Introduction to Vision and Robotics
Assessed Practical 1: Robot Tracking

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Contents

1 Introduction

Overview of main ideas used in our approach

2 Methods

Which methods were used?

2.1 Method 1

Give a functional outline of how this method was implemented and the structure of the code. Explain how each part of it is meant to work. Where suitable, justify your decisions, e.g. why you used one method rather than another, what you tried that didn't work as expected

Normalising colour similarity The red values are less concentrated than the green and blue So a small difference between r1 and r2 is more significant than same difference between g1 and g2

2.2 Method 2

etc.

3 Results

You should provide some actual data, from repeated trials (with the camera or robots in different positions) on how well your algorithm performs, as described previously. Show an example of your results for each stage of the detection. Well documented failure will get more marks than unsupported claims of success (well-documented success would be even better!).

4 Discussion

Assess the success of your program with regard to the reported results, and explain any limitations, problems or improvements you would make.

5 Code

colorSimilarity

```
% Finds the normalised distance between coloured points (r1,g1,b1) and (r2,g2,b2).
% The red values are less concentrated than the green and blue
% So a small difference between r1 and r2 is more significant than same
% difference between g1 and g2

function distance = colorSimilarity(r1,g1,b1,r2,g2,b2)

a = 2.2;
b = 0.75;
c = 0.75;

distance = sqrt(((r1-r2)/a)^2 + ((g1-g2)/b)^2 + ((b1-b2)/c)^2);

end
```