**GHANA COMMUNICATION TECHNOLOGY UNIVERSITY**

**FACULTY OF COMPUTING AND INFORMATION SYSTEMS**

TITLE:

DESIGN AND IMPLEMENTATION OF AN ONLINE THERAPY CHAT SITE

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i



**DECLARATION**

This project is presented as part of the requirements for a Bachelor's degree in Information

Technology conferred by Ghana Communication Technology University. We affirm that this

project is wholly the outcome of our efforts, research, and investigations. We assure that this

project is original and not replicated from any other individual. Proper credit has been given to

all sources of information utilized.

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ii



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conceptualization and planning of this project. Special acknowledgment goes to the licensed

mental health professionals whose expertise and commitment will fortify the platform, providing

vital assistance to teenagers. Furthermore, we express gratitude to the [organization or institution

name] for its continuous support and provision of resources that contributed significantly to the

inception and development of this endeavor.

iii

**ABSTARCT**

In an era where social media usage among teenagers has become ubiquitous, concerns about its

impact on mental health have escalated. This project presents an innovative solution—a

dedicated Online Therapy Chat Site—to address the adverse effects of excessive social media

use on teenage mental health. The platform aims to offer a safe and confidential space for

teenagers to seek professional guidance, fostering mental well-being through expert assistance

and educational resources. Through this endeavor, we endeavor to mitigate the negative

repercussions of excessive social media exposure, empowering teenagers to navigate their mental

health challenges with support and resilience.

iv

Table of Contents

**DECLARATION** ................................................................................................................................................ii

**ACKNOWLEDGEMENT**.................................................................................................................................iii

**ABSTARCT**........................................................................................................................................................iv

**CHAPTER ONE** .................................................................................................................................................1

**1**

**1**

**1**

**1**

**1**

**1**

**.1 Background of The Study** ........................................................................................................................4

**.2 Problem Statement** ...................................................................................................................................4

**.3 Objectives of The Study**............................................................................................................................4

**.4 Project Objectives**.....................................................................................................................................5

**.5 Technology and Tools**...............................................................................................................................5

**.8 Project Scope**.............................................................................................................................................7

**CHAPTER TWO**................................................................................................................................................9

**LITERATURE REVIEW** ..................................................................................................................................9

**2**

**2**

**.0 Introduction**...............................................................................................................................................9

**.1 Definition of Key Concepts** ......................................................................................................................9

**2**

**2**

**.1.1 Online Therapy Chat Site** .................................................................................................................9

**.1.2 Excessive Social Media Use**.............................................................................................................10

**2**

**.2 Theoretical Framework**..........................................................................................................................11

**2**

**2**

**2**

**.2.1 Social Comparison Theory**..............................................................................................................11

**.2.2 Uses and Gratifications Theory** ......................................................................................................11

**.2.3 Cognitive-Behavioral Theory**..........................................................................................................12

**2**

**2**

**2**

**.3 Empirical Review**....................................................................................................................................12

**.4 Conceptual Framework**..........................................................................................................................13

**.5 Conclusion** ...............................................................................................................................................13

**CHAPTER THREE**..........................................................................................................................................14

**METHODOLOGY** ...........................................................................................................................................14

**3**

**3**

**.1 Introduction**.............................................................................................................................................14

**.2 V Process Model**......................................................................................................................................15

**3**

**3**

**3**

**.2.1 Verification Phases**...........................................................................................................................17

**.2.2 Coding Phase**....................................................................................................................................17

**.2.3 Validation Phases**.............................................................................................................................18

**3**

**3**

**.3 Requirement**............................................................................................................................................19

**3**

**3**

**.3.1 Software Requirements** ...................................................................................................................19

**.4 Conceptual Framework**......................................................................................................................20

**.5 System Modeling**.....................................................................................................................................21

**3**

**.5.1 Use Case Diagram**............................................................................................................................21

v

**3**

**.5.2 Data Dictionary:**...............................................................................................................................24

**CHAPTER FOUR**.............................................................................................................................................25

**SYSTEM ANALYSIS**.......................................................................................................................................25

**4**

**4**

**4**

**4**

**4**

**.0 Functional Requirements** .......................................................................................................................25

**.1 Teenagers' Use Cases:**.............................................................................................................................26

**.2 Therapists' Use Cases:**............................................................................................................................28

**.3 Entity-Relationship Diagram (ERD) Breakdown:**...............................................................................30

**.4 Relationships:**..........................................................................................................................................31

**CHAPTER FIVE** ..............................................................................................................................................33

**SYSTEM DESIGN**............................................................................................................................................33

**5**

**5**

**5**

**5**

**5**

**5**

**.0 Introduction**.............................................................................................................................................33

**.1 Architectural Design**...............................................................................................................................33

**.2 Scalability and Security:**.........................................................................................................................34

**.3 User Interface Design** .............................................................................................................................34

**.4 User Interface Mockups:**........................................................................................................................34

**.5 User Research and Testing:** ...................................................................................................................35

**CHAPTER SIX** .................................................................................................................................................36

**SYSTEM IMPLEMENTATION**.....................................................................................................................36

**6**

**6**

6

**6**

**6**

**6**

**6**

**6**

**6**

**6**

**6**

**6**

**6**

**.0 Technology Stack:**...................................................................................................................................36

**.1 Front-end Development:** ........................................................................................................................36

.2 Back-end Development:............................................................................................................................36

**.3 Database Management:**..........................................................................................................................37

**.4 Web Server:**.............................................................................................................................................37

**.3 Development Process:**.............................................................................................................................37

**.4 The V-Model Advantage:**.......................................................................................................................37

**.5 Adapting V-Model to Online Therapy Chat System:**..........................................................................37

**.6 Verification (Left Side of the V):** ...........................................................................................................38

**.7 Validation (Right Side of the V):** ...........................................................................................................38

**.8 Deployment and Maintenance:**..............................................................................................................39

**.9 Benefits of using V-Model:**.....................................................................................................................39

**.10 Front-end Implementation:**..................................................................................................................40

**6**

**6**

**6**

**6**

**6**

**.1.1 HTML5:**............................................................................................................................................40

**.1.2 CSS3:**.................................................................................................................................................40

**.1.3 JavaScript:**........................................................................................................................................40

**.1.3 Back-end Development:**...................................................................................................................45

**.1.4 PHP:**..................................................................................................................................................45

vi

**6**

**6**

**.1.5 Node.js:** .............................................................................................................................................45

**.1.6 Database Implementation:** ..............................................................................................................46

**CHAPTER SEVEN**...........................................................................................................................................47

**CONCLUSIONS AND RECOMMENDATIONS**..........................................................................................47

**7**

**.1 Conclusions:** ............................................................................................................................................47

**7**

**7**

**7**

**.1.1 Therapeutic Integration:**.................................................................................................................47

**.1.2 Addressing Teenager Needs:**...........................................................................................................47

**.1.3 Impact on Mental Health:**...............................................................................................................48

**7**

**.2 Recommendations:**..................................................................................................................................48

**7**

**7**

**7**

**7**

**.2.1 Continuous Improvement:** ..............................................................................................................48

**.2.2 Longitudinal Studies:**.......................................................................................................................48

**.2.3 Community Engagement:** ...............................................................................................................49

**.2.4 Accessibility and Outreach:** ............................................................................................................49

**REFERENCES**..................................................................................................................................................51

**APPENDIX**........................................................................................................................................................53

vii

**CHAPTER ONE**

**1**

**.**

**Introduction**

**PROJECT DECLARATION**

**Project Title:** An Online Therapy Chat Site to Curb the Effects of Excessive Use of social media

on Teenage Mental Health.

**Background:** The pervasive use of social media among teenagers has been associated with

adverse effects on mental health, including anxiety, depression, and social isolation. Addressing

these concerns, our project aims to develop an Online Therapy Chat Site targeting teenagers

dealing with mental health issues caused by excessive social media usage.

**Objectives:**

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**Platform Development:** Develop an interactive and user-friendly online chat platform

accessible to teenagers.

**Mental Health Support:** Provide a safe and confidential space for teenagers to seek

professional help and guidance regarding mental health issues arising from excessive

social media use.

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**Therapist Engagement:** Recruit licensed mental health professionals to engage and

assist teenagers through the online therapy chat platform.

**Education and Awareness:** Raise awareness about the detrimental effects of excessive

social media usage on teenage mental health through articles, resources, and informative

content on the platform.

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**Key Features:**

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**User Authentication:** Secure user authentication and account creation for teenagers

seeking assistance.

**Chat Interface:** Real-time chat interface allowing users to communicate with licensed

therapists anonymously.

**Feedback and Reviews:** Enable users to provide feedback and reviews to improve

platform services continuously.

**Mobile Responsiveness:** Ensure the platform's compatibility with mobile devices for

easy accessibility.

**Expected Deliverables:**

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Fully functional Online Therapy Chat Site.

Comprehensive user guide and documentation.

Recruited a team of licensed mental health professionals.

Marketing materials for raising awareness about the platform.

**Project Timeline:**

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Phase 1: Planning and Design (Month 1-2)

Requirement analysis

Platform design and architecture planning

Recruiting mental health professionals

Phase 2: Development (Month 3-6)

Front-end and back-end development

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Chat interface implementation

Content creation for the resource hub

Phase 3: Testing and Deployment (Month 7-8)

User testing and feedback collection

Platform optimization and debugging

Deployment and launch of the platform

**Conclusion:**

This project aims to offer a supportive and accessible platform for teenagers struggling with

mental health issues exacerbated by excessive social media usage. By leveraging technology and

professional guidance, we aim to contribute positively to the mental well-being of teenagers in

the digital age**.**

The rise of social media has had a profound impact on the lives of teenagers. Social media

platforms have made it easier for teenagers to connect with friends and family, share

information, and express themselves. However, excessive use of social media has also been

linked to several negative consequences, including anxiety, depression, and low self-esteem.

This project proposal outlines the development of an online therapy chat site that will provide a

safe and confidential space for teenagers to discuss their mental health concerns and receive

support from licensed therapists. The chat site will be designed to be accessible and affordable

for teenagers, and it will be tailored to the specific needs of this population. Moreover, the lack

of accessible and affordable mental health services for teenagers exacerbates the issue

3

**1**

**.1 Background of The Study**

The excessive use of social media among teenagers has raised concerns about its impact on their

mental health. Numerous studies have shown a correlation between excessive social media use

and mental health issues such as depression, anxiety, and low self-esteem. The negative

consequences of social media on teenage mental health have become more pronounced in recent

years, with the rise of digital technology and increased accessibility to social media platforms.

**1**

**.2 Problem Statement**

The problem that this project aims to address is the negative impact of excessive social media

use on teenage mental health. The proposed online therapy chat site will provide a safe and

confidential space for teenagers to discuss their mental health concerns and receive support from

licensed therapists**.**

**1**

**.3 Objectives of The Study**

To develop an online therapy chat site that is accessible and affordable for teenagers.

⦁

⦁

To tailor the chat site to the specific needs of teenagers.

To provide a safe and confidential space for teenagers to discuss their mental health

concerns.

⦁

⦁

To provide teenagers with support from licensed therapists.

To evaluate the effectiveness of the online therapy chat site in reducing the negative

effects of social media use on teenage mental health**.**

4

**1**

**.4 Project Objectives**

To create a user-friendly and confidential chat site that is available 24/7 and accessible to

⦁

teenagers from all over the world.

⦁

To include features that are specifically designed for teenagers, such as chat rooms for

different interests, a forum for teenagers to share their experiences, and a blog with articles about

mental health.

⦁

To implement security measures to protect the privacy of teenagers, such as encryption

and password protection.

⦁

To staff the chat site with licensed therapists who are experienced in working with

teenagers.

⦁

To conduct a survey of teenagers who use the chat site to assess their satisfaction with the

chat site and their mental health**.**

**1**

**.5 Technology and Tools**

Software developers use a computer program to create, debug, support, or maintain other

programs and applications. This system makes use of the software development lifecycle and

tools listed below.

5

**1**

**.7 Software Development Lifecycle**

The software development blueprint is essentially the Software Development Lifecycle (SDLC).

To complete a software development project, a suitable methodology is required for each one.

Because it provides the guidelines for developing the software application, the procedure is an

essential component of software development. Since our specifications are fixed, the V-model

that we have proposed for the Software Development Lifecycle The foundation of the V-Model,

an extension of the waterfall model, is the association of a testing phase for each corresponding

development stage. This suggests that each step of the development cycle has a testing phase

associated with it. This model requires a great deal of discipline, and the subsequent phase

begins once the previous one is completed**.**

**1**

**.8 Significance of the Study**

This study holds significant importance as it aims to address the urgent need for accessible and

effective mental health support services for teenagers affected by excessive social media use. By

creating an online therapy chat site specifically designed for teenagers, this research seeks to

provide a solution that offers a safe and confidential platform for seeking help and support from

licensed therapists and mental health professionals. The findings of this study will contribute to

the growing body of knowledge on the effects of excessive social media use on teenager’s

mental health.

6

**1**

**.8 Project Scope**

The scope of this project is to develop an online therapy chat site specifically designed to address

the negative effects of excessive social media use on teenage mental health. The project will

focus on creating a platform that provides a safe and confidential space for teenagers to connect

with licensed mental health professionals and seek support and guidance. The online therapy chat

site will aim to help teenagers balance their social media use and prioritize their mental

wellbeing.

**The project scope includes the following:**

⦁

**Platform Development:** The project will involve the development of an online therapy chat

site that is user-friendly, accessible, and secure. The platform will be designed to accommodate

the specific needs of teenagers and provide them with a seamless experience.

⦁

**Chat Functionality:** The online therapy chat site will include chat functionality that allows

teenagers to communicate with licensed mental health professionals in real-time. The chat

feature should be intuitive, reliable, and provide a confidential environment for open

communication.

⦁

**User Registration and Authentication:** The platform will incorporate a user registration

system that allows teenagers to create accounts and authenticate their identities. Strong security

measures will be implemented to ensure the privacy and confidentiality of user information.

⦁

**Mental Health Professional Profiles:** The online therapy chat site will feature profiles of

licensed mental health professionals. These profiles will provide information about their

qualifications, areas of expertise, and availability. Users will have the ability to select and

connect with the mental health professional of their choice.

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⦁

**Confidentiality and Privacy:** The project will prioritize the confidentiality and privacy of

users. Measures will be implemented to protect user data, ensure secure communication, and

comply with relevant data protection regulations.

⦁

**Support and Guidance:** The online therapy chat site will aim to provide comprehensive

support and guidance to teenagers. Mental health professionals will offer advice, coping

strategies, and resources to help teenagers manage the negative effects of excessive social media

use on their mental health.

⦁

**Monitoring and Reporting:** The platform will include monitoring features to ensure the safety

and well-being of users. Any concerning or high-risk behavior will be promptly identified, and

appropriate actions will be taken, such as referral to emergency services or providing additional

support.

⦁

**Testing and Quality Assurance:** The project will involve thorough testing of the online

therapy chat site to identify and resolve any technical issues or bugs. Quality assurance measures

will be implemented to ensure the platform functions smoothly and meets the needs of users.

⦁

**Collaboration with Mental Health Professionals:** The project may involve collaboration with

licensed mental health professionals who can provide expertise, guidance, and feedback

throughout the development process. Their insights will help ensure the effectiveness and

appropriateness of the platform for teenagers.

⦁

**Pilot Testing and Evaluation:** Once the online therapy chat site is developed, a pilot testing

phase will be conducted to assess its usability, functionality, and effectiveness. Feedback from

users and mental health professionals will be gathered and used to refine and improve the

platform.

8

**CHAPTER TWO**

**LITERATURE REVIEW**

**2**

**.0 Introduction**

This chapter presents a comprehensive review of the existing literature on the topic of creating

an online therapy chat site to address the negative effects of excessive social media use on

teenage mental health. The purpose of this literature review is to provide a solid foundation for

the research, outline key concepts, establish the theoretical framework, and analyze previous

empirical studies related to the topic. This review aims to highlight the gap in the literature that

this study seeks to address and provide insights into the potential effectiveness of an online

therapy chat site as an intervention.

**2**

**2**

**.1 Definition of Key Concepts**

**.1.1 Online Therapy Chat Site**

An online therapy chat site refers to a digital platform that allows teenagers to connect with

licensed mental health professionals through text-based communication. This platform offers a

safe and confidential space for individuals to seek support, guidance, and counseling to address

their mental health concerns**.**

**Additionally, an online therapy chat site may employ various features to enhance**

**therapeutic experience. These may include:**

⦁

**Secure Messaging Systems:** Ensuring end-to-end encryption and stringent privacy policies to

safeguard user information and maintain **confidentiality.**

⦁

**User-Friendly Interface:** The platform should be intuitive and easy to navigate, allowing

teenagers to access the support they need without any technical barriers**.**

9

⦁

**Multi-Modal Communication:** Besides text-based chat, the site may also incorporate options

for audio or video calls for users who prefer alternative forms of communication**.**

**Appointment Scheduling:** Offering a scheduling system that allows users to book sessions at

their convenience, considering their availability and preferred **therapist.**

**Personalized Matching:** Utilizing algorithms or assessments to pair users with therapists who

have expertise in addressing specific mental health concerns or share similar interests.

**Legal and Ethical Compliance:** Adhering to local and international regulations governing

mental health services, including licensing and accreditation of therapists.

**Progress Tracking:** Allowing users to monitor their progress over time, enabling both the

individual and therapist to assess the effectiveness of interventions.

⦁

⦁

⦁

⦁

**2**

**.1.2 Excessive Social Media Use**

Excessive social media use pertains to the overconsumption of social media platforms, where

individuals spend a significant amount of time engaging in online activities such as scrolling,

posting, liking, and commenting. This behavior can lead to negative mental health outcomes,

including anxiety, depression, and low self-esteem.

**Furthermore, excessive social media use can manifest in several ways:**

⦁

**Escapism:** Individuals may turn to social media to escape from real-life challenges, leading to a

cycle of avoidance and procrastination.

**Sleep Disturbances:** Engaging with social media late into the night can disrupt sleep patterns,

leading to fatigue, irritability, and diminished cognitive function**.**

**Procrastination and Impaired Productivity:** Excessive time spent on social media can hinder

productivity in academic, professional, and personal pursuits, leading to increased stress levels**.**

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**Cyberbullying and Online Harassment:** Overexposure to social media platforms can expose

individuals to cyberbullying, which can have severe psychological consequences

These stated points above can result or have a negative impact on the mental health of teenagers.

**2**

**.2 Theoretical Framework**

The proposed theoretical framework for this study draws upon several relevant theories and

models that provide insights into the relationship between social media use and mental health in

teenagers.

**2**

**.2.1 Social Comparison Theory**

Social comparison theory, developed by Festinger (1954), posits that individuals naturally

compare themselves to others to evaluate their own abilities and opinions. In the context of social

media, constant exposure to curated and idealized representations of others' lives may lead to

negative self-comparisons and lower self-esteem.

**2**

**.2.2 Uses and Gratifications Theory**

The uses and gratifications theory suggests that individuals engage with media to fulfill specific

needs, such as entertainment, social interaction, or information. Teenagers may turn to social

media to alleviate feelings of loneliness, but excessive use can lead to feelings of isolation and

exacerbate mental health issues.

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**2**

**.2.3 Cognitive-Behavioral Theory**

Cognitive-behavioral theory highlights the connection between thoughts, emotions, and

behaviors. Excessive social media use can reinforce negative thought patterns, contributing to

increased anxiety and depression. Online therapy chat sites can potentially disrupt these patterns

and provide cognitive-behavioral interventions.

**2**

**.3 Empirical Review**

A significant body of research has investigated the relationship between excessive social media

use and teenage mental health. Studies have consistently found correlations between excessive

social media use and negative outcomes, including anxiety, depression, poor sleep quality, and

low self-esteem (Lin et al., 2016; Van der Meijden & Overvelde, 2019).

Several studies have explored the effectiveness of online interventions, including cognitive

behavioral therapy (CBT), in addressing mental health issues. Hollis et al. (2017) demonstrated

the efficacy of online CBT in reducing depression symptoms among adolescents. Vigerland et al.

(2016) found that online CBT was effective in reducing anxiety symptoms in teenagers.

The literature also underscores the need for accessible and affordable mental health services for

teenagers, given the negative impact of social media on their mental well-being (Lee & Jung,

2

021). An urgent demand for remote mental health support has emerged, particularly in the

context of the COVID-19 pandemic, which has exacerbated feelings of isolation and distress

among teenagers (The Lumen Society, 2023).

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**2**

**.4 Conceptual Framework**

The conceptual framework for this study It illustrates the relationships between excessive social

media use, negative mental health effects, and the potential role of an online therapy chat site as

an intervention to mitigate these effects.

In this framework, excessive social media use is linked to negative mental health outcomes, such

as anxiety and depression. The online therapy chat site serves as an intermediary intervention,

providing teenagers with a confidential platform to connect with licensed mental health

professionals, receive guidance, and address their mental health concerns. Theoretical

perspectives such as social comparison theory and cognitive-behavioral theory inform the

pathways within this framework.

**2**

**.5 Conclusion**

This literature review has provided an in-depth exploration of key concepts, theoretical

frameworks, and empirical studies related to the proposed project. It has highlighted the

detrimental effects of excessive social media use on teenage mental health, the potential of

online interventions like cognitive-behavioral therapy, and the urgent need for accessible mental

health support for teenagers. The conceptual framework visually represents the relationships

between these elements and sets the stage for the subsequent chapters of this study. The next

chapter will outline the research methodology used to investigate the effectiveness of the online

therapy chat site in addressing the identified issues.

1

3

**CHAPTER THREE**

**METHODOLOGY**

**3**

**.1 Introduction**

A comprehensive description of the system's functionality is provided in the System

Requirements Specification (S.R.S.), also known as the requirements specification for a software

system. Considering the contexts presented in this research project, it may also include a

collection of use cases describing user experiences with the software. An online therapy chat site

is designed to address the impact of excessive social media use on teenage mental health. This

platform offers a range of services, including the ability for teenagers to engage in therapeutic

conversations and seek guidance. The system maintains records of both therapists and users. It

allows teenagers to connect with therapists through chat sessions, providing them with a

confidential space to discuss their concerns. Additionally, the platform tracks the progress and

history of these interactions.

One of the key advantages of this application is its accessibility. Any teenager seeking support

for mental health concerns can easily register and connect with a qualified therapist. The

platform streamlines the process of seeking help, offering a user-friendly interface for immediate

assistance.

The application was developed using PHP, CSS, and JavaScript to create an engaging web-based

system. PHP facilitates the creation of interactive elements crucial for a web-based therapy

platform. CSS is employed for designing web pages, ensuring a visually appealing and user-

friendly interface. MySQL serves as the database management system to efficiently store and

retrieve user information.

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**For the Software Development Life Cycle, the V model is adopted as the process**

**model to ensure a structured and systematic approach to development.**

**3**

**.2 V Process Model**

The V-process Model that was chosen for this final-year project is depicted. The selection of this

model was made because every phase of the development cycle is directly linked to a testing

phase. A type of SDLC model known as the V-model emphasizes the sequential execution of

processes in a V-shape. The Verification and Validation model goes by a different name. Its

foundation is the association of each development stage with a testing phase. The creation of

each step is directly connected to the testing phase. The next phase starts once the previous phase

is done, so there is a testing activity for each development activity.

1

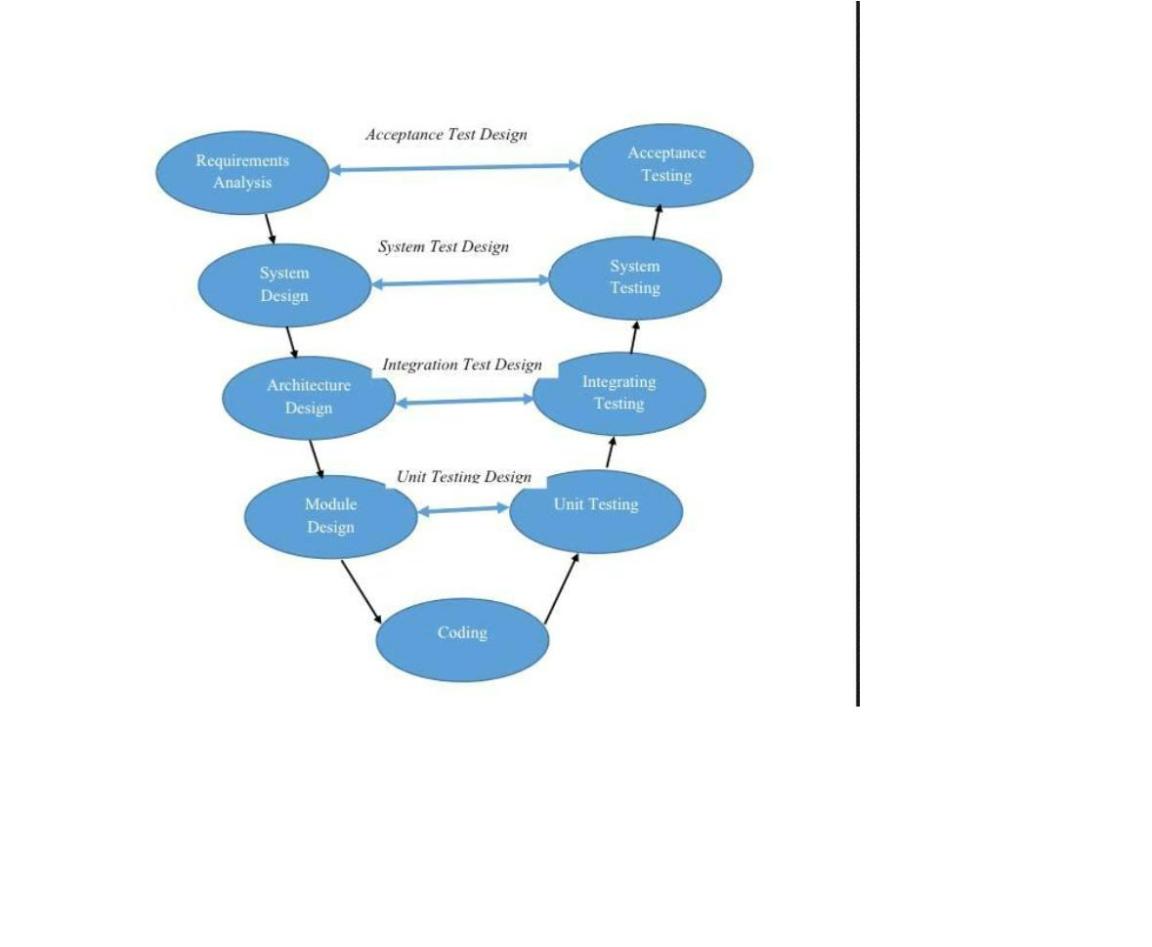
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**Figure 3-1 V-process Model**

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**3**

**.2.1 Verification Phases**

The static analysis method is used in the V-Model's concept of verification without actually

running the code. At the time of development, this evaluation procedure is carried. out to

determine whether particular requirements will be met. The V-Model has several

Verification phases, each described in more detail below.

⦁

**Requirement Analysis:** The cycle's initial phase is required analysis. During this phase,

requirements are gathered by assessing the users' needs.

⦁

**Functional Specification:** Preparing the plan for the system's design or blueprint, which

includes the system's hardware, software, and network requirements.

⦁

**Architectural Design:** High-Level Design (H.L.D.) is another name for this. System

design and architecture are the primary focus of the H.L.D. phase. It outlines the

arrangement, stage, framework, item, and administration/process.

⦁

**Detail Design:** The detail design phase is also known as low-level design. Each of the

designed system's smaller units, or modules, is explained to the programmer so that they

can immediately begin coding. The low-level design document or program specifications

will comprehensively describe the module's functional logic.

**3**

**.2.2 Coding Phase**

Following the design phase, the coding phase begins. Based on the requirements, a suitable

programming language is chosen. A set of standards and guidelines govern coding**.** Before

being checked into the repository, the final build is optimized for better performance, and

the code is inspected multiple times to ensure it works**.**

1

7

**3**

**.2.3 Validation Phases**

The V-Model concept includes functional and non-functional dynamic analysis. practices, and

code execution is used for testing. When a product's development is finished, validation is done

to see if the software meets customer expectations. Validation Phases guarantee that all of that

development was carried out appropriately. This procedure undergoes a lot of testing and is

highly dynamic. These means are additionally alluded to as the 'Tester's life cycle.

⦁

**Testing Units:** Unit Test Plans (U.T.P.s) are created during the module design phase in

the V Model. These U.T.P.s are carried out to eliminate bugs at the unit or code level. A program

module, for instance, is an example of the most minor, a freely existing substance known as a

unit. Unit testing ensures it can function properly when the smallest unit is separated from the

rest of the codes or teams.

⦁

**Testing Integration:** Integration testing is associated with the architectural design phase.

The framework's internal modules' compatibility and correspondence are tested using

combination **tests.**

⦁

**Testing the System:** System testing is directly linked to the design phase. System tests

evaluate the communication and overall functionality of the development system.

⦁

**Testing for Acceptance:** Finally, putting all the tests created during the initial

requirements phase into action is known as acceptance testing. It should ensure that the system is

ready to be used and works in a natural environment with accurate data**.**

1

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**3**

**.3 Requirement**

**SOFTWARE**

**DESCRIPTION**

MySQL (phpMyAdmin )

Software for running the system's database.

Microsoft Word 2020

Google Chrome

A report writing software

A web browser to run the app.

Make PHP code programs with it.

Visual Studio Code

**Xampp**

It assists a local host or server in performing website

testing.

**Table 3.1 Requirement for Software**

**3**

**.3.1 Software Requirements**

**HARDWARE**

**DESCRIPTION**

System

Laptop or Desktop

Processor

Pentium 4 or newer from Intel

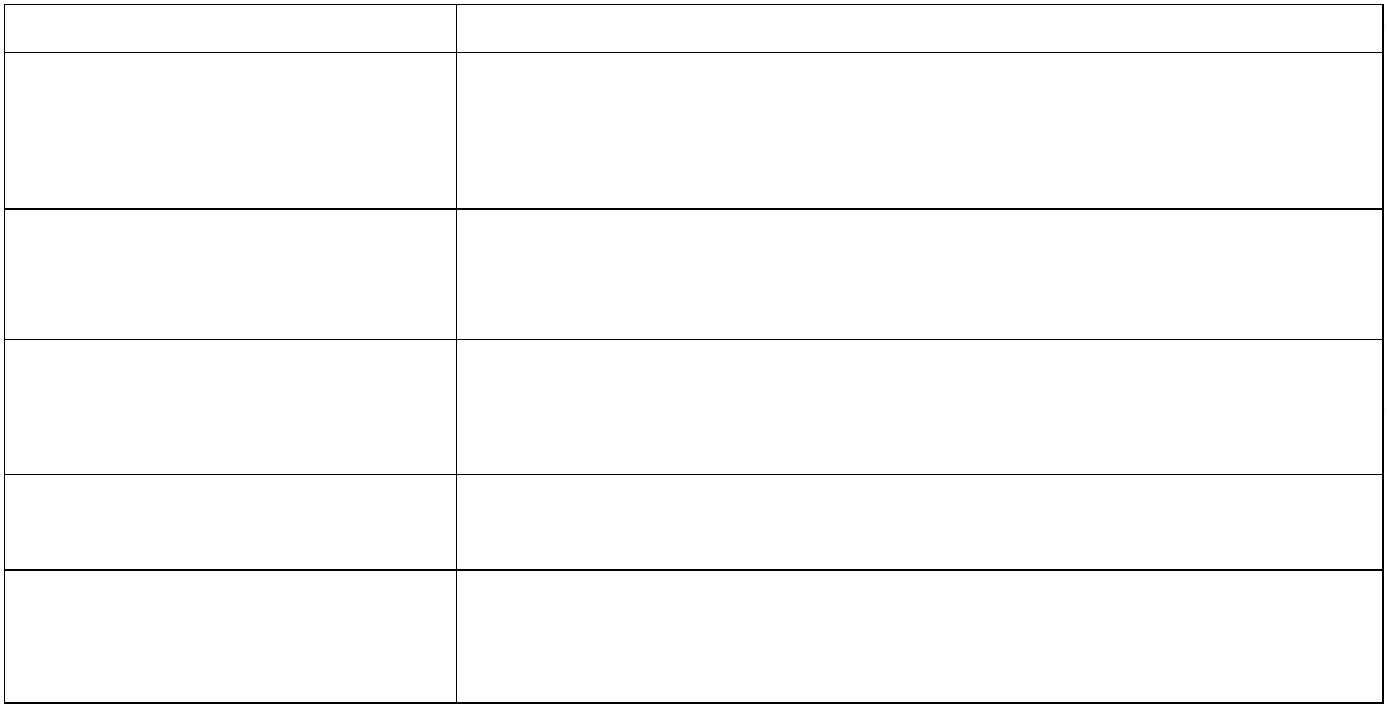
Memory (RAM)

Minimum of 2.G.B, maximum of 4G.B.

**Table 3.2 Hardware Requirement**

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**3**

**.4 Conceptual Framework**

The researchers used the conceptual framework as a mental window because it showed the

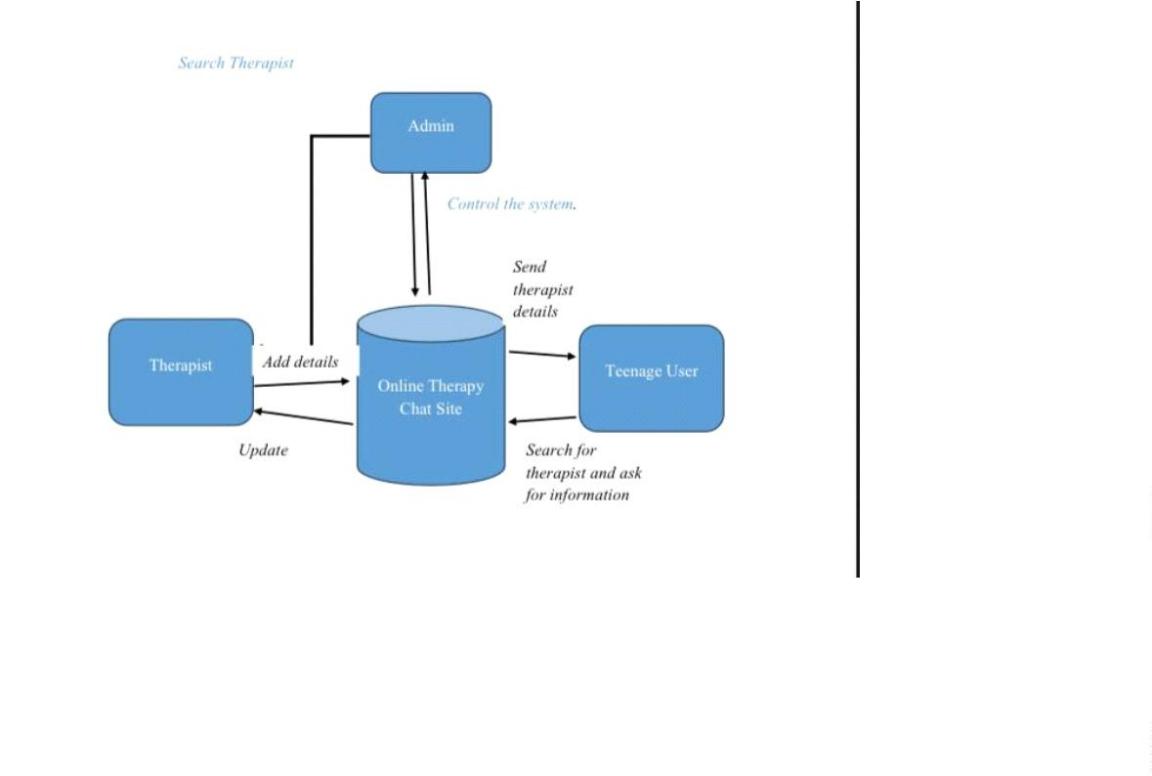
research design and the relationships between the variables. As depicted in the figure that

follows**.**

**Figure 3-2 Conceptual Framework**

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**3**

**.5 System Modeling**

Systems can be modeled during the requirements and design activity as a collection of

components and their relationships. A visual representation of these is typically provided to

the reader by a system architecture model, providing an overview of the system's

organization. System modeling makes creating more detailed system specifications easier,

which can be expressed as graphical representations of the problem that needs to be solved

or the system that needs to be built. Due to graphical representations, models are frequently

more straightforward to comprehend than in-depth natural language descriptions of the

system requirements. Examples of modeling tools include an E.R.D. Diagram, a Use Case

Diagram, and others of this kind.

**3**

**.5.1 Use Case Diagram**

Use-case diagrams make it easier to model the system's behavior and capture its

requirements. Use-case charts show a framework's undeniable level of capabilities and

scope. These diagrams also depict the system's interactions with its actors. The actors and

use cases in use-case diagrams only show what the system does and how actors use it, not

how the system works.

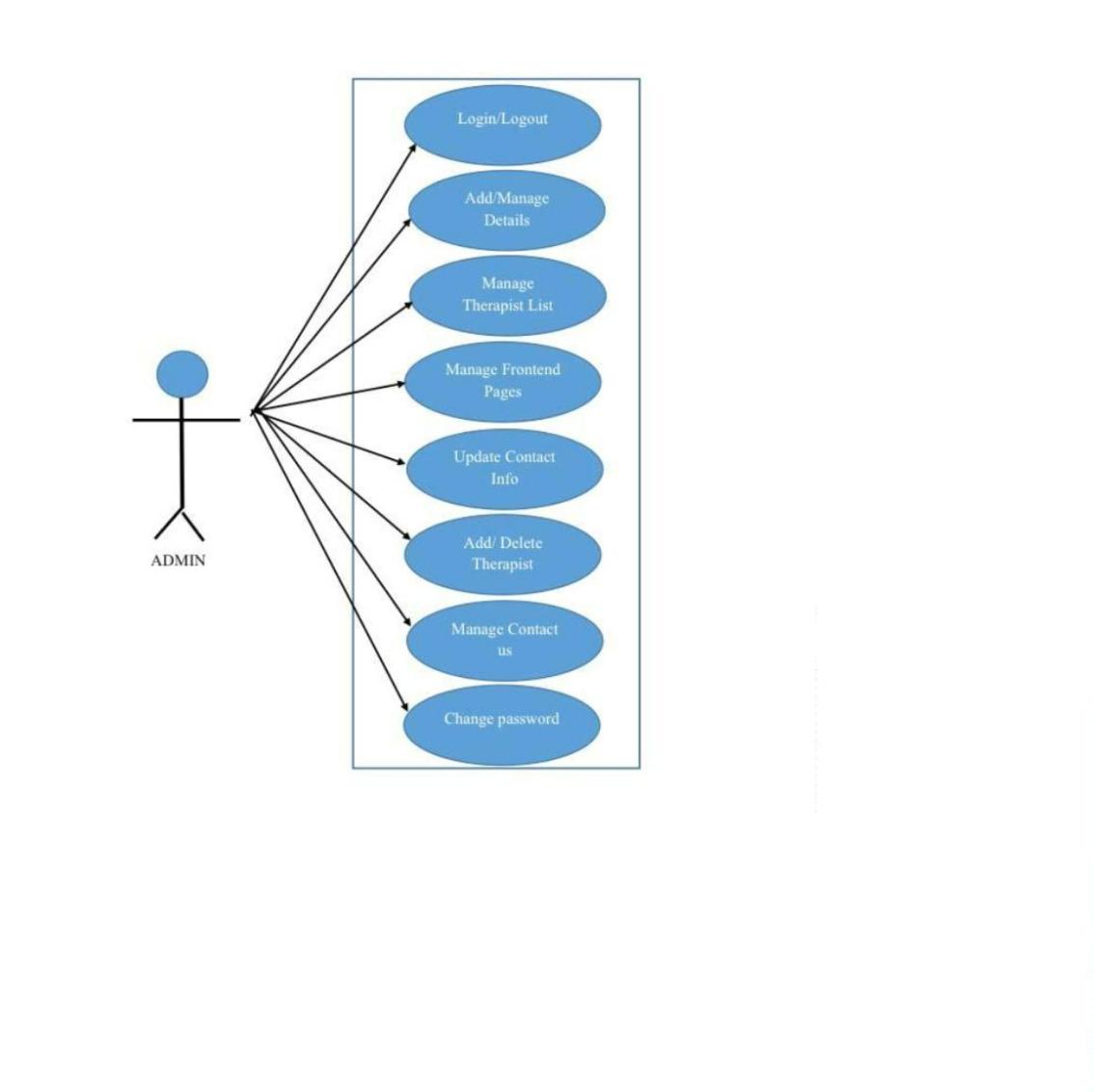
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**Figure 3-3 Admin Use case**

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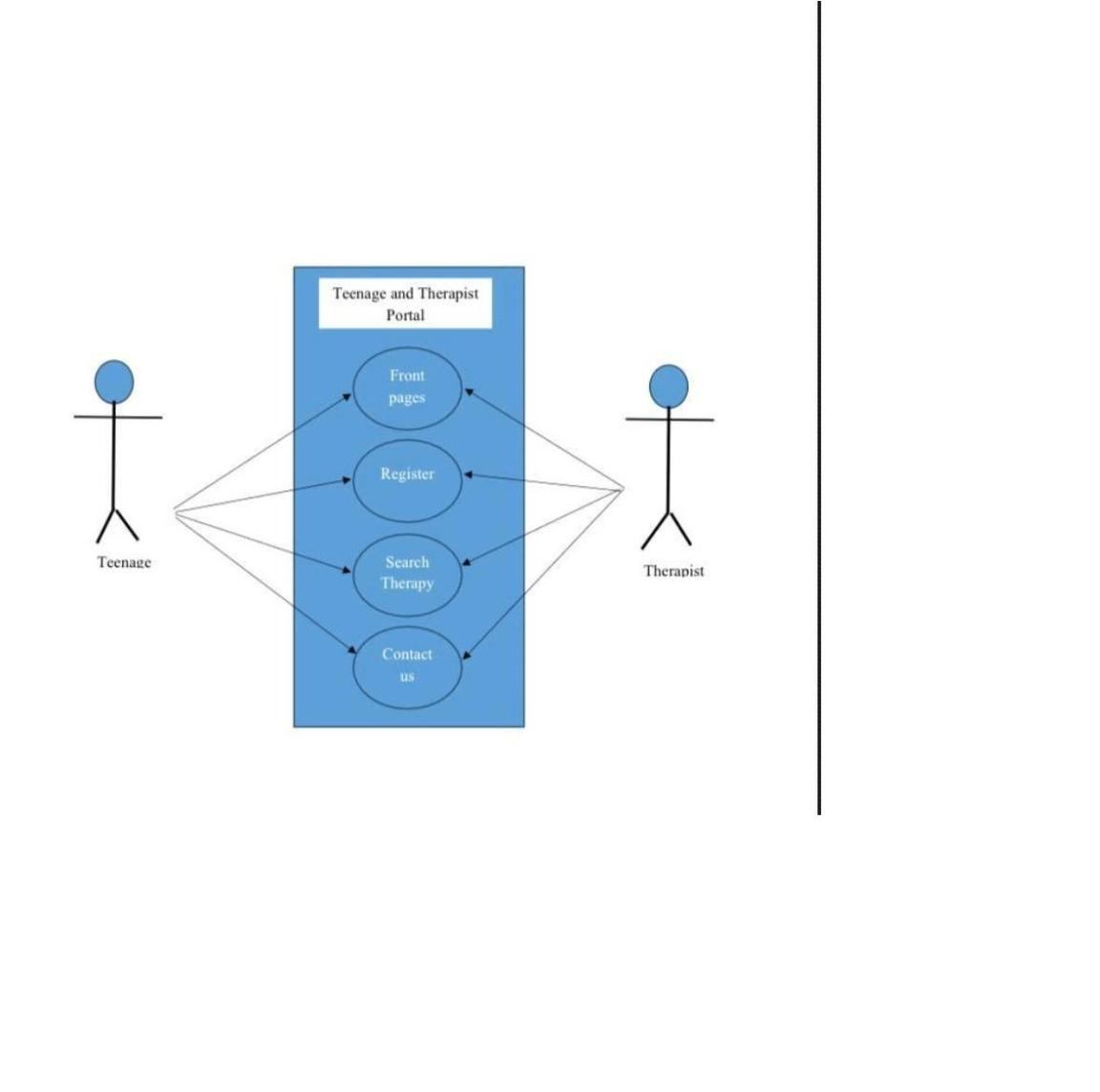
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**Figure 3-4 Teenage and Therapist use case**

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**.5.2 Data Dictionary:**

In the context of our project aimed at mitigating the impact of excessive social media use

on teenage mental health, the data dictionary serves as a comprehensive guide to the

attributes and descriptions of key data elements within our Online Therapy Chat Platform.

This data dictionary, organized akin to a set of tables, is specifically tailored to the

requirements of our initiative.

***The Online Therapy Chat Platform's Data Dictionary encompasses six crucial entities*:**

⦁

**Teen User:** Represents the profiles and information of teenagers registered on the

platform.

⦁

**Chatlogs:** Stores the conversations between users and therapists, ensuring a secure and

confidential environment**.**

⦁

**Wellness Resources:** Contains curated content and resources focused on promoting

positive mental health in the digital age.

⦁

**Therapist:** Encompasses details about the mental health professionals providing support

through the platform.

⦁

**Activity Logs:** Records user activities and engagement within the platform for analysis

and improvement purposes**.**

⦁

**Feedback:** Gathers user feedback to continuously enhance the platform's effectiveness.

This structured approach to data management ensures the seamless functioning of our

Online Therapy Chat Platform, aligning with our mission to address and alleviate the

mental health challenges faced by teenagers due to their social media interactions.

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**CHAPTER FOUR**

**SYSTEM ANALYSIS**

**4**

**.0 Functional Requirements**

The online therapy chat site is meticulously designed to encompass a multitude of features that

cater to the diverse needs of both teenagers seeking mental health support and licensed therapists

offering professional assistance.

**Use Case Diagrams**

Use case diagrams stand as foundational visual representations that intricately map out the

extensive functionalities of the online therapy platform. These diagrams serve as an invaluable

tool, elucidating the interactions between distinct user roles—teenagers, therapists—and the

system itself. They vividly depict various user actions, system responses, and the comprehensive

scope of operations within the platform, ensuring a coherent understanding of the system's

behavior and functionality**.**

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**4**

**.1 Teenagers' Use Cases:**

**figure 5.1 Teenage use case**

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**Register/Login:** This use case facilitates secure account creation and login for teenagers.

It should allow for various registration options, including email, social media integration,

or anonymous sign-up. Login mechanisms should prioritize user convenience and

security, employing features like multi-factor authentication.

•

**Browse Therapists:** This use case empowers teenagers to explore a pool of licensed

therapists. It should offer search functionalities based on diverse criteria like

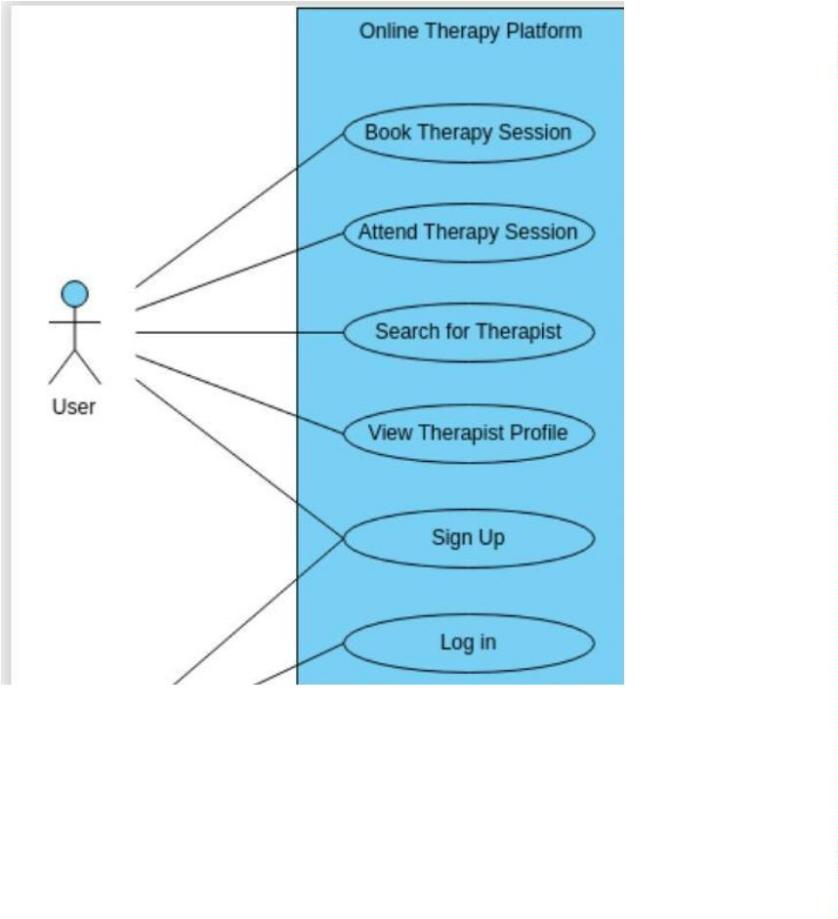
specialization (anxiety, depression, etc.), language proficiency, gender preference, and

availability. Advanced filtering options based on user reviews or therapy approaches

could be further enhancements.

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**Initiate Chat:** This use case enables teenagers to initiate confidential chat sessions with

chosen therapists. It should provide a seamless interface for initiating chats, outlining

session duration, confidentiality agreements, and therapist response expectations.

Integrating features like icebreaker prompts or topic selection could facilitate initial

conversations.

**Access Resources:** This use case grants teenagers access to a curated library of mental

health resources. It should encompass a diverse range of materials like informative

articles, self-help guides, relaxation exercises, and mindfulness techniques. Categorizing

resources by topic, format (video, audio, text), and target audience could enhance

accessibility**.**

**View History:** This use case allows teenagers to review past chat sessions and

interactions. It should provide a secure archive of chat logs, transcripts, and notes

exchanged with therapists. Users should be able to search, filter, and export these records

for personal reference or future therapy sessions.

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**4**

**.2 Therapists' Use Cases:**

**Figure 5.2 Therapist use case.**

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**Profile Management:** This use case allows therapists to manage their online profiles. It

should provide a platform to update qualifications, areas of expertise, therapeutic

approaches, and preferred communication styles. Additionally, therapists should be able

to set their availability for chat sessions and manage appointment schedules.

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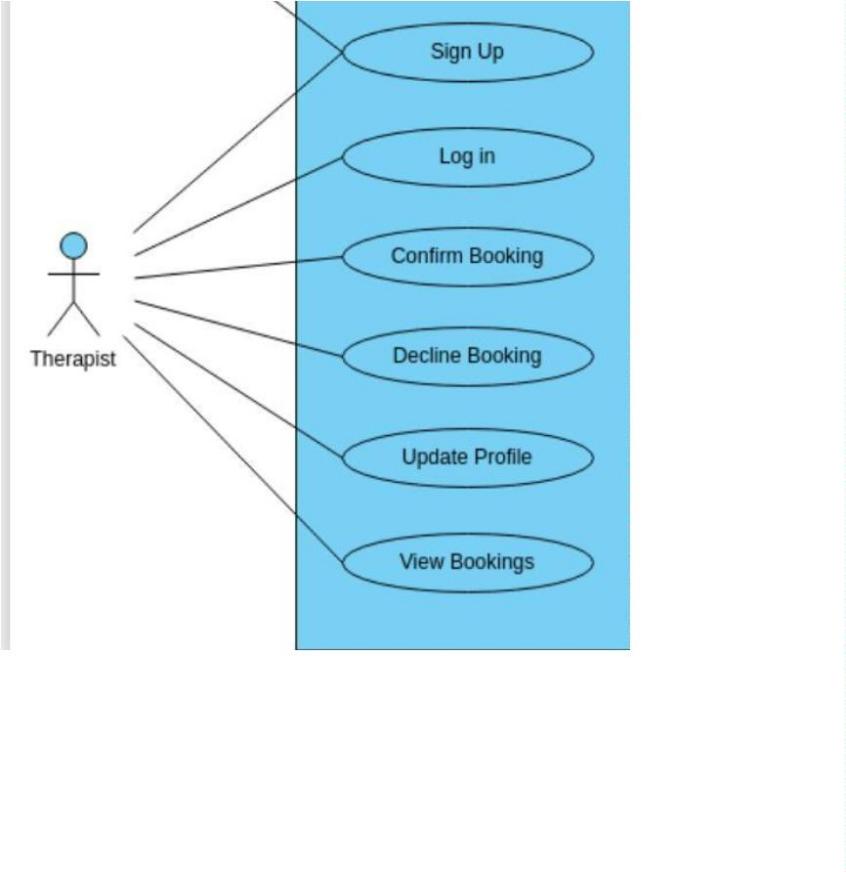
**Chat Handling:** This use case equips therapists with tools to effectively manage multiple

chat sessions. It should offer features like concurrent chat windows, session timers, note-

taking capabilities, and quick access to relevant resources during chats. Integrating

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sentiment analysis tools or emotional state recognition could further enhance therapist

support.

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**Dashboard Analytics**: This use case provides valuable insights into user interactions and

session statistics. Therapists should be able to access data on session duration, user

demographics, common topics discussed, and user feedback. Visualizations and reports

could be incorporated to present trends and patterns for informed decision-making and

personalized therapy approaches.

•

**Access Tools:** This use case grants therapists access to specialized tools and resources to

enhance their counseling and support capabilities. This could include therapeutic

frameworks, assessment questionnaires, mood tracking tools, or guided meditation

exercises. Integrating external platforms or APIs for specific interventions could expand

the therapists' toolkit.

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**4**

**.3 Entity-Relationship Diagram (ERD) Breakdown:**

**Figure 5.7 Entity relationship Diagram**

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**User Profiles:** This entity stores user details like name, age, email, gender, preferred

language, and account creation date. It would also contain therapy preferences,

confidentiality agreements, and consents.

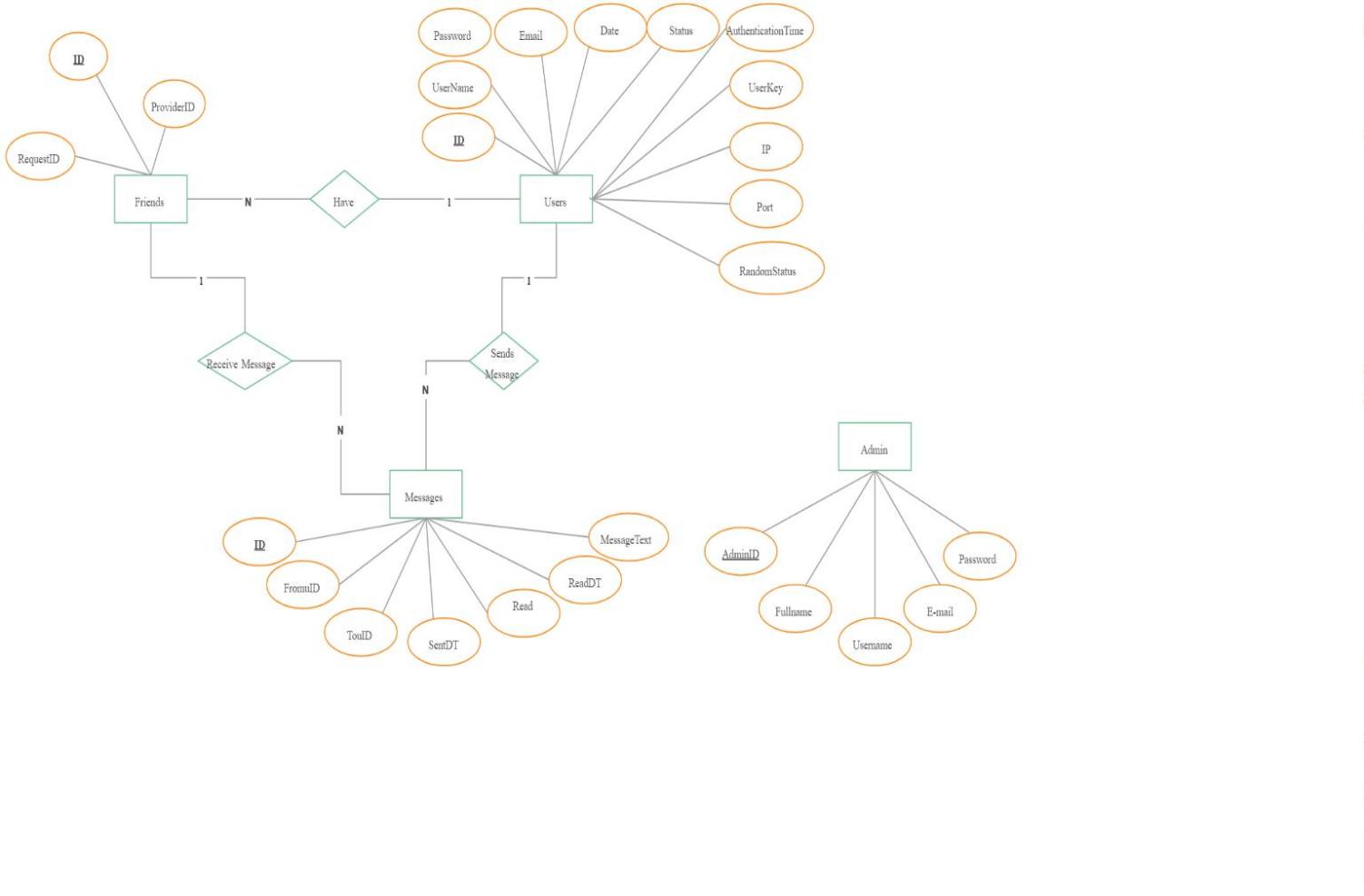
**Chat Logs:** This entity captures the conversation history between a teenager and

therapist. It would include timestamps, messages exchanged (text, audio, video), session

duration, and therapist notes.

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**Therapist Information:** This entity catalogs details of licensed therapists. It would store

qualifications, specializations, years of experience, license numbers, therapy approaches,

and available languages.

**Resources Repository:** This entity houses the mental health resource library. It would

contain details like title, author, type (article, video, etc.), target audience, topic

categories, and keywords for easy search and retrieval.

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**.4 Relationships:**

**One User Profile can have Many Chat Logs:** This represents a teenager engaging in

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multiple therapy sessions with different therapists**.**

**One Therapist can have Many Chat Logs:** This reflects a therapist holding sessions

with various teenagers.

**One User Profile can access Many Resources:** This signifies a teenager exploring and

utilizing diverse resources within the library.

**One Resource can be accessed by Many User Profiles:** This indicates the same

resource being beneficial for multiple teenagers**.**

**One Therapist can contribute Many Resources:** This allows therapists to share their

expertise and recommended materials.

***Additional Considerations:***

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**Data Security and Privacy:** Implementing robust encryption, data anonymization, and

user consent mechanisms is crucial to ensure user trust and data protection**.**

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**Scalability and Performance:** As the user base grows, the system architecture should be

able to accommodate increased traffic and maintain efficient response times.

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**Compliance and Regulations**: Adherence to relevant data privacy regulations and

ethical guidelines for online therapy is essential.

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**CHAPTER FIVE**

**SYSTEM DESIGN**

**5**

**.0 Introduction**

The online therapy chat system boasts a robust and scalable architecture, built primarily on a

client-server model. The client interface serves as the user-friendly front-end, while the server

houses the application logic and database. This separation ensures efficient performance and

facilitates future updates and expansions.

**5**

**.1 Architectural Design**

***Imagine a layered diagram illustrating the system's structure:***

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**Client-Side Interface:** This layer encompasses the web or mobile app that users interact

with. It features functionalities like user registration, therapist browsing, chat initiation,

resource access, and session history review.

**Server Components:** This layer handles the heavy lifting behind the scenes. It processes

user requests, manages chat sessions, stores data in the database, and interacts with

external services like video conferencing platforms. Key components include:

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**Routing and Session Management:** Directs user requests to the appropriate therapist

and manages concurrent chat sessions efficiently.

**Chat Engine:** Facilitates real-time text, audio, or video communication between users

and therapists**.**

**Data Storage and Retrieval:** Stores and retrieves user information, chat logs, therapist

profiles, and other data securely in the database.

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**API Gateway:** Acts as a central hub, managing communication between the client

interface, server components, and external services**.**

**Database Backend:** This layer houses the structured data of the system, including user

profiles, chat logs, therapist information, and mental health resources. It utilizes a robust

database management system (DBMS) to ensure data integrity, security, and scalability.

**5**

**.2 Scalability and Security:**

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**The system is designed to cater to a growing user base.** By employing technologies

like cloud computing and containerization, the system can dynamically scale resources up

or down based on demand. This ensures smooth performance even during peak usage

periods.

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**Security is paramount.** User data is encrypted at rest and in transit, and access controls

are implemented to restrict unauthorized access. Additionally, regular security audits and

vulnerability assessments are crucial to maintain a secure environment.

**5**

**.3 User Interface Design**

The user interface (UI) prioritizes user-centricity and accessibility. Imagine a clean and

minimalistic design, utilizing intuitive icons, clear labels, and ample spacing. This fosters a sense

of calm and reduces cognitive load for teenagers navigating potentially sensitive topics.

**5**

**.4 User Interface Mockups:**

***Visual mockups bring the UI to life. These could showcase*:**

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**Landing page:** A warm and welcoming space with clear calls to action for registration,

therapist browsing, and resource access.

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**Chat interface:** A distraction-free space for text, audio, or video chat, facilitating

seamless communication with therapists.

**Therapist profiles:** Trust-building profiles featuring photos, qualifications, areas of

expertise, and user reviews.

**Resource library:** A categorized and searchable library of articles, videos, and self-help

tools, catering to diverse needs.

**5**

**.5 User Research and Testing:**

User research and testing are crucial to refine the UI. Conducting usability testing with teenagers

and mental health professionals provides invaluable insights into user needs, preferences, and

potential pain points. This iterative design process ensures the UI effectively caters to its target

audience.

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**CHAPTER SIX**

**SYSTEM IMPLEMENTATION**

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**.0 Technology Stack:**

The online therapy chat system leverages a robust blend of technologies, each contributing to its

seamless and responsive user experience:

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**.1 Front-end Development:**

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**HTML5**: Provides the fundamental structure and layout of the user interface, ensuring

cross-browser compatibility and accessibility.

**CSS3:** Stylizes the interface elements with colors, fonts, and animations, creating a

visually appealing and engaging experience.

**JavaScript:** Adds interactivity and dynamic functionality, enabling features like real-

time chat updates, user input validation, and menu animations.

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.2 Back-end Development:

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**PHP:** Handles server-side scripting, user authentication, session management, and

interactions with the database. Its mature libraries and frameworks facilitate efficient

development and code maintainability.

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**Node.js:** Powers real-time communication and chat functionalities. Its event-driven

architecture and asynchronous nature enable efficient handling of concurrent user

sessions and data exchange.

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**6**

**.3 Database Management:**

**MySQL:** Stores all critical information, including user profiles, chat logs, therapist details,

system settings, and mental health resources. Its scalability and reliability ensure efficient data

management and retrieval even as the user base grows.

**6**

**.4 Web Server:**

**Apache:** Serves the website content and facilitates communication between users and the server.

These popular choices offer robust performance, security features, and compatibility with

various back-end technologies.

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**6**

**.3 Development Process:**

**.4 The V-Model Advantage:**

The V-model, also known as the Verification and Validation model, offers a structured approach

for software development, emphasizing parallel testing alongside each development phase. This

fosters early identification and rectification of potential issues, leading to a more robust and

reliable final product.

**6**

**.5 Adapting V-Model to Online Therapy Chat System:**

Here's how the V-model can be applied to the online therapy chat system:

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**Requirements and Planning:**

**User needs analysis:** Define user requirements and functionalities through research,

surveys, and collaboration with mental health professionals.

•

**System architecture planning:** Design the system architecture, outlining components,

data flows, and technology stack.

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**Test planning:** Define testing strategies for each development stage, including unit tests,

integration tests, and user acceptance testing.

**6**

**.6 Verification (Left Side of the V):**

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**Detailed design:** Create detailed technical specifications and user interface mockups.

•

**Development:** Implement the front-end and back-end components, adhering to coding

standards and best practices.

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**Unit testing:** Test individual units of code (e.g., login function, chat message processing)

for functionality and accuracy.

**Integration testing:** Test how different modules interact and function together (e.g., chat

with therapist availability, resource search with database).

**6**

**.7 Validation (Right Side of the V):**

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**System testing:** Test the complete system with real users and simulated scenarios (e.g.,

concurrent chat sessions, stress testing).

**User acceptance testing (UAT):** Involve target users in testing the system for usability,

intuitiveness, and overall experience.

**Performance testing:** Measure system performance under load, ensuring responsiveness

and scalability.

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**Security testing:** Conduct penetration testing and vulnerability scans to identify and

address potential security risks.

**6**

**.8 Deployment and Maintenance:**

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**Deployment:** Release the system to production environment after successful testing and

user acceptance.

**Monitoring and logging:** Track system performance, user activity, and potential errors

in real-time.

**Maintenance and bug fixes:** Address reported issues and implement new features based

on user feedback and evolving needs.

**6**

**.9 Benefits of using V-Model:**

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**Early defect detection:** Identifying and fixing issues early in the development cycle

saves time and resources compared to late-stage debugging.

**Reduced risk of failure:** Thorough testing at each stage minimizes the risk of critical

bugs and malfunctions in production.

**Improved quality and reliability:** The V-model's structured approach leads to a more

robust and reliable system with fewer post-release issues.

**Enhanced user experience:** Early user involvement through UAT ensures the system

caters to the specific needs and expectations of target users.

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**.10 Front-end Implementation:**

The front-end development focuses on crafting a user-friendly and aesthetically pleasing

interface. Here's a breakdown:

**6**

**.1.1 HTML5:**

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**Structure:** Divides the page into logical sections like headers, navigation menus, chat

windows, and resource listings.

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**Forms:** Enables user registration, login, therapist search, and resource filtering.

**Embedding:** Integrates video conferencing tools or audio/video chat functionalities.

**6**

**.1.2 CSS3:**

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**Styling:** Defines colors, fonts, and layouts for each element, ensuring consistency and

visual hierarchy.

**Responsiveness:** Adapts the interface layout to different screen sizes, optimizing the

experience for desktops, tablets, and mobile devices.

**Animations:** Enhances user engagement with subtle animations on hover, scroll, or

button clicks.

**6**

**.1.3 JavaScript:**

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**Interactivity:** Enables real-time updates in chat windows, displays notifications, and

validates user input.

•

**Dynamic elements:** Creates interactive menus, search suggestions, and progress bars for

a more engaging experience.

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**Accessibility:** Implements features like keyboard navigation and screen reader

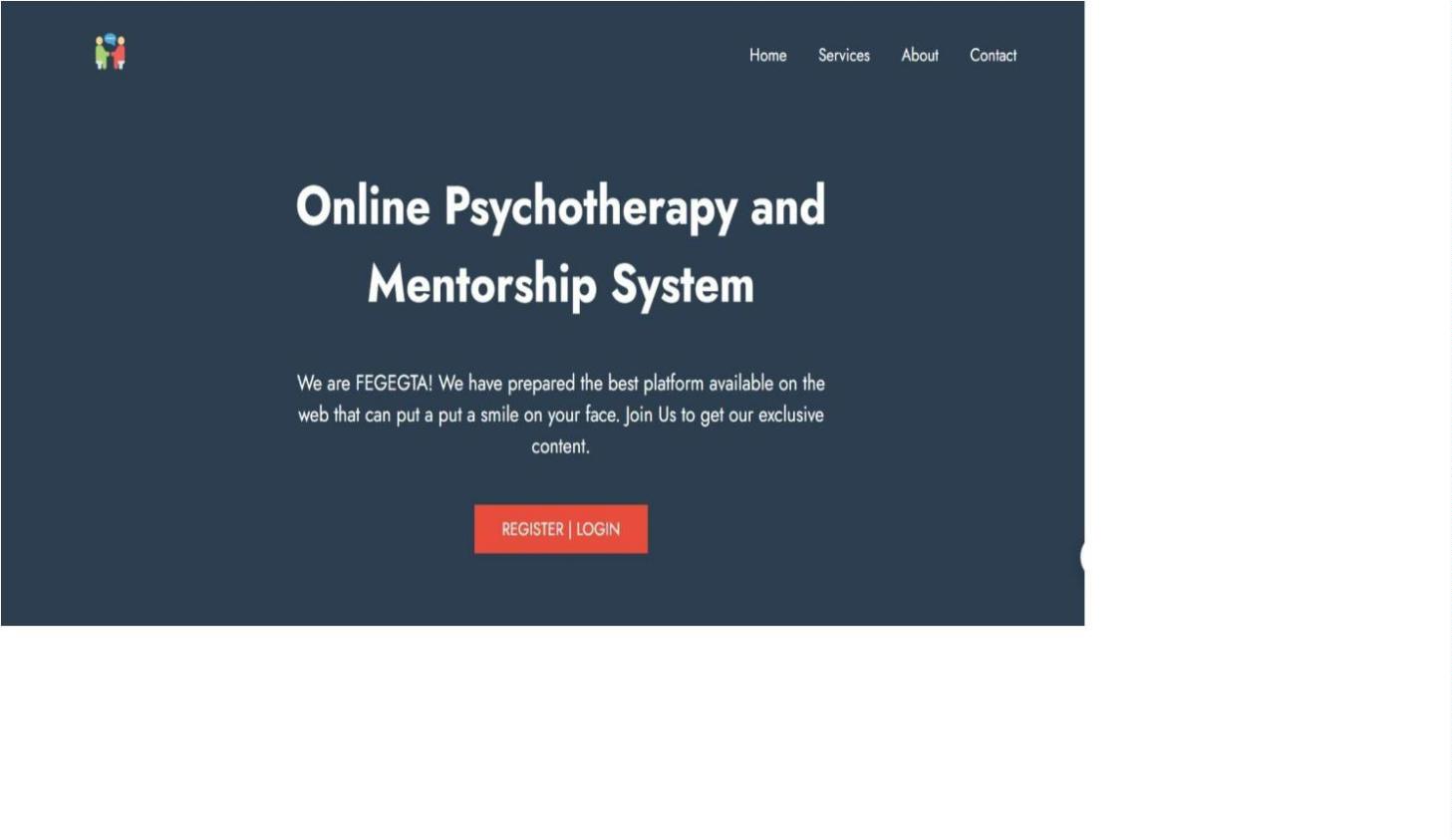
compatibility for inclusive access.

**Screenshots of Front-end Components:**

**Figure 5.8**

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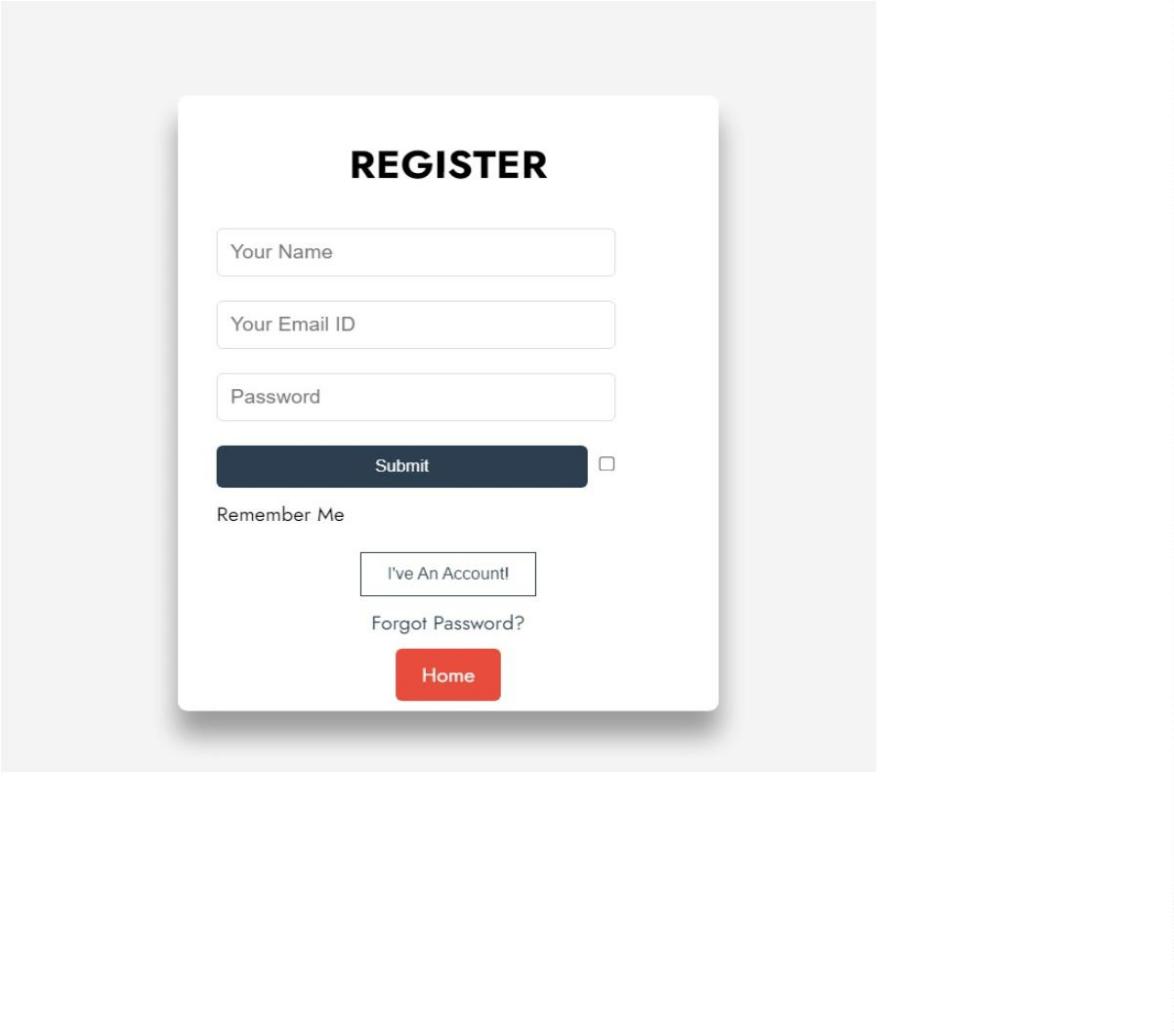


**Figure 5.9**

**User registration form with clear input fields and privacy policy links.**

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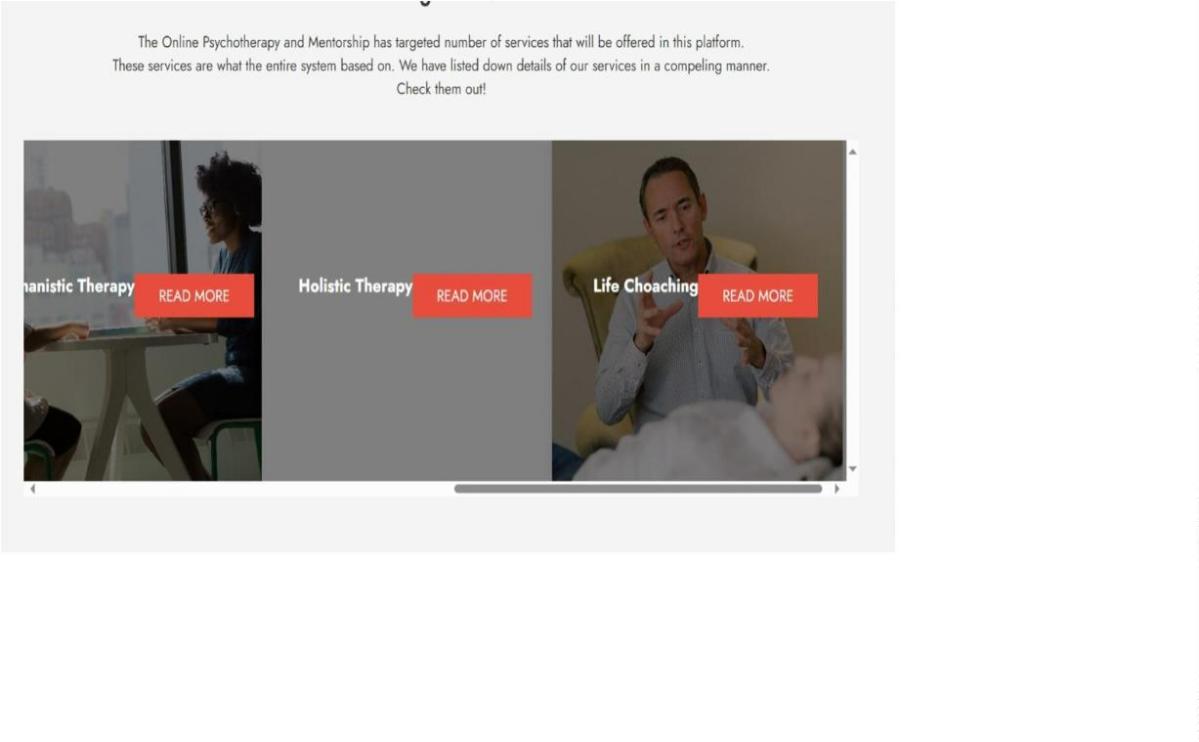


**Figure 5.10**

**Front end displaying types of therapies**

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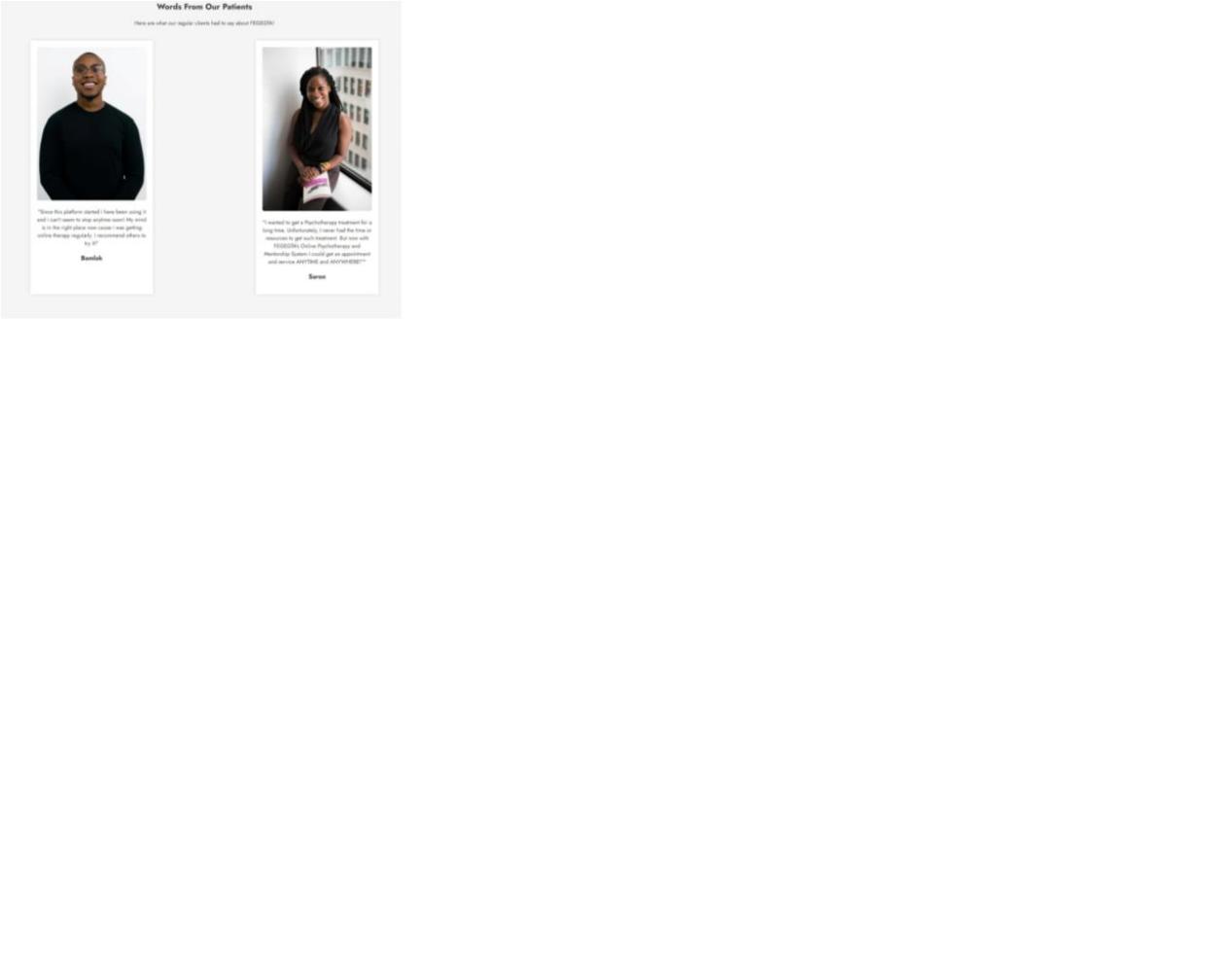


**Figure 5.11**

**client reviews.**

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**6**

**.1.3 Back-end Development:**

***Under the hood, the back-end development powers the system's core functionalities:***

**6**

**.1.4 PHP:**

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**Server-side scripting:** Handles user requests, processes data, and interacts with the

database.

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**Authentication:** Validates user credentials and manages session tokens for secure access.

**Chat functionalities:** Enables real-time message exchange, video/audio call initiation,

and session recording.

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**Database interactions:** Retrieves and updates user information, therapist profiles, and

resource data.

**6**

**.1.5 Node.js:**

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**Real-time communication:** Utilizes WebSocket or Socket.io for instant message

delivery and chat updates between users and therapists.

**Event-driven architecture:** Responds to user actions and events efficiently, ensuring

smooth chat flow and minimal latency.

**Scalability:** Handles concurrent user sessions effectively, even during peak usage

periods.

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**6**

**.1.6 Database Implementation:**

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**MySQL:** serves as the backbone, storing all vital information:

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**User profiles:** Name, email, password (hashed), date of birth, preferences, and therapy

goals.

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**Chat logs:** Timestamps, messages (text, audio/video recordings), therapist notes, and

session duration.

**Therapist information:** Name, license number, areas of expertise, years of experience,

and self-introduction video.

**Resources:** Title, author, type (article, video), target audience, topic.

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**CHAPTER SEVEN**

**CONCLUSIONS AND RECOMMENDATIONS**

**7**

**.1 Conclusions:**

The online therapy chat site emerges as a beacon of hope for teenagers seeking confidential and

accessible mental health support. Its user-centric design fosters open communication with

licensed therapists, creating a safe space for vulnerability and healing. Initial testimonials and

pilot phase feedback underscore the platform's potential to combat the detrimental effects of

social media on teenage mental well-being.

**7**

**.1.1 Therapeutic Integration:**

Seamless integration of therapeutic practices like CBT and person-centered approaches equips

users with coping mechanisms and tools to tackle social media challenges. This fosters

meaningful engagements and lays the foundation for positive mental health outcomes.

**7**

**.1.2 Addressing Teenager Needs:**

***Catering to specific teenager needs has been instrumental in the platform's success:***

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**Customized Features:** Thematic chat rooms, peer interaction forums, and a dedicated

blog with informative articles resonate with diverse interests and preferences, fostering a

sense of community and shared experiences.

**User-Friendly Interface:** Streamlined navigation and simplified registration processes

ensure inclusivity and accessibility for teenagers across different demographics and

technological proficiencies. Barriers to seeking mental health support are eliminated.

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**7**

**.1.3 Impact on Mental Health:**

***While long-term impact assessment requires further evaluation, early data reveals promising***

***trends***:

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**Reduced Isolation and Distress:** Users report feeling less isolated and distressed,

suggesting the platform's positive influence on their mental well-being.

**Need for Sustained Studies:** Comprehensive longitudinal studies are crucial to evaluate

the platform's ability to mitigate anxiety, depression, and low self-esteem associated with

excessive social media use.

**7**

**.2 Recommendations:**

**7**

**.2.1 Continuous Improvement:**

•

**V Process Model Development:** Embrace a v process model methodology, iteratively

incorporating user feedback and evolving needs into the platform. This ensures

responsiveness and relevance to ever-changing mental health concerns.

•

**Data-Driven Enhancements:** Leverage user behavior, engagement patterns, and session

effectiveness data to optimize the platform for better outcomes. Data-driven insights

guide targeted modifications and enhancements.

**7**

**.2.2 Longitudinal Studies:**

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**Collaborative Research:** Partner with research institutions and mental health experts to

conduct robust longitudinal studies. These studies should delve into the platform's long-

term influence on users' mental health, providing evidence-based data for further

refinement.

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**User Feedback Incorporation:** Integrate ongoing user feedback mechanisms into

research, capturing evolving needs and preferences. This ensures a holistic evaluation and

informed platform improvements.

**7**

**.2.3 Community Engagement:**

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**Peer Support Initiatives:** Facilitate peer support groups and moderate discussions within

the platform. This fosters a sense of belonging and resilience through shared experiences

and mutual aid.

•

**Educational Resources:** Augment the platform with comprehensive mental health

resources, including interactive modules, toolkits, and expert articles. Empower users

with self-help options and informed decision-making tools.

**7**

**.2.4 Accessibility and Outreach:**

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**Partnerships and Advocacy:** Forge partnerships with educational institutions, mental

health advocacy groups, and youth organizations. Expanding the platform's reach ensures

accessibility for marginalized groups and raises awareness about mental health support

avenues.

•

**Targeted Marketing Strategies:** Tailor outreach efforts to resonate with diverse teenage

demographics, deploying targeted marketing campaigns emphasizing the platform's

benefits and accessibility. This amplifies visibility and user acquisition.

By actively pursuing these recommendations, the online therapy chat site can solidify its position

as a game-changer in teenage mental health support. Continuous improvement, data-driven

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insights, and a focus on community engagement and accessibility will pave the way for a

platform that empowers teenagers to navigate the challenges of social media and thrive in their

mental well-being.

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**REFERENCES**

Festinger, L. (1954). A theory of social comparison processes. Human Relations, 7(2), 117-140.

Hollis, C., Morriss, R., Martin, J., Amani, S., Cotton, R., Denis, M., ... Churchill, R. (2017).

Technological innovations in mental healthcare: harnessing the digital revolution. British Journal

of Psychiatry, 211(4), 223-225.

Lee, A. M., & Jung, Y. (2021). The relationship between social media use and teenage mental

health: A systematic review. Children and Youth Services Review, 123, 105939.

https://doi.org/10.1016/j.childyouth.2021.105939

Lin, L. Y., Sidani, J. E., Shensa, A., Radovic, A., Miller, E., Colditz, J. B., Hoff, R. A., &

Primack, B. A. (2016). Association between social media use and depression among U.S. young

adults. Depression and Anxiety, 33(4), 323-331.

The Lumen Society. (2023). The Impact of social media on Teenagers' Mental Health During the

COVID-19 Pandemic: A Study Report. Retrieved from [Provide URL]

Van der Meijden, I., & Overvelde, A. (2019). Examining the relation between social media use,

life satisfaction, and loneliness with structural equation modeling. Cyberpsychology, Behavior,

and Social Networking, 22(7), 465-471.

Vigerland, S., Lenhard, F. Bonnert, M., Andersson, G., & Lalouni, M. (2016). Internet-delivered

cognitive behavior therapy for children and adolescents: A systematic review and meta-analysis.

Clinical Psychology Review, 50, 1-10.

5

1

Author, A. (Year). Introduction to the impact of social media on adolescent mental health. In B.

Editor (Ed.), Title of Book (pp. 1-15). Publisher.

Researcher, R. R., & Scholar, S. S. (Year). Excessive social media use and its implications for

adolescent mental health. Journal of Adolescent Psychology, 30(3), 45-60. DOI or URL

World Health Organization. (Year, Month Day). The impact of excessive social media use on

adolescent mental health. [URL]

Investigator, I. I., & Analyst, A. A. (Year). Designing an online therapy chat site for teenage

mental health. Journal of Digital Interventions in Mental Health, 12, 78-95.

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**APPENDIX**

***Code Snippets :***

***Figure 6.1***

***PHP script demonstrating user authentication with password hashing and session***

***management.***

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***Figure 6.2***

***Php code for the chat interface***

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***Figure 6.3***

***Html code***

***Figure 6.4***

***Sql query to handle the database***

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