Human-Computer Interaction: Design & Evaluation - WLB App – AE3

Fri- Group 3 – 10am

Jiaxin Cheng – 2973117C

Mingze Gao – 2969378G

Gloris Denisse Cedeno – 3006048C

Wencheng Shi – 2976762S

Yang Song – 2981903S

Yaohui Han – 2961240H

School of Computing Science

Sir Alwyn Williams Building

University of Glasgow

G12 8RZ

Contents

Figure Table of Contents

Introduction

University students face unique challenges in maintaining a healthy Work-Life Balance (WLB) due to their increasing independence, diverse academic responsibilities, part-time jobs, and social engagements. The goal of this project is to design a digital technology solution that assists students in managing their academic, work, and personal lives more effectively. By adopting a user-centered design approach, this project aims to create a solution that is directly informed by the needs, experiences, and preferences of university students.

To better understand these challenges, it is important to explore the key factors affecting students' WLB.

Background on Work-Life Balance for University Students

Work-life balance is a crucial factor influencing students' well-being, productivity, and overall life satisfaction. Poor WLB can lead to increased stress, burnout, and reduced academic performance [1] [2].

Students often face significant challenges in balancing employment with their academic responsibilities, which can detrimentally affect their educational experience. This struggle is particularly evident in higher education institutions, where students with part-time jobs frequently find it difficult to juggle their studies, work, and personal commitments [3]. This imbalance can lead to heightened stress and diminished academic performance. As one of the students interviewed for this project shared, "*When I was studying, I didn't have a good balance at all. It felt like everything was focused on surviving university life rather than enjoying it*."

The transition to university life often brings challenges in structuring time efficiently, as students must balance coursework, employment, socialization, and self-care. Given these complexities, a well-designed digital tool could provide essential support in helping students establish healthier routines and manage their time efficiently.

Methods Overview

To gain deeper insights into these challenges, this study employed a qualitative research

approach, focusing on interviews with students to capture their lived experiences, this will be discussed further in the next section.

Report Structure

This report details the research and design process of this project. First, the User Study & Results section presents the findings, highlighting major themes from interviews and surveys. Next, the Problem Statement defines the primary WLB issue aimed to address, outlining its causes and consequences. Followed by the Ideation Process describes brainstorming, critique, and the selection of design ideas. The Sketching & Prototyping section discusses initial sketches and prototypes. The Final Design Choice section details the final chosen design. Lastly, the Conclusion summarizes key findings and future recommendations.

User Study

Research Planning and Methods

Methodology

This study explores university students' time management challenges through semi-structured interviews, aligning with a qualitative research method to understand deeper insights into users' current problems.

The interviews aimed to uncover key difficulties, strategies, and potential improvements in students' time management practices.

Data Collection Process

- **Participants:** University students from various majors and academic years.
- **Method:** Semi-structured interviews conducted in person and online.
- **Duration:** 20–30 minutes per participant.
- **Ethical Considerations:** Informed consent was obtained; responses were anonymized for confidentiality.

Interview Questions

The following questions were used to guide the interviews:

Personal Background & Commitments

- What is your major and year of study?
- Do you have any additional commitments outside of academics (e.g., part-time jobs, clubs, volunteering)?

Time Management Tools & Scheduling Habits

- Do you use any specific tools or apps to manage your time?
- How do you typically plan your daily or weekly schedule?
- Do you follow a structured routine, or do you adjust your schedule as needed?

Task Prioritization & Overlooked Activities

- How do you prioritize your tasks?
- Are there activities you frequently overlook due to time constraints?

Study, Work, and Social Life Balance

- How would you describe your ability to balance studying, work, and social life?
- What are the biggest challenges in maintaining this balance?

Sources of Stress & Coping Mechanisms

- What aspects of time management cause you the most stress?
- How do you usually cope with time-related stress?
- Desired Features in a Time Management Tool
- If you could design an ideal time management tool, what features would it include?

These questions served as a guide; however, the interviewers may adjust them based on the flow of conversation, while still ensuring they align with the objectives.

Analysis

Following the data collection, we analyzed the responses to uncover recurring themes and challenges faced by students.

The data collected from the semi-structured interviews underwent a three-stage coding process: open coding, axial coding, and selective coding. This systematic approach facilitated the identification of key patterns and themes, which were further refined to establish theoretical insights.

Open Coding: Identification of Initial Labels

During open coding, interview transcripts were analyzed systematically, breaking responses into discrete labels based on recurring words, phrases, and concepts (see Appendix Open Coding). The following key labels emerged:

Time Management Strategies	**Common Challenges**	**Task Prioritization Methods**
• Multi-Method Time Management • Adaptive Time Management • Weekly Planning • Reminder-Based Planning • Flexible Planning with Digital Tools • Flexible Routine with Thesis Priority • Time Tracking Visualization • Attempted Time Management Strategies • Task Prioritization and Reminder • Practical Task Planning • Study First Approach	• Procrastination Buffer • Overcommitment • Lack of motivation • Inconsistent Tool Usage • Inconsistent Time Management Efforts • Task Accumulation Stress with Prioritization Solution • Poor Coping with Stress • Delayed Communication • Stress-Driven Study • Perfectionism • Thesis Procrastination Due to Fatigue • No Active Time Management Strategies	• Study First Prioritization • Study-Centric Prioritization • Thesis-First Prioritization • Work-First Prioritization • Work and Thesis Priority • Task Reminder System
External Influences	**Coping Mechanisms**	**Perceived Effectiveness of Tools**
• High External Commitments • Volunteer Commitments • Part-Time Teaching Commitment • Research Participation • Full-Time Employment • Work-Driven Planning with	• Digital Planning Tools • Study-Focused Planning • Smart Task Reminders • Task Reminder System • Study Groups • To-Do Lists	• Helpful but incomplete • Inconsistent usage • Lack of adaptability • Basic Reminder Feature • Comprehensive Productivity and Wellbeing Tool

Limited Personal Time • Chronic Stress from Work and Study • Poor Work-Life Balance Due to Academic Demands	• Smart Event Integration • Reminder-Based Planning • Calendar and To-Do List Planning	• Digital Note-Taking Tools • Traditional Planning Tools • Mixed Planning Tools
Sources of Stress		
• Exam-Related Stress • Work-Study Imbalance • Academic Deadlines • Stress Due to Lack of Planning • Exam-Related Stress Management • Stress-Driven Study • Lack of Balance During Studies • Overlooked Personal Interests • Overlooked Self-Care • Overlooked Rest • Thesis-Centric Planning		

Figure 1. Open Coding Labels

These labels captured explicit and implicit challenges associated with time management, providing an initial framework for further refinement.

Axial Coding: Establishing Relationships

In the axial coding stage, relationships between open coding labels were examined, leading to the formation of broader categories that highlighted cause-effect patterns. The following key categories emerged:

1. **The Structure-Flexibility Dilemma**
    - Time management strategies varied between structured schedules and flexible adjustments, with both approaches yielding mixed results.
    - Those adhering to rigid planning reported difficulties when unexpected events disrupted schedules.
    - Conversely, those relying on adaptive approaches exhibited inconsistencies, often leading to procrastination.
2. **Influence of External Commitments**
    - Part-time employment, extracurricular activities, and social obligations

significantly influenced time management effectiveness.

- Participants with higher external commitments reported increased stress and difficulty maintaining a balanced schedule.

3. **Ineffectiveness of Existing Tools**
    - Most participants utilized multiple time management tools (planners, applications, notes), yet these were often perceived as fragmented and insufficient.
    - Traditional paper planners were preferred by some, whereas others favored digital applications; however, neither method fully addressed time management challenges.
    - A common concern was the lack of integration, with participants expressing the need for an all-in-one tool capable of dynamically adjusting based on workload.
4. **Task Prioritization and Stress Patterns**
    - Participants who prioritized tasks based on urgency frequently encountered last-minute pressure, contributing to stress and reduced productivity.
    - Those employing habitual scheduling routines reported lower stress levels, if schedules were maintained consistently.
    - A notable observation was the impact of task spillover, wherein incomplete tasks from one day disrupted subsequent planning, creating a cumulative stress effect.

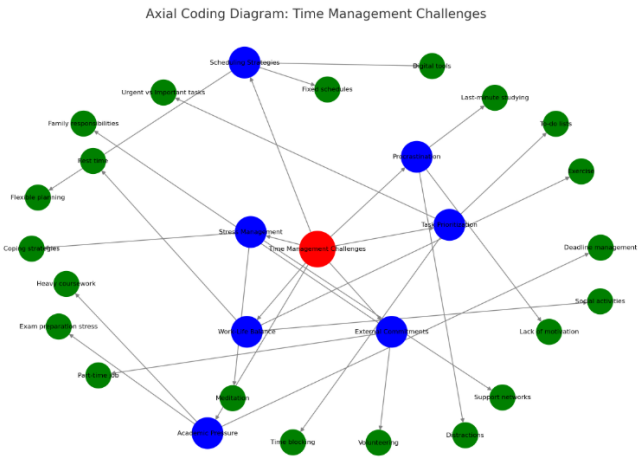


Figure 2. Axial Coding Diagram: Time Management Challenges

Selective Coding: Core Theoretical Explanation

The final selective coding phase synthesized these categories into a central theoretical insight: *Time management difficulties primarily stem from a misalignment between preferred scheduling strategies and the unpredictability of external commitments.*

This misalignment results in a continuous cycle of adjustment, stress, and inefficiency, wherein individuals struggle to reconcile structured planning with the need for flexibility.

Findings suggest that an effective time management tool must balance structure and adaptability, offering:

- Predictive scheduling features (e.g., workload-based recommendations).
- Adaptive rescheduling mechanisms (to accommodate unexpected changes).
- Integrated tracking systems (to mitigate task spillover and incomplete workloads

Findings and Problem Statement

Effective time management remains a significant challenge for students, who often struggle to balance academic priorities with personal well-being, work commitments, and social interactions. Existing time management tools are either too complex, lack customization for students' needs, or fail to address key aspects of life such as social engagement, rest, and health. These limitations contribute to stress, anxiety, and an overall diminished quality of life for students, highlighting the need for more integrated and adaptable solutions that can support academic success while promoting a balanced lifestyle.

Key User Pain Points

In interviews, students highlighted several recurring challenges that reflect the gaps in current time management practices (the reference of the students who highlighted these facts can be found in Appendix Open Coding):

- Time Management Issues: Students struggle with inconsistent use of tools like Google Calendar and To-Do lists, lacking automation or intelligence for

long-term success (Student 2, 5, 6).

- Neglect of Other Activities: Academics often overshadow socializing (Student 10), exercise (Student 11), and healthy eating (Student 6), reducing life satisfaction.
- Study-Social Life Conflict: Academic commitments frequently isolate students from their social life, leading to fragmented social interactions (Student 3, 10).
- Work, Study, and Health Imbalance: Part-time jobs and research tasks limit time for self-care, causing physical and mental fatigue (Student 6, 8, 11).
- High Exam Pressure: Exam periods amplify stress, especially for perfectionist students, leading to burnout and feelings of inadequacy (Student 3, 9, 10).

Shortcomings of Existing Solutions

Existing time management tools like Google Calendar and Notion fall short for university students due to several key limitations identified in interviews (see Open Coding and student numbers):

- Too Complex: Tools are feature-rich but require manual task input and schedule adjustments, lacking automation and intelligence (Student 2).
- Lack of Customization: Current tools don’t adapt to academic schedules, exam periods, or semester rhythms, and lack priority management tailored to students' needs (Student 1, 6).
- Neglect of Social and Health Factors: Most tools focus only on tasks, ignoring social, rest, and health aspects (Student 3, 10, 11).
- Lack of Incentives: The absence of gamified rewards leads to disengagement (Student 8).

Ideation Process

Idea Generation

In response to the identified problems, our team conducted multiple brainstorming sessions, generating diverse creative ideas focused on intelligent time management, social optimization, health monitoring, psychological stress relief, and incentive mechanisms.

Examples of generated ideas include but are not limited to:

- Smart scheduling apps with personalized reminders
- Social-network-based interactive break reminders
- AR-based task management and health monitoring tools
- Specialized modes tailored for exam periods, facilitating efficient time management under high stress.
- Social and health management platforms with gamification elements to encourage continued user engagement.

Creative Evaluation and Screening

The team members discussed and evaluated all the ideas in depth, and voted based on the novelty, feasibility, and relevance of the ideas to user pain points. After discussion and voting within the team, the following three most promising creative solutions were selected from the many ideas to enter the next stage of sketch and prototype development:

1. **AI-Powered Intelligent Scheduler**
    - This platform is a time management tool designed specifically for college students. It aims to help students rationalize their studies and lives so that they can complete their academic tasks well while living a healthy life.
    - The platform will automatically synchronize the courses from Moodle, as well as the start and deadlines of assignments and quizzes.
    - The platform could estimate task durations based on historical data from similar

assignments or student feedback, thus minimizing extra workload for teachers.

- The platform will use AI to calculate a reasonable task arrangement plan based on the number of tasks and deadlines for students to refer to, it will reduce the burden on students to manage academic tasks.
- Users can upload their task completion progress in real-time, and the platform will flexibly adjust task arrangements based on the deadlines of the tasks that the user has completed and the remaining tasks.

2. **Social & Wellness Encouragement App**
    - The app is designed for those who want to achieve WLB but lack supervision and help. The app will help students regain focus on their health and social lives, making productive use of their free time.
    - The app helps users identify and reduce unnecessary screen time by recommending alternative social or wellness activities.
    - Users can set their own life goals in the app according to their interests and free time and join mutual aid groups with similar interests to supervise each other in completing their goals and tasks.
    - By completing the set life goals, you can get a variety of carefully designed badges. These badges can not only encourage users to complete health tasks but also serve as social business cards to help users find people with similar interests in the community.
    - The app will periodically summarize the learning/work and life habits of users in different areas and provide badges or other rewards to users who achieve WLB. The rewards will also change periodically to ensure that users are encouraged to maintain a healthy lifestyle.
3. **Visual Time Tracker & Stress Management Tool**
    - The tool is mainly designed for people who are prone to high-pressure study/work environments, to help them reduce stress and return to happy life.
    - Users can set their daily study/work time according to their own circumstances, and the tool will provide health advice based on the user's specific time.

- The tool can connect to physical devices such as fitness bracelets and smart watches to monitor the user's health in real-time. The tool should record and issue warnings when users exhibit unhealthy behaviors or states, such as sitting for long periods of time or high-stress levels.
- The tool provides a more diverse visual interface to display statistical information, which helps users understand whether their study/work intensity exceeds the normal range and provides reasonable suggestions for improvement.
- The tool has a high-pressure coping mode designed specifically for exam week to help users manage anxiety and task arrangements during exams.

Sketching and Prototyping

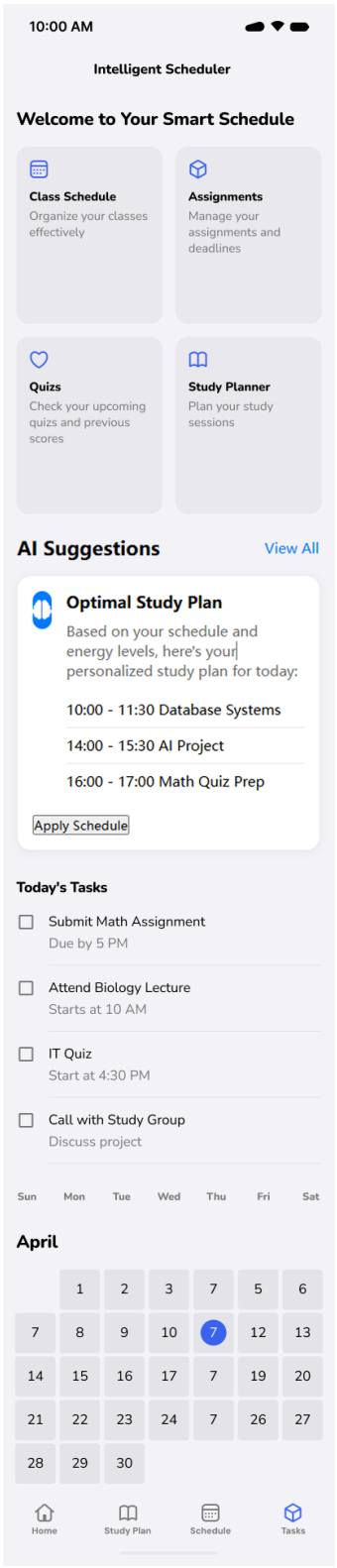
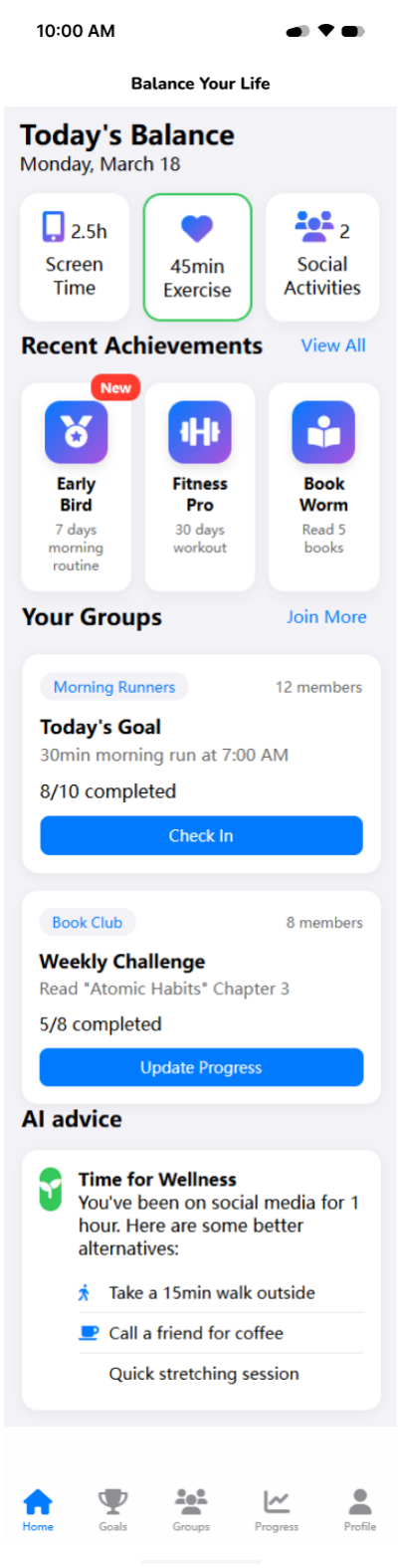
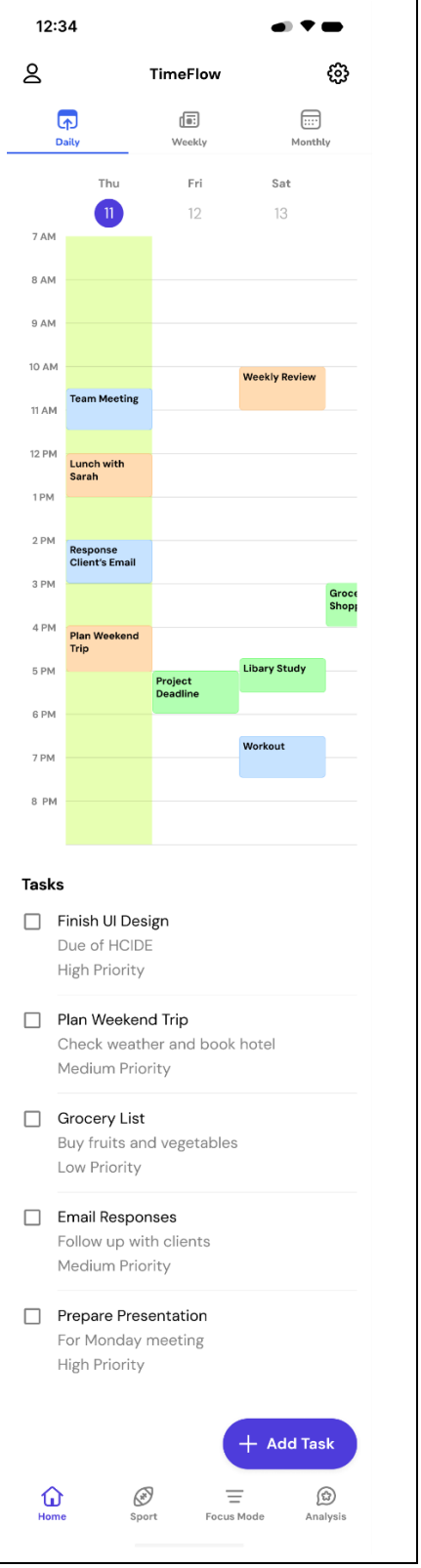
AI-Powered Intelligent Scheduler	Social & Wellness Encouragement App	Visual Time Tracker & Stress Management Tool
		

Figure 3. Basic Prototype for each one of the Ideas Proposed

User Feedback

After presenting the three potential tool concepts to the student participants, a voting process was conducted to determine the most preferred solution. The options were: an AI-powered intelligent scheduler, a social and wellness encouragement app, and a visual time tracker & stress management tool.

Tool Name	**Number of votes**
AI-Powered Intelligent Scheduler	3
Social & Wellness Encouragement App	2
Visual Time Tracker & Stress Management Tool	6

Figure 4. Prototypes Voting Results

The results showed a clear preference for the Visual Time Tracker & Stress Management Tool, which received the highest number of votes (6 out of 11).

Final Design Choice

The selected prototype, the Visual Time Tracker & Stress Management Tool, was designed with the goal of addressing the key challenges identified during the user study. The following section outlines the key features developed for this prototype, each aimed at enhancing time management and reducing stress levels among students.

TimeFlow Prototype and features

The tool features an intuitive and engaging interface that allows users to monitor and optimize their study, work, and personal activities. Key functionalities include:

- Personalized Daily Scheduling: Users can set their daily study or work hours, and the tool provides health advice based on their specific schedule.
- Integration with Wearable Devices: The tool connects with fitness trackers and smartwatches to monitor users' health in real-time, tracking metrics like stress levels and physical activity. Alerts are issued when unhealthy behaviors, such as prolonged sitting or excessive stress, are detected.

- Dynamic Visual Interface: A diverse, visual display allows users to track their progress and understand if their workload exceeds healthy limits. Recommendations are provided for adjusting the balance.
- High-Pressure Coping Mode: A special mode designed for exam periods helps users manage anxiety, prioritize tasks, and optimize their study time (see Figure 6).

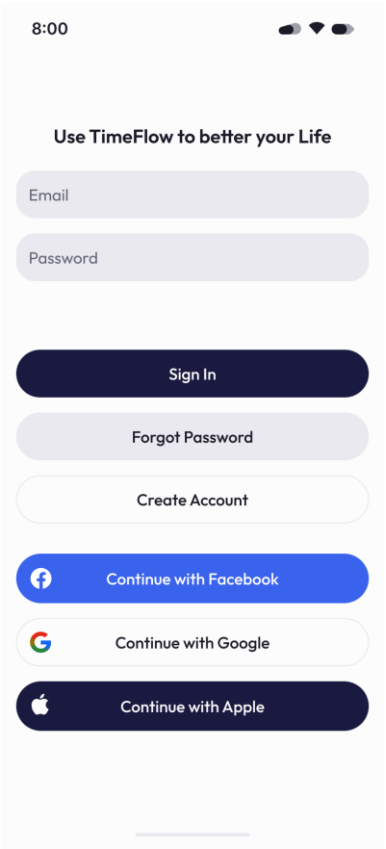


Figure 5. TimeFlow Login

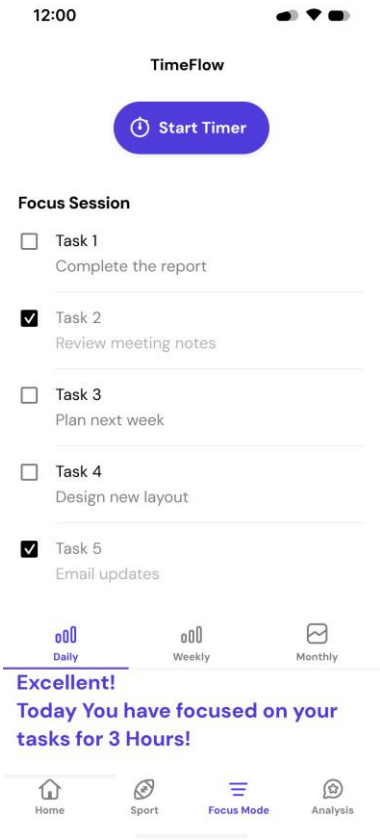


Figure 6. Focus Mode Page

The prototype includes pages and features as:

- Login and Account Setup: Users can create an account or log in through Facebook, Google, or Apple.
- Home Page: The calendar view displays tasks with priority labels, sorted accordingly. Users can switch between daily, weekly, or monthly views, and add new tasks. Navigation includes access to settings and configuration options.
- Sports Page: Provides key metrics such as movement time, calories burned,

steps, distance walked, workout history, and AI-powered workout recommendations.

- Focus Mode Page: A timer, task list, and daily task completion report with congratulatory messages help users stay focused and motivated.
- Analysis Page: Displays how time is allocated across study, work, exercise, and personal life, with AI-powered recommendations for time redistribution and optimization of schedules.

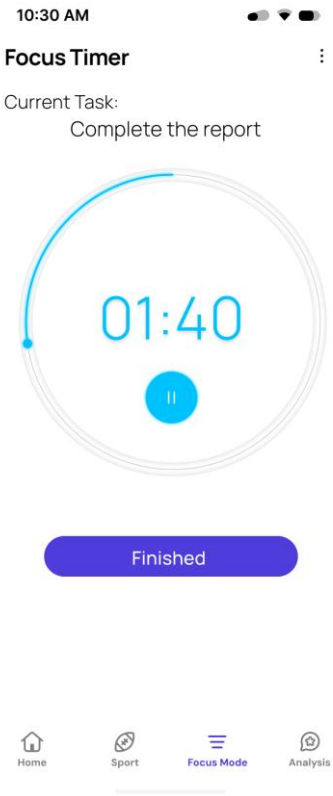


Figure 7. Focus Mode: Timer Section

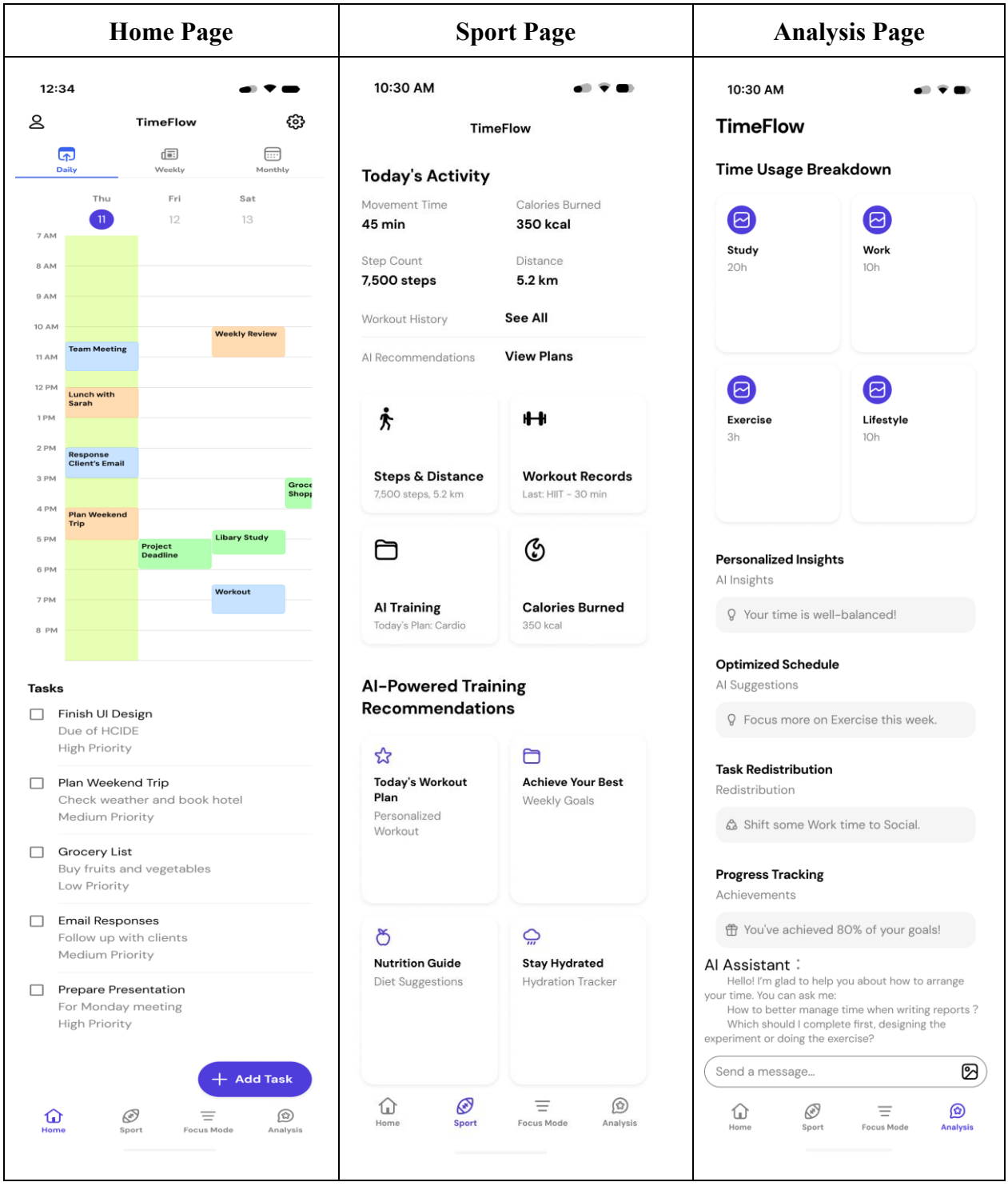


Figure 8. Home page, Sport Page and Analysis Page

Conclusion and Future Work

The Visual Time Tracker & Stress Management Tool offers a comprehensive solution for managing time, reducing stress, and promoting well-being among university students, as identified through our user study. Based on feedback from students who highlighted their challenges with balancing academic, work, and personal life, the prototype integrates personalized scheduling, health monitoring, and AI-driven recommendations.

Future work should focus on enhancing AI capabilities for more accurate suggestions, expanding social and wellness features, improving device compatibility, and gathering additional user feedback for continuous refinement. This tool aims to provide students with an adaptable and holistic approach to maintaining a balanced lifestyle.

References

[1] G. D. Kuh, J. Kinzie, J. A. Buckley, B. K. Bridges, and J. C. Hayek, “What Matters to Student Success: A Review of the Literature Commissioned Report for the National Symposium on Postsecondary Student Success: Spearheading a Dialog on Student Success,” 2006.

[2] F. Duran, J. Woodhams, and D. Bishopp, “An Interview Study of the Experiences of Police Officers in Regard to Psychological Contract and Wellbeing,” *J Police Crim Psychol*, vol. 34, no. 2, pp. 184–198, Jun. 2019, doi: 10.1007/S11896-018-9275-Z/TABLES/2.

[3] J. Lowe and V. Gayle, “Exploring the work/life/study balance: the experience of higher education students in a Scottish further education college,” *J Furth High Educ*, vol. 31, no. 3, pp. 225–238, 2007, doi: 10.1080/03098770701424942.

Appendix

Open Coding

- Student 1 (Master's, Human Resources Management)

  Q1: What year are you in, and are you an undergraduate, Master's, or PhD student?

  A1: I'm a Master's student.

  Q2: What is your field of study?

  A2: Human Resources Management.

  Q3: Are there any additional tasks such as part-time jobs, clubs, or volunteer activities?

  A3: No additional tasks. [Code: Minimal External Commitments]

  Q4: What tools do you use to manage your study and daily life?

  A4: I primarily rely on apps to organize my tasks and schedule. [Code: Digital Planning Tools]

  Q5: How do you plan your time daily?

  A5: Mainly focused on studying. [Code: Study-Focused Planning]

  Q6: If there are multiple tasks (study, work, socialize, etc.), how do you prioritize them?

  A6: Study is the top priority. [Code: Study-Centric Prioritization]

  Q7: Is there any kind of activity that is often overlooked? Why?

  A7: Personal interests. It is difficult to find time for them. [Code: Overlooked Personal Interests]

  Q8: How do you feel about the balance between studying, working, and socializing?

  A8: Some social activities can be done after studying. [Code: Study First, Then Socialize]

  Q9: Have you ever had serious time management issues or stress?

A9: Yes, especially during exam weeks. [Code: Exam-Related Stress]

Q10: Have you tried some ways to improve time management?

A10: Making lists, planning, talking to friends, and keeping a good mood. [Code: Multi-Method Time Management]

Q11: If you were to design a digital tool to help college students with WLB, what features would you like to have?

A11: A reminder function and automatic prioritization of urgent tasks. [Code: Smart Task Reminders]

- Student 2 (Master's, Information Technology)

  Q1: What year are you in, and are you an undergraduate, Master's, or PhD student?

  A1: I'm a first-year Master's student.

  Q2: What is your field of study?

  A2: Information Technology.

  Q3: Are there any additional tasks such as part-time jobs, clubs, or volunteer activities?

  A3: Yes, I have a part-time job and participate in the Boardgame Society and Latin Social Club.

  [Code: High External Commitments]

  Q4: What tools do you use to manage your study and daily life?

  A4: I mainly use Google Calendar to keep track of my tasks and schedule.

  [Code: Digital Planning Tools]

  Q5: How do you plan your time daily?

  A5: I typically plan on a weekly basis. I check my calendar at the beginning of each week and adjust my daily plans accordingly.

  [Code: Weekly Planning]

  Q6: If there are multiple tasks (study, work, socialize, etc.), how do you prioritize them?

A6: I follow the order of Study first (most important), then Work, and finally Socialize.

[Code: Study-First Prioritization]

Q7: Is there any kind of activity that is often overlooked? Why?

A7: Cooking—I often don't have enough time, and cooking in a shared space can be inconvenient.

[Code: Overlooked Self-Care]

Q8: How do you feel about the balance between studying, working, and socializing?

A8: I often have to choose between work and study, and sometimes I miss out on socializing because of that.

[Code: Work-Study Imbalance]

Q9: Have you ever had serious time management issues or stress?

A9: Yes, mainly during exam weeks. I cope by reading a lot and going for walks to relax.

[Code: Exam-Related Stress Management]

Q10: Have you tried some ways to improve time management?

A10: I downloaded a tracking app years ago, but I forgot to use it after a while.

[Code: Inconsistent Tool Usage]

Q11: If you were to design a digital tool to help college students with WLB, what features would you include?

A11: Mainly a reminder function. I tend to lose track of my tasks without it.

[Code: Task Reminder System]

- Student 3 (Master's, Advanced Imaging and Sensing)

  Q1: What year are you in, and are you an undergraduate, Master's, or PhD student?

  A1: I'm a Master's student.

Q2: What is your field of study?

A2: Advanced Imaging and Sensing.

Q3: Are there any additional tasks such as part-time jobs, clubs, or volunteer activities?

A3: Yes, I teach physics and math lessons to kids in the community.

[Code: Part-Time Teaching Commitment]

Q4: What tools do you use to manage your study and daily life?

A4: I use calendars and notebooks to organize my tasks and keep track of deadlines.

[Code: Mixed Planning Tools]

Q5: How do you plan your time daily?

A5: I spend time collecting and writing literature for my thesis, and I adjust my schedule as needed throughout the day.

[Code: Thesis-Centric Planning]

Q6: If there are multiple tasks (study, work, socialize, etc.), how do you prioritize them?

A6: I prioritize them in the order of Study > Work > Socialize.

[Code: Study-First Prioritization]

Q7: Is there any kind of activity that is often overlooked? Why?

A7: I often overlook replying to non-important messages, as they don't seem urgent.

[Code: Delayed Communication]

Q8: How do you feel about the balance between studying, working, and socializing?

A8: My socializing is fragmented and usually happens while I'm working, so it's not ideal.

[Code: Fragmented Social Life]

Q9: Have you ever had serious time management issues or stress?

A9: Yes, I remind myself that completing something is more important than making it perfect.

[Code: Perfectionism Stress Management]

Q10: Have you tried some ways to improve time management?

A10: I leave extra time in my schedule to allow for possible procrastination.

[Code: Procrastination Buffer]

Q11: If you were to design a digital tool to help college students with WLB, what features would you include?

A11: A tool that automatically crawls activities from the school website and recommends which ones fit my schedule.

[Code: Smart Event Integration]

- Student 4 (Postgraduate, Human-Computer Interaction)

Q1: What year are you in, and are you an undergraduate, Master's, or PhD student?

A1: I'm a postgraduate student.

Q2: What is your field of study?

A2: Human-Computer Interaction.

Q3: Are there any additional tasks such as part-time jobs, clubs, or volunteer activities?

A3: Yes, I volunteer for financial and business research groups.

[Code: Volunteer Commitments]

Q4: What tools do you use to manage your study and daily life?

A4: I primarily use OneNote to keep track of my tasks and notes.

[Code: Digital Note-Taking Tools]

Q5: How do you plan your time daily?

A5: I spend time running code and also go for runs to clear my mind.

[Code: Practical Task Planning]

Q6: If there are multiple tasks (study, work, socialize, etc.), how do you

prioritize them?

A6: Studying comes first.

[Code: Study-First Prioritization]

Q7: Is there any kind of activity that is often overlooked? Why?

A7: Some boring lectures—I tend to skip them because they don't engage me.

[Code: Skipped Non-Engaging Activities]

Q8: How do you feel about the balance between studying, working, and socializing?

A8: Not bad overall; I can handle things well most of the time.

[Code: Balanced Lifestyle]

Q9: Have you ever had serious time management issues or stress?

A9: Yes, when I'm under pressure to study, I push myself harder to release that stress.

[Code: Stress-Driven Study]

Q10: Have you tried some ways to improve time management?

A10: Yes, I adjust the proportion of time spent on different activities based on the situation.

[Code: Adaptive Time Management]

Q11: If you were to design a digital tool to help college students with WLB, what features would you include?

A11: Reminder functions and task priority management would be essential.

[Code: Task Prioritization and Reminder]

- Student 5 (Undergraduate, Business Enterprise and Marketing)

Q1: What year are you in, and are you an undergraduate, Master's, or PhD student?

A1: I'm an undergraduate student.

Q2: What is your field of study?

A2: Business Enterprise and Marketing.

Q3: Are there any additional tasks such as part-time jobs, clubs, or volunteer activities?

A3: No, I don't have any extra commitments. [Code: Minimal External Commitments]

Q4: What tools do you use to manage your study and daily life?

A4: I mainly use calendars and notebooks to organize my tasks. [Code: Traditional Planning Tools]

Q5: How do you plan your time daily?

A5: I plan as I go. For example, today I studied and later went out with friends. [Code: Balanced Study and Social Time]

Q6: If there are multiple tasks (study, work, socialize, etc.), how do you prioritize them?

A6: I always make sure to finish my studying first before doing anything else. [Code: Study-First Approach]

Q7: Is there any kind of activity that is often overlooked? Why?

A7: Not really. I manage to keep up with everything. [Code: No Overlooked Activities]

Q8: How do you feel about the balance between studying, working, and socializing?

A8: I feel my balance is pretty good at the moment. [Code: Satisfactory Balance]

Q9: Have you ever had serious time management issues or stress?

A9: Yes, I did at first, mainly because I wasn't using a calendar to manage my time. [Code: Stress Due to Lack of Planning]

Q10: Have you tried some ways to improve time management?

A10: Not really. I haven't made much effort to change my approach. [Code: No Active Time Management Strategies]

Q11: If you were to design a digital tool to help college students with WLB,

what features would you include?

A11: I think a reminder function would be very helpful. [Code: Basic Reminder Feature]

- Student 6 (Undergraduate, Architecture)

  Q1: What year are you in, and are you an undergraduate, Master's, or PhD student?

  A1: I'm an undergraduate student.

  Q2: What is your field of study?

  A2: Architecture.

  Q3: Are there any additional tasks such as part-time jobs, clubs, or volunteer activities?

  A3: Yes, I work in a research studio named Urban Sustainable Lab. [Code: Research Participation]

  Q4: What tools do you use to manage your study and daily life?

  A4: I mainly use Google Calendar, but most of the time I just improvise. [Code: Flexible Planning with Digital Tools]

  Q5: How do you plan your time daily?

  A5: My time is quite flexible. Typically, my day starts with going to the studio or working on my thesis. Then I go home, cook, and continue working on the thesis. [Code: Flexible Routine with Thesis Priority]

  Q6: If there are multiple tasks (study, work, socialize, etc.), how do you prioritize them?

  A6: The thesis always comes first. So, I guess my priority is thesis > work > social activities. [Code: Thesis-First Prioritization]

  Q7: Is there any kind of activity that is often overlooked? Why?

  A7: I often overlook the time to cook and eat because when you're working in a studio or focusing on your thesis, you lose track of time. [Code: Neglected Meal Times]

Q8: How do you feel about the balance between studying, working, and socializing?

A8: When I was studying, I didn’t have a good balance at all. It felt like everything was focused on surviving university life rather than enjoying it. [Code: Lack of Balance During Studies]

Q9: Have you ever had serious time management issues or stress?

A9: Yes. I didn't handle it well, to be honest. I just kept working without setting boundaries, and it took a toll on my health. [Code: Poor Coping with Stress]

Q10: Have you tried some ways to improve time management?

A10: I always want to improve it. I follow some influencers who give time management advice, but I don’t stick with their strategies consistently. [Code: Inconsistent Time Management Efforts]

Q11: If you were to design a digital tool to help college students with WLB, what features would you include?

A11: It should have reminders, a calendar, and something to help manage screen time. Also, stress relief tools would be great! [Code: Comprehensive Productivity and Wellbeing Tool]

- Student 7 (Undergraduate, Business)

  Q1: What year are you in, and are you an undergraduate, Master's, or PhD student?

  A1: I’m an undergraduate student.

  Q2: What is your field of study?

  A2: Business.

  Q3: Are there any additional tasks such as part-time jobs, clubs, or volunteer activities?

  A3: Yes, I participate in volunteering activities. [Code: Volunteer Work]

  Q4: What tools do you use to manage your study and daily life?

A4: I use timetables to organize everything. [Code: Traditional Time Management Tools]

Q5: How do you plan your time daily?

A5: Right now, I'm on vacation, so I'm just focusing on working out during the day. [Code: Relaxed Scheduling During Break]

Q6: If there are multiple tasks (study, work, socialize, etc.), how do you prioritize them?

A6: My priorities are: 1. Nutrition, 2. Study, 3. Gym, 4. Socializing. [Code: Health and Study-Oriented Prioritization]

Q7: Is there any kind of activity that is often overlooked? Why?

A7: Sleep. It's the most important need for humans, but it's the first thing I sacrifice when I'm busy. [Code: Sleep Deprivation]

Q8: How do you feel about the balance between studying, working, and socializing?

A8: It's alright. You just need to have your priorities clear and stick to them. [Code: Balanced with Clear Priorities]

Q9: Have you ever had serious time management issues or stress?

A9: Time management is a daily challenge. I feel like I'm constantly juggling everything, but I manage somehow. [Code: Ongoing Time Management Challenge]

Q10: Have you tried some ways to improve time management?

A10: Yeah, I tried a system once, and it worked for two days. Then I gave up. [Code: Short-Term Effort in Time Management]

Q11: If you were to design a digital tool to help college students with WLB, what features would you include?

A11: I think the features mentioned (reminders, task management) are great, but the app should also allow you to take time off without feeling guilty. [Code: Mindfulness and Self-Care Features]

- Student 8 (Licenciatura Thesis, Arquitectura)

  Q1: What year are you in, and are you an undergraduate, Master's, or PhD student?

  A1: I’m working on my thesis for my licenciatura degree.

  Q2: What is your field of study?

  A2: Arquitectura (Architecture).

  Q3: Are there any additional tasks such as part-time jobs, clubs, or volunteer activities?

  A3: Yes, I work full-time in an architecture firm. [Code: Full-Time Employment]

  Q4: What tools do you use to manage your study and daily life?

  A4: I use Google Calendar to plan my day. [Code: Digital Planning Tool]

  Q5: How do you plan your time daily?

  A5: During working hours, I plan using my work schedule. Outside of that, I try to squeeze in thesis work and personal life when I can. [Code: Work-Driven Planning with Limited Personal Time]

  Q6: If there are multiple tasks (study, work, socialize, etc.), how do you prioritize them?

  A6: Currently, my job takes up most of my time. After that, I focus on my thesis, and socializing comes last. [Code: Work and Thesis Priority]

  Q7: Is there any kind of activity that is often overlooked? Why?

  A7: My thesis work is often delayed because I don’t have enough time or I’m too tired after work. [Code: Thesis Procrastination Due to Fatigue]

  Q8: How do you feel about the balance between studying, working, and socializing?

  A8: In a career like mine, it’s complicated. The work is demanding, and there’s little time left for anything else. [Code: Work-Study Imbalance]

  Q9: Have you ever had serious time management issues or stress?

A9: Yes, I have had and still have them. The stress never really goes away; it’s just part of the job. [Code: Chronic Stress from Work and Study]

Q10: Have you tried some ways to improve time management?

A10: Not yet. [Code: No Time Management Strategies Attempted]

Q11: If you were to design a digital tool to help college students with WLB, what features would you include?

A11: A time tracker that gives you a graphic view of how you spend your day would help me a lot. [Code: Time Tracking Visualization]

- Student 9 (Graduate, Industrial)

  Q1: What year are you in, and are you an undergraduate, Master's, or PhD student?

  A1: I’m a graduate student.

  Q2: What is your field of study?

  A2: Industrial.

  Q3: Are there any additional tasks such as part-time jobs, clubs, or volunteer activities?

  A3: No, I don’t have any. [Code: Minimal External Commitments]

  Q4: What tools do you use to manage your study and daily life?

  A4: I use calendars to organize my schedule. [Code: Traditional Planning Tools]

  Q5: How do you plan your time daily?

  A5: I set reminders to stay on track. [Code: Reminder-Based Planning]

  Q6: If there are multiple tasks (study, work, socialize, etc.), how do you prioritize them?

  A6: My studies always come first. [Code: Study-First Prioritization]

  Q7: Is there any kind of activity that is often overlooked? Why?

  A7: Resting. Sometimes I avoid it because I confuse resting with procrastination. [Code: Overlooked Rest]

Q8: How do you feel about the balance between studying, working, and socializing?

A8: It’s unbalanced. Universities often don’t take students' personal lives into account when setting schedules. [Code: Poor Work-Life Balance Due to Academic Demands]

Q9: Have you ever had serious time management issues or stress?

A9: Yes, when tasks pile up. I try to deal with it by sorting tasks based on their importance. [Code: Task Accumulation Stress with Prioritization Solution]

Q10: Have you tried some ways to improve time management?

A10: Yes, I have. [Code: Attempted Time Management Strategies]

Q11: If you were to design a digital tool to help college students with WLB, what features would you include?

A11: It should have a reminder function. [Code: Basic Reminder Feature]

- Student 10 (Graduate, Health)

Q1: What year are you in, and are you an undergraduate, Master's, or PhD student?

A1: I’m a graduate student.

Q2: What is your field of study?

A2: Health.

Q3: Are there any additional tasks such as part-time jobs, clubs, or volunteer activities?

A3: No, I’m not involved in any additional activities. [Code: Minimal External Commitments]

Q4: What tools do you use to manage your study and daily life?

A4: I use different apps to organize my schedule. [Code: Digital Planning Tools]

Q5: How do you plan your time daily?

A5: I make to-do lists to keep track of what I need to do. [Code: To-Do List Planning]

Q6: If there are multiple tasks (study, work, socialize, etc.), how do you prioritize them?

A6: I prioritize studying first. [Code: Study-First Prioritization]

Q7: Is there any kind of activity that is often overlooked? Why?

A7: Socializing. I tend to overlook it because it also requires time, which I often don't have. [Code: Overlooked Socializing]

Q8: How do you feel about the balance between studying, working, and socializing?

A8: It's not very good because I tend to focus too much on one thing. [Code: Imbalanced Focus]

Q9: Have you ever had serious time management issues or stress?

A9: Yes, especially during exam weeks. I try to manage it by making detailed to-do lists. [Code: Exam-Related Stress with To-Do List Strategy]

Q10: Have you tried some ways to improve time management?

A10: No, I haven't really tried new strategies. [Code: No Time Management Strategies]

Q11: If you were to design a digital tool to help college students with WLB, what features would you include?

A11: I would include features that encourage social interaction. [Code: Social Interaction Feature]

- Student 11 (Graduate, Industrial Design)

  Q1: What year are you in, and are you an undergraduate, Master's, or PhD student?

  A1: I'm a graduate student.

  Q2: What is your field of study?

  A2: Industrial Design.

Q3: Are there any additional tasks such as part-time jobs, clubs, or volunteer activities?

A3: Yes, I have a part-time job. [Code: Part-Time Work]

Q4: What tools do you use to manage your study and daily life?

A4: I use apps to plan and manage everything. [Code: Digital Planning Tools]

Q5: How do you plan your time daily?

A5: I use Google Calendar and create to-do lists. [Code: Calendar and To-Do List Planning]

Q6: If there are multiple tasks (study, work, socialize, etc.), how do you prioritize them?

A6: I prioritize work first, then study, and lastly social activities. [Code: Work-First Prioritization]

Q7: Is there any kind of activity that is often overlooked? Why?

A7: Exercise is often overlooked because I run out of time. [Code: Overlooked Exercise]

Q8: How do you feel about the balance between studying, working, and socializing?

A8: It's not very good. I usually don't have time for social activities. [Code: Imbalance with Limited Social Life]

Q9: Have you ever had serious time management issues or stress?

A9: Yes, when I have overlapping deadlines for work and study. [Code: Deadline Overlap Stress]

Q10: Have you tried some ways to improve time management?

A10: Yes, I try to prioritize and plan better. [Code: Prioritization and Planning]

Q11: If you were to design a digital tool to help college students with WLB, what features would you include?

A11: A tool that helps with time management, recommends break times, and tracks workload would be helpful. [Code: Comprehensive Time Management and Wellness Tool]

School of Computing Science
University of Glasgow

Ethics checklist form for assessed exercises (at all levels)

This form is only applicable for assessed exercises that use other people ('participants') for the collection of information, typically in getting comments about a system or a system design, or getting information about how a system could be used, or evaluating a working system.

If no other people have been involved in the collection of information, then you do not need to complete this form.

If your evaluation does not comply with any one or more of the points below, please contact the Chair of the School of Computing Science Ethics Committee (matthew.chalmers@glasgow.ac.uk) for advice.

If your evaluation does comply with all the points below, please sign this form and submit it with your assessed work.

---

1. Participants were not exposed to any risks greater than those encountered in their normal working life.
   Investigators have a responsibility to protect participants from physical and mental harm during the investigation. The risk of harm must be no greater than in ordinary life. Areas of potential risk that require ethical approval include, but are not limited to, investigations that occur outside usual laboratory areas, or that require participant mobility (e.g. walking, running, use of public transport), unusual or repetitive activity or movement, that use sensory deprivation (e.g. ear plugs or blindfolds), bright or flashing lights, loud or disorienting noises, smell, taste, vibration, or force feedback

2. The experimental materials were paper-based, or comprised software running on standard hardware.
   Participants should not be exposed to any risks associated with the use of non-standard equipment: anything other than pen-and-paper, standard PCs, laptops, iPads, mobile phones and common hand-held devices is considered non-standard.

3. All participants explicitly stated that they agreed to take part, and that their data could be used in the project.
   If the results of the evaluation are likely to be used beyond the term of the project (for example, the software is to be deployed, or the data is to be published), then signed consent is necessary. A separate consent form should be signed by each participant.

   Otherwise, verbal consent is sufficient, and should be explicitly requested in the introductory script.

4. No incentives were offered to the participants.
   The payment of participants must not be used to induce them to risk harm beyond that which they risk without payment in their normal lifestyle.

5. No information about the evaluation or materials was intentionally withheld from the participants.
   Withholding information or misleading participants is unacceptable if participants are likely to object or show unease when debriefed.

6. No participant was under the age of 16.
   Parental consent is required for participants under the age of 16.

7. No participant has an impairment that may limit their understanding or communication.
   Additional consent is required for participants with impairments.

8. Neither I nor my supervisor is in a position of authority or influence over any of the participants.
   A position of authority or influence over any participant must not be allowed to pressurise participants to take part in, or remain in, any experiment.

9. All participants were informed that they could withdraw at any time.
   All participants have the right to withdraw at any time during the investigation. They should be told this in the introductory script.

10. All participants have been informed of my contact details.
    All participants must be able to contact the investigator after the investigation. They should be given the details of both student and module co-ordinator or supervisor as part of the debriefing.

11. The evaluation was discussed with all the participants at the end of the session, and all participants had the opportunity to ask questions.
    The student must provide the participants with sufficient information in the debriefing to enable them to understand the nature of the investigation. In cases where remote participants may withdraw from the experiment early and it is not possible to debrief them, the fact that doing so will result in their not being debriefed should be mentioned in the introductory text.

12. All the data collected from the participants is stored in an anonymous form.
    All participant data (hard-copy and soft-copy) should be stored securely, and in anonymous form.

Course and Assessment Name __Human Computer Interaction Design and Evaluation, AE2 Experiment__

Student's Name _Jiaxin Cheng, Mingze Gao, Gloris Denisse Cedeno, Wencheng Shi , Yang Song, Yaohui Han

Student Number ___2973117C, 2969378G, 3006048C, 2976762S, 2981903S, 2961240H___

Student's Signature Jiaxin cheng, Mingze Gao, Gloris Denisse Cedeno, Wencheng Shi , Yang Song, Yaohui Han

Date _____19/03/2025_____