

EECE 5554 Final Project - Proposal

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1. Project Goal

ORB SLAM application on mobile device.

2. What datasets will you work on? Will your team be collecting new datasets?

We will test on online dataset first (EuRoc Example) and use our own dataset collecting from our phones.

3. What software packages are you going to use? Have you investigated what it needs for installation and inputs for running?

Software Package: ORB SLAM 3.

Installation on ubuntu depend on Pangolin and OpenCV, Eigen3 and DBoW2 and g2o. Compiled by C++11 Compiler.

Inputs for Running: could be monocular camera image, stereo camera image or RGB-D image and depth.

4. Will your team need any sensors/hardware from the lab? Do you know how to use the hardware/sensors that you need?

Yes, we need localization tracker for ground truth acquisition.

No, we need a tutorial for it.

5. Are you doing any qualitative evaluation on different datasets?

Yes, we will first test the algorithm on EuRoC Example.

And the qualitative evaluation will be based on the comparison between localization performance and the ground truth.

6. Work Division

ORB SLAM Algorithm Installation and Testing: Mingxi, Chenghao

Algorithm Apply on mobile device: Guanang

Application Transfer and Visualize on mobile device: Meishan

