

Study 1: B-Assist's Concept Feedback - Survey Questions

Consent

1. I have read and understood the information sheet provided, have asked any questions that I may have about the research, understand what will happen with my data, understand how to withdraw from the research prior to submitting my data, and consent to participate.
 - a. Accept

Background

2. What is your job title? (Pick the closest to your title.)
 - a. Software Developer
 - b. Software Tester
 - c. Software Manager
 - d. DevX Engineer
 - e. Other (please specify)
3. How many years of programming experience do you have?
 - a. < 1 year
 - b. >1 years and < 3 years
 - c. > 3 years and < 6 years
 - d. > 6 years and < 9 years
 - e. > 9 years

Automated Program Repair (APR) is the automated generation of fixes for non-trivial, repetitive bugs in code. Multiple techniques have been used to achieve this, the most common being using AI to essentially learn from past human bug fixes and using these patterns to replicate fixes for new issues in similar contexts (this is used by Facebook's [Getafix](#)). Thus, APR tools are capable of creating patches for code issues without the need for any developer intervention.

4. What is your typical approach to bug fixing? Choose any that apply.
 - a. Fully manual (no help from any tools)
 - b. Using classic tools such as static analysers, debuggers and code checkers.
 - c. Using Automated Program Repair (APR) tools (e.g. Clang fixes, auto BREG removal, Fixie)
 - d. Other (please specify)

5. How often do you work with **Automated Program Repair (APR)** tools?
 - a. Always
 - b. Often
 - c. Sometimes
 - d. Rarely
 - e. Never
6. How many APR tools have you worked with?
 - a. None
 - b. One
 - c. Two
 - d. Three
 - e. More than three
7. (Free-Text) If you have used any, which APR tools have you used? (Disclaimer: Please do not include any sensitive or identifiable personal information in your answers)
8. How important do you think automated bug fixing is in terms of speeding up the code review process?
 - a. Very important
 - b. Important
 - c. Somewhat important
 - d. Not very important
 - e. Not important

Feedback

INFO: Our team is creating a tool, B-Assist, to support developers in implementing fixes suggested by APR tools directly through the GitHub pull request UI (webpage). Utilising GitHub's "[suggested changes](#)" feature combined with the outputs of APR tools included in the CI/CD pipeline, B-Assist creates review comments providing developers with an option to apply automatically generated fixes with the click of a button, adding a new commit to their working branch with their desired fixes.

9. Does this tool seem useful to you?
 - a. Yes
 - b. No
10. If you answered no to the previous question, what are the reasons why you feel the tool seems less valuable? (Disclaimer: Please do not include any sensitive or identifiable personal information in your answers)

11. Given the opportunity to apply automatically generated bug fixes directly within Github, what would be your preferred level at which to perform bug fixing during code review?
- a. Within your IDE
 - b. Within the scope of an existing pull request (through Github UI)
 - c. For any part of the project by creating a new pull request (through Github UI)
 - d. Either would be fine (no particular opinion)
 - e. Other (Please specify)
12. (Free-Text) Could you please provide a reason for your answer to the previous question?
(Disclaimer: Please do not include any sensitive or identifiable personal information in your answers)
13. B-Assist aims to provide suggestions only for code that is currently being worked on in a pull request. Given you are reviewing a pull request with roughly 100 lines of modified code, how many suggestions would you be willing to review?
- a. Up to 5
 - b. Up to 10
 - c. Up to 15
 - d. Other (Please specify)
14. (Multi-Select) Which features of the tool would most incentivise you to utilise it?
- a. Having the choice to accept or reject fix suggestions.
 - b. Seamless integration through the GitHub pull request user interface.
 - c. Other (Please specify)