



September 2011, Vol. 13 Issue 1

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Usability News is a free web newsletter that is produced by the Software Usability Research Laboratory (SURL) at Wichita State University. The SURL team specializes in software/website user interface design, usability testing, and research in human-computer interaction.

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Google Chromebook in an Academic Environment: Yea or Nay?

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Summary. This article looks at the effectiveness of the Google Chromebook from the perspective of five individuals from various academic backgrounds. Chromebook is an Internet-oriented notebook computer where the majority of functionality is web or cloud-based. These individuals used the Chromebook for a 24-hour period to complete all their computing needs. Based on the feedback provided from each individual it seems the Chromebook has some deficiencies in meeting this particular group's needs. Primary reasons given include the inability to access necessary software and manage files locally, the absence of a desktop, and a difficult-to-use touch pad.

INTRODUCTION

Computers are an important tool for individuals within academic environments. Whether you are a high school student, college student or teacher, there is a need for a reliable computer to accomplish your day-to-day tasks. The Google Chromebook is a notebook computer that has an Internet-centric operating system, ChromeOS. Most of the functionality of Chromebook relies on the Internet and cloud-based computing. Reports on the Chromebook indicate the fast boot time, less time needed to manage/install software, extended battery life, built-in security and cheap cost make it ideal for individuals within the educational field (Upson, 2011). Testimonials of individuals within academia were gathered to assess the effectiveness of the Chromebook for their educational computing needs.

METHOD

Five individuals between the ages of 17 - 35 provided their personal experience using the Google Chromebook model CR-48 to perform their daily computing tasks. All individuals were from an academic background. They were instructed to use the Chromebook for a 24-hour period and provide a log of their experience which included things they liked and disliked. They were also asked if they would be willing to purchase a Chromebook.

RESULTS



High School Student

Profile: 17-year old female high school student whose primary computing tasks consists of website browsing, Google searches, word processing and graphic design tasks, Facebook, Netflix, and using software such as MS Word and Adobe Photoshop.

Comments After Using the Chromebook:

Likes:

- Looks good and likes how it feels
- Easy to startup and get into
- Keyboard is nice (nice key size and responsiveness)
- Like viewing Netflix movies in new tab so I can access other tabs while watching; Sometimes the audio and video were out of sync though
- Already signed in to email

Dislikes:

- No Desktop
- No MS word; I do not usually type papers in Google docs
- No Photoshop or Adobe software
- Everything is Google
- Touch pad is awkward - not sure how to do 2nd mouse button actions
- Not all YouTube videos work (e.g., Rumblefish and UMG)

Would she purchase a Chromebook? *"No, I'm more comfortable with a Dell or Mac with access to the software I need."*



College Undergraduate Student

Profile: 23-year old male undergraduate student whose primary daily computer use consists of gaming (i.e., DotAs and MMOs), social networking (i.e., Facebook, Twitter), and web browsing. The majority of his day consists of online gaming and game related searches.

Comments After Using the Chromebook:

Likes:

- Extended battery life
- Fast startup
- Ease of connecting to networks
- Keypad and keypad spacing
- Lightweight
- Saved bookmarks
- Login with Gmail account

Dislikes:

- Only has one USB port
- A lot of lag with Flash videos and Flash websites
- Did not know how to manage files (e.g., save, edit); Unable to figure out how to open MS Word documents
- Cannot download all the games I want to play (DotAs)
- 3G pricing
- No desktop

Would he purchase a Chromebook? *"No. For the price I would rather just buy a laptop. I can't see myself playing games on this. The keystroke pad drives me crazy. I prefer a desktop because I am used to the file management, not through the web. I hate not having a background. Backgrounds can create expression and it drives me nuts not being able to minimize out of the web to see it. I can see this being used for companies and their employees but I don't see why an average consumer wouldn't just buy a laptop that can do more. It's like it is trying to be a tablet so why wouldn't you just get a tablet?"*



College Graduate Student

Profile: 31-year old female graduate student whose primary daily computer tasks consist of coursework, research, and teaching undergraduate courses. The majority of her day is spent using a computer laptop that has access to the Internet, statistical and web design software, and the MS Office suite.

Comments After Using the Chromebook:

Likes:

- Fast boot time
- Long battery life (6 – 8.5 hours)
- Able to download numerous applications for free
- Able to access work from any computer because work it is saved online
- Sleek appearance and lightweight

Dislikes:

- Requires Internet access to work
- Not able to use necessary software (i.e., Adobe products, SPSS, Matlab, etc.)
- Applications (e.g., Live documents) do not have the full functionality of software they are intended to imitate (e.g., MS Office)
- Cannot view multiple windows at once; There is an application available (i.e., Clutter) but it does not work with all sites (e.g., Google Docs, Gmail)
- Only have access to digitally stored files

Would she purchase a Chromebook? *"After using the chromebook it is apparent that it will not provide me the necessary tools to complete my daily tasks. It is great for Internet based activities (i.e., social networking sites, email, web-browsing), but not for completing my academic work."*



Teacher

Profile: 35-year old female teacher whose primary daily computer tasks consist of searches for educational materials, shopping, email and social networking. She also uses computers to create documents used in teaching (e.g., letters to parents, spreadsheets for student data and general word processing projects).

Comments After Using the Chromebook:

Likes:

- Applications loaded quickly
- Google docs easy to access
- Lightweight and easy to carry around
- Soft-like covering

Dislikes:

- Scrolling documents or web pages has a "jerky" motion, page seems to skip rather than scroll smoothly
- Keyboard is awkward, layout seems different than typical keyboard and had to correct a great deal of typing errors - no Delete key
- Touch pad did not always pick up when I was using two fingers to click for the right click action
- Little distinction between the touch pad and the area around the touch pad
- No CD-ROM drive and limited number of USB ports

Would she purchase a Chromebook? *"Probably not because I use a CD-Rom drive to access some of my teaching materials, additionally there are times I use multiple USB devices and I see only one port."*



College Computer Technician

Profile: 29-year old male computer technician for a university department. Uses a computer to trouble shoot both hardware and software issues with Windows and Mac desktops. Additionally, as a side business he troubleshoots servers and networking issues. He regularly works within the server operating system, management utilities, entertainment software, Adobe suite, MS Office suite, and Visual Studio 08.

Comments After Using the Chromebook:

Likes:

- Fast and stable OS
- Chromebook uses the Google account to authenticate the user; This means any user can authenticate and begin using Chromebook with their settings (globe active directory)
- Light and thin form factor
- OS was very intuitive
- No risk of viruses
- Dual touch touch pad! All laptops should have this hardware.

Dislikes:

- Chromebook stores NOTHING locally. This makes it impossible to work without an internet connection. Because 3g is SO expensive users are unlikely to bundle it with their device. If anything Chromebook should use a cache, then sync drsethe data when it connects to the internet.
- Touch pad at times was unresponsive and not very sensitive
- Why is the touch pad dual touch yet it does not support many common gestures?
- OS is lacking settings, need MORE settings and customization
- Few Apps
- Doesn't have a Delete key
- Unable to file manage locally
- No remote desktop: if ChromeOS can't do it, I should be able to remote to a computer that can.
- No VPN support! I did see proxies but no VPN. This is unfortunate because most business users utilize VPN.
- Risk of placing all my data online
- I have a serious problem with the power button because it is created to be held down to power off. That goes against every tech's better judgement. Every computer (Linux, Windows, Mac) initiates a cold shutdown by holding down the power button. Cold shutdowns are extremely bad for the computer's software and hardware.
- Lack of a Sleep button

Would he purchase a Chromebook? *"No, I would never buy a computer that I can't take apart. What happens if I need to fix a component? I would never buy anything without knowing its specs. Google does not offer enough software*

(Complier, OneNote, etc.) to allow me to move entirely online. I don't like that I can't use my resource within my network (media, virtual machines)."

CONCLUSIONS

The five reviewers noted several strengths and weaknesses of the Chromebook. The strengths included fast boot and load times, a sleek appearance, nice keyboard layout and responsiveness, lightweight, and a long battery life. However, all five reviewers reported they would not purchase the Chromebook because it did not meet their individual computing needs. This was primarily attributed to the inability to access or install additional software, an inability to manage files locally, the lack of a desktop, and an unresponsive touch pad.

Many of these issues can be attributed to specific hardware (CR-48) or the version of ChromeOS that was installed on the device when it was being reviewed. As time progresses, it is expected that new features, software updates, and newer, more refined hardware will be released. For instance, over the course of the review, Google updated ChromeOS, which added support for Netflix and certain VPN protocols. Such updates may address some of weaknesses reported by the reviewers.

There were some issues related to the philosophy behind ChromeOS and Chromebooks, primarily stemming from the reliance on cloud-based computing. For many, cloud-based computing is a relatively new phenomenon and it will require some time to adopt such online strategies or to integrate it into existing workflows. In the past few years, this integration has been implicit, largely facilitated through the introduction of online applications, more storage options and faster internet connections. Chromebook introduces an explicit form of integration, one that may take time to adopt.

REFERENCE

Upson, L. (2011). A new kind of computer: Chromebook. Retrieved from <http://googleblog.blogspot.com/2011/05/new-kind-of-computer-chromebook.html>.

IMAGE SOURCE

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