

CPS 813/DG8010 –Human Robot Interaction

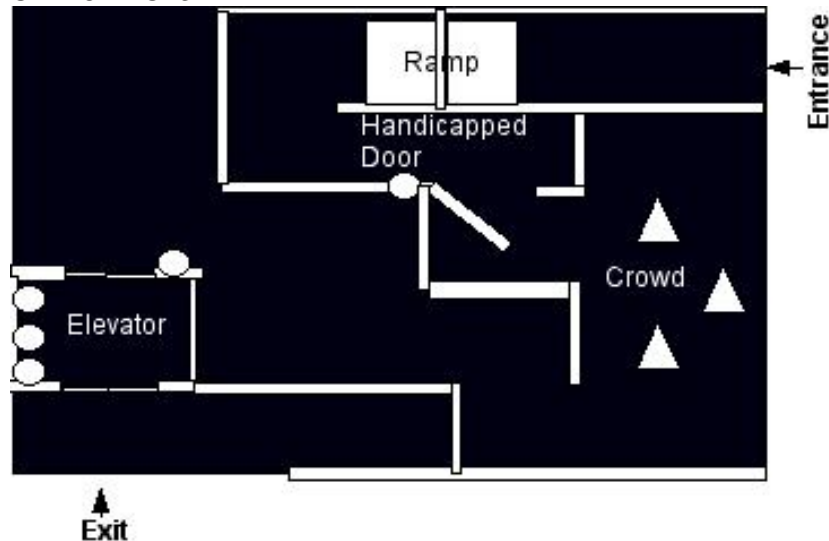
Lab 2 – Accessibility, Mobility and Accommodation (Winter 2017)

The Environment:

The labyrinth has been modified and become AODA¹ compliant. It now has access facilities for wheelchairs. AODA ensures facilities are available that robots can use to move around buildings. In this lab, robots and humans are exposed to several AODA facilities.



A new environment is shown in the diagram—it may not be identical to the actual environment.



Required:

Starting at the entrance, a group is to control their robot using their own interface and camera view(s) (groups will not be able to see the environment directly) and traverse a ramp that provides a slight rise and a corresponding descent. The robot will then negotiate a handicapped access button-equipped door by first pressing the activating button

and then moving through the doorway (before the door closes in 15 seconds). The robot must then move through the crowded room of vibrating “people”. Following this, the robot will move to the elevator and press the call button, enter the elevator, press one of the floor selection buttons and exit the elevator through the other doors (before the door closes in 15 seconds).

Scoring:

The lab will be marked out of 40.

- 10 marks per demonstrated “skill”, where the skills are 1) Moving over the ramp, 2) Employing the handicapped access facility, 3) Negotiating a crowd of humans, 4) Employing the elevator. (Total: 40 marks)
- 2 additional marks: Submit a short video to the course TA with file name, “CPS818DG8010Lab2<robotname>.mov”, where <robotname> is the name of your robot. The video will show the name of your robot and name each member of your group. The rest of the video will show the robot performing the 4 skills.

¹ The Accessibility for Ontarians with Disabilities Act, or AODA, aims to identify, remove, and prevent barriers for people with disabilities. The AODA became law on June 13, 2005 and applies to all levels of government, nonprofits, and private sector businesses in Ontario that have one or more employees (full-time, part-time, seasonal, or contract).