

Verification and Validation Report: Measuring Microstructure Changes During Thermal Treatment

Team #30, ReSprint
Edwin Do
Joseph Braun
Timothy Chen
Abdul Nour Seddiki
Tyler Magarelli

March 8, 2023

1 Revision History

Date	Developer	Change
Date 1 Mar. 8, 2023	1.0 Joseph Braun	Notes Added Section 5

2 Symbols, Abbreviations and Acronyms

symbol	description
T	Test

[symbols, abbreviations or acronyms – you can reference the SRS tables if needed —SS]

Contents

1 Revision History	i
2 Symbols, Abbreviations and Acronyms	ii
3 Functional Requirements Evaluation	1
4 Nonfunctional Requirements Evaluation	1
4.1 Usability	1
4.2 Performance	1
4.3 etc.	1
5 Comparison to Existing Implementation	1
6 Unit Testing	3
7 Changes Due to Testing	3
8 Automated Testing	3
9 Trace to Requirements	3
10 Trace to Modules	3
11 Code Coverage Metrics	3

List of Tables

List of Figures

1 Previous software user interface design	2
---	---

This document ...

3 Functional Requirements Evaluation

4 Nonfunctional Requirements Evaluation

4.1 Usability

Usability Tests					
Requirement	Related Tests	Unit	Description	Expected Result	Result
Afghanistan	AF		AFG	004	
Aland Islands	AX		ALA	248	
Albania	AL		ALB	008	
Algeria	DZ		DZA	012	
American Samoa	AS		ASM	016	
Andorra	AD		AND	020	
Angola	AO		AGO	024	

4.2 Performance

4.3 etc.

5 Comparison to Existing Implementation

Below is an image of the existing implementation's GUI.

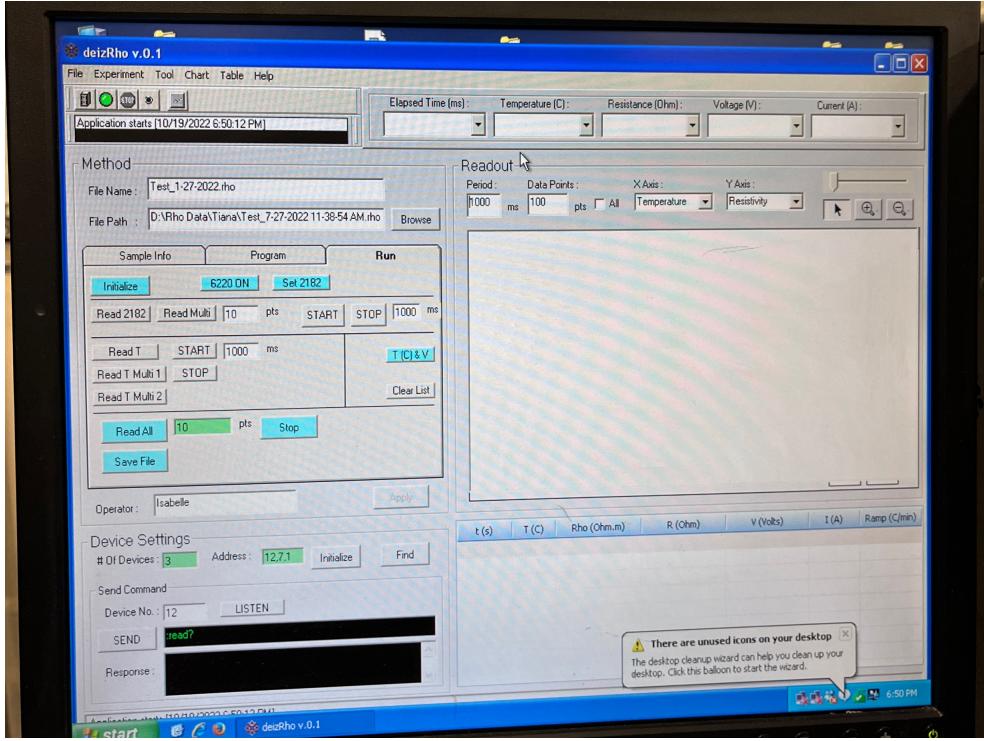


Figure 1: Previous software user interface design

The key elements of the existing implementation will also be included in our implementation. This is so that the application will be familiar to the user and as intuitive as possible. These elements are listed below:

- Method Panel: controls which device to read data from (temperature or voltage), and which file to save the data in
- Device Settings Panel: used to send SCPI commands directly to a device
- Readout: includes graphical output and listed output of relevant values (current, voltage, resistance, etc.)

The primary difference between the existing implementation and our implementation is the appearance of the GUI. The existing implementation was developed for Windows XP and in its current state is non-functional. Our implementation is developed for Windows 10.

6 Unit Testing

7 Changes Due to Testing

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.