Global Software Development: Origins, Practices, and Directions

James J. Cusick & Alpana Prasad
{james.cusick; alpana.prasad}@wolterskluwer.com
Wolters Kluwer

William M. Tepfenhart
wtepfenhart@monmouth.edu
Monmouth University

Abstract

The global software industry emerged in the wake of the first computers over 60 years ago. Computing was a global industry from its earliest days initially in the US and the UK. Today the industry touches all aspects of our modern lives in all corners of the globe. Increasingly this global industry also produces its products using globally dispersed and culturally diverse teams of scientists, engineers, technicians, and managers. This chapter explores the roots of Global Software Development (GSD), provides a detailed practice approach to conducting GSD especially with Indian suppliers, and examines current trends and their implications for the future. An exploration of the roots of this economic and technical phenomenon through the presentation of the earliest global software teams, their experiences, and how they laid the foundation for today’s practitioners sets the stage. This review will place into context today’s practices in Global Software Development. Building on this foundation a detailed examination of current practices in GSD will lead to the introduction of a systematic and practical approach to conducting cross-shore development that is based on the experiences of one company which provides lessons for the industry at large. This practice approach builds on the history of GSD as well as specific adaptations of both engineering and managerial approaches to distributed development. This model for offshore development represents a tactical approach to modeling an offshore process for companies currently pursuing or planning to expand into offshore development. Key practices that lead to success in this environment are documented and traps that can limit project effectiveness are pointed out in detail. Finally, the chapter discusses current trends in GSD and the implications for the industry in coming years. Among the topics considered include the likelihood of an acceleration in GSD, its limitations for expansion and adoption, new models of organization for effective leverage of global teams, and technical evolutions occurring due to the cross pollination of the industry and the emergence of offshore research and newly established centers of innovation. In summary, this chapter will start at the beginning of the GSD experience, provide detailed and deployable methods to conducting GSD, and point to the probable future of the field and its impacts.
Published as: