

Automated Testing of Web Applications: A Comparative Analysis of Selenium, Cypress, and Playwright

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The thesis provides a comparative analysis of Selenium, Cypress, and Playwright as contemporary tools for automated web application testing. Rather than limiting the comparison to theory, the research implements identical test scenarios in all three tools and evaluates them in terms of performance, ease of implementation, code readability, flexibility, cross-browser support, and debugging capabilities. The obtained results are analysed quantitatively and qualitatively to determine the situations in which each tool has an advantage. The conclusion is that there is no universally best solution: the choice depends on the type of application, the technical context, and the project priorities. The thesis provides a practical basis for making an informed choice of a testing framework in a real development environment.

Keywords: Selenium · Cypress · Playwright