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Frontend Development of Focus Mode and Sentiment-Based Priority Analysis for Enhanced Task Management

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A B S T R A C T

This research looks at building two key features for the Quicky Note app: Focus Mode and Sentiment-Based Priority Analysis. Focus Mode helps users stay productive by hiding distractions and showing only essential elements. Sentiment-Based Priority Analysis uses natural language processing (NLP) to sort notes based on emotion and urgency. The study covers how these features are built, including UI/UX design, system architecture, flow diagrams, and testing. It highlights their usefulness in improving task management and focus. User testing and feedback show that they help boost productivity.

Keywords: Task Management, Focus Mode, Sentiment Analysis, Natural Language Processing, Frontend Development.

1. Introduction

1.1. Background

Task management apps help with organizing, scheduling, and tracking tasks. But many don't fully support key needs like reducing mental overload, staying focused, and adjusting priorities dynamically. To solve this, smarter features with better UI design and data-driven solutions are needed to boost productivity.

1.2. Introduction to Quicky Note

Quicky Note is a React-based task management application designed to address these gaps. It offers:

- Focus Mode: A distraction-free interface by hiding non-essential UI elements.
- Sentiment-Based Priority Analysis: A feature powered by NLP to dynamically prioritize tasks based on their emotional tone and urgency.

1.3. Problem Statement

Many task management tools lack mechanisms for intelligent prioritization and focus management, leading to inefficiencies. This study addresses these gaps through innovative UI/UX designs and advanced text analysis.

1.4. Objectives

A. To develop a **Focus Mode** feature for reducing distractions.

B. To create a **Sentiment-Based Priority Analysis** system for dynamic task prioritization.

C. To evaluate the impact of these features on usability and productivity.

1.5. Scope of the Research

This research focuses exclusively on the frontend development of Quicky Note, detailing the conceptualization, design, implementation, and testing of the proposed features.

2. Literature Review

2.1. Existing Task Management Solutions

Research on intelligent task management systems has highlighted the need for adaptive and AI-powered productivity tools. According to Microsoft Support [1], modern focus modes help users manage distractions effectively. Similarly, TrueProject Insight [2] discusses the application of sentiment analysis for project management, emphasizing its role in dynamic task prioritization.

2.2. NLP Techniques in Frontend Applications

Sentiment analysis has been widely applied in AI-powered task management applications. Numerous.ai [4] provides a comprehensive review of 20 sentiment analysis applications used in business growth, showcasing how NLP techniques can enhance productivity applications like Quicky Note. Qualtrics [6] further explores how sentiment analysis tools can be leveraged to understand and categorize textual data in real-time.

2.3. UX Strategies for Improving Focus

The effectiveness of focus mode implementations has been discussed in various productivity research papers. Sunsama [5] and Any.do [11] emphasize the importance of clean UI/UX in maintaining deep focus and reducing distractions. Studies by Zapier [9] and Focus To-Do [7] explore how structured workflows and minimal interfaces enhance task efficiency.

3. Methodology

3.1. Project Overview

- Frontend Framework: React for the user interface.
- Styling: Tailwind CSS for responsive design.
- NLP Library: sentiment for analyzing note content.

3.2. Flow Diagrams

- Focus Mode Workflow: User journey for enabling/disabling focus mode.
- Sentiment Analysis Workflow: Steps from note input to priority assignment.

3.3. UX Strategies for Improving Focus

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3.3.1. Focus Mode Component

- Use of React hooks (useEffect, useRef) for managing states and interactions.
- Responsive UI design for seamless functionality across devices.

3.3.2. Sentiment-Based Priority Analysis

- Implementation of the sentiment library for score calculations.
- UI integration to display priority tags dynamically.

4. Implementation

4.1. Focus Mode Component

```
import React, { useState, useEffect, useRef } from 'react';
```

```
const FocusMode = ({ children }) => {
  const [isFocusMode, setIsFocusMode] = useState(false);
  const contentRef = useRef(null);
  const containerRef = useRef(null);

  useEffect(() => {
    const handleClickOutside = (event) => {
      if (isFocusMode && containerRef.current && !containerRef.current.contains(event.target)) {
        setIsFocusMode(false);
        document.body.style.overflow = 'auto';
      }
    };

    if (isFocusMode) {
      document.addEventListener('mousedown', handleClickOutside);
      document.body.style.overflow = 'hidden';
    }

    return () => {
      document.removeEventListener('mousedown', handleClickOutside);
    };
  }, [isFocusMode]);

  return (
    <div ref={containerRef}>
      <button onClick={() => setIsFocusMode(!isFocusMode)}>Toggle Focus Mode</button>
      {isFocusMode && <div>{children}</div>}
    </div>
  );
};

export default FocusMode;
```

4.2. Sentiment-Based Priority Analysis

```
import Sentiment from 'sentiment';
const sentiment = new Sentiment();
export const analyzePriority = (content, tags = []) => {
  const contentScore = sentiment.analyze(content).score;
  const tagScore = tags.includes('urgent') ? -2 : 0;
  return contentScore + tagScore;
```

};

4.3. Flow Diagram

4.3.1. Focus Mode Workflow

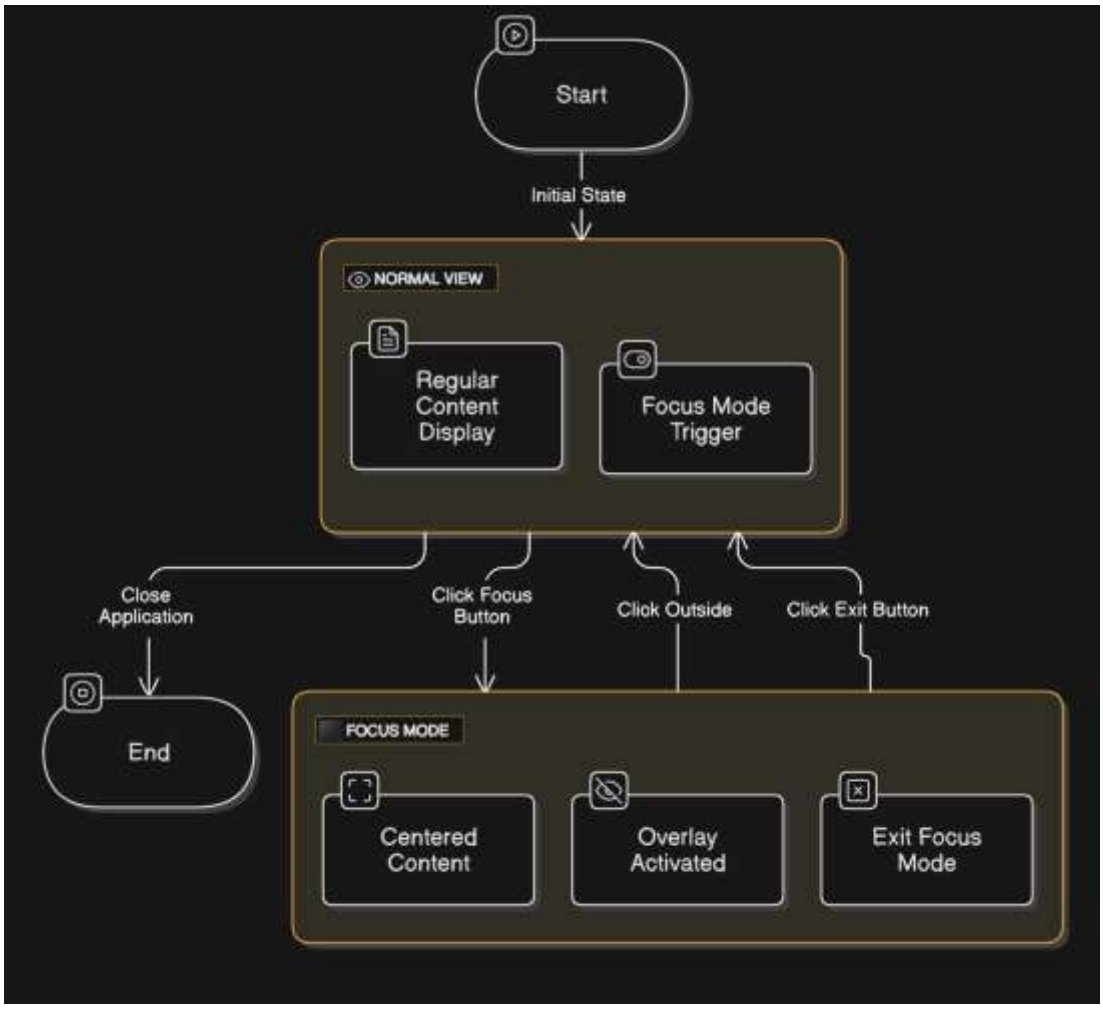

Fig. 1 - ***Focus Mode Workflow Architecture***

4.3.2. Sentiment Analysis Workflow

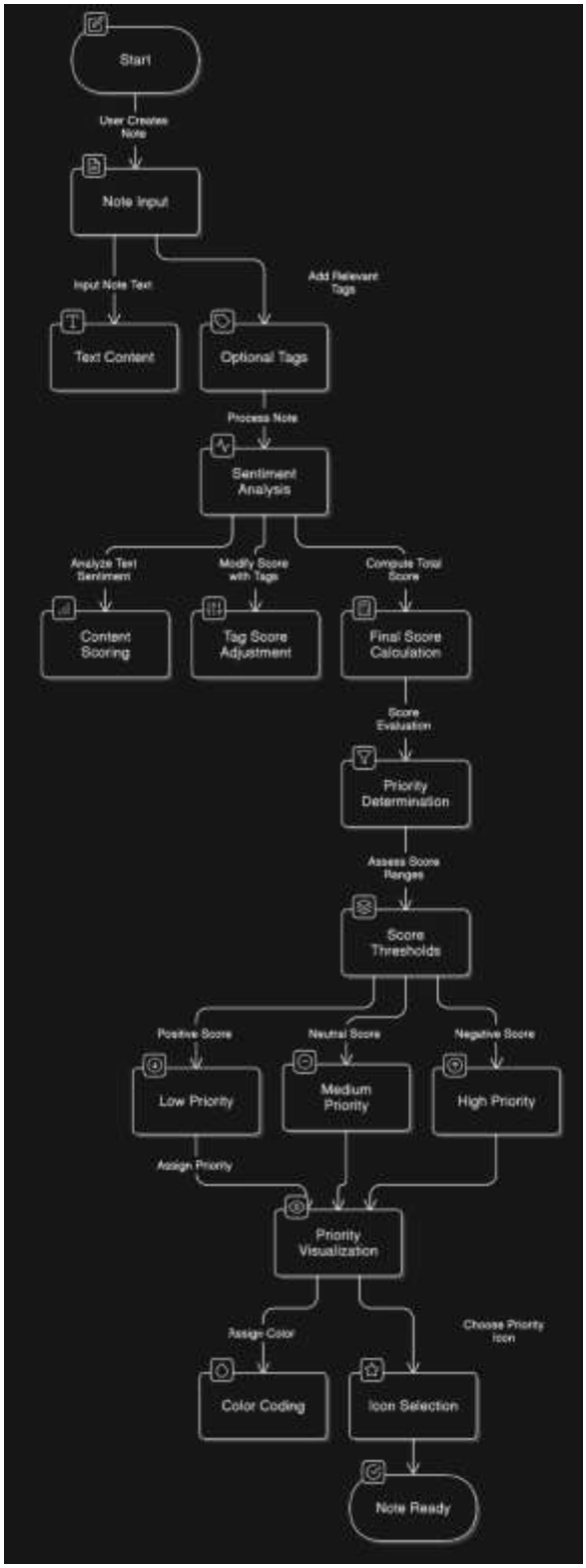

Fig. 2 - ***Sentiment Analysis Workflow Architecture***

5. Testing & Results

5.1. Sentiment-Based Note Prioritization

- Objective: Verify if notes are assigned sentiment-based priority correctly..

- Steps:
    1. Add a note with positive, neutral, and negative sentiments.
    2. The system assigns priority based on sentiment scores.
    3. Verify UI reflects correct priority categories.
- Expected Outcome: Notes should be categorized into High, Medium, or Low priority based on sentiment analysis.

Fig. 3–Sentiment-Based Note Prioritization Test-Case Results

5.2. User Interface (UI) Evaluation

5.2.1. Dashboard View

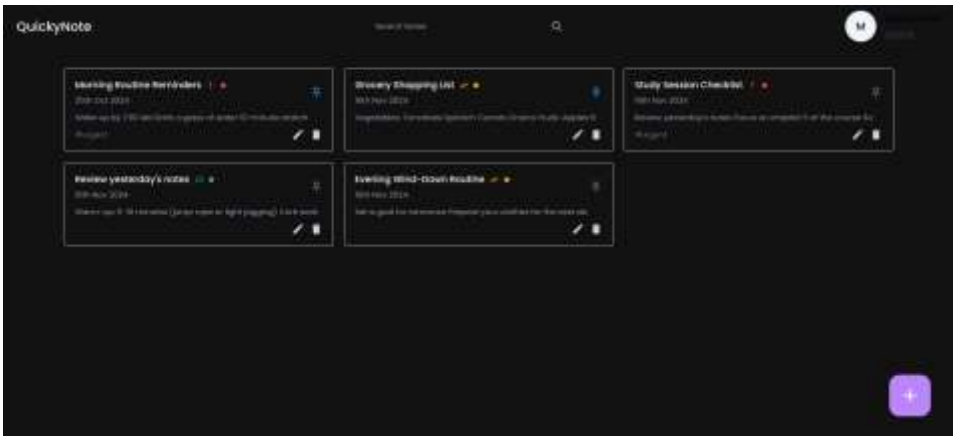

Fig. 4–*Dashboard View UI*

5.2.2. Focus Mode UI

Fig. 5–*Focus Mode UI*

5.2.3. Sentiment Analysis Labels

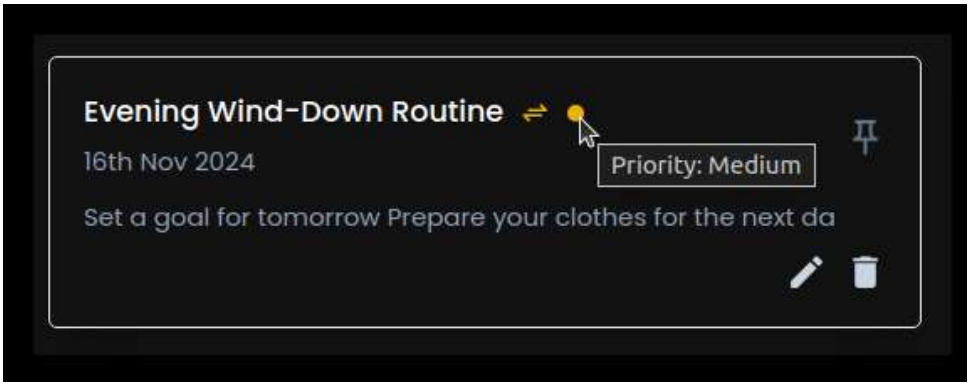

Fig. 6–*Sentiment Analysis Labes UI*

5.2.4. Add/Edit Notes (Zoomed-In & Zoomed-Out Views)

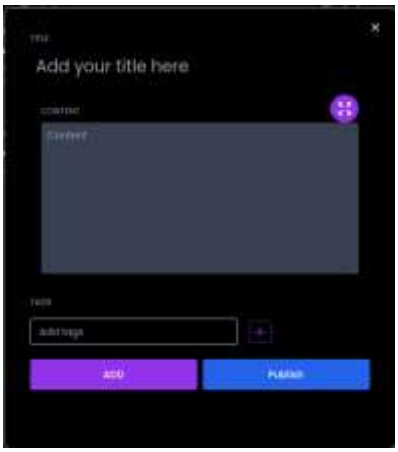

Fig. 7–(a) *Add/Edit Notes (Zoomed-In)*

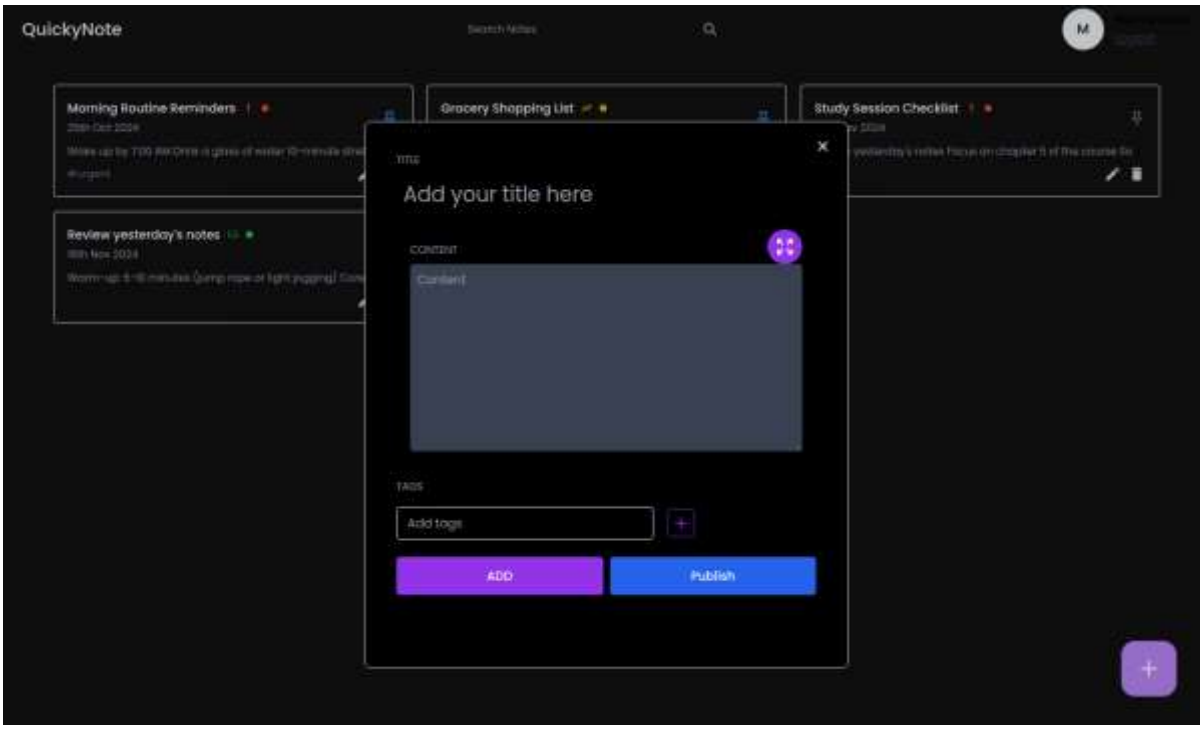

Fig. 7–(b) *Add/Edit Notes (Zoomed-In)*

6. Conclusion

The Focus Mode and Sentiment-Based Priority Analysis in Quicky Note act as an MVP, demonstrating the idea rather than a complete solution. Focus Mode creates a clean, distraction-free writing space, while Sentiment-Based Priority Analysis categorizes notes based on emotion. Testing shows these features help with note organization and productivity. However, as an MVP, it has limits, like basic sentiment scoring and UI optimizations that need improvement. Future updates could refine sentiment analysis, enhance UI responsiveness, and add more customization. This study shows how thoughtful frontend improvements can improve task management and note-taking.

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