

# Verification and Validation Report: The Nursery Project

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# 1 Revision History

Date	Version	Notes
2023-03-08	1.0	Initial Revision

## 2 Symbols, Abbreviations and Acronyms

symbol	description
ART	Accessibility Requirements Test
CR	Conveyor Functional Requirement
CST	Conveyor Subsystem Test
EPET	Expected Physical Environment Test
LCD	Liquid-Crystal Display
LED	Light Emitting Diode
LRT	Learning Requirements Test
MG	Module Guide
MIS	Management Information Systems
NFR	Non-Functional Requirement
PDST	Pot Dispenser Subsystem Test
PDR	Pot Dispensing Functional Requirement
PCST	Pot-pulator Complete System Testing
PT	Precision Test
RT	Reliability Test
SCT	Safety Critical Test
SRS	Software Requirements Specification
SRT	Speed Requirements Test
TDST	Tray Dispenser Subsystem Test
TDR	Tray Dispensing Functional Requirement
VST	Verification Subsystem Test
VR	Verification Functional Requirement

# Contents

<b>1</b>	<b>Revision History</b>	<b>i</b>
<b>2</b>	<b>Symbols, Abbreviations and Acronyms</b>	<b>ii</b>
<b>3</b>	<b>Functional Requirements Evaluation</b>	<b>1</b>
3.1	Pot-pulator Complete System Testing . . . . .	1
3.2	Tray Dispenser Subsystem Testing . . . . .	2
3.3	Pot Dispenser Subsystem Testing . . . . .	2
3.4	Conveyor Subsystem Testing . . . . .	2
3.5	Verification Subsystem Testing . . . . .	2
<b>4</b>	<b>Nonfunctional Requirements Evaluation</b>	<b>2</b>
4.1	Safety Critical Testing . . . . .	2
4.2	Precision Testing . . . . .	2
4.3	Reliability Testing . . . . .	2
4.4	Expected Physical Environment Testing . . . . .	2
4.5	Speed Requirements Testing . . . . .	2
4.6	Learning Requirements Testing . . . . .	2
4.7	Accessibility Testing . . . . .	2
<b>5</b>	<b>Comparison to Existing Implementation</b>	<b>2</b>
<b>6</b>	<b>Unit Testing</b>	<b>2</b>
<b>7</b>	<b>Changes Due to Testing</b>	<b>2</b>
<b>8</b>	<b>Automated Testing</b>	<b>3</b>
<b>9</b>	<b>Trace to Requirements</b>	<b>3</b>
<b>10</b>	<b>Trace to Modules</b>	<b>3</b>
<b>11</b>	<b>Code Coverage Metrics</b>	<b>3</b>

## List of Tables

1	PCST Evaluation . . . . .	1
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## List of Figures

This document ...

### 3 Functional Requirements Evaluation

#### 3.1 Pot-pulator Complete System Testing

Test Number	Description	Input	Expected Output	Actual Output	Result
PCST-01	Tray Dispenser Operation	Sensor reading of status of tray stack	Normal system operation	Normal system operation	Pass
PCST-02	On Switch for Tray Dispenser Error				

Table 1: PCST Evaluation

### **3.2 Tray Dispenser Subsystem Testing**

### **3.3 Pot Dispenser Subsystem Testing**

### **3.4 Conveyor Subsystem Testing**

### **3.5 Verification Subsystem Testing**

## **4 Nonfunctional Requirements Evaluation**

### **4.1 Safety Critical Testing**

### **4.2 Precision Testing**

### **4.3 Reliability Testing**

### **4.4 Expected Physical Environment Testing**

### **4.5 Speed Requirements Testing**

### **4.6 Learning Requirements Testing**

### **4.7 Accessibility Testing**

## **5 Comparison to Existing Implementation**

This section will not be appropriate for every project.

## **6 Unit Testing**

## **7 Changes Due to Testing**

The changes due to testing are summarized below:

1. The bases of the verification mounts were recently expanded away from the conveyer by approximately 5 cm on either side, to address issues with the pots being too close to the sensor when travelling down the conveyer, resulting in inaccurate readings.

- 8 Automated Testing
- 9 Trace to Requirements
- 10 Trace to Modules
- 11 Code Coverage Metrics



## Appendix — Reflection

The information in this section will be used to evaluate the team members on the graduate attribute of Lifelong Learning. Please answer the following questions:

- 1.
- 2.