

ECHOSPACE: PRIVACY-CENTRIC SUPPORT SPACES

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Abstract— EchoSpace is such an innovative chat room design tailored to deliver anonymous and time-bound spaces specifically to cater mental health support with ease as well as the provision to discuss anything, freely or casually. Keeping the social need of space as in mind, which one usually feels not very secure due to various kinds of apprehensions when expressing himself to traditional media platforms and also messaging ones. Through the integration of NLP-based recommendations, automated moderation tools, and robust privacy protections, EchoSpace addresses significant limitations in current chat platforms, especially in maintaining anonymity and ensuring user safety. Its carefully structured architecture places a strong emphasis on data privacy, community support, and effective moderation, ultimately creating a digital environment where users can freely engage in meaningful discussions without fear of judgment or data compromise.

Keywords—EchoSpace, Anonymous Chat, Mental Health, Data Privacy, Real-Time Chat, NLP Recommendations

1. INTRODUCTION

The EchoSpace platform is developed to create a safe, anonymous environment in which users can freely discuss sensitive topics like mental health issues, knowing that their privacy is protected. Traditional messaging and social platforms often are not suitable for such discussions since they might not have proper privacy measures, offer very little anonymity, and do not have tools specifically designed for supporting sensitive topics. Built with an anonymous, temporarily-private space that allows chat, these spaces are intended for temporary conversation sessions focused on keeping the user's identity as secure as possible. Also provided within EchoSpace is an approach to moderation of users

engaging in sensitive or highly confidential discussions. Such provisions result in a safe, open-spaced place where the thoughts, supports, and connections to one another of users will never expose the information to the external environment nor threaten their reputations. This is how EchoSpace, by furnishing this specialized environment, plans to become a trusted digital sanctuary where sensitive discussions unfold naturally and securely.

Mental health and privacy concerns are more and more being recognized as priorities in today's digital landscape, and therefore, a demand for platforms where people can access support while keeping their personal information safe is very much in demand. In response to this need, EchoSpace offers a structured and moderated environment for users to connect anonymously, ensuring that discussions are free from judgment and secure from long-term data retention. Built using Flutter[1] for seamless cross-platform accessibility and Firebase[4] for secure backend support, EchoSpace integrates innovative AI-driven recommendations and automated moderation features. [5] These advancements work in tandem to create an experience that is not only engaging and user-friendly but also carefully designed to prioritize user privacy and enhance mental health support on a digital platform.

2. ECHOSPACE SYSTEM

The system of EchoSpace allows for anonymous user engagement using structured chat spaces. Users may discuss freely and openly anything they wish. Its modules are well defined and involve user authentication, space creation, moderation, and chat functionality, all working together seamlessly to provide a seamless experience for users. The system prioritizes user anonymity and safety with features that allow the creation of one-on-one "Corner" chats, moderated group discussions, and space recommendations based on user-selected tags. Each space operates temporarily, with

automated data deletion protocols to enhance user privacy and reduce the risk of data misuse.

The core elements of EchoSpace are space creation, automated moderation, AI recommendations, and privacy settings. The system combines NLP algorithms to recommend spaces based on tags and allows admins to monitor and moderate interactions, ensuring a respectful environment.[10] Enabling temporary data storage and minimal logging, EchoSpace ensures that user interactions remain private and accessible only for the duration of the chat, thus providing an optimal balance of security, usability, and user confidence.

3. LITERATURE REVIEW

This paper highlights the primary technologies used, including the Flutter SDK, the Dart programming language, and performance optimization techniques like Ahead-of-Time (AOT) and Just-in Time (JIT) compilation. These tools collectively contribute to an efficient development process with significant performance benefits. One major advantage of using Flutter is its cross-platform capabilities. Flutter allows developers to design applications for both iOS and Android from a single codebase, significantly reducing development time and ensuring design consistency. Developers are enforced to either construct the same application numerous times for various OS (operating systems) or accept a low-quality similar solution that trades native speed and accuracy for portability. Flutter is an open-source SDK for developing high-performance and more reliable mobile applications for operating systems like iOS and Android. Flutter has a feature called as hot reload which helps you easily experiment, build UIs, add features, and fix bugs. Hot reload works by inserting updated source code files into the running Dart Virtual Machine (VM). For an application like EchoSpace, which aims to provide a uniform experience across different platforms, this feature is invaluable. This means developers do not have to worry about coding separately for each operating system, allowing them to focus on enhancing the app's core functionalities rather than adapting the app to individual platforms. Furthermore, maintaining one codebase is typically more cost-effective and reduces the likelihood of platform-specific bugs. The paper also emphasizes Flutter's high-performance advantage, which is particularly useful for resource-intensive applications like EchoSpace. Flutter achieves near-native speed, thanks to its use of AOT and JIT compilation, which optimize app performance by improving the execution speed and reducing latency. These optimizations make Flutter an appealing choice for applications that demand high responsiveness and complex interactions, as they enable the app to deliver smooth and responsive user experiences. For an app like EchoSpace, which might incorporate advanced graphics, animations, or large

datasets, such performance enhancements are essential to ensure users experience minimal lag.[1]

This paper highlights about Chatbots powered by LLMs, such as OpenAI's ChatGPT, are being increasingly used in sensitive areas like mental health support, making privacy and data protection essential. Key PETs discussed include differential privacy, federated learning, and data minimization. Each of these approaches has unique ways of securing user data and has important implications for applications like EchoSpace, which prioritize user privacy and anonymous interactions in mental health support contexts. One of the main advantages of using PETs in EchoSpace is the ability to offer enhanced privacy measures for users. Differential privacy, for example, adds a layer of anonymity to large datasets by introducing noise, ensuring that no individual data points can be traced back to a specific user. This is particularly valuable in mental health-focused platforms where user anonymity is crucial. Federated learning, another PET, allows EchoSpace to improve its AI models without accessing users' raw data directly, as model training occurs on user devices in a decentralized manner. These techniques work together to provide a robust privacy framework that can protect EchoSpace users' sensitive information from unauthorized access or exposure. The evolution of artificial intelligence (AI) and machine learning (ML) has led to the development of sophisticated large language models (LLMs) that are used extensively in applications such as chatbots. It explores the dual challenges of safeguarding sensitive user information while ensuring the efficiency of machine learning models. It assesses existing privacy-enhancing technologies (PETs) and proposes innovative methods, such as differential privacy, federated learning, and data minimization techniques. However, the paper also highlights the complexity of implementing PETs and federated learning. These techniques require advanced knowledge in AI, machine learning, and data security, which can pose challenges for development teams. For EchoSpace, this might mean the need for specialized expertise or training, which could increase both development time and costs. Complex privacy preserving methods require ongoing maintenance and troubleshooting to remain effective, which could also demand more resources over time. Balancing these requirements with the need for a secure user experience can make the development process more intricate and resource intensive.[2]

This study particularly emphasizes end-to-end encryption (E2EE), role-based access control (RBAC), and encryption-at-rest as critical methods for protecting user data in applications that prioritize privacy. In mental health-focused platforms like EchoSpace, which involves highly sensitive conversations, ensuring that user interactions remain secure is paramount. The

paper's insights into these technologies provide a roadmap for establishing robust privacy practices that support EchoSpace's mission of offering a safe and confidential platform for users. One primary advantage discussed in the paper is the high security offered by end-to-end encryption. E2EE encrypts messages directly from the sender to the recipient, preventing unauthorized access during transmission. This is particularly valuable for EchoSpace, where users need to feel confident that their conversations are private and not accessible to third parties, even the platform itself. By encrypting each message before it is sent and only decrypting it upon receipt, EchoSpace can ensure that sensitive data is not vulnerable to interception, thus creating a safer environment for users to discuss personal issues. The chatbot's security architecture relies on a robust encryption framework that ensures messages exchanged between users and the chatbot remain encrypted throughout transmission. Authentication mechanisms further secure the chatbot's security posture by verifying the identities of users and the chatbot itself, preventing unauthorized access to conversations. Access control mechanisms are implemented to regulate user access to chatbot functionalities and sensitive data. Role based access control (RBAC) policies restrict access based on predefined roles and permissions, ensuring that only authorized users can perform specific actions or access certain resources. The paper also emphasizes the importance of access control, specifically through Role-Based Access Control (RBAC), in safeguarding the platform further. RBAC restricts access to various functions within the application based on the roles and permissions assigned to users, which is useful in managing and protecting EchoSpace's chat spaces. Administrators can assign different levels of access to users, ensuring that only authorized personnel can perform specific actions or view certain information. For example, in EchoSpace, moderators might have permissions to oversee discussions without accessing private user data. This layered security measure can prevent unauthorized actions or accidental data exposure, adding another level of protection for users.[3]

This paper studies Firebase offers a range of functionalities, including a real-time database, authentication services, and analytics, making it a popular choice for apps that need to handle large volumes of data in real time. For applications like EchoSpace, which relies on up-to-date interactions among users in mental health support spaces, Firebase provides essential backend support that enhances the user experience through seamless data handling and real-time syncing. One major advantage of Firebase highlighted in the paper is its real-time data synchronization feature. Firebase's real-time database ensures that changes made on one device are immediately reflected across other devices, which is ideal for chat-based applications like EchoSpace. This

means users can view the latest updates, messages, and other interactions in real time, fostering an interactive and responsive environment. For a platform that supports mental health discussions, where timely responses and continuous engagement are crucial, Firebase's real time syncing helps maintain an engaging and supportive user experience. It is difficult for Relational Database Management System (RDBMS) to handle the unstructured data. Firebase is a relatively new technology for handling large amount of unstructured data. It is very fast as compared to RDBMS. This paper focuses on the application of Firebase with Android and aims at familiarizing its concepts, related terminologies, advantages and limitations. The paper also emphasizes Firebase's scalability, which is particularly beneficial for EchoSpace as it grows its user base. Firebase is designed to handle high volumes of data and large amounts of traffic without compromising performance, making it a strong backend solution for applications that may scale significantly over time. As EchoSpace's community expands and user interactions increase, Firebase's backend infrastructure can accommodate these growing demands. This scalability reduces the need for frequent backend adjustments, allowing the EchoSpace development team to focus more on enhancing front-end features rather than worrying about data load issues. The paper also raises concerns about Firebase's potential downsides, one of which is vendor lock-in. Firebase is deeply integrated into Google's ecosystem, meaning that reliance on it could make future migration to other platforms challenging. For EchoSpace, this could be a limitation if, down the line, the app needs to switch to a different backend service due to changes in data handling requirements or new regulations. Migrating away from Firebase could involve significant time and costs, as the EchoSpace team would need to re-engineer key backend functionalities, which may hinder flexibility in long-term planning.[4]

This paper highlights the Firebase offers a robust suite of backend tools, including real-time databases, authentication, and analytics, which together form a complete package for developers. For applications like EchoSpace, Firebase can handle essential backend functionalities efficiently, allowing the development team to focus on enhancing the app's front-end experience. A key advantage of Firebase highlighted in the paper is its comprehensive backend support, which includes authentication, database management, analytics, and cloud storage. This all-in-one backend solution can significantly streamline the development process for EchoSpace by handling various backend tasks without requiring separate services. With Firebase managing user authentication, EchoSpace can ensure secure login experiences, while the built-in analytics tools provide insights into user behavior. This integrated backend setup can save development time, reduce the complexity of managing multiple services, and enable

faster deployment of core features for the EchoSpace app. Firebase's cross-platform compatibility is also beneficial for EchoSpace, which aims to operate seamlessly across both iOS and Android. Firebase SDK's cross-platform support allows EchoSpace to maintain a unified backend, simplifying code maintenance and ensuring a consistent experience on both platforms. This compatibility aligns with EchoSpace's goal of reaching a wide audience without requiring separate backend setups for each platform. As a result, Firebase helps ensure a smoother, more efficient development process and supports a cohesive user experience regardless of device. SDK tools will include a range of things, including libraries, documentation, code samples, processes, and different guides that developers can use and integrate/combined into their own apps. Firebase consists of features that developers can use together to meet their needs. It also takes care of most of the backend concerns and is dubbed a Backend as a Service (BaaS) and also pushes state to your application utilizing web sockets. Another significant disadvantage is Firebase's pricing model, which may become costly as EchoSpace's user base grows. While Firebase offers affordable pricing tiers for small-scale applications, larger applications with high traffic and extensive data storage needs could face rising costs. Budgeting for Firebase's scaling costs is essential to ensure the platform remains financially viable in the long term, as the development team will need to account for the potentially escalating expenses associated with increased data usage and real-time features.[5]

The insights from this study provide a useful framework for EchoSpace to build its chat-based features efficiently. One key benefit of this setup is its real-time messaging capability, which Firebase supports seamlessly. Firebase's real-time database allows messages to sync across devices instantly, which is essential for EchoSpace's live discussions in user-created spaces. This real-time functionality ensures that users can engage in fluid, interactive conversations, receiving messages almost instantaneously. Such immediacy is important in mental health support environments, where users often benefit from immediate responses and dynamic interactions. By adopting Firebase's real-time messaging capabilities, EchoSpace can create a supportive and responsive atmosphere that encourages continuous user engagement. The paper also highlights Flutter's cross-platform functionality, which is relevant to EchoSpace's goal of reaching both iOS and Android users with minimal development overhead. Flutter's ability to run on multiple platforms using a single codebase streamlines development, reducing the time and resources needed to create separate versions of the app for each platform. This unified approach allows the EchoSpace development team to focus on refining features rather than managing multiple codebases. For EchoSpace, this results in a cohesive user experience

across devices, making it easier to deploy updates and maintain consistent features on both iOS and Android. Flutter provides high UI directly in the operating system's workspace rather than through native framework. It is a real-time database that permits storing a list of objects in the form of a tree form data structure. This research paper discusses about the implementation of a Chat Room for android mobile phone using flutter framework. To provide security to the client the database is created using Google. However, a limitation discussed in the paper is Firebase's relatively rigid data structure, which could restrict EchoSpace's flexibility. Firebase's predefined data structures may make it challenging to implement unique features such as temporary chat spaces or a custom recommendation system, which may require a more adaptable backend solution. For EchoSpace, this limitation could hinder the development of specialized features that distinguish it from other platforms.[6]

This research paper includes the details about a chat application to send private and confidential instant messages without the fear of interference. This combination provides a foundation for EchoSpace to deliver a secure, real-time communication experience across both Android and iOS devices. For a mental health support platform like EchoSpace, ensuring privacy, rapid message delivery, and compatibility across devices is essential, making the Firebase and TLS setup a practical choice. A significant advantage highlighted in the paper is Firebase's cross-platform support, which allows EchoSpace to operate seamlessly on both Android and iOS. Firebase's integrated tools enable developers to build features once and deploy them across multiple platforms, ensuring consistent functionality without requiring separate codebases. For EchoSpace, this cross-platform capability facilitates efficient updates and maintenance, creating a unified experience for all users. This setup is particularly beneficial as it allows EchoSpace to reach a broad audience on both major mobile platforms without duplicating development efforts. A secure communication path is created with encryption protocol. Since the service provider has the full access to all the message sent and received by their user. In this paper, we focus mainly on security and confidentiality of user messages by proposing the end-to-end encryption. Our application makes sure that the user message sent by sender is original and is not manipulated by third party. The paper also underscores the importance of encryption for maintaining user privacy, particularly through TLS encryption. By encrypting communications, Firebase ensures that data remains protected during transmission, which aligns well with EchoSpace's mission of prioritizing user privacy in mental health discussions. Encryption prevents unauthorized access and safeguards user conversations, an essential feature for any application dealing with sensitive information. With

TLS in place, EchoSpace can offer users a higher level of confidentiality, building trust and encouraging more open discussions in a secure environment. Vendor lock-in could restrict EchoSpace's flexibility to adapt to new backend requirements or regulatory demands in the future. As EchoSpace expands, this dependence on Firebase may lead to challenges in scaling or customizing features without substantial rework, affecting long-term adaptability.[7]

The authors propose a multi-layered approach combining AES for text, RC4 for multimedia, and public key cryptography for secure key exchange. For an app like EchoSpace, which supports sensitive mental health discussions, applying strong encryption standards is essential to ensure user privacy and build trust. The encryption techniques outlined in this paper provide valuable insights into how EchoSpace might achieve robust security for user interactions. One of the paper's main advantages is its emphasis on advanced encryption protocols, notably AES for text messages and RC4 for multimedia content. AES, being a widely respected and secure encryption method, ensures that text communications within EchoSpace remain highly confidential. Using RC4 for media adds an additional layer of security for voice and image files, which may be especially relevant for platforms where users share multimedia resources. By implementing similar encryption techniques, EchoSpace can foster a secure environment, reassuring users that their private conversations and shared resources are fully protected from unauthorized access. The proposed application used the Elliptic Curve Diffie Hellman Key Exchange (ECDH) algorithm to generate the key pair and exchange to produce the shared key that will be used for the encryption of data by symmetric algorithms. For the text message security, the standard AES algorithm with a 128-bit key are used. The generated key (160 bit) minimized to 128-bit length by selecting the first 128 bit of the generated key in order to be used by the AES algorithm. The paper further emphasizes the importance of end-to-end encryption (E2EE), which prevents any third party—including the service provider—from accessing user data. E2EE would be particularly beneficial for EchoSpace's mental health-oriented platform, where sensitive information is exchanged. Implementing E2EE could ensure that even EchoSpace's own systems do not have access to user messages, creating a high level of privacy and security for users. This commitment to user privacy is critical for EchoSpace's reputation and aligns with its mission to provide a safe, confidential space for mental health discussions. Lastly, the paper recommends RC4 for multimedia encryption, which presents a potential issue for EchoSpace. RC4 has known vulnerabilities and is no longer considered a secure algorithm by modern standards. While the paper's use of RC4 aims to secure voice and image transmissions, EchoSpace might benefit

from considering more robust alternatives, such as AES-GCM, which offers better security for multimedia data. By opting for stronger, modern encryption standards, EchoSpace can protect against known vulnerabilities, ensuring that all forms of user data remain secure across text, voice, and multimedia, and reinforcing user trust in the platform's commitment to privacy and security.[8]

4. ARCHITECTURE

The main components of the EchoSpace architecture are:

- **User Authentication and Profile Management:** EchoSpace uses Firebase Authentication[5] for user sign-in, providing a secure entry point and ensuring privacy with the use of aliases. During the setup, users can customize their profiles, including optional tag selections that inform the platform's recommendation system.[4] This customization enhances personalization by aligning recommendations with user preferences while maintaining anonymity. The profile setup also enables users to create a unique identity without revealing personal information.
- **Creation and Administration:** Users can create new chat spaces or join existing ones. While creating the space, users can assign tags describing what kind of space it is, set a maximum number of participants, and set time limits for the session. Spaces are categorized into "Public," which makes them searchable and accessible to more users, or "Private," making them a restricted environment that can be accessed only by invitation. This flexibility in space creation enables users to create discussions relevant to the topic or participant group, making interactions more focused and safer.
- **NLP-Based Recommendation System:** EchoSpace's recommendation system uses NLP (Natural Language Processing)[9], and [10] algorithms to analyze user-selected tags and preferences. This intelligent system suggests relevant spaces to users based on their interests and previous interactions, delivering a curated experience. By focusing on tags rather than personal data, EchoSpace prioritizes user privacy while providing meaningful and contextually relevant recommendations.
- **Moderation Tools:** EchoSpace equips the administrator with tools to manage a space properly. It monitors the activities of users, responds to reports of inappropriate behavior, and deletes users who cause disruption in the chat environment. It includes content

moderation for the proper conduct of interactions so that the space is not only respectful but also supportive and inclusive. The admin can take immediate action where necessary to enhance user safety and quality of discussion.[11], and [12].

- **Data Deletion through Automated Protocol:** EchoSpace has an in-built session-based timer, which deletes data after a user leaves a space or after the session time is over. This protocol allows interactions to be temporary in nature and prevents data from lingering on the platform after a discussion has been completed. Automatic deletion of data further maintains the promise of privacy through the regular elimination of stored data.

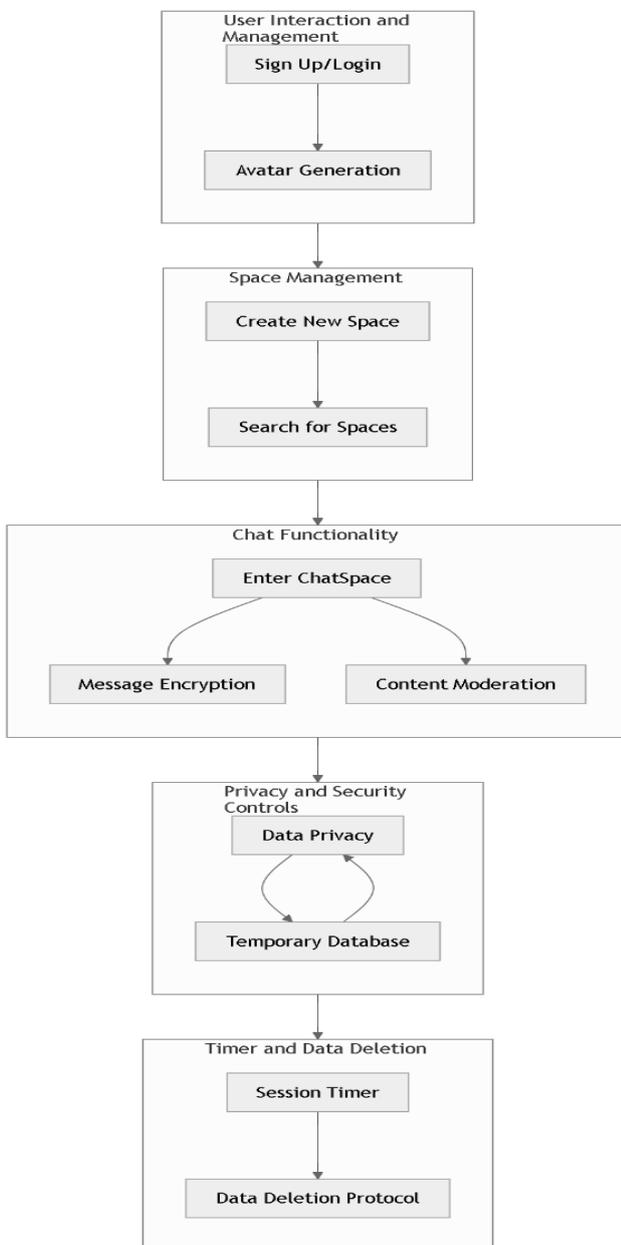


Figure 1: Architecture Diagram

1. User Interaction and Management

- **Sign Up/Login:** This module handles user registration and login, allowing users to access EchoSpace without exposing personal information. The focus on anonymity encourages users to feel safe discussing sensitive topics.[5]
- **Avatar Generation:** Once authenticated, users are provided with a randomly generated avatar. This enhances privacy by giving users a unique, non-identifiable visual representation while interacting within the platform.[4]

2. Space Management

- **Create New Space:** This feature allows users to start new purpose-driven chat spaces dedicated to certain topics or purposes. Whether the purpose of chatting is mental health discussion, wellness-related, or purely casual conversation, EchoSpace accommodates focused, relevant, and meaningful interactions in a context-sensitive manner within supportive environments.
- **Search for Spaces:** Users can search through existing spaces based on interest or tagged topics. The search feature, which may be aided by AI-based recommendations, enables users to rapidly identify supportive and relevant communities.[10]

3. Chat Functionality

- **Entering ChatSpace:** Once the user selects or creates a space, they enter the chat area seamlessly. The functionality emphasizes ease, intuitive navigation, and instant feedback in communication, ensuring no technical barriers hinder connection and openness.[7]
- **Message Encryption:** All messages are encrypted to ensure communication between users is secure, providing another layer of protection against unauthorized access. This encryption secures data during transmission and strengthens user confidence by focusing on privacy and upholding the integrity of sensitive conversations.[2]
- **Content Moderation:** Automated tools scan messages for inappropriate or dangerous content, using advanced filters to identify language or behavior violating community guidelines. This ensures a respectful and safe atmosphere.[11] Additionally, flagged content can be reviewed by moderators to uphold platform standards, enhancing user trust through consistent safety measures.[12]

4. Privacy and Security Controls

- **Data Privacy:** This component includes the platform's privacy measures, focusing on safeguarding user data through encryption and limited data access protocols.[3]
- **Temporary Database:** Messages and session data are stored temporarily, minimizing data exposure risks and aligning with EchoSpace's privacy-centric approach.

5. Timer and Data Deletion

- **Session Timer:** Each chat session is assigned a time limit, ensuring conversations are temporary. This feature provides users with confidence that their chats will not be stored long-term.
- **Data Deletion Protocol:** After each session, this protocol automatically deletes chat data, fully aligning with EchoSpace's commitment to user privacy and anonymity.[3]

5. COMPARISON WITH EXISTING SYSTEMS

Unlike widely used chat applications, EchoSpace is designed with anonymity and ephemeral conversation in mind, overcoming limitations in the most popular systems, like WhatsApp and Facebook Messenger, which store messages permanently and allow users to know each other's identities. Conventional systems, including WhatsApp, Facebook Messenger, and even Discord, are based on the principles of permanent message history and identity-based interaction. On these platforms, users may feel restricted or hesitant to share personal or sensitive information, knowing that their words are stored for an indefinite period and tied to their real identities, creating potential privacy concerns. This permanence and visibility often discourage open conversations, especially around sensitive topics like mental health, personal struggles, or confidential matters.

A fundamentally different approach, EchoSpace prioritizes privacy and user anonymity through a carefully designed, privacy-first architecture. Key features of EchoSpace include temporary data storage, automated data deletion protocols, and robust moderation tools, each thoughtfully integrated to support a secure and judgment-free environment. The temporary nature of EchoSpace's chat spaces—where discussions are automatically deleted after a set period—ensures that no long-term records are kept, thus reducing the anxiety users may have about their data being archived or accessed later. Additionally, EchoSpace's moderation system, combined with anonymized user aliases and strict access controls, helps prevent disruptive behavior and ensures a respectful atmosphere, while still safeguarding user identities.[3]

Unlike the persistence of ordinary social platforms, EchoSpace focuses on short-lived interactions that are private, helping users to have meaningful discourses without fear of the long-term exposure or judgment being made. The structure of the app further encourages people to explore and converse about sensitive or complex issues, be it mental health or wellbeing, in a setting whereby anonymity is preserved. By removing permanent records and visible identities, EchoSpace empowers users to express themselves freely, fostering a unique, trust-centered experience focused on empathy, connection, and genuine conversation.

6. CONCLUSION

In summary, EchoSpace is an innovative, privacy-focused approach to digital mental health support, harnessing the idea of creating an anonymous-chat space environment with the highest level of moderation and AI recommendation. Unlike other forms of online or social media chat rooms, which usually lack robust controls for privacy and are poorly designed for discussing sensitive topics, the design of EchoSpace uniquely responds to the needs of the person seeking a safe environment that supports open discussion. Thus, EchoSpace ensures that the users can connect and talk about personal or sensitive matters without the fear of long-term data retention, identity exposure, or judgment from others by giving prime importance to user privacy and data security along with temporary data storage.

The platform's unique combination of automated moderation, secure chat spaces, and NLP-based recommendations allows EchoSpace to create a positive, respectful environment in which meaningful conversations can flourish. With the advanced moderation tools, users are guaranteed a safe and supportive environment. AI-driven recommendations guide the users to those particular chat spaces that align with their interests and needs. Such an approach lets EchoSpace give a custom, user-friendly experience toward the emotional as well as practical challenges brought about by online discussions over mental health and other sensitive subjects.

EchoSpace's commitment to temporary data storage and automated data deletion protocols reflects its dedication to user privacy in a way that few other platforms can match. It limits data retention and focuses on secure, ephemeral interactions, so users know their conversations will not be stored indefinitely or used in unintended ways. This emphasis on data privacy, combined with tools for community support and real-time chat functionality, places EchoSpace as a valuable tool for fostering meaningful, supportive interactions fully aligned with modern privacy concerns and the growing demand for safe online spaces.[8]

In today's digital landscape, where privacy concerns are paramount and individuals increasingly seek supportive, judgment-free environments, EchoSpace offers a unique solution. Such a design favoring privacy, providing temporary spaces for chatting, and emphasizing user anonymity are invaluable to anyone wanting to discuss sensitive issues with someone without the fear of exposure or reputational risk. In this concerned mix of privacy protecting and moderation and AI recommendatory features, EchoSpace is a resource that stands a great chance to be trusted in seeking real connections and support where modern digital life-increasingly prioritizes user privacy in relations -is sought.

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