1.INTRODUCTION

1.1 Overview A brief description about your project

Quote: **Ask for help, NOT because you are weak. BUT because you want to remain strong...**

There are many people who need assistance and support in various areas like Domestic Violence, Mental Health Counselling, Good Career Guidance and even Emergencies… Because these are some of the key areas where inter-people communication is not much preferred due to many reasons per say.

- This is where my **AI Powered, Real Time Assisting, Emotion Detecting and Personalized Support** Chatbot comes into picture.
- Exceptional **UI/UX** design.
- **IBM Watson Assistant, Natural Language Understanding & OpenAI API** - Today's technology boom - and It had the capability to give a seamless, user specific human like & empathetic communication experience to user.
- **Real Time 3D robot experience which can talk to you just like Alexa / Siri.**
- It can even **notify contacts and police via telegram** in case of emergency detection thus even saving lives using telegram bot APIs.
- **Speech to text** Functionality offered by my chatbot for people not even in a position to type (using IBM Watson Service).
- **Text to Speech Functionality** offered in case of people with special needs or want more features (using IBM Watson Service).
- **Sound and Soothing Music Effects...**
- Python (Flask) / Other Backend tools.
- **Roadmaps** building for better solution understanding...
- Supports as a **mentor/ friend/ sibling/ cousin** according to situation.

1.2 Purpose: The use of this project. What can be achieved using this.

There are literally many people who are striving for guidance and help at many points of time in life. This is a great area to start business and offer help for social welfare as well. And coming to social impact – what we sow, is what we reap. Helping people in case of their low points will build a strong society that will in turn build a great economy and foundation for new technological era.

My Chatbot - Listener - has a really broader scope and literally this

society has a need of support and guidance at many points of their life…

- from a teenager seeking for career guidance to a Company CEO stressed due to losses in company,
- from a student emotionally distressed to a housewife experiencing domestic violence,
- from a girl who is lost her way in a city to a boy who is about to end her life

Society needs us in some form or other, and it is a not just about money making but to give a helping hand for an individual just like us…

Provided a chance, my chatbot will definitely show its true potential…

2. LITERATURE SURVEY

2.1 Existing problem: Existing approaches or method to solve this problem

There are many existing chatbots, and some of them really revolutionized the online world, IBM Watson, ChatGPT which require no further explanation, Google also launched its Bard, Microsoft's Bing Assistant and many more…

Some user specific technologies like:

1. Domestic Violence:
   a. rAInbow
   b. Respect Connect
2. Mental Health Counselling:
   a. ReplikaAI
   b. WoeBot
   c. Wysa
3. Career Guidance:
   a. LinkedIn's AI ChatBot
   b. Mya
4. Emergencies:

   911 chatbots etc…

The effectiveness of these solutions can vary, and the field of AI-Driven support is continuously evolving. Many people are struggling day and night to continuously improve their services, collaborators all across the world are improving the features of a project…

2.2 Proposed solution:

What is the method or solution suggested by you?

A Chatbot should have many unique features which can make user feels comfortable or even a chatbot should have so convenient that people with disabilities, people of all ages groups can easily access chatbot

- It has the **ability to understand user behaviour and provide a human like personalized support** rather than just text messages or choosing from options.
- It can handle **real time emergencies** and **alert** the officials/family in the form of **messages/ mails.**
- **3D robot** for exceptional user experience.
- **Speech to Text** functionality and **Text to Speech** Functionality.
- Exceptional Convenient **UI/UX (User Interface/ User Experience) interface** which can be used conveniently by any age group.
- **Natural Language Processing and Sentiment Analysis.**
- **Location features** in case of emergency.
- **Sound and Healing Music Effects.**
- **Telegram bot/ WhatsApp bot** integration which is not the case with many chatbot.
- Quotes to motivate user.
- Profile building.
- User dashboard.

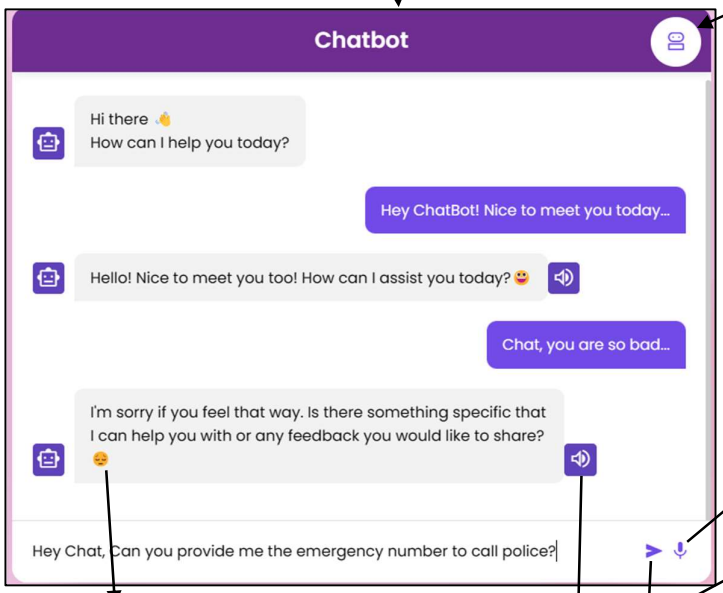
3. THEORITICAL ANALYSIS

3.1 Block diagram: Diagrammatic overview of the project:

ThunderBolt

AI Powered, Real Time Assisting, Emotion Detecting and Personalized Support

3D model which can talk to you just like Alexa



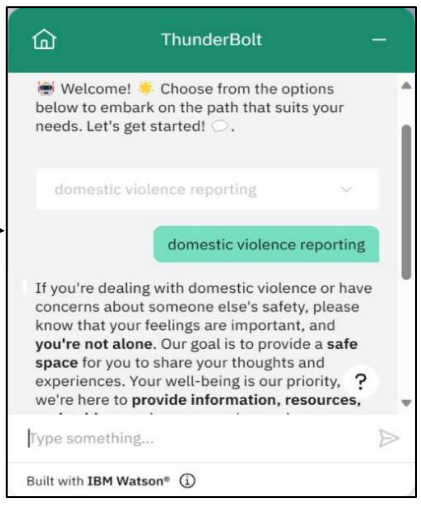
Speech to Text Services...

Forward Button...

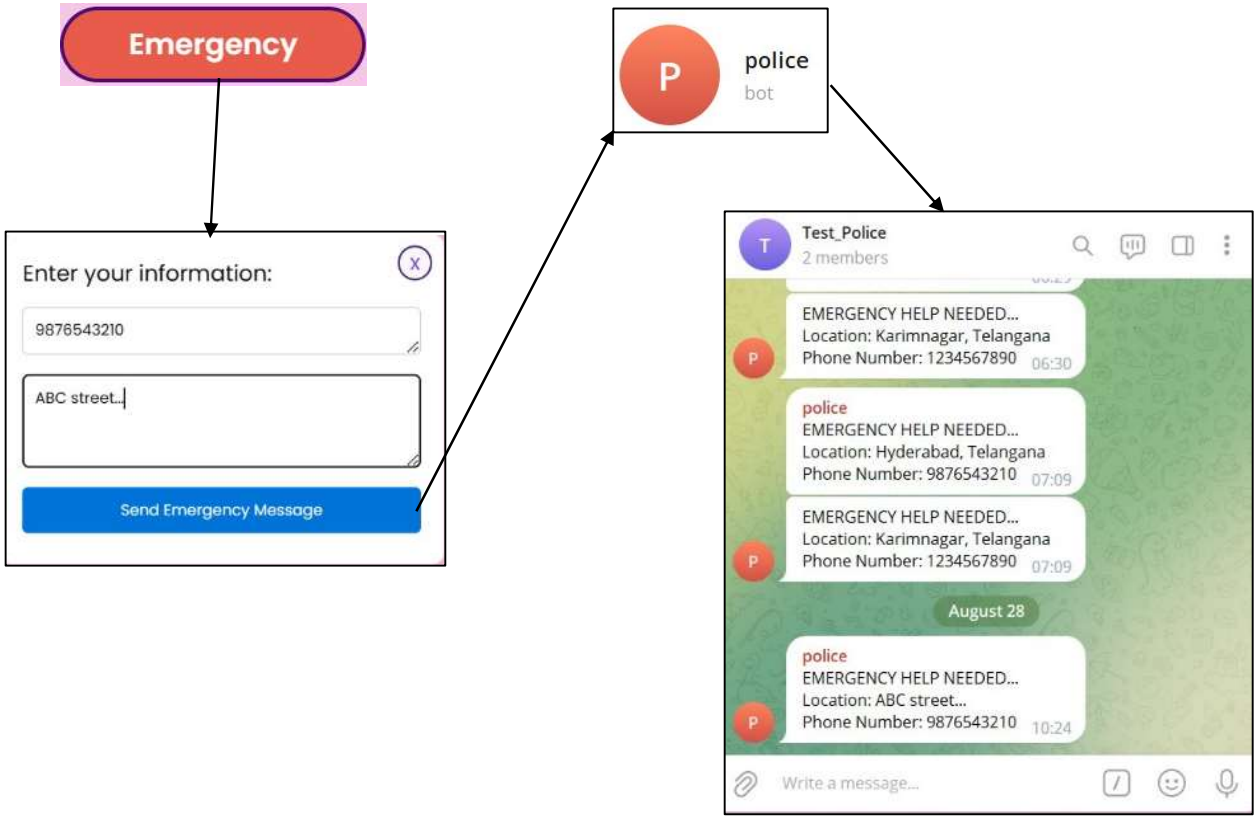
Text to Speech Service...

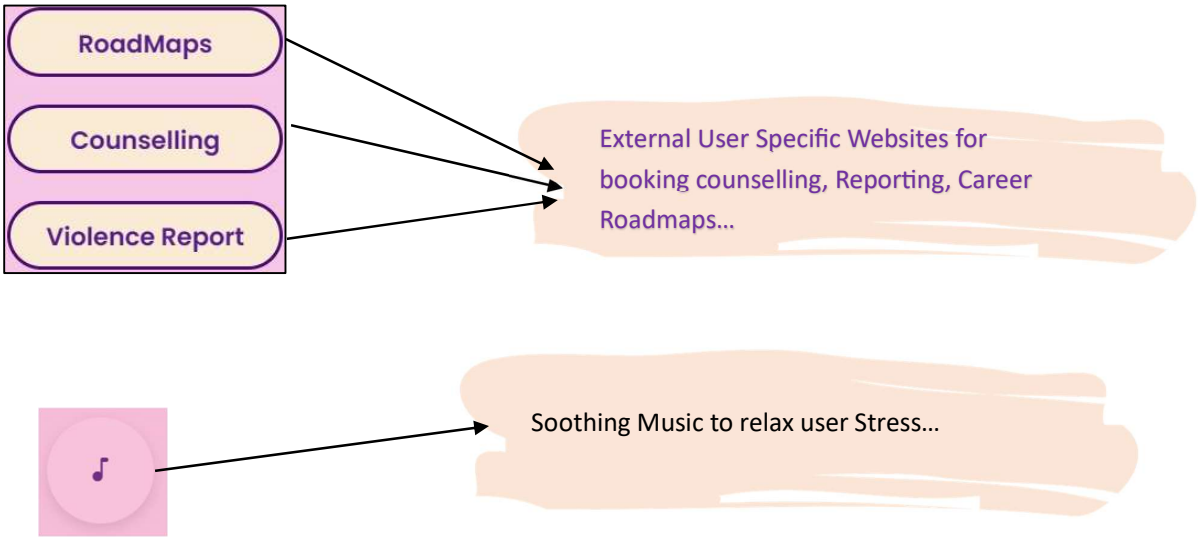
Interactive Emojis according to user input, using IBM NLU

IBM Waton Asst.



Can give beautiful and captivating user specific answers along with videos, quotes, images and reference websites & emojis to answer user...


Emergency
Enter your information:
9876543210
ABC street..
Send Emergency Message
police
bot
Test_Police
2 members
EMERGENCY HELP NEEDED...
Location: Karimnagar, Telangana
Phone Number: 1234567890 06:30
police
EMERGENCY HELP NEEDED...
Location: Hyderabad, Telangana
Phone Number: 9876543210 07:09
EMERGENCY HELP NEEDED...
Location: Karimnagar, Telangana
Phone Number: 1234567890 07:09
August 28
police
EMERGENCY HELP NEEDED...
Location: ABC street...
Phone Number: 9876543210 10:24
Write a message...


RoadMaps
Counselling
Violence Report
External User Specific Websites for booking counselling, Reporting, Career Roadmaps...

Soothing Music to relax user Stress...

3.2 Hardware / Software designing:

Hardware and software requirements of the project:

Hardware:

Laptop, Microphone, Speaker etc…

Software

You need LiveServer extension from VS Code to view 3D model and some other features, else you will be blocked by CORS policy… Please don't ignore it !!!

1.Vs code

2. Node Js,

3. Threes Js

4. HTML

5. CSS

6. JavaScript

7. Express Js

8. Python

9. Telegram Bot Services

10. IBM Watson Services

- Watson Assistant
- Natural Language Understanding
- Speech to Text
- Text to Speech
- Language Translator

11.OpenAI API to combine with IBM Services for better NLP

12.Telegram Bot

13.Python (Flask) / other backend technologies

14. Other IBM Cloud Services

15.typescript

16. you also need to download ibm Watson package (Software Development kit) to use IBM Watson services

17. body-parser package, used to parse the incoming request body in a web server built using Express. It helps with handling data sent from forms, APIs, or other sources.

18. express package, a web framework for Node.js that simplifies the creation of server-side applications, routes, and APIs.

19. model viewer

20. axios

30. openai.browser.js

31.cors package

32. google cloud translate library

33. typescript

34. node-fetch package

35.request package

36.http server

37.react three fiber library

npm install react-three-gui three react-three-fiber

38. etc…

4. EXPERIMENTAL INVESTIGATIONS

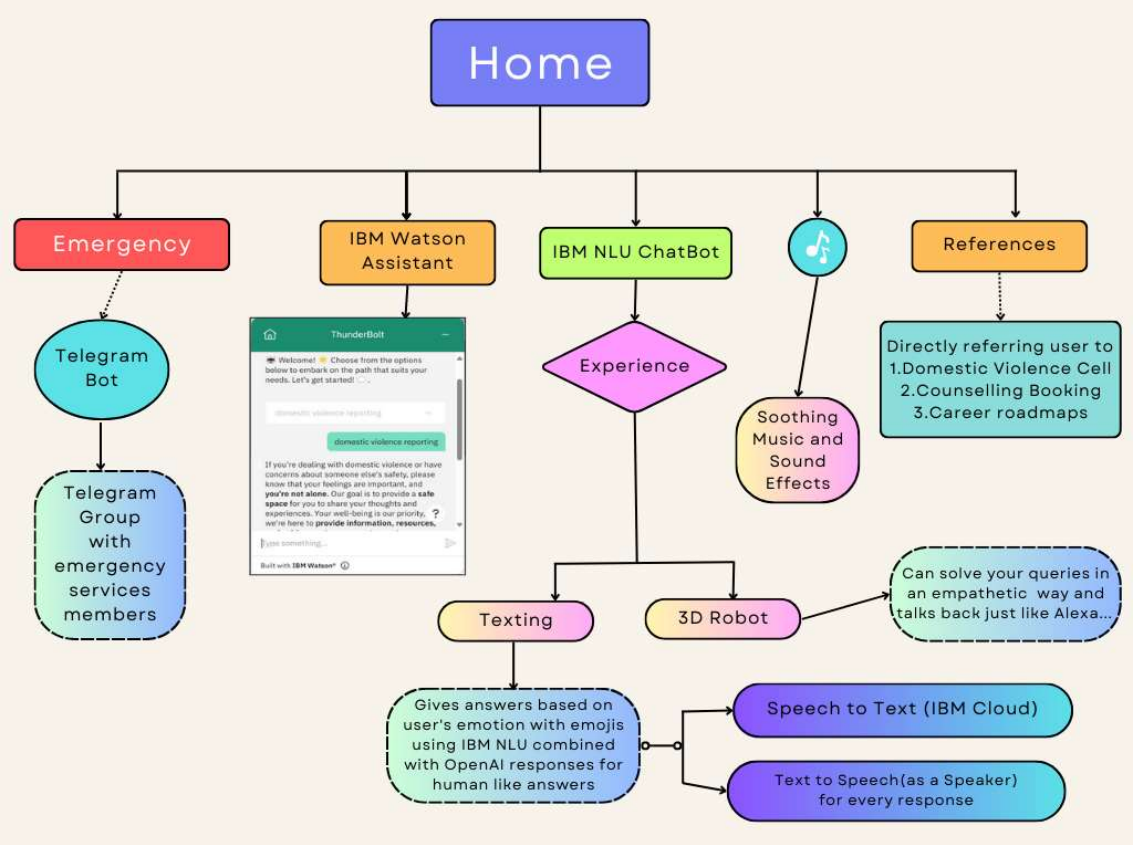
Analysis or the investigation made while working on the solution.

I had spent days in researching and building plans to build a multi-abled Chatbot. I started by looking at the most established chat assistants of the Day and built a clear understanding in my mind about all the features and technologies I should be using…

Then I started collecting what are the required instalments and dependencies For example: I thought of google model viewer or three Js for 3D robot Feature in my chatbot, then I also thought of user's sentiment while giving responses, and built a chatbot keeping users doubts in mind…

I also referred multiple sources, videos, websites to improve my features… And also, I had investigated that voice assistance is missing in many of the Chatbots which is inaccessible gor disabled, so I thought and did implement my talking robot with moving abilities and also for every response I had gave a speaker icon to communicate, and I gave an emergency button which is very prompt in sending emergency messages to officials using telegram bot service which I found was not present in many of the existing services, I had also made use of IBM Watson Assistant which can express itself in a quite beautiful and convenient answers with helping videos, excellent descriptions, emojis and reference websites which is literally way ahead of most of the existing chatbots…

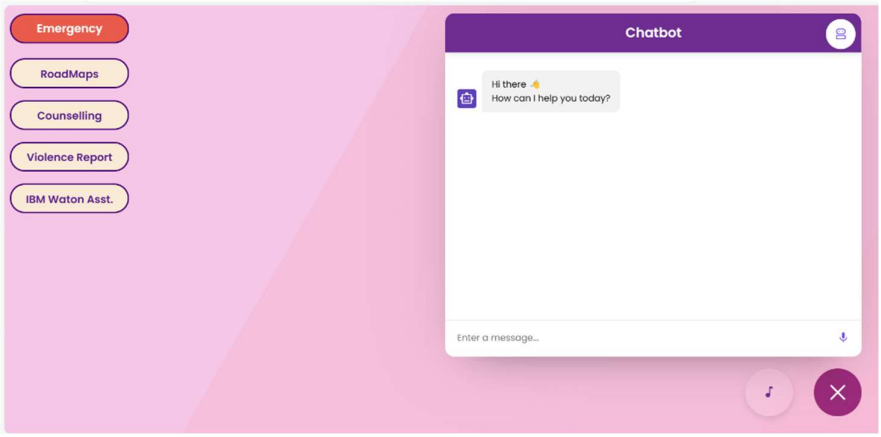
5. FLOWCHART Diagram showing the control flow of the solution:

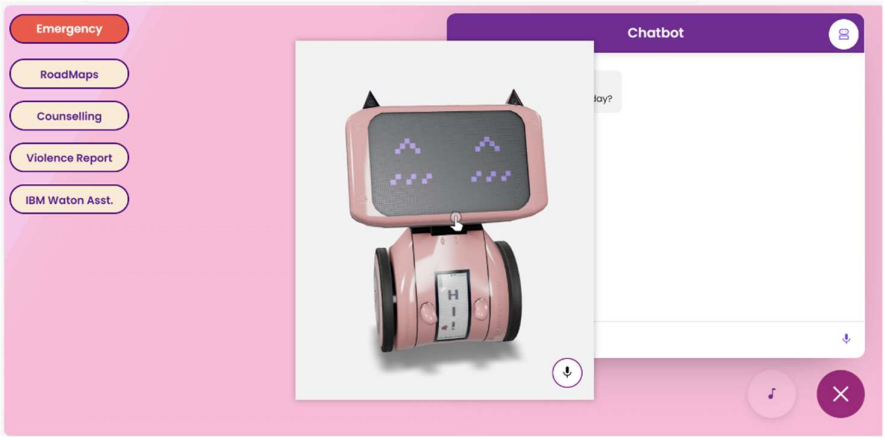


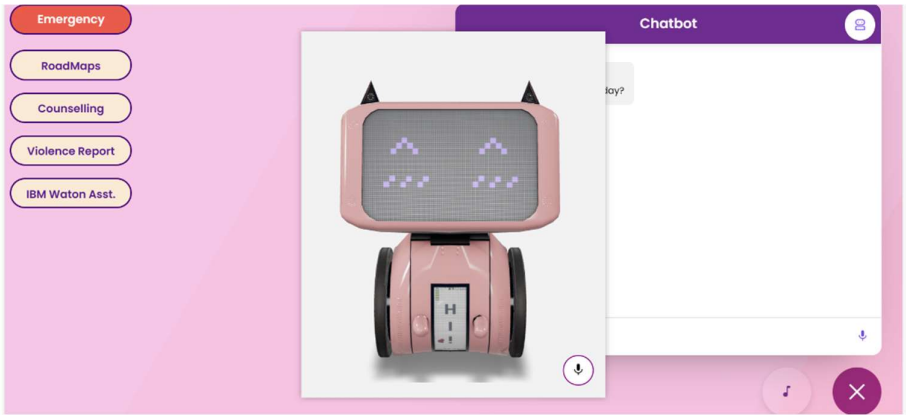
6. RESULT:

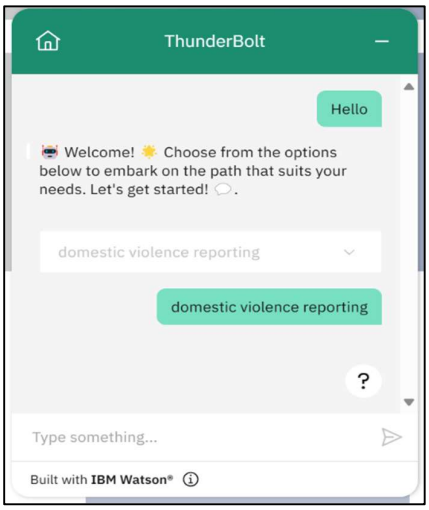
Final findings (Output) of the project along with screenshots.

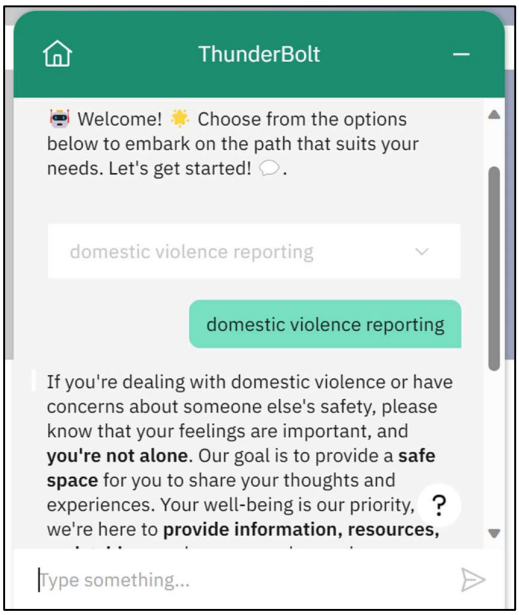
Overview of my website

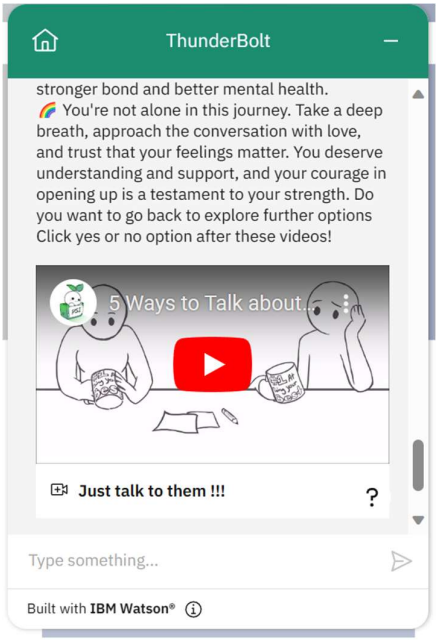


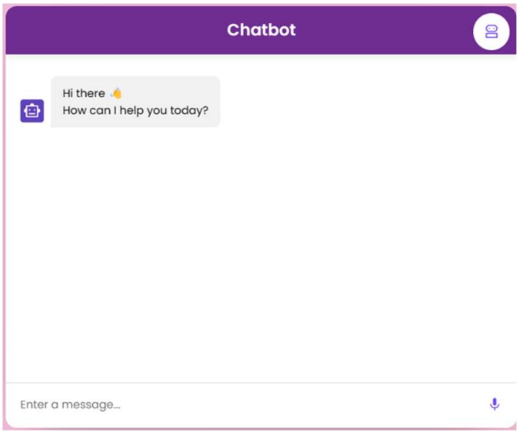


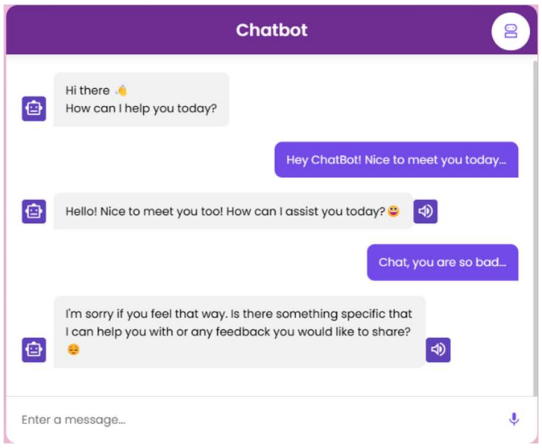


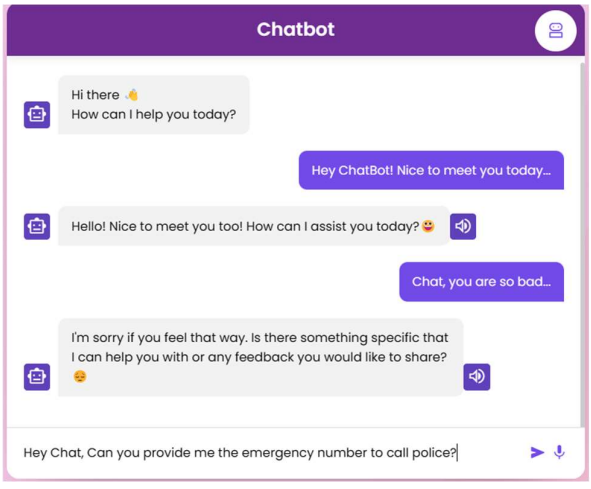

ThunderBolt
Hello
Welcome! Choose from the options below to embark on the path that suits your needs. Let's get started!
domestic violence reporting
domestic violence reporting
Type something...
Built with IBM Watson®


ThunderBolt
Welcome! Choose from the options below to embark on the path that suits your needs. Let's get started!
domestic violence reporting
domestic violence reporting
If you're dealing with domestic violence or have concerns about someone else's safety, please know that your feelings are important, and you're not alone. Our goal is to provide a safe space for you to share your thoughts and experiences. Your well-being is our priority, we're here to provide information, resources,
Type something...


ThunderBolt
stronger bond and better mental health.
You're not alone in this journey. Take a deep breath, approach the conversation with love, and trust that your feelings matter. You deserve understanding and support, and your courage in opening up is a testament to your strength. Do you want to go back to explore further options Click yes or no option after these videos!
5 Ways to Talk about
Just talk to them !!!
Type something...
Built with IBM Watson®


Chatbot
Hi there
How can I help you today?
Enter a message...


Chatbot
Hi there
How can I help you today?
Hey ChatBot! Nice to meet you today...
Hello! Nice to meet you too! How can I assist you today?
Chat, you are so bad...
I'm sorry if you feel that way. Is there something specific that I can help you with or any feedback you would like to share?
Enter a message...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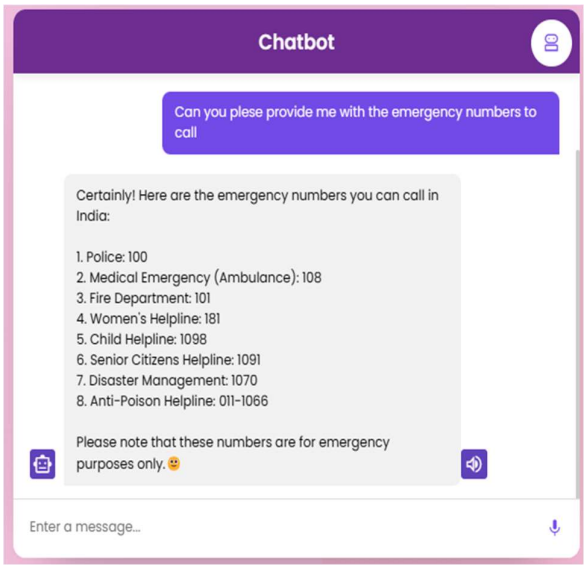
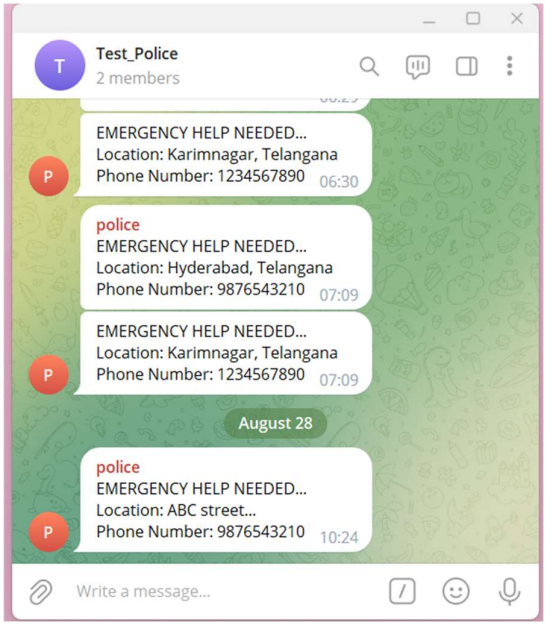
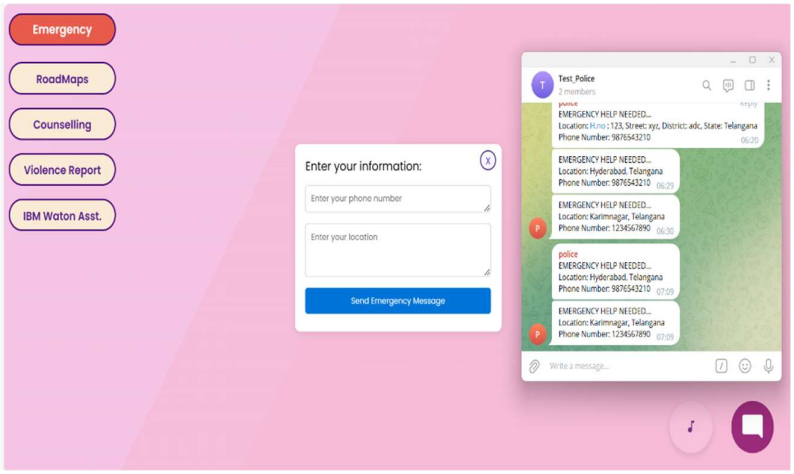
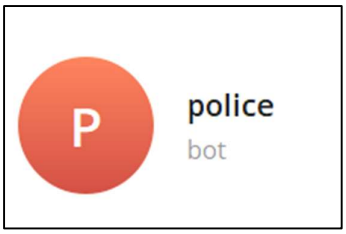
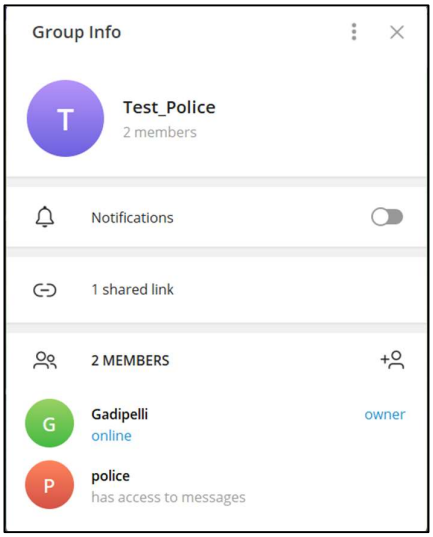
Hey ChatBot! Nice to meet you today...
Hello! Nice to meet you too! How can I assist you today?
Chat, you are so bad...
I'm sorry if you feel that way. Is there something specific that I can help you with or any feedback you would like to share?
Hey Chat, Can you provide me the emergency number to call police?

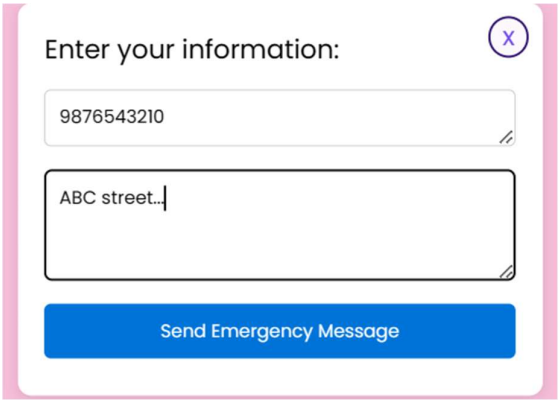

Chatbot
Can you plese provide me with the emergency numbers to call
Certainly! Here are the emergency numbers you can call in India:
1. Police: 100
2. Medical Emergency (Ambulance): 108
3. Fire Department: 101
4. Women's Helpline: 181
5. Child Helpline: 1098
6. Senior Citizens Helpline: 1091
7. Disaster Management: 1070
8. Anti-Poison Helpline: 011-1066
Please note that these numbers are for emergency purposes only.
Enter a message...


Test_Police
2 members
EMERGENCY HELP NEEDED...
Location: Karimnagar, Telangana
Phone Number: 1234567890 06:30
police
EMERGENCY HELP NEEDED...
Location: Hyderabad, Telangana
Phone Number: 9876543210 07:09
EMERGENCY HELP NEEDED...
Location: Karimnagar, Telangana
Phone Number: 1234567890 07:09
August 28
police
EMERGENCY HELP NEEDED...
Location: ABC street...
Phone Number: 9876543210 10:24
Write a message...


Emergency
RoadMaps
Counselling
Violence Report
IBM Waton Asst.
Enter your information:
Enter your phone number
Enter your location
Send Emergency Message
Test_Police
2 members


P
police
bot


Group Info
T
Test_Police
2 members
Notifications
1 shared link
2 MEMBERS
G
Gadipelli
online
owner
P
police
has access to messages


Enter your information:
9876543210
ABC street...
Send Emergency Message

7. ADVANTAGES & DISADVANTAGES

List of advantages and disadvantages of the proposed solution:

Advantages:

Quick Response: Users don't have to wait in long queues for assistance. Chatbots provide quick responses and thus improving user satisfaction and retention.

24/7 Availability: If properly configures, chatbots can offer continuous support and service without human intervention, Thus helping people to get assistance at the comfort of their home…

Cost Efficiency: chatbots, once developed and implemented can significantly reduce operational costs by supplementing human effort for regular and repetitive tasks.

Scalability: They have the ability to answer many users problems at once, which is impossible for humans. This is particularly useful for businesses dealing with a large number of customer inquiries.

Multilingual Support: If programmed on multiple languages or getting support of language translator APIs, chatbots can really do wonders by assisting customers of diverse languages and cultures.

Consistency: Chatbots don't differentiate between users and thus provides customized, consistent and uniform answers to all users...

Self-Learning: Chatbots with advanced features can even provide fast and efficient answers by ser's repetitive actions and thus refining itself every single day…

Collaboration: Chatbots can engage users to websites, videos, and even guide them through the entire process and thus helping our collaborators to improve as well and thus attracting further investments in business…

Disadvantages:

Never like a human: Chatbots can give human-like but not human answers, it does not feel as if we are talking to our friend/family member despite many features…

Limited Context: If not programmed correctly, it cannot understand what is the real user feelings and can frustrate users as well…

Privacy Issues: Collecting and using user data raises concerns about privacy and data protection. Striking the right balance between personalization and privacy is crucial.

Lack of Empathy: They are trained models and won't possess real Emotional Intelligence (EI) and can give misinterpreted answers at times…

User Frustration: Users can become frustrated when they're unable to get the information they need from a chatbot, leading to a poor user experience.

Predefined Context: Chatbots work based on predefined scripts and algorithms. If the conversation deviates from these scripts, the chatbot may struggle to provide relevant responses.

Security Concerns: If not properly secured, chatbots can become targets for malicious activities, such as phishing attempts or unauthorized data access.

Building complexity: Building and training effective chatbots require expertise in AI, natural language processing, and machine learning, which can be a barrier for some businesses.

8. APPLICATIONS :

The areas where this solution can be applied

here are literally many people who are striving for guidance and help at many points of time in life. This is a great area to start business and offer help for social welfare as well. And coming to social impact – what we sow, is what we reap. Helping people in case of their low points will build a strong society that will in turn build a great economy and foundation for new technological era.

- This business can be **scalable** in future as well due to it's **broader scope and impact.**
- If further invested and developed new features this can be a **real revolution** in this digital era.
- And if properly implemented, this idea can even provide people with **business employmen**t and can even **attract stocks** which can in turn feed the economy.
- By good guidance and support for people, they can in turn help to **build strong society and future**
- Due to inter process communication limitations these days due to social insecurities, my idea can be a **barrier breakthrough** for people to overcome their problems
- People will **suggest/recommend** others with similar concerns and thus help our business and society as a whole
- We can even conduct **personalized 1-1 calls** if possible by hiring therapists or career guiders.
- **We can collaborate with organizations and people like hospitals, therapists, family counsellors, life coaches, psychiatrists and skills**

developing institutions to improve our career guidance and other mental health related issues

- We can provide a **world class AI driven centers** where people can interact with **guiding robots** with the same modelling of chatbot
- We can even take a further step and s**et up screens and devices in restaurants, saloons, excitement parks etc... where people can interact with chatbot while doing their work.**
- We can even introduce this features in **hospitals & educational institutes** where we can get our targeted users in digital boards/ tablets.
- And we can **deploy an app or website** for **free** in case of **public welfare** or we can even **monetize by giving pro features**

9. CONCLUSION:

Conclusion summarizing the entire work and findings.

My Chatbot - Listener - has a really broader scope and literally this society has a need of support and guidance at many points of their life...

- from a teenager seeking for career guidance to a Company CEO stressed due to losses in company,
- from a student emotionally distressed to a housewife experiencing domestic violence,
- from a girl who is lost her way in a city to a boy who is about to end her life

Society needs us in some form or other, and it is a not just about money making but to give a helping hand for an individual just like us...

Provided a chance, my chatbot will definitely show its true potential...

10. FUTURE SCOPE:

- Enhancements that can be made in the future. Project Report Titles:

I want to add the following features:

1. Language Translators
2. Feedback Collection and Self Improvement
3. Connecting to live agents I my chatbot cannot answer efficiently..
4. Customising itself according to user's previous responses
5. Adding Business Collaborators
6. Advanced Natural Language Understanding
7.Multi-Platform Integration
8.More images, videos, GIFs while conversation
9.Extensive training…
10.History Integration
11.E-commerce Integration
12. real time booking and scheduling appointments rather than including third parties
13.Gamified experience for kids to feed user enthusiasm
14, Language and Cultural Sensitisation….

11. BIBILOGRAPHY References of previous works or websites visited/books referred for analysis about the project, solution previous findings etc.

APPENDIX:

For Source Code of current challenge:
Project: LISTENER- AI based life assisting chatbot for public welfare:

Team: ThunderBolt Team Size: 1
Source Code: Please Click here

By:
Gadipelli Keerthi