REQUIREMENTS PRIORITIZATION IN AGILE PROJECTS: FROM EXPERTS' PERSPECTIVES

NOOR HAZLINI BORHAN[1], HAZURA ZULZALIL[2] , SA'ADAH HASSAN[3], NOR HAYATI 3MOHD ALI[4]

[1]Department of Software Engineering, Universiti Malaysia Sarawak, Malaysia

[2, 3, 4] Department of Software Engineering, Universiti Putra Malaysia, Malaysia

E-mail: [1]bnhazlini@unimas.my, [2]hazura@upm.edu.my, [3]saadah@upm.edu.my, [4]hayati@upm.edu.my,

ABSTRACT

Software becomes an essential part of our lives because of the required automation in every field. A software requirement plays an important role in its development. In Requirement Engineering (RE), requirement prioritization (RP) is the crucial activity to successfully deliver the software system. Recently, Agile Software Development (ASD) methods have become a widespread approach used by the software industry. ASD stresses the importance of providing the customer with a product of a maximized business value. To achieve that, RP is used. The aim of this study is to investigate the current practice related to RP process, including its timing, participants, criteria used and prioritization techniques applied. An online questionnaire (based on literature review) has been designed and a survey has been conducted with the focus group which mainly involving some practitioners or experts from industry (domain experts) together with academicians (knowledge experts) in few parts of Malaysia. The researchers received 20 valid responses indicating RP practices in agile projects. The researchers found out that despite the fact that business value is the most common criterion used to prioritize requirements; other criteria like important, complexity and cost are considered as well. Other findings indicate that consideration of such multiple criteria requires different viewpoints, thus making RP a process that has to involve many participants of different roles in prioritizing the requirements. While the most popular technique used by the practitioners in this study is MoSCoW technique. Besides, the survey study also asking on any special attention given to the non-functional requirements (NFRs) or user stories in prioritization process in agile projects, since commonly known, due to the nature of the agile environment itself, the NFRs are nearly always neglected during the RP process. The results shown that over 85% of respondents giving attention to NFRs during prioritization in agile projects and less than 15% stated that there are a few reasons why their team did not pay much attention on NFRs during the prioritization process.

Keywords: *Requirement Prioritization, Agile Software Development, Functional Requirements, non-Functional Requirements, Requirement Engineering*

1. INTRODUCTION

Software Engineering (SE) is a practically oriented field of computer science, focusing on methods of software-intensive Information Technology (IT) systems development in an industrial context. This context generally includes the customer-supplier relationship, in which a customer is willing to pay for the software due to its perceived value. IT systems in business applications are considered a tool for optimizing business processes and act as a source of competitive advantage. The delivery of actual value to the customer is not a simple and straightforward task. In particular, new approaches that support this idea, namely Agile, have gained recognition and been adopted by the mainstream software industry. The Agile approach stresses the importance of providing the customer with a product of a maximized business value [1]. In addition, one of basic elements of the emerging concept of "Agile mindset" is the attitude towards customer satisfaction and needs [2]. One way to conform to such principles is distinguishing requirements with respect to their business value and using a prioritized list of requirements to guide development process. This is a practice adopted by particular development methods like Scrum [3] or Extreme Programming [4]. According to an SLR