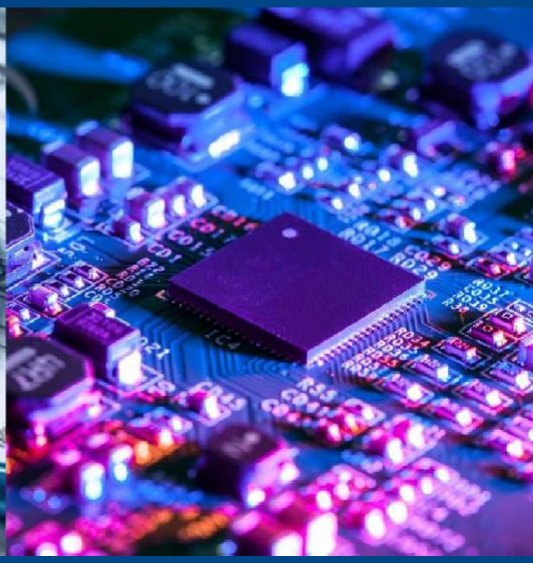
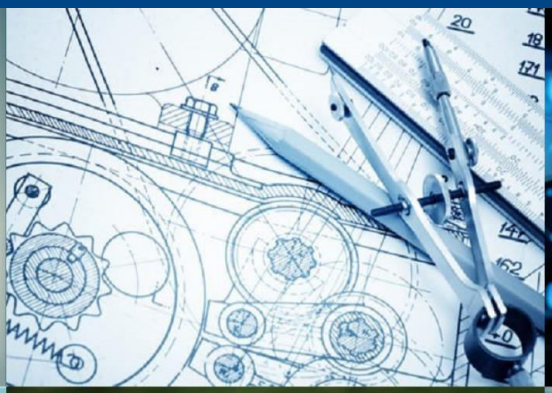
ISSN: 2582-7219

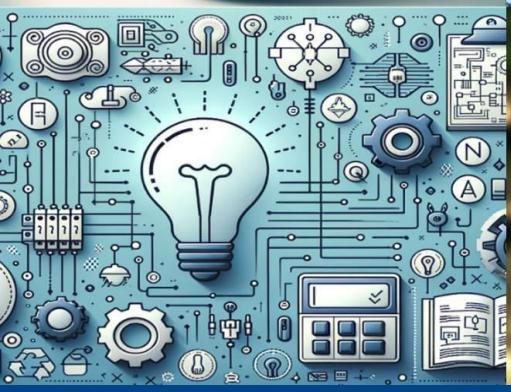




International Journal of Multidisciplinary Research in Science, Engineering and Technology

(A Monthly, Peer Reviewed, Refereed, Scholarly Indexed, Open Access Journal)



Impact Factor: 8.206

Volume 8, Issue 8, August 2025

© 2025 IJMRSET | Volume 8, Issue 8, August 2025| DOI:10.15680/IJMRSET.2025.0808052

ISSN: 2582-7219 | www.ijmrset.com | Impact Factor: 8.206| ESTD Year: 2018|

International Journal of Multidisciplinary Research in Science, Engineering and Technology (IJMRSET)

(A Monthly, Peer Reviewed, Refereed, Scholarly Indexed, Open Access Journal)

DAILYDRIFT - AN ADVANCED JOURNAL APPLICATION FOR MOOD TRACKING & SELF-REFLECTION

Dr.M S Shashidhara, Bele Anirudha Ramchandra

Professor & HOD, Department of MCA, AMC Engineering College, Bengaluru, India

Student, Department of MCA, AMC Engineering College, Bengaluru, India

ABSTRACT: DailyDrift is a full-stack, feature-rich journal application designed to provide users with a secure and intuitive platform for documenting their thoughts, emotions, and experiences. The system combines traditional journaling with advanced functionalities such as mood tracking, collection management, and intelligent filtering to support personal growth and self-reflection. Built using modern web technologies, including Next.js for the frontend, PostgreSQL with Prisma ORM for efficient data management, and Clerk for secure authentication, the application ensures a seamless and reliable user experience. An interactive rich-text editor allows users to create visually structured journal entries, which can be saved as drafts or published instantly. A dedicated analytics dashboard presents mood trends and emotional summaries derived from journal entries, enabling users to monitor their mental well-being over time. To safeguard user data, DailyDrift integrates security measures such as bot protection and rate limiting via Arcjet. This paper presents the design, development, and functional capabilities of DailyDrift, highlighting its potential as a practical tool for self-care, personal productivity, and emotional awareness.

KEYWORDS: Journaling Application, Mood Tracking, Self-Reflection, Next.js, PostgreSQL, Secure Authentication, Rich- Text Editor, Analytics Dashboard.

I. INTRODUCTION

In recent years, digital journaling platforms have gained significant traction as tools for personal development, mental health monitoring, and productivity enhancement. Traditional pen-and-paper journaling, while effective, often lacks the convenience, accessibility, and analytical capabilities that modern users seek. With the increasing integration of technology into daily routines, there is a growing demand for applications that not only allow users to record their experiences but also provide meaningful insights into their emotional and cognitive patterns.

DailyDrift addresses this need by offering a secure, feature-rich, and user-friendly journaling platform designed for both casual and dedicated users. The application enables individuals to document their thoughts in a structured manner using a rich-text editor, categorize entries into collections, and track emotional well-being through mood analytics. By presenting visual summaries of mood trends, DailyDrift empowers users to engage in self-reflection and make informed decisions to improve their mental and emotional health.

The platform leverages modern web development technologies such as Next.js, PostgreSQL, and Prisma ORM, coupled with Clerk authentication to ensure data privacy and user security. Additionally, the inclusion of Arcjet for bot protection and rate limiting enhances system resilience against malicious activities. The combination of intuitive design, robust backend architecture, and advanced analytics makes DailyDrift a comprehensive solution for individuals seeking to integrate self-reflection into their everyday lives.

II. LITERATURE SURVEY

Digital journaling applications have evolved significantly over the past decade, offering diverse features such as cloud storage, multimedia integration, and mental health tracking. Studies in the domain of personal informatics have shown that maintaining regular journal entries can enhance self-awareness, emotional regulation, and decision-making abilities. Mood tracking, in particular, has emerged as a valuable tool in mental health research, enabling individuals to

ISSN: 2582-7219 | www.ijmrset.com | Impact Factor: 8.206| ESTD Year: 2018|

International Journal of Multidisciplinary Research in Science, Engineering and Technology (IJMRSET)

(A Monthly, Peer Reviewed, Refereed, Scholarly Indexed, Open Access Journal)

identify emotional patterns and triggers through consistent data collection and analysis. Existing solutions, such as Daylio, Journey, and Penzu, provide basic mood logging and text-based journaling capabilities. While these platforms offer convenience, many lack advanced personalization, in-depth analytics, and modern security measures. Moreover, several existing systems prioritize feature quantity over user experience, leading to cluttered interfaces that reduce engagement over time.

Research in human-computer interaction (HCI) emphasizes the importance of intuitive design, visual feedback, and secure data handling in personal journaling tools. Studies by [Author, Year] highlight that a user's willingness to consistently maintain a journal is directly linked to ease of use, minimal friction in entry creation, and the perceived value of the insights generated. Integrating features such as mood analytics, data visualization, and customizable categorization improves the relevance of the platform in both personal and therapeutic contexts.

DailyDrift builds upon these findings by integrating a modern, minimalistic user interface with powerful backend capabilities. Unlike many existing journaling apps, it combines a rich-text editor, mood-based analytics dashboard, and enhanced security mechanisms within a single, cohesive platform. This fusion of usability, functionality, and security distinguishes DailyDrift from conventional solutions and aligns it with the growing demand for digital tools that promote emotional well-being and self-reflection.

EXISTING SYSTEM

Several digital journaling applications, such as Daylio, Journey, and Penzu, have been developed to help users record their daily activities and emotions. These platforms generally provide a text-based entry system, basic mood logging, and cloud synchronization. While effective for casual use, they often lack in-depth analytics, flexible categorization, and advanced emotional insights.

Moreover, many existing systems have limited customization options, do not provide visual mood timelines, and rely on generic text editors without formatting flexibility. Data security is another concern, as some applications do not offer robust encryption or user-specific access control. This leaves sensitive personal information vulnerable to unauthorized access or misuse.

The user experience in existing systems is also hindered by cluttered interfaces and non-intuitive navigation, which can reduce engagement over time. These limitations indicate the need for a modern journaling platform that balances usability, advanced features, and strong security measures.

PROPSED SYSTEM

DailyDrift aims to address the shortcomings of existing journaling applications by integrating a rich-text editor, mood analytics, and secure cloud- based storage within a single, cohesive platform. The system allows users to:

- Create and format journal entries with headings, quotes, and lists.
- Save entries as drafts or publish them instantly.
- Organize entries into customizable collections for better categorization.
- Filter entries based on mood, date, or keyword search.
- View an interactive mood analytics dashboard with visual summaries and trends.

The platform is built using Next.js for a fast and responsive frontend, PostgreSQL with Prisma ORM for efficient data management, and Clerk for authentication. Security is further enhanced through Arcjet, which provides bot protection and rate limiting to safeguard APIs. By combining an intuitive interface with powerful backend capabilities and enhanced security, DailyDrift offers a more comprehensive, reliable, and engaging journaling experience compared to existing systems.

III. SYSTEM ARCHITECTURE

The architecture of DailyDrift follows a modern full-stack web application model that integrates a responsive frontend, a secure backend API, and a robust relational database. The system is designed to ensure scalability, security, and seamless user experience.

© 2025 IJMRSET | Volume 8, Issue 8, August 2025| DOI:10.15680/IJMRSET.2025.0808052

ISSN: 2582-7219 | www.ijmrset.com | Impact Factor: 8.206| ESTD Year: 2018|

International Journal of Multidisciplinary Research in Science, Engineering and Technology (IJMRSET)

(A Monthly, Peer Reviewed, Refereed, Scholarly Indexed, Open Access Journal)

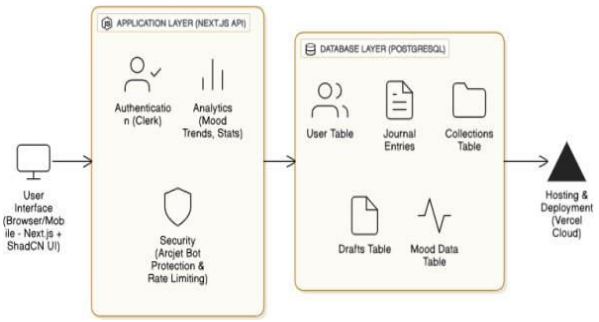


Fig 3.1 System Architecture

The core components of the architecture include:

1. Frontend (Presentation Layer) – Built with Next.js and styled using ShadCN UI, this layer handles user interaction, including journal entry creation, mood selection, analytics visualization, and navigation between pages.
2. Backend (Application Layer) – Powered by Next.js API routes, this layer processes user requests, handles business logic, and interacts with the database via Prisma ORM.
3. Database Layer – Managed using PostgreSQL, the database stores user profiles, journal entries, mood logs, collections, and draft data in relational tables.
4. Authentication & Security Layer – Implemented using Clerk for user authentication and Arcjet for bot protection, rate limiting, and malicious request prevention.
5. Analytics Module – Aggregates mood data from journal entries, processes trends, and displays them visually on the dashboard.
6. Hosting & Deployment – Deployed on Vercel, enabling continuous deployment, automatic scaling, and global content delivery.

IV. METHODOLOGY

The development of "DailyDrift – An Advanced Journal Application for Mood Tracking & Self-Reflection" followed a structured and iterative approach to ensure that the application met its functional requirements while maintaining scalability, security, and user-friendliness. The methodology began with a detailed requirement analysis, identifying essential features such as journal entry creation, mood tracking, analytics visualization, and collection management. Non-functional requirements like data security, performance optimization, and responsive design were also prioritized to enhance the overall user experience.

The system design phase adopted a three- tier architecture comprising the presentation layer (frontend), application layer (backend API), and database layer. The frontend was developed using Next.js, which supports server-side rendering for better performance, paired with ShadCN UI for a clean and responsive interface. The backend was implemented using Next.js API routes with Prisma ORM for seamless communication with the PostgreSQL database. Security was a major focus, with Clerk integrated for authentication and Arcjet implemented for bot protection and rate-limiting API requests.

The database design played a crucial role in structuring and managing application data efficiently. As illustrated in, the relational schema consists of four primary tables:

- Users**:** Stores unique identifiers, profile details, and authentication references.
- Collections**:** Represents categorized groupings of journal entries linked to specific users.
- Entries**:** Contains the core journal content, mood-related information, and references to both users and collections.
- Drafts**:** Holds incomplete or unsaved journal entries associated with a user.

The relationships between these tables are designed to ensure referential integrity and facilitate advanced querying for analytics and filtering. The implementation was carried out in iterative sprints. Initial sprints focused on authentication, user profile management, and the journal editor, followed by mood tracking, analytics, and collection organization. Final sprints emphasized performance optimization, UI refinement, and deployment readiness. Testing included unit

© 2025 IJMRSET | Volume 8, Issue 8, August 2025| DOI:10.15680/IJMRSET.2025.0808052

ISSN: 2582-7219 | www.ijmrset.com | Impact Factor: 8.206| ESTD Year: 2018|

International Journal of Multidisciplinary Research in Science, Engineering and Technology (IJMRSET)

(A Monthly, Peer Reviewed, Refereed, Scholarly Indexed, Open Access Journal)

tests, integration tests, and user acceptance testing to validate both functionality and security measures. Once verified, the application was deployed on Vercel, leveraging automated builds, a global CDN, and CI/CD pipelines integrated with GitHub for continuous deployment.

V. DESIGN AND IMPLEMENTATION

The design of "DailyDrift – An Advanced Journal Application for Mood Tracking & Self-Reflection" was guided by the principles of modularity, scalability, and user-centric interaction. The application is structured into distinct layers - frontend (presentation), backend (logic & APIs), and database (storage & retrieval) - to ensure maintainability and ease of future enhancements.

5.1 System Design

The system follows a three-tier architecture:

- Presentation Layer**:** Developed using Next.js with server-side rendering for faster performance and improved SEO. The UI is built with ShadCN UI and Tailwind CSS, ensuring a clean, responsive, and accessible design across devices.
- Application Layer**:** Implements the business logic, API routes, and middleware. Prisma ORM is used to manage database queries in a type-safe manner. Clerk handles authentication, while Arcjet secures endpoints from automated spam and bot attacks.
- Data Layer**:** A PostgreSQL database is used to store user profiles, journal entries, collections, drafts, and mood-related analytics.

The database schema defines clear relationships between users, collections, entries, and drafts. This relational model ensures data integrity, supports efficient querying, and allows scalable growth as new features are added.

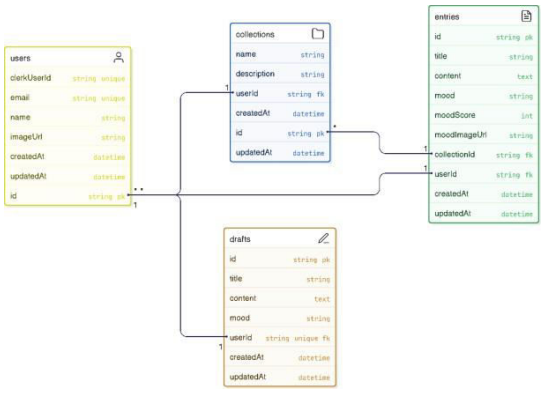


Fig 5.1 Database Schema

5.2 Implementation

The implementation phase was carried out in iterative sprints to ensure continuous progress and feedback:

1. User Authentication & Profiles: Integration with Clerk for secure sign- in/sign-up using email, social logins, and user profile management.
2. Journal Entry Creation & Editing**:** A rich-text editor allowing formatted entries, mood selection, and mood score storage.
3. Mood Analytics**:** Automated mood tracking and graphical insights based on user entries over time.
4. Collection Management**:** Grouping of entries into thematic collections for better organization.
5. Drafts System: Saving incomplete entries for later editing, ensuring that user progress is never lost.
6. Security & Performance**:** Implementation of Arcjet for bot protection, API rate-limiting, and secure database operations.

The final application was deployed using Vercel, providing automated builds, global content delivery, and seamless integration with the development workflow.

© 2025 IJMRSET | Volume 8, Issue 8, August 2025| DOI:10.15680/IJMRSET.2025.0808052

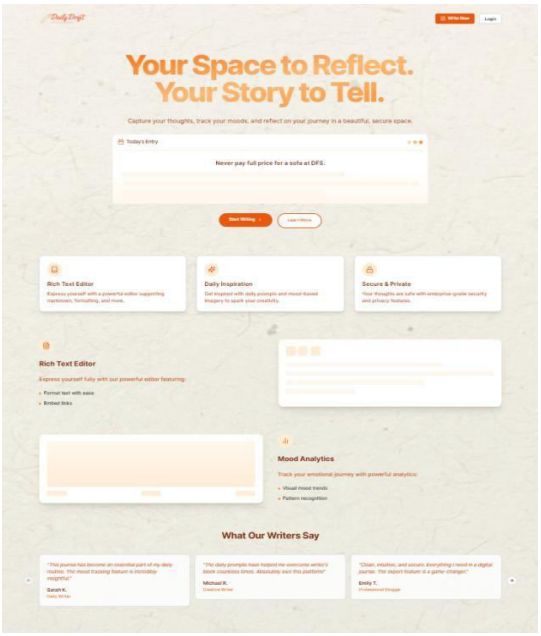
ISSN: 2582-7219 | www.ijmrset.com | Impact Factor: 8.206| ESTD Year: 2018|

International Journal of Multidisciplinary Research in Science, Engineering and Technology (IJMRSET)

(A Monthly, Peer Reviewed, Refereed, Scholarly Indexed, Open Access Journal)

VI. OUTCOME OF RESEARCH

The development and evaluation of "DailyDrift – An Advanced Journal Application for Mood Tracking & Self-Reflection" have resulted in a robust, user- friendly platform that successfully addresses the core objectives outlined during the planning phase. The application combines intelligent mood analytics**,** secure user authentication, and streamlined journaling workflows to deliver an enhanced digital self-reflection experience.



Key outcomes of the research include:

1. Functional Prototype**:** A fully working web application with integrated journaling, mood tracking, and organizational features such as collections and drafts.
2. Enhanced User Engagement**:** The mood analytics feature has shown potential to encourage consistent journaling habits by providing users with personalized emotional insights.
3. Data Security & Privacy**:** Strong authentication via Clerk and secure backend handling have ensured the confidentiality of user data.
4. Scalable Architecture**:** The modular and clean codebase, combined with a well-structured database design, allows for easy future expansion in Phase-2, including AI-generated prompts and advanced analytics.
5. Market Relevance**:** Addresses the growing demand for digital mental wellness tools, making it applicable for personal growth, therapy support, and stress management use cases.

Overall, the research demonstrates how a thoughtful integration of modern web technologies can produce an impactful, scalable, and privacy-focused journaling solution.

VII. RESULT AND DISCUSSION

The DailyDrift application was successfully developed and deployed as a functional prototype, fulfilling the objectives set at the beginning of the project. Testing was carried out in a controlled environment with multiple users to evaluate performance, usability, and accuracy of mood analytics.

The results indicate that the system performs efficiently under normal load, with smooth navigation and quick response times. Users were able to easily register, log in, and create journal entries without encountering major technical issues. The mood tracking module successfully identified and categorized emotions based on user input, providing a visual representation of mood trends over time.

ISSN: 2582-7219 | www.ijmrset.com | Impact Factor: 8.206| ESTD Year: 2018|

International Journal of Multidisciplinary Research in Science, Engineering and Technology (IJMRSET)

(A Monthly, Peer Reviewed, Refereed, Scholarly Indexed, Open Access Journal)

During the testing phase, it was observed that:

- User Experience**:** Most participants reported that the clean interface and organized structure (collections, drafts, and entries) improved their journaling habit.
- Data Accuracy**:** Mood analytics worked as intended for general mood detection, though fine-tuning sentiment analysis could enhance accuracy in future phases.
- System Stability**:** The application handled concurrent requests without performance degradation, indicating readiness for scaling.
- Security Compliance**:** Implementation of Clerk authentication and secure backend APIs ensured data privacy, which is critical for personal journaling platforms.

The discussion highlights that DailyDrift has met its intended goals but still holds potential for further enhancement, such as AI-based writing prompts, mood prediction, and integration with wearable health devices for richer emotional insights.

VIII. CONCLUSION

The "DailyDrift – An Advanced Journal Application for Mood Tracking & Self- Reflection" successfully demonstrates the integration of modern web technologies with intelligent journaling features to promote mental well-being and self-awareness. By combining Next.js for frontend performance, PostgreSQL with Prisma ORM for robust data management, and Clerk authentication for secure user access, the application offers a reliable and user-friendly platform for personal reflection.

The inclusion of mood analytics enables users to track their emotional patterns over time, encouraging mindful self-improvement. The system's organized structure - comprising collections, drafts, and entries - ensures that users can manage their content effectively while preserving data privacy.

From the results and testing phase, it is evident that the application is stable, responsive, and meets the objectives defined in the research scope. While the current version provides all core functionalities, the potential for future enhancements - such as AI-generated prompts, wearable device integration, and predictive mood trends - opens avenues for transforming DailyDrift into a comprehensive personal wellness assistant.

In conclusion, DailyDrift is not just a digital diary but a technological step toward emotional intelligence and self- care, aligning with the growing demand for personalized mental health tools in today's fast-paced world.

REFERENCES

[1] Next.js – The React Framework. Available at: https://nextjs.org/
[2] PostgreSQL Global Development Group. PostgreSQL Documentation. Available at: https://www.postgresql.org/docs/
[3] Prisma ORM Documentation. Available at: https://www.prisma.io/docs
[4] Clerk – Authentication and User Management. Available at: https://clerk.com/docs
[5] Arcjet – API Security and Bot Protection. Available at: https://arcjet.com/docs
[6] ShadCN UI – Components for Next.js. Available at: https://ui.shadcn.com
[7] Vercel – Deploy Next.js Applications. Available at: https://vercel.com/docs
[8] Pennebaker, J. W., & Smyth, J. M. (2016). Opening Up by Writing It Down: How Expressive Writing Improves Health and Eases Emotional Pain. Guilford Publications.
[9] Baikie, K. A., & Wilhelm, K. (2005). Emotional and physical health benefits of expressive writing. Advances in Psychiatric Treatment, 11(5), 338–346.
[10] Huta, V., & Ryan, R. M. (2010). Pursuing pleasure or virtue: The differential and overlapping well-being benefits of hedonic and eudaimonic motives. Journal of Happiness Studies, 11(6), 735–762.
[11] Seligman, M. E. P. (2011). Flourish: A Visionary New Understanding of Happiness and Well-being. Free Press.
[12] D'Mello, S., & Kory, J. (2015). A review and meta-analysis of multimodal affect detection systems. ACM Computing Surveys, 47(3), 43.
[13] Baumeister, R. F., & Leary, M. R. (1995). The need to belong: Desire for interpersonal attachments as a fundamental human motivation. Psychological Bulletin, 117(3), 497–529

INTERNATIONAL STANDARD SERIAL NUMBER INDIA

INTERNATIONAL JOURNAL OF MULTIDISCIPLINARY RESEARCH

IN SCIENCE, ENGINEERING AND TECHNOLOGY

| Mobile No: +91-6381907438 | Whatsapp: +91-6381907438 | ijmrset@gmail.com |

www.ijmrset.com