

DECISION MAKING DASHBOARD FOR AGILE TEST AUTOMATION DEVELOPMENT

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Declaration

I declare that this is my own work and this proposal does not incorporate without acknowledgement any material previously submitted for a degree or diploma in any other university or Institute of higher learning and to the best of my knowledge and belief it does not contain any material previously published or written by another person except where the acknowledgement is made in the text.

The above candidate is carrying out research for the Master of Information Technology Dissertation under my supervision.

UOM Verified Signature

Signature of the Student

Date

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Signature of the Supervisor

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Dr.Chaman Wijesiriwardane

Dedication

This thesis is wholeheartedly dedicated to my loving parents Lal Mahagedara and Sajeewani Karunarathna Mahagedara for their endless love, support and encouragement throughout my journey. They have been my constant source of inspiration and given me the drive and discipline to tackle tasks with enthusiasm and determination. Without their patience, understanding, support and most of all love this work would not have been made possible.

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And also I thank all the participants who took the survey and who supported to confirm this application's importance and to understand need of the proposed application in the software industry.

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Abstract

Automatic testing enables faster iterations and reliable test outputs which leads to the delivery of a high-quality product. Test Automation in Agile development improves efficiency of development and faster execution, Reusability of test component on Repetitive nature of tasks, Higher test coverage, and helps to reduce overall testing cost to provide a high quality product. In Agile development environment, developers and quality engineer's work together and in every sprint and releases set of features to the product decided by product owners. Quality engineers in agile team covers manual testing and test automation for the features within the sprint allocated. In most of the companies agile team tracks and display manual testing progress, bugs and defects found, test coverage, test cases for the new features developing but not the test automation progress and results. In some of the startups and even in the multinational level companies, in their product teams, quality engineers doesn't have any proper mechanism to provide test automation results in proper way. Most of the quality engineers has to execute the test automation scripts manually on the local machine and give sprint updates and test automation progress updates on based on the console results. It's hard to explain and show the results and test automation coverage on console for the offshore product owners and the team. As a solution this application will help project managers, business analysts and offshore product owners and the whole team to make decisions based on the test results within the sprint. This proposed application will help quality engineers to update the completed test automation results on the dashboard within the sprint so management and the agile team will be able to make decisions whenever necessary. And quality engineers does not need to execute in local machine and give updates to the management and the team as it's already updated on proposed dashboard. This proposed application would function as a decision making dashboard using test automation results for the small scale agile projects.

Keywords: Test Automation, Decision Making Dashboard, Test Results, Project management, Agile

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List of Abbreviations

Abbreviation Description

ITes	Information Technology Enabled Services
POM	Page Object Model
QA	Quality Assurance
HIPAA	the Health Insurance Portability and Accountability Act
CI / CD	Continuous integration and continuous delivery/continuous deployment
IDE	Integrated development environment
HTML	Hyper Text Markup Language
API	Application Programming Interface
DTO	Data Transfer Object
PHI	Protected Health Information
CRUD	Create, Read, Update, Delete

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