MXEN 2002

Project Report

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1 Nomenclature

Symbol	Description
A	Cross-sectional area (mm2)
c	Maximum distance from the centroid to outer perimeter (mm)

Table 1: Nomenclature

2 The Task

We were tasked with building, wiring, and programming a robot to complete a series of objectives, such as navigating a maze autonomously and moving a camera with a servo as to let the operator identify targets. We were to use the Arduino Mega hardware with a DC motor drive system along with several distance sensors to help achieve the objectives.

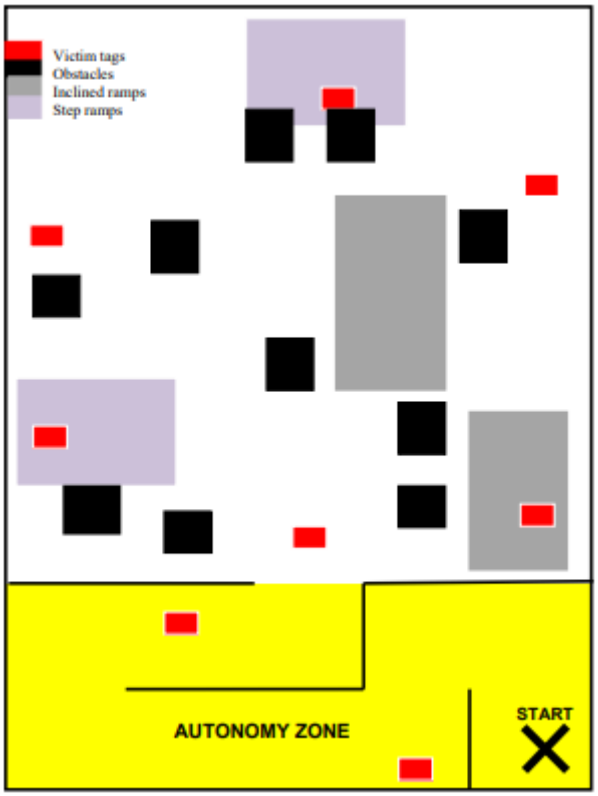

Figure 1: Supplied example of the task map

2.1 Autonomy Zone

The "Autonomy Zone" is the section of the map in which the robot is completely self controlled. The idea behind this challenge is that in the event of a connection dsiruption in a dangerous area for humans, the robot should be able to rescue it's self from danger.

2.2 Manual Control

The majority of the task is to control the robot through wireless communication. During this period the robot (controlled by the user) must drive through the zone and send a camera feed back to the user for "victim" tags to be recorded.

3 Our Solution

TBW