Study on Empowering Youth and Adults to overcome Mental Health Hardships using a Web Application

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Abstract:-Mental health is essential during childhood, adolescence, and adulthood. Mental health issues can influence one's thoughts, disposition, and conduct. A record number of mental health problems are caused by a global pandemic. Prevention of mental disease is vital for both children and adults. We desired to develop a web application for those with mental health difficulties. This web application will provide group chat, discussion, a community feed, and counseling services. The community feed function provides information regarding scheduled conversation space meetings, and the counselor uploads uplifting thoughts and tales of patients who received proper care and overcame mental health issues. Community feed can filter content based on user preferences. The mental health system for adults and adolescents will be updated. The community feed delivers relevant and instructive postings, links, and images so that service recipients can benefit from other platform features and receive encouraging words to assist them in overcoming mental health difficulties.

Keywords:-Mental Health, Communication, Anonymous, Counselling, Web application.

I. INTRODUCTION

Mental health and wellness issues are epidemic globally. Few people with mental illness receive treatment. Insufficient sleep affects mental health. Mental illness has complex causes and effects. Together, we can solve society's problems.Mental health has gained prominence in the past decade.

There are many ways to discuss mental health to provide support and reduce isolation.

Empowering teens and adults to prevent mental illness is one strategy. By learning how to manage stress, kids can avoid future problems. Adults can also improve their quality of life and handle difficult situations.

Young adults often struggle with depression, alcoholism, eating disorders, and suicide. Teen suicide and drug abuse are common mental health disorders. Around 3,000 10-19-year-olds commit suicide in the US.

Youth must be empowered to promote mental health for productive and satisfying lives. Many people have poor mental health for various reasons.

Suicide prevention goes beyond building support systems. Bullying and prejudice must be addressed at all levels of society to reduce stigma.

The WHO reported over 70,000 suicides in 2017. This is a troubling statistic that needs addressing. Using social media, the internet, and AI, we can help kids avoid mental health crises. Social networking can help anxious people, says research.

To solve this problem, we must teach kids how to handle mental health crises and use technology to reduce their loneliness and isolation. We suggest a web app where people can share concerns and ideas without being judged. Registration, chat rooms, forums, and therapy are available. Website features voice bots, algorithms, and machine learning.

II. RESEARCH COMPONENTS

A. Anonymous Chat
    a) Literature Review

Mental health affects people in many ways, so it's important to recognize it. In the past, mental health was taboo. Mental disorders affect one's thoughts, emotions, or personality. Mental health issues affect adolescents, college students, adults, and youth. WHO estimates that 7-28% of 3-17-year-olds have mental disorders. Given the rise in mental health crises among teens, it's important to teach them how to prevent and manage them. 15-24-year-olds are more likely than older age groups to develop mental illness and substance use disorders. Untreated mental health issues can harm teens and others. This lack of knowledge can cause: One in five people suffers from mental illness each year. Depression, eating disorders, anxiety, conduct disorders, and addiction affect many teens and young adults. Depression, anxiety, and substance use disorders are common among teens and young adults. Mental capacity, logical ability, communication skills, emotional capabilities, and independence affect adolescent and young adult mental health. Early adulthood is when many people get their first mental illness. Young people are often unprepared for new educational and professional roles, which can contribute to mental health issues. Justice-system kids often lack access to mental health care. Mentally ill kids need help. The COVID-19 crisis has affected young people (15-24), and research shows a rise in mental health issues.

b) Methodology

The main point of the communication platform component would be to enable the service receiver to communicate and message their problems to the platform. The outcome of this function is to give a safe place to express emotions through sharing anonymously, giving advice, and encouraging each other. The user will have access to create, delete, read, and update (CRUD) operations on the message posts. When a message is posted on the platform, it will check each post with an algorithm to detect any harmful content or hate speech. Any correspondence with harmful content will be rejected, and the post will not be posted on the platform. Service receivers will report any deviant user on the communication platform. These features will help create and maintain a friendly community environment.

The platform users will be admins, service receivers, and professionals. The admin will be managing all three users' account details. The admin will do CRUD operations on admin accounts. Once the service receiver creates a statement, the admin will view the history and delete any account if that account has been reported multiple times. Admin will have access to view all professionals' accounts and delete any account.

Moreover, this will provide secured communication and a better communication environment.The website will be entirely developed using Java and PHP. The construction of the components will begin with the administration account management, followed by the communication platform capabilities; the communication chat room will contain the text content limitation policy, which will be developed using a specialized Python hate speech recognition algorithm.

Before the algorithm is implemented, the sensitive text content data set is compiled. The data set contains capital, lowercase, text case, and individualized words with special characters. This is intended to determine the number of censored words within a particular post.

III. RESULTS

The communication chat tool offers options for viewing, liking, and commenting on service receivers' posts. Moreover, users can exchange text-based posts. This tool can determine which words or phrases have been removed from a post. The function is constructed using an algorithm. Within the scope of the algorithm, we analyze the text that the user will be able to add to the website. The system will alert the user of any phrases that are prohibited from being submitted. In addition, the result of the analysis of the given text will include a summary and information

about the criteria for hate speech. In order for users to have access to informative and secure material on the site.

We are currently focusing our efforts on the data set in an effort to enhance and personalize it. The data set will serve as the foundation for the conclusion of the analysis. The following figure illustrates a model of the algorithm's output results as a point of reference.
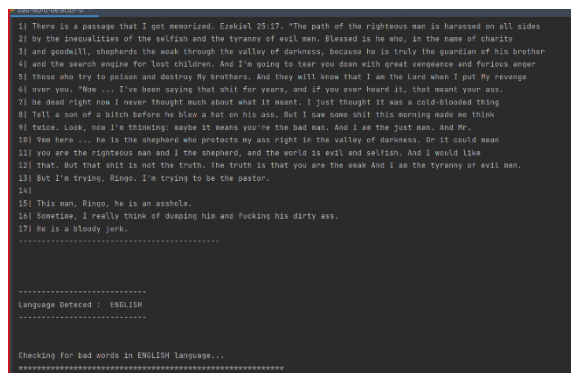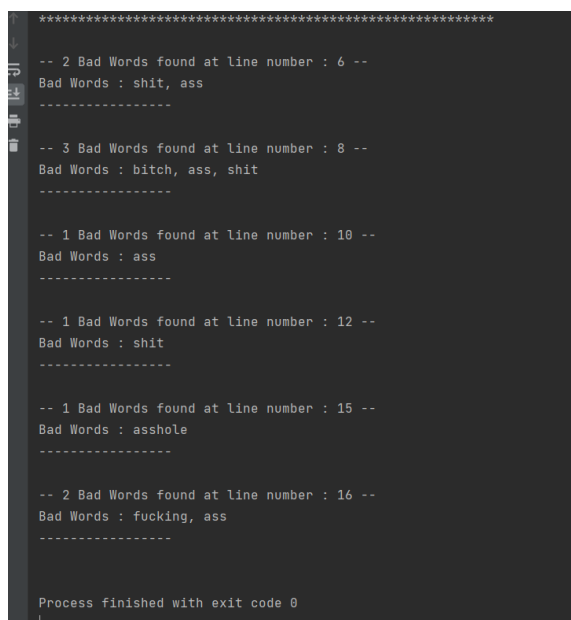

Fig. 1: Sample hate speech text

Fig. 2:Hate speech detection results

A. Talk Space
a) Literature Review

In the modern world, the inclusion of social media as a fundamental component that defines most aspects of human lifestyle has diminished people's ability to maintain social lives. The inability to communicate with humans and the need to maintain communications in indirect formats have directly increased, and as a result, our ability to accurately express our emotions has been seriously curtailed. The majority of studies have identified the importance and necessity of utilizing mechanisms such as online tools and web applications to ensure that these issues are mitigated. Counseling has been identified as the most effective method for ensuring

that the youth and other communities are given the proper opportunities to maintain their mental health.

b) Methodology

The "talk space" that the user hosts can be heard by other users. Here, anyone can listen in on others'

- **Results:**

Users can receive expert guidance for their problems by using an online counseling platform. Since this platform is anonymous, users can benefit without hesitation. As a result, users can go to the website and join any "talk space" with what they like to talk space about. The "talk space" suggestion features make it simple for users to choose "talk space". Users can choose the best "talk space" on the site by using the ranking feature. With the "talk space" filtering option, users can find the best "talk space" for their concerns.

B. Online Counselling

a) Literature Review

Mental health issues are a growing problem worldwide [1]. Mental health problems vary. Depression, loneliness, anxiety, stress, suicidality, and substance abuse are common [2]. Mental illness sufferers are afraid to speak out. Most people don't share terrible life events because they think it will harm their personality. In today's judgmental society, people hide mental health issues. Some don't share their incidents with close friends due to trust issues.

People avoid sharing events involving their identities, making it difficult to receive motivation and advice. Such events often lead to suicides. Mental health problems must have a solution in the present environment. One-third of the world's population is online. These numbers, which are rising fast, especially in developing nations, show unprecedented global connectivity [3]. The internet has made it possible for those in need to reach out for help, just as the telephone did. Internet-based mutual-help groups are "online" support groups. Some academics prefer "mutual-help groups" over "self-help groups" to distinguish support groups. Alcoholism, OCD, ADHD, physical impairments, sexual abuse, and depression have online support groups. Some of these organizations are run by paid staff or trained volunteers [4].

b) Methodology

This website service includes an option for online therapy. Through an online counseling service, regular platform users can speak with trained users, also known as counselors. Users can consult with counselors online using this service. This function may be beneficial to those who have major mental health issues. Those who are hesitant to seek out-of-

office counseling will benefit from the option to speak with counselors anonymously. People can get answers to their questions by using the platform's online counseling service.

This specific feature of the online counseling function proposes the best counselor for the user. This function seeks to recommend the best counselor based on the user's preferences. When a user visits the online counseling platform, they can choose from two sorts of counselor recommendations. The two sorts of counselor recommendation strategies are as follows.

- **Suggest the best counselor according to the user ratings**

Users can utilize this function to determine who the best counselors on the platform are. This will also make it easier for users to choose which counselor they want to work with. An algorithm will be used to display the best counselors on the platform. To determine the best counselor, the algorithm will assess the ratings given to the counselor by the user after the counseling session as well as the ratings given to the counselor in the talk space. When a user accesses the counseling platform, the counselors with the highest ratings are always displayed at the top of the counselor list.

- **Suggest counselors with the users' preferences**

Based on the user's preferences, this function will recommend the most suitable counselor for them. A questionnaire will be used to find the most suitable counselor. Users can respond to the questionnaire related to counseling concerns. The system will recommend a suitable counselor for the user based on their responses. An algorithm will be utilized for this function, and in order to recommend the counselor, it will assess the counselor's profile data as well as the user's responses to the questionnaire.

- **Results**

Users can receive expert guidance for their problems by using an online counseling platform. Since this platform is anonymous, users can benefit without hesitation. As a result, users can go to the website and contact any counselor with whom they like to speak. The counselor suggestion features make it simple for users to choose counselors. Users can choose the best counselors on the site by using the ranking feature. With the counsellors filtering option, users can find the best counselor for their concerns.

```
SELECT C.*
FROM user
        LEFT JOIN (
    SELECT
        `councilor session rating`.councilor,
        AVG(`councilor session rating`.rating) AS Rating,
        COUNT(IF(`councilor session rating`.success = TRUE, 1, 0)) AS `Success stories`,
        AVG(IF(`councilor session rating`.`by` = 1,`councilor session rating`.rating, 0)) AS URating,
        COUNT(IF(`councilor session rating`.success = TRUE AND `councilor session rating`.`by` = 1,
    FROM `councilor session rating`
    GROUP BY `councilor session rating`.councilor
        ) AS CSR on user.id = CSR.councilor
        LEFT JOIN `data councilor` C on user.id = C.user

WHERE type = 1
ORDER BY (
        IFNULL(CSR.Rating, 0)        *1 +
        IFNULL(CSR.`Success stories`, 0)   *1+
        IFNULL(CSR.URating, 0)       *1+
        IFNULL(CSR.`USuccess stories`, 0)  *1
    );
```

Fig. 3: Counselor rating algorithm

C. *Community feed*

   a) Literature Review

70 percent of mental health issues start throughout childhood or adolescence, according to Compared to other age groups, young people aged 15 to 24 are more prone to experience depression and/or substance use problems.

According to one study, although depression lacks specificity as a predictor and little is known about the traits that raise the risk of suicide in depressed individuals, it is highly associated with both suicidal ideation and attempt. The papers frequently touch on depression, which is also the most prevalent mental illness among individuals who attempt suicide.

More study is required, along with the more proficient application of prevention interventions, in order to enhance mental disorder-related suicide prediction and other issues. The current special edition offers some significant instances of risk factors as well as helpful directions for the future in the fight against mental health issues and suicide deaths.

   b) Methodology

component of a community chat platform allows psychiatrists to discuss the experiences and occurrences that their patients have had, the links to the meetings planned in the talks area, and the messages that contain encouraging words. Responding to those posts with a like or a comment is requested by the service.

To share helpful and encouraging information with service recipients, the community feed function is currently being developed. In order to communicate with psychiatrists and service users, the community feed will be used. Psychiatrist will be able to share messages, images, and links on the community feed. The meeting's URL, posts and photos about their patients who recovered from mental health issues after receiving adequate care, encouraging words, and information about the treatments available to prevent mental health issues are all shared by experts on the topic. The meeting will be hosted on a chat platform. Psychiatrists refrain from posting any information about their patients' names, ages, or locations in their posts.

Service users will be able to like and comment on psychiatrists' posts. Users will be able to filter postings in the community feed in accordance with their preferences. We will monitor the level of interest and the postings that service recipients are most interested in, and we will present those posts to them. We employed an algorithm to construct the post filtering functionality for community feed, which is specific to the user's preferences. In this algorithm, we considered the number of posts that users liked and the number of posts that users commented on, if people like to watch content that they have liked and commented on. We analyze these factors, and the system shows the relevant user those kinds of posts.

- **Results**

The community feed feature includes options for sharing posts that are calming, linking to meetings held in the counselors' talk space, and viewing, liking, and commenting on posts for service recipients. excluding certain activities This feature includes post filtering based on user preferences, namely functioning as a study area. An algorithm is used to develop and enhance the post filtering function.

Based on the types of posts a user is liking and commenting on, we will show them the post that they have interacted with the most. In the algorithm, we analyze which kind of posts users like or comment on, and via this analysis, we make the assumption that the user preferred to watch that type of post, which is why they are liking or commenting on those particular articles. The user will be able to see the posts they are liking and commenting on at the top thanks to this analysis.

We are now working to enhance this post filtering functionality. Based on which counselors' posts users like and comment on most frequently, we are attempting to evaluate this data using the same algorithm and show users those posts most frequent.

Up until the new users begin to like or comment on the postings, newly enrolled users will be able to view the posts that are receiving the most likes and comments from other system users.

IV. LIMITATION & FUTURE WORK

Our research has some limitations. The first is our post-filtering functionality, which is specific to our web application. We didn't integrate with any other social media networks or external websites.

The second element is that we attempted to construct a dataset for the hate speech algorithm. The dataset may occasionally be lacking some phrases that are viewed as damaging. In this instance, it does not classify as dangerous keywords any words that are not included in the data set.

Finally, given that this study is observational and we were unable to control for every relevant lifestyle component, residual confounding is a possibility.

We are currently converting this online form into a web application. We wish to construct and release this internet platform as a mobile application if, following the launch of our online application, everything goes as anticipated.

V. CONCLUSION

By reading this research paper, readers will gain knowledge of the system's functionalities, and the study's focus, and be better able to comprehend the challenges involved in developing this application and how the overall system would operate. By encouraging patients to get the correct treatment and think positively, we encouraged the development of this online platform to protect children and adults from mental health problems. We met several of our friends who are struggling with mental health concerns when we were still young students, and it really is awful to witness how painful it is for them. That's why we made the decision to create an online platform for treating children and adults who have mental health problems.

After learning the causes of mental health problems and how to prevent them, we made the decision to offer these answers in a modified form. Consequently, we created this online platform. Before beginning the development, we researched mental health difficulties, looked into whether any websites already existed that addressed these topics, and more. We also carried out a survey to find out how interested individuals are in using an online forum to discuss their mental health issues. With the information we gathered from our research and studies, we planned the system's functionalities and features.

We really believe that this platform will assist those who are struggling with mental health concerns in overcoming their condition, and it will undoubtedly encourage the affected individuals to be optimistic, receive advice on the best course of action, and be motivated to pursue it. We'd conclude that the goal behind creating this platform will be achieved by our platform.

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