

Appendix A. Complete list of all primary studies included in the study

- [S1] B. S. Akpolat and W. Slany, "Enhancing software engineering student team engagement in a high-intensity extreme programming course using gamification", IEEE Conference on Software Engineering Education and Training, 2014
- [S2] A. L. D. Buisman and M. C. J. D. Van Eekelen, "Gamification in educational software development", Computer Science Education Research Conference, 2014
- [S3] K. Berkling and C. Thomas, "Gamification of a software engineering course and a detailed analysis of the factors that lead to its failure", International Conference on Interactive Collaborative Learning, 2013
- [S4] V. Uskov and B. Sekar, "Gamification of software engineering curriculum", Frontiers in Education Conference, 2014
- [S5] M. Laskowski, "Implementing gamification techniques into university study path - A case study", IEEE Global Engineering Education Conference, 2015
- [S6] J.N. Long and L. S. Young, "Multiplayer on-line role playing game style grading in a project based software engineering technology capstone sequence", ASEE Annual Conference and Exposition, 2011
- [S7] C. Thomas and K. Berkling, "Redesign of a gamified Software Engineering course", International Conference on Interactive Collaborative Learning, 2013
- [S8] W. Q. Qu, Y. F. Zhao, M. Wang and B. Liu, "Research on teaching gamification of software engineering", International Conference on Computer Science Education, 2014
- [S9] D. F. Bacon, D. C. Parkes, Y. Chen, M. Rao, I. Kash, and M. Sridharan, "Predicting your own effort," in Proceedings of the 11th International Conference on Autonomous Agents and Multiagent Systems (AAMAS'12), 2012, pp. 695–702.
- [S10] J. Bell, S. Sheth and G. Kaiser, "Secret Ninja Testing with HALO Software Engineering", International Workshop on Social Software Engineering, 2011
- [S11] A. A. de Melo, M. Hinz, G. Scheibel, C. D. M. Berkenbrock, I. Gasparini, and F. Baldo, "Version Control System Gamification: A Proposal to Encourage the Engagement of Developers to Collaborate in Software Projects," presented at the Proceedings of the 6th Int. Conf. on Social Computing and Social Media (SCSM'2014)
- [S12] S. Dencheva, C. R. Prause, and W. Prinz, "Dynamic Selfmoderation in a Corporate Wiki to Improve Participation and Contribution Quality," presented at the Proceedings of the 12th European Conference on Computer Supported Cooperative Work (ECSCW'11), 2013
- [S13] A. Dorling, McCaffery, F., "The gamification of SPICE," Communications in Computer and Information Science, vol. 290, pp. 295–301, 2012
- [S14] D. Duarte, C. Farinha, M. M. da Silva, and A. R. da Silva, "Collaborative Requirements Elicitation with Visualization Techniques," Proceedings of the IEEE 21st International Workshop on Enabling Technologies: Infrastructure for Collaborative Enterprises (WETICE'12), 2012.
- [S15] D. J. Dubois and G. Tamburrelli, "Understanding gamification mechanisms for software development," Proceedings of the 9th Joint Meeting on Foundations of Software Engineering (ESEC/FSE'13), 2013, pp. 659–662
- [S16] J. Fernandes, D. Duarte, C. Ribeiro, C. Farinha, J. Madeiras Pereira, and M. Mira da Silva, "iThink: A Game-Based Approach Toward Improving Collaboration and Participation in Requirement Elicitation," Procedia Computer Science, vol. 15, pp. 66–77, 2012
- [S17] S. Grant and B. Betts, "Encouraging user behavior with achievements: an empirical study," Proceedings of the 10th Working Conference on Mining Software Repositories (MSR'13), 2013, pp. 65–68
- [S18] K. Januszewski, "Visual Studio Achievements Programs Brings Gamification to Development", 2012

- [S19] T. D. LaToza, U. o. C. Dept. of Inf., Irvine, Irvine, CA, USA, W. Ben Towne, A. van der Hoek, and J. D. Herbsleb, "Crowd development," Proceedings of the 6th Workshop on Cooperative and Human Aspects of Software Engineering (CHASE'13), 2013, pp. 85–88
- [S20] S. Nikkila, D. Byrne, H. Sundaram, A. Kelliher, and S. Linn, "Taskville: visualizing tasks and raising awareness in the workplace," Proceedings of Conference on Human Factors in Computing Systems (CHI'2013), 2013.
- [S21] S. Nikkila, S. Linn, H. Sundaram, and A. Kelliher, "Playing in Taskville: Designing a Social Game for the Workplace," Proceedings of Int. Conf. on Computer Human Interaction (CHI'2011) – Workshop on Gamification: Using Game Design Elements in Non-Game Contexts, 2011
- [S22] C. R. Prause, J. Nonnen, and M. Vinkovits, "A Field Experiment on Gamification of Code Quality in Agile Development," Proceedings of the 24th Annual Workshop of the Psychology of Programming Interest Group (PPIG'2012), 2012
- [S23] L. Singer, F. Figueira Filho, B. Cleary, C. Treude, M.-A. Storey, and K. Schneider, "Mutual assessment in the social programmer ecosystem: an empirical investigation of developer profile aggregators," Proceedings of the Conference on Computer supported cooperative work (CSCW'13), 2013, pp. 103–116
- [S24] L. Singer and K. Schneider, "Influencing the adoption of software engineering methods using social software," Proceedings of the International Conference on Software Engineering (ICSE'12), 2012
- [S25] L. Singer and K. Schneider, "It was a bit of a race: Gamification of version control," Proceedings of the 2nd International Workshop on Games and Software Engineering (GAS'12), 2012, pp. 5–8
- [S26] W. Snipes, V. Augustine, A. R. Nair, and E. Murphy-Hill, "Toward recognizing and rewarding efficient developer work patterns," Proceedings of the International Conference on Software Engineering (ICSE'13), 2013, pp. 1277–1280
- [S27] W. Snipes, A. R. Nair, and E. Murphy-Hill, "Experiences gamifying developer adoption of practices and tools," Proceedings of the 36th International Conference on Software Engineering (ICSE'2014), 2014
- [S28] R. Sukale and M. S. Pfaff, "QuoDocs: improving developer engagement in software documentation through gamification," Proceedings of the 32nd ACM Conference on Human Factors in Computing Systems (ACHI'2014), 2014
- [S29] J. Thom, D. Millen, and J. DiMicco, "Removing gamification from an enterprise SNS," Proceedings of the ACM Conference on Computer Supported Cooperative Work (CSCW'12), 2012, pp. 1067–1070
- [S30] R. Troughton, "Gamification in Software Development and Agile," Software Developer's Journal, 2012
- [S31] B. Vasilescu, A. Serebrenik, P. Devanbu, and V. Filkov, "How social Q&A sites are changing knowledge sharing in open source software communities," Proceedings of the 17th ACM conference on Computer supported cooperative work & social computing (CSCW'2014), 2014
- [S32] P. G. F. Matsubara and C. L. C. da Silva, "Game Elements in a Software Engineering Study Group: A Case Study", Proceedings of the 39th International Conference on Software Engineering: Software Engineering and Education Track, 2017
- [S33] A. Bartel, P. Figas and G. Hagel, "Towards a Competency-based Education with Gamification Design Elements", Proceedings of the 2015 Annual Symposium on Computer-Human Interaction in Play, 2015
- [S34] I. Chow and L. Huang, "A Software Gamification Model for Cross-Cultural Software Development Teams", Proceedings of the 2017 International Conference on Management Engineering, Software Engineering and Service Sciences, 2017
- [S35] D. Elm, G. F. Tondello, D. L. Kappen, M. Ganaba, M. Stocco and L. E. Nacke, "CLEVER: A Trivia and Strategy Game for Enterprise Knowledge Learning", Proceedings of the 2016 Annual Symposium on Computer-Human Interaction in Play Companion Extended Abstracts, 2016
- [S36] S. Albertarelli, F. Dassenno, L. Galli and G. Pasceri, "The Rise of Serious Games and Gamified Application in Software Development", Proceedings of the Second ACM International Conference on Mobile Software Engineering and Systems, 2015

- [S37] S. K. Sripada, Y. R. Reddy and S. Khandelwal, "Architecting an Extensible Framework for Gamifying Software Engineering Concepts", Proceedings of the 9th India Software Engineering Conference, 2016
- [S38] S. -K. Thiel and U. Lehner, "Exploring the Effects of Game Elements in M-participation", Proceedings of the 2015 British HCI Conference, 2015
- [S39] G. C. Diniz, M. A. G. Silva, M. A. Gerosa and I. Steinmache, "Using Gamification to Orient and Motivate Students to Contribute to OSS Projects", Proceedings of the 10th International Workshop on Cooperative and Human Aspects of Software Engineering, 2017
- [S40] L. C. Stanculescu, A. Bozzon, R.-J. Sips and G.-J. Houben, "Work and Play: An Experiment in Enterprise Gamification", Proceedings of the 19th ACM Conference on Computer-Supported Cooperative Work & Social Computing, 2016
- [S41] K. Kurihara, "Toolification of Games: Achieving Non-game Purposes in the Redundant Spaces of Existing Games", Proceedings of the 12th International Conference on Advances in Computer Entertainment Technology, 2015
- [S42] O. Korn, M. Funk and A. Schmidt, "Towards a Gamification of Industrial Production: A Comparative Study in Sheltered Work Environments", Proceedings of the 7th ACM SIGCHI Symposium on Engineering Interactive Computing Systems, 2015
- [S43] L. Lema Moreta; A. C. Gamboa; M. G. Palacios, "Implementing a Gamified application for a Risk Management course", IEEE Ecuador Technical Chapters Meeting (ETCM), 2016
- [S44] F. Kifetew; D. Munante; A. Perini; A. Susi; A. Siena; P. Busetta, "DMGame: A Gamified Collaborative Requirements Prioritisation Tool", IEEE 25th International Requirements Engineering Conference (RE), 2017
- [S45] P. Busetta; F. M. Kifetew; D. Munante; A. Perini; A. Siena; A. Susi, "Tool-Supported Collaborative Requirements Prioritisation", IEEE 41st Annual Computer Software and Applications Conference (COMPSAC), 2017
- [S46] F. Steffens; S. Marczak; F. F. Filho; C. Treude; C. R. B. de Souza, "A Preliminary Evaluation of a Gamification Framework to Jump Start Collaboration Behavior Change", IEEE/ACM 10th International Workshop on Cooperative and Human Aspects of Software Engineering (CHASE), 2017
- [S47] T. Dal Sasso; A. Mocci; M. Lanza; E. Mastrodicasa, "How to gamify software engineering", IEEE 24th International Conference on Software Analysis, Evolution and Reengineering (SANER), 2017
- [S48] T. Barik; E. Murphy-Hill; T. Zimmermann, "A perspective on blending programming environments and games: Beyond points, badges, and leaderboards", IEEE Symposium on Visual Languages and Human-Centric Computing (VL/HCC), 2016
- [S49] J. Brito; V. Vieira; A. Duran, "Towards a Framework for Gamification Design on Crowdsourcing Systems: The G.A.M.E. Approach", 12th International Conference on Information Technology - New Generations, 2015
- [S50] A. Bernik; D. Radošević; G. Bubaš, "Introducing gamification into e-learning university courses", 40th International Convention on Information and Communication Technology, Electronics and Microelectronics (MIPRO), 2017
- [S51] A. Bartel; G. Hagel, "Gamifying the learning of design patterns in software engineering education", IEEE Global Engineering Education Conference (EDUCON), 2016
- [S52] C. B. Chirila; R. Raes; A. Roland, "Towards a generic gamification of sorting algorithms", 12th IEEE International Symposium on Electronics and Telecommunications (ISETC), 2016
- [S53] N. Unkelos-Shpigel; I. Hadar, "Gamifying Software Engineering Tasks Based on Cognitive Principles: The Case of Code Review", IEEE/ACM 8th International Workshop on Cooperative and Human Aspects of Software Engineering, 2015
- [S54] F. M. Kifetew; D. Munante; A. Perini; A. Susi; A. Siena; P. Busetta; D. Valerio, "Gamifying Collaborative Prioritization: Does Pointsification Work?", IEEE 25th International Requirements Engineering Conference (RE), 2017
- [S55] L. Piras; P. Giorgini; J. Mylopoulos, "Acceptance Requirements and Their Gamification Solutions", IEEE 24th International Requirements Engineering Conference (RE), 2016

- [S56] N. Unkelos-Shpigel; I. Hadar, "Inviting everyone to play: Gamifying collaborative requirements engineering", IEEE Fifth International Workshop on Empirical Requirements Engineering (EmpiRE), 2015
- [S57] M. Fuchs; C. Wolff, "Improving programming education through gameful, formative feedback", IEEE Global Engineering Education Conference (EDUCON), 2016
- [S58] M. Z. H. Kolpondinos; M. Glinz, "Behind Points and Levels — The Influence of Gamification Algorithms on Requirements Prioritization", IEEE 25th International Requirements Engineering Conference (RE), 2017