Project Report

We wanted to create an interactive space within the Gather-Ring by having the lights follow the visitors as they walk around the space.

We designed a system that uses ultrasonic sensors to detect and track the visitors, along with an algorithm to convert the data from multiple sensors into locations, which is then used to control the lights. The sensors would be installed underneath the benches so as to not impact the aesthetic of the current installation. We hope this system will be able to create a new interactive space for residents and tourists to enjoy.

Executive Summary

// Summarize report: Peter [done]

Table of Contents

// self-explanatory: **Rico** [done]

Introduction

// overview, goal: **Rico** [done]

Design & Implementation

// Design overview: **Rico** [done]

// Ultrasonic sensors: Peter + Ibrahim [done]

// Arduino: **Rico** [done]

// Raspberry Pi: **Rico** [done]

// Main Program: Adam [done]

// Algorithm: Jake

// LED control software: Adam [done]

Specifications

// Ultrasound sensors: Ibrahim [done]

// Speed of tracking: **Rico** [done]

// Detection area + number of targets: Jake

// LED colour and not being able to light up individual LEDs: Adam [done]

// Power: Peter [done]

Conclusion

// conclusion of project: **Rico** [done]

// any future work we will / would do: **Rico** [done]