

**School of Computing**

**SRM IST, Kattankulathur – 603 203**

**Course Code: 21CSC303J**

**Course Name: Software Engineering and Project Management**

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| --- | --- |
| **Experiment No** | 10 |
| **Title of Experiment** | Develop a Testing Framework/User Interface |
| **Name of the candidate** | Ponnuri Aniruddha |
| **Team Members** | Vamshi Gadde (RA2112704010017)  Y Shabanya Kishore (RA2112704010018) |
| **Register Number** | RA2112704010015 |
| **Date of Experiment** | 18/03/2024 |

**Mark Split Up**

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| --- | --- | --- | --- |
| **S. No** | **Description** | **Maximum Mark** | **Mark Obtained** |
| 1 | Exercise | 5 |  |
| 2 | Viva | 5 |  |
| **Total** | | **10** |  |

**Staff Signature with date**

**Aim**

To develop the testing framework and/or user interface framework for the SRM Research Hub

**Team Members:**

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| --- | --- | --- | --- |
| **S No** | **Register No** | **Name** | **Role** |
| **1** | **RA2112704010015** | Ponnuri Aniruddha | **Rep/Member** |
| **2** | **RA2112704010018** | Y Shabanya Kishore | **Member** |
| **3** | **RA2112704010017** | Vamshi Gadde | **Member** |

Executive Summary

The primary objective is to ensure the application functions as intended, meets user requirements, and delivers a high-quality user experience. We will employ a combination of manual and automated testing methodologies to achieve comprehensive coverage of both functional and non-functional aspects.

Test Plan

Scope of Testing:

* Functional Testing:
  + All application modules will be covered, with a focus on core functionalities like user registration, login, research paper management (upload, download, edit, delete), search and filtering, user profiles, and integration with SRMIST sources.
  + Automation will cover critical functionalities and regression testing of core user flows.
  + Manual testing will address specific test cases and edge cases that are less suitable for automation.
* Non-Functional Testing:
  + Performance testing will assess response times, load capacity, and scalability under varying user loads.
  + Usability testing will involve user feedback to evaluate the interface's intuitiveness, learnability, and overall user experience.
  + Security testing will ensure data security, role-based access control, and protection against vulnerabilities.

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| Category | Methodology | Tools Required | Description |
| Functional Requirements | Manual & Automated | Test case management tool Automation framework | Manual testing will cover user interaction, user interface elements, and various test cases. Automated testing will focus on critical functionalities, regression testing, and API interactions. |
| Non-Functional Requirements | Manual & Automated | Performance testing tool (e.g., JMeter, LoadRunner) Usability testing platform (e.g., UserTesting, Lookback)  Security scanning tools (e.g., OWASP ZAP, Nessus) | Performance testing will assess response times, load capacity, and scalability using automated tools.  Usability testing will involve user recruitment and observation through online platforms.  Security testing will employ automated tools for vulnerability scanning and manual penetration testing (if resources permit). |

Result:

Thus, the testing framework/user interface framework has been created for the SRM Research Hub.