Project #	Project Name	Project Track	Project Family
P15241	Autonomous People Mover – Remote Control	Transportation	Automated Transportation
Start Term	**Team Guide**	**Project Sponsor**	**Doc. Revision**
Fall 2014	Dr. Rick Lux	Dr. Ray Ptucha	1

Project Description

Project Background:

Autonomous vehicles are the focus of many academic research projects in order to increase roadway safety. Rochester Institute of Technology wishes to re-enter the field of autonomous vehicle research and currently does not have a vehicle to use as a starting point. To facilitate RIT's goal, a remote control golf cart will be built as a base for future development.

Problem Statement:

The scope of this project requires conversion of a golf cart to a remote control vehicle. Safety of the vehicle's passengers and bystanders is the prime concern. Therefore the vehicle must be low speed and retain the ability for passengers to manually control.

Objectives/Scope:

- Convert golf cart to be remote controlled.
- Develop safety measures to protect riders and bystanders.
- Control algorithms/strategies.

Expected Project Benefits:

- Create a foundation for the transportation pillar of the RIT PhD. in engineering program.
- Provide a base for future senior design projects.

Deliverables:

- Remote Control Golf Cart with projected needs and capabilities.
- Documented modifications and Control Systems.

Core Team Members:

Nick Bovee
Patrick Gelose
Katie Knowles
Duc Le
Keith Martin
Mollie Pressman
Jonathan Zimmermann

Strategy & Approach

Assumptions & Constraints:

1. Yamaha golf cart provided.
2. Working within $2000 budget.
3. Safety of users and bystanders supersedes other concerns.

Risks:

- Issues with stock motor controller interfacing.
- Complexity of steering assembly, possible breakages.
- Motor failure and burnout.
- Sensors may overlook small objects.
- Poor driving/sensing conditions.