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## **Agile Software Development**

Since 2001 series of Agile software development have been changed to "heavy" traditional engineering methodologies in development of the software. Traditional engineering methodologies are based on detailed preliminary planning and waterfall life cycle. Flexible methodologies are based on adaptability of process of development of the software.

One of the most successful and widely used agile software developments of the software is Scrum. This method represents set of rules, performance of which allows the team to give a working product to the customer within the short terms with the most priority tasks introduced in it.

All development on Scrum is based on small intervals of time (usually 2 – 4 weeks), called sprints. During sprint software development of the most priority tasks is carried out, and between sprints project demonstration to the Product Owner takes place and obtaining new information from it, analysis of team work of last sprint, identification of positive and negative moments during sprint, planning tasks of the new sprint. Short periods of software development and frequency of communication with the customer makes process of development more flexible.

Planning on each new sprint is based on Product Backlog. Product Backlog is a list of project requirements, built on degree of their importance. Product Backlog is usually divided into some parts - User Story (wishes of the customer). While planning each sprint the customer should choose part of functionality from User Story which he wants to receive at the end of sprint. The list of tasks into which the team broke this functionality, is called Sprint backlog. The team should estimate how many hours is required to perform each task. The total time spent on problem solving shouldn't exceed time spent on sprint. Every day the team should reduce number of remained hours depending on the volume of performed work. This process is displayed on the chart of task burning which shows the volume of performed and remained work. Basic roles of Scrum methodology are following:

- Scrum Master keeps watch over observation of all principles of Scrum, carries out planning.
- Product Owner (customer) defines project requirements, estimates result of performed work by product demonstrations, and corrects requirements for further development.
- Team. The team in Scrum is working as a single unit. Usually it is a group of about 7 people (developers, testers, analysts).

The aim of Agile software developments is to carry our highly qualified control of development process. Their flexibility allows controlling and introducing new requirements from the customer as quickly as possible.