*School of Computer Science*

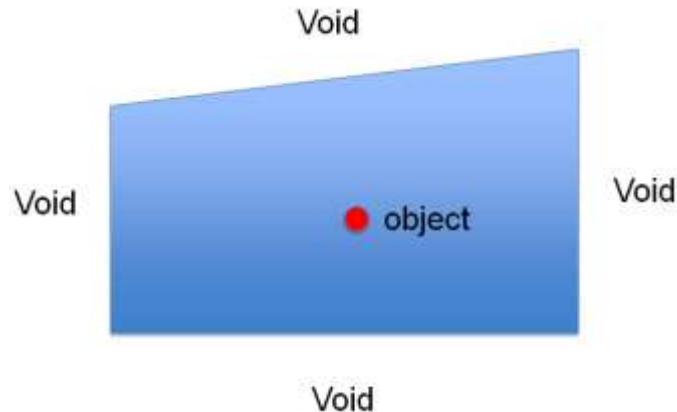# CPS 607 – Autonomous Mobile Robotics
# Lab 1 – "Hello" world – stay on the surface
# (Fall 2017)

## The Environment and Concepts:
There exists a flat world of irregular shape. The world is surrounded by a void. Somewhere in the world of "Hello" there exists a single inert, pushable object. (Note: Hello may have a different shape than the diagram and the object may not be exactly as represented below).



## Required:
- Working in groups of no less than (NLT) 2 and no greater than (NGT) 3, students you are to create an autonomous mobile robot (AMR) that is capable of surviving in the world while in (near) continuous motion for a period of NLT 2 minutes without falling into the void.
- The AMR must push the object off the world.
- Prior to the commencement of the lab, each student must present the TA with a printed, 1 page description of their robot, how it manages to survive in the world, their own name and student number and the name of their AMR. Diagrams and photos welcome.

## Restrictions:
Group members should not touch their robot while it is being tested in the world. Groups can attempt the test a maximum of 3 times.

## Scoring:
The lab will be marked out of 10
Marks will be allocated as follows:
- 0.5 marks: 8.5" in x 11" printed sheet with the title "CPS697 Fall 2018 Lab 1" and all the additional information requested in the "Required" section of this document.
- 0.5 marks: Submit an edited video file named "`CPS607Lab1<robotname>.mov`" no longer than 1 minute showing the performance of their AMR.
- 1 mark: push the object.
- 2 marks: push the object off the world
- 6 marks: AMR Completes the trial (actual test times may be varied by the TA depending on conditions)

There will be a 2 point deduction for each time a student touches their AMR once it begins a run. There will be an 8 point reduction should the AMR splash.