Master Test Plan

for the

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by

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Concrete Drying Application Team

CS-TEST

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**Change Log:**

|  |  |
| --- | --- |
| Revision | Change Note(s) |
| 1.0 | Initial Release |
| 1.1 | Made changes based on feedback from Dr. Mayer |
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**Reviewed and Approved By:**

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# 1 INTRODUCTION

## 1.1 Scope

This test plan includes component, component integration, system, and acceptance levels of testing on the entire project. One constraint to the test plan is getting access to the server so testing such as some system testing has to wait until access to a server is granted. Since an iterative development methodology is used there will be multiple iterations of each level of testing and testing levels do not necessarily have an exact order. In general though, when adding/modifying a feature, component testing then integration testing occurs. Then acceptance testing occurs. Once all the components pass the component integration and acceptance testing by the client then system testing will be performed. Leaving system testing tell after the client has accepted the software components means not having to re-do system testing when a new software component is added or a change in requirements occurs. But, if there is a big problem found when system testing this can cause the project to not be finished on time. So not all system tests should be left for the end. After system testing another acceptance test will be performed.

## 1.2 Features to be tested:

* Chart generation
* Creating account
* Lost password
* Email
* Login functionality
* Project table
* Future notification
* Change in state notification
* Future notification table
* Change in state notification table
* Web site usage statistics view
* Web site usage statistics table
* Database reset functionality
* Security

## 1.2 References

IEEE Std 829-2008 – IEEE Standard for Software and System Test Documentation

CS-SPEC - Project Specification

CS-PLAN – Project Plan

## 1.3 System overview and key features

See Project Specification

## 1.4 Test overview

### 1.4.1 Organization

Test tasks will be assigned like sprint tasks during sprint planning. The test lead, which is the quality assurance manager, will be involved in every test even if not assigned the testing task. After a sprint is complete during the sprint review the test tasks will be reviewed and a unanimous decision has to be made to approve the test processes. If issues are raised by the testing tasks the person that was the task leader for that test task will be in charge of resolving the task unless it is a major issue then the team will reach a unanimous decision on how to proceed.

### 1.4.2 Master test schedule

**Sprint 4 - Feb 2nd**

Functionality

* Login and logout functionality
* Add user project table
* Add project functionality
* Chart generation
* About (info) page

Testing**:**

* Component / Unit testing
  + adding/editing/modifying project functionality
  + project table
  + Chart generation
  + Sessions
  + Login
  + Logout
* Component Integration testing
  + project table
  + project functionality
  + chart generation
  + user table
  + login
  + logout
  + user account functionality
  + session functionality
* System testing
  + Exception Handling
    - Login form
    - Create account form
    - Add project form
  + Compatibility testing
    - Test that the application looks and acts the same on Internet Explorer, Google Chrome, and Firefox
  + Security testing
    - Integrity
    - Confidentiality
    - Authentication
    - Authorization
  + Changing concrete temp functionality
  + About (information) page
    - Information
    - GUI (layout)

**Sprint 5 Feb 23rd**

*Note: Expecting server to be available (See project plan – Resources)*

Functionality

* Add Future Notifications table
* Add ChangeInStateNotifciaiton table
* Add notification functionality
* Email
* Forgot password
* Chart functionality

Testing

* Component Testing / Unit Testing
  + Future Notfications table attributes
  + ChangeInStateNotifcation table attributes
  + Add/edit/delete notification
  + Additional email address(es) to email notifications
  + Notification form
  + Email
  + Chart functionality
* Component Integration testing
  + Project table
  + Notifications tables
  + Email
  + Forgot password
  + Chart functionality
* System testing
  + Exception handling
    - Add notifications form
      * Attributes
        + Type of notification
        + Change in state parameter
        + Extra emails
        + Future date
  + Data migration testing – Transferring software to server
  + Performance testing
    - Response time of rendering graph is under 5 seconds
    - Login time and gathering users project and notification

**Sprint 6 - March 16th**

Functionality

* Add site usage table
* Add usage statistics functionality

Testing

* Component / Unit testing
  + Site usage table
  + Usage statistics functionality
* Component Integration testing
  + Entire database
  + Usage statistics functionality
* System testing
  + Compatibility testing
    - Test that the application looks and acts the same on Internet Explorer, Google Chrome, and Firefox

**Sprint 7 - March 30th**

Functionality

* Training on how to use view site stats
* Add maintainability functionality
* User manuals
* Beta testing

Testing

* Component / Unit testing
  + Recovery functionality (if something goes wrong be able to recover)
* Component Integration testing
  + Recovery functionality
  + Entire project
* System testing
  + Compatibility testing
    - Test that the application looks and acts the same on Internet Explorer, Google Chrome, and Firefox
  + Performance testing
    - Response time of rendering graph is under 5 seconds
    - Login time and gathering users project and notification
  + Recovery testing
  + Concurrent testing
  + Conformance testing

**Sprint 8 - April 13th**

Functionality

* n/a

Testing

* Acceptance testing – Client Satisfaction
  + Chart generation
    - Colors
    - Data labels
    - Titles/subtitle/plot band titles
    - Points
    - Grid axis
    - Line
    - Tooltip
    - Change concrete temp
    - Print/download chart
    - Metric conversion
    - Other
  + Site usage stats
  + User account functionality
  + Project functionality
  + Notifications functionality
  + Lost password
  + Recover functionality

### 1.4.3 Integrity level schema

Integrity level scheme: Refer to IEEE Std 829-2008 Annex B

|  |  |
| --- | --- |
| **Components** | **Integrity Level** |
| Chart Generation | 3 |
| Security | 3 |
| Performance/ Conformance | 2 |
| Recovery | 2 |

### 1.4.4 Resource summary

See project plan – Resources

### 1.4.5 Responsibilities

The quality assurance manager will be the task leader for all test tasks. Tests that will be run during that sprint will be assigned when planning a sprint. If needed other people can be assigned to a testing task but the quality assurance manager is still the task leader.

# 2. Details of the Master test plan

## 2.1 Test processes including definition of test levels

### 2.1.1 Process Management and Acquisition

Refer to Annex C Table 5.1.1 of IEEE Std. 829 – 2008

Refer to Annex C Table 5.2.1 of IEEE Std. 829 – 2008

### 2.1.2 Process: Supply and Development

Refer to Annex C Table 5.4.1 of IEEE Std. 829 - 2008

### 2.1.3 Process: Operation and Maintenance

|  |  |  |
| --- | --- | --- |
| **Testing Tasks** | **Input** | **Output** |
| Record changes to be made and identify risks involved with anomalies | Sprint output, Project Plan | Updated Documentation |
| Fix anomaly | Code that is involved with the anomaly | Revised code |
| Iterative test case | Test Log | Sprint Output |

## 2.2 Test documentation requirements

We will record every test in the test results and analysis portion of the Sprint Output document. If anything goes wrong during a test, we will complete an Anomaly Report which will be added to rest results and analysis portion of the Sprint Output document.

## 2.3 Test administration and reporting requirements

The team will unanimously decide how to handle anomalies. If a task input is changed the task will be repeated. If there were any anomalies during the execution of a task, the task will be repeated when the anomaly is fixed. If a requirement is added to the project and something new needs to be tested, a task will be created for any new components that need to be tested and the tentative schedule will be updated. The team will unanimously decide any deviations and document decisions made in the test results and analysis portion of the sprint output document. When performing tests, the QA manager is in charge of the test. If a secondary person is assigned to the task they are only to assist the quality assurance manager.