IE2032 – Secure Operating Systems

Assignment & Marking Guide

Assignment Title:
In-Depth Analysis of Operating System Concepts through Research Paper Exploration

Objective:
Students will critically analyze and summarize key concepts from a selected research paper on operating systems recently published. They will then relate these concepts to the broader context of operating system design, functionality, and evolution.

Instructions:

1. **Select a Research Paper**
   Choose a research paper from a reputable source (such as IEEE, ACM, or another academic journal) related to one of the following topics in operating systems:
   o Process Scheduling
   o Memory Management
   o File Systems
   o Security in Operating Systems
   o Distributed Systems
   o Real-time Operating Systems
2. **Read and Analyze**
   Carefully read the chosen paper, focusing on the following aspects:
   o The main problem or challenge the paper addresses.
   o The proposed solutions or approaches presented by the authors.
   o The methodology used for experimentation or analysis.
   o The results and conclusions drawn from the research.
3. **Write a Summary**
   Write a summary of the research paper (approximately 1000-1500 words), including:
   o An introduction to the paper's topic and its significance in the field of operating systems.
   o A clear explanation of the problem being addressed and why it is important.
   o An overview of the solution or approach proposed by the authors.
   o A discussion of the results and their implications for the field.
   o Your critical evaluation of the paper, including any strengths, weaknesses, or areas for further research.
4. **Relate to Broader Concepts**
   Discuss how the concepts explored in the paper relate to the broader principles of operating systems. Consider the following questions:
   o How does the paper contribute to your understanding of operating systems?
   o Are the concepts in the paper relevant to modern operating systems? Why or why not?
   o How could the ideas in the paper be applied or extended in current or future operating systems?

5. **Presentation**
   Prepare a short presentation (5-10 minutes) summarizing your findings. Focus on the key takeaways from the paper and their relevance to the course material.
6. **Submission**
   Submit your written summary and the presentation materials