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**Individual Assignment 01**

**Title**

This article is to explain pros and cons of replacing Agile UP (Agile Unified Process), an example of an Agile development methodology, by other two Agile development methodologies, which are Scrum and Extreme Programming. The simulation environment is: As the leader of an software company, developing an online credit card authorization software which currently using the RUP Agile methodology. Due to some reasons, the developer team is considering using the other two methodologies instead of RUP, as the leader of this company, he needs to make a brief comparison analysis between these two methodologies and the RUP and make a judgment in the feasibility of replacement.

Extreme programming (XP) is a software development methodology which is intended to improve software quality and responsiveness to changing customer requirements. It advocates frequent "releases" in short development cycles, which is intended to improve productivity and introduce checkpoints at which new customer requirements can be adopted. Extreme Programming improves a software project in five essential ways; communication, simplicity, feedback, respect, and courage.

Compared to RUP the XP has these advantages:

1. Keep everything simple, the XP requires documents as brief as possible, the project will focus on programming.
2. XP allows customers involved deeply into development, which customers can make intelligent decisions on what needs inclusion and what needs exclusion depending on the budget.
3. XP let customers selecting the important requirement first, this will let customer obtains the maximum value with least time consumption.
4. XP has a strict testing process to ensure to project quality.

Some disadvantages:

1. As customers are deeply involved into development, the development will be strongly hindered if the customer are not willing to get involved or not available.
2. As XP put to much concentration on coding, in some cases, the lack of documents will create trouble when the project members leave and new member come in, so it only suitable for small projects.
3. XP has no guide for data collecting, sometimes not suitable for teams which has little experience on that.

Scrum is an iterative and incremental agile software development framework for managing product development. A key principle of Scrum is its recognition that during product development, the customers can change their minds about what they want and need. As such, Scrum adopts an evidence-based empirical approach—accepting that the problem cannot be fully understood or defined, focusing instead on maximizing the team's ability to deliver quickly, to respond to emerging requirements and to adapt to evolving technologies and changes in market conditions.

Compared to RUP , scrum has these advantages:

1. Due to short sprints and constant feedback, it becomes easier to cope with the changes.
2. Due to short sprints, it will allow good develop team product a good enough product in a short time.
3. It provides for an open forum, where everyone knows who is responsible for which item.

Some disadvantages:

1. Scrum relays deeply on the self constrains of the team, is will require a high quality team. If not, the project might fail.
2. It is good for small, fast moving projects as it works well only with small team.
3. If any of the team members leave during a development it can have a huge inverse effect on the project development.
4. Scrum doesn’t prescribe any engineering practices.

To conclude, for this project, it is no necessary for the team to replace the RUP into XP or scrum because this is just a small project and RUP is good enough for that, in addition, replace an methodology means to re-train team members and many other preparations, this will increase the cost and time, it is not worth it.