# Method of Black Box Testing for Website Applications

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***Abstract*—This thesis studies black-box testing of website applications and applies test-case design to four website modules. It introduces software-testing concepts, testing strategies, equivalence partitioning, and boundary-value analysis before documenting the applied cases. The source table lists 339 cases and states that all were executed, with a reported 67.6% passing. Its overall line gives 229 passes and 109 failures, while the individual module rows give one additional pass; the discrepancy is retained as a limitation of the source data. The report concludes that the work provided practical experience in designing cases for selected functions and recommends studying further automated tools for broader testing.**

***Index Terms*—black box testing, website applications, equivalence partitioning, boundary value analysis, testing techniques, software testing**

## I. Introduction

Website applications require testing of user inputs, expected outputs, and boundary conditions before they can be relied upon. This thesis surveys software-testing principles and focuses on black-box methods that derive cases from externally visible behaviour. The applied part examines selected functions in a website application, organizing them into modules. The source presents both the design of representative test cases and an aggregate result table. The purpose is to document the testing process and its outcomes, not to claim complete coverage of every function or software product [1]. Related earlier ICTU undergraduate theses provide context for this English summary [4]. Published articles on the methods and subject of this project provide context for this English summary [5], [6], [7]. Published articles on the methods and subject of this project provide context for this English summary [8], [9], [10].

## II. Methods

The author defined test cases for selected website functions using black-box techniques, including equivalence partitioning and boundary-value analysis. Each case records an input condition, an expected response, and an observed pass or failure. The cases are grouped into four modules in the source result table. The report also reviews testing strategies and tools, then applies those concepts to the selected website functions. The aggregate table distinguishes passing, failing, and untested cases, allowing the reported completion and success rates to be examined [1].

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## III. Results

The module rows list 22, 7, 190, and 120 test cases, for 339 cases overall. The source summary line states 229 passes, 109 failures, no untested cases, and a 67.6% pass rate. The individual module rows add to one more pass than the overall line and to 109 failures, so the reported totals are internally inconsistent. The report includes examples of tests derived from equivalence classes and boundary values. These figures describe the author's documented tests for selected website functions [1].

## IV. Discussion

The report demonstrates a practical use of black-box case design, but its conclusion says the tested scope was limited to selected functions. The one-case inconsistency between module rows and the summary line prevents a fully consistent recalculation of the pass total. The stated 67.6% rate follows the source summary and should be read with that qualification. The author also notes that broader software testing requires additional study and that different automated tools suit different kinds of testing task [1].

## V. Conclusion

The thesis documents black-box testing concepts and their application to selected website functions across four modules. It presents designed cases, execution results, and a source-reported pass rate of 67.6%. Because the module rows and overall summary differ by one passing case, the aggregate counts require careful interpretation. The author's conclusion emphasizes the experience gained in test-case design while acknowledging limited functional coverage. Further study of automated testing tools is proposed to support testing of a wider range of software products [1].

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