Green University of Bangladesh

Department of Computer Science and Engineering (CSE)
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BookByte: An Online Bookstore

Course Title: Microprocessor And Microcontroller Lab
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Students Details

Name	ID
K M Mashrufur Rahman	222902076
Anisur Rahman Maruf	222902078

Submission Date: 11 November, 2024
Course Teacher's Name: Mr. Montaser Abdul Quader

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

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Chapter 1

Introduction

1.1 Overview

This project proposal focuses on developing an "Online Bookstore Management System" using Assembly Language (EMU 8086). The system aims to simulate essential bookstore operations, such as browsing available books, sorting by category, and displaying prices in a user-friendly format. Users can select books by categories like English novels, Urdu novels, and Islamic literature, and calculate costs based on quantity.

1.2 Motivation

The motivation for creating an assembly-language-based bookstore management system stems from the desire to deepen low-level programming skills, specifically working with registers and memory management. This project is also valuable in understanding how basic operations are implemented in assembly and developing efficient and compact code.

1.3 Problem Definition

1.3.1 Problem Statement

In an online bookstore management context, efficiently organizing book data and enabling user-friendly access to information is essential. This project addresses the challenge of creating an optimized management system that displays available books, sorts prices, and calculates total costs, all within the constraints of assembly language.

1.3.2 Complex Engineering Problem

Table 1.1 provides a summary of the engineering complexities involved in developing an assembly language-based book management system, highlighting challenges in

memory management, user interface design, and efficient data handling.

Table 1.1: Summary of the attributes touched by the mentioned project

Name of the Attributes	Explanation on How It is Addressed
P1: Depth of knowledge required	Requires understanding of assembly programming and memory handling.
P2: Range of conflicting requirements	Must balance efficient code with readability and functionality.
P3: Depth of analysis required	Analyzing assembly code to ensure optimized memory and speed.
P4: Familiarity of issues	Involves handling common memory and input/output constraints.
P5: Extent of applicable codes	Uses EMU 8086 to simulate all functions in assembly language.
P6: Extent of stakeholder involvement and conflicting requirements	Limited to end-user needs for ease of access to book information.
P7: Interdependence	High dependence on efficient use of system registers and interrupt calls.

1.4 Design Goals/Objectives

The primary goal is to create a functional and efficient book management system in assembly language. Objectives include organizing book data by category, implementing a pricing display, and calculating total costs based on quantity, all while optimizing memory and processing efficiency.

1.5 Application

The Online Bookstore Management System serves as a learning tool for assembly language and low-level system interaction. It can be expanded into a more complex system, integrating with larger databases or payment processors, and potentially serving as the foundation for more sophisticated management systems in educational contexts.

Chapter 2

Design/Development/Implementation of the Project

Chapter 3

Results and Discussion

Chapter 4

Conclusion

Chapter 5

References