System and Software Support Plan (SSSP)

Mission Science iRobots

Team 07

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Version History

Date	Author	Version	Changes made	Rationale
03/29/15	YS	1.0	• Added expected information in each section	• To comply with Instructional ICM-Sw standard
04/05/15	FM	1.1	• Refined the document	• To prepare document for Transition Readiness Review

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1. Support Objectives and Assumptions

1.1 Support Objectives

- Assist elementary school student on programming iRobot with provided GUI.
- Correct inaccurate instruction given by elementary school student.
- Record and report unknown bugs.

1.2 Support

Here are some assumptions that will cause support plan unworkable if not achieved.

- Tutors of elementary school students familiar with the error detect mechanism and realize the mechanism is active when a mistake is reported.
- Supporters should be familiar with C language and the iRobot Open Interface.

2. Support Strategy

2.1 Support Lifetime

The support work should last during the teaching activities with current release version. As WinAVR is used to compile and load the generated C code, supporters should pay attention to the compatibility between WinAVR and Windows.

2.2 Release Strategy

The overall release strategy should be major annual releases. Because the development team is going to release its first major version, it is highly possible that the next major version will be published after one-year work of next software engineering group.
Current version has covered most of the basic functionalities in iRobot through the GUI, including drive, LED, song, read sensor data and delay functions. Also, the current version supports IF and LOOP logic.
For new version, the alpha test and beta test should be passed. Also, the recorded bugs in current version should be mitigated after the improvement of new version.

2.3 Release Requirement Determination

The primary driver of new version should be current problem and bugs detected by users and new requirement proposed by user. And the stakeholder win-win should be the primary decisive release requirement.

2.4 Release Process

The new requirements should be accumulated from the test result of current version. If some problems cannot be fixed in the current version, it should be new requirements in next version. Also, the new requirement can be collected from the feedback during the teaching activities. Based on this requirement, win condition can be generated.

3. Support Environment

3.1 Hardware

- Computer with Windows 7 or higher operating system.
- iRobot (including microcontroller and data link)

3.2 Software

Table 1: Description of Software required in Support Plan

Software Requirement:	Visual Studio 2013 Windows 8.1 WPF based on .NET framework 4.5 iRobot Open Interface winAVR compiler
Rationale:	Developing the GUI on Windows Platform running the GUI Provide interface for end-users to program the iRobot Take instructions from the interface and execute them on iRobot Compiles the C program that gets generated from the GUI
User/Operator Manual:	Refer to the “Support” section on Visual Studio website Refer to the “How-to” section on Windows website Refer to the Microsoft MSDN Library Refer to the "Create Open Interface" document Refer to the "iRobot Programming Manual" document
Availability Information:	License provided by USC License provided by USC License provided by USC Open source, provided by client Open source, provided by client

3.3 Facilities

- Some test purpose instructions in current version.
- An emulator has been built to help get the real-time sensor data from iRobot.

4. Support Responsibilities

Table 2: Stakeholders and their supporting responsibilities

Stakeholder	Supporting roles	#	Supporting Skills
Undergraduate Student	Record and Report mistakes and bugs	2	iRobot interface
Technical staff	Fix minor mistakes and bugs	2	C, C#