



Automated Management of Bug Reports

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Abstract

User-written bug reports are the main information source for software developers to triage and fix the reported software bugs. Unfortunately, many bug reports are unclear, ambiguous, and/or miss critical information. In consequence, developers are often unable to reproduce the bugs, let alone fix them in the code. Current bug reporting technology, which is mostly passive and does not verify the information provided by the users, provides little help in improving the quality of bug reports.

This presentation focuses on my research aimed at improving the quality of bug reports and bug resolution tasks that rely on bug reports. The presentation includes summaries of my prior research, describing: (1) empirical work on the discovery of discourse patterns used by reporters to describe bugs; (2) an automated approach for detecting missing information in bug reports; and (3) the use of query reduction to improve bug localization and duplicate bug report detection. The presentation will also present my current work on providing automated feedback to reporters on the quality of the steps to reproduce in their bug reports and will conclude with my long-term research plans for transforming bug reporting and resolution via intelligent and interactive conversation systems.

Bio

Oscar Chaparro is a Ph.D. candidate in Software Engineering at the University of Texas at Dallas, advised by Dr. Andrian Marcus. His research interests lie in software maintenance and evolution. His current research aims at improving the quality of bug reports written by end users and assisting software developers during bug triage and resolution. He has authored several publications in top software engineering venues, such as ESEC/FSE and ICSE, and obtained the IEEE TCSE Distinguished Paper Award at ICSME'17. He served on the organizing and program committee of the DySDoc3 workshop in 2018. Oscar received his B.Eng. and M.Eng. degrees