Poster presentation: 141

Investigation of effort estimation practices in small scale agile software products

J. N. N. Mahisha[1]*, H. M. K. T. Gunawardana[1] and R. M. K. T. Rathnayaka[2]

[1] Department of Computing and Information Systems, Sabaragamuwa University of Sri Lanka, Sri Lanka
[2] Department of Physical Sciences & Technology, Sabaragamuwa University of Sri Lanka, Sri Lanka
*nizrinmahisha@gmail.com

Effort estimation plays an important role in software projects and reflects on their success. The effort of a software development project is generally defined as the time consumed by the project and can be expressed as the number of person-hours, days, months or years, depending on the size of the project. The agile software development methodology which is based on iterative development, generally evolves through the collaboration between self-organizing cross-functional teams. Therefore, the most of the software development projects have been following agile software development practices today. In this research, we mainly focus on Agile Scrum methodology. First, we investigated the certain parameters identified through the systematic literature review including size measurement metrics such as lines of codes, function point, component point, as well as involvement of team members, historical data related to the previous projects and expertise involvements. Through the systematic literature review 14 different parameters of the effort estimation process, the related effort estimation models were identified. From the identified 14 parameters, the most common and applicable 4 parameters were selected to build a questionnaire and got the feedback of 50 IT professionals during the survey study. Results obtained through the systematic literature review were put on to the taxonomy by considering their effect on each selected effort estimation model. The correlation among constructs was estimated using Pearson Correlation Coefficient. The study has revealed that there is a strongest relationship between the parameters namely, expertise involvement, team member involvement, historical data and number of lines of codes to the effort of a software development. For more accurate estimates, the most influential factors are the involvement of expertise, involvement of team members and the use of historical data, respectively.

Keywords: Agile, effort estimation, experts, historical data