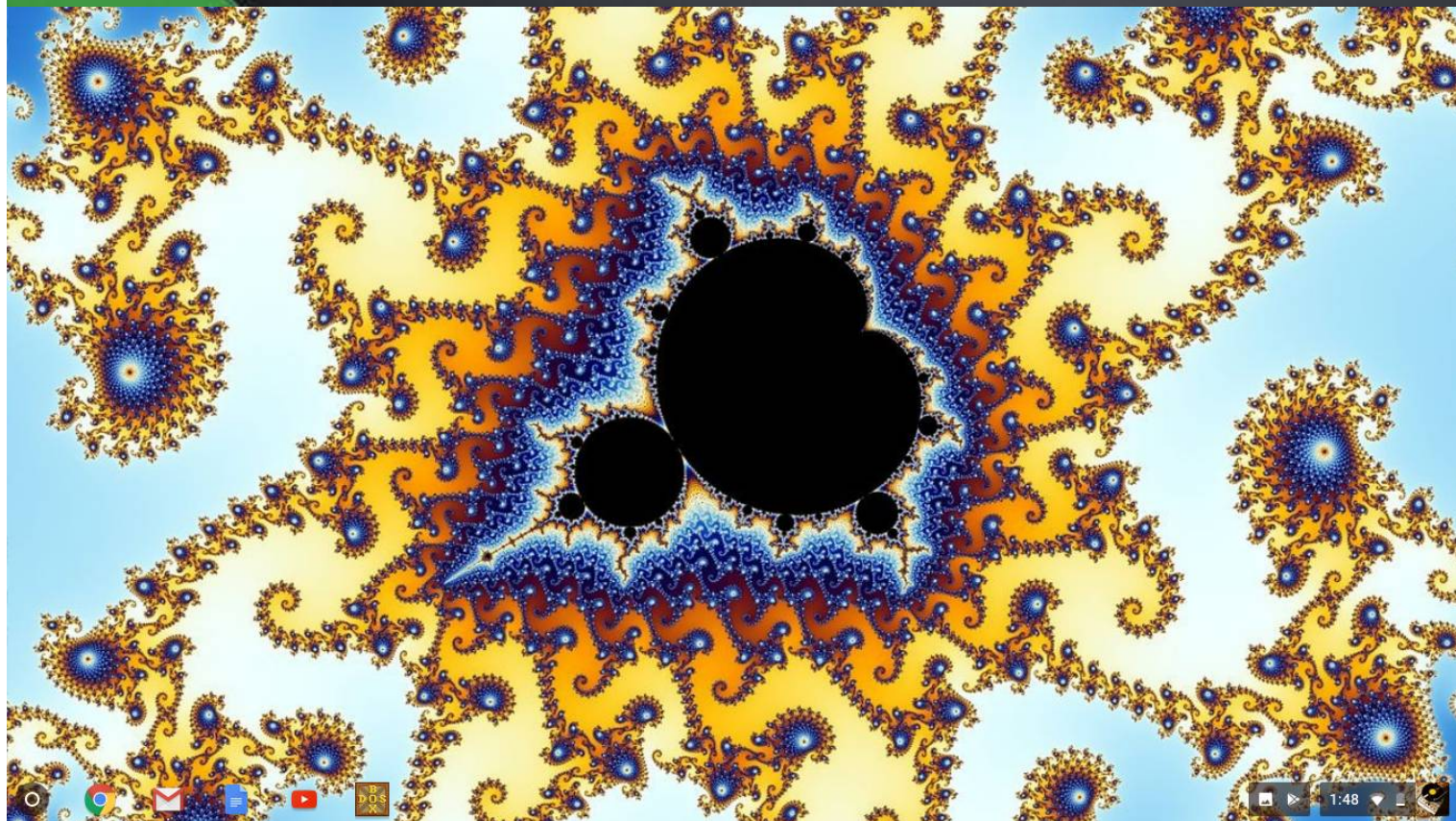


Chromebook Demo - No Ordinary Computer!

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In the beginning, there was Math!
Then Googol, Google, and Chrome!

Googol: In 1920, mathematician Edward Kasner asked his nephew, 9-year-old Milton Sirotta, what would be a word for a very **large** number. Milton said “googol” and Edward popularized the word in his 1940 book called “Mathematics and the Imagination”. Googol is 1 followed by 100 zeros.



Google: In 1996, the Google search engine was named after Googol (purposely misspelled) because it was intended to provide **large** quantities of information.

Chrome: In 2008, the free Google Chrome web browser was released along with the Chrome operating system (using the Linux kernel) in 2009. That led to the Chrome OS Laptop (Chromebook) in 2011. The first chromebooks were provided by Samsung and Acer.

What Makes the Chromebook Special!

Security:

- TPM Chip with lockable encrypted memory
- Chrome Operating System with Linux Kernel
- Automatic, Behind the Scenes, OS/Virus Updates
- Sandboxing that isolates attacks to tabs
- Extra copy of small OS loads to defend attacks
- Files on Cloud so easy to change computers

Simple:

- Small OS
- Nothing elaborate, allows for primary goals
- Easy to learn, could learn it in days
- OS has no bloating or overhead making it efficient
- You do not need to run updates, it is automatic

Speed:

- Small and efficient allow it to zoom around
- Chromebook powers on quickly
- Resource hogs, like videos, still run without delay

Sellable:

- Simpler to make, Simpler OS, lowers the cost
- Low cost leads to sales then even lower cost

Sources:

- Chromebook is with the Google/Chrome Family
- Many makers: Asus, Lenovo, HP, Haier, Hisense, Samsung, Acer, Dell, Toshiba, CTL, Nexian, Xolo

Computer Comparison

C – Samsung **Chromebook** 3 computer

I – Apple **iPad** 2nd Generation tablet Model A1395

W – **Windows** 10 HP 15 Laptop computer

	C	I	W
Age	0 years	6 years	3 years
Hard Drive	32 GB	32 GB	443 GB
Processor	1.6 GHZ	1.0 GHZ	1.0 GHZ
Memory	4 GB	0.5 GB	4 GB
Monitor Size	10.1/5.8	7.5/5.8	13.5/7.5
Weight	2.4 lbs	1.3 lbs	4.8 lbs
Operating System	Chrome	iOS	Win 10
Web Speed	Fast	Delays	Delays
Video Success	Fine	Freezes	Freezes
OS/Virus Update	Auto	Delays	Delays
Power On Speed	15 sec.	102 sec.	24 sec.*

* My Win 7 computer, at work, turns on in 32 seconds, then 55 more seconds at Welcome screen for a total of 87 seconds (more typical Win computer)

It will be interesting to see if the Chromebook, like the iPad and Windows computer, will diminish in performance after further use. Maybe not!

First Time Lid is Up – Initial Setup


It does not take much time to setup!

Charge: Screen is blank at first. Plug in the power cable to charge it. While it is charging, familiarize with the computer. For my chromebook, there are two USB ports (2.0 and 3.0), earpiece port, memory card slot, and HDMI port. It also has a web address where I could download a PDF file for the manual, which reveals there is a camera and microphone too.

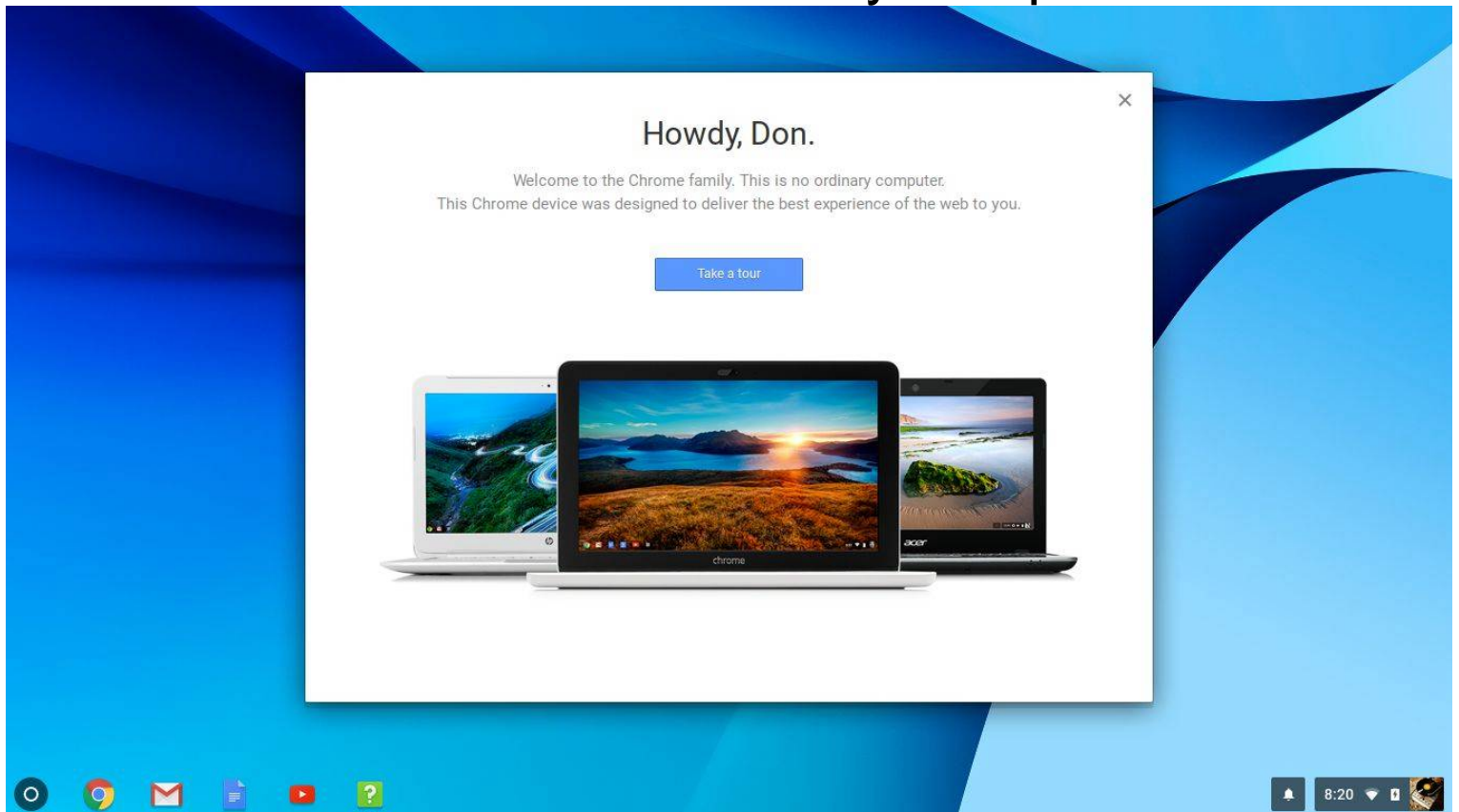
Language: Even before the computer is fully charged, a screen will appear asking for the language and keyboard. I chose English and US.

Wifi: Then it asks for your wifi network username and password. My wifi information was not handy so I found it on my Windows computer. I would need to jailbreak the iPad to get it. For a friend with a new chromebook out of town, we could not find her wifi information. We skipped that step to try and set it later. The chromebook impressively asked to verify her Android phone by having her type 59, and then the chromebook set her wifi!

First Time Lid is Up – Rest of Setup

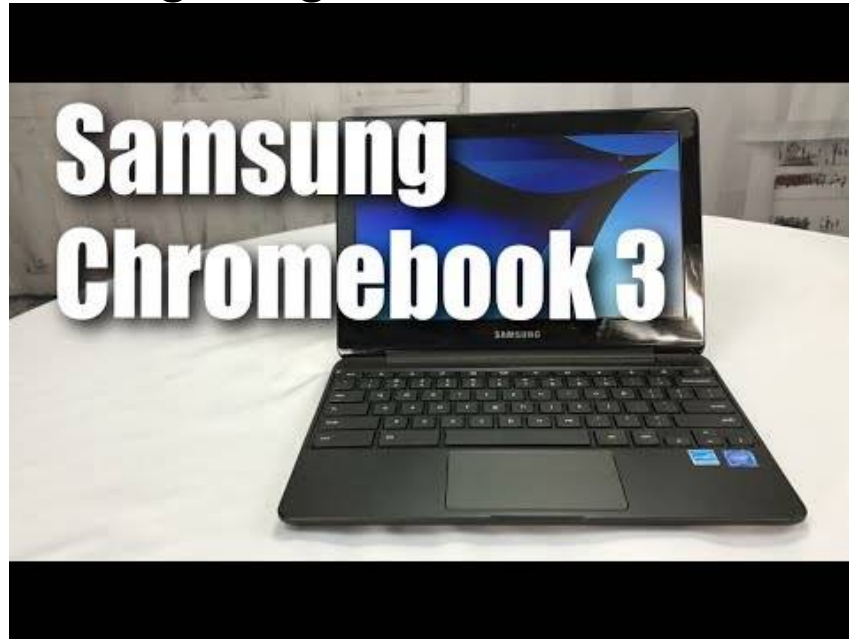
G Mail: The screen will have you accept the Chrome license. It will have you enter your gmail email address and password. If you do not have a free gmail account, you would want to get one. It will have you choose a picture for your login screen. I chose a vinyl record player (to show my age)! 

Done with Welcome: You get a nice informal “Howdy” and welcome to the Chrome family! It reminds you that a chromebook is no ordinary computer!



“Welcome to the Chrome family. This is no ordinary computer. This Chrome device was designed to deliver the best experience of the web to you.”

Navigating the Chromebook!



If you are familiar with another computer, especially a Windows computer, the chromebook will be familiar to use! Right-clicking will help and there is always google.com to search for help. But many things will be intuitive!

Some helpful touchpad/keyboard tips:

Tapping two fingers on the touchpad to Right-click
Alt-Backspace to delete

Ctrl- to capture screen to png picture file

Shift- for full screen on web (xls and pdf on web)

Notes on Navigating Chromebook:

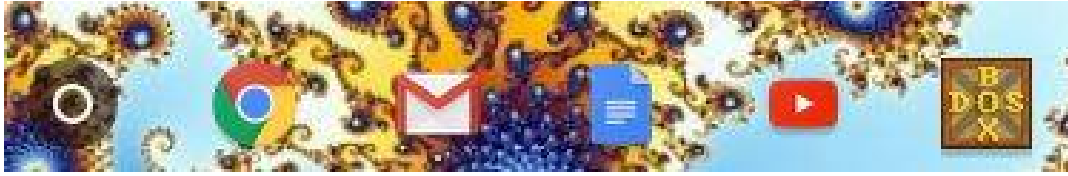
Right-click desktop to change desktop wallpaper

Chrome/Gmail/Docs/YouTube at shelf at bottom

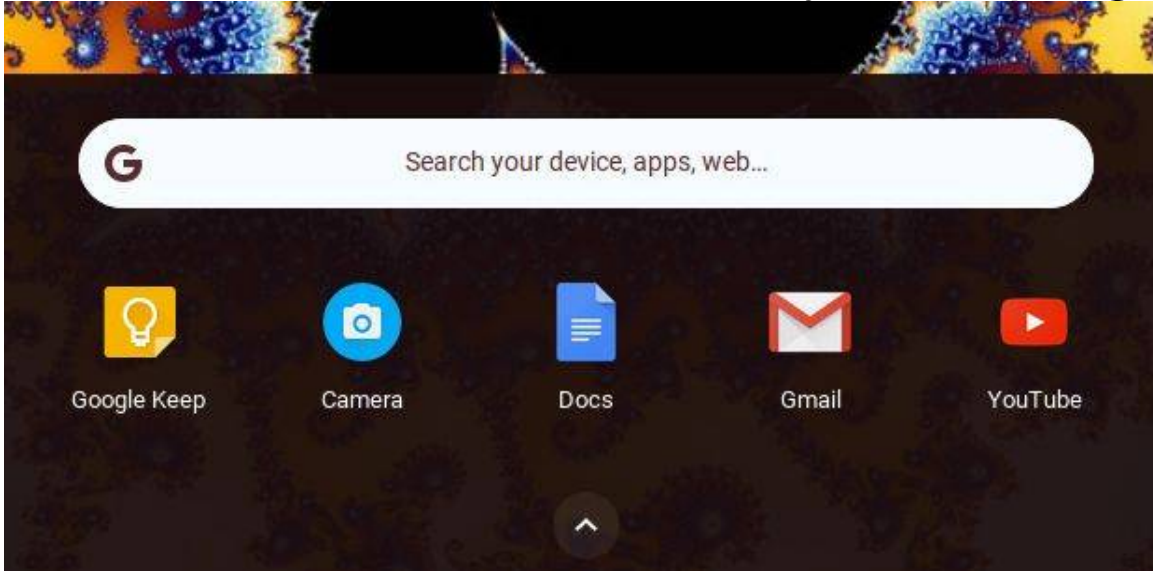
Launcher at left and extra pinned icons at right




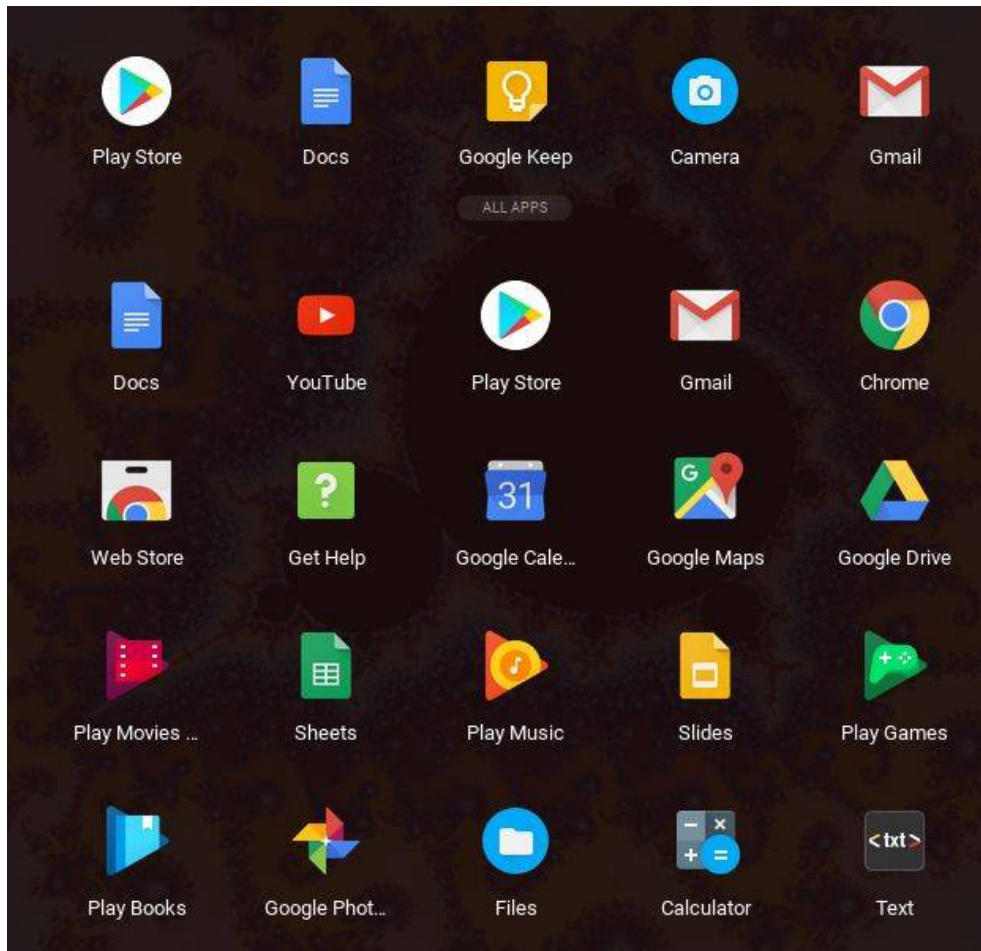
More Chromebook Navigation!



The Launcher (above left) goes to programs/apps!
Click the Launcher to show recently used programs:



Click the  caret button to show more like below:



Continued Chromebook Navigation!

Notes on programs at the Launcher:

Files: right-click to create a folder or copy/paste files, just like Windows, double-click pdf file and it will open, double-click mp3 file and it will play music then continue to another mp3!

Docs: is like Word and will save to docx and pdf

Sheets: is like Excel and will save to xlsx and pdf

Slides: is like Power Point

Text: is a text editor

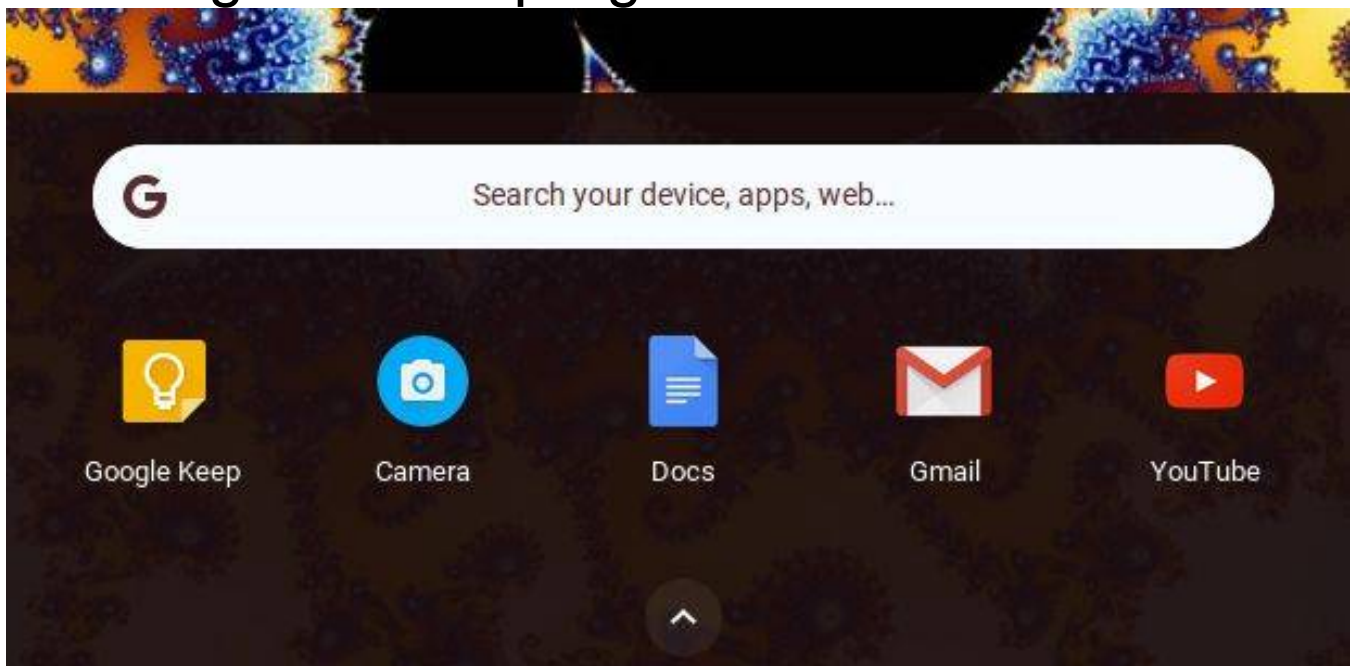
Camera: takes pictures but not videos

Calculator: it shows $1/0=\infty$ (bad math)

Google Keep: for note taking

Play Store: finds programs, I found free versions of Tetris and Wheel of Fortune

You can right-click a program icon for more info on it



The Dull Side of Chrome



Negative Qualities of the Chromebook:

There may not be certain Chromebook programs that are similar to a Windows or Mac computer, especially if you use power games. In that case, you would want to keep a Windows or Mac computer. But a Chromebook could still be a supplement!

A reviewer ran a 15-minute video on the Samsung Chromebook 3 leaving the underside temperature at 105 degrees, 10 degrees above the comfort range. The touchpad and keyboard were better at 81 and 91 degrees. A USB fan can help but the insulation (that hides the heat) could make the fan less effective.

More Chrome Dullness



There are no F1 to F12 keys. There are weird keys to learn that are only pictures.

There is no CD/DVD drive. You could add one and connect it at a USB port.

There is no delete key. So don't make any mistakes that you would need to delete! However, you can press *Alt-Backspace* to be able to delete.

Recovering deleted files is not obvious. There are ways to do it but not as friendly as a Recycle Bin in Windows. I will need to learn more on it.

The cloud drives and local drives are not instantly obvious to me. I will learn more on them to try to be comfortable with them.

Chromebook Does DOS!



Yes! Old DOS programs can run on a chromebook!
You just need the following one-time set up.

Search for the free DOSBox app for the chromebook and allow it to quickly install on the chromebook. You will then have a DOSBox icon, like the picture above.

Double-click the DOSBox icon. Then click the question mark (?) at the bottom right of the screen. Click “Configure DOSBox” and include these lines:

Configuration File

```
# DOSBox configuration file  
[sdl]  
output=overlay  
fullresolution=original
```

Click X to exit Set Up

Running a DOS program on the Chromebook!

Search for a DOS program on the web. I searched for “my abandonware jill of the jungle” at google.com to find the Jill of the Jungle DOS game and downloaded it to the chromebook. I right-clicked the download zip file and copied the files to a jill folder under a dosbox folder.

Click the DOSBox icon. Click the question mark (?) at the bottom right of the screen. Click “import local directory”. Click to highlight the folder that contains your DOS program (dosbox folder for me). Click the OPEN button. Close and reopen the DOSBox icon as it suggests. Go to the folder with the game with DOS commands (for me: cd dosbox then cd jill then jill1). You are then running the program. Jill on Chrome:

