Project Proposal

Title of Project

Employee Management System

Comp. Org. & Assembly Language



Assigned by

Sir Zakir Khan

Lab Instructor

Sir Zakir Khan

Computer Science Department

| Group members: |  |
| --- | --- |
| Abdul Ahad Yousfi | 22k-4221 |
| Muhammad Sohaib Baig | 22k-4204 |
| Muhammad Daaim Ali Sheikh | 22k-4363 |
| Taushar Lekhraj Maheshwari | 22k-4532 |

Batch:22

BCS-3G

Section: 3G

NATIONAL UNIVERSITY OF COMPUTER AND EMERGING SCIENCES

KARACHI CAMPUS



**ABSTRACT:**

Our project aims to develop an Employee Management System using x86 assembly language. The Employee Management System is designed to streamline the process of managing employee data within an organization. This system will store and manipulate essential employee information, including their names, IDs, salaries, designations, and departments.

**INTRODUCTION:**

Employee data management plays a pivotal role in ensuring that an organization's workforce is efficiently utilized and well-supported. To address this need, we present our project, an Employee Management System developed using assembly language. Employee data management is a fundamental aspect of human resource management, as it enables organizations to:

Maintain Organizational Records: By keeping detailed records of employee information, organizations can track the history and progress of their workforce.

Payroll Processing: Accurate employee salary information is essential for timely and error-free payroll processing.

Performance Evaluation: Employee data helps in evaluating individual and team performance.

Resource Allocation: Knowing the skills, qualifications, and designations of employees helps in resource allocation and project staffing, ensuring that the right people are assigned to the right tasks.

**PROBLEM STATEMENT:**

In the contemporary workplace, efficient management of employee data is a critical requirement for organizations of all sizes and industries. Managing vast amounts of employee information, including personal details, work-related information, and payroll data, is a complex task that demands accuracy, security, and accessibility. Manual record-keeping processes are often error-prone, time-consuming, and prone to data loss or security breaches.

**PROJECT GOAL:**

The primary goal of our Employee Management System project is to design, develop, and implement a highly efficient and secure system using assembly language for the management of employee data within organizations. Our project aims to achieve the following specific objectives:

Efficient Data Management: Create a system that can efficiently store, retrieve, and manage a comprehensive range of information of multiple employees, including personal details, job-related data, and payroll information.

Data Accuracy and Integrity: Ensure the accuracy and integrity of employee data by implementing robust data validation and verification mechanisms, reducing the likelihood of errors and inconsistencies.

User-Friendly Interface: Develop a user-friendly Command Line interface that allows authorized personnel, including HR professionals and managers, to interact with the system easily.

Data Security: Implement stringent security measures to protect employee data from unauthorized access, data breaches, and other security threats.

Scalability: Design the system to be scalable, allowing organizations to add and manage employee records efficiently as their workforce grows.

**PROCEDURE AND METHOD/IMPLEMENTATION:**

* The data structure to hold the employees will be an array, starting with 0 employees.
* An Employee will be an array, with different indexes holding different attributes and information about the employee. The order of the indexed information will be as follows:

index 0: Employee ID(Unique)

index 1: Name

index 2: Designation

index 3: Department

index 4: Salary

index 5: Status(Hired/Fired/Notice-period)

index 6: Home Address

index 7: Phone Number

index 8: Email Address

index 9: Nature of work(Remote/On-site)

index 10: Contract(Number of years)

* Users will be prompted to select what action they would like to take. Actions will include:

1. Creating a new Employee, along with each and every piece of information about the employee.
2. Looking up information about an Employee based on their unique Employee ID.
3. Updating the information of a specific employee after finding them using the user-entered employee ID.
4. Deleting the information of a specific employee after finding them using the user-entered employee ID.
5. Deleting an employee from the record of employees

**PROJECT MILESTONES AND DELIVERABLES:**

**We aim to deliver a functional and highly optimized Employee management system, by harnessing the unmatched memory efficiency and speed of Assembly Language. A few key milestones in our project would be:**

* Achieving a fully functioning, versatile, and robust employee management system to process and manage an extensive amount of employee information.

* A user-friendly interface to receive user input, and then process that input to deliver an insightful, comprehensive, accurate, and well-structured output.

* Efficient storage, modification, and retrieval of vital employee information on the user’s command.

**WORK DIVISION:**

**Ahad:** Responsible for structuring the flow of our application. Such as,

how our program will begin, how it will end, and how the program will go through all the processes and stages in between.

**The processes that will be performed at run-time using user input will be as follows, and will be programmed by:**

**Daaim:** Creating new Employees with their new data and storing them, along with Reading/Accessing already existing Employee information.

**Sohaib:** Updating already existing Employee information.

**Taushar:** Deleting already existing Employee information and deleting existing Employees in the employee records.

**REFERENCES:**

**Some YouTube playlists we will be using to aid the building process of our Employee Management System are:**

[8086 Assembly Language Tutorial For Absolute Beginners || Part 01 - Introduction - YouTube](https://www.youtube.com/watch?v=ThUSyV81tIc&list=PLajZfknhluUSY6weDgx3xYuRsaXUwU8mh)

[Introduction to Assembly Language Programming [CLOSED] - YouTube](https://www.youtube.com/watch?v=vtWKlgEi9js&list=PLXYpRL4SQpMnHL0c6PwSKAHCId3F6uVwi)