# Table of Contents

## Open Source Visualization and Reporting

- **Code Review Analytics: WebKit as Case Study** .......................... 1  
  Jesús M. González-Barahona, Daniel Izquierdo-Cortázar,  
  Gregorio Robles, and Mario Gallegos

- **Navigation Support in Evolving Open-Source Communities**  
  by a Web-Based Dashboard .................................................. 11  
  Anna Hannemann, Kristjan Liiva, and Ralf Klamma

- **Who Contributes to What? Exploring Hidden Relationships between**  
  FLOSS Projects ................................................................. 21  
  M.M. Mahbubul Syeed and Imed Hammouda

- **How Do Social Interaction Networks Influence Peer Impressions**  
  Formation? A Case Study .................................................. 31  
  Amiangshu Bosu and Jeffrey C. Carver

- **Drawing the Big Picture: Temporal Visualization of Dynamic**  
  Collaboration Graphs of OSS Software Forks .......................... 41  
  Amir Azarbakht and Carlos Jensen

## Open Source in Business Modeling

- **Analyzing the Relationship between the License of Packages and Their**  
  Files in Free and Open Source Software .................................. 51  
  Yuki Manabe, Daniel M. German, and Katsuro Inoue

- **Adapting SCRUM to the Italian Army: Methods and (Open) Tools**  
  ................................................................. 61  
  Franco Raffaele Cotugno and Angelo Messina

- **Applying the Submission Multiple Tier (SMT) Matrix to Detect Impact**  
  on Developer Interest on Open Source Project Survivability .......... 70  
  Bee Bee Chua

- **FOSS Service Management and Incidences**  ........................ 76  
  Susana Sánchez Ortiz and Alfredo Pérez Benítez

- **Open-Source Software Entrepreneurial Business Modelling**  .... 80  
  Jose Teixeira and Joni Salminen
Open Source in Mobile and Web Technologies

Towards Understanding of Structural Attributes of Web APIs Using Metrics Based on API Call Responses ........................................ 83
Andrea Janes, Tadas Remencius, Alberto Sillitti, and Giancarlo Succi

Open Source Mobile Virtual Machines: An Energy Assessment of Dalvik vs. ART ........................................ 93
Anton B. Georgiev, Alberto Sillitti, and Giancarlo Succi

Improving Mozilla's In-App Payment Platform ........................................ 103
Ewa Janczukowicz, Ahmed Bouabdallah, Arnaud Braud, Gaël Fromentoux, and Jean-Marie Bonnin

A Performance Analysis of Wireless Mesh Networks Implementations Based on Open Source Software ........................................ 107
Iván Armuelles Voinov, Aidelen Chung Cedeno, Joaquín Chung, and Grace González

Use of Open Software Tools for Data Offloading Techniques Analysis on Mobile Networks ........................................ 111
José M. Koo, Juan P. Espino, Iván Armuelles, and Rubén Villarreal

Open Source in Education and Research

Crafting a Systematic Literature Review on Open-Source Platforms ........................................ 113
Jose Teixeira and Abayomi Baiyere

Considerations Regarding the Creation of a Post-graduate Master's Degree in Free Software ........................................ 123
Sergio Raúl Montes León, Gregorio Robles, Jesús M. González-Barahona, and Luis E. Sánchez C.

Lessons Learned from Teaching Open Source Software Development ........................................ 133
Becka Morgan and Carlos Jensen

A Successful OSS Adaptation and Integration in an e-Learning Platform: TEC Digital ........................................ 143
Mario Chacon-Rivas and Cesar Garita

Smart TV with Free Technologies in Support of Teaching-Learning Process ........................................ 147
Eugenio Rosales Rosa, Abel Alfonso Frivida Donéstevez, Marielis González Muño, and Allan Pierra Puentes
## Development Processes of Open Source Products

- **Barriers Faced by Newcomers to Open Source Projects: A Systematic Review**
  *Igor Steinmacher, Marco Aurélio Graciotto Silva, and Marco Aurélio Gerosa*  
  Page 153

- **Does Contributor Characteristics Influence Future Participation? A Case Study on Google Chromium Issue Tracking System**
  *Ayushi Rastogi and Ashish Sureka*  
  Page 164

- **A Layered Approach to Managing Risks in OSS Projects**
  *Xavier Franch, Ron Kenett, Fabio Mancinelli, Angelo Susi, David Ameller, Ron Ben-Jacob, and Alberto Siena*  
  Page 168

- **A Methodology for Managing FOSS Migration Projects**
  *Angel Goni, Maheshwar Boodraj, and Yordanis Cabreja*  
  Page 172

- **The Agile Management of Development Projects of Software Combining Scrum, Kanban and Expert Consultation**
  *Michel Evaristo Febles Parker and Yusleydi Fernández del Monte*  
  Page 176

## Testing and Assurance on Open Source Projects

- **An Exploration of Code Quality in FOSS Projects**
  *Iftekhar Ahmed, Soroush Ghorashi, and Carlos Jensen*  
  Page 181

- **Polytrix: A Pacto-Powered Polyglot Test Matrix**
  *Max Lincoln and Fernando Alves*  
  Page 191

- **Flow Research SXP Agile Methodology for FOSS Projects**
  *Gladys Marsi Peñalver Romero, Lisandra Isabel Leyva Samada, and Abel Meneses Abad*  
  Page 195

- **How to Support Newcomers Onboarding to Open Source Software Projects**
  *Igor Steinmacher and Marco Aurélio Gerosa*  
  Page 199

## Global Impact on Open Source Communities and Development

- **The Census of the Brazilian Open-Source Community**
  *Gustavo Pinto and Fernando Kamei*  
  Page 202

- **Cuban GNU/Linux Nova Distribution for Server Computers**
  *Eugenio Rosales Rosa, Juan Manuel Fuentes Rodríguez, Abel Alfonso Fírvida Donéstevez, and Dairelys García Rivas*  
  Page 212
A Study of the Effect on Business Growth by Utilization and Contribution of Open Source Software in Japanese IT Companies ....... 216
Tetsuo Noda and Terutaka Tansho

Case Studies and Demonstrations of Open Source Projects

USB Device Management in GNU/Linux Systems ................. 218
Edilberto Blez Deroncelé, Allan Pierra Fuentes,
Dayana Caridad Tejera Hernández, Haniel Cáceres Navarro,
Abel Alfonso Fírvida Donéstevez, and Michel Evaristo Febles Parker

PROINFODATA: Monitoring a Large Park of Computational Laboratories ......................................................... 226
Cleide L.B. Possamai, Diego Pasqualin, Daniel Weingaertner,
Eduardo Todt, Marcos A. Castilho, Luis C.E. de Bona, and
Eduardo Cunha de Almeida

Book Locator: Books Manager ........................................ 230
Dairelys García Rivas

Automation of Agricultural Irrigation System with Open Source .... 232
Bladimir Jaime Pérez Quezada and Javier Fernández

When Are OSS Developers More Likely to Introduce Vulnerable Code Changes? A Case Study ............................. 234
Amiangshu Bosu, Jeffrey C. Carver, Munawar Hafiz,
Patrick Hilley, and Derek Janni

Author Index ........................................................................ 237