Multitasking and Real-Time

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2022-03-13

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# Introduction

Through this report the following subjects will be explored: Run time of tasks, resource sharing, how to develop a simple multitasking application and how to estimate time requirements of a process.

Explain the context

Explain the problem/motivation

Explain the aims/purpose

Outline the report structure

Graphical user interface

Description automatically generated

Figure 1‑1 Scheduler setup tab.

# Results

## Theory

Figure 2‑1 shows a program that has picked out four topics to explain.

Graphical user interface, text, application, email

Description automatically generated

Figure 2‑1 Machine-picked theory exercises.

### Exercise 1: Difference between task, process, and thread

### Exercise 2: The function of a mutex

### Exercise 3: Time as an important property of real-time systems

### Exercise 4: What does real-time actually mean?

## Evaluation of a multitasking system

## Development of a multitasking system

## Time requirements of a real-time system

# Summary/Conclusion

Appendices

Appendix A: OPC Client with Python

# Appendix A: OPC Client with Python