APPLYING VALUE STREAM MAPPING IN MEASURING SOFTWARE TEAM PERFORMANCE THROUGH TASK MONITORING

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Keywords: Group Efficiency, Value Stream Mapping (VSM), Team Performance, Lean
Abstract

Monitoring team performance is crucial in group work to ensure equal contribution among team members. However, measuring the efficiency of the team members in educational field is difficult because the existing measurement techniques are difficult to be applied. Thus, a practical mechanism to monitor the group members’ efficiency is highly needed. This study is intended to fill this gap by proposing a technique to measure the group efficiency using Value Stream Mapping (VSM). This technique was mainly used in industry because it is able to measure the efficiency of manufacturing process and visualize it. This study consists of four main phases, which are conceptual study, design Team Performance Task Monitoring (TPTM) Technique using Value Stream Mapping (VSM), evaluation of TPTM, and writing a report. A pilot study was carried out to assess the suitability of the applied technique. Finally, findings and recommendations for future research were discussed. It concluded that VSM technique is able to view the efficiency of team members in educational tasks. Thus, it can help students to improve their performance in their learning process. It also helps educators to review the level of difficulty in assigning assignment and prepare intervention plan to improve teaching methods.

Keywords: Group Efficiency, Value Stream Mapping (VSM), Team Performance, Lean
Acknowledgement

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# Table of Contents

Permission to Use ........................................................................................................ii
Abstrak .........................................................................................................................iii
Abstract .........................................................................................................................iv
Acknowledgement ........................................................................................................v
Table of Contents .........................................................................................................vi
List of Tables ................................................................................................................vii
List of Figures ...............................................................................................................viii
List of Appendices .......................................................................................................viii

## CHAPTER ONE: INTRODUCTION

1.0 Overview of the Chapter 1
1.2 Background of Study 1
1.3 Research Motivation 3
1.4 Problem Statement 3
1.5 Research Questions 5
1.6 Research Objectives 6
1.7 Research Framework 7
1.8 Operational Definitions 11
1.9 Research Scope 11
1.10 Significant of the Research 12
1.11 Limitation of the Research 12
1.12 Thesis Structure 12
1.13 Summary of Chapter 14

## CHAPTER TWO: LITERATURE REVIEW

2.1 Overview of the Chapter 15
2.2 Reviews on Team Performance Task Monitoring (TPTM) 15
2.3 Lean 17
   2.3.1 Lean Thinking 18
   2.3.2 Lean Tools 18
2.4 Application of Value Stream Mapping (VSM) 21
2.5 Team Software Process (TSP) 27
2.6 Summary of the Chapter 29

CHAPTER THREE: RESEARCH METHODOLOGY 31

3.1 Overview of the Chapter 31
3.2 Conceptual Study 32
3.3 Design of Team Performance Task Monitoring (TPTM) Technique by using Value Stream Mapping (VSM) guided by Team Software Process 33
3.4 Team Performance Task Monitoring (TPTM) Requirement 33
   3.4.1 Requirement Analysis 34
   3.4.2 Identify and Prioritize Task Distribution 34
   3.4.3 Algorithm 34
      3.4.3.1 Transform Tasks into Process Flow Chart (PFC) 34
      3.4.3.2 Analyze Report using VSM 35
3.5 Evaluation of TPTM 37
   3.5.1 Case Study 37
   3.5.2 Usability Test 37
3.6 Summary of the Chapter 38

CHAPTER FOUR: DESIGN OF TEAM PERFORMANCE TASK MONITORING 39

4.1 Overview of the Chapter 39
4.2 Team Performance Task Monitoring (TPTM) Requirement Analysis 39
   4.2.1 Functional Requirements 40
      4.2.1.1 Prototype requirement Description 40
      4.2.1.2 Use Case Diagram 42
      4.2.1.3 Sequence Diagram 43
      4.2.1.4 Activity Diagram 44
   4.2.2 Software Tools and Programming Language 44
4.3 Value Stream Mapping (VSM) Efficiency’s Algorithm 45
   4.3.1 Pseudo Codes for Assign Team 45
   4.3.2 Pseudo Codes for Lecturer Assign Team 47
   4.3.3 Pseudo Codes for Student Download and Upload task
4.4 Limitation

4.5 Summary of the Chapter

CHAPTER FIVE: EVALUATION OF TEAM PERFORMANCE TASK MONITORING

5.1 Overview of the Chapter

5.2 Case Study
   5.2.1 Experiment Procedures
   5.2.2 Case Study 1
   5.2.3 Case Study 2
   5.2.4 Case Study 3

5.3 Result of Applying Value Stream Mapping (VSM)
   5.3.1 Team Analysis
   5.3.2 Class Analysis

5.4 Usability Result and Discussion

5.5 Respondent Feedback
   5.5.1 Instructor Feedback
   5.5.2 Student Feedback

5.6 Summary of the Chapter

CHAPTER SIX: CONCLUSIONS AND RECOMMENDATIONS

6.1 Overview of the Chapter

6.2 Summary of the Research

6.3 Contributions of the Research

6.4 Limitations of the Research

6.5 Recommendation for Future Research

REFERENCES

ix
### List of Figures

<table>
<thead>
<tr>
<th>Figure</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1</td>
<td>Research Framework (Conceptual Study)</td>
<td>7</td>
</tr>
<tr>
<td>1.2</td>
<td>Research Framework (Design)</td>
<td>8</td>
</tr>
<tr>
<td>1.3</td>
<td>Research Framework (Evaluate)</td>
<td>9</td>
</tr>
<tr>
<td>2.1</td>
<td>Value Stream Mapping graph.</td>
<td>20</td>
</tr>
<tr>
<td>3.1</td>
<td>Overview of Research Methodology</td>
<td>32</td>
</tr>
<tr>
<td>3.2</td>
<td>Individual Value Stream Mapping (VSM)</td>
<td>36</td>
</tr>
<tr>
<td>4.1</td>
<td>Team Performance Task Monitoring Use Case Diagram</td>
<td>43</td>
</tr>
<tr>
<td>4.2</td>
<td>Pseudo Code Assigning Team</td>
<td>46</td>
</tr>
<tr>
<td>4.3</td>
<td>Pseudo Code Lecturer Assign Task</td>
<td>47</td>
</tr>
<tr>
<td>4.4</td>
<td>Pseudo Codes student download until upload task</td>
<td>48</td>
</tr>
<tr>
<td>4.5</td>
<td>VSM efficiency’s algorithm</td>
<td>48</td>
</tr>
<tr>
<td>5.1</td>
<td>Individual Value Stream Mapping (VSM)</td>
<td>55</td>
</tr>
<tr>
<td>5.2</td>
<td>Usability Test Result – Case Study 1</td>
<td>59</td>
</tr>
<tr>
<td>5.3</td>
<td>Usability Test Result – Case Study 2</td>
<td>60</td>
</tr>
<tr>
<td>5.4</td>
<td>Usability Test Result – Case Study 3</td>
<td>62</td>
</tr>
</tbody>
</table>
List of Tables

Table 2.1: Lean Tools 21
Table 2.2: Summary of VSM Application in Various Domains 24
Table 2.3: TSP support tools 28
Table 3.1: Group value added and summary process cycle time 36
Table 3.2: Individual Summary 36
Table 4.1: TPTM Requirement Description 40
Table 4.2: Development Tools 44
Table 5.1: Characteristics of Case Study 50
Table 5.2: Group 71 Value Added 53
Table 5.3: Group 71 Summary Process Cycle Time (%) 54
Table 5.4: Individual Summary 54
Table 5.5: Summary of Case Study 1 56
Table 5.6: Summary of Case Study 2 56
Table 5.7: Summary of Case Study 3 57
Table 5.8: Computer System Usability Questionnaire Scale 58
Table 5.9: Characteristic Analysis – Case Study 1 59
Table 5.10: Characteristic Analysis – Case Study 2 61
Table 5.11: Characteristic Analysis – Case Study 3 62
## List of Appendices

<table>
<thead>
<tr>
<th>Appendix 4-A:</th>
<th>Sequence Diagram</th>
<th>74</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appendix 4-B:</td>
<td>Activity Diagram</td>
<td>78</td>
</tr>
<tr>
<td>Appendix 4-C:</td>
<td>User Interface Diagram</td>
<td>83</td>
</tr>
<tr>
<td>Appendix 5-A:</td>
<td>Data Collection</td>
<td>88</td>
</tr>
<tr>
<td>Appendix 5-B:</td>
<td>Computer System Usability Questionnaire from <a href="http://hcibib.org/perlman/question.cgi">http://hcibib.org/perlman/question.cgi</a></td>
<td>92</td>
</tr>
</tbody>
</table>
CHAPTER ONE

INTRODUCTION

1.1 Overview of the Chapter

This chapter introduces the background of the study, research motivation, problem statement, research questions, and research objectives. The operational definition, research framework, research scope, significance of the research, and limitations of the research are also presented. The chapter ends with the outline of the thesis structure.

1.2 Background of the Study

Monitoring students’ activity and performance are very important for educators to provide effective teaching and learning methods. This is to keep students involved in learning and to improve their understanding (Doctor & Iqbal, 2012). Currently, students are struggling with teamwork by using collaborative skills (Vivian, Falkner, & Falkner, 2013). One of the methods to minimize these issues is by monitoring students’ task activity closely (Juan, Daradoumis, Faulin, & Xhafa, 2008). When the students’ tasks can be monitored closely, educators can determine non-participating group members and balance distribution tasks and non-performing team members. In addition, it can help educators to identify the bottleneck area and thus improve team performance. The educators also face challenges in designing a course to meet current demand in software development. The course needs to provide guidelines for students, monitoring student processes for each task and the result, especially in large classes (Rong & Shao, 2012). Based on the above challenges, researchers are
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