Test Plan
for Multi-Agent Research Tool (MART)

Version 1.0

Submitted in partial fulfillment of the requirements for the degree MSE

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1. **Test plan identifier**
   
   MSE-V1.0

2. **Introduction**

   The purpose of this document is to outline the plan for testing the critical use cases and all functionalities of the Multi-Agent Research Tool (MART) software. The document will also describe the activities related to testing the software and the environment and tools that will be used to test the software.

   The following documents will be used for reference:

   - Vision Document (sections 3.1 and 3.2 describing Software Requirements Specification).
   - Software Quality Assurance Plan (SQAP).

3. **Test items**

   The following items of the MART software will be tested. The test will be performed after the committee chair signs off the first version of the software.

   The following item of the MART software will be tested:
   
   The critical use cases (See 3.3 of Vision document)

4. **Features to be tested**

   The following features of the MART software will be tested. The description of each feature is described in the corresponding sections of the Vision document.

   - Type article in MS Word (Section 3.3.1 in Vision Document)
   - Search for research material (Section 3.3.2 of Vision Document)
   - Display research material (Section 3.2.3 of Vision Document)

5. **Features not to be tested**

   Not applicable since all features will be tested.

6. **Approach**

   The developer will use the specific requirements part of the vision document to test the above mentioned features of the MART software.
6.1 Type article in MS Word
The tester should be able to install the provided macro in MS Word and none of the preset preferences and page settings should change or stop working.

6.2 Search for research material
The user should be able to click on the button on the menu bar that says, “Search and Save” and that should automatically read all the relevant keywords already typed by the user in the article. Once the search is complete without any errors, a message should appear on the screen that the search was OK. When the search is complete a file called keywords.txt should be created in the My Documents folder of the computer. Opening the file in any text editor should show all the keywords that were created by the MART software.

6.3 Display research material
The user should be able to click on the button (macro) on the menu bar in MS Word and that should open up Internet Explorer with the displaying all relevant results. The user should be able to click on links that will open the relevant websites in the same window.

6.4 Functional Requirements Testing
All functional requirements will be tested against their requirements described under sections 3.2 of the Vision document.

6.5 Portability Testing
The developer team will try and run some of the agents from a Unix while running MS Word under Windows operating system. Any installation or running problems that are encountered will be recorded in the Test log document.

7. Item pass/fail criteria
The MART software must be able to pass the tests for all the critical uses cases and the functional requirements described under section 3.2 of the Vision document. Each feature will be considered to be passed if it satisfies the corresponding requirement in the Vision document and failed if any or none of the behavioral expectations are met as described.

8. Suspension criteria and resumption requirements

8.1 Suspension criteria
If the user is unable to get any search results for an article after typing at least a paragraph then the testing will be suspended till the bug is traced and corrected. While testing new versions or
releases of the MART software, testing will be suspended if any of the features of the previous release fails the test.

8.2 Resumption requirements
Testing will be resumed if and when the search function works adequately and when the user is able to view some relevant results. When testing for new releases, the testing will resume when all previously passed features of the previous release is considered to be passed.

9. Test deliverables
The following artifacts will be produced after the tests are conducted on the MART software:
- Test Plan
- Test Log

10. Environmental needs
This section will outline the necessary and desired properties needed for the test environment.

10.1 Physical Characteristics

10.1.1 System Software
All tests will be performed using MS Word running under Windows XP or Windows 2000. Some of the agents will be tested while running under Unix or Linux platforms.