

Dayscore: An AI-Based Productivity and Wellness Scoring System

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ABSTRACT

With the rapid growth of artificial intelligence and digital technologies, monitoring daily productivity and wellness has become increasingly important. This research paper presents Dayscore, an AI-based system designed to analyze daily behavioral data such as activity levels, sleep patterns, mood, and productivity habits. The system processes data collected from wearable devices, mobile applications, and manual user inputs to generate a meaningful daily score representing an individual's overall performance and wellness. By applying machine learning techniques and data analytics, the system identifies behavioral patterns and provides personalized insights and recommendations to improve lifestyle and productivity. The proposed solution aims to enhance self-awareness, support preventive healthcare, and assist individuals in making better decisions regarding their daily routines.

Key Words: Artificial Intelligence, Productivity Analysis, Machine Learning, Wellness Monitoring, Data Analytics

1. INTRODUCTION

Artificial Intelligence (AI) has significantly transformed the way individuals monitor and improve their daily habits and productivity. Traditional productivity tracking systems mainly relied on manual tracking methods and simple scoring mechanisms. However, with the emergence of advanced technologies such as machine learning, wearable devices, and data analytics, modern systems can now analyze complex behavioral data and provide intelligent insights.

The concept of AI-based productivity scoring evolved from earlier productivity measurement tools and psychometric assessment models. With the increasing availability of smartphones, smartwatches, and digital activity tracking tools, it has become possible to collect large volumes of personal behavioral data. These data sources enable AI systems to evaluate various factors such as sleep quality, activity levels, mood, and daily habits.

The Dayscore system is designed to analyze such data and generate a personalized daily score reflecting an individual's productivity and lifestyle quality. The motivation behind this project is to combine AI, behavioral science, and data analytics to provide

actionable insights that help individuals improve their daily performance, reduce stress, and maintain healthier habits.

Such systems are widely used in wellness and productivity applications, helping individuals track performance trends, identify unhealthy habits, and improve decision-making regarding their daily activities.

2. BODY OF PAPER

The **Dayscore system** is designed to evaluate daily productivity and wellness using Artificial Intelligence techniques. It works through a structured process including data collection, processing, analysis, and score generation.

The system collects data from sources such as wearable devices, mobile applications, and manual inputs. This data includes parameters like sleep duration, physical activity, mood, and task completion. The collected data is preprocessed to remove errors and ensure accuracy.

Machine learning algorithms are then applied to analyze patterns and relationships between different parameters. Based on this analysis, a scoring algorithm generates a daily productivity score by assigning weights to various factors.

The system also provides personalized recommendations based on user behavior and historical data. The final results are displayed through dashboards and graphs, helping users easily understand their performance and improve their daily habits.

3. LITERATURE REVIEW

Recent advancements in Artificial Intelligence (AI), wearable technology, and machine learning have significantly improved the ability to monitor human wellness, productivity, and behavioral patterns. These developments provide a strong foundation for the proposed Dayscore system, which aims to generate a daily performance and wellness score.

Kakhi et al. (2025) studied fatigue monitoring using wearables and AI, focusing on the use of physiological signals such as heart rate, activity level, and sleep data. Their research highlights how wearable devices combined with AI models can detect fatigue and provide insights into user well-being. This study supports the use of sensor-based data analysis in Dayscore.

Similarly, **Pinge et al. (2024)** presented a systematic review on stress detection and monitoring using wearable devices. Their work emphasizes the

importance of real-time data collection and machine learning techniques for identifying stress-related behavioral patterns. This is highly relevant to Dayscore, as the system also aims to evaluate mood, wellness, and daily productivity trends.

Abbaspourazad et al. (2023) proposed the use of foundation models for wearable biosignals, where large-scale AI models are trained on biosignal datasets to improve prediction accuracy. Their work demonstrates the growing role of advanced AI models in interpreting complex human behavior and physiological data.

Sharma et al. (2023) reviewed sensor-based systems for monitoring mental fatigue, highlighting the use of smart devices and AI algorithms for continuous user monitoring. Their findings show that intelligent systems can effectively identify cognitive load, stress, and reduced performance levels.

In addition, **Bampakis et al. (2022)** introduced an end-to-end framework for intelligent physical activity prediction to support mobile health interventions. Their work demonstrates how AI-driven prediction systems can provide personalized recommendations based on user activity patterns.

Although these studies focus primarily on stress, fatigue, and physical activity monitoring, there is limited work on integrating productivity analysis, mood tracking, health monitoring, and personalized scoring into a unified system. The proposed Dayscore addresses this gap by combining multiple behavioral parameters to generate a meaningful daily score and provide actionable recommendations.

4. EXISTING SYSTEM

Existing productivity tracking systems primarily focus on collecting activity data and presenting it in dashboards. These systems often rely on wearable devices or mobile applications to track metrics such as steps, screen time, and sleep duration.

Most current systems use rule-based scoring methods that lack adaptability and personalization. The insights generated are often generic and may not accurately reflect individual behavior patterns.

Additionally, these systems face challenges such as:

- Limited real-time analysis
- High dependency on manual input
- Data privacy and security issues
- Lack of intelligent recommendations

Therefore, there is a need for a more advanced system that integrates AI techniques to provide accurate and personalized productivity insights.

5. PROPOSED SYSTEM : DAYSCORE FRAMEWORK

Overview of the System:

The **Dayscore system** is an AI-based productivity and wellness evaluation system that analyzes daily user activities. It integrates multiple data sources to generate a single score representing overall performance and lifestyle quality. The system aims to improve user awareness and help in maintaining a balanced routine.

Data Collection and Input Sources:

The system collects data from wearable devices, mobile applications, and manual user inputs. The collected parameters include sleep duration, physical activity, mood, and task completion. These inputs provide a comprehensive dataset for analysis.

Data Processing and Analysis:

The collected data is preprocessed to remove inconsistencies and missing values. Machine learning techniques are applied to analyze patterns and relationships among different parameters. This helps in understanding how daily habits affect productivity.

Score Generation Mechanism:

A scoring algorithm is used to calculate the daily productivity score. Different weights are assigned to factors such as activity level, sleep quality, and work efficiency. The final score reflects the overall performance of the user for that day.

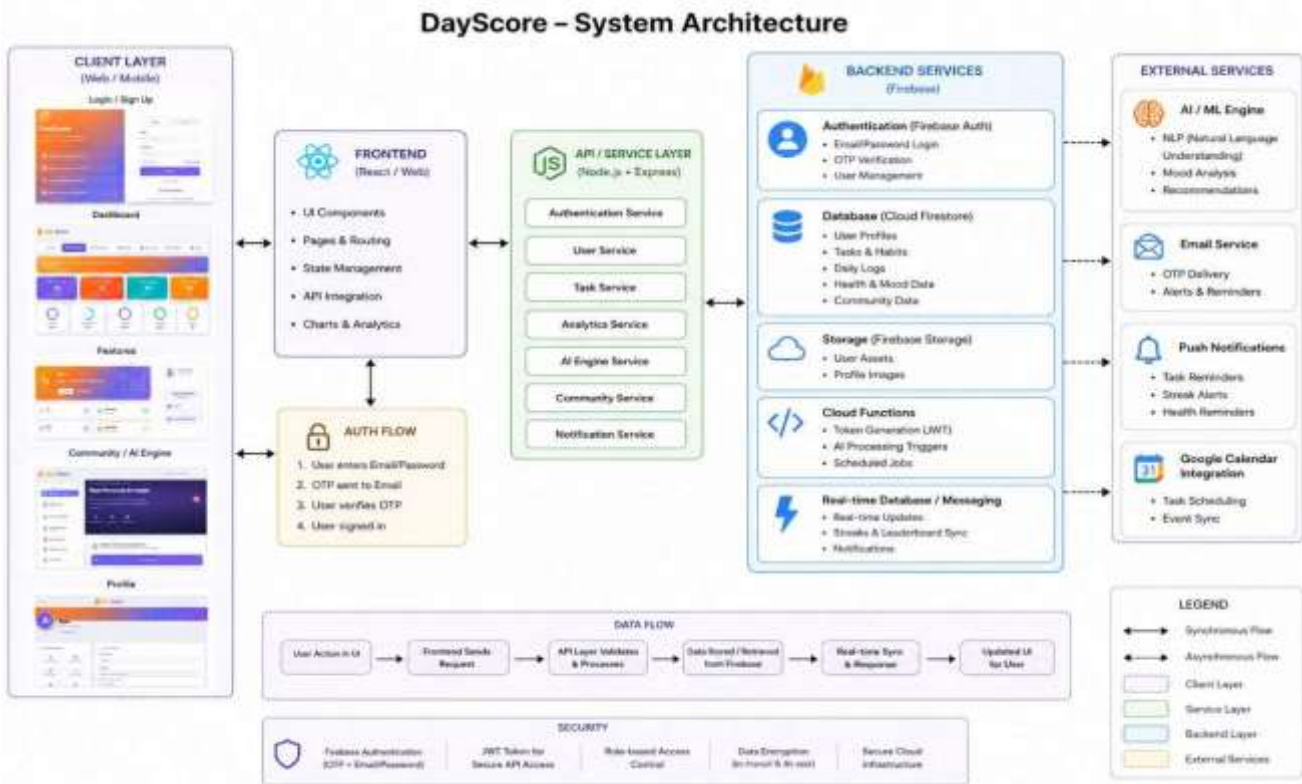
Personalization and Recommendations:

The system adapts based on user behavior and historical data. It provides personalized suggestions such as improving sleep patterns or increasing physical activity to enhance productivity and wellness.

Visualization and Output:

The results are displayed using dashboards, charts, and graphs. These visualizations help users easily understand their daily performance and track improvements over time.

6. ARCHITECTURAL DIAGRAM



WORK FLOW



7. FEATURES

I. Unified Dashboard: Provides a single interface to monitor productivity, health, and mood.

II. Daily Score (0-100): Generates a combined score based on user activities and habits.

III. Task Management: Supports task creation, prioritization, and completion tracking.

IV. Time Tracking: Tracks study/work sessions to improve focus and efficiency.

V. Health & Activity Tracking: Monitors physical activity and wellness metrics.

VI. Mood Tracking: Records emotional state and mental well-being.

VII. Advanced Analytics: Displays daily, weekly, and monthly performance insights.

VIII. Goal Setting: Allows users to set targets and maintain streaks.

8. SOFTWARE REQUIREMENTS (FOR DAYSCORE)

Functional Requirements

I. **User Module:** Registration/login, activity tracking (tasks, mood, health), score viewing, and goal setting.

II. **Admin Module:** User management, data monitoring, and system analytics.

III. **Backend Services:** Authentication, database storage, AI processing, and notification services.

Non-Functional Requirements

I. **Performance:** Fast response time (<2s) with real-time score updates.

II. **Scalability:** Supports multiple users with cloud-based infrastructure.

III. **Security:** Secure authentication and encrypted data storage.

IV. **Reliability:** Ensures high availability (99% uptime).

Hardware Requirements

Android/iOS device, 2GB RAM minimum, internet connectivity, basic storage.

Technology Stack

Frontend

- **HTML5** → (index.html, app.html, profile.html, wellness.html, ai-engine.html)
- **CSS3** → (style.css, profile.css, wellness.css, ai-engine.css)
- **JavaScript (Vanilla JS)** → (app.js, profile.js, wellness.js, ai-engine.js, auth.js)

Backend / Services

- **Firebase**
firebase-config.js → configuration file
- **Firebase Authentication** (from auth.js)
- **Firebase Firestore / Realtime DB** (for tracking productivity data)

Features / Modules

- AI Engine Module → (ai-engine.html/js/css)
- Authentication System → (auth.js)
- Productivity Tracker UI
- Wellness Tracker
- User Profile System

Development Tools

- VS Code → (.vscode/settings.json)
- Antigravity
- GitHub
- Markdown → (README.md)

9. RESULT

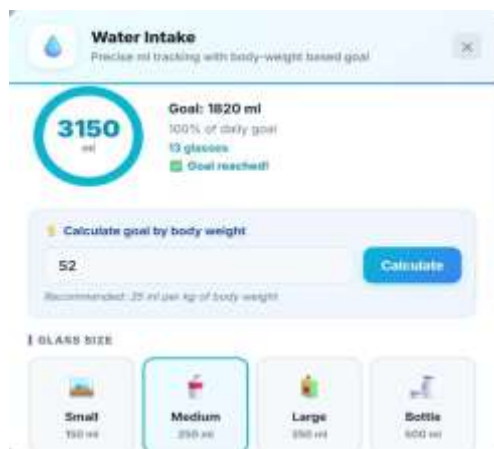
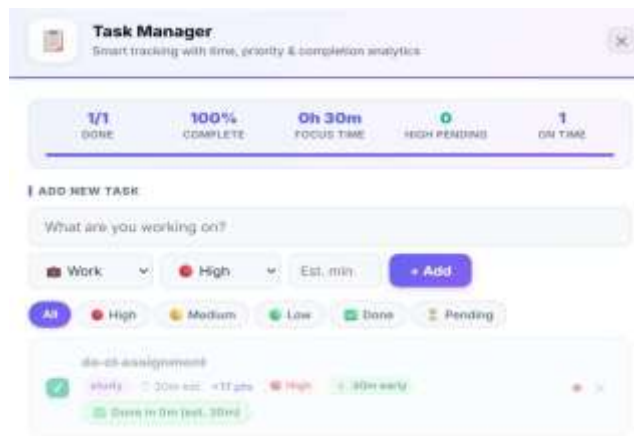
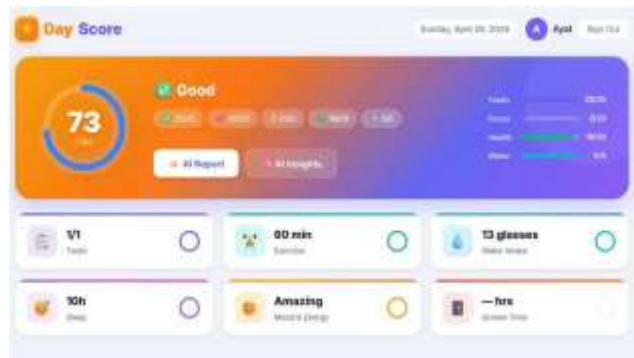
Login page



Dashboard



Features



User Profile Page



10. MERITS

I. Improves Productivity: The system helps users efficiently organize tasks, manage time, and increase overall daily output.

II. Unified Platform: Integrates multiple aspects such as productivity, health, and mood into a single dashboard, reducing complexity.

III. User-Friendly Interface: Designed with a simple and intuitive interface, making it accessible for both beginners and advanced users.

IV. Real-Time Insights: Provides immediate feedback and updates, enabling users to quickly understand their daily performance.

V. Personalized Recommendations: Analyzes user behavior and suggests customized improvements to enhance productivity and well-being.

VI. Goal Tracking and Motivation: Allows users to set goals, track progress, and maintain streaks, which increases motivation and consistency.

VII. Reduces App Dependency: Eliminates the need to switch between multiple apps by offering all features in one system.

11. DEMERITS

I. Manual Data Entry Requirement: Users need to regularly input data such as tasks and mood, which can become time-consuming.

II. Internet Dependency: Most features rely on internet connectivity, limiting usability in offline environments.

III. Privacy and Security Concerns: The system collects sensitive personal data, raising concerns about data protection and misuse.

IV. Initial Learning Curve: New users may require some time to fully understand features and effectively use the platform.

V. AI Prediction Limitations: The accuracy of AI-based analysis depends on data quality and may not always produce precise results.

VI. Over-Reliance on Score: Users might depend excessively on the daily score, ignoring qualitative aspects of productivity.

VII. Limited Integration Support: The system may not initially support integration with all third-party applications or devices.

12. CONCLUSION

The Dayscore system provides an effective solution for integrating productivity and wellness tracking into a single platform. By leveraging artificial intelligence and data analytics, it offers meaningful insights and personalized recommendations to users. The system helps individuals improve their daily habits, enhance productivity, and maintain a balanced lifestyle. Future enhancements may include advanced AI models, deeper integrations with wearable devices, and real-time behavioral predictions for more accurate analysis.

13. FUTURE SCOPE

The Dayscore system can be further enhanced by integrating advanced Artificial Intelligence and predictive analytics models to provide more accurate productivity and wellness insights. Future versions can include real-time integration with wearable devices such as smartwatches and fitness bands for automatic health and activity tracking.

The system can also be expanded with personalized recommendation engines that suggest study schedules, break times, and health improvements based on user behavior. Integration with cloud-based analytics platforms can help in storing and analyzing long-term user trends.

Additionally, future development may focus on mental health monitoring, voice-based assistants, and cross-

platform support for both web and mobile applications. This will make the system more user-friendly, intelligent, and widely accessible.

14. REFERENCES

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