Global software development offers several benefits, such as reduced development costs, access to global pool of skills and time-zone independent 24 hour development. This has caused more organizations to distribute their software development activities world wide. Agile methodologies started to gain popularity around the same time when organizations started to distribute their software development activities. Agile methodologies have solved many communication related issues on collocated settings and they are widely used in the distributed software development (DSD) as well.

When the work is divided between many sites, the architecture is usually split accordingly. Even well modularized projects need high integration cycles to keep up with the fast paced field where customer requirements are subject to change often. This causes rising need for communication and coordination between sites. Agile development processes, such as Scrum and XP offer good mechanisms for these. Daily Scrum meetings, Scrum-of-Scrums and continuous integration are examples of practices that help to accomplish daily DSD activities. Agile practices are not however enough to solve all the new challenges that distributed software development brings.

There are several new challenges related to coordinating distributed software development activities in comparison to collocated agile projects. Distance, language and cultural barriers and lack of trust and organizational motivation are few examples of forces that render the field very complex. There is an urgent need to find supporting best practices to address these issues.

There has slowly emerged literature and case studies that offer best practices for distributed software development. Few authors have collected lists of these. Patterns are a structured form that are used in this study to record best practices from the literature. Several patterns were collected from multiple sources that organizations should find valuable in their DSD endeavors. New practices were found from the case studies conducted during the research, that were not addressed in the literature. The interview structure deducted from list of patterns offers a good starting point for conducting extra research on this topic. This research confirms that existing patterns are practical and organizations doing DSD have already found some of them.

Keywords: Distributed development, communication, patterns, best practices, agile, GSD, DSD, DAD, Scrum, XP