

# Report 2 - Simulation vs Reality

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## Task

Referring to the performance of your robot in the Stage simulator, use example runs of the real robot to analyse the differences between simulation and real robots. You should consider and examine the performance of both the actuators (wheels) and the sensors (sonar sensors) in the real robot, and compare this with the performance that you saw in Stage. You should think about what the causes of the differences are and describe what you believe them to be. Issues such as repeatability, precision and accuracy should be addressed. You may wish to examine definitions of these three terms in detail.

## Deliverables

The report should be 1500 words and should:

1. Analyse the differences between simulation and real robots.
2. Summarise and attempt to attribute significance to the possible causes for/factors in these differences.

These two aspects of the assignment are equally weighted in the marking scheme.

## Write-up and hand-in

You should not write more than 1500 words for this assignment although you may use as many diagrams as you wish to help you explain the decisions that you have made. You may also wish to comment upon possible design options that you chose to reject in order to highlight why you believe the design that you selected is a good one. This work should be handed in **as a PDF** using Blackboard before midnight on **Friday 15th March**. This assignment will make up **30%** of the module marks.

## Document History

Version	Date	Author(s)	Description
1.1	Semester 2, 2013	Tom Blanchard	Initial Version
1.2	Semester 2, 2013	Tom Blanchard & Mark Neal	Added Hand-in section and marking scheme.