[Sprint 3] Design Document

November 26, 2019

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# Executive Summary

## Project Overview

School assignment

## Purpose and Scope of this Specification

To learn how to manage a project

# Product/Service Description

Professor specifications

## Product Context

Project is self-contained

## User Characteristics

N/A

## Assumptions

N/A

## Constraints

N/A

## Dependencies

N/A

# Requirements

Robot must complete an obstacle course

## Functional Requirements

| Req# | Requirement | Comments | Priority | Date Rvwd | SME Reviewed / Approved |
| --- | --- | --- | --- | --- | --- |
| Req\_1 | Completes the obstacle course |  | 3 | 11/26/19 | Christian  Awn  Jaden |
| Req\_2 | Must knock over pins |  | 2 | 11/26/19 | Christian  Awn  Jaden |
| Req\_3 | Must speak and flash |  | 2 | 11/26/19 | Christian  Awn  Jaden |

## Security

N/A

### Protection

N/A

### Authorization and Authentication

N/A

## Portability

N/A

# Requirements Confirmation/Stakeholder sign-off

Include documentation of the approval or confirmation of the requirements here. For example:

|  |  |  |
| --- | --- | --- |
| Meeting Date | Attendees (name and role) | Comments |
| 11/26/19 | Christian Ramos, Coder  Awn Rizvi, Documentation  Jaden Rodriguez, Project Manager | Confirmed req\_1 – req\_3 |

# System Design

This section will provide all details concerning the technical design, staffing, coding, and testing the system

## Algorithm

The robot will make a series of turns in order to maneuver past bottles, the robot will then go up a ramp and after landing will turn and strike a set of pins

## System Flow

## Software

Javascript

## Hardware

Sphero robot and sphero API

## Test Plan

Include a test plan showing all unit tests performed for this application, Include test rational, test date, staff member, pass/fail status

| **Reason for Test Case** | **Test Date** | **Expected Output** | **Observed Output** | **Staff Name** | **Pass/Fail** |
| --- | --- | --- | --- | --- | --- |
| Can maneuver past pins | 11/26/19 | Tuns past each pin without hitting any | Tuns past each pin without hitting any | Christian, Jaden | pass |
| Reorients properly after landing | 11/26/19 | Will face pins after landing | Faced pins after landing | Christian | pass |

## Task List/Gantt Chart

## Staffing Plan

| **Name** | **Role** | **Responsibility** | **Reports To** |
| --- | --- | --- | --- |
| **Christian Ramos** | Coder, tester | Write algorithms and test them | Awn, Jaden |
| **Awn Rizvi** | Documentator | Track progress and fill the design doc | Christian, Jaden |
| **Jaden Rodriguez** | Project Manager, Tester | Coordinate group and test robot | Christian, Awn |