INTEL AI HACKATHON

Team Name: MindSync

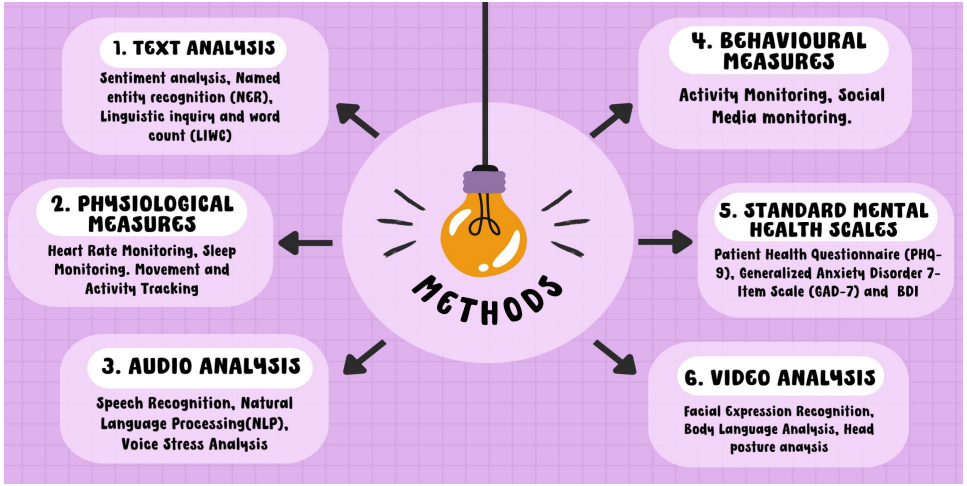
Problem Statement: Multimodel Mental Health Assessment

Team members	Email IDs	Institution Name
Aiswarya SGI	aiswaryasgi23@gmail.com	KGiSL Institute of Technology
Elakiya Sekar	meelakiya24@gmail.com	KGiSL Institute of Technology
Gnanachandru KR	rajagnanachandru@gmail.com	KGiSL Institute of Technology
Janany J	jananysbc@gmail.com	KGiSL Institute of Technology

INTELLIMIND

Problem:

Traditional mental health assessments have drawbacks such as **long wait** times for appointments, reliance on **subjective self-reporting**, and **limited access** to qualified professionals. These limitations can result in **delays** in diagnosis and treatment, potentially leading to **poorer mental health outcomes**.



Solution:

IntelliMind seeks to revolutionize mental health management by offering a **comprehensive and user-friendly** app that bridges the gap between individuals and professional help.

- **Self-assessments:** Gain insights through text-based questionnaires.
- **Video analysis:** Capture facial expressions and body language for deeper understanding.
- **Audio analysis:** Speech patterns and emotional cues enrich the assessment.

The app serves as a valuable **companion tool**, encouraging users to proactively manage their mental well-being while simplifying access to professional support when needed.

METHODS and TOOLS

Audio Analysis

Audio Recording:
Intel® Integrated Performance Primitives (Intel® IPP)

Noise Reduction:
Intel® oneAPI Deep Neural Network Library (oneDNN)

Feature Extraction:
Intel® Math Kernel Library (Intel® MKL)

Emotion Recognition:
Intel® oneAPI Deep Neural Networks Library

Speech Analysis:
Intel® Distribution of OpenVINO™ Toolkit

Video Analysis

Data Acquisition
Intel Data Analytics Acceleration Library (DAAL)

Preprocessing
Intel® oneAPI Threading Building Blocks (oneTBB)

Facial Expression Recognition
Intel oneAPI HPC Toolkit

Behavioral Analysis
Intel VTune Profiler

Emotion Aggregation
Intel oneAPI Rendering Toolkit

Text Analysis

Data Preprocessing
Intel® Distribution for Scikit-learn

Sentiment Analysis
Intel® oneAPI Collective Communications Library

Risk Assessment
The Intel® Fortran Compiler

Language Understanding
Intel VTune Profiler

Topic Modeling
Intel® oneAPI Deep Neural Networks Library