ENGN1211 Discovering Engineering S1 2021

ANU College of Engineering and Computer Science, 2021

Milestone 5: Rover simulation and testing plan

Details

Due Date	Prior to week 9 Group update
Submission	Submitted as PDF through Turnitin submission portal. Reviewed by tutor during week 9 meetings
Format	No specific format required, must be logical, readable, and fit for purpose
Value	1% of course total
Report length	Up to 5 Pages
Participation	Group
Workload	1 hour each (4 hours total)

Description

By this point your team should have a simulated version of your circuitry (electrical wiring) and theoretical maze solving code within TinkerCAD. The base design of your rover should be near complete and you should have begun the integration of the electrical components. The next stage would be the testing and verification of your design.

This milestone should detail your TinkerCAD version of the rover design and your plan for testing and verifying the performance of the rover. It should highlight any iterations and changes to your design that have occurred since your last milestone submission and highlight any further unknowns that still require investigation. It should also demonstrate the work completed by each team member and the planned work moving forward.

Testing and verification will look at multiple aspects of the rover performance including:

- The actual rover performs compared to the simulation in TinkerCAD
- The accuracy and precise of the rover performance relation to the required goals
- Verify of the design specification.

You will submit the file detailing your simulated rover, testing plan, work plan and iterations before your Week 9 meeting with your tutor and it will be marked by your tutor during this meeting.

Detail

Your document should contain the following information:

- Images (such as screenshots) showing the wiring of the components for your rover,
- The code that you have developed in TinkerCAD to date,
- A brief outline of the testing plan that
    - verifies the actual performance of the rover to the simulation,
    - ensure consistent and accurate performance of the rover and
    - verifies the design specification for the rover.
- List any changes or refinements that have been made to your list of design specifications since the submission of the last milestone and
- List any unknowns or uncertainties that will need investigation.

Marking Criteria

The Rover Design Plan will be assessed according to:

- Completeness of simulation
- Thoroughness of testing and verification plan
- Demonstration of shared work
- Demonstration of design iteration as knowledge of the project increases

Marking should be lenient (piece is worth 1%) and will be awarded as follows:

Grade	**Description**
0	*Unacceptable:* Team has made little or no effort to complete the milestone
50	*Acceptable with reservations:* Team has made some attempt to complete the milestone but is lacking in some key areas. For example, no simulation or code, very basic or missing plans for testing, no iteration based on increased knowledge or little division of work.
100	*Acceptable:* Team has made a good effort to complete the milestone. Small errors and omissions are acceptable

Assignment Submission

- you will need to submit one pdf file containing your rover simulation and testing plan using the assignment submission on the course Wattle site.
- name your file according to the following naming convention:

Naming Convention	Example
[University ID]_[given name]_[family name] _[Group]_rover_simulation_and_testing_plan.pdf	u5608740_Jenny_Simmons_ A01_ rover_simulation_and_testing_plan.pdf