Green University of Bangladesh

Department of Computer Science and Engineering (CSE)
Semester: (Fall, Year: 2024), B.Sc. in CSE (Day)

TaskMate:- Your Ultimate Task Assistant

Course Title: Microprocessor Lab
Course Code: CSE-312
Section: 221-D15

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Lab Project Status	
Marks:	**Signature:**
Comments:	**Date:**

Contents

Chapter 1

Introduction

1.1 Overview

TaskMate is designed using assembly language. It provides a structured and interactive way to manage tasks with features such as adding, updating, searching, and deleting tasks. The software emphasizes simplicity and usability while showcasing the efficiency of low-level programming for real-time systems. By leveraging assembly language, the project also highlights how fundamental concepts of computer architecture can be applied to solve everyday problems efficiently.

1.2 Motivation

The motivation behind developing TaskMate stems from the increasing need for efficient and personalized task management tools. In a world driven by multitasking, many users, including students and professionals, rely on robust software to organize their work. While numerous applications are available, few focus on lightweight, resource-efficient systems. TaskMate was conceptualized to demonstrate how even low-level programming can create powerful applications, enabling users to experience a unique blend of performance and minimal resource consumption.

Additionally, the project serves as an educational endeavor to deepen understanding of assembly language, its practical applications, and the principles of structured programming.

1.3 Problem Definition

1.3.1 Problem Statement

Task management in modern systems often relies on high-level, resource-heavy applications. These solutions, while functional, can be inefficient for constrained environments such as embedded systems or older devices. The problem addressed by TaskMate is to

develop a lightweight, low-resource-consuming task management tool using assembly language that can function effectively without modern overheads.

1.4 Objectives

As TaskMate deals with real life scenario so the primary goals of this application are:

To create a task manager that operates with minimal computational resources.
To provide an intuitive interface for managing tasks while maintaining ease of use.
To include core features such as adding, updating, deleting, and searching tasks.
To serve as a practical demonstration of assembly language programming.
To ensure tasks are displayed in a structured, chronological order based on task dates.

1.5 Application

TaskMate has practical applications in various areas, particularly in environments with resource constraints. Some key applications include:

1.5.1 Educational Demonstrations

It can be used as a teaching tool to showcase the potential of assembly language in practical software development.

1.5.2 Embedded Systems

TaskMate's lightweight nature makes it suitable for integration into embedded devices that require task scheduling.

1.5.3 Legacy Systems

The project is ideal for older hardware systems where modern applications may not run efficiently.

1.5.4 Personal Productivity

Users who prefer minimalistic task management tools can leverage TaskMate for daily planning and organization.

In conclusion, TaskMate bridges the gap between low-level programming and real-world software needs, offering an efficient, engaging, and practical solution to task management. Through this project, it is evident that assembly language, despite its complexity, can be a powerful tool in modern application development.