

In this project, you will work in your groups to build a remote (Bluetooth) controlled robot and remote-control Android/iOS app for the robot. Your robot should be able to navigate one or more short courses, which will be known ahead of time and marked on the floor of the lab room. One course will test for speed and the other for maneuverability. At the end of the project, we will have a competition to see which group's robot can correctly complete the courses the fastest. You are free to build your robot using whatever components you desire, within a budget of \$150.

A list of components to build an example robot is supplied below. (This example robot parts total \$92 before tax/shipping) While we are giving you an example, you are encouraged to design your own robot within the given cost restriction. For example, while our robot uses an Arduino Uno, you are free to use a Raspberry Pi Zero if you so choose.

Components/parts list for example robot:

1. Arduino Uno <https://store.arduino.cc/usa/arduino-uno-rev3> (<https://www.digikey.com/product-detail/en/arduino/A000066/1050-1024-ND/2784006>)
2. sprout Runt Rover <https://www.servocity.com/sprout>
3. Motor/Servo Shield <https://www.adafruit.com/product/1438>
4. 9V Batter clip <https://www.adafruit.com/product/80>
5. Shield stacking headers <https://www.adafruit.com/product/85>
6. Breadboard <https://www.adafruit.com/product/65>
7. Usb cable <https://www.amazon.com/AmazonBasics-USB-2-0-Cable-Male/dp/B00NH11KIK> OR https://www.monoprice.com/product?p_id=5437
8. Bluetooth module <https://www.adafruit.com/product/2479> (SPI version <https://www.adafruit.com/product/2633>)

An alternative rover may be: <https://www.adafruit.com/product/2939>

The link to the external parts ordering system is: https://app.eecs.ku.edu/external_part_orders/

The project will be due on Wednesday 10/17/2018.