EN1-06: Simple Robotics

October 12th, 2016

Schedule

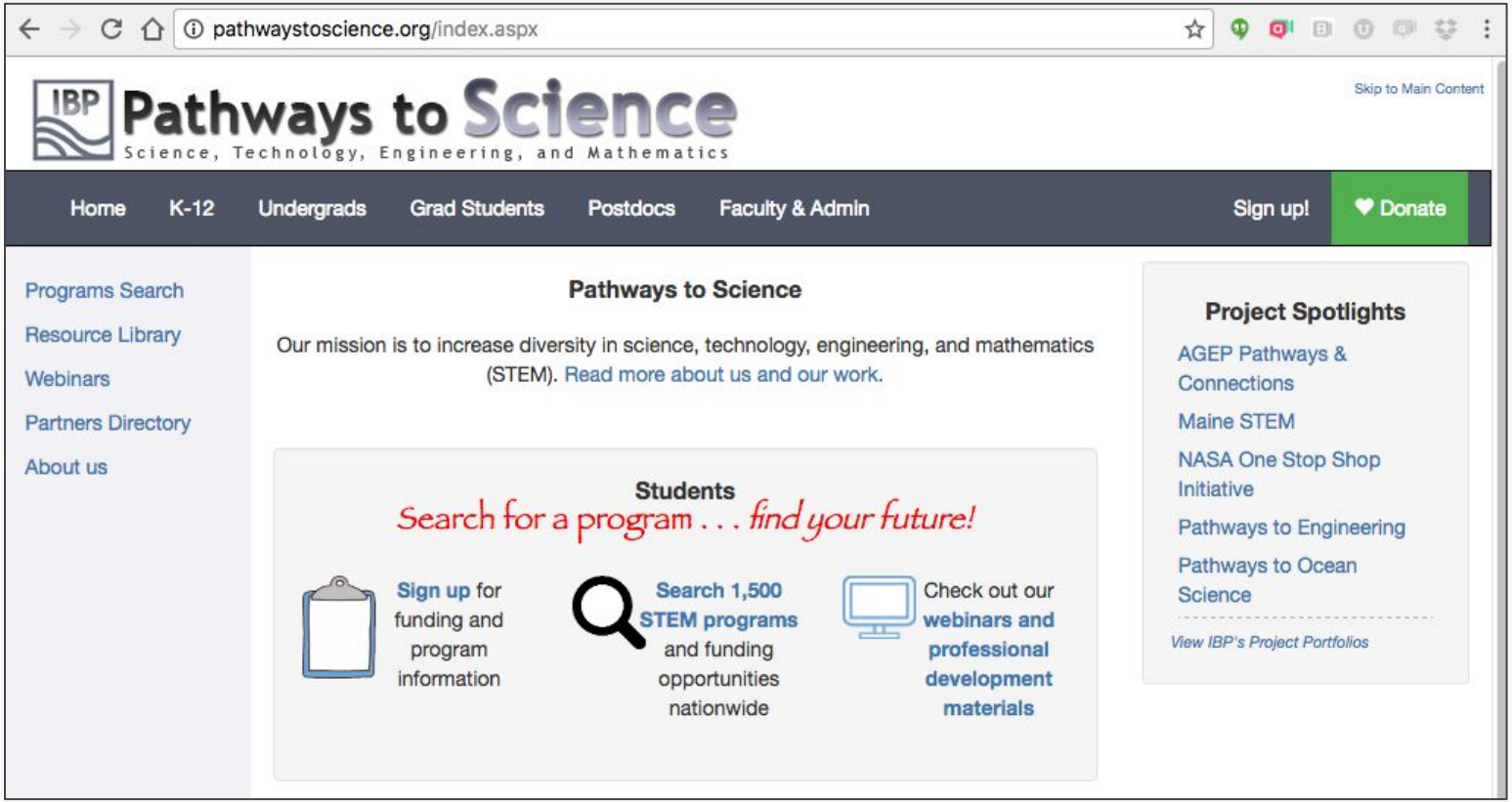
- In the News
- Assignment 4: Robotic Magic Trick
- Engineering Design Process

In the News

Artificial intelligence positioned to be a game-changer: It might not be long before machines begin thinking for themselves -- creatively, independently, and sometimes with better judgment than a human

http://www.cbsnews.com/news/60-minutes-artificial-intelligence-charlie-rose-robot-sofia/

Pathways to Science website



http://pathwaystoscience.org/

Amazon Robotics

Amazon Robotics Tech Talk, October 12, 6-7:30pm, Dowling 745A

Come join us to learn more about Amazon Robotics and to mix and mingle with members of our team.

What We Do: Amazon Robotics, a wholly owned subsidiary of Amazon.com, empowers a smarter, faster, more consistent customer experience through automation. Amazon Robotics automates fulfilment center operations using various methods of robotic technology including autonomous mobile robots, sophisticated control software, language perception, power management, computer vision, depth sensing, machine learning, object recognition, and semantic understanding of commands.

Amazon Robotics has a dedicated focus on research and development to continuously explore new opportunities to extend its product lines into new areas that will redefine what 'Now' means and allow Amazon to continue to offer customer experiences that will delight and amaze.

Headquartered in the Boston area, Amazon Robotics is located in the epicenter of robotic innovation and has developing corporate and academic partnerships to support innovation throughout the robotics ecosystem, to bring cutting edge technology into the field faster.

https://www.myinterfase.com/tufts/CareerFair/Detail/dHh4TmdqRVdQcEZTU2ovRzBBdjRtRVMwbUdzWk9Zbk9jSXlQeXNDbmhDOD01

Tufts PolyHack: October 14 – October 15
Oct 14 at 6:00 PM to Oct 15 at 4:00 PM

REGISTER: http://register.tufts.io/

WEBSITE: http://poly.tufts.io/

MENTOR SIGNUP: http://go.tufts.io/mentor

DESIGN WARS: http://go.tufts.io/design-wars

Come to our All-Tufts Hackathon! People of all skill levels are encouraged to attend. Hone your coding and design skills, get free food and swag, win awesome prizes!

Search “Tufts PolyHack” on FB

Assignment 4: Robotic Magic Trick

Project 4: Robotic Magic Trick **EN1-06 Fall 2016**

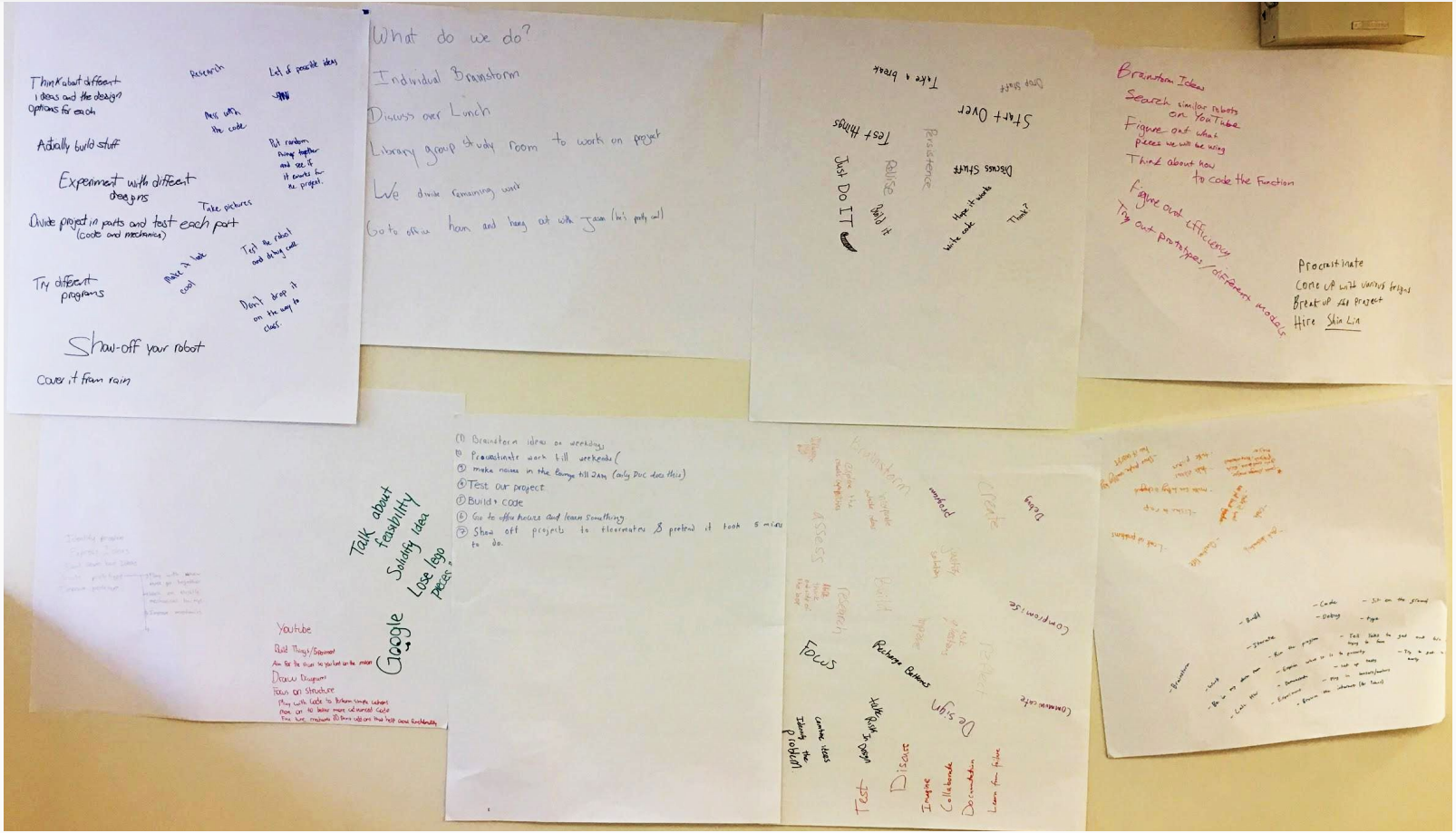
Project (in-class demonstration/video presentation) due on Monday, October 17th, 2016
Documentation (description, images, videos, code, etc) due to website by Mon (10/17) by 9pm

Project Description: Create a robotic magic trick (either performed by the robot or performed by you and facilitated by the robot).

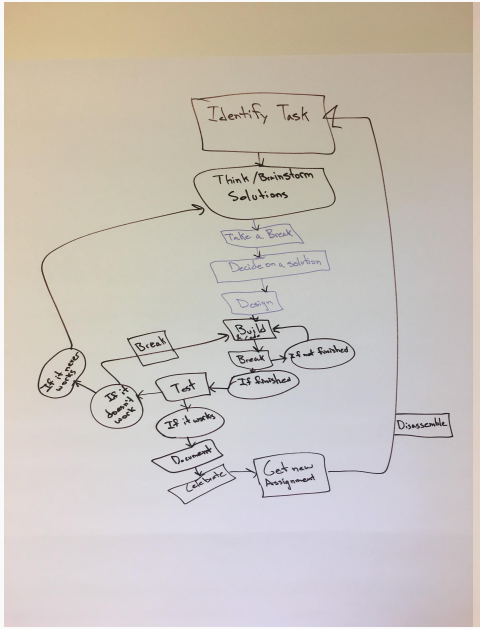
Hardware and Programming: You will use your LEGO MINDSTORMS EV3 Kit as well as any other materials needed for achieving the effect. You will program your robot in LabVIEW.

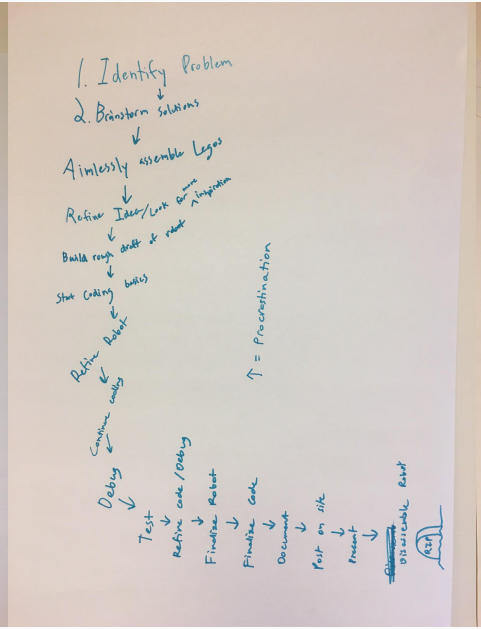
Assignment: You can work in pairs or groups of four (your choice); the complexity of the robot/project should reflect the size of your group (and this being a "two week" long project). For this assignment the goal is to perform a magic trick leveraging the LEGO MINDSTORMS EV3, either having the robot perform the magic trick (e.g. autonomously) or having you (the human) perform the magic trick facilitated by some robotic mechanism. The trick only needs to work once, and from a particular angle (you will be submitting a video recording of the trick; it does *not* need to be performed live). In addition to the video of the trick being performed, you need to submit a second video documenting/demonstrating the mechanism (yes, revealing the "trick," which of course a true magician would never do!).

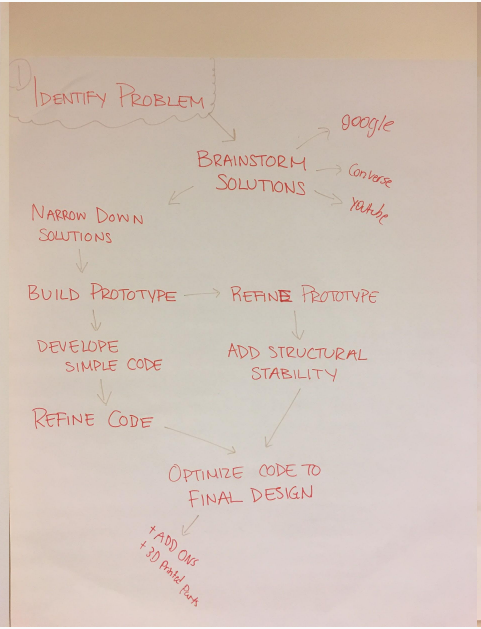
“What do you do?” when doing your projects

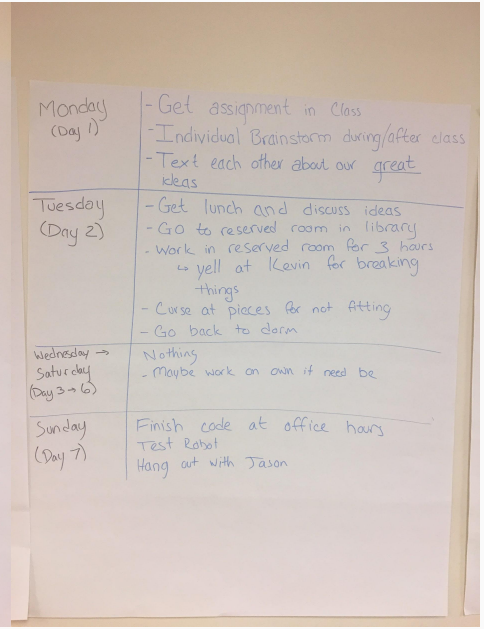


“How do you do” your projects?









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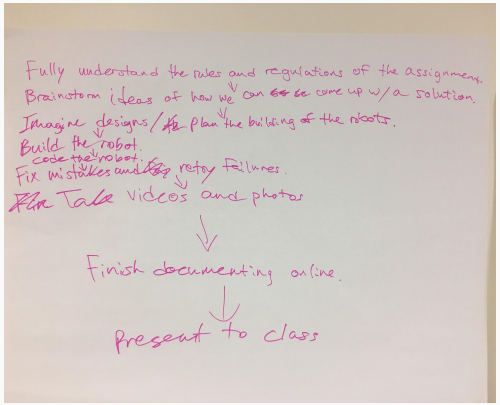
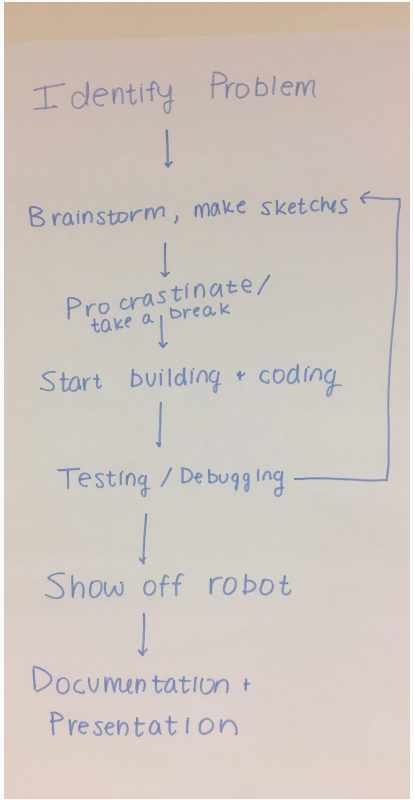
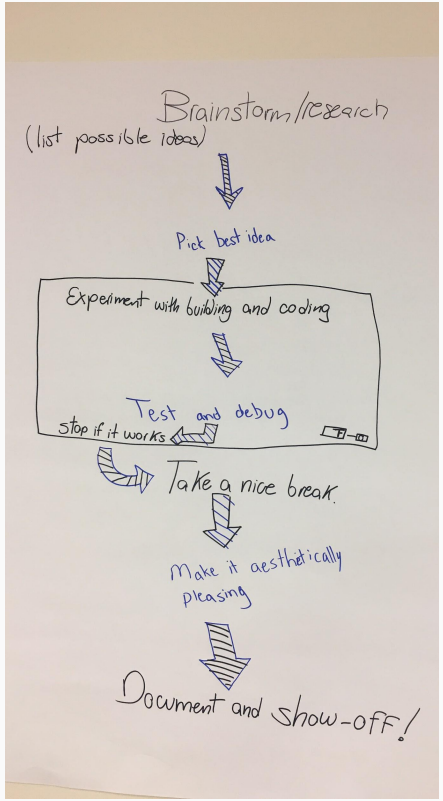
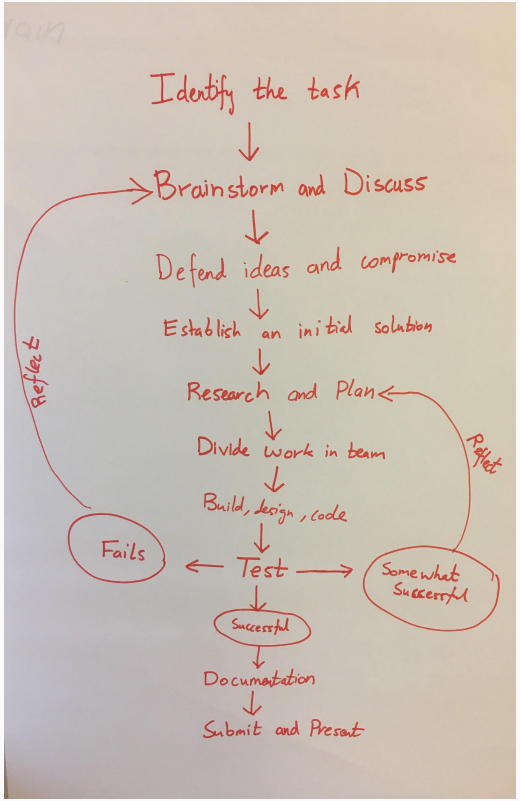


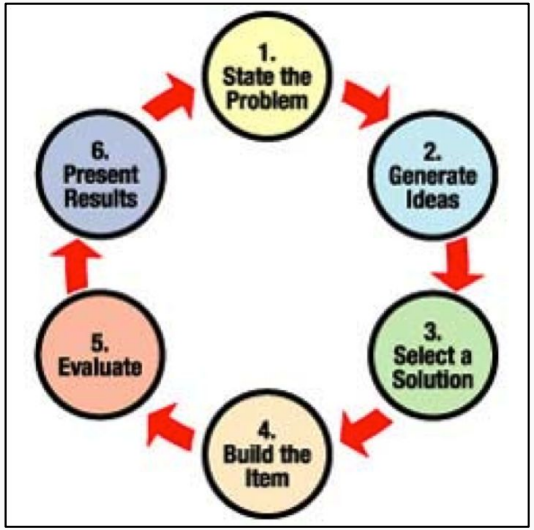


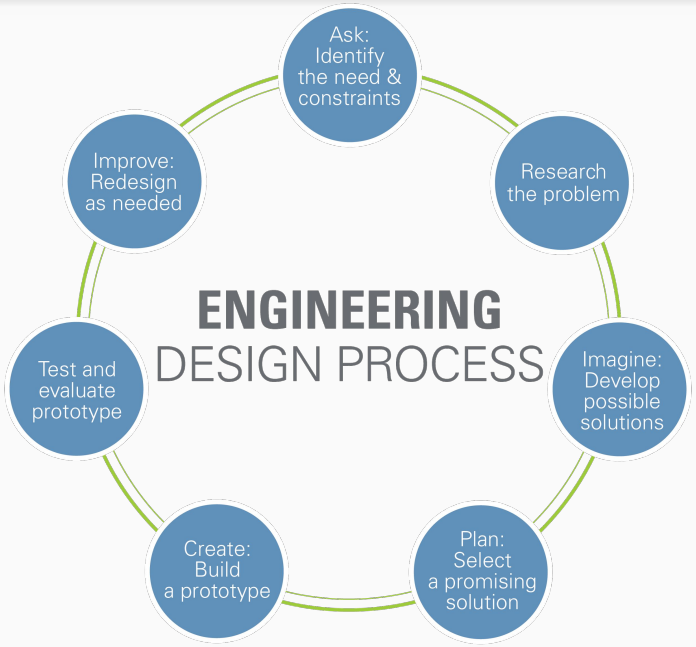




Engineering Design Process (EDP)

The engineering design process is a series of steps that engineering teams use to guide them as they solve problems. The design process is cyclical, meaning that engineers repeat the steps as many times as needed, making improvements along the way.





https://www.google.com/webhp?sourceid=chrome-instant&ion=1&espv=2&ie=UTF-8#q=engineering%20design%20process

“Double Click” (see code on website)