

MEMORANDUM

To: Dr. Randy C. Hoover

From: Sharif Anani, Othman Ali

Subject: Course Project Proposal

Date: September 8, 2015

1 Brief Description

The proposed project is to use three calibrated cameras to produce two stereo-pairs (stereoscopic cameras). The goal of this project is to produce a modular method to create a panoramic (up to 360 degrees) disparity map.

2 Motivation

The main purpose the project would serve is to replace 3D Lidars used in self driving cars and parking/safety sensors used in today's vehicles.

Since the ideal end product would provide a real-time disparity map of all its surroundings, it would not have the drawbacks of current classical sensing methods around a vehicle (sonar) which can have gaps and blind spots.