**ADHD Companion: A Web-Based Platform for Enhancing Focus and Task Management among Individuals with ADHD**

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**Abstract.** Young people with Attention Deficit Hyperactivity Disorder (ADHD) face chronic difficulties maintaining focus, an overwhelming need to move, and impulsive behavior that significantly impacts daily life. ADHD is a widely prevalent neurodevelopmental disorder that impacts an individual's holistic wellbeing. The ADHD Companion is a web-based tool built to support people with ADHD in managing daily responsibilities, staying focused, and staying organized—without overwhelming them. It combines four key features into one simple platform: a self-assessment tool modeled after the ASRS v1.1 to help users recognize patterns in their behavior, a planner that breaks tasks and study goals into manageable steps, a Pomodoro timer for keeping productivity steady through structured work and rest, and a chatbot that offers advice, encouragement, and emotional support. The platform was created using common web tools like HTML, CSS, JavaScript, PHP, and MySQL, all chosen to keep things running smoothly and looking clean. Its design keeps cognitive overload in check, which is crucial for those who get distracted easily. The chatbot, linked through a third-party API, is meant to feel more like a conversation than a program. Real input from people with ADHD helped shape how it works, so it fits the needs of those it's trying to help. While it's not a substitute for therapy or medication, it’s meant to be a useful sidekick—keeping users on track without adding stress. In the future, the team behind it plans to study how well it works overtime to make sure it's genuinely improving focus, task follow-through, and emotional balance.

# INTRODUCTION

Attention-Deficit/Hyperactivity Disorder (ADHD) is a widely recognized neurodevelopmental condition [1] that makes it hard for people to maintain focus and attention over time [2]. These struggles can lead to setbacks in school, work, and other areas of life, especially when support tools fall short [3]. Although many treatment options are available, there’s still a major need for digital tools that bring multiple forms of help together in one place [4][5]. Most existing apps or platforms focus on just one issue at a time—like time management or focus—without addressing the full range of difficulties ADHD presents [6]. Even so, digital interventions are starting to show real promise [7]. Tools such as Pomodoro timers have helped users stay focused and on track [8], and features like structured planners and self-assessments have been linked to better task completion and personal accountability [9]. AI chatbots are also being used more and more to provide instant, motivational support throughout the day [10]. That’s where the ADHD Companion comes in. This platform pulls together four essential tools: an ADHD self-assessment, a task/study planner, a Pomodoro timer, and an AI support chatbot. Built with PHP and shaped by a user-centered design, the system aims to be simple, accessible, and helpful. The paper details the platform’s development and outlines plans for future usability testing using frameworks like the USER Questionnaire [11].

The rest of the paper discusses the design, development, and evaluation of ADHD Companion, a web-based platform under three main sections. It starts with a literature review highlighting the lack of an all-in-one ADHD support tool. Then it outlines how user-driven features were built using standard web technologies. Finally, it presents user testing results, privacy safeguards, and confirms the platform’s effectiveness.

# Literature review

## Attention-Deficit/Hyperactivity Disorder

The platform targets individuals aged 15 and above—predominantly students and young adults—who often grapple with difficulties in concentration, time management, and organizing personal responsibilities. This population tends to experience persistent procrastination and may perceive academic or professional tasks as disproportionately burdensome. Consequently, they are inclined to seek digital tools that provide a structured yet flexible framework to support daily planning and enhance productivity. Due to their fluency with mobile and web-based interfaces, they respond well to intuitive, accessible technologies that offer meaningful support without rigid constraints, thereby enabling them to regain a sense of control over their responsibilities [11][12].

## Digital Task and Study Planners for ADHD

Managing tasks and time is often one of the biggest struggles for people with ADHD. Studies show that when planners are built to match how ADHD brains work—simple, structured, and easy to follow—they can really help reduce stress and improve day-to-day functioning [6]. Digital planners that break things down into daily or weekly views make it easier for users to actually see what’s ahead, which can lead to better planning and follow-through [7][12]. The ADHD Companion platform includes a built-in study planner that lets users keep track of tasks in one place. It’s designed with a clean, straightforward layout that helps avoid mental overload. Research also points out that features like reminders and real-time feedback are key for making sure people stick with planning tools long enough to benefit from them [8].

## Pomodoro Technique and Focus Enhancement

The Pomodoro Technique is a popular way to help people focus and manage their time better [9]. It splits work into short, focused blocks—typically 25 minutes—followed by brief breaks to recharge. For those with ADHD, this routine adds structure without becoming too much to handle. Digital Pomodoro timers have been especially useful in cutting down on procrastination and helping keep focus where it’s needed [10]. The ADHD Companion has its own Pomodoro timer that doesn’t just track time—it also records each session and shows visual progress so users can see how far they’ve come. Research shows that when you mix time-based habits with visual tracking, it can improve motivation and build self-awareness, which are both essential for managing ADHD well [11].

## AI-Powered Chatbots in Mental Health Support

Advancements in AI have turned chatbots [13] into a useful tool for mental health support, especially for folks managing ADHD [14][15][16]. Research suggests these tools can ease anxiety and offer practical help with daily struggles. The ADHD Companion platform features its own chatbot, built using services like Tidio and Gemini, allowing users to chat in real time. It’s meant to give soft encouragement, planning help, and emotional support right when it's needed. Studies have shown that systems like this can increase user involvement and work well alongside traditional therapy [17]. One big plus? They’re available 24/7—no waiting rooms or appointments. Another benefit is how the system logs conversations, giving developers insight into what users want, which helps shape the tool into something even more tailored over time [18][19].

## ****Comparison with Existing Platforms****

A multitude of digital technologies seek to enhance productivity and concentration, but many of them serve these functions in a fragmented manner. Habitica [20] employs gamification to foster behavior change but does not support academic planning or emotional regulation, and Notion [21] offers flexible task management, which may overwhelm individuals with ADHD. By contrast, the ADHD Companion integrates a self-assessment diagnostic checklist, a task planner, a Pomodoro timer, and an AI chatbot. This holistic approach streamlines focus and reduces cognitive load through intuitive design needed by users with ADHD.

# Design process

The platform is primarily intended for students and young adults aged 15 and above who experience difficulties with concentration and productivity, particularly those associated with ADHD. It aims to support individuals struggling with time management, task completion, and organizational skills by offering resources that promote effective academic and professional functioning.

## User persona

A user persona, as shown in Table 1, based on traits often seen in students and young adults with ADHD, was developed to guide the ADHD Companion’s design. It helped shape both the layout and the features to better match what real users need.

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| --- | --- |
| **TABLE 1**. User persona. | |
| **Category** | **Details** |
| Profile |  Age range: 15+ years old (e.g., university students, young adults)   Struggles with maintaining focus, time management, and organization.   May experience procrastination or easily get overwhelmed.   Seeks structured yet flexible tools to manage academic/work responsibilities.   Comfortable with smartphone and web application use. |
| Tasks |  Manages academic coursework or work-related tasks.   Needs to break down large projects into smaller steps.   Requires tools for planning, studying, and meeting deadlines. |
| Behaviour |  Can be easily distracted.   Benefits from structured work-rest cycles.   Responds well to positive reinforcement and clear visual cues. |
| xSocial |  May seek self-improvement tools.   Appreciates supportive and non-judgmental digital interactions. |
| Expertise in App Use |  Proficient in using digital devices and applications.   Expects intuitive and user-friendly interfaces. |
| Obstacles |  Difficulty with sustained attention.   Struggles with task initiation and completion.   Risk of cognitive overload from cluttered interfaces. |

## User Requirements

The goals and habits outlined in the user persona, as shown in Table 2, played a direct role in shaping how core features—like the planner, self-test, and chatbot—were built and woven into the ADHD Companion platform.

# Design and Implementation

Figure 1 shows the system architecture diagram of the ADHD Companion web application. The ADHD Companion was built using a modular design to support users in managing executive function challenges. It brings together four core tools—a self-assessment, a planner, a Pomodoro timer, and an AI chatbot—each created with a focus on clarity, ease of use, and emotional support . The system’s structure connects these modules through a well-organized frontend, backend, and database setup, making everything work smoothly behind the scenes. The ADHD Companion runs on familiar web tools like HTML, CSS, JavaScript, PHP, and MySQL to allow real-time updates. Its design keeps ADHD users in mind, using calm colors, clean layouts, and as little clutter as possible to make getting around easier and cut down on mental stress.

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| **TABLE 2.** User requirements | | |
| **Goals** | **Needs** | **Platform Requirement** |
| Plan tasks clearly and visually | A daily/weekly/monthly interface for planning | Task & Study Planner with editable daily, weekly, and monthly schedules |
| Improve focus and task tracking | Simple motivational tools and reminders | Integration of a Pomodoro Timer for focused work sessions |
| Self-assess ADHD symptoms | Quick, easy-to-understand questions with results | Interactive ADHD Self-Assessment Test with instant result and visual summary |
| Emotional support during stressful moments | Positive, encouraging interaction | AI-Powered Chatbot using Tidio or Gemini to provide real-time, supportive responses |
| Organize tasks efficiently | Highlight important tasks and notes | Highlight boxes for "Most Important Task" and "Notes" in planner sections |

A diagram of a system

AI-generated content may be incorrect.

**FIGURE 1.** ADHD companion system architecture diagram

## ADHD Self-Assessment Module

This module uses the ASRS v1.1 [22] to help users assess ADHD symptoms through a two-part quiz as shown in Figure 2(a), Figure 2(b), and Figure 2(c). After answering, they get an instant score, shown in Figure 3, with a clear visual and brief feedback for next steps.

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| (a) | (b) | (c) |

**FIGURE 2.** ADHD self-assessment – (a) Q example 1, (b) Q example 2 and (c) Result page

## Task & Study Planner Module:

The planner module includes Daily, Weekly, and Monthly views to keep everything organized without feeling overwhelmed. The Daily view, as shown in Figure 3(a), Figure 3(b), and Figure 3(c), lets users plan hour by hour, mark their top priority, take quick notes, and add or change tasks on the fly—perfect for unpredictable days or late-night study marathon.

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| (a) | (b) | (c) |

**FIGURE 3**. Daily view (a) Header and highlights section, (b) Add new task section and (c) Hourly schedule

The Weekly view, as shown in Figure 4(a), helps users focus on one main goal for the week, with space to write notes and tasks across seven boxes—one for each day. They can add tasks and times right into the layout, creating a clear structure that’s simple to follow but not too strict, which works well for ADHD users handling short-term plans.

The Monthly view, as shown in Figure 4(b), gives users a clear overview of their schedule. It opens with space to set one main goal and jot down reflections, followed by a tidy four-week grid. Each week has its own box for adding tasks with specific dates and times, making it easier to break big goals into smaller steps without getting lost in the mess.

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| (a) | (b) |

**FIGURE 4.** (a) Weekly view daily breakdown and (b) Monthly view – weekly breakdown (week 1 to week 4)

## Pomodoro Timer Module:

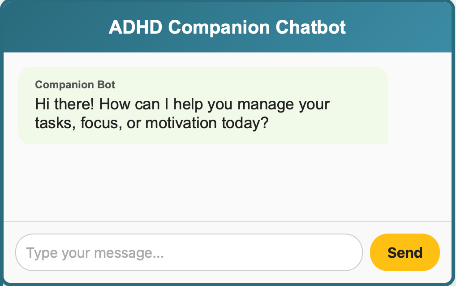
The Pomodoro Timer, as shown in Figure 5, sticks to the 25/5 method—25 minutes of focused work, then a 5-minute break—to help users stay on task. For people with ADHD, this kind of structure turns the day into smaller, more manageable pieces, making it easier to concentrate and avoid burnout. It’s designed to be simple, with quick pause and restart buttons, so users get flexibility without dealing with anything too complicated.

A screenshot of a computer

AI-generated content may be incorrect.**FIGURE 5.** Pomodoro timer interface

## AI-Powered Chatbot Module

The AI chatbot, as shown in Figure 6, works like a steady virtual companion, helping users stay motivated, focused, and emotionally balanced. It runs through third-party APIs and chats with users in real time, sharing tips, reminders, and words of encouragement. It also guides them through the platform and supports habit-building with calm, friendly feedback that doesn’t feel pushy.

**FIGURE 6.** Companion Chatbot Interface

## Privacy and Data Protection

The ADHD Companion maintains a strong commitment to user privacy and data protection. All information inputted into the platform—ranging from self-assessment results and planner logs to chatbot exchanges—is securely stored within a dedicated and protected database. Prior to any data collection, explicit consent is requested from users, ensuring transparency and informed participation. Moreover, the platform upholds a strict policy against sharing user data with external entities, thereby safeguarding the confidentiality and integrity of personal information. Although the AI chatbot is integrated through a third-party API, it functions under rigorous privacy protocols designed to protect user interactions and prevent any form of data misuse.

# User Testing

The ADHD Companion platform was tested with 55 participants, predominantly aged 15-24 years old. User feedback highlighted strong overall usability, with 49.1% finding the platform "Very Easy" and 36.4% "Easy" to navigate. The visual design was also highly rated for its clarity and uncluttered layout by 69.1% of users. Key features proved effective: the task and study planner significantly aided task organization for 63.6% of users, the Pomodoro Timer helped 58.2% "significantly" stay focused, and the ADHD Self-Assessment was "Very helpful" for 60% in understanding behavioral patterns. Furthermore, the AI-powered chatbot was deemed responsive and easy to interact with by 83.6%, consistently providing useful advice (69.1%) and emotional support (67.3%). These results collectively affirm the ADHD Companion's effectiveness and relevance in supporting focus and task management.

# Conclusion

Building the ADHD Companion made it clear that people with ADHD do best with tools that are easy to use, visual, and hands-on. The platform brings together a Pomodoro Timer to boost focus, an 18-question self-check based on the ASRS v1.1, and an AI chatbot that offers support and encouragement. The test gives users instant visual results so they can better understand their symptoms right away. Everything runs through one shared database, keeping it all connected. Early feedback shows people are really happy with how simple it is to use. Altogether, it offers a helpful space for managing time, staying focused, and keeping emotions steady.

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