Applicability of Agent Technology for Software Release Management

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Declaration

I declare that this dissertation does not incorporate, without acknowledgment, any material previously submitted for a Degree or a Diploma in any University and to the best of my knowledge and belief, it does not contain any material previously published or written by another person or myself except where due reference is made in the text. I also hereby give consent for my dissertation, if accepted, to be made available for photocopying and for interlibrary loans, and for the title and summary to be made available to outside organization.

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Name of Student Signature of Student

Date

Supervised by

Prof. Asoka S. Karunananda

Name of Supervisor(s) Signature of Supervisor(s)

Date

Dedication

To My Parents

Acknowledgements

I am heartily thankful to my supervisor, Asoka S. Karunananda, whose encouragement, guidance and support form the initial to the final level enabled me to develop this solution.

Lastly, I offer my regards and blessings to all of those who supported me in any respect during the completion of the project.

Abstract

Information Technology industry is one of the most widely spreading industry around the world in recent past as its applicability and adaptability nature for various streams. Influence created by IT industry, on various streams help to accelerate their development in large portion with in a short period of time. Because of quick reaction in problem solving and easy way of storing and retrieving information people tend to replace existing manual systems by computerized systems.

Enterprise level applications are developed as a combination of several components. Modification done in a one component is used to fulfill some functionality of other component. When preparing those modification to deliver for the customer it is required to know which component's modification is highly depend on each other and which is not depend on other. Currently this handle by human where developers go through the modification and identify which component is highly depending on the modification done on other components. Developers need to have good communication among each other to identify correct order, the components should arrange. Once the order is identified they start compiling and building jar files. This process is highly time consuming task as there are frequent updates done for the code when fixing issues. This subject to reduce developer's effective time he can work. It's a big burden for the company as well.

In this thesis it will discuss how to solve above problem by automating the software release management process using Multi-agent technology. In the literature review chapter it will discuss about different researches conducted related to software release management domain. In the design chapter it will give high level picture about the design. Then gradually it will explain how agents solve this by communicating with each other, under implementation chapter. At the evaluation chapter it discuss how implemented solution has been tested and what are the other advantages it can gain by overcoming limitations of the existing release management tools. Under conclusion chapter it discusses whether each objective has achieved by providing appropriate test samples.

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