# SamBot Specification

# Software System Requirements

Introduction :

This document aims to list the global requirement for the SamBot software.

## SYS\_0100

Name: Autonomous bot

Text: The SamBot shall communicate without physical connection with a computer terminal.

## SYS\_0200

Name: Obstacle detection

Text: SamBot shall detect obstacles in front of it.

## SYS\_0300

Name: void detection

Text: The SamBot shall detects void.

## SYS\_0400

Name: Debug mode

Text: The SamBot shall provide debug value to the computer on demand.

## SYS\_0500

Name: Manual Mode

Text: The SamBot shall follow instructions from the computer in Manual Mode

## SYS\_0600

Name: Autonomous Mode

Text: The SamBot shall roll and avoid obstacle by its own in Autonomous Mode

## SYS\_0600

Name: User interface

Text: The SamBot shall provide a easy-use interface through the terminal

# Software Detailed Design Requirements

## DDR\_00100

Name: Turning right

Text: The SamBot shall turn 90° when the

Cover:

Function: turn\_right

## DDR\_00200

Name: Change to manual mode

Text: If the user write “M” in the terminal, the state machine shall turn in Manuel Mode.

Covers:

Function: Main

## DDR\_00210

Name: Change to Autonomous mode

Text: If the user write “A” in the terminal, the state machine shall turn in Autonomous Mode.

Covers:

Function: Main

## DDR\_00300

Name: cycle\_Autonomouse

Text: When the SamBot is in autonomous mode, it’s shall alternatively move forward a little and get sensors information.

Covers:

Function: Autonomous\_drive

## DDR\_00400

Name: User input help

Text: If the Sambot receives any input not defined in the menu then it shall invoke UI\_help to guide the user

Covers:

Function:

## DDR\_00500

Name: void alert

Text: The MSP22311 shall send an alert message to the MSP2753 in case of void detection

Covers:

Function:

## DDR\_00600

Name:

Text:

Covers:

Function:

## DDR\_

Name:

Text:

Covers:

Function: