Using Agile Story Point as an estimation technique in CMMI organizations

Abstract:

Story Points is a relative measure heavily used for agile estimation of size. The team decides how big a point is, and based on that size, determines how many points each work item is. Simply, look at representative work items, give the smallest the size of one point, and then go through all other work items and give them a relative point estimate based on that point. One project team may say that a work item of a certain size is worth 1 point. Another project team would estimate the same sized work item to be worth 5 points. That is fine, as long as they are consistent within the same project.

In CMMI organizations, such difference is not acceptable. The projects sizes must be relative. If one project team says that a work item of a certain size is worth 1 point. Another project team should estimate the same sized work item to be worth 1 point.

This generates a challenge for CMMI companies to adopt Agile in software estimation and planning.

In this paper, we provided a process and methodology that guaranteed relativity in software sizing while using agile story points. The proposed process and methodology were applied in a CMMI company level 3 on different projects. By that, the story point was used on the level of the organization, not the project. Then, the performance of sizing process was measured to show a significant improvement in sizing accuracy after adopting the agile story point in CMMI

Research Plan:

1. Make a survey study about Agile story point and CMMI requirements for software sizing to discover the challenge in adopting story point in CMMI organizations (Almost done)
2. Develop a process and methodology to apply story point in CMMI organizations (almost done)
3. Apply the proposed process and methodology and find the performance of it, e.g. Sizing accuracy. (50% done)

About the author (Alaa Hamouda, PhD.)
Alaa Hamouda is an Assistant Professor at the Engineering faculty of Azhar University. He received a Ph.D. in Computer Engineering from Azhar University. His research interests have focused on Data Mining, Multi-agent systems, CMMI, Swarm Intelligence and Sensory Network. Prior to that, Alaa completed his undergraduate study in Computer Engineering at Azhar University with ‘Excellent with honor degree’ degree.

In practical field, he has more than 10 years of experience in software project management, software quality models of Capability Maturity Models Integration (CMMI), and software development including analysis, design, and implementation. He has played the role of Software Board member and Engineering Process Group (EPG) member as well as Project Management Office Director (PMO Director) in Horizonssoftware. He participated in different types of software development projects. He also participated in establishing reliable standard work procedures in software houses like applying standard project management processes (PMI), and applying CMMI processes. The type of software projects he participated in includes –but not limited to- Balance Core Card Tool, Business Process Management Tool, Project Management Tool, Data Miner Tool, Hand Held Application, Notification (SMS) Service, Business Rules Modeling, and Automatic Code Generators.

Education

Ph.D. in Computer Engineering, to be in April 2008  Azhar University, Cairo

M.Sc., in Computer Engineering, September 2003 Azhar University, Cairo

B.Sc., Computer Engineering, August 1999 Azhar
Certifications/Courses

- MiniMBA in Management (Provided by Knowledge Academy and certified by PMI)
- CMMI Training in all level 3 process areas (Provided by QAI and certified by SEI)
- Diploma in HR (Provided by Knowledge Academy and certified by HRCI)
- Diploma in Marketing (Provided by Knowledge Academy)
- Six Sigma Orange built (Provided by American University in Egypt)

Major Projects and achievements:
- Participated in defining and improving the Process Architecture (Horizons Quality Manual) according to CMMI L3 Quality Model
- Managed the design and implementation of business process management application
- Managed the design and implementation of Balanced Score Card based performance management Application
- Designed a data miner tool to be an add-on module to the balance scorecard application.
- Managed the implementation of sales support system for mobile devices.