

VIRTUAL REALITY THERAPY FOR PHOBIAS

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PROBLEM STATEMENT

Many individuals with phobias and anxiety disorders face barriers in accessing traditional exposure therapy.

Even in today's modern world many people think phobias and anxiety is an incurable problem and some people think those are not even real problems. Due to this mentality of our society people often keep these things to themselves thinking other people may make fun of them.

There are also people who can't open up to a real time doctor who is a complete stranger, so a virtual session will help them very much to overcome their anxiety disorder.

Other barriers may include geographical constraints, scheduling conflicts, or the inability to afford frequent in-person sessions.

The virtual environment simulates various scenarios, gradually exposing individuals to different levels of elevation.

The goal is to help them confront and overcome their fear through systematic exposure therapy.

Virtual Reality Phobia and Anxiety Experiences aim to address this pain point by providing a scalable, accessible, and effective alternative for exposure therapy.

The development of such a solution would revolutionize mental health treatment by breaking down geographical barriers, increasing accessibility, and offering a comprehensive, technology-driven approach to address the diverse spectrum of phobias and anxiety disorders.

EXISTING TECHNOLOGIES AND INEFFICIENCIES

Existing VR therapy apps:

Psious
Oxford VR
Limina VR
Virtually Better
MindCotine

These apps are good to go yet they all have specific inefficiencies like

- The level of personalization might be limited compared to one-on-one therapy
- They target specific conditions, potentially excluding users with different needs.
- Critical for adjusting the therapy based on the user's response.
- Lack in graphical quality or interactivity might reduce the effectiveness of exposure therapy.

PROPOSED SOLUTION

Our app fulfills all these inefficiencies and also has various other features .

Our app is developed using javascript and the VR environment is developed using unity with C# .

Various types of VR environment is created for all types of phobias , anxiety or depression.The people gets personalized experience by specifying the problem they face

FEATURES

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We have come up with a idea of designing an app which connects with the VR

First the user logs in to our app providing details about their phobia or social anxiety and other necessary information

As soon as the user enters their information the app customizes itself as per user needs

Creating a realistic and immersive virtual environment that simulates the phobic stimulus. For example, if the phobia is a fear of heights,we design a virtual scenario with tall buildings or high cliffs.

The system gradually expose individuals to their phobia within the virtual environment. Starting with less intense stimuli and gradually increasing the intensity as the individual becomes more comfortable.

The user can decrease the level of intensity anytime if they feel it is too intense.

The app is also associated with certified therapist with whom the user can schedule an appointment once in a week and discuss their progress. Therapists can monitor and adjust the VR therapy based on their clients' progress.

The app also gives people tasks to perform in their day to day life and exercises so that they can overcome their fear in real world also
People can connect with people who have same problems if they want to

The app allows users to track their progress over time, such as by recording the level of intensity they can tolerate in the VR environment or their performance in real-world tasks.

The app can also be Integrated with wearable devices that can track biometric data (e.g., heart rate, skin conductance) to provide feedback on the user's stress levels during VR therapy sessions and real-world tasks.

Getting input
from user about
their mental and
physical health

Customized VR
experience for
the user

Sessions with
certified
therapist

Automatic
progress of VR
experience
according to
their progress

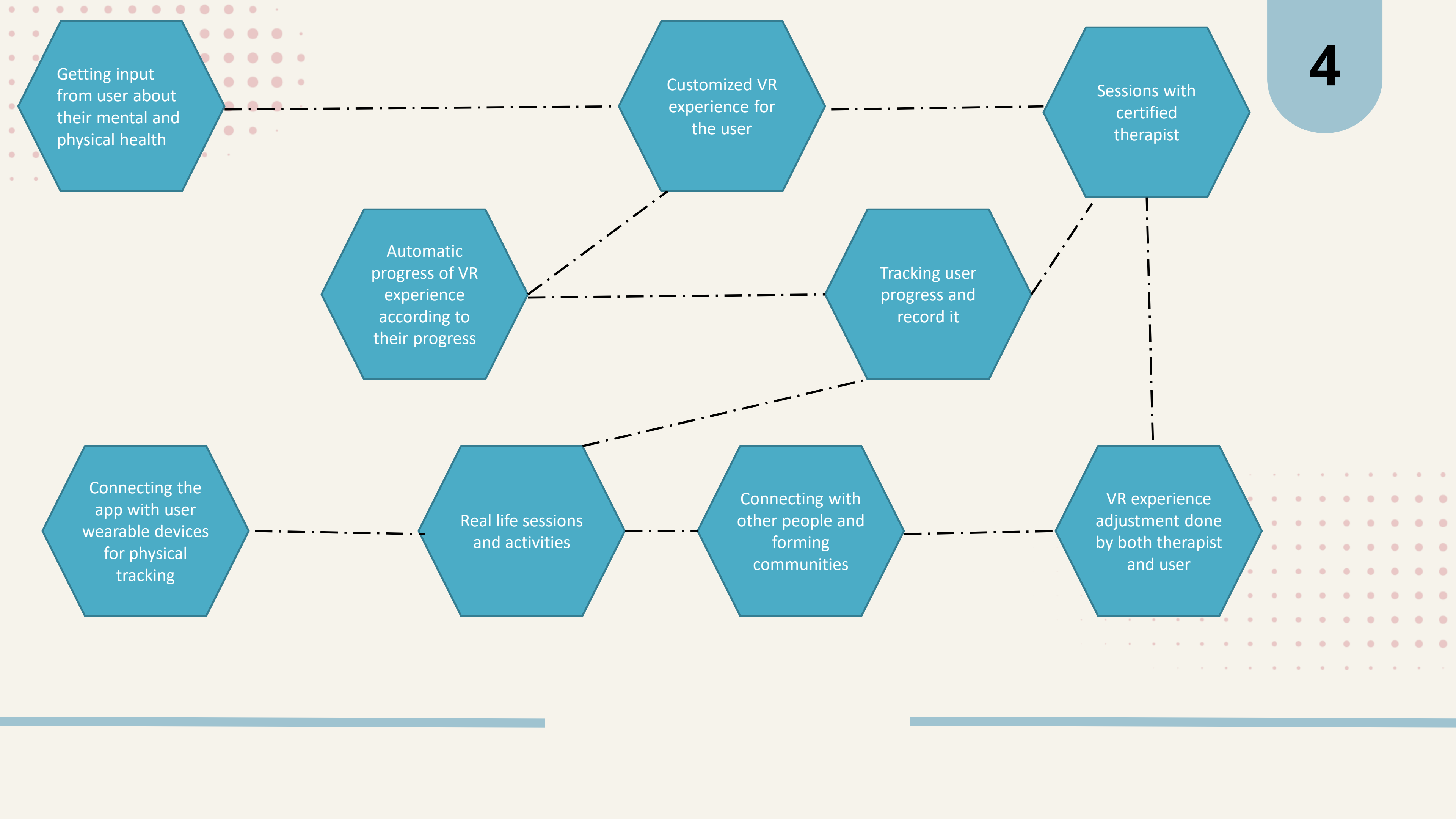
Tracking user
progress and
record it

Connecting the
app with user
wearable devices
for physical
tracking

Real life sessions
and activities

Connecting with
other people and
forming
communities

VR experience
adjustment done
by both therapist
and user



TECHNOLOGIES USED

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Frontend Development:

Language: JavaScript

UI/UX Design: Figma

Backend Development:

Language: Node.js with Express.js

Database: MySQL

Real-time Communication:

WebSockets or a library like Socket.IO for real-time communication between users and therapists.

Integration with VR:

Use Unity with C# for developing the VR application.

Use a VR headset SDK (e.g., Oculus SDK, SteamVR SDK) for integrating the VR experience with the app.

TARGET USERS

The target customers (Patients) for VR Therapy of phobias are :

1. Individuals with Specific Phobias :

Patient who undergoes specific phobias like, fear of heights (acrophobia), fear of flying (aviophobia), fear of spiders (arachnophobia), fear of needles (trypanophobia), etc

VRET helps to gain a gradual exposure to the feared stimuli in a controlled environment.

2. Individuals with Social Anxiety Disorder :

Patient who undergoes phobias like intense fear of social situations, fear of scrutiny, etc

VRET helps to simulate various feared social scenarios by allowing individuals to practice and build confidence in a virtual setting.

3. Individuals with Agoraphobia:

Patient who undergoes phobias like fear of being in situations :

i) where escape might be difficult or embarrassing

ii) where help may not be available in the event of a panic attack.

So these people avoid crowded places, public transportation, or being outside the home alone.

VRET helps to overcome their fears and gradually expand their comfort zones.

CONCLUSION

In conclusion, our Virtual Reality (VR) project for phobias and social anxiety offers a comprehensive and innovative solution for individuals seeking therapy. By providing a personalized and immersive VR environment, users can confront their fears in a safe and controlled manner. The integration of real-world tasks, therapist interaction, and community support enhances the effectiveness and engagement of the therapy. With features such as progress tracking and integration with wearable devices, users can monitor their progress and receive feedback in real-time. Overall, our VR project aims to revolutionize the way phobias and social anxiety are treated, offering a modern and accessible therapy option for those in need.

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