

# EN1-06: Simple Robotics

September 16th, 2016



# Schedule

- Visitors
- In the News
- Assignment 1: Robotic Animal
- Today's Activity
- Installing LabVIEW check-in...

# Visitor 1: Thomas Coons

Thomas Coons: [coonst2015@gmail.com](mailto:coonst2015@gmail.com)

Tufts MAKE: <https://www.facebook.com/groups/tuftsmake/>

On Twitter: <https://twitter.com/tuftsmake> (@tuftsmake)

Maker Network: <https://maker.tufts.edu/>

**Tufts Make GIM and Project Brainstorm:**

Sunday (9/18) at 12pm in Nelson Auditorium in Anderson Hall

# Visitor 2: Alex Rappaport

Alex Rappaport: [Alex.Rappaport@tufts.edu](mailto:Alex.Rappaport@tufts.edu)

Tufts 3 Day Startup: <http://tufts.3daystartup.org/>

September 23rd to 25th, 2016 @ CLIC Building (574 Boston Ave)

AMAZING Panel of Judges :)

Apply by Monday, September 19th (so decide today/this weekend)

Info Session/Bootcamp: Tuesday, September 20th 5:30-6:30pm @ CLIC

# In the News

Uber's self-driving car: Prepare to be thrilled and bored at the same time



<https://www.washingtonpost.com/news/the-switch/wp/2016/09/14/what-its-actually-like-to-ride-in-ubers-self-driving-car/>

## Olympic Athletes Are Electrifying Their Brains



<http://spectrum.ieee.org/biomedical/bionics/olympic-athletes-are-electrifying-their-brains-and-you-can-too>

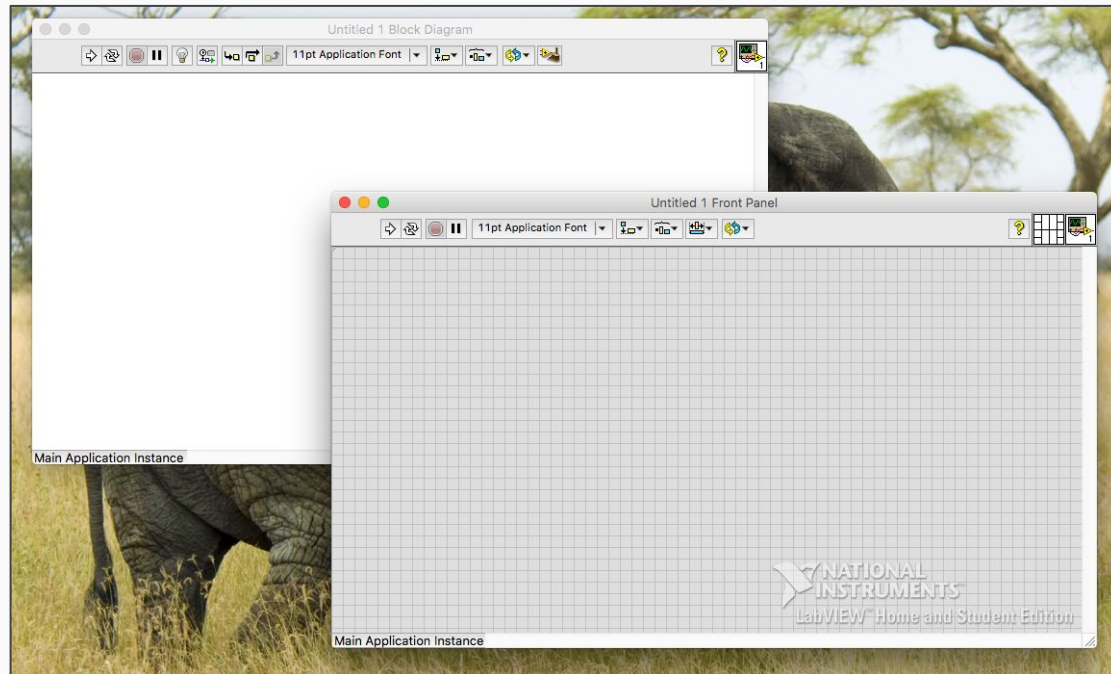
# Assignment 1: Robotic Animal

For this project, you are to create a robotic animal that includes “inputs” (sensors) and “outputs” (motors, or other). Try and capture the look, feel, and movements of the animal you choose. Your animal must also react appropriately to some set of inputs.

Project (in-class presentation) due on **Monday, September 19th, 2016**

Documentation (description, images, video, code, etc) due to website by **Mon (9/19) at 9pm**

# LabVIEW Front Panel and Block Diagram





# Activity

**Challenge 1:** Drive the Motor forward 5 seconds and back 5 seconds

- Does it end up in the same spot as it started? Like EXACTLY the same spot?
- How does the motor stop? What options are there for making the motor stop?
- Challenge 1b: Drive the Motor forward until the touch sensor is pushed, then stop

**Challenge 2:** Use Touch Sensor to “toggle” direction of the motor

**Challenge 3:** The motor moves as fast as the light sensor reads

- Challenge 3b: Each time the touch sensor is pushed, it updates the speed of the motor based on light value
- Challenge 3c: Instead of the light value, can you read a second motor value and use that instead? What's the limitations of this as an input? Can you adjust/fix that?