

Project Outline & Guidelines

Omar Eldash

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1 Teams will be labeled as

Team A

Team B

Team C (lone ranger)

2 Guidelines

The project shall consist of the implementation and adoption of:

- Communication protocols (1 Protocol is enough for Team C)
- Computation intensive process (less intensity for Team C)
- ML Algorithm implemented and coordinated between UC and FPGA (Team C can implement a simpler one on a single platform)
- Multiple sensors and actuators to be used (Team C can choose to work with either sensing or actuation)

3 Reporting

At each stage of the project, It will be good to report part on its own before final report

- I expect monthly reports of utilization, timing, power consumption, challenges and remaining tasks. Reports are expected on such dates
 - October 2nd
 - Nov. 6th
 - Final report at the end of the semester
- It's recommended to use LaTeX for reporting, which would be an additional experience. It's not mandatory. To facilitate this I will send a template that should make things much easier.

4 Project Ideas

Identifying objects using camera as part of a bigger system

Systems may include robotics/drones/health/etc.

Identification of different types of items and optimizing/replacing FPGA implementation based on each of those.

Example for that is having a high and low quality versions of identification algorithm

Another example is to identify two objects of different nature that requires different algorithms (like voice/photo , heart pulse/photo tracking)