

Project Design Phase-I
Proposed Solution Template

Date	10 November 2023
Team ID	Team-591674
Project Name	Project - Predicting Mental health of working professionals
Maximum Marks	2 Marks

Proposed Solution Template:

Project team shall fill the following information in proposed solution template.

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	How to identify a mental illness of a working professional.
2.	Idea / Solution description	<p>Solution: Developing a system to identify mental illnesses in working professionals using machine learning involves several components. The solution should encompass data collection, feature extraction, model training, and deployment. Here's a step-by-step breakdown:</p> <p>1. Data Collection:</p> <ul style="list-style-type: none">○ Gather anonymized data from various sources such as employee surveys,

		<p>communication logs, and physiological data (if available).</p> <ul style="list-style-type: none">○ Include diverse demographics to ensure the model is inclusive and unbiased. <p>2. Feature Extraction:</p> <ul style="list-style-type: none">○ Extract relevant features from the collected data, including language patterns, sentiment analysis from written communication, and physiological indicators if accessible (heart rate variability, sleep patterns, etc.).○ Consider external factors such as workload, deadlines, and working hours. <p>3. Model Development:</p> <ul style="list-style-type: none">○ Use machine learning algorithms to train a model on the extracted features.○ Explore various algorithms such as decision trees, random forests, or deep learning models depending on the complexity of the data. <p>4. User Interface:</p> <ul style="list-style-type: none">○ Develop a user-friendly interface for professionals to interact with the system.
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		<ul style="list-style-type: none"> ○ The interface can include a dashboard displaying mental health trends, suggestions for improvement, and resources for seeking help. <p>5. Alerts and Intervention:</p> <ul style="list-style-type: none"> ○ Implement an alert system to notify both employees and employers when the system detects potential mental health concerns. ○ Provide suggested interventions, which could include stress management resources, counseling services, or wellness programs.
3.	Novelty / Uniqueness	<ul style="list-style-type: none"> ● Personalized Approach: Tailor the system to individual users, recognizing that mental health is a highly personal and subjective matter. ● Continuous Monitoring: Implement continuous monitoring to detect early signs of mental health issues, allowing for timely intervention. ● Multimodal Data Integration: Integrate multiple data sources for a holistic view, considering both subjective (surveys)

		and objective (physiological) data
4.	Social Impact / Customer Satisfaction	<ul style="list-style-type: none"> ● Reducing Stigma: By providing a tool that is proactive in identifying mental health concerns, the system contributes to reducing the stigma associated with mental health issues. ● Promoting Well-being: Fostering a workplace that actively monitors and supports mental health contributes to a positive working environment and employee well-being.
5.	Business Model (Revenue Model)	<ul style="list-style-type: none"> ● Subscription-Based Model: Charge companies a subscription fee based on the number of employees for access to the mental health monitoring system. ● Consultation Services: Offer consultation services to companies for interpreting and addressing mental health data. ● Customization Packages: Provide customization options for companies that want additional features or integration with existing HR systems
6.	Scalability of the Solution	<ul style="list-style-type: none"> ● Cloud-Based Infrastructure: Implement the solution on a scalable cloud

		<p>infrastructure, allowing it to handle an increasing number of users and data points efficiently.</p> <ul style="list-style-type: none">● API Integration: Provide APIs for seamless integration with existing HR and communication platforms, facilitating widespread adoption without significant disruptions.● Continuous Improvement: Incorporate feedback loops and periodic model updates to ensure the system adapts to evolving workplace dynamics and incorporates the latest advancements in mental health research.
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