To: Mark A. Yoder, Professor, IIT Mandi

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Date: October 05, 2015

Subject: Ideas for Embedded Systems' project

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The following are few potential projects that can be undertaken:

- **Face detecting and following robot:**
  The robot will detect a human face through the help of a mini-camera connected with beagleboard and then beagleboard will drive the actuators(here wheels of the robot) to follow the person. The bot can be made to follow specific person/people if camera quality and face detection is good. (Similar project can be seen at youtube)

- **Monitoring natural processes around the campus:**
  This can include monitoring daily sunlight(useful for determining viability and usefulness of solar panels in the area), monitoring wind speed (useful for monitoring viability and usefulness of wind turbines in the area), monitoring daily sunrise and sunset in the campus(since this is affected by nearby mountains) and monitoring weather(temperature, rainfall etc.). The data will be collected by beaglboard through various sensors.

- **Monitoring daily food wastage:**
  Daily a huge amount of food is wasted in mess. This can probably be reduced when people can look at how much food is being wasted. A pressure/weight sensor can be placed beneath the bucket in which waste food is dumped and then beagleboard can read the data from sensor and can update it on a website(building various statistics and graphs over time) and also displaying it on a small LCD screen real-time at the spot.