

# A Survey of Collaborative Tools in Software Development

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**Abstract:** Collaboration is at the heart of software development. Virtually all software development requires collaboration among developers within and outside their project teams, to achieve a common objective. A number of classification frameworks exist that can be used to classify collaborative tools. In addition to placing the various tools in context, developers can use these kind of frameworks to select the right mix of tools for their situation. Each classification framework has a different focus: some provide a detailed taxonomy to compare tools in a particular area, some classify tools based on the functionality of the tools, some classify tools based on the high-level approach to collaboration that the tools take, and so on. However, currently no framework exists that classifies tools based on the user effort required to collaborate effectively. This however is also a critical component in choosing the “right” set of tools for a team.

In this survey, we take a look at collaborative tools from the perspective of user effort. For the purposes of this paper, we define user effort as the time expended in setting up the tools, monitoring the tools, and interpreting the information from the tools. While we cannot quantify the efforts required of each tool in detail, it is clear that there is a natural ordering among different groups of tools. We propose a framework that identifies these groups and highlights this ordering. Based on this framework, our survey organizes the individual tools into tiers.