Chapter II

Of Experts and Apprentices: Learning from the KDE Community

Christian Reinhardt, University of Innsbruck School of Management, Austria
Andrea Hemetsberger, University of Innsbruck School of Management, Austria

Abstract

Free and open source software (F/OSS) communities are self-organizing, social entities that collaboratively create knowledge and innovate. Their fundamentally new approach of developing software challenges traditional principles of collaboration and learning. In contrast to well-organized and planned commercial projects, F/OSS development constitutes a continuous, iterative process of constant, incremental improvements made by various self-motivated contributors. Within such projects, organizational structures emerge that enable a large number (i.e., hundreds or even thousands) of volunteers to commit themselves to freely chosen work, yet collaboratively realize a joint enterprise.
The success of F/OSS communities genuinely depends on a constant flux of new members in order to ensure the sustainability. These aspirant members must be culturally integrated and taught, in order to become expert members. This, in turn, increases complexity. Hence, these integration processes must be sophisticated, yet simple. Project coordination and new member integration, therefore, play a key role for the success of F/OSS communities. This is a challenging task, given that developers rarely meet face-to-face. New member integration takes place in online environments. It is their design and usage that are crucial for the success of such online efforts. The aim of this chapter is to discuss new member integration and learning, firstly in a theoretical manner applying a “communities of practice” perspective on F/OSS communities, and secondly by providing empirical evidence from the KDE project.

Introduction

The free and open source software (F/OSS) collaboration and learning model has attracted considerable attention, mostly because its mere existence and the way it works contradicts existing theories and counteracts common business practices (Kuwabara, 2000; Lanzara & Morner, 2003; Lerner & Tirole; 2002. Thomke & von Hippel, 2002; von Hippel & von Krogh, 2003; Wayner, 2000). F/OSS communities are self-organizing social entities that collaboratively create knowledge and innovate (cf. also Hemetsberger & Reinhardt, 2006; Lee & Cole, 2003). Due to its globally distributed developer force and the possibility to collaborate on a large scale, F/OSS software projects enjoy extremely rapid code evolution and highest software quality (Cubranic & Booth, 1999). With products such as Linux, Apache, Perl, KDE, and Gnome desktop, to name a few, F/OSS development is also highly successful in an economic sense. Some authors even propose to apply the F/OSS approach to other industries, for instance in the automotive industry (Evans & Wolf, 2005), and learn from it as a best-practice example for successful online collaboration.

This fundamentally new approach in developing software challenges traditional principles of collaboration and learning (Ducheneaut, 2005; Mockuss, Fielding, & Herbsleb, 2000; Pal & Madanmohan, 2002) as a well-organized and planned endeavor. Instead, F/OSS software development constitutes a continuous, iterative process of constant, incremental improvements made by various contributors (Metiu & Kogut, 2001). Within such projects, organizational structures emerge that enable a large number (i.e., hundreds or even thousands) of volunteers to commit themselves to freely chosen work. All projects are located in arbitrary locations, and the volunteer contributors rarely or never meet face-to-face. F/OSS projects do not follow an explicitly predesigned project plan, schedule, or list of deliverables, but rather follow an evolutionary path of growth (Mockuss et al., 2000). “In a nutshell,