EECS/BioE/MechE 106A/206A

Project Proposal Template

Fall 2023

1 Team Information

Name	Background
Shakira Ripoll	Shakira is a Mechanical Engineering major interested in UAV control theory. She is well-versed in Solidworks and machine shop tools.
Elon Musk	Elon is an EECS M.Eng student who went to undergrad in IIT Mumbai. His interest in robotics is on the computer vision side, and he has worked on several projects involving Raspberri Pi-controlled cars that he likes to call Tesla.
Tarun Amarnath	Tarun is a farmer in the suburbs of Paris specializing in Australian cactus production.

2 Abstract

This is a single-paragraph summary of your project proposal. Think of this as your elevator pitch for your project. If you had 30 seconds to describe your project, what would you say? Try to keep this under 150 words.

3 Project Description

Here, provide a detailed description of your project. It should address:

What are your project goals?
Our goals are...

How will you design your project in terms of software/hardware architecture (at a high level)?
Our deign is...

How does your project incorporate sensing, planning, and actuation?
It...

How will you test or assess your project? What constitutes a success? What are some realistic goals? What are some reach goals?
Something...

4 Tasks

Here, list out different major and minor tasks of the project, along with when you plan to achieve them. Keep in mind the checkpoint dates (11/9 and 11/29). For example,

1. **Build the robot.** We will build the robot using . . .
   (a) **Design the robot.** We will design the robot using . . . [by 10/25]
   (b) **Construct the robot.** We will construct the robot using . . . [by 11/6]
2. **Code the robot.** We will program the robot using . . .
   (a) **Develop node 1.** This node . . . [by 11/6]

(b) **Develop node 2.** This node . . . [by 11/13]

(c) **Develop node 3.** This node . . . [by 11/20]

3. **Testing.** We will test the robot with . . .

   (a) **Design the robot.** We will conduct preliminary hardware tests . . . [by 11/13]

   (b) **Construct the robot.** We will have software/hardware integration tests using . . . [by 11/23]

   (c) **Results.** We will have full results . . . [by 12/3]

5 Bill of Materials

5.1 Use of Lab Resources

Please include all lab resources you plan to use so we can ensure that all teams have sufficient access to hardware. Please indicate which robot end effectors / grippers you plan to use, if applicable.

Item	**Quantity**
Sawyer (w/ parallel gripper)	1
RealSense Cameras	1

5.2 Other Robotic Platforms

You may already have access to other robots, via a lab you work in (or a quadcopter hobby). If you plan to use them, please list them here. (If you plan to use your lab's hardware for the project, make sure to clear it with the PI first!)

Item	**Quantity**	**Owner/Location**
Iron Man suit	1	Prof. Koushil Sreenath
KUKA robot arm	1	My landlord

5.3 Other Purchases

Remember to fill out the form on the Final Project Guidelines if you want ESG to purchase anything for you with your $55 budget! Anything beyond that will be up to you to buy.

Item	**Quantity**	**Justification**

6 Other

This section contains all additional information necessary to convince us that *a)* you are equipped to complete the project you propose, and *b)* you have thought specifically about your project implementation. This section is optional, but some things you might mention include:

- ROS packages you'll need (with pointers to relevant websites);
- preliminary code structure/skeleton; and
- mechanical designs/drawings/sketches of your project.