Contents

Part I  Software Crowdsourcing Concepts and Design Issues

Crowdsourcing for Large-Scale Software Development 3 
Wei Li, Wei-Tek Tsai and Wenjun Wu

The Five Stages of Open Source Volunteering 25 
Dirk Riehle

Worker-Centric Design for Software Crowdsourcing: 
Towards Cloud Careers 39 
Dave Murray-Rust, Ognjen Scekic and Donghui Lin

Part II  Software Crowdsourcing Models and Architectures

Bootstrapping the Next Generation of Social Machines 53 
Dave Murray-Rust and Dave Robertson

Multi-Agent System Approach for Modeling 
and Supporting Software Crowdsourcing 73 
Xinjun Mao, Fu Hou and Wei Wu

Supporting Multilevel Incentive Mechanisms in Crowdsourcing 
Systems: An Artifact-Centric View 91 
Ognjen Scekic, Hong-Linh Truong and Schahram Dustdar

An Evolutionary and Automated Virtual Team Making 
Approach for Crowdsourcing Platforms 113 
Tao Yue, Shaukat Ali and Shuai Wang
Collaborative Majority Vote: Improving Result Quality in Crowdsourcing Marketplaces ........................................... 131
Dennis Nordheimer, Khrystyna Nordheimer, Martin Schader and Axel Korthaus

Towards a Game Theoretical Model for Software Crowdsourcing Processes .................................................. 143
Wenjun Wu, Wei-Tek Tsai, Zhenghui Hu and Yuchuan Wu

Part III Software Crowdsourcing Systems

TRUSTIE: A Software Development Platform for Crowdsourcing ........................................... 165
Huaimin Wang, Gang Yin, Xiang Li and Xiao Li

Social Clouds: Crowdsourcing Cloud Infrastructure ........................................... 191
Kyle Chard and Simon Caton

Recommending Web Services Using Crowdsourced Testing Data ........................................... 219
Hailong Sun, Wancai Zhang, Minzhi Yan and Xudong Liu

A Cloud-Based Infrastructure for Crowdsourcing Data from Mobile Devices ........................................... 243
Nicolas Haderer, Fawaz Paraiso, Christophe Ribeiro, Philippe Merle, Romain Rouvoy and Lionel Seinturier

Index ........................................... 267