Week10 – Short Paper Assignment – Crystal Clear

SWEN 603 9041

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# Introduction

The crystal method is an object-oriented development method that was created by Alistair Cockburn in the year of 1991. It was created by interviewing many professionals who have already practiced the method in the real world, instead of following any of the several textbooks on the object-oriented methods. The interview resulted in uncovering many ideas that are important to the success of software development; like excellent communication internally and externally, high morale within the team and an open channel between the developers and the end-users or the decision-makers. These practices made projects to become more successful than fail. Typically, the key characteristics of successful projects are teamwork, quick and frequent deliveries, customer collaboration.

Crystal methods are usually lightweight ones. The crystals are nothing but the gemstones. However, in the information system world, the significance of the term implies that each of the faces of the method has a different view on the underlying core of the principles and values. It is one of the agile methods and closely follows some of the principles of agile. The method is mainly focused on People, Interaction, Community, Skills, Talents, Communications. Even though the processes are important, yet the aforementioned parts of the project are the primary focus. In a typical information system project, it needs people from various skills to be successful. People may vary by their skills and talents. That is the reason the crystal method focuses more on people, interaction, skills and communications than the processes.

# Overview of Crystal Families

Methods of Crystal is called a family of 20 different agile methods. These families may be depicted by a two-dimensional grid. The first dimension or the x-axis can be Crystal clear, crystal yellow, crystal orange, crystal red, and crystal maroon. The y-axis has different basics, such as life, essential money, discretionary money, and comfort. The colors here denote the weight of which methodology to use.

A close up of a keyboard

Description automatically generated

If a project is a small one, a method of clear, yellow or orange may be applied. For bigger projects, crystal red and maroon can be used. However, two other methods have not been mentioned here, which are Crystal Diamond and Crystal Sapphire. These methods may be used, in the case of some mission-critical projects which may affect or endanger people's lives.

As the above figure says, the number of staff required for a method depends on the weight of the project. As the color of the bands goes darker from left to right, the number of staff required increases.

* Clear – up to 6 people
* Yellow – up to 20 people
* Orange – up to 40 people
* Red – up to 80 people
* Maroon – up to 200 people

# Commonalities

With so many methods in the crystal family, there are seven commonalities between all of them.

1. Frequent delivery – This is a feature of all the agile methodologies. Releases to production and other deliveries happen at the end of every iteration. This helps the end-users giving their valuable feedback to the developers, which in turn enables both the parties in gaining more confidence in the final product.
2. Reflective improvement – In this process, the team is advised to take a break from the regular development process and work on some of the features which are not working well. These are called as technical debt. The developers may use this time to take a step back and refactor or take appropriate action to better the current implementation.
3. Close or osmotic communication – As the agile process recommends a co-located team which makes the most important communication smooth and clear. By using this process of communication information flows quickly and effectively.
4. Personal safety – People in the team should feel free and confident to speak up and present their opinion and ideas on certain topics. The process must be followed so that team members are not ridiculed when they ask a question or suggest something.
5. Focus – Each individual should focus on the assigned task and at the same time, the project objective should be kept in mind.
6. Easy access to expert users – An expert user is someone who can be considered as a subject matter expert. Typically they do not belong to the development team, rather they are from the customers' side.
7. A technical environment with automated tests, configuration management, and frequent integration – These processes need to be followed and adopted to have continuous integration and delivery in place.

**Strengths and Weaknesses**

***Strengths***

1. It has all the advantages that typical agile methodologies provide.
2. Traceability to requirements through continuous validation and quality reviews.
3. Test-driven development is possible, which makes the developers gain a lot of confidence in their code.

***Weaknesses***

1. No formal process followed.
2. Lack of documentation.
3. With a developer-centric work product, there may a possibility of poor functional modeling.

**Reference**

Rico, David F. & Sayani, Hasan H. & Sone, Saya. (2009). *The business value of agile software methods: maximizing roi with just-in-time processes and documentation*. Available from *http://library.books24x7.com.ezproxy.umuc.edu/toc.aspx?bookid=37804*.

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