THE DESIGN AND DEVELOPMENT OF UNIHUB

PORTFOLIO

NYITO RAMUDZULI

ST10450776

HCIN6222 POE PART 1

DUE DATE :26 SEPTEMBER 2025

Research Report

Introduction

The purpose of this report is to present the design and development of UniHub, an online academic tool created to help students organise their studies, set goals, and monitor their progress. The website will combine features such as task management, an interactive calendar, and a progress tracker to reduce stress and improve academic performance. In this assignment, I will explain the functionality of the website through a user journey (Question 1.1) and present a detailed implementation plan (Questions 1.2.1–1.2.7), showing how I will personally apply usability, design, accessibility, and interaction principles in UniHub.

1.1. Website Features

“UniHub” will be an online academic tool to assist students in managing their studies, setting objectives, and tracking their advancement. The key features will be:

Task Management: Users can add, change, and remove assignments, tests, and other academic activities. Each task will have a title, deadline, importance level, and a notes area.

Interactive Calendar: A visual calendar will display all upcoming activities and deadlines, using color to indicate importance or subject. Users can move activities to change their schedule.

Progress Tracking: A dashboard will show a student’s advancement on their to-do list, using a percentage or a visual representation of completed activities.

Time Management Tool: A built-in timer will use the Pomodoro Technique (25 minutes of work, 5 minutes of break) to help users stay focused and prevent exhaustion.

Resource Sharing (optional): An area where users can securely upload and share course-related documents, notes, or links with their classmates (Cirillo, 2018).

1.2 Implementation Plan

1.2.1 Usability Goals

The design of UniHub will focus on several key usability goals to ensure a simple and effective user experience. According to Nielsen (1994),

Effectiveness: The main goal is to help students successfully manage their academic activities. The interface will be designed to make it easy for users to enter and find information, ensuring the website is an effective tool for its purpose.

Efficiency: The design will reduce the number of steps required to perform common activities, like adding a new assignment. Features will be easily accessible, and the navigation will be clear, allowing users to complete their activities quickly.

Safety: The website will include safeguards, such as a confirmation message, before a user permanently deletes a task, preventing accidental data loss.

Utility: The website's features will directly address user needs, such as managing multiple deadlines and staying on track with study goals. All features will serve a clear purpose to a student.

Learnability: The interface will be easy to understand and simple to learn. New users should be able to understand the main features without needing a long tutorial. Icons and labels will be clear and easy to understand.

Memorability: The layout and icon placements will be consistent throughout the website. This consistency will help returning users quickly remember how to use the system, reducing the need to relearn the interface.

1.2.2 Desirable Aspects of User Experience

Beyond basic usability, UniHub will be designed to create a positive and desirable user experience by focusing on the following aspects:

Satisfying: The website will provide a sense of accomplishment by visually showing advancement through completed activities. The user will feel satisfied and motivated as they see their to-do list get shorter.

Fun: While academic planning isn't always "fun," the interface will use a cheerful color scheme, friendly icons, and subtle animations to make the experience more engaging and less intimidating.

Helpful: The website will offer proactive support, such as reminders for upcoming deadlines. The built-in Pomodoro timer and progress tracker will feel like a helpful assistant, not just a tool.

Valuable: Ultimately, the website's value will be in its ability to reduce a student's stress and improve their academic performance by providing structure and clarity to their workload.

1.2.3 Design Principles

The website's design will follow established design principles to ensure it is clear and well-organized (Preece, Rogers & Sharp, 2019):

Visibility: All important features, like the "Add Task" button and the calendar, will be clearly visible and easily identifiable. The status of a task (e.g., incomplete, overdue) will also be highly visible.

Feedback: The system will provide immediate feedback for user actions. For example, a task will be visually marked as “completed” with a checkmark and a slight animation when the user clicks on it.

Constraints: The interface will guide users and limit potential errors. For instance, the due date field will be a date picker, restricting the input to a valid date format.

Mapping: The controls will be logically linked to their functions. A calendar icon will lead to the calendar view, a timer icon will open the timer, and a plus sign will be used to add new items.

Consistency: The design style, including colors, fonts, and button styles, will be consistent across all pages of the website. For example, all main action buttons will look the same to reduce confusion.

Affordance: The design will clearly indicate how an element can be used. A button will look clickable, a text field will look editable, and a link will be underlined, making its function obvious to the user.

1.2.4 Interaction Types

UniHub will primarily use direct manipulation as its main interaction type.

Direct Manipulation: Users will interact with objects on the screen in a physical, intuitive way. For example, they can drag a task from one day to another on the calendar to reschedule it or click a checkbox directly on a task to mark it as complete. This provides a sense of control and immediate feedback, making the system feel more natural and responsive (Shneiderman et al., 2016).

The website will also use a form-filling interaction type for more detailed data entry, such as when a user adds a new task with multiple fields (title, due date, notes, etc.).

1.2.5 Social Interactions

While UniHub is mainly an individual tool, it can include social interactions in a safe and controlled manner to encourage a sense of community and support.

Indirect Social Interaction: The resource-sharing feature would be a form of indirect social interaction. Users can benefit from the work of their classmates by accessing shared notes and

study guides. They don’t need to interact directly but can still feel connected through a shared resource pool.

Optional Group Features: Future versions could include the ability to create study groups or share a personalized calendar view with a classmate, allowing for collaborative planning and motivation. This would promote a sense of shared purpose and friendly accountability (Norman, 2004).

1.2.6 Emotional Interaction

The design will be created to evoke positive emotional interactions and feelings in the user.

Aesthetic Appeal: The website will have a clean, simple, and visually appealing design with a calming color scheme. This will create a sense of calm and organization, helping to reduce the stress of academic pressure.

Positive Feedback: The system will use positive reinforcement, like celebratory animations or encouraging messages when a user completes a task or reaches a milestone. This will make the user feel a sense of achievement and motivation.

Trust and Reliability: A reliable and well-performing website that never loses data and is always available will build trust with the user. Knowing their Information is safe and the tool is dependable will create a feeling of security and comfort (Norman, 2004).

1.2.7 Web Content Accessibility Guidelines (WCAG) 2.0

The design and development of UniHub will follow the WCAG 2.0 guidelines to ensure it is accessible to the widest possible range of users, including those with disabilities. The plan will focus on the four main principles:

Perceivable: All information will be perceivable by users. Alternative text will be provided for all images and icons. Color contrast will be checked to ensure text is readable for people with low vision. The website will be fully functional when viewed with a high-contrast mode or a screen reader.

Operable: The interface will be fully keyboard navigable, meaning a user can access all functions without a mouse. The website will be designed to avoid causing seizures by avoiding rapidly flashing content. Clear and consistent navigation will be provided.

Understandable: The language and instructions will be simple and easy to understand. The layout will be predictable and consistent. Error messages will be clear and helpful, guiding the user on how to correct an issue.

Robust: The website will be compatible with a wide range of web browsers and assistive technologies. The underlying code (HTML, CSS) will be well-structured and semantically correct, allowing it to be reliably interpreted by different user agents and devices (W3C, 2008).

Reference list

Cirillo, F. (2018) The Pomodoro Technique: The Acclaimed Time-Management System That Has Transformed How We Work. New York: Currency.

Hassenzahl, M. (2010) Experience Design: Technology for All the Right Reasons. San Rafael: Morgan & Claypool.

Nielsen, J. (1994) Usability Engineering. San Francisco: Morgan Kaufmann.

Norman, D. (2004) Emotional Design: Why We Love (or Hate) Everyday Things. New York: Basic Books.

Preece, J., Rogers, Y. and Sharp, H. (2019) Interaction Design: Beyond Human-Computer Interaction. 5th ed. Hoboken: Wiley.

Shneiderman, B., Plaisant, C., Cohen, M., Jacobs, S., Elmqvist, N. and Diakopoulos, N. (2016) Designing the User Interface: Strategies for Effective Human-Computer Interaction. 6th ed. Boston: Pearson.

World Wide Web Consortium (W3C). (2008) Web Content Accessibility Guidelines (WCAG) 2.0. Available at: https://www.w3.org/TR/WCAG20/ (Accessed: 24 September 2025).