The Chromebook Advantage for Adults With Disabilities Living Independently
Presented by James McKittrick, M.P.A.

Who Am I?

Disclaimer
Who is this presentation for?

Adults with disabilities living independently

Families, Friends, Providers

Any other curious folks also welcome
Why Am I Presenting This Program?

To advocate for computer options
Chrome for adults overlooked in most literature
To highlight ease and simplicity
What are the takeaways?

- Understanding the Chromebook System
- Noting the benefits and drawbacks
- What else to consider in choosing a Chromebook
Persons with Disabilities and Tech Usage

According to Pew Research Center 2016

Persons with Any Disability

- Computer 61%
- Smartphone 58%
- Broadband 57%
Market Share in United States

Windows: 36.39%
iOS: 28.95%
Android: 23.08%
OS X: 8.94%
Linux: 0.9%
Chrome OS: 0.84%

Operating System Market Share
United States of America - July 2018
US Schools Market Share 2017

Motley Fool

Shipments of Mobile Devices to U.S. Schools in 2017

- Google: 59%
- Microsoft: 21.6%
- Apple: 19.3%
28 Year Average Usage Pattern CPA Chester County Comptel Program (1991-2018)
How Windows Works (Hint: It’s Self Contained)

Windows has an **operating system**: Software designed to control the hardware of a specific data-processing system in order to allow users and application programs to make use of it.
A Windows-based program is software that is designed to be installed and run locally on the Windows computer.
Windows has been around for some time

Windows 3.0 was released in May, 1990

Updated about every five years.

Current version called Windows 10
Windows has literally 1000’s of programs available:

Writing, Drawing, Web Browsing, Communication (email, chat, Facebook, etc) Games, and Specialty Programs
How ChromeOS Works (est. 2011)

Hint: Mostly Cloud Based

cloud computing means storing and accessing data and programs over the Internet.
Concept Underlying Chromebooks

Thin Client (Computing power is on the network “cloud”)

Net Books Tried Concept 10 years ago (too little power - not browser based)

Chromebooks (browser based, applications)
How Chromebooks Actually Work

4 Ways to Get Things Done

- Chrome Apps
- Extensions
- SAAS (software as a service websites)
- Coming soon: PWA
What are apps?

Chrome Apps are applications that run inside your browser with a dedicated user interface. Some examples are games, photo editors, and MapQuest.
Apps are available from the chrome webstore

- Most are free of charge
- They install and uninstall very easily
- Many run offline
Android Apps

• Recent Chromebook models with touch screens can install Android apps (smartphone apps)
• Some work well, some do not
• Sort of a hot mess
Many Android apps work fine:

Skype or Skype Lite

MS Office or Office Imitators

Adobe Photoshop Express
The Chrome web store also has another method of functionality known as **extensions**. They enhance the functionality of the websites being viewed. Using an adblocker extension as an example, advertisements will be blocked on whatever website you go to.
Service oriented websites (SAAS)

efax is a good example) or any website that provides software as a service (SAAS)

Windows Office Online is another
Finally Progressive Web Apps:

A confusing term no one really understands

Sort of a self sufficient supercharged website that acts like an app
So what’s the point of all this techno talk?

Chromebooks are:

- Cheaper to manufacture (cost less)
- Chromebooks update faster and unobtrusively
- Everything is backed up
- No viruses
Chromebooks can do most of common computer tasks very easily and capably
- Email, texts, chat
- Websearch
- Shopping (Ebay, Amazon etc)
- Social Media (Facebook, Twitter etc)
- Streaming
- Produce Documents
Accessibility Features in Chromebooks

- Large mouse pointer
- High Contrast Mode
- ChromeVox
- Sticky Keys
- Onscreen keyboard
- Keyboard shortcuts
- Speech to text
One of the best Accessibility Resources

“Chromebook Accessibility: The Missing Users Guide” by Bridges Canada
Chromevox versus JAWS (Windows)

- Both are screen readers
- Both have learning curves
- Both have Braille Output
- JAWS more complex features better for technical documents
- JAWS cost about $900, Chromevox is free
Both Chromebooks and Windows PCs Allow Accessibility Addons

Peripherals (special mice, trackballs, keyboards)

Large screens

Switches
Switches and Chrome

Switch option 1 — Bluetooth

Using a Bluetooth connected device like the Blue2 switch,
Option 2 DJ Switch Interface Pro

Plug into USB port on Chromebook
FYI
These Ablenet products also work:

- Big Track, Trackerpad and Big Keys LX keyboards
- BigBlu wireless adaptive input devices
Points to Remember About Chrome Accessibility

Accessibility from get go built in
Influenced by education market
Continuous improvement
Access apps and extensions built on inexpensive web tools
External Input Peripherals Work much Like Any Laptop
Pros of Chromebooks

- Chromebooks (and other Chrome OS devices) are very inexpensive many less than $250
- Chrome OS is fast and stable with continuous unobtrusive updates
- Viruses, crashes and malware virtually non existent
- They can reduce reliance on need for help from others and most software is free.
Help

I need somebody (Help) not just anybody (Help) you know I need someone (Help)

Lennon and McCartney
Good Sources of Help

https://support.google.com/chromebook/answer/4514391?hl=en
https://chromebook.guide/
https://chromeunboxed.com/
https://www.youtube.com/watch?v=FOZJjJqSXQ
https://www.youtube.com/watch?v=fpbIsN31hLM
Remote Assistance to the Rescue

- Add and/or launch the Chrome Remote Desktop app from the Chrome Web Store
- In the Remote Assistance section, click Get started then click Share.
- An access code will appear, and your Chromebook will begin waiting to connect
Cons of Chromebooks

• When you use Microsoft Office (the online version only) some features will not be available. Skype only allows messages, for example.
• Not good for serious computer gaming.
One Large Consideration

Chromebook Apps are not all as good as Windows if you need specialized software
One Really Great Chromebook Bonus

Chromebook apps Hangouts and Google Voice let you call any phone in US or Canada for free.

Skype is not free except for Skype device to Skype device calls.
Most Serious Chromebook Shortcomings

Printing limits (need either an HP brand printer or a “cloud ready” of any other make) or a nearby Win PC as a relay

Popular Adventure Games not available

Broadband only (dial up does not work)

Less than total compatibility
Chromebooks have free programs that mimic MS Office (Which You Pay For)

<table>
<thead>
<tr>
<th>Windows</th>
<th>Chromebook</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outlook (email)</td>
<td>Gmail</td>
</tr>
<tr>
<td>Word</td>
<td>Docs</td>
</tr>
<tr>
<td>Excel (spreadsheet)</td>
<td>Sheets</td>
</tr>
<tr>
<td>Powerpoint</td>
<td>Slides</td>
</tr>
</tbody>
</table>
Compatibility Issues

• Chrome OS and Windows swap each other’s documents
• Spacing, fonts, grid lines, colors, may all change somewhat
• No soundtracks with Sides/Powerpoints
Chromebooks Big Advantage: Easy Maintenance

“The sign of a good society and a good government is not in what it builds, but in what it maintains”.

Eric Hoffer
28 Year Average for CPA of Chester County Comptel Support Issues (1991-2018)
Windows Biggest Advantages

Ubiquity and familiarity

Lots and lots of programs including specialized applications

Good aftermarket for peripherals for special needs
Nothing Stays the Same

“Life is really simple, but we insist on making it complicated.”
— Confucius
Latest Developments in Chromebooks

- More expensive models
- Touchscreens
- New style ports

- Android app compatible
- Crossover systems
- Smartphone link
Port Adapters
Buyer Beware

What to consider in a purchase

Life cycle

Consider needs

Cost benefit
Summary

Choose Windows if:

You need special programs or peripherals

Are computer savvy or know someone who is
Like sophisticated games
Are into serious photography
Like to watch DVDs
Choose A Chromebook

If you want cheap and easy and no viruses and crashes

Do not have access to help with crashes, viruses and updates
Like to email, chat, websurf, shop, social media, stream movies, make free phone calls to any phone (US and Canada) use social media produce and read most documents.
Questions after leaving today?

James McKittrick

jmckit@ccil.org