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Survey on Bverse (Combatting Depression and Encouraging Socialization through a Virtual Simulation)

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ABSTRACT: The main goal of this assertion is “Combating Depression and Encouraging Socialization Through A 3D Simulation”. Being affected by the recent pandemic situation, we are all aware of the isolation that we had to go through without any physical interaction with friends or relatives for a span of more than 2 years. As they say, "Humans Are Social Animals," but for the past few years without any socialization, many of us went through a dark or rather lonely phase, which eventually led to depression. Presently, any student who's more or less the same age as us and has been admitted to a college after school is restricted to his or her room, despite their willingness to go outside and meet new friends.

Hence, with the help of “BVerse: A World Away From World,” an end user can experience a 3D simulation that can simulate your real life and help you heal from various mental health-affecting factors.

KEYWORDS: simulation, socialization, mental health, pandemic, depression

I.INTRODUCTION

According to a research brief published by the World Health Organization, anxiety and depression increased significantly by 25% in the first year of the COVID-19 epidemic. (WHO). The most impacted individuals are also highlighted, and the impact of the pandemic on the accessibility of mental health treatments and how this has altered over the pandemic are summarized. Understanding foreign exchange statistics takes less of an understanding of economic fundamentals than it does of the irrational ways in which individuals might act when they unite in groups. Foreign exchange numbers are driven by a huge number of complicated elements, including human psychology.

The effect of COVID-19 on global mental health is simply the tip of the iceberg, according to the WHO Director-General. The pandemic has a number of stress-inducing components. The stress brought on by the social isolation brought on by the epidemic is one of the main reasons behind this. Financial anxiety, suffering, loss of a loved one, and loneliness have all been mentioned as stresses that might cause depression and anxiety.

As a result, this initiative includes a virtual setting for those who struggle with anxiety and other mental health issues. Such stressors may be socialized with the other participants in the simulation and may aid in each other's recovery in this virtual setting. It functions like free counseling for those who need it. In order to help individuals distract themselves from whatever has been bothering them, this project also includes little multiplayer games. This is also a wonderful method to interact with others. As well has a main structure that you can enter and use to communicate with one another. This room contains a variety of functions, including attendance logs and attending classes.

This can be employed not only for academic goals but also for therapeutic purposes. It can be difficult for some people to open up because they are generally self-conscious about the way they appear or speak. The user will be able to more easily open up to the other person thanks to this project's ability to customize your own avatar. Additionally, there is a chat area where people can converse.

II. LITERATURE SURVEY

A universal interface layer called Virtual World and Real World Interface (VRI) can connect the real world and virtual worlds. Making virtual worlds or interaction tools that can be set up in a standard way is the major goal of VRI. As a result, users can access any virtual world using a wide variety of interaction devices, and vice versa; an interaction device can be used in a wide variety of virtual worlds.

Worldwide quarantine has been imposed as per local governments' and the World Health Organization's recommendations following the COVID-19 outbreak in China in December 2019. Older adults (defined as those over 65) are particularly impacted since they are at increased risk for a variety of negative health outcomes, such as reductions in motor function and physical activity (PA) involvement, an increase in obesity, cognitive decline, and a variety of psychological illnesses. In order to enhance physical activity behaviors and health in this population, new and effective intervention strategies are thus required given the secular increases in the older adult population. Exercise that incorporates virtual reality (VR) is a promising intervention method that has been used in medical specialties like stroke rehabilitation and psychotherapy.

3D virtual worlds are becoming more and more well-liked as social interaction tools due to their potential to enhance users' feelings of interpersonal and physical presence. As a result, this technology may be very beneficial to seniors by providing them with access to social, educational, and recreational resources while they are confined to their homes. But there hasn't been much analysis of how senior persons interact with technology. While the majority of research in this area focuses on encouraging younger individuals to engage in virtual world interaction. This study investigated how age influences how present people feel when utilizing virtual worlds for social interaction. It used an online experiment with 30 older and 30 younger users.

Since traditional therapies can be problematic for some people, virtual reality exposure therapy (VRET) was developed as an alternative to graded exposure in the treatment of alcoholic depression. Participants in VRET are exposed to 3D environments, including a bar and a beach, with physical, narrative, and spatial immersion. Cue exposure to virtual bars combined with coping mechanisms reduces drinking and increases appetite in actual circumstances. The beach can help you relax and lessen depression by affecting favorable changes in your body and mind. Environment-based relaxation levels are tracked using skin resistance as a proxy for emotional state.

In this study, we expand the application of virtual reality to the management of different phobias. Phobias can be effectively treated therapeutically with virtual reality. According to the study, overwhelming dread in phobias doesn't match the stimulus's potential for danger. We employ exposure-based treatment for patients by constructing a virtual environment since in the trivial therapeutic approach, the patient is unable to experience the stimulus because the treatment lacks projection of stimulus. The patients are tested and grouped according to their level of fear, and a virtual environment is constructed for each group.

There are many developed and used virtual worlds and interaction tools today. However, every virtual environment created a unique interface layer for every gadget. In order for a virtual world to communicate with various devices and vice versa, this paper will discuss a general interface layer that can connect virtual and real worlds. The major goal of this essay is to create virtual worlds or interactive tools that may be set up according to a set pattern.

III. OBJECTIVES

- To observe and analyze people's behavior in a variety of simulations
- To develop and replicate the real world by making a virtual simulation using Unity and blender
- To perform testing on individual modules of the 'C#' script used for movement
- To validate the proposed system as per user requirements and test its performance

IV. PROBLEM STATEMENT

Combatting Depression and Encouraging Socialization through a 3D Virtual Simulation.

II. Existing system

The existing system consists of generic classrooms, customizable characters, and the ability to run a browser on the classroom blackboard.

III. Proposed System

This simulation(system) is generated using computers to make the user feel that they are immersed in theirs. It is a three-dimensional image where users can interact in a seemingly or physical way. This new system can be used to treat anxiety, post-traumatic stress disorder(PTSD), and addictions. This system will allow faculty to use browser support on their classroom blackboard, also it will have secured safe opening barriers, a bank, a canteen, and a user-friendly main screen. The system will maintain a healthy non-abusive environment, attendance system, and library system.

IV. Proposed Detailed Methodology

This methodology used for simulation is virtual reality.

Virtual reality is a technique used to create a digital environment that mimics or replicates real-world scenarios. This technique is commonly used in fields such as education, healthcare, entertainment, etc.

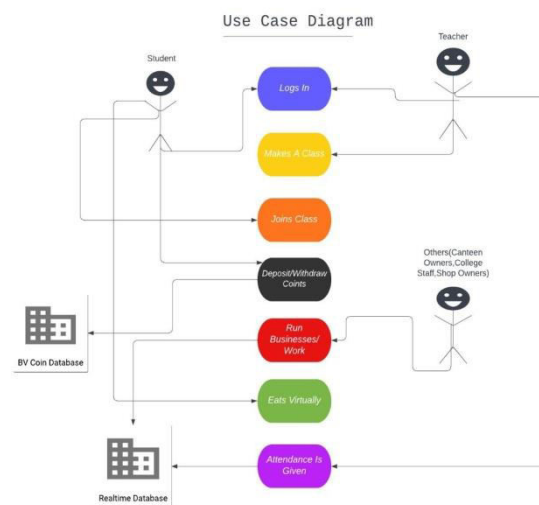
This environment can be perceived using desktops, laptops.

Users need to have a Room Id to enter any simulation which would be provided by their respective faculty.

This system uses a verification system based on Firebase Authentication which manages Entry/Exit in simulation, Canteen management system, Library Management System, and BV bank.

Canteens, shops, attendance systems, banks, and student managers use real-time FireBase for backend support.

Misbehavior from any user may lead to eviction from the simulation.



V. Future Scope

- We look forward to adding voice chat within the simulation
- We also will add 100-player support in the near future



V. CONCLUSION

In the end, the only thought in our minds is that this project will be a great help to all the students in need of help. We firmly believe that “BVerse” will help in curbing depression and encouraging socialization significantly. We will surely see a rise in the number of colleges or institutes switching from typical Zoom or Google Meet classes to BVerse, merely because of its features. There's no doubt that our project “BVerse ” by all means is better than other online meeting platforms. With facilities like an online library, internal smart screen, online canteen, a replica of institutes, and much more, BVerse undoubtedly stands out among other competitors. And with the social cause that's attached to it, the only software that children of our age need is BVerse.

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