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iSpeak Messenger – An Online Messaging Platform

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Abstract — iSpeak Messenger is an Instant messaging web base application. Instant messaging and social network apps in the world are used for end to end encryption messages. In today's World, many researcher efforts on online messaging websites like Facebook, Instagram and many more.

With web-based messaging apps like skype, google meet and many more companies can interview face to face when they are too far from employee like the company lives in other country and employee lives in other country. In iSpeak Messenger app, we can create a private room in which we can add only those friends which we want. Nowadays, Instant messaging is used more than the calling function.

In this, we can share link to friends, by using WhatsApp, text message, etc. In iSpeak, we can do a group discussion by using microphone. First of all, it will ask to use microphone and then we can start the conversation. Moreover, language translation feature is also provided, where two persons can exchange their mother languages.

Keywords - iSpeak Messenger, Social Networks like Facebook, WhatsApp, Instagram and many more apps, link share, Communication.

Introduction - Communication over internet has become more important these days. Communicating online allows users to communicate with other users in instant and convenient manner [4]. Today, there are many social networking and instant messaging apps and websites [2]. The invention and adoption of new communication technologies are allowed individual around the world to overcome geographic and time limitations to interact with each other [5]. Most of the published research papers are all about internet usage and social media apps. The most important social platforms are for computer and mobile communication in the world today that promotes a quick exchange of messages for messaging and social networks [1]. The instant

messaging and social network platforms allow user to register and connect to one another for easy communication. Online messaging is an internet service messaging app that allows every people to communicate with each other in real time through an instant messaging software or by using website. Instant Messaging is widely used by teenagers [10]. Instant messaging is used to describe the technology in which 'users can set up a list of partners who will be able to receive and send notes [13]. WhatsApp is a freeware, cross-platform and end to end encrypted messaging app. It is mostly use for studies. Studies on WhatsApp can be used to improve reading skills, listening skills, writing skills and speaking skills [8]. In Instant messaging, face to face communication serve many functions

in organization like problem solving and social learning [12]. There are two types of mobile communication – Text Message and Instant Message. Text mobile is short message service without using Internet and instant message is sending message in brief using internet [14].

a). Various Online Social Networking apps - Today, there are many social networks apps. For example, Facebook, Instagram, Snapchat, WhatsApp, Skype, Viber, etc.

Every app has certain uses. For example, Skype focuses only on video calling because it has high quality video calling and uses high internet. Snapchat focuses on image messages and chatting [2].

i. Facebook - Facebook is the most popular messaging app in the United States of America. The Facebook messenger app users currently estimated between 300 and 550 million. FB has features include text/video chat group chat, video and voice call, photo sharing [2].

ii. WhatsApp - WhatsApp app originates from the United States of America and has a registered user of 590 million but with active monthly users around 350 million. WhatsApp is the largest messaging App in most of the countries. WhatsApp has features include text/voice chat, photo sharing and video sharing which are useful in an online data collection [2].

iii. Viber - This app has around 200 million registered users in the world. Viber has features include photo sharing, text/voice chat, video and voice calling, sketch and location sending [2].

iv. Skype - Skype is web-based technology is part of Microsoft. It mostly used for company interviews. Skype was founded in 2003. Skype has roughly 299 million users based on the monthly active and connected users. It has features include a phone call, text/video chat, group chat/call, video/voice call and, photo sharing [2].

Important Features -

i. Chat - Private chat allows private conversation with another person or a group. The privacy aspect can be enhanced as applications have a timer feature, like Snapchat, where messages or conversations are automatically deleted once the time limit is reached. In Snapchat, we can change time limit up to 24 hours after reading. Public and group chat features allow every user to communicate with multiple people at a time.

ii. Calls – Majority of the messaging apps offer the call feature for user-to-user calls, conference calls, and voice messages.

c). Games - Some messaging applications include in-app games for entertainment. For example, the Facebook Messenger application has option to play computer games with people in a chat, including games like Tetris, Blackjack, Ludo and many more.

Popular Messaging Applications –

Popular Messaging apps with 10 million or more downloads and users.[3]

Application	Company	Usage	Functionality
Discord	Discord Inc.	250 million Users (May 2019)	Software used for voice and text messaging during gaming
Facebook Messenger	Facebook	1.82 billion Users (2017)	Voice, video, and text messaging application for Facebook
Line	Naver	217 million (2016)	Free text and voice messaging application
Signal	Signal Messenger, LLC	Over 50 million downloads as Google	End-to-end encrypted instant messaging, voice and

		play store	video
Snapchat	Snap Inc.	210 million daily active users (2019)	Time-limited messaging and pictures
Skype	Microsoft	300 million monthly active users (2020)	Texting and video calling application for mobile devices, computers, and Xbox.
Telegram	Telegram FZ LLC	500 million monthly active users (2021)	End-to-end encrypted cloud-based instant messaging
Viber	Rakuten	1.095 billion registered users	Japanese cross-platform messaging application
WeChat	Tencent Holdings Limited	1.132 billion monthly active users (2019)	Multipurpose messaging, social, and payment application
WhatsApp	Facebook	2 billion registered users (Feb 2020), 500 million daily active users (March 2019)	Free texting and calling application for mobile phones and computers

Table 1: Popular Messaging Applications

Background - iSpeak messaging app is basically online communication. It allows two or more individuals to communicate with each other by end to end encryption in real time [2]. Online messaging firstly become popular in the mid of

90's following its predecessors IRC's (internet relay chat) and MUD's (Multi User Dungeons) footsteps. IRC is an older program, which is in use today, in which "a small program used which allowed users to communicate on hundreds of servers dedicated to just about every topic imaginable". Similarly, Multi User Dungeons (MUD) is interactive role play chat program that allows people to communicate with each other in an interactive virtual community [3].

SMS is a service used for Short Message Service which allows us to send a short message without internet connection. It uses bitcoin balance. While online messaging apps uses internet to send messages and send other attachments like pictures, audio, videos, etc.

Literature Review - The function of communication technology is widely used for the purpose of being connected with friends. It is used for both purposes like work purpose and for social. It is used for real time contact with co-workers, customers, employees, etc. at any location. It is also let us know whether the user is busy or at available to talk even it also knows us about that user is online or offline. Messengers user can also contact with outsider friends, relative and any other persons. From contact list, user can converse with anyone in contact list if their contacts are in active status. It causes synchronization of data in which it causes two ways communication [1]. Instant Messaging is the term use for students to send and receive notes easily and fast [13]. iSpeak messenger has ability to communicate quickly, privately, and on the fly. It is the best tool available for co-workers in the workspace [2]. Instant messaging is basically a chat room for two or more persons. In this, they can share Web links, images, sounds, videos, recording messages and many more [12]. Social interaction based on text and instant messaging is use in academic to build student-teacher and student-student relationships. Students are willing to use text messaging and instant messaging in academic purpose to communicate with their tutors and ask questions to faculty members in placement field [14].

Methodology - In this world people cannot talk or chat more than 2 or 3 languages. So, when the people went outside from their town probably, they did not understand their language or to speak in their language.

So that's why we make a web app where people can text in their language and it transfer to other user on their language and text also can be speak with a voice assistant. And this web app free to all users.

Despite very substantial investment in text translator technology research over the last 40 years, speech synthesis and text translator technologies still have significant limitations. Most importantly, translate technology does not always meet the high expectations of users familiar with natural human-to-human speech communication. Understanding the limitations - as well as the strengths - is important for effective use of text input and output in a user interface and for understanding some of the advanced features of the Java Speech API, Html, CSS, JAVA, Mongo dB, Boot-strap, NodeJS.

An understanding of the capabilities and limitations of speech technology is very important for developers in making decisions about whether a particular application will benefit from the use of speech input and output.

In this project we collect my data from my previous of projects, many online sources and also take help from YouTube. We really do very hard work to collect the all data for complete our project.

Fig. 1: Methodology of iSpeak Messenger

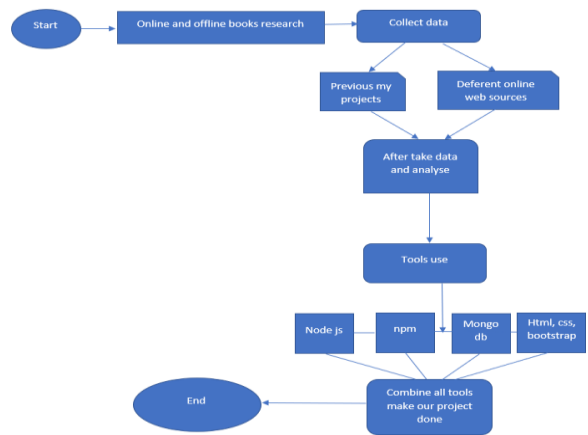


Fig. 2 : DFD (Data Flow Diagram)

Result - In this, when user login to website, there is one option to create room link (Fig. 3). When user click on it, then there is one link create. Then, user share the link to other using WhatsApp or any other app. When any other user Click on link, there is one webpage open, which needs internet access and on open webpage, there is one option to create username (Fig. 4). When user create username, he directly going to the room created by the first user. Then, they communicate each other. This communication result is shown in Fig. 5. Messages send after translation are shown in Fig. 6.

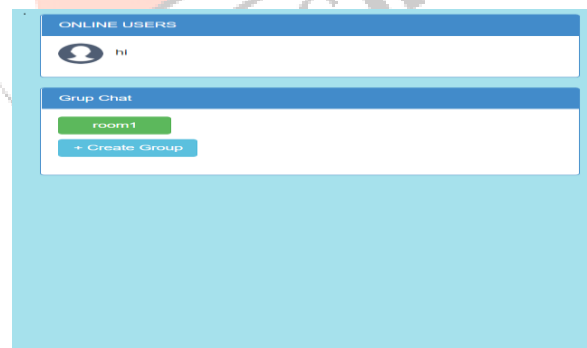
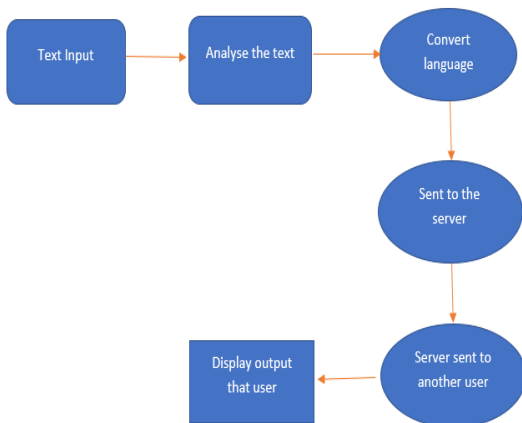


Fig. 3: Create Room

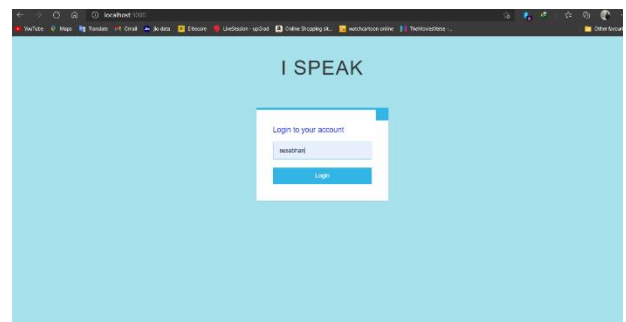
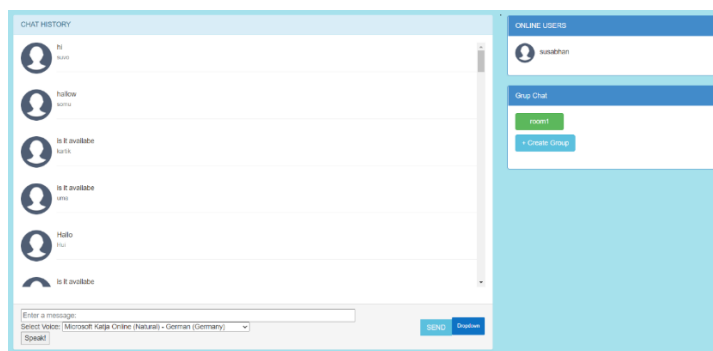
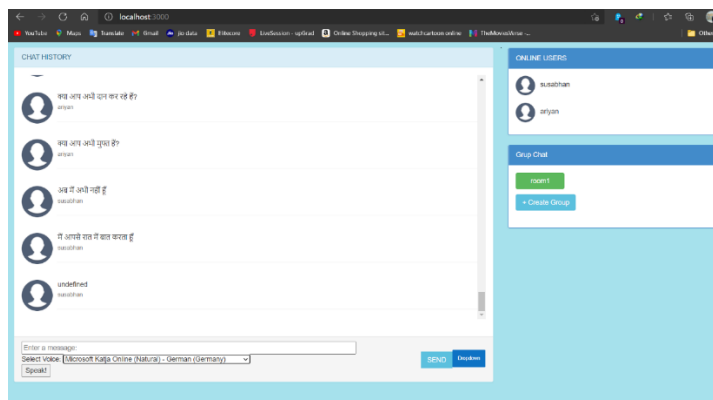


Fig. 4: Create Username**Fig. 5: Communication****Fig. 6: Communication after Translation**

Conclusion - Online messaging is easy to use. It is used for some business to increase business productivity. It is used in some companies for team work tasks at any locations. It is also use for teachers to student know about colleges or universities in other areas. It might be increase business productivity since it is much quicker and less disruptive than a phone call. It mostly uses in banks for regular updates.

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