



CodeDiffVis Survey

We designed this survey to assess the usefulness of CodeDiffVis during code review. This survey takes approximately 15 minutes to complete.

The questions in this survey target solely your experience with the visualization tool CodeDiffVis. If you had issues with the back-end, CodeDiffParser, or with installing the software, please refer to it in the very last question of this survey only.

The survey questions are in English only, yet feel free to answer in English, German, French or Italian.



Section A: Participant ID

- A1. If you keep a copy of the following unique code, you can use it to request the removal of your responses from this survey at any time.

```
$(document).ready(function(){ var colors = ["Absolute Zero","Acid green","Aero","Aero blue","African violet","Air superiority blue","Alabaster","Alice blue","Alloy orange","Almond","Amaranth","Amaranth (M&P)","Amaranth pink","Amaranth purple","Amaranth red","Amazon","Amber","Amber (SAE/ECE)","Amethyst","Android green","Antique brass","Antique bronze","Antique fuchsia","Antique ruby","Antique white","Ao (English)","Apple green","Apricot","Aqua","Aquamarine","Arctic lime","Army green","Artichoke","Arylide yellow","Ash gray","Asparagus","Atomic tangerine","Auburn","Aureolin","Avocado","Azure","Azure (X11/web color)","Baby blue","Baby blue eyes","Baby pink","Baby powder","Baker-Miller pink","Banana Mania","Barbie Pink","Barn red","Battleship grey","Beau blue","Beaver","Beige","B'dazzled blue","Big dip o'ruby","Bisque","Bistre","Bistre brown","Bitter lemon","Bitter lime","Bittersweet","Bittersweet shimmer","Black","Black bean","Black chocolate","Black coffee","Black coral","Black olive","Black Shadows","Blanched almond","Blast-off bronze","Bleu de France","Blizzard blue","Blond","Blood red","Blue","Blue (Crayola)","Blue (Munsell)","Blue (NCS)","Blue (Pantone)","Blue (pigment)","Blue (RYB)","Blue bell","Blue-gray","Blue-green","Blue-green (color wheel)","Blue jeans","Blue sapphire","Blue-violet","Blue-violet (Crayola)","Blue-violet (color wheel)","Blue yonder","Bluetiful","Blush","Bole","Bone","Bottle green","Brandy","Brick red","Bright green","Bright lilac","Bright maroon","Bright navy blue","Bright yellow (Crayola)","Brilliant rose","Brink pink","British racing green","Bronze","Brown","Brown sugar","Brunswick green","Bud green","Buff","Burgundy","Burlywood","Burnished brown","Burnt orange","Burnt sienna","Burnt umber","Byzantine","Byzantium","Cadet","Cadet blue","Cadet blue (Crayola)","Cadet grey","Cadmium green","Cadmium orange","Cadmium red","Cadmium yellow","Café au lait","Café noir","Cambridge blue","Camel","Cameo pink","Canary","Canary yellow","Candy apple red","Candy pink","Capri","Caput mortuum","Cardinal","Caribbean green","Carmine","Carmine (M&P)","Carnation pink","Carnelian","Carolina blue","Carrot orange","Castleton green","Catawba","Cedar Chest","Celadon","Celadon blue","Celadon green","Celeste","Celtic blue","Cerise","Cerulean","Cerulean blue","Cerulean frost","Cerulean (Crayola)","CG blue","CG red","Champagne","Champagne pink","Charcoal","Charleston green","Charm pink","Chartreuse (traditional)","Chartreuse (web)","Cherry blossom pink","Chestnut","China pink","China
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Section B: Open Questions

B1. Consider your experience with CodeDiffVis, what did you like most about it?

B2. What did you like the least?

B3. For which code changes - if any - did CodeDiffVis help you the most during the reviews?

B4. For which the least?

B5. Which version of CodeDiffVis where you using?

v1.1

v1.0

v0.4

v0.3

v0.2

v0.1



Section C: Usability

C1. State your agreement with the following statements on *CodeDiffVis* (CDV).

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	I don't know
I think that I would like to use CDV frequently.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I found CDV unnecessarily complex.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I thought CDV was easy to use.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I think that I would need the support of a technical	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I found the various functions in CDV were well	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I thought there was too much inconsistency in CDV.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I would imagine that most people would learn to use	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I found CDV very cumbersome to use.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I felt very confident using CDV.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I needed to learn a lot of things before I could get going	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Section D: Visualization and Features

D1. Please, evaluate the following claims on the *graph* of CodeDiffVis.

With *graph* we always refer to the visualization of the dependency and call graph. With *interactions* we refer to all kind of possible interactions: panning, dragging and zooming clicking on nodes and navigation in the code change adding and deleting nodes

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	I don't know
The graph was clear and easy to understand.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The graph was useful for my code review.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The graph contained useful information.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Interacting with the graph was simple.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Interacting with the graph helped me to perform code	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
CodeDiffVis provides information that is not available in	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

D2. Do you have any additional remarks about the *graph*?

D3. Please answer the following questions about the information displayed with the graph.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	I don't know
The graph displays sufficient information.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
In the graph, I found it useful to see whether a node is a	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
In the graph, I would find it useful to see whether a node	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The color-coding of nodes is clear.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The nodes and links display the relationships between	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The nodes and links display class hierarchies and	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

D4. Do you have any additional remarks about the information displayed with the graph?



Section E: Applicability and Benefits

E1. Please, evaluate the following claims on the issues found in code reviews using CodeDiffVis.

We categorize the following two code review related changes:

Evolvability changes. They refer to non-functional code changes for maintainability, not considered as bugs, i.e.: renaming of variables or methods missing documentation extracting a method or interface into another/separate class *Functional changes.* Changes in the programs' behavior, usually bugs, i.e.: change of method logic use of different resources changes that led to unexpected or erroneous behaviour

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	I don't know
I was able to detect more issues (non-bugs) that led to	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I was able to detect more issues (bugs) that led to	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

E2. Do you have any additional remarks about the issues found in code reviews using CodeDiffVis?

E3. Please, evaluate the following claims on CodeDiffVis (CDV).

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	I don't know
CDV is suited for small merge-requests (1-3 files)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
CDV is suited for medium merge-requests (4-7 files)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
CDV is suited for large merge-requests (8 files or more)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
CDV is suited for merge-requests of any size	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

E4. Do you have any additional remarks about the applicability of CodeDiffVis in different code review sizes?

E5. Please, evaluate the following claims on the benefits of CodeDiffVis.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	I don't know
With the graph, I was able to understand the code	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The graph helped me to keep track of my progress during	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
With the graph, I could orient myself better in the merge	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
With the graph, I found it easier to navigate through the	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

E6. Considering the statements above, do you have any additional remarks about CodeDiffVis?



Section F: Final Demographic Questions

F1. What is your nationality?

F2. What is your gender?

Male
Female
Prefer to not disclose
Prefer to self-define

☐
☐
☐
☐

Prefer to self-define

F3. How old are you?

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F4. Your working experience as a developer in a professional setting; e.g. as an employee of an IT-company or as an Open-Source contributor.

	None	1 year or less	2 years	3-5 years	6-10 years	11 years or more
For how many years have you developed software in a	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
For how many years have you developed Java software in	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
For how many years have you performed code review in	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

F5. How many hours per week, on average, do you spend on programming?

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F6. How many hours per week, on average, do you spend on reviewing code of other developers?

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Section G: General Feedback

Thank you for filling in all answers so far. You are almost done.

G1. In addition to analyzing your data in an anonymous form, may we also share your answers in a publicly available dataset?

(Selecting *yes* allows other researchers and the public to benefit from your answers and effort)

Yes
No

☐
☐



G2. Do you have any final remarks about CodeDiffVis or this survey?

Thank you very much for participating.

You have already helped us a lot and we are especially grateful that you sacrifice some of your free time for our research.

In case you are interested, we are also searching for voluntaries to participate in a online interview (i.e. Skype). Depending on your preference and availability it takes approximately 30 minutes where you can express your thoughts on the tool more freely.

If you wish to participate, please write an e-mail to Josua Fröhlich so we can find a slot that fits for you.