SIMPLSHOT: An easy way to share a snippet of a webpage on the social web

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ABSTRACT

With the advent of social media, people spend a lot of time browsing the web and tend to share any interesting facts with their near and dear ones. However the ease with which you can share a snippet of the screen has not evolved as much. There are quite a few insipid approaches taken to solve the issue of sharing a snippet of a web page in the form of images on any social media. Our traditional way of taking a screenshot constitutes multiple steps and saving these screen shots on our local machine takes away unnecessary memory of our machines. We are looking at an innovative approach of solving this problem by reducing clutter and cumbersome task of taking screen-shots, cutting and sharing.

Categories and Subject Descriptors

H.4 [**Information Systems Applications**]: Miscellaneous; D.2.8 [**Software Engineering**]: Metrics—*observations, convenient measures*; H.4 [**Information Systems Applications**]: Human factor

General Terms

Observation, Case Study, Metrics

Keywords

SIMPLSHOT, Sharing made easy, text tagging

1. INTRODUCTION

The problem with sharing the a specific snippet of a screenshots with any of the social media across platforms has its way of causing inconvenience by involving multiple steps, taking up unnecessary space on the device and locating the saved image on the machine for uploading. The usual layman's way is to use 'PrtScr' or a desktop application to grab images and finally save them on our system. Following this, is the task of cutting, uploading the image using the upload button. Somewhat loosely, these steps of capture, save/edit and share are holy trinity of sharing the screen shots across platforms. We have performed an extensive study to identify the drawbacks of this usual approach. We conducted a survey and with considerable amount of observation to understand and identify how people get around this task. Our video recordings, interviews and surveys have targeted the audience with questions which subtly reveal the issues faced by them. The metrics indicate that a wide section of the people consider asking for a simple new way overcoming the drawbacks. Although a sparse population is aware of screenshot applications, not many use it due to the fact that it requires saving those files onto the local system. The good news is, we are on the way to implement a simple way of sharing only a specific section of a web page which would save a considerable amount of time and space. Learning to live with a problem is not the way of a engineer's life and we are committed to finding an easier solution to this.

2. STUDY

2.1 Research Question

In this section, we describe the various questions that were put forward in our survey form and the reasons for asking the same.

RQ1: How often do you take screen shots/snippets of web pages and share it over the internet?
This question was asked so we could divide the user group into categories based on their frequency of using the tool. The range of answers included Very Often, Often, Sometimes, Rarely and Never.

RQ2: How do you share these snipped images?
We were interested in finding out how users generally share images that they take a screenshot of. This helped us design our own tool as we could gain insight on whether the users are willing to download a new software (such as 'Image Grabber', or 'SnipIt'), if they were comfortable with keyboard built in commands (such as [Ctrl] + 'PrtSc') or if they choose to use their mobile phones to share images.

RQ3: How many steps does the complete process using this method take?
This question helped us maintain an Upper Bound while designing our plugin for Chrome. We reasoned that our method would be beneficent to a user group only if the number of steps involved is not only lesser but also simpler than the prevalent methods.

RQ4: Would you prefer it if every snippet you share is saved on your system?
We noticed that most of the common tools used to capture a screenshot, save the images in the local drive of a user. Although the general opinion would be that the images saved are unwanted and take up extra memory, we posed this question to quantify this assumption.

RQ5: Using this method, do unwanted images get accumulated on your system?
We also noticed that some tools such as the case of Microsoft Edge's Snipping tool did not always save a local copy of the snipped portion of the web page. We put forward this question to the users to find out how many such tools were available and if so, we could also find out if the users were aware of such a possibility.

RQ6: Do you take multiple attempts to capture screenshot to get the best result/clarity?
A user generally prefers to capture screenshots with the highest clarity/most information before sharing it. He/she may take multiple attempts to achieve this. This question was posed so we could asses the ratio of users who do the same.

2.2 Data Collection

The main source of data for this study included: 1. Results of a survey consisting of a set of questions, 2. Video recordings of the subject being observed while performing the task and 3. Audio recordings of subjects being interviewed.

DC1: We created a short survey consisting of 6 questions that we shared among user groups of various ages (working class, students, etc). In the survey, we carefully documented questions that would give us an insight on the way users generally share images/screenshots. The users' were assured anonymity and were asked to be as honest as possible. The questions were strictly designed to analyse how people generally share resourceful information from web pages that they find interesting, while browsing the internet.

DC2: We observed the subjects in person while they were sharing an image, screenshot or a snippet across the internet. We captured video recordings of the same performed on various platforms, especially Operating Systems like Macintosh, Linux, Windows, etc. As we wanted to understand the problems people generally face while sharing images/screenshots, we asked the subjects to share snippets they found interesting on the internet while we captured their behavior by recording their actions using a video camera. This helped us in analysing the situation at hand by way of a deep understanding general user behavior.

DC3: During this process, we interviewed people verbally asking them to talk about the problems they face while sharing images/ screenshots. We asked them if they would be interested in a tool which reduces the clutter in their local computers, reduces the number of steps while sharing and makes their lives easier. The observations were made and analyzed based on their responses.

3. SURVEY RESULTS

3.1 Methods Used

The survey results indicate that even though there are a variety of tools available, the most convenient way or natural way of capturing a section of a webpage is to take screenshots
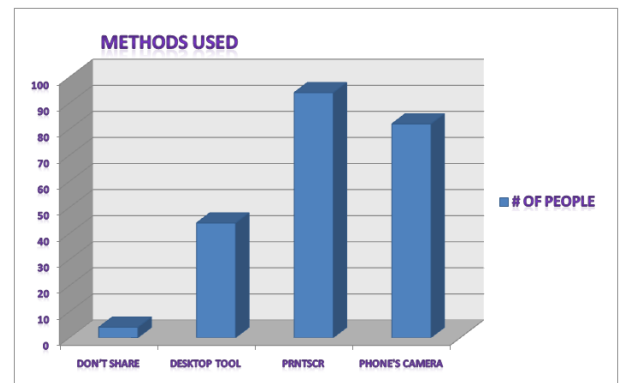

Figure 1: Methods Used

via 'prntscr' and phone's camera. Refer fig 1, which gives the opinions of people.
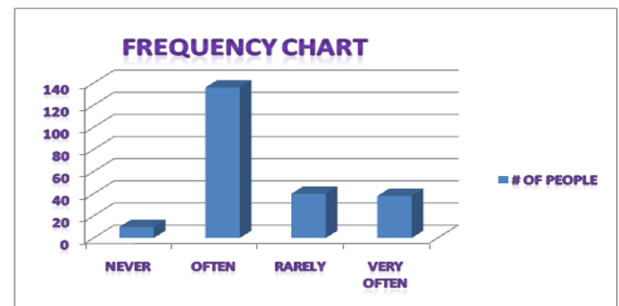
3.2 Frequency Chart

Figure 2: Frequency Chart

Another curious point here is, the frequency at which users perform this operation is quite high. The results clearly indicate this problem hasn't been addressed and can be our area to improve upon.Refer fig 2, which gives the opinions of people.
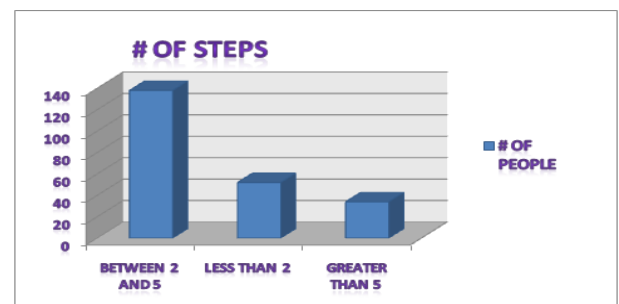
3.3 Number of Steps

Figure 3: Number of Steps

The survery indicates the probability of someone taking more than 5 steps for capturing a screenshot is high. More than 50% take more than 2 steps to just share a screenshot. Refer fig 3, which gives the opinions of people.
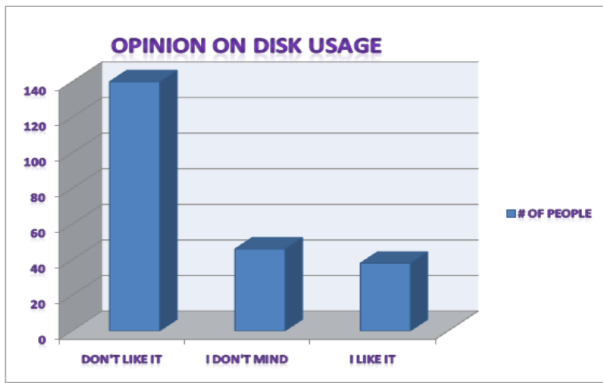
Figure 4: Opinion on Space Usage

3.4 Opinion on Space Usage

We found that a majority of the users did not like that the screenshots occupied their local disc space. A few did not have a problem with the fact; although they said in a further question that they may have to manually delete these images. A minor set of users said that they preferred their screenshots being saved on their systems. Refer fig 4, which gives the opinions of people.
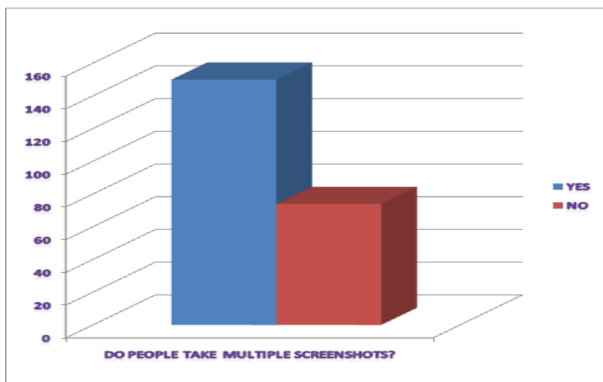
3.5 Multiple ScreenShots

Figure 5: Multiple ScreenShots

We noticed from the survey that majority of the users take multiple screenshots of the same image before sharing it with another person. This is not considering the additional step of cutting the specific section.This could be another area that can be probed into at a later stage of the development of the tool. Refer fig 5, which gives the opinions of people.

3.6 Are Images re-used

Majority of the snippets/screenshots taken are unwanted from the user perspective as they don't tend to reuse these images and end up being a pile of useless images on the desktop. They tend to manually delete these images after a certain time. These images are mostly saved on the desktop and create unwanted clutter.

3.7 Observations

We assigned a task to users asking them to share a snippet of an image from a web page over social media, and we made
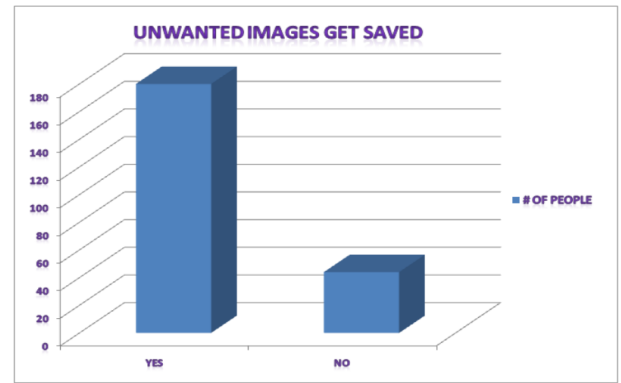

Figure 6: Categorization of images

our observations. We observed around 43 people. Following are our observations:

Out of 45 users, 5 claimed that they do not use their laptop for image sharing purpose as they find it inconvenient. Ten users said that they find it convenient to take image capture of the laptop screen using their mobile phones and sharing it through mobile. We observed that the image files get stored on their phone and the users have to delete them if they don't require the files any longer.

Mac Users: We asked around 8 Mac users to perform the task. We observed that most users prefer the short-cut command+shift+3 to take a screenshot, which saves the screenshot on their desktop. To take a snippet they use the shortcut command+shift+4. After the image gets saved on the desktop, users either use desktop tools to share it directly over social media or upload/attach the files in the respected application. We observed that atleast 5 users have previous screenshots saved in their folders, cluttering the folder.

However, we researched that pressing the Ctrl key along with these keys will modify the behavior to copy the image to the system clipboard instead. The users can then directly paste the images on social networking site. The drawback with this method is that users cannot see a preview of the screenshot unless they paste it somewhere. Also, as we observed not many people were aware of this method.

Windows Users (7/8): We asked fifteen users to perform the task on windows operating system. We observe that most users on windows 8 take a print screen using 'windows+prtSc' , which saves the images on the disk . The users then upload or attached the file.

Users using on older version of windows, had to perform a couple a steps for the same process. They used Alt+PrtSc to take a screenshot and then pasted the image on Microsoft Paint or word. After saving the image , they shared it using upload option. However these above methods only allow users to take screenshots of the entire screen.

5 users out of 15 used the snipping tool which allowed them to take snippets of web pages and share it.

Ubuntu users: Out of 5 users who performed the task on Ubuntu operating system, 3 users preferred to use the prtSc option to take screenshots, which they had to save before sharing . 2 users used the screenshot tool , which allowed them to take a snippet of the screen, which they can either

save or copy to clipboard directly and share.

Microsoft Edge users: We asked two users to perform the task on Microsoft Edge. They used an app called Free Screenshot Capture, which allowed them to take snippets or capture the web page. The users can then either save the image on their disk or upload it to cloud for sharing.

From our observations we concluded that most of the common techniques that people use to take snippets and share over media, required the images to get saved on the disk. Even though Desktop tools exist to simplify the process and avoid image cluttering, users are not very aware of them. To support our observation, we further interviewed the users. Some of the questions we asked were –

1. Are you aware of the tools that exist to simplify the process and avoid images from getting downloaded to disk? Some of the responses were-
a) " No. I didn't bother to search for desktop tools available for windows as I keep switching to other operating systems as well. Hence I prefer to use the traditional PrtSc option , as it remains consistent over windows and Ubuntu."
b) "No. I find desktop tools an inconvenience" as its a overhead of installing it.

2. Did you ever try exploring chrome plugins to simplify the task? Some responses were
a) "Yes. I tried two chrome plugins to simplify image capture. However they did not function as expected. They helped me take a snippet of webpage, but I still had to save the snippets as an image file to share it. Sharing the image files directly did not function correctly"
b) " Yes. But some plugins work only on mobile and not on laptops"
These results also supported our survey results which hinted that most users are still using traditional methods of taking snippets, which requires them to save these files. Also, these methods are multi step.

3. Would you like to have a plugin that can simplify the way you share images on your laptop?
a)"Yes that would be very useful. I generally share images using my phone, as sharing them on my laptop is inconvenient. Simplifying the process will help me share code snippets and snippets of PDFs on my laptop"
b) "Yes. Having a plugin would help me use it across various operating systems without having to install different tools for each"

4. What problems do you face while sharing image snippet on the laptop?
a)" I use Windows 7, so it's a painful process for me", have to take the screenshot, paste it on the paint and cut the part I need as I dont want to share the entire image.
b) "Now that you mention it, Image cluttering is a problem I would like to avoid"

4. CONCEPTION OF THE IDEA

Our research was conducted by browsing the internet on ways to take screenshots . 1. windows OS [2]

a) Win+Print Screen key – Windows 8 added a feature that uses the key combination, to capture and save the screenshot automatically in a folder.

b) Using only the printscreen key captures the screenshot and saves it on clipboard. The users can then paste it anywhere they desire.

c) Both the methods mentioned above allow us to take screenshots of the entire page and not a part of the screen. To address this problem , there is a snipping tool available for windows users that allows them to take snippets and share/save them.

Tools like Image Grabber try to resolve the problem of downloading images which are hidden by an invisible foreground image but they are unsuccessful. This restricts the users from downloading and/or sharing certain images. They try to download the hidden image by trying to identify images using regular expressions but this fails on many websites. Through the proposed tool, in these cases, users can simply take a snip of the image and share it on the Internet without worrying about downloading it on to their system, thereby preventing unwanted clutter and memory consumption.

We Since these tools are operating system dependent, they would have a better reception from the users.

5. CONCLUSION

Our thorough research on various user groups has given us a revelation on the different drawbacks on the currently implemented tools. We chose to directly interact with users who use different operating systems. A common problem found with almost all users was Image Cluttering. As reduction in local memory is always going to be a detrimental issue for those who use a laptop/PC, we would like to tackle this particular hindrance with all severity.

From the observation and results, we conclude that a majority of people resort to traditional ways of taking screenshots. Most of these traditional methods are proven to be time consuming (such as using the 'PrtSc' command or taking a picture of the laptop screen with the phone's camera).

The softwares that are both simple and involve a single step process are usually not open source. There is a need to focus on a tool which can save time and space and allow users from all fields to share screenshots easily on any operating system across the internet. Having such a tool will make it possible for people to send pieces of codes, screenshots of memes and other portions of the web page without having to save the screenshot on to their machine.

6. REFERENCES

[1] http://osxdaily.com/2010/05/13/print-screen-mac.
[2] http://winaero.com/blog/how-to-take-a-screenshot-in-windows-8-1-three-ways-without-using-third-party-tools/.
[3] https://addons.mozilla.org/en-US/firefox/addon/imagegrabber