Mental Health Tracker

Group G01

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This project aims to develop a web-based platform to assess the mental health of tech industry employees through AI-driven analysis of survey responses and performance data. The tool will offer insights into employee well-being, providing an early warning system for potential mental health concerns. By offering a dashboard for HR professionals, the platform enables data-driven decisions for proactive mental health support within organizations. Secure handling of survey data ensures anonymity and confidentiality, promoting trust and widespread adoption among employees.

Role Assignments (First half of Project)

Roles	Name	Tasks
User	Dennis	Explaining use-cases and testing demo
Customer	Daniel	Change use-cases during development
Software Developer	Leandro, Yunjie, Yves	Implementing software and creating Model
Development Manager	Yves	Prioritize Task and organize Teams

I. INTRODUCTION

The tech industry is known for its high-pressure environment, often resulting in mental health challenges among employees. Early identification and support can significantly improve well-being and productivity. However, many companies lack the tools for consistent, confidential mental health assessments. This project addresses this gap by offering a scalable, AI-driven solution.

Tech professionals often face long hours, tight deadlines, and high-stakes projects, leading to burnout and stress-related issues. Without proper mechanisms to monitor and manage employee mental health, companies risk high turnover rates, reduced productivity, and costly healthcare expenses. The client (LG) seeks a system that can help HR departments identify potential issues before they escalate.

There are existing platforms like Headspace and Calm focused on mental well-being, but few solutions offer specific, ongoing mental health monitoring tailored for the tech industry. Additionally, most tools lack integration with company data or actionable insights for HR professionals. Our solution fills this gap by providing continuous, anonymous assessments and actionable data.

II. REQUIREMENTS

A. Functional Requirements

1) Schedule Survey

The HR Manager schedules periodic mental health surveys for employees through the platform. These surveys can be customized based on different departments or job roles. The platform ensures that surveys are automatically sent out at the scheduled times, helping to regularly assess employee well-being.

2) Fill Out Survey

Employees receive and complete the mental health survey provided by the platform. The survey includes questions that assess stress, burnout, and other mental health factors. The employees' responses will be processed securely to ensure confidentiality.

3) Evaluate Mental Health Risk

The system analyzes the completed survey responses using AI-driven algorithms to assess potential mental health risks. Based on the data, the system flags potential issues like burnout or stress and assigns a risk level, which can be reviewed by HR.

4) Escalate to Psychologist

If the system detects a high mental health risk, or if the HR Manager requests further review, the case can be escalated to a psychologist. The psychologist receives the relevant reports and can schedule follow-up appointments to provide personalized mental health support.

5) Request Report

HR Managers can request detailed reports on employee mental health trends. These reports provide aggregated data and insights into overall well-being, helping the HR team

identify concerning patterns and implement proactive measures.

6) Send Survey Completion Reminder

If employees fail to complete the survey within a set timeframe, the HR managers can send reminders to encourage participation. This ensures a higher completion rate and more comprehensive data for mental health assessments.

7) Create Incident/Issue

Employees and their supervisors can report well-being-related incidents or issues directly through the platform. This feature allows them to highlight specific concerns or seek help, which is then routed to HR or a psychologist based on the severity of the issue.

B. Non-functional Requirements

The platform will ensure Data Security and Privacy by using encryption to securely store and handle employee data. This will protect the anonymity and confidentiality of users, preventing unauthorized access to sensitive information. Employees can trust that their personal data remains safe, encouraging honest participation in the surveys.

In terms of Scalability, the system will support many users without performance issues, allowing it to function efficiently even as the user base grows. The platform will also be fully Accessible across desktops.

III. TECHNICAL DESIGN

The platform will be built using a three-tier system architecture to ensure efficiency and scalability. The first layer is the Frontend, which provides a web-based interface for employees to take surveys and for HR professionals to access insights. This interface will be designed to be user-friendly and intuitive, promoting ease of use. The second layer is the Backend, which houses the Application and AI engine responsible for analyzing the survey data and identifying patterns related to mental health concerns. This AI-driven analysis is key to detecting trends such as stress or burnout. The final layer is the Database, a secure storage system that holds both the raw survey responses and the AI-generated insights, ensuring data is managed safely and confidentially.

For the User Interface, the employee-facing side will be minimalistic, emphasizing simplicity to ensure that employees can easily complete surveys without unnecessary distractions. On the other hand, the HR dashboard will provide rich data visualizations, including graphs, charts, and filters, allowing HR professionals to explore the insights in detail. It will also offer export options for reporting and analysis, making it a powerful tool for understanding and managing employee mental health.

IV. IMPLEMENTATION AND INTEGRATION

The platform will be built using Python for AI analysis, ASP.NET Core for the restful web API, and JavaScript / Typescript with a simple framework for the frontend.