

# **Project Patent**

on

Mental health and well-being surveillance, assessment and tracking  
solution among children.

Bachelor of Technology

in

Computer Science



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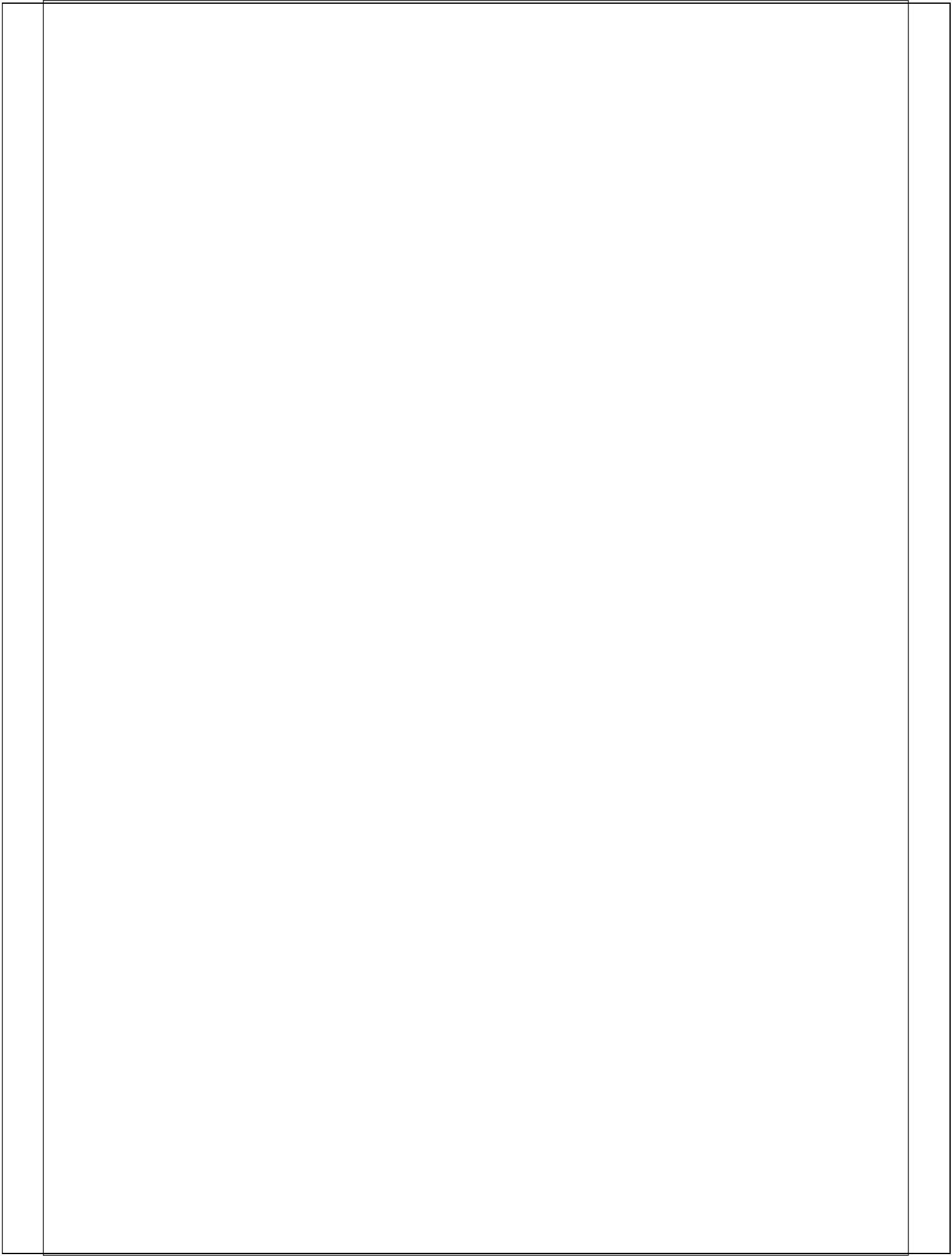
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## **Proposed Title:**

Mental health and well-being surveillance, assessment and tracking solution among Children.

## **Field of Invention:**

[01] The invention relates to a digital solution for monitoring, assessing, and tracking mental health and well-being in children. It integrates mobile applications and data analytics to identify emotional issues early, provides real-time feedback to caregivers, and offers tailored intervention strategies while ensuring privacy and data security.

## **Background:**

[02] More children are facing mental health problems like anxiety and depression. With pressures from school, friends, and social media, it's important to find these issues early so that kids can get the help they need.

[03] New technologies, like smartphone apps and wearable devices, are changing how we manage mental health. These tools can track kids' feelings and behaviors in real-time, helping parents and doctors understand how they are doing.

[04] Effective mental health solutions require a multi-faceted approach that integrates technology, community support, and personalized care. Current systems lack coordination and accessibility, making it difficult for individuals to receive timely interventions and fostering a need for innovative, comprehensive mental health strategies.

## **Objectives:**

[04] Create a comprehensive surveillance system that monitors children's mental health and well-being through real-time data collection and analysis, enabling early identification of trends, risk factors, and signs of mental health issues to facilitate timely interventions and support.

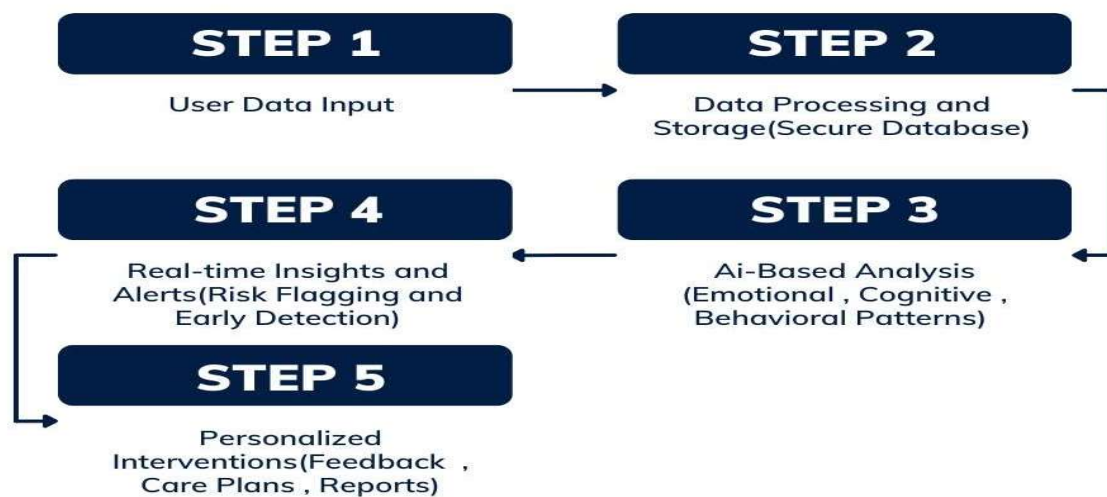
[05] Provide a standardized framework for curriculum design that aligns with industry standards, academic research, and pedagogical innovations, ensuring consistency and quality across technical and professional education.

[06] Establish a user-friendly interface that allows caregivers, educators, and mental health professionals to continuously track children's mental health over time. This feature will provide actionable insights and facilitate timely interventions to promote positive mental health outcomes.

[07] Foster collaboration among parents, educators, and mental health practitioners through the platform, promoting a holistic approach to children's mental health. This collaboration will enhance communication and shared responsibility, ensuring comprehensive support for children's well-being and development.

### Figures/Models -

## STEP BY STEP FLOWCHART



### Brief Description:

[08] The project aims to develop a comprehensive mental health surveillance, assessment, and tracking solution for children. It facilitates real-time monitoring, standardized evaluations, and collaborative support among guardians, educators, and mental health professionals, promoting early intervention and enhancing overall well-being while ensuring a holistic approach to children's mental health care.

### Detailed Description:

[09] The project focuses on creating a digital platform for monitoring children's mental health, integrating real-time data collection and analysis to identify trends, risk factors, and potential issues for timely intervention.

[10] Standardized assessment tools will be implemented to ensure consistent evaluation of children's mental health across various demographics, enhancing diagnostic accuracy and guiding tailored interventions based on individual needs and circumstances.

[11] A user-friendly interface will enable caregivers, educators, and mental health professionals to track children's mental health over time, providing actionable insights that promote proactive measures and positive outcomes for their well-being

[12] Collaboration among parents, educators, and mental health practitioners will be encouraged through the platform, fostering communication and shared responsibility in supporting children's mental health, ensuring comprehensive care and development.

[13] The platform will include educational resources and training modules for guardians and educators, empowering them with knowledge about mental health issues, early signs of distress, and effective strategies to support children's emotional and psychological well-being.

## **Claims:**

### **Claim 1: Real-time Monitoring System**

A comprehensive digital platform that enables real-time monitoring of children's mental health, integrating data collection tools to track behavioral patterns and emotional well-being for timely intervention

### **Claim 2: Standardized Assessment Tools**

A feature enabling customization of curriculum modules to suit individual institutional needs while maintaining AICTE compliance. Faculty can add or modify content to address regional or institutional requirements, while students benefit from a more personalized education experience.

### **Claim 3: User-Friendly Interface**

A user-friendly interface that facilitates easy navigation for caregivers, educators, and mental health professionals, allowing them to efficiently track and analyze children's mental health data over time

### **Claim 4: Collaborative Support Network**

A feature that fosters collaboration among parents, educators, and mental health practitioners, enabling seamless communication and shared responsibility in monitoring and supporting children's mental health.

### **Claim 5: Educational Resources and Training**

An educational resource library and training modules provided within the platform, empowering guardians and educators with knowledge about mental health issues and effective support strategies for children.

### **Claim 6: Data Analytics and Insights**

An analytics engine that processes collected data to generate actionable insights and trends related to children's mental health, aiding in the identification of risk factors and necessary interventions.

### **Claim 7: Secure Data Management**

A secure data management system that ensures the privacy and integrity of sensitive mental health information, implementing role-based access controls to protect user data while allowing appropriate access for authorized personnel.

## **Apparatus:**

1. **Frontend (User Interface):**
  - a. **HTML/CSS/JavaScript:** For creating the basic structure, layout, and styling of the portal's user interface.
  - b. **React.js :** A JavaScript framework for building dynamic, responsive, and user-friendly web interfaces.
  - c. **Tailwind CSS:** For responsive design and consistent styling across devices.
2. **Backend (Server-Side):**
  - a. **Node.js** (with Express): For building the server-side logic and handling API requests.
  - b. **RESTful API :** For communication between the frontend and backend, ensuring efficient data transfer and operations.
3. **Database:**
  - a. **MongoDB :** As a NoSQL alternative for handling large volumes of unstructured or semi-structured data.
4. **Authentication and Authorization:**
  - a. **Firebase Authentication:** As a backend service for easy user authentication and management.
5. **Version Control and Collaboration:**
  - a. **Git** with **GitHub** or **GitLab:** For version control and collaboration among team members during development.
6. **Collaboration Tools:**
  - a. **Socket.IO:** For real-time collaboration between users working on curriculum design.

- b. **Google Docs API:** For integrating document sharing and collaboration within the platform.
- 7. **Analytics and Data Insights:**
  - a. **Google Analytics:** For tracking user behavior and performance insights.
  - b. **Power BI or Tableau:** For visualizing curriculum performance and trends through data analytics.

## **Abstract:**

This project seeks to develop a user-friendly digital platform designed to monitor and support children's mental health. It allows parents and educators to track behaviors and emotions in real-time, using standardized assessments to identify needs. The platform also offers educational resources and fosters collaboration among caregivers and mental health professionals. By providing a secure way to share information, it ensures timely interventions and support, ultimately promoting better mental well-being for children.

## **Advantage:**

### **1. Early Detection of Issues**

The platform facilitates early identification of mental health concerns in children by allowing caregivers to monitor behaviors and emotions regularly. Early intervention can lead to better outcomes and prevent escalation of issues.

### **2. Real-Time Monitoring**

Caregivers can track children's mental health in real-time, enabling timely responses to any changes in behavior or mood. This immediate feedback loop helps ensure that support is provided when it is most needed.

### **3. Collaboration Among Stakeholders**

The platform encourages collaboration between parents, educators, and mental health professionals. This collective approach allows for a more comprehensive understanding of a child's needs and fosters a supportive network.

### **4. Access to Resources**

Users have access to a wealth of educational materials and resources related to mental health. This helps caregivers and educators gain knowledge and tools to better support children's emotional well-being.

### **5. Secure Information Sharing**

The platform ensures that all shared information is secure and confidential. This builds trust among users, encouraging open communication about mental health concerns without fear of stigma.

## **6. Customizable Assessments**

The project offers customizable assessments tailored to individual children's needs. This flexibility allows for a more personalized approach to monitoring mental health, addressing specific concerns effectively.

## **7. Data-Driven Insights**

The platform utilizes data analytics to provide insights into trends and patterns in children's mental health. This information can guide interventions and inform future strategies for support.

## **8. Promotes Mental Health Awareness**

By focusing on children's mental health, the project raises awareness among parents and educators about the importance of mental well-being. This cultural shift can lead to more proactive approaches in supporting children's emotional health.

## **Conclusion:**

In conclusion, this project provides a vital digital platform for monitoring children's mental health, promoting proactive engagement among caregivers and educators. By facilitating real-time tracking of behavior and emotions, it empowers users to identify and address mental health concerns early, ultimately fostering better outcomes for children.

The emphasis on collaboration among parents, educators, and mental health professionals enhances the support network available to children. With secure information sharing and access to valuable resources, the platform creates an environment conducive to open discussions about mental health.

Overall, this initiative not only raises awareness about children's mental well-being but also equips stakeholders with the tools necessary to ensure timely interventions, ultimately contributing to healthier, happier futures for children.