THE OPEN UNIVERSITY OF SRI LANKA

FACULTY OF ENGINEERING

DEPARTMENT OF ELECTRICAL AND COMPUTER ENGINEERING

BACHELOR OF SOFTWARE ENGINEERING HONOURS

EEX5563

COMPUTER ARCHITECTURE AND OPERATING SYSTEMS

Name : K.C. Dilshan

Registration Number : 621422052

Student Number : S92062052

Table of Contents

1. Introduction
2. Requirements and Assumptions
3. System Design
4. Implementation
5. UI Design
6. Functionality and Features
7. Code Structure and Documentation
8. Testing Results
9. Deployment

10. Conclusion

11. References

12. Appendix

1. **Introduction**

Dynamic memory allocation can be defined as a aspect of OS ,enabling efficient use of memory during the runtime.Consider about First Fit Algorithm,it’s allocates first available memory block that is big enough and prioritizing speed and simplicity.This report including about the First Fit Algorithm in deep.

1. **Requirements and Assumptions**

Requirements:

* Do memory allocation using First Fit Algorithm
* Allow process to request memory
* Ensure allocation are accurate

Assumption

* Memory blocks are static and predefine
* Memory dealloacation is not include in scope
* Use Arrays to represent memory block and processes

1. **System Design**

This will contain an input module for input memory blocks and processes. Allocation module implementing the First Fit Algorithm and output module for visualization

Data Structures :

Memory blocks : Represent by using an Array

Process sizes : Represent by an Array

First Fit Algorithm :

* Iterate through the memory block sequentially
* Check if a block can accomodate that process size are requesting
* If a suitable block is found, allocate memory and mark the block as used
* Continue until all process are allocated or memory blocks have not remained

1. **Implementation**

Programming Language : Java

Tools : Geany and Git and Github for version controlling