On the Use of Multimedia Documentation

The Ambient Software Engineering Group (ASEG) from Concordia University is currently conducting a brief survey to study how software engineers and developers learn new tasks.

The feedback collected from the second section of this survey will be used to find out what source of documentation is preferable by software engineers, with different characteristics, to get help with their software engineering tasks (e.g., using an application feature, using an API, etc.) or learn something (e.g., a programming language, how to use a tool, etc.). The feedback of the third section will be used to better understand how often and why software engineers watch how-to tutorial videos. Finally, the answers of the forth section will be used to better understand the usage of how-to tutorial videos as a software artifact.

* Required

Legal Consent Information

Study Title: On the Use of Developer Knowledge
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Faculty Supervisor's Contact Information: juergen.rilling@concordia.ca
Source of funding for the study: N/A

You are being invited to participate in the research study mentioned above. This form provides information about what participating would mean. Please read it carefully before deciding if you want to participate or not. If there is anything you do not understand, or if you want more information, please ask the researcher.

A.　PURPOSE

The Ambient Software Engineering Group (ASEG) from Concordia University is currently conducting a brief survey to study how software engineers and developers learn new tasks.

B.　PROCEDURES

If you participate, you will be asked to answer questions on your background in software engineering and provide details on your use of different types of developer knowledge through different communication channels (e.g., books, social media, face-to-face conversations, etc.).
In total, participating in this study will take 10-15 minutes.

C.　RISKS AND BENEFITS

This research is not intended to benefit you personally and there is no foreseeable risks that could arise from participation.

D. CONFIDENTIALITY

We will gather the following information as part of this research: Background and software engineering related experiences.

We will not allow anyone to access the information, except people directly involved in conducting the research. We will only use the information for the purposes of the research described in this form.

The information gathered will be anonymous. That means that it will not be possible to make a link between you and the information you provide.

We will protect the information by keeping it securely on encrypted file systems or password protected email accounts for a minimum of 5 years following completion of research project.

We intend to publish the results of the research. However, it will not be possible to identify you in the published results.

We will destroy the information five years after the end of the study.

F.　CONDITIONS OF PARTICIPATION

You do not have to participate in this research. It is purely your decision. If you do participate, you can stop at any time. Any information provided before withdrawing will be deleted and excluded from our analysis. However, there is no way of withdrawing your responses once they are confirmed and submitted.

G. PARTICIPANT'S DECLARATION

I have read and understood this form. I have had the chance to ask questions and any questions have been answered. I agree to participate in this research under the conditions described. By clicking "Next" in this Google Form I indicate that I am at least 18 years old, have read and understood this form and agree to participate in this research study.

If you have questions about the scientific or scholarly aspects of this research, please contact the researcher. Their contact information is at the beginning of this section. You may also contact their faculty supervisor.

If you have concerns about ethical issues in this research, please contact the Manager, Research Ethics, Concordia University, 514.848.2424 ex. 7481 or oor.ethics@concordia.ca.

Part I: Background

1. What is your gender *

Mark only one oval.

◯ Male

◯ Female

◯ Prefer not to answer

◯ Other: _____

2. When is your birth year? *

Mark only one oval.

◯ Before 1966

◯ 1966-1976

◯ 1977-1994

◯ After 1994

3. Which of the following best describe(s) you? (Check all that apply) *

Check all that apply.

- ☐ Researcher
- ☐ Business Analyst
- ☐ Database Administrator
- ☐ Database Developer
- ☐ Full Stack Developer
- ☐ Graduate Student
- ☐ Product Owner
- ☐ Software Designer
- ☐ Software Developer
- ☐ Software Project Manager
- ☐ Software Quality Assurance Engineer
- ☐ Software Tester
- ☐ Undergraduate Student

Other: ☐ _____

4. How many years of professional experience do you have as a software engineer? *

Mark only one oval.

- ⬭ 0
- ⬭ <1 year
- ⬭ 1-2 years
- ⬭ 2-5 years
- ⬭ 5-10 years
- ⬭ 10-20 years
- ⬭ >20 years

5. What programming languages do you use (or have used) in your development or maintenance tasks? (Check all that apply) *

Check all that apply.

☐ Java

☐ C

☐ Python

☐ C++

☐ Visual Basic .NET

☐ C#

☐ PHP

☐ Javascript

☐ SQL

☐ Objective-C

☐ Delphi/Object Pascal

☐ Ruby

☐ MATLAB

Other: ☐ _____

6. How many open source or commercial software projects have you worked on? *

Mark only one oval.

◯ 0

◯ 1

◯ 2-5

◯ >5

7. How many years have you been contributing to open source (in any way)? *

Mark only one oval.

( ) Never

( ) <1 year

( ) 1-2 years

( ) 2-5 years

( ) 5-10 years

( ) 10-20 years

( ) >20 years

Part II: Software Engineering Information Resources

8. Rank the type of developer knowledge that you prefer to use to get help in your software engineering tasks? *

Non-digital (e.g., telephone, face2face, project workbook, documents, books); Digital (e.g., Slashdot, Sourceforge, Visual Studio documentation, Eclipse documentation, mailing lists, emails); Social media (e.g., blogs, Twitter, LinkedIn, YouTube, Vimeo, Stack Overflow, Slack, Facebook, GitHub)

Mark only one oval per row.

	Highly preferable	Moderately preferable	Somewhat preferable	Not very preferable	Not preferable at all	Not sure
Non-digital	( )	( )	( )	( )	( )	( )
Digital	( )	( )	( )	( )	( )	( )
Social media	( )	( )	( )	( )	( )	( )

9. Indicate if your organization has blocked access to any social media and specify the name of the blocked social media? (e.g., Twitter, Facebook, YouTube, Vimeo, LinkedIn, Slack, GitHub, etc.) *

_____

10. How important are the following social media resources for you in *completing your software engineering tasks*? *

Mark only one oval per row.

	Very important	Moderately important	Somewhat important	Not very important	Not important at all	Not sure
Blogs	◯	◯	◯	◯	◯	◯
Facebook	◯	◯	◯	◯	◯	◯
GitHub	◯	◯	◯	◯	◯	◯
Google Groups	◯	◯	◯	◯	◯	◯
LinkedIn	◯	◯	◯	◯	◯	◯
Slack	◯	◯	◯	◯	◯	◯
Stack Overflow	◯	◯	◯	◯	◯	◯
Twitter	◯	◯	◯	◯	◯	◯
Vimeo	◯	◯	◯	◯	◯	◯
YouTube	◯	◯	◯	◯	◯	◯

11. Rank your level of preference in using the following media as an information source to *learn new skills/concepts*? *

Mark only one oval per row.

	Highly preferable	Moderately preferable	Somewhat preferable	Not very preferable	Not preferable at all	Not sure
Books	◯	◯	◯	◯	◯	◯
Blog posts	◯	◯	◯	◯	◯	◯
Images (e.g., Flowcharts, visualised methodologies, etc.)	◯	◯	◯	◯	◯	◯
Online written documentations	◯	◯	◯	◯	◯	◯
Podcasts	◯	◯	◯	◯	◯	◯
Question and answer sites	◯	◯	◯	◯	◯	◯
Videos	◯	◯	◯	◯	◯	◯

12.   For each task, indicate the media format that you prefer to use as a documentation.
      (Check all that apply) *

      Textual (e.g., blogs, Q&As, documents, books). Multimedia (e.g., videos, images, podcasts)

      Check all that apply.

	Multimedia	Textual
Bug fixing	☐	☐
Finding workarounds for other problems	☐	☐
Get development tips and tricks	☐	☐
Get familiar with a software application's user interface	☐	☐
Learn a programming language	☐	☐
Learn how to customize open source projects' source code	☐	☐
Learn how to set up an application	☐	☐
Learn how to use specific features of a software application	☐	☐
Learn new concepts	☐	☐
To find answers to technical questions	☐	☐
To learn and improve my skills	☐	☐

Part III: On the Use of How-to Tutorial Videos in Software Engineering Domain

13.   Is YouTube accessible in your organization/country? *

      Mark only one oval.

      ◯ Yes

      ◯ No

      ◯ Yes, but filtering is bypassed using other methods

14. For what software engineering-related purpose(s) do you watch tutorial videos? (Check all that apply) *

Check all that apply.

☐ Bug fixing

☐ Finding workarounds for other problems

☐ Get development tips and tricks

☐ Get familiar with a software application's user interface

☐ Learn a programming language

☐ Learn how to customize open source projects' source code

☐ Learn how to set up an application

☐ Learn how to use specific features of a software application

☐ Learn new concepts

Other: ☐ _____

15. How many tutorial videos have you created in the past to share your software development knowledge? *

Mark only one oval.

○ 0

○ 1

○ 2-5

○ 5-10

○ >10

○ Other: _____

16. For what software engineering-related purpose(s) have you created tutorial videos?
    (Check all that apply)

    Check all that apply.

    ☐ Bug fixing
    ☐ Demonstrate a software application's user interface
    ☐ Give development tips and tricks
    ☐ Teach a programming language
    ☐ Teach how to set up an application
    ☐ Teach how to use specific features of a software application
    ☐ Teach new concepts
    ☐ Teach workarounds for other problems
    ☐ I have never created a tutorial video myself
    Other: ☐ _____

17. How many tutorial videos have you created to share your expertise in the use of features
    found in a software application?

    Mark only one oval.

    ◯ 0
    ◯ 1
    ◯ 2-5
    ◯ 5-10
    ◯ >10
    ◯ Other: _____

18. How often do you watch tutorial videos as a learning resource? *

    Mark only one oval.

    ◯ Daily
    ◯ Weekly
    ◯ Monthly
    ◯ Almost never
    ◯ Never

19. How often are you unable to find a tutorial video that clearly describes what you need? *

    Mark only one oval.

    ◯ Always

    ◯ Often

    ◯ Sometimes

    ◯ Rarely

    ◯ Never

20. To what extent do you find tutorial videos an effective learning tool in the software engineering domain? *

    Mark only one oval.

    ◯ Very effective

    ◯ Moderately effective

    ◯ Somewhat effective

    ◯ Not very effective

    ◯ Not effective at all

    ◯ Not sure

21. To what extent do you find the information presented in a tutorial video useful for your tasks? *

    Mark only one oval.

    ◯ Very useful

    ◯ Moderately useful

    ◯ Somewhat useful

    ◯ Not very useful

    ◯ Not useful at all

    ◯ Not sure

22.   How often are you satisfied with the audio and visual quality of a tutorial video? *

Mark only one oval.

( ) Always

( ) Often

( ) Sometimes

( ) Rarely

( ) Never

23. Indicate how important the following information is when selecting a tutorial video to watch? *

Mark only one oval per row.

	Very important	Moderately important	Somewhat important	Not very important	Not important at all	Not sure
Author	○	○	○	○	○	○
Content (by watching part of the video)	○	○	○	○	○	○
Content of the speech transcription	○	○	○	○	○	○
Description	○	○	○	○	○	○
Having a narrator	○	○	○	○	○	○
HD Quality	○	○	○	○	○	○
Long video	○	○	○	○	○	○
Number of likes	○	○	○	○	○	○
Number of views	○	○	○	○	○	○
Short video	○	○	○	○	○	○
Textual annotations in the video	○	○	○	○	○	○
Title	○	○	○	○	○	○

24. From your experience, what would you consider some of the benefits of using tutorial videos compared to written documentation? *

_____

_____

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25. From your own experience, are there any disadvantages in using tutorial videos over written documentation? *

_____

_____

_____

_____

_____

26. How important is having a narrator for tutorial videos? *

    Mark only one oval.

    ( ) Very important

    ( ) Moderately important

    ( ) Somewhat important

    ( ) Not very important

    ( ) Not important at all

    ( ) Not sure

27.   How often do you turn on closed captioning (subtitles) while watching a tutorial video? *

Closed captioning or subtitle is the processes of displaying text on video screen, or other visual display. It is typically used as a transcription of the audio portion of a program as it occurs.

Mark only one oval.

◯ Always

◯ Often

◯ Sometimes

◯ Rarely

◯ Never

28.   Assume that you are new to WordPress and you want to know "how to add a blog post to WordPress". Having the choice between Stack Overflow, the official online documentation, and a tutorial video, all containing the same relevant information, which one will you use to learn how to perform the task? *

Mark only one oval.

◯ Official online document

◯ Stack Overflow Q&A

◯ Tutorial video

◯ All of the above

◯ Other: _____

29.   Assume that you are new to WordPress and you want to know "How to restrict WordPress site access by IP". If you find the relevant question and answer on Stack Overflow, the official online documentation, and a tutorial video, which one will you use to learn how to perform the task? *

Mark only one oval.

◯ Official online documentation

◯ Stack Overflow Q&A

◯ Tutorial video

◯ All of the above

◯ Other: _____

Part IV: How-to Tutorial Videos as a Software Artifact

Think about an open source project which you would like to contribute to and do not have any experience in. With this assumption in mind, please answer the following questions.

30.   How often do you decide to watch a video of a software project whose source code you want to customize? *

   Mark only one oval.

   ( ) Always

   ( ) Often

   ( ) Sometimes

   ( ) Rarely

   ( ) Never

31.   Have you ever tried to locate the source code artifacts of a feature that is being demonstrated in a video? *

   Mark only one oval.

   ( ) Always

   ( ) Often

   ( ) Sometimes

   ( ) Rarely

   ( ) Never

32.   Which of the following use cases of recommending videos do you find interesting? (Check all that apply) *

   Check all that apply.

   [ ] Videos relevant to bug reports

   [ ] Videos relevant to build configurations

   [ ] Videos relevant to online textual documentation

   [ ] Videos relevant to security issues

   [ ] Videos relevant to Stack Overflow question and answers

   Other: [ ] _____

33. Please share any suggestion about the role or usefulness of how-to tutorial videos in software engineering domain. *

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