

Analytical Enhancement of Effort Estimation in Agile Software Development



Muhammad Tayyab

Enrollment No: 01-244152-059

Supervisor: Dr. Shahid Nazir Bhatti

A THESIS SUBMITTED TO THE DEPARTMENT OF SOFTWARE ENGINEERING,
FACULTY OF ENGINEERING SCIENCES, BAHRIA UNIVERSITY, ISLAMABAD
IN THE PARTIAL FULFILLMENT FOR THE REQUIREMENTS OF A MASTERS
DEGREE IN SOFTWARE ENGINEERING

NOVEMBER 2017

Abstract

In agile software engineering the software design and development is done in cycles. The desired work is designed and managed in separate stories and assignments, and different groups pick the undertakings and stories in each emphasis in view of the need. To assess the undertaking conveyance, group should evaluate every one of the assignments and stories that has been recognized for a task. Estimation of undertaking conveyance is the estimation of cost and time i.e. how much a client needs to spend on his/ her item and when he would get his/her item. It is a major test for the managers to evaluate the cost and time of the venture proficiently and successfully. One of the core prospects in this that estimation turns out badly then it would come about as venture disappointment. As highlighted and deduced in detail this research work (section literature review) is that to assess the cost and time and this exploration is about change of story focuses' estimation in agile. To improve the estimation of cost and time, we have identified the missing factors which needs to be considered in estimation process.

TABLE OF CONTENTS

Acknowledgment	v
Abstract	vi
TABLE OF CONTENTS	vii
1 Introduction	1
1.1 Research Objectives:	1
1.2 Problem Statement:	1
1.3 Research Questions:	1
2 Literature Review	2
3 Agile Software Development	10
3.1 Scrum:	11
3.2 Extreme Programming (XP):	14
3.3 Lean Software Development (LSD):	17
4 Methodology	19
4.1 Research Methodology:	19
5 Proposed Method	21
5.1 Complexity of the task with respect to testing:	21
5.2 Dependency of functionality tasks with other functionality tasks:	21
5.3 Task affected by other task:	22
5.4 Views should be made before implementation starts:	22
5.5 Code review process should be considered:	22
5.6 Consider available components:	23
5.7 Make generic components for re-usability:	23
6 Results and Assessment	24
6.1 Visual Learning System	24
6.1.1 Purpose:	24
6.1.2 Product Overview:	24
6.1.3 Tools:	24
6.1.4 Team Structure:	27
6.1.5 Estimation Process:	27
7 Conclusion	41