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Talk house: A Drop-in audio Web App, combining podcast and conference call features

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Abstract

Talk House is an online social networking tool that offers features such as podcasts, conference calls, talkback radio, and online voice chat. Unlike other social networks, it allows real-time voice chat without forcing users to share additional content such as text messages, videos or photos. In addition to starting their own discussions, users can listen in on & take part in live conversations. Talk House markets itself as a premium, alternative social network that draws users who wish to meet new people as well as celebrities. It offers a digital group therapy platform where individuals can talk to complete strangers about their issues. Even with the rise in constant communication via social media, research is needed on the factors influencing growth of voice-based applications. This study is based on qualitative research methods to study people and people motivations and reasons for using these technologies. This essay explores the possible reasons behind Talk House's founding, elucidates its true objectives, and assesses three possible avenues for the company's continued expansion.

Keywords: Technology, social network communication, talk house, audio drop-in, and auditory learning

Introduction

Even when people are not in the same place, communication is greatly impacted by developments in digital technology. Web 2.0, the most recent iteration of the internet, offers interactive tools that let users communicate visually with one another. Face-to-face communication became risky on March 12, 2020, when the World Health Organization declared the COVID-19 epidemic, which began in Wuhan, China in December 2019, is a global pandemic ^[1]. As a result, new media platforms are now the primary means of communication for people. In spite of the wide variety of audio-visual content on social media and advances in video production technology, audio based applications like podcasts and audiobooks have been gaining popularity throughout the epidemic.

It is necessary to conduct academic study of the transition from media consumption to Audio-based media. Social networks have become an integral part of the nation and everyday life, as their use increased. The rise of short-form & live-streaming video platforms has further embedded Social networks in people's day to day lives. To meet growing demand for casual conversation in person over the internet, there has emerged a new Social Audio Platform known as Talk House ^[2].

Talk House offers a forum where people from all over the world can converse in real time, exchange ideas, and learn new things. Talk House's ability to stream live conversations between intelligent and engaging people is one of its distinctive features. Users can even join in on these conversations by raising their hands, and they are not pre-recorded. Users can now interact and engage at a new level thanks to this feature ^[3].

Talk House provides a special kind of online audio therapy that can aid in the treatment of mental illnesses and substance abuse as well as the development of social and emotional skills. Other social networks, on the other hand, focus more on text- or image-based content. With the help of this digital narrative therapy, also referred to as audio therapy, individuals can discover their personal narratives & experiences through audio conversations. In people who are more able to listen to information instead of read or see, this type of therapy may be helpful ^[4].

Their personal narratives & experiences through audio conversations. This type of therapy can be helpful for those who are more able to hear the message, rather than see it. Users are free to join and leave conversations at any time, and they can enter rooms where people are talking about particular topics that interest them.

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Users can also participate in multiple conversations on different topics at once. Users can also change a room's privacy settings after they create it. It allowed users to monitor the conversations held on the platform^[5].

Overall, Talk House is a unique form of communication that allows users in the world to be able to share ideas and knowledge about various topics through its voice-based platform providing them with an opportunity to take part in timely conversations while they are offline. It offers an alternative to other social networks in terms of engagement and interactivity, as well as a special kind of online audio therapy^[6].

ii. Literature review

The demand for socializing & working online has increased since the pandemic's outbreak. As a result, Talk House is a social network that facilitates voice communication & has become increasingly popular. At first, Talk House attracted high caliber users to its "invite-only" group of well-known individuals, which includes politicians, venture capitalists, educators, filmmakers, artists, & engineers. Talk House users are incentivized to spend more time on the platform because they frequently receive invitations to join, making them feel exclusive & popular. Talk House encourages more intimate user interaction by facilitating real-time information sharing through brief conversations, as opposed to just posting comments on Facebook or Twitter^[7]. Talk House users are greeted with a "decentralized" environment when they join a live room, which promotes socialization right away. Everyone is allowed to follow along and participate in this conversation. The COVID-19 epidemic had a negative impact on people & mental health for a number of reasons. Factors, including increased stress, economic uncertainty, & isolation. Statistics from recent times show that while depression rates have risen from 4% to 10%, The percentage of Canadians experiencing anxiety has increased dramatically from 5% to 20%^[8]. In addition, a study shows that more than 25% of participants said the quality of the mental health care they got had declined, & just one-third of participants had easy access to these kinds of resources. In addition, previous research has shown that individuals with mental health problems are more vulnerable to complications related to the influenza pandemic because they may experience barriers to accessing health care. These challenges include discrimination, ignorance and closure of services.

With Talk House, people can connect and communicate via voice instead of appearance, which is a novel platform designed to close the social divide caused by the pandemic. This is especially beneficial for those who struggle with socializing because of mental health concerns or feel uncomfortable with the way they look. Talk House prioritizes voice communication over other social media platforms and facilitates user introductions through mutual friends. This essay will examine Talk House's unique selling points in comparison to other social media sites as well as its prospects for expansion and improvement in the future.

Users of the social media site Talk House can network and learn from one another from experts and thought leaders across various industries, with the goal of cultivating authentic relationships and thought-provoking conversations. Users can connect with people who share their interests, follow their favourite speakers, and join rooms centered around those interests. The closed-access and invitation-only nature of the app also promotes a feeling of community and belonging. Talk House essentially aims to create an audio-

based social network that encourages sincere dialogue and real connections.

III. Research objectives

The Talk House is a brand new social media platform, which enables users to listen in real time to audio conversations on topics of their choice. It depends upon the topic or research question, the conversations can be examined for a variety of reasons after being organized into virtual "rooms.". Nonetheless, the following are some possible Talk house-related research goals.

a) Understanding user behaviour: The understanding of the user's interaction with the platform, and its motivation for participation in discussions, would be a possible research objective. The demographic data of users, the frequency and duration of their interactions within Talk House, as well as common conversations to which they are subject can be reviewed.

b) Investigating Talk House's effects on social dynamics: Examining Talk House's effects on interpersonal relationships and social dynamics could be a further goal of the study. This might entail looking at how users establish and preserve relationships on the platform, how hosts and moderators influence discussions, and whether Talk House has the ability to promote social change.

c) Looking into Talk House and marketing and advertising opportunities: A new avenue for reaching prospective clients for marketers and advertisers is the talk house. One potential research goal in this field would be to examine the efficacy of Talk House advertising and determine the optimal strategies for brands wishing to utilize the platform.

d) Analysing Talk House's effects on privacy and ethics: Lastly, considering the delicate nature of the discussions that occur on Talk House, a study goal might be to look into the platform's privacy and ethical implications. This might entail looking into matters like moderation guidelines, data privacy, and the possibility of abuse or harassment on the platform.

e) Examining Talk House's influence on public opinion: Another possible research objective is to find out how Talk House influences public opinion on different topics. Analyzing ongoing conversations, participant demographics and the potential impact of individual users on the conversation as a whole are examples of what this might include.

Problem statement

Since the beginning of 2020, with the increase in popularity of social audio spaces, new platforms and applications have been developed that favor voice communication over text and images. As a result, opportunities have emerged to teach and learn languages that can benefit from this technology. One site that allows users to join chat rooms and listen to content in real time is Talk House. This is an audible site. This study investigates Talk House's potential for language learning, including the possibility of starting clubs and providing frequent practice spaces. The findings show that Talk House can promote cross-cultural interaction and enhance listening abilities. Although it is too early to say if Talk House and other social media services will become a dominant feature in the future of social media, they offer valuable insight into

how spoken communication plays an essential role in language acquisition. It is aimed at creating an appealing and pleasant social audio experience that attracts a significant number of users, as well as encouraging effective interaction. User feedback that is positive, user base growth, and user engagement are all indicators of the application's success.

Methodology

We're constructing Talk House in three stages. Within a React application, distinct sections with differing degrees of access control are commonly referred to as "guest area," "semi-protected area," and "protected area."

a) Guest Area: Any visitor to the website, regardless of whether they are authorized or authenticated, can access the guest area of the application. Public-facing pages like the login or sign-up page, which don't require user-specific data, are often found in this section. Figure 1 depicts the visitor area.

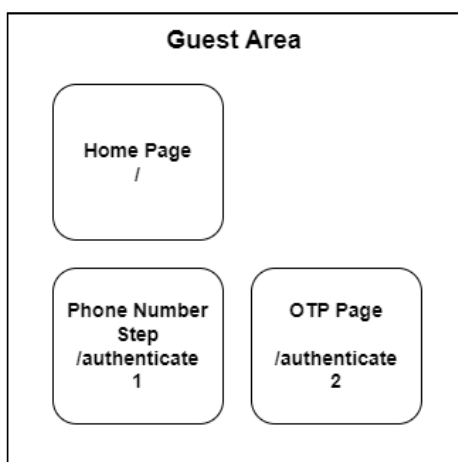


Fig 1: Guest Area in Talk House

b) Semi Protected Area: Only authenticated users will be able to access the portion of an application that is encrypted, which requires no authorization or access rights in addition to fundamental authentication. In this way, you can also consider the user dashboard that only shows information about users and their details to be a partially secured area. The areas covered by the Semi Protected Areas are shown in Figure 2.

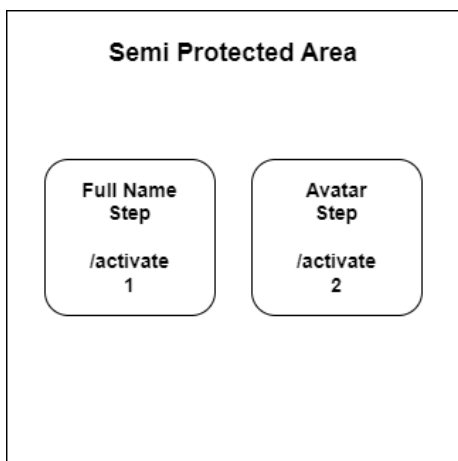


Fig 2: Semi Protected Area in Talk House

c) Protected Area: The area of the program that is restricted to users with permission, usually by virtue of roles or

permissions that have been applied to their account, is known as the protected area. This section might include features like an administrative dashboard or a page for managing user accounts that are only meant for specific users, or it might contain sensitive data. The protected area is depicted in Figure 3.

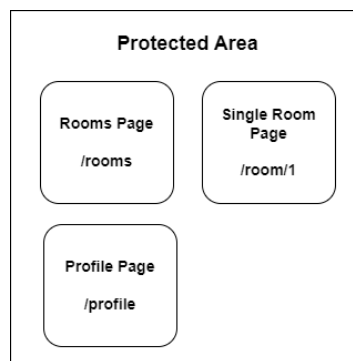


Fig 3: Protected Area in Talk House

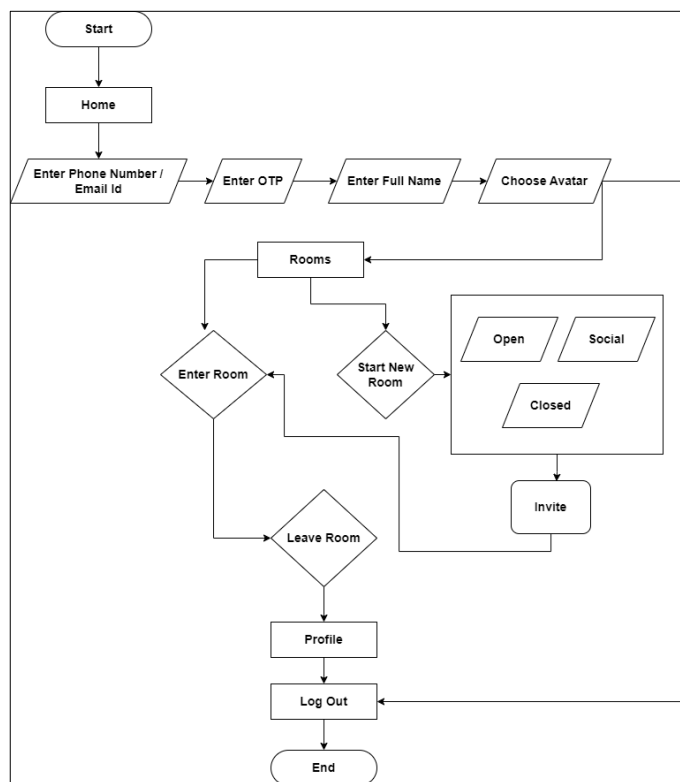


Fig 4: Flow Chart Talk House Webapp

Technologies Used to build Talk House

a) React: Facebook developed the React JavaScript library to make it simpler for developers to design quick user interfaces for websites and applications. Among other things, Instagram.com was constructed with it. The virtual DOM, which enables developers to modify the user interface without directly modifying the real DOM, is the fundamental concept behind React. Performance may increase as a result, and managing intricate user interfaces may become simpler.

b) NODE.JS: Notch. The Node.js open-source development platform allows JavaScript code to execute on the server side. Real-time applications such as chat, news feeds, and web push notifications are commonly created with it; these applications rely on a continuous connection between the browser and the server. Notch. For developers looking to use

JavaScript to create scalable, high-performing online applications, js is a helpful tool.

c) EXPRESS.JS: Express is a Node.js framework for creating mobile and web applications. Js. It provides a plethora of features to enable the development of hybrid and single-page applications. On top of Node, the framework adds another layer. JS that makes routing and server management easier.

d) MONGODB: MongoDB uses JSON-like documents with a flexible schema to store data in a document-oriented fashion. As a result, you don't have to worry about the way your records are organized or about the kinds or quantity of fields that must be used to store data. These MongoDB documents are similar to JSON objects.

e) DOCKER: Developers can create, distribute, and manage containers with Docker, a free platform. The application source code and all required libraries and dependencies to run the code in any environment are included in these self-contained, standardized containers. This allows for greater flexibility in building, deploying, and updating applications.

f) WEBRTC: Real-time voice, text, and video communication between web browsers and devices is made possible by the free and open-source WebRTC initiative. It provides software developers with application programming interfaces (APIs) based on JavaScript so they can incorporate such communication features into their apps.

g) SOCKET.IO: Plug in. A software library called IO enables instantaneous, event-driven bidirectional communication between a client and a server. It makes use of the WebSocket protocol and has fallbacks to HTTP long-polling and automatic reconnections to ensure reliable communication.

Experimental setup

The steps below can be used to set up an experiential environment for Talk House:

a) Setup project on localhost: GitHub clone project repository to set up Talk House project on localhost.

Run basic commands on terminal

Table 1: Console Commands

Command	Description
npm install	Install npm libraries
cd frontend	Go to frontend directory
npm run start	Run the frontend part
cd backend	Go to backend directory
npm run dev	Run the backend part

b) Registration: Use your email address or mobile number to register on Talk House. Verify your email address or mobile number using the OTP service. Include your avatar and username.

c) Rooms: Once we log in, we are shown a grid of rooms. Different discussions take place in different rooms. We can walk into any room and start a conversation. In addition, we have the option to create our own private area and share the link with others.

d) User interactions: We can engage with the presenters and ask questions about the subject after we enter the room. We can converse with other listeners and speakers.

e) Logout: We can log out of the web application when the session is over.

Limitations in the experimental configuration: In order to take part in audio conversations, users need to have access to a device that has a microphone. User privacy must be preserved, and user data must be kept safe. For the application to support numerous users and chat rooms, it must be scalable. Reliability and low latency are essential for the audio communication feature.

Results and Discussion

Without a doubt, social networks are more popular than ever. The Talk House webapp offers a range of captivating themes that can be utilized as a psychosocial rehabilitation tool to assist individuals with mental health concerns in interacting with their communities. Users can choose topics that interest them and have discussions about those topics with other users in the Talk House webapp. Speaking is the act of expressing one's ideas or opinions to other attendees, including listeners and other speakers. Audience members may be thinking of something else in the interim, so be ready to raise your hands and talk. As a result, this new form of communication promotes social interaction.

To ensure a good user experience, authentication and security, we need information from the user.

a) Phone / Email: Sending a verification code to the user's phone number allows for user authentication using email address or phone number. By entering their phone number, users can use this method to receive a verification code via text message. The phone authentication is displayed in Figure 5. -

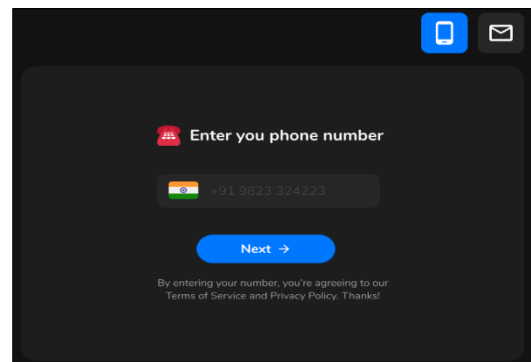


Fig 5: Phone Number for User Authentication

b) OTP: Onetime passwords or OTPs are employed to verify the identity of each user when performing a particular transaction or session, at the same time as user authentication. It means that you must create a special numeric or alphabet string, send it via an email to the user's registered mail address or phone number. Once this is done, the user must enter an OTP to get Online or Mobile Services. How to validate OTP is shown in Figure 6.

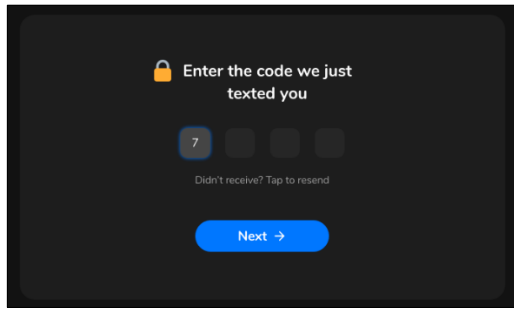


Fig 6: OTP for User Verification

c) **Username:** In web authentication, usernames are frequently used to distinguish individual users from one another. When registering an account on a website or application, users typically choose a username in addition to a password or other verification requirements to verify their identity. In addition to a password for authentication and authorisation of users and access rights, the user's name is also often needed in order to provide each account with its own unique identity. The user ID is shown in Figure 7.

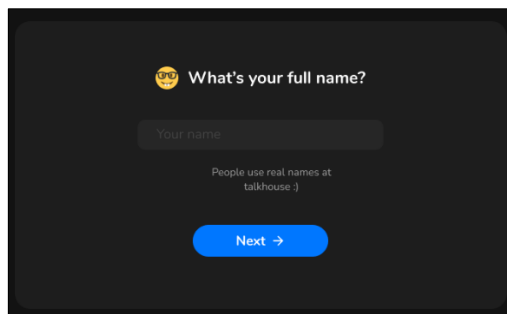


Fig 7: Username for User Identification

d) **Avatar / Profile Photo:** Websites use profile picture or avatars to help users identify themselves, establish credibility and trust, improve branding, enable personalization, and promote social interaction. They contribute significantly to the development of an online experience that is more interesting and user-friendly. The avatar or profile picture is displayed in Figure 8.

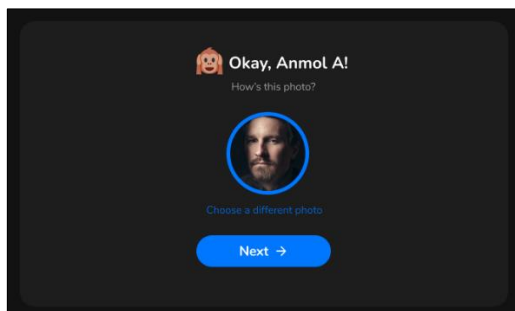


Fig 8: Avatar for User Identification

Talk House rooms are online forums where users can participate in panels, talks, & debates on a variety of subjects. Users may create their rooms according to the interests of users and become active in existing rooms as well as participate in real-time voice conversations with another user. The Talk House rooms range from intimate one person to a large multi-person room with hundreds or even thousands of participants.

a) **All Voice Rooms:** Figure 9 shows the all-voice rooms -

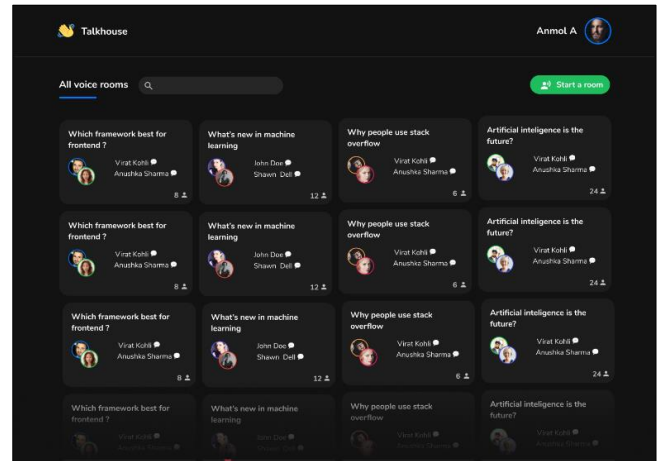


Fig 9: All Voice Rooms in Talk House

b) **Single Room:** Figure 10 shows the single voice room

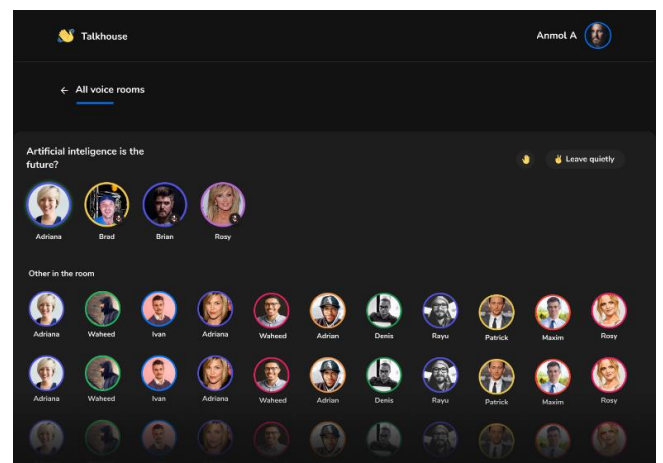


Fig 10: Single Voice Rooms in Talk House

Talk House offers a variety of room types, including private, social, & public, all of which can be moderated by the room creator & other moderators by appointment. When someone in a room raises their hand to speak, the moderators have the authority to allow them to take the stage & take part in the discussion. The types of rooms are depicted in Figure 10.

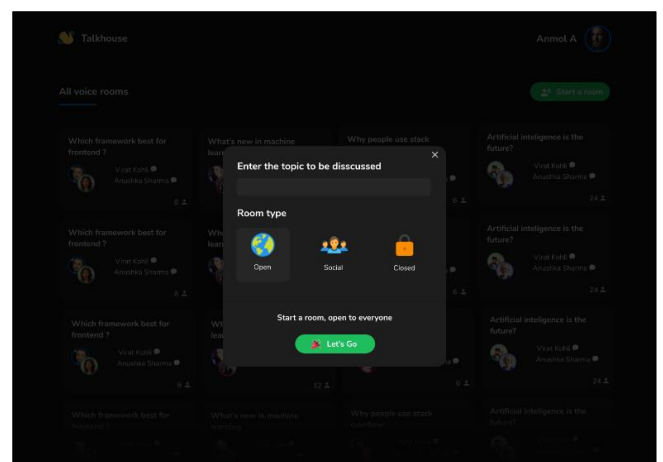


Fig 11: Different Types of Rooms in Talk House

MongoDB database for the Talk House web application

a) **User's Database:** The User's Database is displayed in Figure 12. –

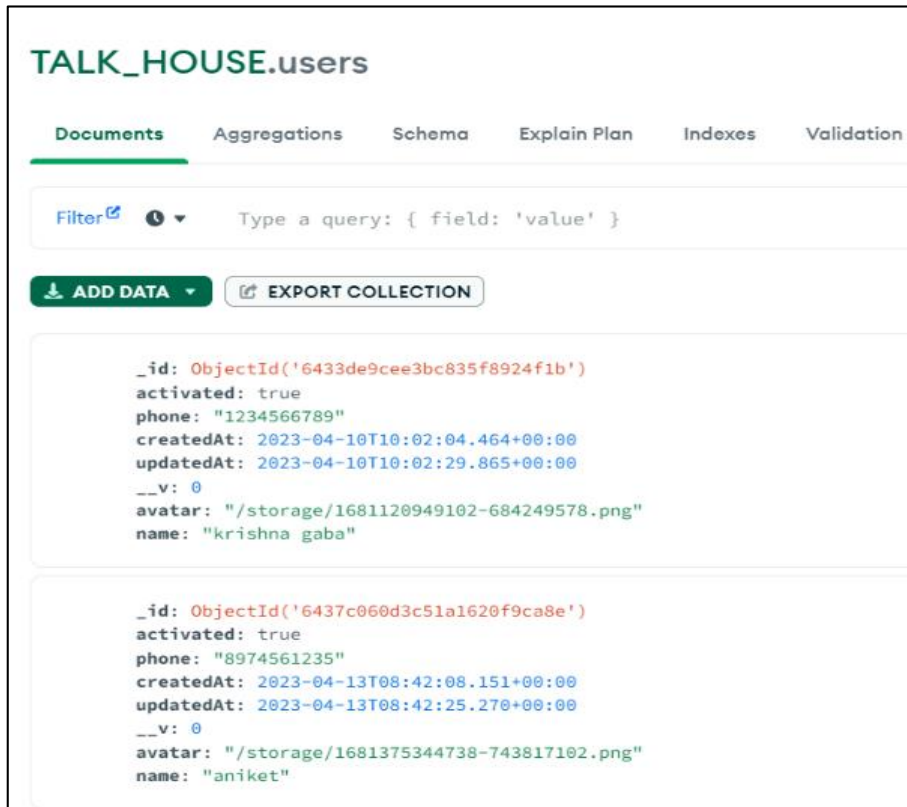


Fig 12: User’s Database MongoDB

b)Room’s DB: Figure 13 shows the Room’s Database

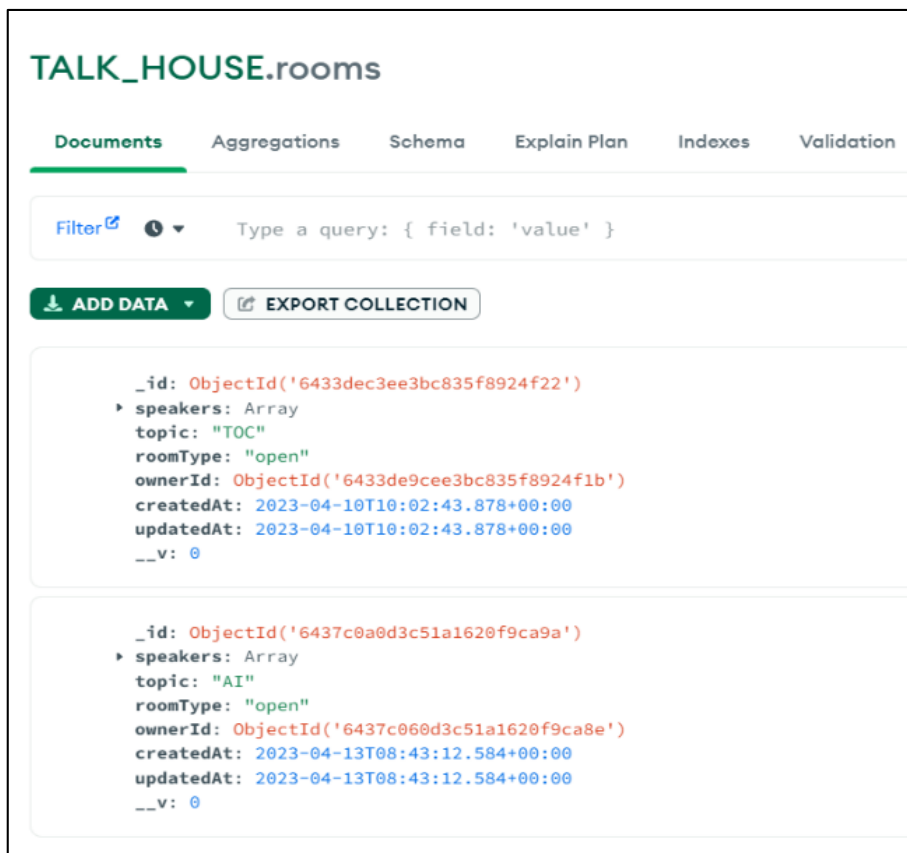


Fig 13: Room’s Database MongoDB

Future Scope of the paper
Talk House is a social networking site that allows users to have audio conversations with other users. In the future,

Talk House has a lot of room to grow and develop.

A) Reach and Accessibility

Increasing Talk House's reach and accessibility is a key

component of its future development. The platform is only accessible in English at the moment, which reduces the number of potential users who may find it appealing. The platform and its reach and appeal to a wider range of users around the world can be increased by supporting multiple languages and extending it to other platforms such as Android or iOS.

b) Monetization

Talk House may also look into other avenues for revenue in the future. Although the platform is free at the moment, the company has stated that it intends to look into paid sponsorships or subscriptions. In addition to giving the business a source of income, this might encourage content producers to use the platform.

c) Security

To maintain user trust and security, Talk House must invest in stronger privacy and security measures in addition to better monitoring tools. It will be more crucial than ever to address any possible problems with user security, privacy, and content moderation as the platform expands. Talk House may investigate ways to donate its platform to worthy causes. It might encourage people to fundraise for non-profit organizations and engage in social issue-focused communities, for example. This could make the platform more appealing to people who value social impact and give users a way to get involved with significant social causes. Talk House is firmly committed to protecting the privacy and security of its users while growing the platform and its features, user base and revenue streams. Talk House is capable of becoming a leading player in the Social Networking Industry through its adaptation to user needs and preferences.

Conclusion

In conclusion, Talk House is a wonderful concept that encourages communication between strangers, no matter what the future holds. The majority of people still place a higher value on promoting themselves than building meaningful relationships with others, despite the abundance of new media platforms that assist people in learning about and presenting themselves. The Talk House could create a small community where individuals can overcome social barriers and freely express themselves. While Talk House will not become a major social media platform, it will function as an independent forum where the opinions of various stakeholders are heard. Talk House and its status as an audio-only social media platform means that comparing it to a visual media platform is difficult to gauge its potential, and there aren't many relevant examples.

Based on our examination of Talk House API data and our own usage of the platform, it seems that the majority of Talk House discussions and user interests revolve around business-related subjects. Furthermore, some users were using this platform as a webinar like learning instrument where they could listen free to expert discussions that would give them important domain knowledge. The fact that there are topics such as "Networking" and "Getting to know new people" underlines Talk House's position as the platform for business networking. Furthermore, we noticed that some users use Talk House to develop and promote their personal brands to monetize the platform. Talk House has interviewed many famous people, including executives and celebrities, which

has contributed to its growing popularity. These people valued Talk House's distinctive media format and delighted in having genuine conversations with their fans. Additionally, the statement suggests that the text's authors have firsthand knowledge of Talk House's legitimacy.

While there are voice-recognition technologies driven by AI, their capacity to comprehend speech and engage in human-to-human communication needs to be increased with larger amounts of data. It's possible that these voice-recognition algorithms are being tested on Talk House. It's possible that in the near future, AI that converses with users in Talk House chat rooms will be able to pass the Turing test with ease.

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