



Winter 2015-2016

Team Number ECE-BCC-4

**Paintball Environment Tactical Engagement Recon System
(P.E.T.E.R.S.)**

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1. Abstract

The game of paintball has existed in one form or another for roughly the last 30 years, and in that time it has grown from a small group of friends engaging in archaic, backyard games to a full-fledged multi-million dollar-a-year industry. As a result, many great technological strides have been made in terms of improving the paintball marker, playing field, and peripheral development, but the tactics employed on the simulated battlefield and the derived annoyances that accompany them have remained largely unchanged over the years. For any seasoned paintball enthusiast, it is no secret that checking paint levels, pressurized air levels, and determining the location of teammates all involve a large diversion of attention from the task at hand and can each, in their own ways, contribute to the loss of the game. Currently, however, there is simply no work-around for keeping one's attention totally dedicated to the game and its resulting, dynamic environment.

The *Paintball Environment Tactical Engagement Recon System* (P.E.T.E.R.S) aims to significantly lessen or totally remove these distractions by placing the required information in the peripheral vision of the user. By way of utilizing existing commercial-off-the-shelf (COTS) hardware and developing a system of network communication, this project aims to make available to the user information regarding paint level, remaining air pressure, and relative player locations in the form of a heads-up display (HUD) integrated into the paintball mask. In this way, the user can maintain a ready posture at all times in terms of directing the majority of attention to his/her surrounding environment and thereby being able to react far more readily to the bevy of situations encountered during a game.