Google Chrome OS: A look at the future?

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On June 15th, 2011 Google will make its Chrome OS available to the public. Google itself is not making the computers, but their OS will be used, similar to Microsoft and its Windows OS. Two different PC companies (Acer and Samsung, respectively) will release their own versions of a “Chromebook”. So what is the difference between the Chrome OS, and that of Windows, or Mac? Additionally, will this have any sort of long lasting effect on the world of PC’s? Let’s begin by trying to define what the Chrome OS is.

What Google is offering in the Chrome OS at first, seems pretty radical . The Chromebooks are essentially web browsers, and little else. When you power it up, you are taken to a log-in screen (typically the user’s google account) and once you have logged in, you are up and running in a Chrome browser. One thing to note is that these machines are built to work fast. Google itself claims that Chromebooks will boot in 8 seconds . In fact, users are able to “set up” their Chromebook in their first use in less than a minute . If you are someone who does not like the Chrome browser, it’s unlikely that you will like a Chromebook, as this is the main function of the machine .

Chromebooks are built to work wirelessly, either through the use of wi-fi or 3G connection, to connect to the internet. However, there is an option to “hardwire” the machines, if your wireless network is unavailable. These machines are built to work on and with the internet. Although a few of the “aps” available will work off-line, for the most part this is a machine for interacting with the internet . Traditional computing and using documents such as word, spreadsheets, and presentations are done on the internet through the use of google docs. Files are not saved on the computer itself, but in what Google calls the “cloud” .

This seems to be the biggest difference in the use of a Chromebook and that of a traditional PC. The Chromebook really only runs one program (Google Chrome) while other PC’s have to “boot up” all the existing programs on its operating system. For many PC users, this is really all you would need. You would be able to connect to the internet, check your e-mail, do your banking, shopping, etc… If you need to create a document, you go to google docs and create your document. If you want to make changes to an existing document, you will need to log in and access it from the “cloud”. This is really a revolutionary concept, every application in Chromebooks are a web ap. In fact, there isn’t even a traditional “desktop” that users are used to in traditional computers .

So what are the advantages to such a computing system? Well, for starters there is the speed of the system. The Chromebooks are lightning fast, whether coming from start-up or standby mode . Because the system has only essentially one program to boot up, it can do so much more quickly than a traditional laptop, there is simply no lag time . Having a computer that works quickly is a benefit that I think most PC users will enjoy.

The lack of a hard drive appears to be a positive factor for some. The Solid State Drive (SSD) is what is used in the Chromebooks . A key benefit of switching to SSD’s from the traditional hard drive is speed . Besides the fact that a Chromebook is only running one program, it is also the use of SSD’s that makes for its faster speed. SSD’s are known to be faster, use less power, and generate less heat than the traditional hard drive, and they may become the storage device of choice for most electronic devices .

Google claims that the three goals of the Chrome OS are speed, simplicity, and security . I have already discussed the speed and simplicity of the system, so what do Chromebooks do on the security side of things? There are basically 5 things including:

1. Sandboxing – each process runs in its own “sandbox” unable to interact with other applications .
2. Automatic Updates – every time a Chromebook is powered up, the system automatically updates, by itself .
3. Chromebooks will repair themselves – if the OS detects malware or “ bad bits” it will get an updated version of the OS from the cloud .
4. No Desktop Applications – all applications will run within the web browser, so all aps are web aps .
5. There is no hard drive – Chromebooks will run on “solid state storage” and nothing will be saved locally .

It certainly appears that the Chromebooks do appear to be more secure than traditional laptops/tablets. Whether the writers and/or creators of malware are able to find a way to infiltrate the Chrome OS is yet to be seen, but certainly will be something to keep an eye on.

The last advantage of the use of a Chromebook is that of availability of materials. Since nothing is saved locally, you are able to retrieve any and all of your documents from any other PC anywhere with internet connection . This allows the user great flexibility. Before, if your laptop computer was stolen/lost/broken chances are great that much of data contained on that computer would be lost. This is not a problem with the Chrome OS, as no information is saved locally you will be able to retrieve your data from the cloud .

Is it possible, that Google will change forever the face of the PC industry with the Chrome OS? It’s much too early to tell, but early signs are pointing to other PC giants are paying attention and will be implementing their own web based programs as well. Apple will soon be unveiling its own “Cloud” system, that will emphasize storing information on the net as opposed to the computer itself . In addition, it appears that the next version of Windows, Windows 8, will be using technologies that will allow for true web aps . It truly looks as if web-based applications and using “cloud” technology is the wave of the future. Web Developer Tim Murtaugh recently tweeted “Thinking on it, HTML5 apps in Windows 8 is a big freaking deal. The web has won. It has flat out WON people”. Whether it’s through the use of Chromebooks, or differing OS’s, it does look as though the PC industry is changing to become more web based.

Reviews of Google’s initial trial run of the Chromebook (the CR-48) were not all that positive. One reviewer said that it was nothing more than “Chrome in a flat black box” . Others noted that the CR-48 was not as fast as promised , and were concerned about the privacy of having all your files online . The newer and updated systems that will be for sale are improved in many of these areas . However, that doesn’t mean the current system isn’t without its detractors.

The first and biggest issue that most seem to have is that the system is (for the most part) unusable if not connected to the internet . Others have noted that similar laptops and netbooks are already available, that cost less, can do all of the cloud based things a Chromebook can do, but are still a functional computer without the internet . While still others insist that Google is barking up the wrong tree, and should instead be pursuing mobile aps, that are downloaded from the internet, but then run on a device locally .

In truth, looking through the reviews of the Chrome OS, most of the negative reviews came from the initial “trial version” of the Chromebook, the CR-48. This is not really a fair assessment of the OS in general, or the specific Chromebook itself, as it was not a completed product. We won’t have a good evaluation of the Chrome OS until the system is being used by the public and people interact with it on a daily basis in both their work and personal lives. To make any “proclamation” about the Chromebooks, be it positive or negative, would just not be prudent at the present time.

In conclusion, I believe the development of the Chrome OS and Chromebooks are just the next step in the development of our computer usage. With both Microsoft and Apple following suit with the development of web aps, and cloud storage, I do see the industry headed this way. People who are hesitant to use the machines because of the lack of local storage will eventually get used to it.

Many of today’s current technologies are already reliant on “cloud type” technologies. They download their books to their Kindle; they can listen to music from almost anywhere on an Amazon cloud drive. Apple is also moving to a “cloud playing” system for their ipod franchise, in which music will no longer be stored locally on the device, but will be played through some sort of 3G or wi-fi connection. Google has mentioned that it will be adding a music file system in addition to their document aps, and photos, calendar, etc…

This is just the way things are going. People are ever more reliant on not just their machines, but using their machines to connect with the world at large. Witness the growth and use of OnStar in vehicles, or the growth of satellite radio. The public wants to be connected, whether it’s through our phones, our vehicles, or in the case of one example used during a discussion in this class, a refrigerator.

I feel most of the complaints and concerns about the Chromebooks will be answered satisfactorily over time. Certainly there will be some growing pains there always are when something new is introduced. However with familiarity, people will come to utilize the new technology and possibly ever wonder why they hung on to the old ways in the first place.

# Bibliography

Albor, E. N. (2011). Google CR-48: First Look at the First Chrome OS Laptop. *PC World* , 13-14.

Boulton, C. (2010, 12 9). *Cloud Computing: Google Chrome OS for Netbooks: 15 Essential Features*. Retrieved June 6, 2011, from eWeek: http://www.eweek.com/c/a/Cloud-Computing/Google-Chrome-OS-for-Netbooks-15-Essential-Features-712765/

Ferguson, R. (2011, May 25). *So secure we don't need security?* Retrieved June 7, 2011, from Counter Measures: http://countermeasures.trendmicro.eu/so-secure-we-dont-need-security/

Google. (2011, June 9). *Chromebook Features*. Retrieved June 9, 2011, from google.com/chromebook: http://www.google.com/chromebook/#features

Grobart, S. (2011, June 5). *Google’s New Chromebook Explained*. Retrieved June 6, 2011, from The New York Times: http://gadgetwise.blogs.nytimes.com/2011/06/05/googles-new-chromebook-explained/

Mims, C. (2011, June 3). *Windows 8 Proves Web Apps Are the Future of Computing*. Retrieved June 8th, 2011, from technology review: http://www.technologyreview.com/blog/mimssbits/26841/

Pierce, A. (2010). The Emergence of the Solid-State Drive. *Tech Directions* , 12-13.

Rosenblatt, S. (2011, June 8). *Google Chrome Review*. Retrieved June 9, 2011, from cnet: http://download.cnet.com/Google-Chrome-OS/3000-18513\_4-75329145.html?tag=mncol;txt

Rosenblatt, S. (2011, June 9). *Lack of offline still hobbles Chrome OS*. Retrieved June 9, 2011, from cnet: http://download.cnet.com/8301-2007\_4-20070224-12.html

Siegler, M. (2011, June 8). *It Just Works*. Retrieved June 9, 2011, from techcrunch: http://techcrunch.com/2011/06/08/apple-icloud-google-cloud/

Spring, T. (2009). Google's Chrome OS: Game-Changing Failure? *PC World* , 12-14.

Thibodeau, P. (2011, May 27). *Forrester calls Google's Chromebook 'corporate idiocy'*. Retrieved June 6, 2011, from computerworld: http://www.computerworld.com/s/article/9217111/Forrester\_calls\_Google\_s\_Chromebook\_corporate\_idiocy\_

Ulanoff, L. (2010). The Word on Chrome OS. *PC Magazine* , 1.