

# A Cognitive Evaluation for Meetings in Software Development Process

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**Abstract.** Software development includes number of different type of meetings in the whole development process. The cognitive activities also play an important role in decision making activities in these meetings since they are carried out by human being. In this paper, we evaluated the relevance of meetings in different phases of the software development process with reference to cognitive aspects.

**Keywords:** Cognitive science, software development process, meetings, information system.

## 1 Introduction

A software development project includes number of meetings where the software professionals interchange their point of views, evaluate progress, discuss their problems and make future plans. Therefore, meetings are at the kernel of software development process and can be of different types. They can be formal or informal and can be held at any time starting from requirement phase to the end of software development process. One facet of these meetings is that they are the most efficient and effective method of conveying information to and within a development team [10]. The face to face meetings are generally accepted to be more effective. On the other hand, meetings may increase the development time by reducing the speed of software development process. It may also result in wasting the time of the some professionals, whose contribution for the meetings are less and are not too important. In addition, at different stages of a project it is likely that different methods of communication are likely to preferred [18].

Software development processes are composed of set of technical tasks and a meeting is simply defined as a technical task carried out by human being using cognitive activities. They are mainly based on individual or group psychology. The individual and group aspects of a cognitive activity are concerned especially with the mental mechanisms, strategies and knowledge used to perform the activity [2]. However, the cognitive activities involved in software development and in meetings have been studied little so far.

In the present article, we evaluate the relevance of meeting for different software development phases. The emphasis was given on when and where the meetings are required in full development process, and how the cognitive activities

play the role in meetings for different phases of software development. Further, based on the evaluation of meetings (also from cognitive aspects), we suggest withdrawing the meetings at some stages by using the advantage of ICT like chatting, emails, telephonic talks etc.

The following section provides a complete discussion to give an overview for the importance of meetings for different stages of full software development process from cognitive point of view. This will help not only to the software industry to save the time for useless meeting but also achieve the quality objective for any information system.

## **2 Relevance of Meetings for Different Phases of Software Development Process: A Cognitive Aspect**

Apart from budget and customers requirements considerations, the primary goal of the software development is to develop high quality software [1]. To achieve the quality objectives, various types of meetings are important at different phases of software development process. In all these meetings, cognitive activities play an important role for getting success to reach on consensus. In the following sections, firstly, we discussed the relevance of meetings for different phases of software development and secondly, we evaluated the meetings from cognitive point of view.

### **2.1 Meetings for Requirements and Analysis Phases**

The first step in any of the software development is to define the specification of the software, where customers and software development team define the software to be produced. Naturally, almost all of the critical meetings are between the development team and customers in this phase. One of the biggest problems is to understand users and stakeholders needs and then to analyze these needs properly to built a systems that meets their needs. Actually, requirements specification and managing customer requirements are the two largest problems of the software industry [1] and, therefore, one of the leading root causes of software failures. To solve this problem, different techniques are discussed in the literature. The meetings and workshops are proposed to be the most important and effective techniques to collect the real needs of the users and stakeholders. Further, according to cognitive science this type of gathering, where all stakeholders meet together, will be helpful to increase the knowledge of the collective activities involved in software development process [2]. In addition, it provides the necessary knowledge to assess the current guidelines and to render them more suitable to the practitioners needs. Therefore, meetings are important in this phase from cognitive point of view. However, the type of meetings depends on the features and requirements of the products. If the product is large a full day workshop can be a good solution for eliciting requirements because the requirement workshop is the most powerful technique cognitively for collecting the real needs of users. It gathers all key stakeholders together for a short but