**`Shri Ramdeobaba College of Engineering & Management, Nagpur Department of Computer Science & Engineering**

**Session: 2024-2025**

**Department: Computer Science and Engineering**

**Semester: V**

**Section:**

**PROJECT SYNOPSIS**

**Title: MANOVEDH**

**Member Details:**

| **Roll No.** | **Name and sign of Students** |
| --- | --- |
| 1 | Adiba Ali |
| 12 | Mrunal Labhe |
| 19 | Siddhi Kothekar |
|  |  |

**Problem Definition:**

## A software solution for monitoring, assessing, and tracking children's mental health and wellbeing- Mental Health and Well-being Surveillance, Assessment, and Tracking Solution among Children is a software application designed to monitor, assess, and track the mental health and well-being of children. It features a user-friendly interface that allows for regular mental health assessments through questionnaires, interactive activities, and behavioral tracking. The software uses data analytics to identify patterns and potential issues, providing real-time feedback and actionable insights for parents, caregivers, and healthcare professionals. It aims to facilitate early intervention and continuous support, enhancing the overall mental well-being of children through comprehensive and personalized monitoring.

# Project Objectives:

**Develop a User-Friendly Interface**:

* Create an intuitive and engaging interface that is easy for children, parents, caregivers, and healthcare professionals to navigate.

**Implement Regular Mental Health Assessments**:

* Integrate tools for conducting regular mental health assessments through standardized questionnaires, interactive activities, and behavioral tracking methods.

**Facilitate Personalized Monitoring:**

* Customize the monitoring and assessment process to cater to individual children’s needs, ensuring personalized care and attention.

**Support Early Intervention Strategies:**

* Develop tools and resources that support early intervention strategies, helping to address mental health issues before they escalate.

**Utilize Data Analytics for Pattern Identification**:

* Leverage data analytics to identify patterns and potential mental health issues early on by analyzing assessment data.

**Provide Real-Time Feedback and Actionable Insights**:

* Ensure the system delivers real-time feedback and actionable insights to parents, caregivers, and healthcare professionals, facilitating timely interventions and support.

**Enable Continuous Monitoring and Support**:

* Design the system to offer continuous monitoring and support, promoting sustained mental well-being for children.

**Enhance Overall Mental Well-Being**:

* Aim to improve the overall mental well-being of children through comprehensive and holistic monitoring, assessment, and support.

**Integrate Educational Resources**:

* Include educational resources and activities that promote mental health awareness and coping strategies for children.

# Proposed plan of work:

**Initiation:**

* Define project scope and objectives.
* Identify and engage key stakeholders (parents, caregivers, healthcare professionals).

**Requirement Analysis:**

* Conduct research and gather all the requirements.
* Document functional and non-functional specifications.

**Design:**

* Develop UI prototypes and system architecture.
* Plan and design mental health assessment tools.

**Development:**

* Build the user interface and core features.
* Integrate data analytics for pattern identification.

# Methodology:

**Project Planning:**

* **Define Objectives:** Clearly outline the project goals, scope, and deliverables.
* **Create Project Plan:** Develop a plan with timelines, milestones, and responsibilities.

**Requirement Gathering:**

* **Conduct Research:** Investigate existing solutions and best practices in mental health monitoring for children.
* **Collect Requirements:** Use surveys, interviews, or literature reviews to gather requirements from potential users (students, teachers, and parents).

**Design:**

* **UI/UX Design:**
  + **Create Wireframes:** Design wireframes and mockups of the user interface.
  + **Design Prototypes:** Develop interactive prototypes to visualize the application flow.
* **System Architecture:**
  + **Plan Architecture:** Outline the system’s architecture, including frontend and backend components.

**Development:**

* **Frontend Development:** Build the user interface based on the design prototypes.
* **Backend Development:** Develop the backend to handle data storage, processing, and analytics.
* **Integrate Components:** Ensure frontend and backend components work together seamlessly.

# Technology:

·**Identify Stakeholders:**

* Parents
* Caregivers
* Healthcare professionals
* Children

· **Core Features:**

* User registration and profiles
* Regular mental health assessments (questionnaires, interactive activities)
* Behavioral tracking
* Data analytics for identifying patterns
* Real-time feedback and insights
* Secure data storage
* Parental and healthcare professional dashboards

· **Frontend:**

* HTML, CSS, JavaScript
* Frameworks/Libraries: React

· **Backend:**

* Language: JavaScript (Node.js)
* Database: MongoDB

· **Data Analytics:**

* Python libraries : Pandas, NumPy, Scikit-learn

· **Version Control:**

* Git and GitHub for source code management

· **Development Tools:**

* IDE: VS Code

· **Frontend Development:**

* User interface
* Implement interactivity and user experience

· **Backend Development:**

* Set up the server and database
* Develop RESTful APIs to handle user requests and data processing

· **Data Analytics Module:**

* Implement data collection and analysis algorithms
* Integrate machine learning models if necessary

· **Integration:**

* Connect the frontend with the backend through APIs
* Ensure seamless data flow and interactions

· **Testing:**

* Unit testing for individual components
* Integration testing for the combined system
* User acceptance testing with a sample group

# Functional Specifications [Deliverables]:

1. **User-Friendly Interface**
   * Developing an intuitive and engaging interface suitable for children, parents, caregivers, and healthcare professionals.
2. **Regular Mental Health Assessments**
   * Implementing tools for standardized questionnaires, interactive activities, and behavioral tracking to conduct regular mental health assessments.
3. **Data Analytics and Pattern Recognition**
   * Utilizing data analytics and machine learning models to identify trends and potential issues, providing real-time feedback and actionable insights.
4. **Secure Data Management**
   * Ensuring secure data storage and user authentication, complying with data protection regulations.

# Project Scope:

# The Mental Health and Well-being Surveillance, Assessment, and Tracking Solution among Children aims to develop a comprehensive software application designed to monitor, assess, and track the mental health and well-being of children. The project will include a user-friendly interface for children, parents, caregivers, and healthcare professionals, integrating regular mental health assessments through questionnaires, interactive activities, and behavioral tracking. Leveraging data analytics and machine learning, the system will identify patterns and potential issues, providing real-time feedback and actionable insights. The solution will ensure secure data management, facilitate personalized monitoring, support early intervention strategies, and offer continuous support to enhance the overall mental well-being of children.

**Approved by:**

**Prof. S. Jain**

(Name of Guide and Sign)