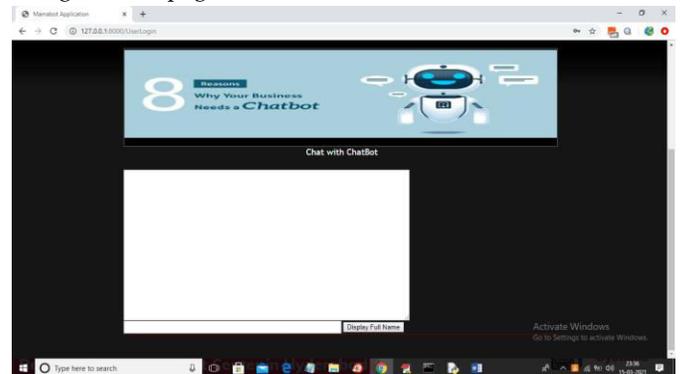


Fig5: In above screen user can enter any query and then click on 'Display Full Name' button to get answer from MAMABOT and if question not available in MAMABOT train model then user will get SORRY message

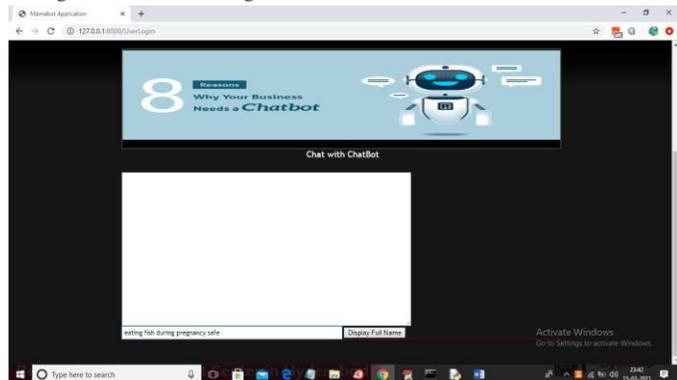


Fig6: In above screen user type some question and then press button to get below output

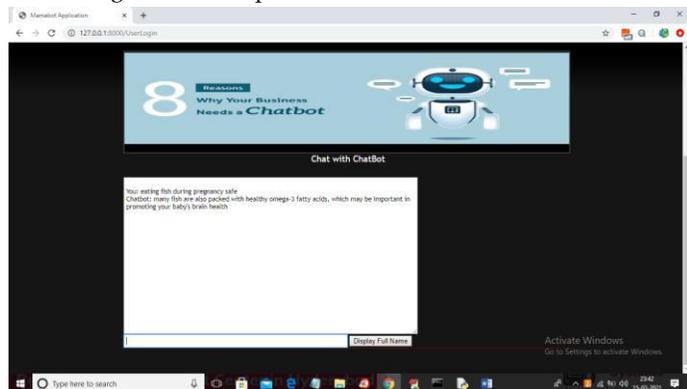


Fig7: In above screen we got some answer from MAMABOT and try some other questions as

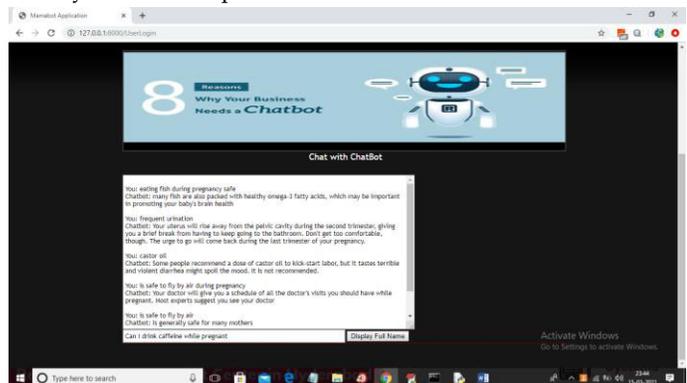


Fig8: In above screen I ask some question and MAMABOT answer it well

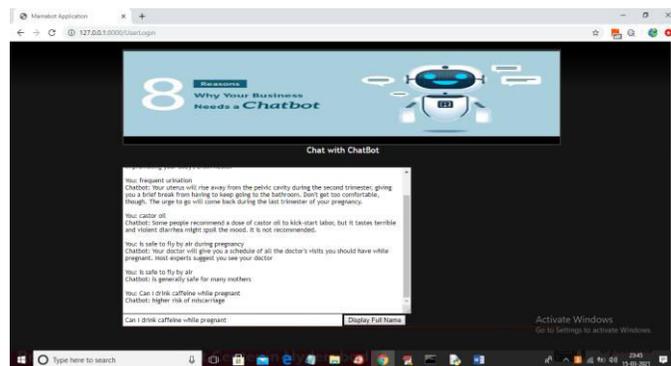


Fig9: You can ask all questions available in dataset/question.json file and now give some query out of train model

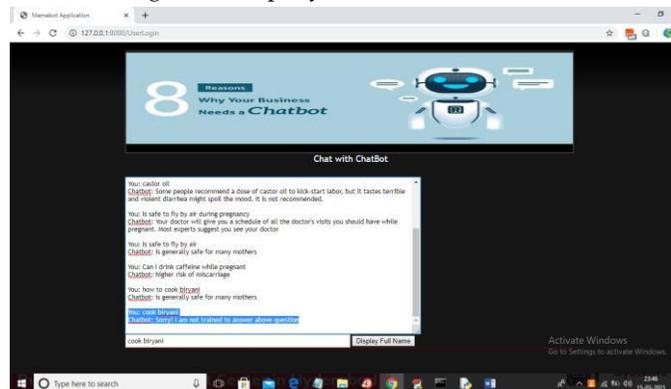


Fig10: In above screen I ask question as 'cook biryani' and bot answer as SORRY

6 Conclusion

Here in this paper, we implement a smart chat bot for women help during pregnancy which will help them to get some information related to health condition and food recommendations. here we have used the NLP for processing the text

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