Imperial College London

Department of Electrical and Electronic Engineering

Final Year Project Report 2019

Project Title:	**Augmented Reality For Human Robotic Interaction**
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Powered wheelchairs are becoming increasingly commonplace in the modern world. However, a major issue faced by powered wheelchair users (PWUs) is navigating the device in crowded areas. Controlling the powered wheelchair in crowded areas requires increased concentration from the PWU, as people in crowds often move unpredictably, or are hidden from view due to standing behind another person or object.

This project implements an augmented reality system using the Microsoft Hololens that aids the PWU by predicting the trajectories of people in crowds. The system displays visual aids that indicate the direction of motion of people, and warns the user of potential collisions, allowing the PWU to make better navigation decisions.

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Introduction and Requirements

1.1 Introduction

This report was written as part of the Final Year Project for the MEng Electronic & Information Engineering course. The project was supervised by Dr. Yiannis Demiris at the Imperial College London.

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