**System Requirements**

**Specifications for Volt & Pepper System (VPS)**

Sponsor

**The Department of Electrical, Computer, Software & Systems Engineering at Embry-Riddle Aeronautical University**

Last Updated September 30, 2014

**Volt & Pepper Development Team**

**Abstract**:

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# Revision History

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| --- | --- | --- |
| **Date** | **Reason for Change** | **Version** |
| Sep. 30, 2014 | Initial draft of document | 0.0.1 |
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# Introduction

## Purpose

## Scope

## Team Roles

The following table presents all members of the Volt & Pepper System Development Team (VPSDT) and respective role assignments. Each member is accountable for the overesight and advancement of the positions held.

Table 1—Team roles

|  |  |
| --- | --- |
| **Name** | **Role** |
| Nezar Bahksh | Scrum Master |
| Greg Carkin | Development Team |
| Gary Roach | Development Team |
| Brittany Rompa | Prodct Owner  Development Team |

# Decomposition of system

# Budget and Justifications

# Requirements Traceability

# Total System Budget

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| Item Description | Part No. | Fulffilled By | Qty | Unit Price | Shipping | Replacement Cost | Cash Otlay |
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# Requirements

# Functional Requirements

The VPS shall exit the 1 ft. x 1 ft. starting square when the red LED turns off.

The VPS shall traverse the white line on the course.

The VPS shall remain on the white line for at least TBD % of the course.

The VPS shall move to each challenge.

The VPS shall play the Simon game for 15 seconds.

The VPS shall press the middle button on the Simon game to activate the Simon game.

The VPS shall respond to the Simon game after the Simon game dictates a sequence

The VPS shall press the buttons on the Simon game in the sequence dictated by the Simon game.

The VPS shall respond to the Simon game before the Simon game emits an error tone.

The VPS shall leave the Simon game in the Simon game area.

The VPS shall draw the letters “IEEE” on the Etch A Sketch in a TBD lettering style.

The VPS shall rotate the Etch A Sketch knobs to draw the letters “IEEE”.

The VPS shall leave the Etch A Sketch in the Etch A Sketch area.

The VPS shall rotate one row of the Rubik’s Cube 180 degrees relative to the other two rows of the Rubik’s Cube.

The VPS shall leave the Rubik’s Cube in the Rubik’s Cube area.

The VPS shall obtain one playing card from the stack of cards on the course.

The VPS shall leave the remaining cards in the playing card area.

The VPS shall cross the finish line holding the obtained playing card.

The VPS shall cross the finish line after completing all challenges.

## Nonfunctional Requirements

The VPS shall fit within 1 ft. x 1 ft. x 1 ft. if it is in the starting square.

The VPS shall exit the 1 ft. x 1 ft. starting square when the red LED turns off.

The VPS shall traverse the white line on the course.

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The VPS shall leave the remaining cards in the playing card area.

The VPS shall cross the finish line holding the obtained playing card.

The VPS shall cross the finish line after completing all challenges.

## Nonfunctional Requirements

The VPS shall fit within 1 ft. x 1 ft. x 1 ft. if it is in the starting square.

The VPS shall fit within 1 ft. x 1 ft. x 1 ft. to cross the finish line.

The VPS shall operate without human interaction after activation.

The VPS shall operate under its own onboard power supply.

The VPS shall remain within the course.

The VPS shall cross the finish line in no more than 5 minutes after the LED turns off.

The VPS shall remain in the 1 ft. x 1 ft. starting square while the LED is on.

The VPS shall fit within 1 ft. x 1 ft. x 1 ft. to cross the finish line.

The VPS shall operate without human interaction after activation.

The VPS shall operate under its own onboard power supply.

The VPS shall remain within the course.

The VPS shall cross the finish line in no more than 5 minutes after the LED turns off.

The VPS shall remain in the 1 ft. x 1 ft. starting square while the LED is on.

# A. Appendicies

## A.1. Appendix A

# Supplement

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| --- | --- | --- |
| **Entry** | **Definition** | **Alias** |
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# Acronyms & Abbreviations

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| **Entry** | **Expanded Phrase** |
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