Background Information

Please answer the following questions about yourself.

11. What is your age? *

○ 18-24

○ 25-29

○ 30-34

○ 35-39

○ 40-44

○ 45-49

○ 50 or above 50

○ Prefer not to answer

12. Which of the following describes your gender? *

○ Female

○ Male

○ Non-binary, genderqueer, or gender non-conforming

○ Prefer not to answer

○ Other

13. Which of the following describes your race or ethnicity? Please check all that apply. *

- [ ] White
- [ ] European
- [ ] Indian
- [ ] Asian
- [ ] Hispanic or Latino/a
- [ ] Middle Eastern
- [ ] South American
- [ ] North American
- [ ] African
- [ ] South Asian
- [ ] Southeast Asian
- [ ] Multiracial
- [ ] East Asian
- [ ] Black
- [ ] Biracial
- [ ] North African
- [ ] Caribbean
- [ ] Central American
- [ ] Central Asian
- [ ] Ethnoreligious group
- [ ] Indigenous (such as Native American or Indigenous Australian)
- [ ] Pacific Islander
- [ ] None of the above
- [ ] I do not know
- [ ] Prefer not to answer
- [ ] Other

14. Which of the following describe you, if any? Please check all that apply. *

☐ I am blind / have difficulty seeing

☐ I am deaf / hard of hearing

☐ I am unable to / find it difficult to walk or stand without assistance

☐ I am unable to / find it difficult to type

☐ I have a concentration and/or memory disorder (e.g., ADHD, etc.)

☐ I have an anxiety disorder

☐ I have a mood or emotional disorder (e.g., depression, bipolar disorder, etc.)

☐ I have autism / an autism spectrum disorder (e.g. Asperger's, etc.)

☐ I have learning differences (e.g., Dyslexic, Dyslexia, etc.)

☐ None of the above

☐ Prefer not to answer

☐ Other

15. Approximately how many people are employed by the company or organization you currently work for? *

◯ Just me - I am a freelancer, sole proprietor, etc.

◯ 2 to 9 employees

◯ 10 to 19 employees

◯ 20 to 99 employees

◯ 100 to 499 employees

◯ 500 to 999 employees

◯ 1,000 to 4,999 employees

◯ 5,000 to 9,999 employees

◯ 10,000 or more employees

◯ I don't know

◯ Prefer not to answer

16. Which of the following describes your current job? Please select all that apply. *

☐ Developer, full-stack

☐ Developer, back-end

☐ Developer, front-end

☐ Developer, mobile

☐ Project manager

☐ Engineering manager

☐ Developer, game or graphics

☐ Developer, QA or test

☐ QA, Automation Engineer

☐ QA Specialist

☐ Data Analyst/ Data Scientist/ Data Engineer

☐ Product manager

☐ Engineer, site reliability

☐ Senior Executive (C-Suite, VP, etc.)

☐ None of the above

☐ Prefer not to answer

☐ Other

17. Including any education, how many years have you been coding in total? *

○ less than a year

○ 1-4 years

○ 5-9 years

○ 10-14 years

○ 15-19 years

○ 20-24 years

○ 25-29 years

○ 30-34 years

○ 35-39 years

○ 40-44 years

○ 45-49 years

○ 50 or more than 50 years

○ Prefer not to answer

18. NOT including education, how many years have you coded professionally (as a part of your work)? *

○ less than a year

○ 1-4 years

○ 5-9 years

○ 10-14 years

○ 15-19 years

○ 20-24 years

○ 25-29 years

○ 30-34 years

○ 35-39 years

○ 40-44 years

○ 45-49 years

○ 50 or more than 50 years

○ Prefer not to answer

19. Which language did you prefer for development or testing work in over the past year(s)? *

☐ I worked in Java.

☐ I worked in Python.

☐ I worked in C++.

☐ I worked in C.

☐ I worked in SQL.

☐ I worked in Javascript.

☐ I worked in HTML/CSS.

☐ I worked in TypeScript.

☐ I worked in Bash/Shell.

☐ I worked in C#.

☐ Other

20. Which language do you want to work in over the next year(s)? *

☐ I want to work in Java.

☐ I want to work in Python.

☐ I want to work in C++.

☐ I want to work in C.

☐ I want to work in SQL.

☐ I want to work in Javascript.

☐ I want to work in HTML/CSS.

☐ I want to work in TypeScript.

☐ I want to work in Bash/Shell.

☐ I want to work in C#.

☐ Other

Existing Knowledge about Automated Program Repair

Automated Program Repair or APR is the automatic repair of software bugs with little to no intervention from a human pro-
grammer. You can get a brief idea about automated program repair or automatic bug fixing from here
- https://en.wikipedia.org/wiki/Automatic_bug_fixing.

21. Do you know what Automated Program Repair is? *

◯ Yes

◯ No

22. Does your workplace use Automated Program Repair? *

◯ Yes

◯ No

23. Does your team use Automated Program Repair? *

◯ Yes

◯ No

24. Have you ever used any Automated Program Repair tool? *

◯ Yes

◯ No

Experience with Automated Program Repair (APR)

Please answer the following questions regarding your familiarity and experience with Automated Program Repair tools. Some examples of Automated Program Repair tools include Eclipse's Quick Fix - editor highlights the error, pop-up indicates actions that can be undertaken to repair the error.(https://wiki.eclipse.org/FAQ_What_is_a_Quick_Fix%3F) and SimFix - fix programs by leveraging existing patches from other projects and similar code snippets. (https://github.com/xgdsmileboy/SimFix).

25. On a scale of 1 to 5, how familiar are you with using any Automated Program Repair tool? *

    Familiar means you have heard about Automated Program Repair tools (e.g., seen others working with one).

	Very unfamiliar	Somewhat unfamiliar	Somewhat familiar	Very familiar
Level of familiarity	○	○	○	○

26. On a scale of 1 to 5, how experienced are you in using any Automated Program Repair tool? *

    Experienced means you have yourself used at least one Automated Program Repair tool (see definition above).

	Very inexperienced	Somewhat inexperienced	Somewhat experienced	Very experienced
Level of experience	○	○	○	○

27. What type of tool did/do you use for Automated Program Repair? *

    ☐ Specific tools developed for my workplace

    ☐ Specific tools developed for my team

    ☐ Existing tools

28. Briefly describe the developed Automated Program Repair tool for your team or workplace. *

    Write N/A if the question does not apply for you.

    [   ]

29. Name the Automated Program Repair tool that you used/use. *

    Write N/A if the question does not apply for you.

    [   ]

30. On a scale of 1 to 5, how often do you use any Automated Program Repair tool? *

	Multiple times per day	Daily or almost daily	A few times per week	A few times per month or weekly	Less than once per month or monthly
Frequency of use	◯	◯	◯	◯	◯

Opinion and Suggestions

Please answer the following questions about your opinion and your suggestions about automated program repair.

31. In your opinion, what are the advantages of Automated Program Repair? *

- [ ] Saves time and energy

- [ ] Needs less human effort

- [ ] Easier to use for repetitive tasks

- [ ] Provides consistency

- [ ] Other

32. In your opinion, what are the disadvantages of Automated Program Repair? *

- [ ] Needs regular checking

- [ ] Can miss rare or uncommon behavior

- [ ] Maintenance cost can be high

- [ ] Can be consistently wrong

- [ ] Can change business logic

- [ ] Other

33. To what extent do or would the disadvantages affect your use or adoption of Automated Program Repair tools? *

	Unaffected	Somewhat unaffected	Neither affected nor unaffected	Somewhat affected	Very affected
Needs regular checking	○	○	○	○	○
Can miss rare or uncommon behavior	○	○	○	○	○
Maintenance cost can be high	○	○	○	○	○
Can be consistently wrong	○	○	○	○	○
Can change business logic	○	○	○	○	○

34. If you have mentioned any additional disadvantages as "Other", to what extent does that disadvantage affect your use of Automated Program Repair tools?

No need to select anything if you have not selected "Other" option for question 32.

	Unaffected	Somewhat unaffected	Neither affected nor unaffected	Somewhat affected	Very affected
Other	○	○	○	○	○

35. If we fix or work on the disadvantages that you selected above, on a scale of 1 to 5, how likely would it be that you would use or continue to use an Automated Program Repair tool? *

	Very unlikely	Somewhat unlikely	Neither likely nor unlikely	Somewhat likely	Very likely
Improves need to regularly check	○	○	○	○	○
Improvement to consider rare or uncommon behavior	○	○	○	○	○
Maintenance cost is kept moderate	○	○	○	○	○
Fix to make it consistently right	○	○	○	○	○
Improvement to maintain business logic	○	○	○	○	○
Improvement in other disadvantages that you mentioned	○	○	○	○	○

36. If you listed additional disadvantages and these disadvantages could be addressed, on a scale of 1 to 5, how likely would it be that you would use or continue to use an Automated Program Repair tool?

No need to select anything if you have not selected "Other" option for question 32.

	Very unlikely	Somewhat unlikely	Neither likely nor unlikely	Somewhat likely	Very likely
Other disadvantages listed by you	○	○	○	○	○

37. Please select Occasionally for this particular question. *

○ Never

○ Rarely

○ Occasionally

○ Always

38. Which kind(s) of support do you most often seek for fixing bugs and how often do you seek support from any of those? (Sites or other supports) *

	Multiple times per day	Daily or almost daily	A few times per week	A few times per month or weekly	Less than once per month or monthly
Stack Overflow	○	○	○	○	○
GitHub	○	○	○	○	○
Reddit	○	○	○	○	○
Medium	○	○	○	○	○
ChatGPT	○	○	○	○	○
MDN	○	○	○	○	○
Talk to someone from own team	○	○	○	○	○
Talk to someone from other team	○	○	○	○	○
Talk to someone from other industry	○	○	○	○	○
Other	○	○	○	○	○

39. If you have selected "Other" option for the previous question, please name the other sources that you seek support from –

[   ]

40. How frequently do you fix code or bugs? *

○ Multiple times per day

○ Daily or almost daily

○ A few times per week

○ A few times per month or weekly

○ Less than once per month or monthly

○ Other

41. Are there any features you feel are important for Automated Program Repair tools to support or provide? *

    Write N/A if you do not want to suggest any feature.

42. Are there any features you feel should not be supported or provided by Automated Program Repair tools? *

    Write N/A if you do not want to remove any feature.