Patterns of Programmers' Use of Computer-Mediated Communications Systems

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Abstract

Communication behavior of programmers plays an essential role in success of software development. Computer-mediated communication (CMC) system, such as e-mail, or the World Wide Web (WWW), have substantial implications for coordinating work of programmers. Yet, no studies have dealt systematically with CMC behaviors of programmers. Drawing upon theories in organizational studies, information science, computer-mediated communication and software engineering, this research examines what programmers accomplish through CMC systems. Data were gathered from survey questionnaires mailed to 730 programmers, who are members of the Association of Computing Machinery (ACM) and are involved in a variety of programming work. Based on factor analysis, the study found that programmers use CMC systems (1) to achieve progress in work-related tasks (i.e., task-related purposes), (2) to satisfy their social and emotional needs (i.e., socio-emotional purposes), and (3) to explore for information (i.e., exploring purposes).

The findings of this research extend an insight into important patterns for which programmers use CMC systems. This insight has advanced theories of computer-mediated communication in the context of computer programmers. Also, practitioners, especially in software development, may use the results as guidelines in fostering a firm's feasible network policy that fits with what their programming staff accomplish through computer-mediated communication.

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