SPRINT: An Assistant for Issue Report Management


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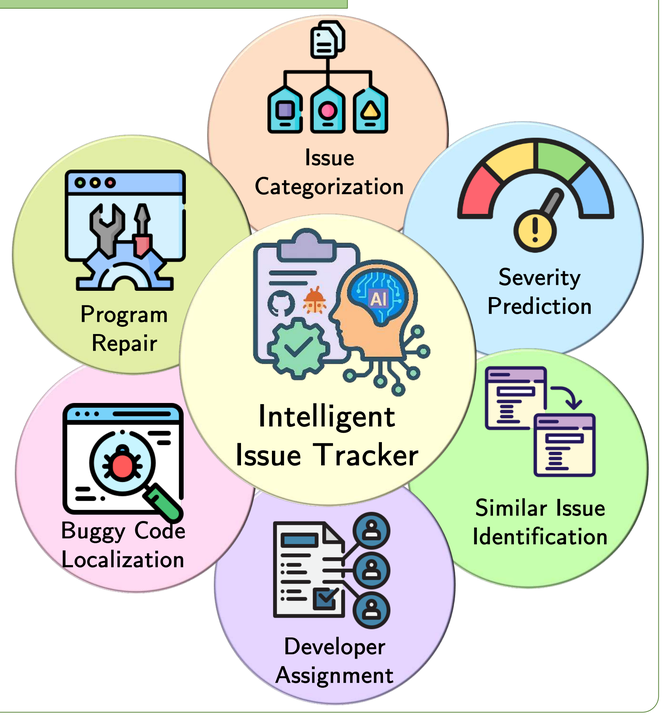
Our Vision

An **Intelligent Issue Tracker** to assist developers in various issue management tasks leveraging SOTA solutions



SPRINT Overview

An **open-source** and **integrated GitHub plugin** to assist developers in issue report management*

Potential Users: developers, project managers, computer science students, and educators


GitHub Plugin

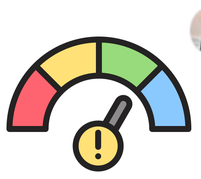

Multi-featured


Open Source

* https://github.com/apps/sprint-issue-report-assistant

SPRINT's Features

Steps to Reproduce Calculating Window Bug #70 Open


Issue Severity Prediction

adnan23062000 opened 8 minutes ago

Steps to reproduce: - create Fractal sample - set Output window as a console type - run the project Result: Application starts but a user is not informed about it as message "Calculating. Please wait...." does not appear in the Output window. It appears only when the program finishes. To make the message appear I need to insert "fflush(stdout);" after "printf("Calculating. Please wait....\n");"

sprint-issue-report-assistant added Blocker 8 minutes ago

Similar Issue Identification

sprint-issue-report-assistant 1 hour ago

Similar Issues:

The following issues are potentially similar to the given issue:

#5 - After creating tables, when I create and save relationships, the information is not saved.

#12 - After defining multiple entities and establishing foreign key relationships in the Entity-Relationship Diagram

sprint-issue-report-assistant added Duplicate 1 hour ago


Buggy Code Localization

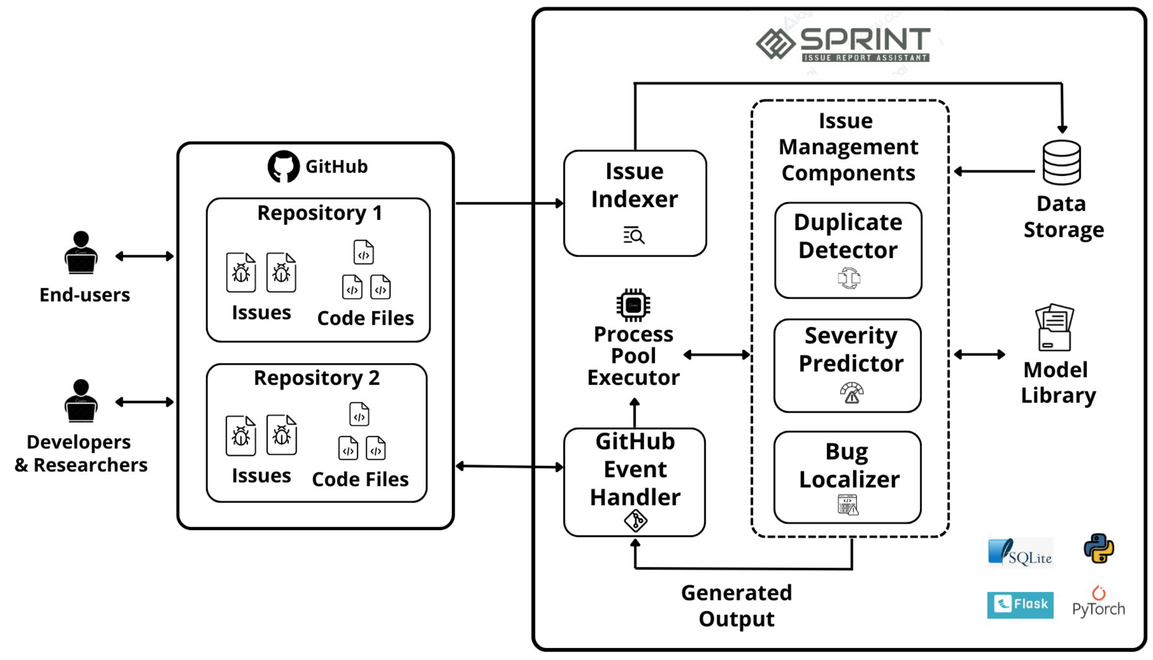
sprint-issue-report-assistant 5 minutes ago

Potential Buggy Code Files:

The following code files may contain the bug or related to the bug in the given issue:

DeploymentValidator.java HelmDeployer.java ShellDeployer.java

SPRINT's Architecture



Underlying Techniques

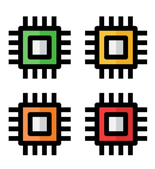
Colorful/RTA[1] Long Code Arena[2]

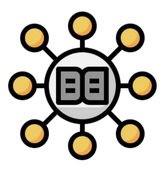
Pre-trained Language Model and Large Language Model (LLAMA) fine-tuned for the specific tasks

1 Fang, Sen, et al. "RepresentThemAll: A universal learning representation of bug reports." *ICSE'23*.
2 Bogomolov, Egor, et al. "Long Code Arena: a Set of Benchmarks for Long-Context Code Models." *CoRR* (2024).

Key Architectural Features


Page-based Indexing


Multi-Processing


Model Library

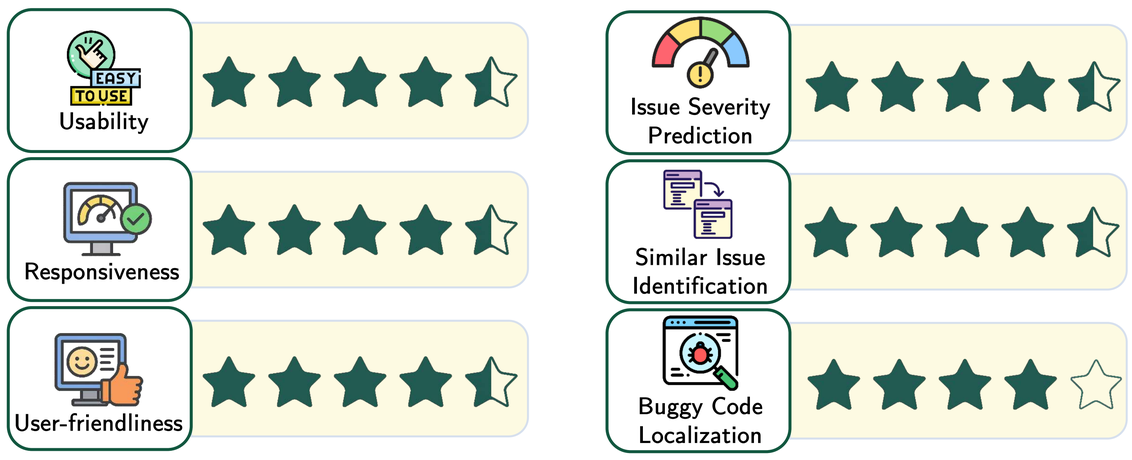

Comprehensive Documentation


Extensible & Scalable

Evaluation

User study: 5 developers (Samsung Research)
Goal: Evaluate SPRINT's (i) usefulness/usability and (ii) the predictive accuracy

User Ratings



Future Work

- Improve Buggy Code Localization performance
- Integrate more issue management features
- Extend compatibility to other platforms