Practical Assessment Task

Phase 1 – Specification Document

CHINASA NWOSU

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Problem Summary

High school learners often face difficulties in managing their homework, especially when balancing multiple subjects with frequent assignments, projects, and test preparation. A common issue is forgetting due dates, misplacing homework instructions, or failing to prioritise tasks. These challenges often result in late submissions, lower academic performance, and increased stress.

The Homework Reminder App is designed to solve this problem by providing a digital solution where learners can:

- Record all homework tasks in one place.
- Assign due dates and set reminders.
- Categorise homework by subject.
- Track progress using visual graphs.

The purpose of the app is to improve learner organisation and time management, leading to better academic results. The target user group is high school learners, particularly those in senior grades (10–12), who face an increased workload and need effective tools to manage it.

Motivation and Research

Existing tools for task management include:

A. myHomework Student Planner

- myHomework is a mobile and web-based planner that allows students to log homework and view upcoming tasks on a calendar (myHomework, 2025).
- While helpful, its design is more general and does not include features like progress graphs or subject-specific performance statistics.
- The Homework Reminder App aims to improve on this by adding a **progress tracker** and focusing solely on **school-based workload management**.

B. Google Keep

- Google Keep provides note-taking and reminders (Google, 2025).
- However, it is **not tailored for education**: it lacks categorisation by subject, assignment type, or academic progress tracking.
- The Homework Reminder App differs by offering **structured input fields** for subject, deadline, and task priority.

C. Microsoft To Do

- Microsoft To Do allows users to create to-do lists and set reminders (Microsoft, 2025).
- It is designed for general productivity, not students. It does not offer **visual analytics** or **educational organisation features**.

- The Homework Reminder App improves on this by being **student-centred** and focusing only on homework and study tasks.

Motivation:

The motivation for this project is to create a **simple, user-friendly application** that helps learners organise their schoolwork more effectively than generic productivity apps. By providing a subject-oriented design and a progress tracker, the Homework Reminder App ensures that students remain accountable and motivated.

[1] myHomework. (2025). *Student Planner App*. Available at: https://myhomeworkapp.com [Accessed 20 Aug 2025].

[2]

Google. (2025). *Google Keep*. Available at: https://keep.google.com [Accessed 20 Aug 2025].

[3]
Microsoft. (2025). *Microsoft To Do*. Available at: https://todo.microsoft.com [Accessed 20 Aug 2025].

Specification of Program Functions

Program functions of the **Homework Reminder App** include:

A. Homework Management

- Add new tasks with details: Subject, Title, Description, Due Date, and Priority.
- Edit or delete existing tasks.
- Mark tasks as complete.

B. Reminder System

- Notify users of tasks due today.
- Provide reminders before deadlines (configurable by user).
- Daily/weekly overview reminders.

C. Subject Categorisation

- Group tasks by subject.
- Filter and search tasks based on subject or due date.

D. Progress Tracker

- Display percentage of tasks completed, pending, and overdue.
- Generate graphs (pie chart for overall distribution, bar chart for subject-based comparison).

E. Calendar View

- Month and week view of tasks.
- Highlight urgent or overdue tasks.

F. Data Export/Import

- Save tasks to a text file or database.
- Import saved tasks back into the system.

G. Error Handling

- Validate date input (must be a valid date).
- Prevent empty task fields.
- Display error messages for invalid inputs.

Specification of Interface

The graphical user interface (GUI) of the **Homework Reminder App** includes:

A. Home/Dashboard Panel

- Displays the current date.
- Shows a list of tasks due today.
- Progress summary (progress bar or pie chart).
- Button: **Add New Task**.

B. My Homework Panel

- Table displaying all tasks (columns: Subject, Description, Due Date, Priority, Status).
- Buttons: **Add**, **Edit**, **Delete**, **Mark Complete**.
- Search bar and subject filter.

C. Subjects Panel

- List of all subjects added by the student.
- Option to add or remove subjects.
- Selecting a subject shows only tasks linked to it.

D. Progress Tracker Panel

- Pie chart: Completed vs Pending vs Overdue.
- Bar chart: Tasks per subject.

- Summary stats displayed below charts.

E. Reminders Panel

- Options to set reminder frequency (daily, weekly, before due date).
- Toggle notification settings.

F. Settings Panel

- Profile information (Name, Grade, School).
- Change theme (Light/Dark).
- Button: **Save Settings**.

Specification of Permanent Data Storage

The Homework Reminder App requires permanent data storage to keep homework records across sessions. This includes:

A. Task Data

- Stored in a database or text file.
- Fields: TaskID, Subject, Title, Description, DueDate, Priority, Status.

B. Subject Data

- List of subjects available for categorising tasks.
- Fields: SubjectID, SubjectName.

C. User Preferences

- Settings such as theme, reminder preferences.
- Stored in a configuration file or database table.

D. Exported Reports

- Homework reports exported to text/CSV for backup.
- Graphical summaries may also be saved as images.

This ensures that all tasks, subjects, and preferences remain accessible even when the application is closed and reopened.