CMMI Level 5 SCAMPI A Sponsor Feedback

Thank you very much Mr. Nandyal for serving as the Certified High Maturity Lead Appraiser for DATANG SOFTWARE TECHNOLOGY CO., LTD.! Your professional and detailed approach with a responsible attitude has offered us deep insights into high maturity thinking during the 8-days of the assessment process. You have given us very valuable training and improvement recommendations. By paying attention to insights you have offered us, we hope to improve our work attitude and build effective solutions that will help us improve our management functions, standardize our approach to process and product quality and significantly improve our competencies by driving the company's overall management to think along the lines detailed below. After several days of assessment and training, the appraisal team led by you has given us a lot of suggestions for improvement and training. We also learned a lot of professional project management and practical implementation methods. For example:

1. Need to cultivate zero-known defects thinking: Reduced system defects as they occur to zero, because defects density directly affects product quality. Product quality is in turn is related to our company's industry competitiveness. A defective system will eventually lead to hidden risks that will cause significant economic losses on account of negative impact on customer satisfaction and rework costs.

2. Crystal Ball and Minitab are not the only quantitative project management aspects: What is important is to develop a complete collection of statistical analysis techniques. If we want to use more efficient, and a more accurate way to estimate and predict the project process, supervision alone is not sufficient. Besides tools and training, we need to strengthen our fundamental understanding of statistical and quantitative methods. Through the study and practice of multiple statistical methods, we should improve our ability based on the best suited data evaluation methods and models which will enable process prediction.

3. Improve estimation method accuracy: Estimation method for size estimation using the DELPHI method is not accurate enough. This method is just a ballpark estimate. Three-point estimates are more accurate, and closer to reality. We should also consider using function point counting method of estimation.

4. Focus on code and code quality: We should focus attention to code quality by significantly improving code walkthroughs. Improve our understanding of code defects by identifying all possible bugs and properly classifying them. This will help to better understand the deficiencies in the development methods and focus training for developers. And pay attention to the code "comments". Comments can help other people besides the developer to quickly learn the system logic. When project personnel changes, having good code documentation in the code itself will help new developers to quickly take over.

5. Correct use of Crystal Ball and OptQuest: When the process decision variables of the project are few and often trivial, there is no need to use the Crystal Ball to optimize the combination of process. We can directly compose a process based on historical data and experience while meeting the quantitative scores we choose. If the sub-process decision variables are many, then alone, there will be multiple combinations to choose from based on historical data but difficult to comprehend due to complexity involved.

6. Break up code into manageable classes: Each class must be no more than 150-200 LOCs. If the code is too big, then divide it into several sub-classes to achieve the benefits of object orientation and for code maintainability.

7. Attention to detail: In PPM and while capturing measurement data, indicate units of measure and the meaning for why the data is important.

CMMI5 assessment is not an end, but a new starting point. We will maintain a professional and a meticulous approach to optimize and upgrade our management capacity so as to improve the quality of product delivery and customer satisfaction. Thanks again, to our assessment teacher for given us so much valuable training and suggestions for improvement!

Sponsor: Dong Gang, Vice General Manager   June 9th, 2017

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CMMI Level 5 SCAMPI A 发起人反馈

非常感谢 Nandyal 先生担任大唐软件技术股份有限公司主任评估师，您专业、细致、负责的态度让我们非常感动，通过 8 天的完整评估过程，给予了我们非常多有价值的培训和改进建议，让我们对于工作的细节更加关注，可以预想，按照主任评估师的工作态度和有效建议进行改进，公司的管理将更加规范，工作效率、管理效率和产品质量将得到大幅提升，通过过程的改进，带动公司整体管理水平的提升。

经过这几天的评估及培训，主任评估师和 ATM 组给予我们很多改进建议和培训，我们也学习到了很多更专业的项目管理及工程实施的方法。例如：

1. 需要 0 缺陷思维，尽力减少系统缺陷的发生，因为缺陷密度直接影响项目质量，产品质量关系到公司在行业内竞争力；系统上线后有隐形风险，后期会带来经济损失；对客户满意度产生重要的影响；如果缺陷不可控导致总体工作量上升，需要较大的返工工作量来修改完善代码；

2. CRYSTAL BALL 和 Minitab 不仅项目量化管理的工具，更是一套完整的统计分析思想集合。想要用更高效、更精确方式对项目的过程进行估算、监督，不但需要更系统的学习工具，还要加强统计学的方法的理解。通过多种统计方法的学习实践，能够提升我们选择更适合的模型做数据评估预测。

3. 估算方法选择多样化，如规模估算使用 DELPHI 算法不够准确，这个方法只是做了大概的估算，三点估算更准确，能够更接近真实情况。也可以考虑用功能点估算的方法进行估算。

4. 要注重编码过程的管理，应增加代码走查力度，对走查发现的 BUG 进行分类管理，利于分析问题，组织措施进行解决。能更好的了解开发人员，需要增加哪些方面的培训。而且要重视代码的"注释"，注释有助于其他人员快速了解系统逻辑。当项目人员发生变更之后，利于新的开发人员快速接手工作。代码如果前期缺少注释，后期补录注释，补录的返工工作量远远大于编码阶段注释的工作量。

5. 项目的过程决策变量很少的时候，没有必要使用水晶球工具进行最优化组合预测选择，这种可以直接通过经验或者开会讨论打分进行选择，如果子过程决策变量很多的时候，会有特别多的组合，人脑无法完成所有的情况的判断，建议使用水晶球进行最优化组合预测，预测次数根据经验来进行设置，如果 10 次就可以预测出来，不需要默认使用 1000 次。

6. 代码每个类不可以写的太长，每个类代码行应该在 150--200 之间，如果代码过多则分成几个子类来实现，这也是面向对象的思想，而且按照实际情况进行分类，如根据代码复杂度或者人员技能情况进行分类，统计各个类别的生产率，便于后续做分类数据分析。

7. 注重细节，在 PPM 或者日常的数据中，要在标明数据的单位及含义，利于别人去理解。

感谢评估老师给予了我们这么多有价值的培训和改进建议，CMMI5 级评估不是终点，而是一个新的起点，公司将秉承专业、细致、负责的宗旨，仍将持续的推动项目运作过程的优化和管理能力的提升，从而提高产品的交付质量和客户满意度。

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