

Social Anxiety Reduction Platform by Using Full Stack Development

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Abstract- The suggested creation of a website that combines Full Stack Development to assist introverted people with depression is covered in this abstract. The website's goal is to collect user information in various forms, such as multiple choice questions and daily journal entries, and then use that information to develop individualised therapy plans and offer coping mechanisms from social anxiety and connect these people to other people who faced these problem and overcome the problem. A randomised controlled trial will be used to assess the effectiveness of the website, with the change in depressive symptoms as determined by the [1] Beck Depression Inventory serving as the major outcome measure. The findings of this study will offer important knowledge on the application of technology in the treatment of depression in introverted people.

Keywords- *Social Anxiety, Anxiety Symptoms, Social phobia, Full Stack Development, Front end development, Back end Development, API, RDBMS.*

Abbreviations and Acronyms- *Graphical User Interface(GUI), Hypertext Mark-up Language (HTML), Cascading Style Sheets (CSS), Application Program Interface (API), Transmission Control Protocol/Internet Protocol (TCP/IP), Hypertext Transfer Protocol (HTTP),*

Open System's Interconnection (OSI), Apache Tom-Cat 6.0, Windows, Cross Platform, International Organization for Standardization (ISO), Hypertext Transfer Protocol Secure (HTTPS), Transmission Control Protocol (TCP), User Datagram Protocol (UDP), Operating System (OS), File Transfer Protocol (FTP), Structured Query Language (SQL), Java Script, Extensible Mark-up Language (XML), Domain Naming System (DNS), Internet Protocol (IP), Uniform Resource Locator (URL), User Interface (UI), Development and Operation (DevOps), Relational Database Management System (RDBMS), Servlet, Java.

I. INTRODUCTION

Depression is a frequent mental health condition that has a major negative influence on a person's quality of life and capacity to carry out everyday tasks. Therapy, medication, and support groups are all part of conventional therapies for depression. These therapies might not work as well, though, for those who are shy and find it hard to express their emotions to others. New methods of treating depression, especially for introverted people, have been developed in recent years using technology. The goal of the Social Anxiety reduction is to unite users and individuals. We will build a web-based platform using full stack web development so that everyone

may access the three key and distinctive sections of our product. The 3 Modules are as follows:

1. Login Page

In this page the User and the admin of the website can access it for the first time from the login page. Users will be able to enter their credentials and access the website's features and resources through a safe and user-friendly interface. Users can enter their email address and password on the login page, and there are choices for those who have forgotten their password. Furthermore, the login page can offer customers the option to sign in using their social network profiles.

In this login page the user login in website and

2. Answer the Mcq Questions

The website will be built to collect data from users in a variety of formats, including daily diary entries and one-time MCQs. The website will analyze this data using machine learning and AI to develop tailored treatment regimens for each user. Based on their comments, the website will also offer users advice on how to deal with depression.

3. Communicate to other user

Our platform offers a private, secure setting where you can express your ideas and feelings while also getting tailored help and advice on how to deal with social anxiety. You can connect with folks who have overcome similar challenges on this website and provide your own suggestions for doing so.

The project will have comprised of two types of development present in the website.

A. Front-end Development

For the website to have a user-friendly and aesthetically pleasing interface, front-end development is essential. The front-end development will be based on the responsive design tenets to guarantee that the website is accessible and simple to use for people with all degrees of technical expertise. This implies

that whether a user accesses the website on a desktop computer, tablet, or smartphone, the style and functionality will change to fit the size of the user's screen. In order to produce a website with a visually appealing and responsive design, HTML, CSS, and JavaScript will be used in its development. The website will be created in accordance with the Web Content Accessibility Guidelines to make sure that it is accessible to persons with impairments (WCAG).

B. Back-end Development

Back-end Development [2] refers to server-side development. It is the term used for the behind-the-scenes activities that occur when performing any action on a website. In other words, it is the portion of software that does not come in direct contact with the users. Users indirectly access the parts developed by Back-end designers through a Front-end application. In the back-end approach we are using Java.

II. RELATED WORK

Millions of people worldwide, in all cultures and social groups, struggle with social anxiety, which is a major problem. With an estimated frequency of 7–13% of the population, studies have indicated that social anxiety disorder is one of the most prevalent mental health diseases worldwide. The ability to establish and sustain relationships, perform well at work or school, and engage in daily activities can all be significantly impacted by this illness.

Social anxiety has several impact on individual life. An extreme dread or anxiety in social circumstances, frequently brought on by a fear of being judged, embarrassed, or humiliated, is known as social anxiety disorder. It is one of the most prevalent anxiety disorders and has a big effect on a person's day-to-day life. Social phobia can cause avoidance of social interactions and

feelings of isolation and loneliness. It can also have an impact on relationships, education/work, daily activities, and mental health. To manage and lessen the effects of social anxiety on a person's life, it is crucial to get support and assistance from mental health professionals.

Many pertinent investigations are carried out to combat and minimise social anxiety in people. The social anxiety condition has been extensively studied in the fields of psychology, psychiatry, and neuroscience [3].

Teenagers are frequent consumers of online social networking sites, with over 71% of them utilising multiple social networking sites, according to a Pew Research Centre survey [4]. The frequency of using social networking sites, measured as the time spent on the sites, was linked to mental health issues in children and adolescents in 2015 [5]. In particular, the same study demonstrates that using online social networking sites for longer than two hours a day is linked to greater psychological distress and poorer self-rated mental health. There were statistically significant positive correlations between the usage of online social networking sites and psychological discomfort in a different study that involved a sizable sample of adolescents (N = 5.226) [6]

According to an Indian Council of Medical Research (ICMR) report from 2017, one in seven Indians experience mental health issues of varied severity. The most prevalent ailments, affecting 45.7 million and 44.9 million persons, respectively, were depression and anxiety disorders.

According to the findings of the National Institute of Mental Health and Neuro-Sciences' (NIMHANS) [6] Mental Health Survey 2015–16, more than 150 million Indians require mental health care interventions, although fewer than 30 million of them have requested help. Unintentionally, the relentless pandemic has

exacerbated India's mental health ticking time bomb.

Like many organizations are working on providing help to the people who are suffering from social anxiety many individuals are helping people to overcome mental

Many non-profit and NGOs (non-governmental organisations) concentrate on offering assistance and resources to people with social anxiety disorder (SAD) and associated mental health issues. Among well-known NGOs working in this area are:

LonePack:- LonePack is a youth-led community initiative that was founded by a group of engineering students to raise awareness of and fight young mental health concerns in India. In order to spread awareness about the value of mental wellness, the Organization organises campaigns, events, and seminars in schools, colleges, and businesses. Over the past two years, it has collaborated with organisations like Uber, Sathyam Cinemas, Zoho, Freshworks, SRM, DAV Group of Schools, etc. and has reached over 40,000 people nationwide.

It offers a peer-to-peer assistance system that is anonymous and creates a secure environment for people to discuss their problems. Making mental health available to everyone is the guiding principle of LonePack.

Ashadeep: - Ashadeep was established in 1996 with the goal of assisting those with mental illnesses and their families through regional rehabilitation centres in India's North Eastern states. In the Ashadeep Day Rehabilitation Centre, numerous people with intellectual disabilities and mental illnesses have received therapy, education, training in sports, and vocational activities.

But identifying the problem we can reduce the impact of social anxiety from individual

Some are: Despite being a widespread issue, there is a dearth of research on how social anxiety

disorder differs between cultures in prevalence, presentation, and therapy.

The effectiveness of early intervention programmes for children and adolescents with social anxiety disorder requires further study.

Interventions based on technology: Online cognitive-behavioural therapy programmes, [7] for example, have showed potential in the treatment of social anxiety disorder. To ascertain the efficacy of these therapies and to pinpoint variables that can affect treatment outcomes, more study is nonetheless required.

Long-term effects: Although there are successful therapies for social anxiety disorder, there hasn't been much research on how these treatments affect recurrence and sustained recovery over the long run.

Some therapy is;

Virtual reality therapy [8]: By the use of virtual reality technology, this kind of therapy exposes patients to simulated social situations. Although some trials have showed promise, more analysis is required to compare its efficacy to that of conventional exposure therapy.

Interpersonal psychotherapy (IPT): Using interpersonal problem-solving and communication techniques, this style of therapy aims to enhance interpersonal connections and treat social anxiety. Further study is required to assess its efficacy in comparison to other treatments, even if some trials have produced encouraging findings.

Dialectical behaviour therapy (DBT): This form of therapy combines components of CBT [9] with skills-based mindfulness-based methods. While DBT has been shown to be useful for treating other mental health issues, there is little data on how well it treats social anxiety disorder.

Also some are Art therapy, Animal-assisted therapy

Owing to lack of knowledge, there is a shortage of treatment, and the treatment gap widens as the impact of social anxiety on an individual's life increases.

The difference between the number of people who have social anxiety disorder and those who actually receive therapy is known as the "treatment gap" in social anxiety. According to research, a significant part of people who suffer from social anxiety disorder do not obtain the right care, which can have an adverse effect on their functioning and quality of life. The lack of knowledge and comprehension of social anxiety disorder, the stigma associated with seeking treatment for mental illnesses, and the difficulty in obtaining evidence-based therapies are only a few of the possible causes of this treatment gap. For better results and to lessen the burden of this widespread and incapacitating condition, the treatment gap for social anxiety disorder must be addressed.

In this paper, we aim to provide a platform that consider some of the problems mentioned above in one website by overcome the problem faced by the related works.

III. PROBLEM STATEMENT

There are mainly three different types of modules in our project. So, the idea of these modules arises from three different Types of Problem that are as follows:

Problem-1

The issue with social anxiety is that it frequently stays misdiagnosed and untreated, having a negative impact on the person for a long time. Individuals who battle with social anxiety may have trouble forming and maintaining friendships as well as having problems at work or in school.

This leads to negative impact on life and the people suffer and Also, the individuals suffer from

depression and other mental health issues, which can exacerbate their symptoms.

Problem-2

Lack of awareness and misunderstanding of social anxiety.

Millions of people around the world suffer from the prevalent mental health problem known as social anxiety. Regrettably, it is also one of the least recognized and most misunderstood mental health conditions. The symptoms of social anxiety are often not recognized by those who experience them, and even those who are aware of their illness may not fully appreciate how severe it is. This ignorance of and misperception of social anxiety can have unfavorable effects, such as the complete avoidance of social interactions, which can result in isolation, despair, and even substance misuse.

It is crucial that people are aware that social anxiety is a condition that can be treated and that seeking treatment is the first step in controlling their symptoms and raising their quality of life.

We have to think about the following problem:

Over 284 million individuals worldwide are thought to experience anxiety disorders, including social anxiety disorder, according to the World Health Organization (WHO). This is equivalent to roughly 3.8% of the world's population. [10]

Problem-3

Lack of basic awareness and stigma increase the problem

reduce stigma, and increase access to effective treatment options. This will require a multi-faceted approach that involves education, advocacy, and collaboration between healthcare professionals, policymakers, and community members to ensure that individuals with social anxiety receive the support and care they need to lead fulfilling lives.

These three problems can be solved efficiently by our platform where the user can help to solve these issues to a greater extent by just by communicating and by giving the idea to the person who already comes out from this phase for the 1st problem. For the 2nd problem user just gives the data that how he has faces the problem and giving some simple ans of the predefined quiz that have some question on the website. For the 3rd problem the increase access to effective treatment options. This will require a multi-faceted approach that involves education, advocacy, and collaboration between healthcare professionals,

IV. TECHNOLOGY USED

We created our website using HTML and style them using CSS, but we need server-side technology when we want to create a dynamic website.

The web server is a process that handles the client's request and responds. It processes the request made by the client by using the related protocols. The main function of the webserver is to store the request and respond to them with web pages. It is a medium between client and server. For example, Apache is a leading webserver.

The HTML stands for Hypertext Mark-up Language; it is a common language for Web Server and Web Client communication. Since both the web server and web client are two different software components of the web, we need a language that communicates between them.

The HTTP stands for Hypertext Transfer Protocol; it is a communication protocol between the client and the server. It runs on top of the TCP/IP protocol.

Bootstrap

Bootstrap [11] is a popular front-end framework that provides a set of pre-built CSS and JavaScript

components, making it easier to create responsive and visually appealing web pages. With Bootstrap, developers can quickly build responsive layouts, navigation menus, forms, buttons, and other UI elements. It offers a grid system that facilitates flexible and consistent layout design across different screen sizes. The framework also includes CSS classes and JavaScript plugins for adding interactive features like carousels, modals, and tooltips. By leveraging Bootstrap's ready-to-use components and responsive design capabilities, developers can save time and effort in building modern and mobile-friendly websites.

JavaScript

JavaScript [12] is a versatile high-level programming language primarily used for adding interactive and dynamic behaviour to web pages. It enables client-side scripting, allowing developers to create interactive elements and respond to user actions directly within the web browser. JavaScript offers a wide range of functionality, including form validation, DOM manipulation, animation, and multimedia control. It has a large ecosystem of libraries and frameworks that extend its capabilities and simplify development tasks. Asynchronous programming is supported, enabling tasks to be performed without blocking other operations, commonly used for AJAX requests and providing a seamless user experience. JavaScript is widely supported by major web browsers and can be used outside the browser for various applications. It uses a C-style syntax, supports variables, data types, control structures, and functions. Security considerations are important, and proper input validation and sanitization techniques should be implemented. Overall, JavaScript remains a powerful language that enhances web page interactivity and functionality.

React

React [13] is a JavaScript library for building user interfaces in web applications. It follows a component-based approach, enabling developers to create reusable UI components and manage application state efficiently. With a virtual DOM,

React updates and renders only the necessary parts of the UI, resulting in better performance. Its one-way data flow ensures predictable behaviour, and lifecycle methods offer control at different stages of a component's life. React's declarative syntax, coupled with JSX, allows for intuitive UI description. It boasts a thriving ecosystem of libraries and tools like React Router and Redux for routing and state management. Overall, React simplifies UI development, making it a popular choice for building modern web applications.

What is Servlet?

A Servlet [14] is a Java program that runs within a web server; it receives the requests and responds to them using related protocols (Usually HTTP). The Servlets are capable enough to respond to any type of request; they are commonly used to make the application functional.

Node

Node.js [15] revolutionizes server-side development by bringing JavaScript, traditionally used in web browsers, to the server. It provides a lightweight and scalable runtime environment that handles concurrent connections and I/O operations with exceptional efficiency. The event-driven architecture allows for non-blocking operations, making Node.js highly performant and suitable for applications that require real-time data streaming, such as chat applications or online collaboration tools.

Node.js has a vast ecosystem of modules and libraries available through the Node Package Manager (NPM), enabling developers to easily integrate third-party packages into their applications. It is commonly used for building web servers, API backend, microservices, and even full-stack applications. Node.js empowers developers to create highly responsive and scalable applications with less effort, as it enables them to use a unified language (JavaScript) for both front-end and back-end development.

The asynchronous nature of Node.js promotes efficient resource utilization and allows applications to handle a large number of

concurrent connections. Its event-driven model and extensive package ecosystem have contributed to its widespread adoption and popularity among developers.

H2 Database

H2 Database [16] is a lightweight, embeddable, and open-source relational database management system (RDBMS). It provides a fast and efficient solution for storing and managing structured data. H2 Database offers features such as in-memory storage, support for various platforms, and JDBC compatibility, making it suitable for a wide range of applications.

MongoDb

MongoDB [17] is a popular NoSQL database that provides a flexible and scalable solution for storing and managing data. It uses a document-oriented model, allowing for the storage of unstructured and semi-structured data. MongoDB's flexible schema and automatic scaling capabilities make it suitable for handling large volumes of data and high-performance applications. It supports a rich query language and offers features like sharding and replication for data distribution and high availability. MongoDB is widely used in modern web and mobile applications, providing developers with a versatile and scalable database solution.

To create a web application, we need the following tools:

- IDE- IntelliJ IDEA, Visual Studio Code
- Database- H2 Database, MongoDB
- Server (Apache Tomcat 6.0)

The High-Level Design (HLD) diagram presented offers a visually appealing and comprehensive depiction of the website's architecture and its integral components. At the heart of the system lies the Web Application, acting as the primary gateway for both users and administrators.

The provided HLD diagram offers an overview of the website's architecture. The Web Application serves as the main entry point for users and admins. The User Interface component handles user interactions, while User Management deals with functionalities like registration, login, and profile management. The User Data and Social Anxiety Collection component manages user data and social anxiety information. The Admin Interface handles admin interactions, and the Admin Management component focuses on authentication, data management, and user request handling.

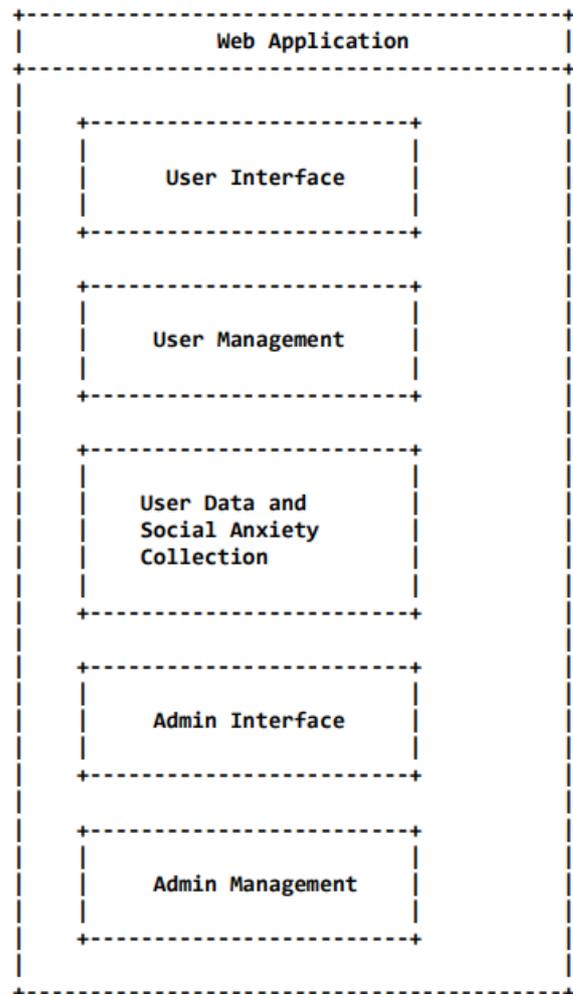


Fig: High-level diagram of website.

V. PROPOSED METHODOLOGY

We have used different types of methods and technology mentioned in. We have divided the working of our website in three different phases.

Phase 1: User will Interact with our website by the graphical user interface we have provided in a systematically way to the front end. Firstly, user will register himself on our website then the information of the user such as id, password, email id will securely save in our database. Then, whenever user login to our website he/she just request for some action such as giving the ans for some question and providing the data at which extinct the user is suffering from social anxiety and also giving the admin some permission.

Phase 2: Admin will receive the request from the user and then admin collects the data of the user that is username, email id, location, type of problem from the database and then ask the user how he wants help and we provide full support to the user by providing the person who can help him by giving the idea how he can find the solution as the person is the one who previously suffered from social anxiety and conquered his challenge now he has some idea how he comes out from the social anxiety he can help the other person

Phase 3: In last phase if the person who is suffering from social anxiety have high chance to get in depression and the help does not effective on the person then the person is provided that he has some problem that can be only solved by therapist and some recognized therapist is provided to the user and the user get solution.

“The estimated global prevalence of social anxiety disorder is 3.6%, or 1 in 28 people.” It is crucial to keep in mind that this is only an estimate, and the actual population affected could vary depending on a number of variables. It is crucial for people to get help if they are suffering symptoms of social anxiety disorder because it is a prevalent mental health disease that can significantly affect a person's life. If the increase access to effective treatment options

VI. CONCLUSION

In conclusion, those who have social anxiety may benefit significantly from the creation of a digital platform for social anxiety reduction. The site can offer a secure and encouraging environment for people to learn about social

anxiety, interact with others who have experienced it, and access tools and resources that are founded on scientific research to manage their symptoms.

We can lessen the stigma attached to social anxiety and raise knowledge of the various treatment choices by creating such a forum. The platform can be a useful tool for community members, policymakers, and healthcare professionals who are trying to reduce social anxiety and enhance mental health outcomes.

Although though creating a website for social anxiety reduction is just one step in addressing this complicated problem, it has the potential to significantly improve the lives of people who struggle with social anxiety. We may aim to lessen the burden of social anxiety and improve mental health outcomes for all by continuing to research, develop, and implement novel treatments.

VII. REFERENCES

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