

**GRACE R Studio Environment Test Plan & Summary Memo**

Version 1.1

**Revision History**

| Version # | Date  (dd-mmm-yyyy) | Author | Revision Summary |
| --- | --- | --- | --- |
| 1.0 | 11 Oct 2021 | Jason Zhang | Initial Release Version. |
| 1.1 | 20 Oct 2021 | Jason Zhang | Edit according to team comments. |

Contents

[**Purpose:** 4](#_Toc84341831)

[**Scope:** 4](#_Toc84341832)

[**System Description:** 5](#_Toc84341833)

[**Test Scenarios:** 5](#_Toc84341834)

[**Usability Test Results** 7](#_Toc84341835)

[**Findings Reported and Status** 7](#_Toc84341836)

[**Conclusion of Findings Reports** 7](#_Toc84341837)

[**Reference** 7](#_Toc84341838)

# **Purpose:**

This RStudio environment test plan and summary memo documents test summary performed by the DSEI subject matter experts (SMEs) as part of GRACE platform and reviewed by the DSEI business system owner.

# **Scope:**

The following capabilities will be implemented as part of RStudio workbench and RStudio Connect in GRACE platform.

* Usability Test
* Performance Test
* Integration Test
* User Acceptance Test

# **System Description:**

RStudio environment will provide capabilities to support rapid generation of R program and other related deliverables in compliance with regulatory guidelines and expectations.

# **Test Scenarios and Result:**

DSEI SMEs perform testing for RStudio environment

This section documents the verification of the usability testing scenarios outlined in Table A. The feedback provided by the tester during the testing will be document in Table A.

This section will be updated on completion of the testing and will be sent for approval.

**Table A: Scenario Table**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **No.** | **Scenario** | **Tester** | **Result** | **Date** | **Comments** |
| **Usability Testing** | | | | | |
| 1.General Workflow | | | | | |
| 1.1 | Generate tabular clinical output | Jason Zhang |  |  |  |
| 1.2 | Generate graphical clinical output | Jason Zhang |  |  |  |
| 1.3 | Support R project | Boxuan Li |  |  |  |
| 1.4 | Support R markdown file | Boxuan Li |  |  |  |
| 1.5 | Support R script | Boxuan Li |  |  |  |
| 1.6 | Support R shiny application | Boxuan Li |  |  |  |
| 1.7 | Support python coding in Jupyter |  |  |  |  |
| 1.8 | Running multiple R sessions | Jason Zhang |  |  |  |
| 1.9 | Auto-run designated R scripts |  |  |  |  |
| 1.10 | Required R package installation | Boxuan Li |  |  |  |
| 1.11 | Required python package installation |  |  |  |  |
| 1.12 | Host Shiny app through R Studio connect | Boxuan Li |  |  |  |
| 1.13 | Collaborative code repository |  |  |  |  |
| 1.14 | Code access and authentication |  |  |  |  |
| 1.15 | BLRM simulation workflow |  |  |  |  |
| File Import | | | | | |
| 2.1 | Import excel file | Jason Zhang |  |  |  |
| 2.2 | Import csv file | Jason Zhang |  |  |  |
| 2.3 | Import SAS dataset | Jason Zhang |  |  |  |
| 2.4 | Import pdf file | Jason Zhang |  |  |  |
| File Transformation | | | | | |
| 3.1 | General function in tidyverse | Jason Zhang |  |  |  |
| 3.2 | General function in ggplot2 | Jason Zhang |  |  |  |
| 3.3 | General function in openxlsx | Jason Zhang |  |  |  |
| 3.4 | General function in arsenal | Jason Zhang |  |  |  |
| 3.5 | General function in lubridate | Jason Zhang |  |  |  |
| 3.6 | General function in pdftools | Jason Zhang |  |  |  |
| File Export | | | | | |
| 4.1 | Export excel file | Jason Zhang |  |  |  |
| 4.2 | Export csv file | Jason Zhang |  |  |  |
| 4.3 | Export pdf file | Jason Zhang |  |  |  |
| 4.4 | Export image file | Jason Zhang |  |  |  |
| 4.5 | Export HTML file via Knit | Jason Zhang |  |  |  |
| 4.6 | Export word file | Jason Zhang |  |  |  |
| 4.7 | Export rtf file | Jason Zhang |  |  |  |
| **Performance Testing** | | | | | |
| 5.1 | Performance on complicated scripts |  |  |  |  |
| 5.2 | Performance with multiple R sessions |  |  |  |  |
| 5.3 | Performance with multiple users |  |  |  |  |
| 5.4 | Memory limits when loading large file |  |  |  |  |
| 5.5 | Performance when loading data from integration |  |  |  |  |
| **Integration Testing** | | | | | |
| 6.1 | Extract and load data from GRACE file server |  |  |  |  |
| 6.2 | Extract and load data from Statistical Computing Environment (SCE) module |  |  |  |  |
| 6.3 | Extract and load data from Clinical Data Analytics (CDA) module |  |  |  |  |
| 6.4 | Extract and load data from local directory |  |  |  |  |
| **User Acceptance Testing** | | | | | |
| 7.1 | Run required R script for pilot study |  |  |  |  |

# **Findings Reported and Status**

This section documents incidents that were identified during testing conducted by DSEI SMEs. “Tester” referred in the table below is the business user.

Status for the incidents is categorized as “In Progress” and “Closed”. Status “In Progress” are for the incident that are being investigated and potentially being fixed. Status “Closed” are for the incidents that are closed, and there is no further action pending. All the incidents will be synchronized with the smartsheet tracker.

**Table C: Findings Reported and Status**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Incident No** | **Description of Incident** | **Workstream** | **Severity** | **Tester** | **Assigned to** | **Decision/Action** | **Status** |
|  |  |  |  |  |  |  |  |

# **Conclusion of Findings Reports**

This section documents the final disposition of findings reported in the previous section.

This section will be updated on the completion of usability testing and will be sent for review.

# **Reference**

|  |  |
| --- | --- |
| **Reference Description** | **Source / Location** |
| RStudio Team | https://www.rstudio.com/products/team/ |