FRUIT DRYER TEST PLAN (MSD II)

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Introduction

The Test Plan has been created to communicate the test approach to team members. It includes the objectives, scope, schedule, risks and approach. This document will clearly identify what the test deliverables will be and what is deemed in and out of scope.

1.1 Objectives

The test plan was developed to observe the feasibility of our fruit dryer prototype to be used in the natural environment of Haiti. The main objective is to test the prototype under different condition ranging from least intensive conditions to the extreme conditions.

1.2 Team Members

Mike Letina
Thomas Stoklosa
Muhamad Syafiq
Alvin Yip

2 Scope

The initial phase will include all 'must have' requirements. These and any other requirements that get included must all be tested. At the end of the testing phase, a tester/team member must be able to:

1. Conduct feasibility analysis on the features of the prototype
2. Gather relevant data for analysis purpose
3. Enter results and appropriate comments
4. View results
5. Propose modification to the final design of prototype

As the team works with the product, definition of needs for the second phase of the test plan which is data analysis and improvement suggestions will be developed.

3 Assumptions / Risks

3.1 Assumptions

This section lists assumptions that are made specific to this test plan.

3.2 Risks

The following risks have been identified and the appropriate action identified to mitigate their impact on the project. The impact (or severity) of the risk is based on how the project would be affected if the risk was triggered. The trigger is what milestone or event would cause the risk to become an issue to be dealt with.

#	Risk	Impact	Trigger	Mitigation Plan
1	Scope Creep – as testers become more familiar with the tool, they will want more functionality	High	Delays in implementation date	Each iteration, functionality will be closely monitored. Priorities will be set and discussed by stakeholders. Since the driver is functionality and not time, it may be necessary to push the date out.
2	Changes to the functionality may negate the tests already written and we may loose test cases already written	High – to schedule and quality	Loss of all test cases	Export data prior to any upgrade, massage as necessary and re-import after upgrade.
3	Weekly delivery is not possible because the developer works off site	Medium	Product did not get delivered on schedule	
4				

4 Test Approach

The project is using an agile approach, with weekly iterations. At the end of each week the requirements identified for that iteration will be delivered to the team and will be tested. All the analysis will be conducted once relevant data are obtained.

5 Test Details

1. Solar and humidity testing
   -Leave the prototype in the greenhouse or heat lab for 5-8 hours
   -Measure weight drop every 30 mins
   -Need to achieve 60% weight drop
2. Wind testing
   -Use wind tunnel
   -Observe the strength under 3 different wind speeds (min, medium max)
   -IF POSSIBLE, leave the prototype out in the open during windy day(s)
3. Rain testing
   -Leave the prototype outside when it rains
   -Measure for volume of water that leaks into the compartment
   -Measure time it takes for prototype to completely dry
   -Run the experiment to dry fruit right after the prototype is dried
   -Compare drying time to benchmarked time
4. Fatigue testing
   -Overload the trays with fruit and observe for maximum capacity that it could withstand
   -Oscillate the prototype at different frequencies to observe the effect on structural integrity

6 Milestones / Deliverables

6.1 Test Schedule

The initial test schedule follows…….

Task Name	Start	Finish	Effort	Comments
Test Planning				
Review Requirements documents				
Create initial test estimates				
Functional testing – Iteration 1				
Solar test				
Humidity test				

Wind test				
Rain Test				
Fatigue test				
Data Analysis				
Minitab Analysis				
Matlab Analysis				
Resolution of final defects and final build testing				
Debriefing				
Implement modifications				

6.2 Deliverables

Deliverable	**For**	**Date / Milestone**
Test Plan	All team members, sponsor, guide	
Test Results	All team members	
Test Status report	All team members, SME	
Metrics	All team members	