# MENTAL HEALTH AND WELL-BEING SURVEILLANCE SYSTEM

**Shiwali Gautam[*1], Sachin Kumar Malviya[*2], Shivpal Mandloi[*3]**

[*1,2,3]Department Of Computer Science, Acropolis Institute Of Technology And Research, Indore, India.

## ABSTRACT

It addresses Mental health and well-being surveillance, assessment and tracking solutions for children. It proposes an integrated solution that combines evidence-based mental health interventions, comprehensive data collection and tracking, and real-time monitoring and evaluation. The solution will leverage existing resources, such as national and international data sources, and utilize advanced analytics to identify risk factors and create tailored interventions for children. It will also provide an online platform for mental health practitioners and parents to access resources, provide feedback, and track progress. Finally, the solution will use machine learning and artificial intelligence to automate certain parts of the process, such as the collection and processing of data. This will create a single, easily accessible source of information that can be used to both identify and address mental health issues among children.
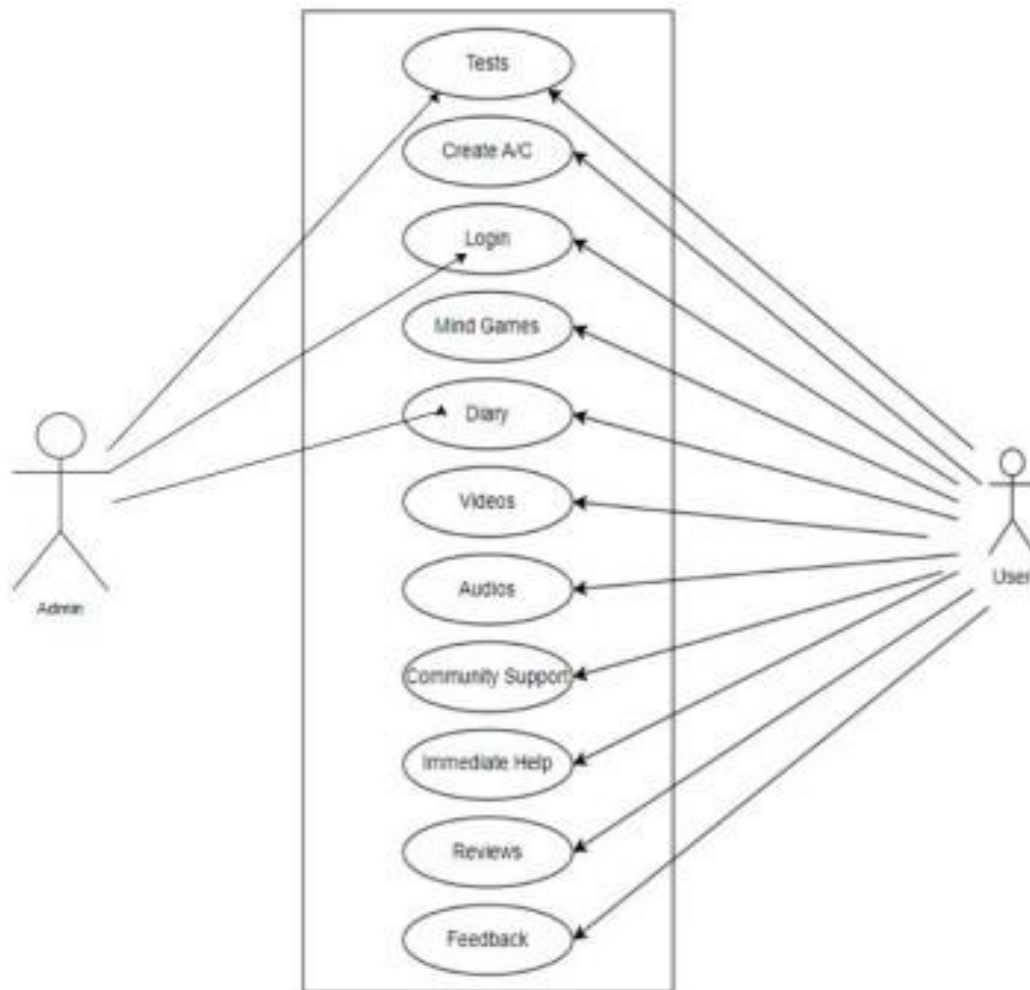
## I. INTRODUCTION

The Mental Health and Well-Being Surveillance, Assessment, and Tracking Solution (MHWSTS) is a comprehensive solution that seeks to address the growing need for mental health and well-being among children. The solution combines evidence-based mental health interventions, comprehensive data collection and tracking, and real-time monitoring and evaluation. The goal of MHWSTS is to provide an integrated, comprehensive solution that can be used to identify, assess, and address mental health issues among children. MHWSTS will leverage existing resources, such as national and international data sources, and utilize advanced analytics to identify risk factors and create tailored interventions for children. It will also provide an online platform for mental health practitioners and parents to access resources, provide feedback, and track progress. Finally, the solution will use machine learning and artificial intelligence to automate certain parts of the process, such as the collection and processing of data. This will create a single, easily accessible source of information that can be used to both identify and address mental health issues among children. The MHWSTS solution will be developed in three phases. The first phase will focus on data collection and analysis, including the development of a comprehensive data repository and the implementation of advanced analytics. Its second phase will hugely be focused on the implementation, including the development of user interfaces and the integration of data sources. The third phase will concentrate on the implementation of AI & ML algorithms. The MHWSTS solution will be developed in collaboration with stakeholders from various sectors, including mental health practitioners, parents, public health professionals, and policy makers. The stakeholders will provide feedback throughout the development process to ensure that the solution meets the needs of the target population.

## II. PROPOSED METHODOLOGY

The project will follow an agile methodology, focusing on rapid iteration and development of the solution. Planning Phase: The planning phase will begin with the identification of project goals, objectives, and requirements. This will include defining the scope of the project, scheduling a timeline, and outlining the resources needed. Design Phase: In this phase, It will involve creating a detailed well structured design of the solution. This will include designing the user interface, creating the workflow, and determining the necessary features and functionalities. Development Phase: The development phase will involve developing the solution based on the design. This will include coding and testing the solution to ensure it meets the requirements. Deployment Phase: The deployment phase will involve launching the solution and making it available to users. This will involve verifying the solution is functioning correctly and providing any necessary documentation and support. Maintenance Phase: The maintenance phase will involve ongoing support for the solution. This will include providing bugfixes, updates, and responding to user feedback.

## III.    DESIGN

After the needs have been gathered and assessed, they must be given a proper structure. from this phase, the project's architecture will be created utilizing the requirements acquired from the phase before as a reference. In this stage, several architectural diagrams, such as ER diagrams, use case diagrams (Fig. 1), etc., are designed. The ER diagram demonstrates how the various entities are related and dependent on one another.



**Use case Diagram.**
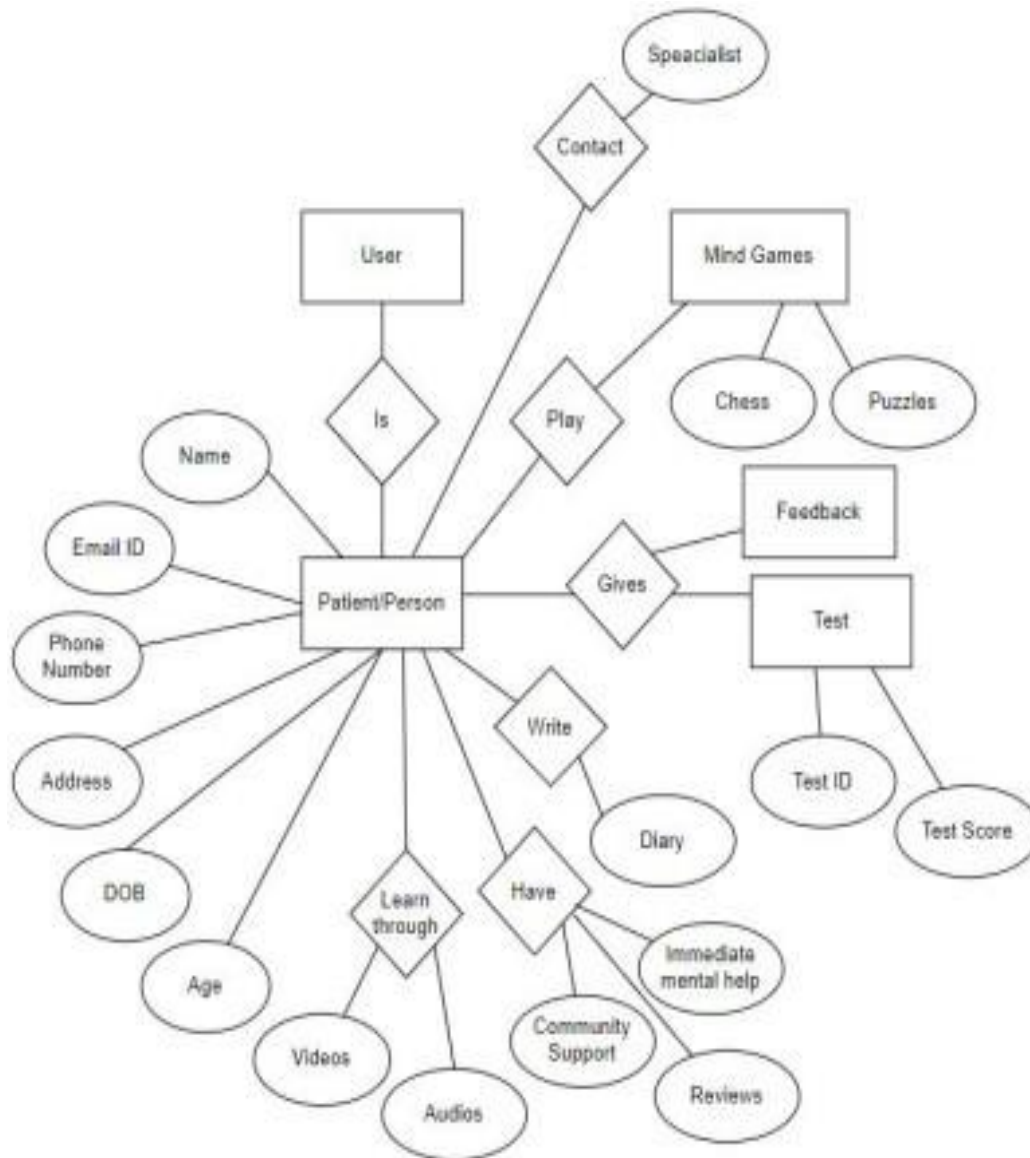
**ER Diagram.**
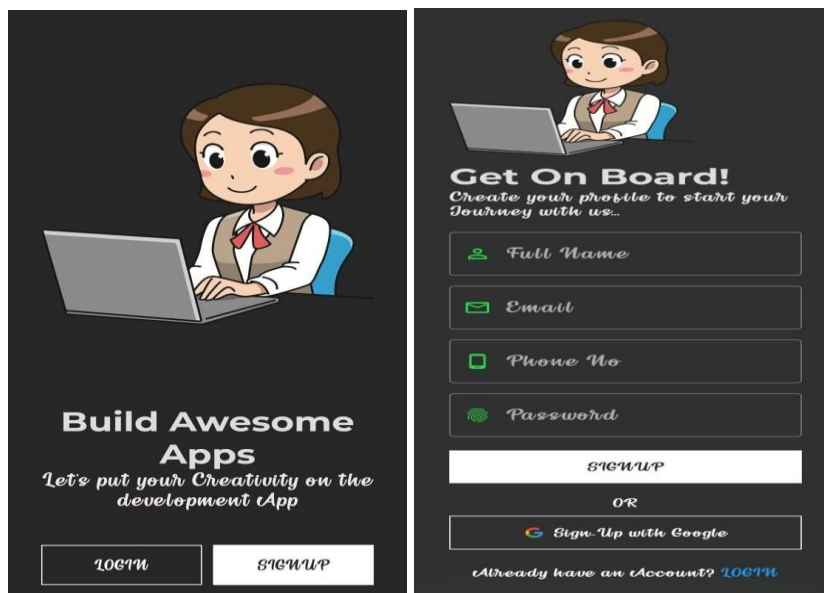
## IV.    CONCLUSION

Mental health and well-being surveillance, assessment, and tracking solutions offer an effective way to monitor, assess, and support the mental health and well-being of children. Such solutions provide a comprehensive overview of the mental health of children, enabling early detection of potential mental health issues and allowing for timely intervention. By providing a comprehensive view of mental health, these solutions can help improve the quality of life of children and allow for more effective and timely interventions. Furthermore, these solutions can help to reduce the stigma surrounding mental health and provide a safe environment for children to get the help they need.

## V.    FUTURE SCOPE

The scope of the Mental Health and Well-Being Surveillance, Assessment, and Tracking Solution (MHWSTS) covers the development of an integrated solution that combines evidence-based mental health interventions, comprehensive data collection and tracking, and real-time monitoring and evaluation. The solution will leverage existing resources, such as national and international data sources, and utilize advanced analytics to identify risk factors and create tailored interventions for children. It will also provide an online platform for mental health practitioners and parents to access resources, provide feedback, and track progress. Finally, the solution will use machine learning and artificial intelligence to automate certain parts of the process, such as the collection and processing of data. The scope of the project also includes the development of an evaluation plan to assess the effectiveness of the solution, as well as the definition of policy and regulatory frameworks to ensure the safe and ethical use of the solution. The MHWSTS solution will be developed in three phases. The first phase will focus on data collection and analysis, including the development of a comprehensive data repository and the implementation of advanced analytics. The second phase will focus on the implementation of the online platform, including the development of user interfaces and the integration of data sources. The third phase will focus on the implementation of machine learning and artificial intelligence algorithms.

## ACKNOWLEDGEMENT

## VI.    REFERENCES

[1]    National Institute of Mental Health (2020). Mental Health Surveillance Among Children- Aged 6-17. Retrieved from https://www.nimh.nih.gov/health/statistics/mental-health-surveillance-among-children-aged-6-17.shtml

[2]    Substance Abuse and Mental Health Services Administration (2020). Mental Health Surveillance Among Children Aged 6-17 Years. Retrieved from https://www.samhsa.gov/data/mental-health-surveillance-among-children-aged-6-17

[3]    Center for Disease Control and Prevention (2020). Mental Health Surveillance: Assessment and Tracking. Retrieved from https://www.cdc.gov/mentalhealthsurveillance/assessment-tracking.html

[4]    World Health Organization (2020). Mental Health Surveillance, Assessment and Tracking Solutions for Children and Adolescents. Retrieved from:

https://www.who.int/mental_health/evidence/surveillance_assessment_tracking/en/

[5]    National Alliance on Mental Illness (2020). Mental Health Surveillance and Assessment. Retrieved from https://www.nami.org/mental-health-surveillance-and-assessment

[6]    U.S. Department of Health and Human Services (2020). Mental Health Surveillance and Assessment. Retrieved from:

https://www.hhs.gov/mental-health/mental-health-surveillance-and-assessment/index.html