

## Project Plan

### Background

This project is a part of the 2E1242 project course in Automatic Control at the department Signals, sensors and systems at KTH. The students are assigned to different teams and each team receives an order for a control system. Our team received an order of a demonstration of the Embedded System process, see appendix 1. The embedded system process consists of a motor with an inertia wheel hanging in a pendulum. The swinging force is generated by the inertia wheel that is controlled by an embedded DSP. The task is to get the pendulum to swing up and balance in inverted mode.

### Goal

The project is going to deliver a control system for the Embedded System process as described in appendix 1 (Order of Embedded System). During the work we will discuss and inform each other within the team so that in the end everyone will understand what has been made in the other parts of the project.

### Organization

#### Team members

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#### Responsibility

Project leader, Web, Documentation

DSP

Modelling, Documentation

Automatic control, CD

#### Automatic Control Group

Alberto Speranzon  
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Consultant

Course responsible, Customer

## Project model

Activity	Milestone	Date
Start-up phase	Project plan	2003-03-20
Project performance	Progress report 1	2003-03-28
	Progress report 2	2003-04-04
	Midterm review	2003-04-10
	Progress report 3	2003-04-11
	Progress report 4	2003-05-09
	Progress report 5	2003-05-16
	Project review	2003-05-20
	Delivery and end of project	2003-05-23

## Risk analysis

	Probability	Consequence	Risk
Absence of team members	4	2	8
Mech-kit failure	2	5	10
Difficulties getting started with DSP	4	4	16
Loosing files	3	3	9
Problems getting technical support	4	4	16
Difficulties writing control law in C	2	4	8
In the end forgetting what happened in the beginning	4	2	8
Cooperation problems within the group	1	4	4

### Comments for the risk analysis

**Absence of team members.** We can minimize the consequences for absence of the team members by good communication, so that more than one person has the knowledge in every specific part of the project.

**Mech-kit failure.** The only way to avoid this is to be nice to it.

**Loosing files.** The probability for loosing files is minimized by having good file handling routines.

**Difficulties getting technical support.** Here we can collect questions and think for ourselves for a moment before trying to get support. This is to avoid asking to many questions all the time.

**Forgetting what we have done.** This problem is minimized by writing a project diary.

**Cooperation problems.** This risk is minimized by good leadership and an evaluation just before Easter.

Time plan

