ELECTRICAL ENGINEERING PROGRAM

California Polytechnic State University

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CPE 439 RTOS Survey Assignment

Learning Objectives

- To learn the higher-level details of a non-FreeRTOS RTOS including objects, APIs, ports, licensing, etc.
- To gain experience with writing extended executive summaries of complex software entities
- To gain experience preparing and delivering oral/visual presentations of relatively complex software entities

Introduction and Overview

Until now, the CPE 439 course has primarily studied one RTOS: the FreeRTOS. This RTOS provided a basic set of objects, services, and documentation typical of any RTOS. But, many RTOSes have many more services and other exciting features to offer in addition to the basic services offered by the FreeRTOS. As you will find out, there are actually many RTOSes out there and they come in many different flavors offering many different services and ported to many different devices.

The purpose of this assignment is to allow individual engineers to become intimately familiar with one RTOS and present their findings in an organized and efficient manner.

Assignment:

Sign up for a particular RTOS, find out all you can about it, and write an extended executive summary of your findings. Your research into your chosen RTOS should include as many of the following items as possible and appropriate (and others if something pertinent is missing from the following list):

- Kernel Items
  - Objects
  - Services
  - Other special features
- Licensing
  - Cost
  - Academic pricing
- Technical support
- Documentation
- Various Ports
- Source model
- Stability/Activity
- Memory Footprint
- Performance measures
  - Memory size
  - Memory management
  - Context switching

Deliverables

1. An extended executive summary of the assigned RTOS presented in PDF format. This document should be as long as it needs to be and as short as possible (please do not go over 3 pages). This summary should provide all the information you could find out about you given RTOS and presented in a format that ***busy*** engineers such as yourself would find extremely useful (i.e. bulleted lists and tables are useful). Be sure to include a list of references. Your document will be shared with the rest of the class.