# Inverted Pendulum Design Project

## Issues Faced So Far

Stepper motor too slow – 3000 rpm 12V DC motor used instead

Difficulties with bearings on moving platform

## Lessons

Fixed point implementation of PID controller

I2C bus implementation

PCB design for 8 bit microprocessor

Basic metal working

Stepper motor implementation

H Bridge driver implementation

C programming structures

8 bit AVR familiarisation

Glitchy PWM output – fixed by only changing PWM command during interrupt

# Stage 1

Rather than acting as an inverted pendulum, the project will aim to stabilise a regular pendulum using a PID controller