



Introduction to the Final Exercise





Today

- Exercise vs. Exam
- Date, Time and Location
- Understanding Challenge



Written Exam vs. Exercise

- Written Exam
 - a formal test taken to show knowledge or ability in a particular subject, or to obtain a qualification.
 - Problems:
 - Rewards memorization which may not be indicative of actual learning
 - Studying is not the same as learning
 - How do you examine “learning outcomes”?
- Exercise
 - Scenario-based problem that permits students to acquire and practice knowledge and skills to demonstrate one or more learning outcomes.
 - Problems
 - Take longer to devise and administer and respond to





Date, Time and Location

- Date of Exercise
 - Friday, 8 December 2017
- Time of final exercise
 - 3 pm to 6 pm
- Location of Final Exercise
 - Library “Collaboratory”
 - LIB387





~~DARPA~~
ROBOTICS
of
CHALLENGE

Go to a squid party



Introduction

- There exists a flat city of rectangular shape called “Challenge”.
- Challenge is the bedroom community of “Lining World” where all Autonomous Mobile Robots (AMRs) who work in Lining actually live.
- All residents of Challenge know how to fight fires and love to do so.
- AMR residents of Challenge are very diverse, believe that everyone in Challenge should be treated equitably and are so inclusive that they have invited the squid to live with them after the unfortunate incident when “Flaming World” was destroyed by fire.
- The squid was so thankful to the residents of Challenge that it is throwing a party which all residents of Challenge are invited to.
- However, as everyone knows, the squid has no computational capability, therefore it failed to tell anyone where it lives.





Key Concepts 1



buildings



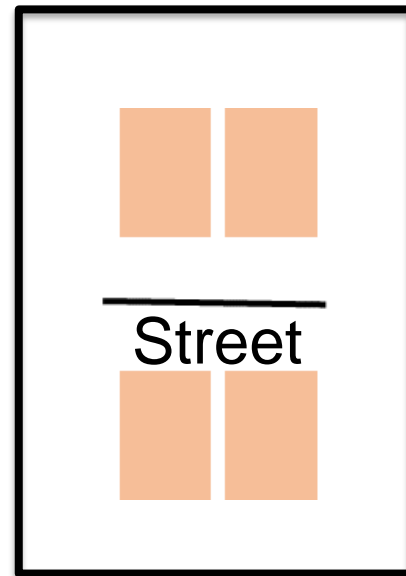
blocks



Tea Light Candles



Squid

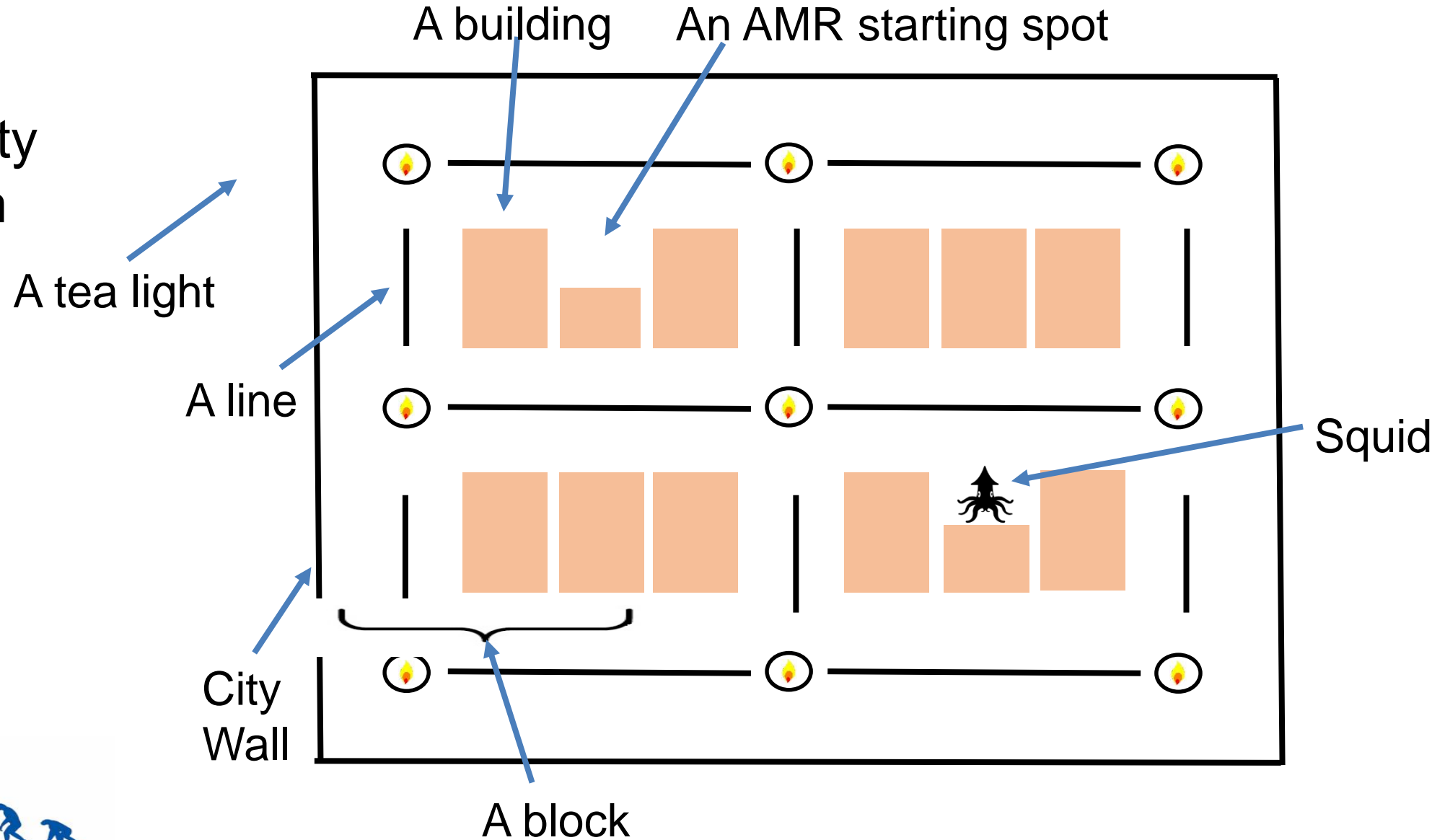


City Wall





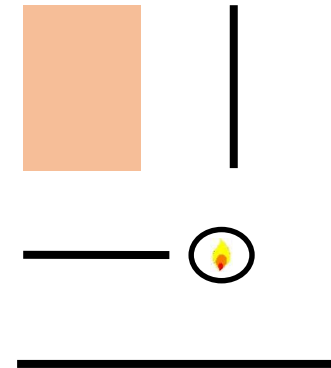
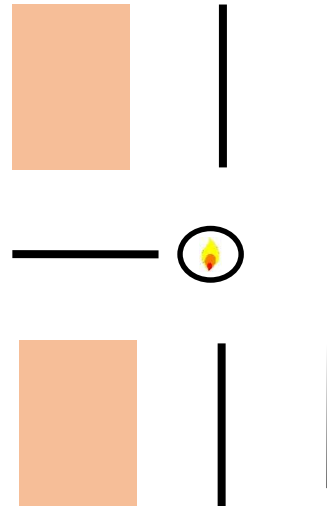
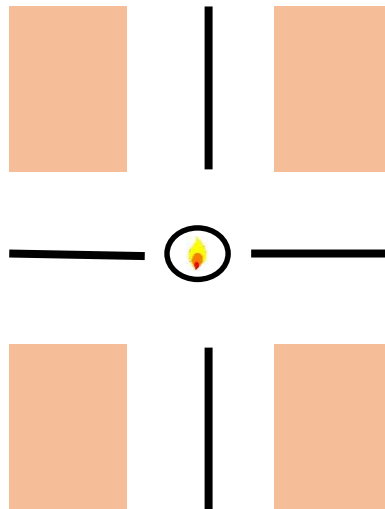
A Typical Challenge City Configuration





Key Concepts: Intersection

- An Intersection is a node where two or more streets meet. An intersection is marked by a tea light.



Challenge City

- Challenge city is a very old European garrison-style town with regular streets laid out in a grid pattern. The entire city is surrounded by a wall. Buildings exist in “blocks”. Each street supports 2-way traffic. Blocks are separated by streets that meet perpendicularly at intersections. To create a better environment, Challenge’s City Council passed a bylaw banning pedestrian traffic within the city. Before this ban, streets were provided with two-way traffic lanes separated by painted lines. Each intersection is lit by a tea light.





Scoring

- Marked out of 30

Marks available	Description	Notes
3	8.5" in x 11" printed sheet with the title "CPS697 Fall 2017 Final Exercise" and all the additional information requested in the "Required" section of this document.	
2	Submit an edited video file named "CPS607FinalEx<robotname>.mov" no longer than 1 minute showing the performance of their AMR.	
15	Move within 6" of the squid	
5	Show evidence of line following	One time mark
5	Extinguish tea light candle	Per instance
-10	Leave Challenge city limits	
-2	Student touches their AMR once it begins a run	

