## Abstract

## Introduction

## Modifications to OS

### Re-entrant Mutex

### Fixed priority Scheduler

### Sleeping task module

### Priority inheritance for mutexes

### Wait and notify system

### Memory pool

### Task communication

### Generic Binary min-heap library

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## Demonstration

Use mutex for printing

Every second, create 8 random 0-1 values and add to memory pool with high priority. Then read with other task and print

## Conclusion