

# The Task Space Searcher (TSS) Project Report

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## Introduction

I am writing a schedulability analysis tool in Perl that supports EDF and DM scheduling policies, as well as the PIP and PCP priority schemes. This tool will allow one to search a problem space for feasible configurations.

This document reports the development status as compared to previously established milestones. Full project information is available at <http://www4.ncsu.edu/~tkbletsch/714/project.html>. The **current source code** is available there, as well.

## Completed Milestones

### 24 Oct: TDA (without blocking term)

This milestone has been completed. This tool had been started but never completed during my earlier development for previous homework assignments and my own studying efforts.

### 31 Oct: Generalized TDA (without blocking term)

This milestone has also been completed. Much of the work had already been done, as I developed a simple TDA tool for previous homework assignments and my own studying efforts.

### 7 Nov: System density (not including blocking term)

This milestone was completely straightforward; the summation involved was a simple calculation.

### 14 Nov: File parser

This was a major step, but some regular expression magic did most of the heavy lifting. With this step completed, the TSS is now a functioning stand-alone tool. To get started, just run the program can be run without arguments to find out the calling syntax. The analysis is completely implemented with the exception of the blocking term (see next milestones).

## Future Milestones

### 21 Nov: Blocking term $b_i$ calculation for PIP and PCP

This will be a straightforward but large undertaking. All the rules are well explained, but the transitive closure of resource utilization must be taken into account.

### 28 Nov: Add blocking term $b_i$ to all analysis methods

This simply consists in integrating the result of the previous milestone into the existing analysis, which doesn't appear too distressing.

## Conclusion

The project is on target and well within schedule.