A Review of Methods for Qualitative Bug Testing

Timothy Goodrich
Department of Computer Science
North Carolina State University
Raleigh, North Carolina, USA
tdgoodri@ncsu.edu

ABSTRACT

Abstraction is the essence of computer science.

Keywords

Key; Word

1. INTRODUCTION

2. RELATED WORK

3. QUALITATIVE BUGS

4. AUTOMATED TESTING

5. METRICS

6. DATA

7. DATA PARSING

8. STATISTICAL COMPARISONS

9. APPLYING TOOLS TO QUANTITATIVE BUGS

10. CONCLUSIONS

11. REFERENCES

[1] D. Bertram, A. Voida, S. Greenberg, and R. Walker. Communication, collaboration, and bugs: the social nature of issue tracking in small, collocated teams. In *Proceedings of the 2010 ACM conference on Computer supported cooperative work*, pages 291–300. ACM, 2010.

[2] M. Cataldo, A. Mockus, J. A. Roberts, and J. D. Herbsleb. Software dependencies, work dependencies, and their impact on failures. *IEEE Transactions on Software Engineering*, 35(6):864–878, 2009.

[3] P. J. Guo, T. Zimmermann, N. Nagappan, and B. Murphy. Not my bug! and other reasons for software bug report reassignments. In *Proceedings of the ACM 2011 conference on Computer supported cooperative work*, pages 395–404. ACM, 2011.

[4] Y. Liu, C. Xu, and S.-C. Cheung. Characterizing and detecting performance bugs for smartphone applications. In *Proceedings of the 36th International Conference on Software Engineering*, pages 1013–1024. ACM, 2014.

[5] Q. Luo, A. Nair, M. Grechanik, and D. Poshyvanyk. Forepost: Finding performance problems automatically with feedback-directed learning software testing. *Empirical Software Engineering*, pages 1–51, 2016.

[6] A. Nistor, L. Song, D. Marinov, and S. Lu. Toddler: Detecting performance problems via similar memory-access patterns. In *Proceedings of the 2013 International Conference on Software Engineering*, pages 562–571. IEEE Press, 2013.

[7] D. Shen, Q. Luo, D. Poshyvanyk, and M. Grechanik. Automating performance bottleneck detection using search-based application profiling. In *Proceedings of the 2015 International Symposium on Software Testing and Analysis*, pages 270–281. ACM, 2015.

[8] S. Zaman, B. Adams, and A. E. Hassan. A qualitative study on performance bugs. In *Mining Software Repositories (MSR), 2012 9th IEEE Working Conference on*, pages 199–208. IEEE, 2012.

Paper	Year	Citation Count
Cataldo, Mockus, Roberts, and Herbsleb [2]	2009	188
Bertram, Voida, Greenberg, and Walker [1]	2010	68
Guo, Zimmermann, Nagappan, and Murphy [3]	2011	83
Zaman, Adams and Hassan[8]	2012	47
Nistor, Song, Marinov, and Lu [6]	2013	13
Liu, Xu, and Cheung [4]	2014	72
Shen, Luo, Poshyvanyk, and Grechanik [7]	2015	15
Luo, Nair, Grechanik, and Poshyvanyk [5]	2016	6

Table 1: Eight years of qualitative bug testing.