

UNIT TEST DOCUMENTATION

1. Introduction

In this document, we give the test plan and test results for unit testing of some of the key modules of the Phonetics Search using various algorithms.

2. Unit Testing Methodology

2.1 Selection of units:

We selected only the most important functional and critical classes for formal unit testing. In the test environment we used, a unit for unit testing is a class. Here we illustrate the testing methodology by discussing only two classes.

2.2 Test Scripts:

The test scripts were java programs and each test case corresponded to a method in these java programs. Every class was tested manually for all type of errors.

2.3 Fixing of Defects:

The programmer fixed the defects found. Unit testing was successfully complete only if the script executed without any defects.

2.4 Test Script Enhancement:

As testing proceeded, some new test cases were added. This was done by adding new test methods to the testing program.

3. The Testing Method: Manual Testing

1. We analyzed the project completely and listed out the type of errors that can happen in this project.
2. The project was tested on the same.
3. Any errors found were rectified immediately.
4. A database with a minimum of 5000 names were taken and tested for the errors.
5. The exceptions that the program needs to handle were also tested.
6. Every testing is declared as passed only after running the same for a minimum of 1000times and getting a successful result.

4. Tests Performed:

Operation performed	Condition Tested	Actual Result
No input is given and the search button is clicked	Null input handling exception	Passed

UNIT TEST DOCUMENT

Special characters were given in the beginning, middle and at the end of the word	Special characters exception	Passed
Numbers were given in the middle, beginning and at the end	Numerical exception	Passed
Alphanumeric were given in the beginning, middle and at the end	Alphanumeric exception	Passed
Database connectivity is switched off and checked for the usage.	Database connectivity exception.	Passed
Page navigation is checked.	Connectivity	Passed
Uppercase, Lowercase and mixed case inputs were given and the corresponding output is checked	Case sensitivity	Passed

5. Results:

Scripts and servlets when written, compiled and run- a number of tests were executed on them. In many tests expected results were obtained, in many expected results were not obtained and in some tests did not go to completion. A minimum of 500 compilation and run is given to each program and the following results were obtained.

For first test suite (testing for **try.jsp**):

600 tests: success: 600, failure: 0, error: 0

For first test suite (testing for **soundex_servlet.java**):

900 tests: success: 900, failure: 0, error: 0

For second test suite (first test suite for **metaphone_servlet.java**)

900 tests: success: 900, failure: 0, error: 0

For third suite (second test suite for **phonex_servlet.java**)

1000 tests: success: 1000, failure: 0, error: 0

For third suite (second test suite for **daitchmokotoff_servlet.java**)

1000 tests: success: 999, failure: 1, error: 0

The failure was due to a bug in the array allocation; the bug was fixed.

The **database connectivity class, static html pages and the scripts** are connected with the above JSP & servlet pages. Hence the testing of these pages is combined with the above pages.