

## Default Question Block

### Info Page

Thank you for participating in the survey. We expect that this survey will take 7-10 minutes of your time.

#### Who we are:

Researchers at Oregon State University

#### Our Goal:

This survey is part of a research study to examine difficulties that developers encounter when resolving merge conflicts. Our goal is that by understanding these difficulties, we can ultimately help improve research and tool support in this area.

Please proceed to the next page to begin.

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### Background Block

Gender:

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- Male  Other:
- Female  Do not wish to provide

Professional software development experience:

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- 1-5 years  6-10 years  11-15 years  16-20 years  21-25 years  26+ years

What kind of projects do you spend most of your time on?

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- Open-Source Projects  Closed-Source Projects  I split my time evenly

What size of project do you usually work on?

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- 1 developer  2-5 developers  6-10 developers  11-50 developers  51+ developers

Which roles have you held in collaborative software projects?

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- Software Engineer/Developer  DevOps
- Systems Engineer  Project Maintainer
- System Architect  Project Manager
- Systems Administrator  Other(s):

A **merge conflict** is a scenario in which two different branches of code cannot be automatically merged together into a single version, requiring human intervention to resolve.

How often do you encounter merge conflicts?

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- Every day
- A few times a week
- Once a week
- A few times a month
- Once a month
- A few times a year
- Once a year or less
- Never

### **Factors of Merge Conflict Difficulty**

The following questions concern factors of merge conflict difficulty.

These factors are characteristics that affect your ability to understand WHAT is happening during a merge conflict.

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Please rate how much each of these factor into the difficulty of a merge conflict:

	Not at all	A little	A moderate amount	A lot	A great deal
Time to resolve a conflict	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Number of conflicting lines of code	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Complexity of conflicting lines of code	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Number of files in the conflict	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Complexity of the files with conflicts	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Non-functional changes (whitespace, renaming, etc)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Dependencies of conflicting code on other components	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Atomicity of changesets in the conflict ?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Your knowledge/expertise in area of conflicting code	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

How do you measure the size of a merge conflict?

- Lines of code involved in the conflict
- Number of files in the conflict
- The amount of time that it takes to resolve it
- Other(s):

In your experience, does the size of a merge conflict (defining size as you did above) seem to be related to the difficulty of the merge conflict resolution?

Yes	Sometimes	No
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please rate the average difficulty level for each size of merge conflict

	Trivial	Mostly Trivial	Somewhat Difficult	Difficult	Not Worth Solving
Small Size	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Medium Size	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Large Size	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

When there is a relationship between difficulty and size of the merge conflict, what is the average difficulty level for each size?

	Trivial	Mostly Trivial	Somewhat Difficult	Difficult	Not Worth Solving
Small conflict	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Medium-sized conflict	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Large conflict	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Do you ever feel that other people are making so many code changes that following your usual development practices becomes significantly more difficult?

Yes	Maybe	No
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

What were the reasons for these problems?

- Deadlines
- Team awareness issues
- Project size/scale
- Project structure issues
- Project rules
- Other(s):

### **Resolution Process Difficulties**

The following questions concern factors of conflict resolution difficulty.

These factors are characteristics that affect HOW a merge conflict is resolved.

Please rate how much each of these factor into the difficulty of resolving merge conflicts:

	Not at all	A little	A moderate amount	A lot	A great deal
The amount of information you have about the conflicting code	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Your expertise in the area of code with the merge conflict	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How easy it is to understand the code involved in the merge conflict	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How well tools present information in an understandable way	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Trustworthiness of tools	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tool support for examining development history	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Complexity of the project structure	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Informativeness of commit messages	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Changing assumptions within the code ?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Project culture	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**Backporting** is the action of taking parts from a newer version of a software system or software component and porting them to an older version of the same software. [Wikipedia]

Have you ever been unable to backport something because of its dependencies?

- Yes  
 No

Could you describe a situation where you were unable to backport something because of its dependencies?

**Toolset**

The following questions relate to the tools you use for merge conflict resolution:

What tools do you use in your conflict resolution process? These tools can be for anything that you need to do between the time you pull and the time you commit.

How often do you find that having multiple tools has been a problem in your development workflow?

- Never                      Rarely                      Sometimes                      Often                      Always
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How effectively does your current toolset support each of the following scenarios?

	Not effective at all	Slightly effective	Moderately effective	Very effective	Extremely Effective
Simple, small merge conflict resolutions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Simple, large merge conflict resolutions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Complex, small merge conflict resolutions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Complex, large merge conflict resolutions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Merge conflict resolutions that require exploring code history	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Merge conflict resolutions that require little or no code history exploration	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other(s): <div style="border: 1px solid black; height: 20px; width: 100%;"></div>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

How much do you trust your merging, history exploration, and/or conflict resolution tools?

- Not at all                      A little                      A moderate amount                      A lot                      Completely
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How useful would the following changes be in your merge conflict resolution tools?

	Not Useful	Slightly Useful	Moderately Useful	Very Useful	Essential
Better transparency in tool functionality/operations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Better usability	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Better ways of filtering out less relevant information	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Better graphical presentation of information	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Better ways of exploring project history	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Better terminology that is more consistent with my other tools	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>