AI-Driven Mental Health Assessment Tool

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*Abstract* — 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. 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.

Keywords— AI, mental health, tech industry, employee well-being, data privacy, dashboard, web-based platform

# 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.

# Problem Statement

## 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.Maintaining the Integrity of the Specifications

# Related Work

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.

Requirements

Functional Requirements:

Anonymous Survey Platform:

Employees will complete mental health surveys anonymously through a user-friendly interface.

2.AI Analysis of Survey Data:

• AI will analyze survey responses, identifying patterns that suggest mental health concerns such as stress, burnout, or anxiety.

3. Dashboard for HR Professionals:

• A dashboard will aggregate anonymous survey data, offering insights and trends regarding the mental well-being of the workforce.

4. Data Visualization:

• The dashboard will include graphs, charts, and heat maps to visualize mental health trends and risk areas over time.

5. Periodic Assessments:

• The system will schedule and prompt periodic surveys to track changes in mental health over time.

B. Non-functional Requirements:

1. Data Security and Privacy:

• Ensure secure storage and handling of employee data, with encryption to protect anonymity and confidentiality.

2. Scalability:

• The platform should support thousands of users without performance degradation.

3. Accessibility:

• The platform must be accessible on various devices (desktop, tablet, and mobile).

III. Design

A. System Architecture:

The platform will follow a three-tier architecture:

1. Frontend:

• A web-based interface for employees to take surveys and for HR professionals to view insights.

2. Backend:

• An AI engine for analyzing survey data and identifying patterns.

3. Database:

• A secure database to store survey responses and AI-generated insights.

B. User Interface:

The employee interface will be minimalistic, focusing on ease of use, while the HR dashboard will offer rich data visualizations with filters and export options.

IV. Implementation and Integration

The platform will be built using Python for AI analysis, Django for the web backend, and JavaScript frameworks for the frontend. Secure cloud storage will ensure data privacy and compliance with regulations like GDPR.

V. Conclusion

This project provides a critical tool for organizations in the tech industry to assess and monitor their employees’ mental health proactively. With AI-driven insights, HR professionals can make data-informed decisions, fostering a healthier, more supportive workplace environment.