D. Serpukhova, Master student
L. Mohelnytska, PhD in Phil., As. Prof., language advisor
Zhytomyr State Technological Universit

ANALYZING EFFECTIVENESS OF IT PROJECTS DEVELOPMENT ACCORDING TO THE METRICS OF TESTING

Analyzing existing approaches to studying IT projects based on metrics of testing, one can conclude that none of them covers all stages of the innovation process. That is, it does not take into account all the factors that influence decision making on the completion of the project testing. The IT project analysis model should provide the user with predicted and planned values for the project development and testing performance. It is also advisable to take into account the influence of the environment, in particular, the competitiveness of the innovative product, diffusion processes and the state of the market for innovative products.

The topicality of the research lies in the fact that making decision to complete the project testing is based on the data obtained from the testing metrics.

Metrics is a quantitative scale and a method that can be used for measuring [1]. The introduction and use of metrics is necessary to improve the control over the development of the process, and in particular the testing process (Fig.1).

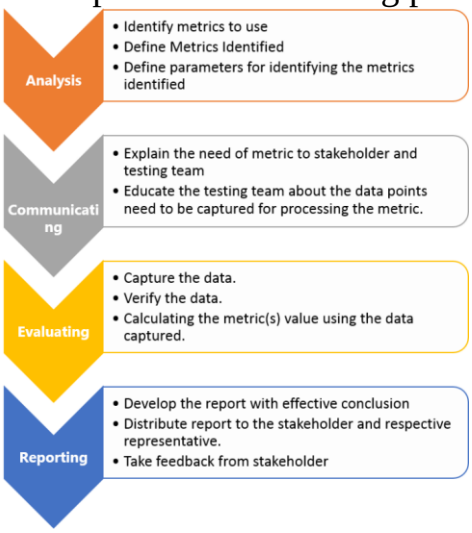

Fig.1. The scheme of the generalized model for analysing decision-making about the effectiveness of testing an IT project

The purpose of testing control is to obtain feedback and visualize the testing process. The information required for monitoring is collected (both manually and automatically) and used to assess the status and decision making, such as coverage (e.g. requirements coverage or test codes), or exit criteria (e.g. test completion criteria). Metrics can also be used to measure the progress of planned work and budget development.

There are 5 different groups of metrics [2]:

- Group 1 - Requirements for the software being developed.

This group of metrics will allow us to assess how far we have worked on the user story, to identify vulnerabilities and the most complex, potentially problematic features of the software, to understand where special control is required.

- Group 2 - The quality of the product being developed.

This group of metrics demonstrates the quality of the software, as well as the quality of the development itself.

- Group 3 - Opportunities and effectiveness of the QA team.

The main task of this group of metrics is to express in figures what the testing team is capable of. These indicators can be calculated and compared on a regular basis, analyzing trends, observing them, how various changes affect the work of the team.

- Group 4 - The quality of the testing team's work.

The task of this set of metrics is to assess how well the testers perform their tasks, determine the level of competencies and maturity of the QA team. With such a set of indicators, you can compare the team with itself at different time or with other, external test groups.

- Group 5 - Feedback and user satisfaction.

A group of metrics that shows how the product was accepted by end users, how much it met their expectations. But not only feedback about software is important: another important task of this group of metrics is to show whether users are satisfied with the process of interaction with the IT team in general and QA in particular.

REFERENCES

1. ISO/IEC 25040:2011.

2. https://doitsmartly.ru/all-articles/sw-testing/133-the-most-important-metrics-in-qa.html [Accessed 16 Mar. 2018].