Hazard Analysis The Nursery Poject

Team #, Team Name
Student 1 name
Student 2 name
Student 3 name
Student 4 name

Table 1: Revision History

Date	**Developer(s)**	**Change**
Date1	Name(s)	Description of changes
Date2	Name(s)	Description of changes
...	...	...

Contents

[You are free to modify this template. —SS]

1 Introduction

[You can include your definition of what a hazard is here. —SS]

2 Scope and Purpose of Hazard Analysis

3 System Boundaries and Components

4 Critical Assumptions

[These assumptions that are made about the software or system. You should minimize the number of assumptions that remove potential hazards. For instance, you could assume a part will never fail, but it is generally better to include this potential failure mode. —SS]

5 Failure Mode and Effect Analysis

Component	Failure Mode	Effect of Failure	Cause of failure	Recomended action	SR	Ref
Tray Dispensing	Tray is not dispensed	Machine is unable to continue operation, tray may be damaged	(a) Tray stack software/hardware failure (b) Tray dispenser software/hardware failure (c) Parts failure	(a) Sensor will recognize if tray has not been dispensed, error message will be displayed and operator will be notified. (b) Refer to H1-1a (c) Refer to H1-1a		H1-1
	Trays placed incorrectly on conveyor	Tray is unable to move forward on conveyor, pot dispenser is unable to place pots correctly. May damage pots/trays	Tray dispenser software/hardware failure	Guiding rods will be placed on the conveyor to centre trays into correct position. If trays are unable to move forward, error message will be displayed and operator will be notified.		H1-2

	Trays dispensed are stacked, 2+ trays dispensed at once	Tray storage becomes out of sync with pot storage, may damage pots/trays	1. Parts failure 2. Trays loaded incorrectly	1. Sensor will recognize if multiple trays have been dispensed, error message will be displayed and operator will be notified 2. Operator will be trained to properly load trays into machine"	H1-3
	Tray dispenser damages tray	Tray is unable to hold pots and be sent for distribution (will depend on severity of damage to tray)	Quality issue in trays	Operator will be trained to perform 60 second visual check of Pot-pulator, trays, and pots before each refill to note and eliminate trays with any noticeable defects	H1-4
Pot Dispenser	Pots are not dispensed	Tray will be dispensed empty	Software/hardware failure	Sensor post pot dispensing will sense that the tray has not been populated, error message will be displayed and operator will be notified	H2-1

	Pots dispensed are not flush with tray openings	Pots will be damaged by Pot-pulator or soil filling machine	(a) Software/hardware failure (b) Quality issue in pots (c) Quality issue in trays	(a) Sensor will recognize that pot is not flush with tray opening, error message will be displayed and operator will be notified (b) Operator will be trained to perform 60 second visual check of Pot-pulator, trays, and pots before each refill to note and eliminate pots with any noticeable defects (c) Refer to H1-4	H2-2
	Pots dispensed when tray is not present	Pot storage becomes out of sync with tray storage	Software/hardware failure	Sensor will recognize if pots are dispensed without tray present, error message will be displayed and operator will be notified	H2-3

	Pots dispensed are stacked	Pots will be damaged by Pot-pulator or soil filling machine	(a) Parts failure (b) Pots loaded incorrectly	(a) Sensor will recognize if multiple pots have been dispensed, error message will be displayed and operator will be notified (b) Operator will be trained to properly load pots into machine	H2-4
	Pot dispenser damages pots	Pots are unable to be filled with soil and sent for distribution	Quality issue in pots	Refer to H2-2b	H2-5

6 Safety and Security Requirements

[Newly discovered requirements. These should also be added to the SRS. (A rationale design process how and why to fake it.) —SS]

7 Roadmap

[Which safety requirements will be implemented as part of the capstone timeline? Which requirements will be implemented in the future? —SS]