

# LazyBots

## McMaster University

# Project Goals SE 4GA6 & TRON 4TB6

#### GROUP Number

Karim Guirguis	001307668
David Hemms	001309228
Marko Laban	001300989
Curtis Milo	001305877
Keyur Patel	001311559
Alexandra Rahman	001305735

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## 1 Revisions

Table 1: Table of Revisions

Date	Revision Number	Authors	Comments
October 5 <sup>th</sup> , 2017	Revision 0	Karim Guirguis David Hemms Marko Laban Curtis Milo Keyur Patel Alexandra Rahman	-

#### 2 Problem Statement

Many restaurants experience a rush of customers which can overwhelm serving staff as they juggle multiple tasks. Simple tasks such as getting drinks and refilling them can be costly, time wise, for a server and are often one of the first tasks overlooked. Thus leaving the customers unattended or with a feeling of neglect. Alfred is a serving assist that aims to remedy this problem by serving drinks to customers table-side. Alfred will arrive at the customer's table once an order has been placed and received, then will dispense the drink without the need to involve the server.

#### 3 Product Purpose

Alfred will allow customers to order drinks through an application, in which he will then navigate his way to their table to dispense the drinks ordered. Furthermore, Alfred will be able to identify objects in his path or tripping hazards and handle each scenario with the appropriate reaction. To ensure safety measures are met, the robot will return to home base when the temperature of the liquids exceeds industry standard, the liquid supply levels are below a set amount or if the power supply is running low.

#### 4 Project Goals that Constitute Success

The minimum requirements for success of this project are as follows:

- G1: Alfred will be able to receive drink orders from an android application.
- G2: Alfred will follow a predetermined path from a map.
- G3: Alfred will be able to arrive at the table who has placed an order.
- G4: Alfred will dispense drinks autonomously.
- G5: Alfred will notify the user that a drink is ready.

### 5 Project Goals

The goals that constitute success are as follows:

- G1: The robot will stay within the walkways.
- G2: The robot will abide to the food safety standards.
- G3: The system will ensure that the robot returns to home base, when power supply and supply levels are low as well as when food safety standards are not met.
- G4: The system will avoid obstacles and tripping hazards along walkways.
- G5: The system will reduce product waste and over-pouring.
- G6: The system will reduce the tasks a server must complete.

## 6 Extended Project Goals

The goals that will exceed the definition of success are as follows:

- G1: The system will be modular to allow integration of existing POS (point-of-sale) systems.
- G2: The system will be able to dispense correct amounts of liquid for different cup sizes.
- G3: The system will allow the users to create and modify restaurant layouts through an interface.