

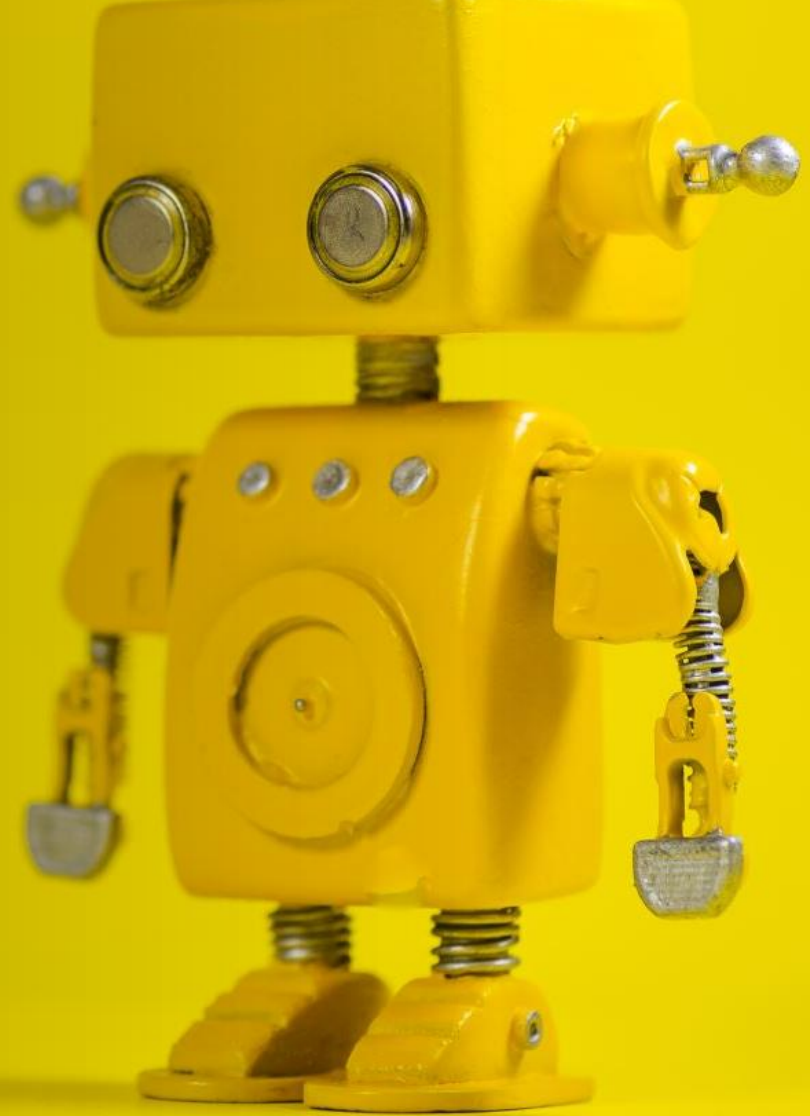


# CHROMEBOOKS AN ALTERNATIVE

THE ULTIMATE COUCH  
COMPUTER

**Twin Cities PC Users Group**

December 14, 2021



**APCUG'S SPEAKERS BUREAU,  
A BENEFIT OF YOUR GROUP'S MEMBERSHIP IN  
APCUG**

Brought to you by....

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**An International  
Association of Technology  
& Computer User Groups**

# CHROME BOOKS AN ALTERNATIVE



- Let's say you need a new notebook for gaming, keeping up with social media, and doing some serious work.
- Up until a few years ago, conventional wisdom suggested that Windows machines or Mac's were the best laptops.
- That's rapidly changing. Chromebooks have caught up so much that they are viable competitors for many buyers.

# CHROME BOOKS AN ALTERNATIVE



- Looking for an alternative to Microsoft Windows? Try a Chromebook.
- They are fast, secure, and easy to use, and updates are completed in a couple of minutes.
- Chrome releases a full OS update about every 6 weeks. Minor updates, such as security fixes and software updates, happen every 2-3 weeks.
- The average full Chrome OS update is over 400 MB and minor updates are about 50 MB.;  
Chrome OS and the Chromebook are the future for the mainstream consumer.

# CHROME BOOKS AN ALTERNATIVE

- This presentation covers why you might want to check out a Chromebook; it could become your couch computer.



# CHROMEBOOKS AN ALTERNATIVE

- Each platform has its advantages and disadvantages in size, weight, security, Apps, performance and battery life
- Shopping Windows laptops, Mac Books and Chromebooks, you will see that these devices are getting closer and closer to each other's strengths while reducing their weaknesses.
- Chromebooks are becoming a clear winner in all categories.

# CHROMEBOOKS AN ALTERNATIVE

- What makes a Chromebook a Chromebook?
- Think of a Chromebook as your one-size-fits-all computer for internet-dependent usage. Chromebooks are often referred to as cloudbooks because they remotely store files on Google's virtual servers. This means that very little is stored locally on your PC.
- Chromebooks are optimized for PC users who depend on Google for anything and everything from email to editing documents to spreadsheet creation. Engineered to utilize online web applications and cloud storage rather than programs and hard drive storage, Chromebooks are the lightweight answer for cloud-driven PC users.

# CHROMEBOOKS AN ALTERNATIVE

- Unlike typical PCs, Chromebooks are a different breed of laptop computer. Instead of running Windows 10 or macOS, Google engineered its own operating system, Chrome OS, based on Linux Kernel.
- Major tech manufacturers like HP, Acer, Dell, and Lenovo offer their own versions of Chromebooks, effectively allowing brand loyal consumers to get in on the Chromebook wave.
- These laptops are the minimalist dream for Google and PC users worldwide.

# CHROMEBOOKS AN ALTERNATIVE



- Chromebooks are lightweight laptops that depend heavily on Google Chrome.
- While you have OS-specific features like a file manager, app launcher, taskbar, and so on, most of your work and play resides within a Chrome tab
- This Chrome dependency translates to low overhead, enabling a super-fast startup and snappy performance on even most low-end hardware.
- The Ultimate 'couch' computer?

# CHROMEBOOKS AN ALTERNATIVE



Google Docs



Gmail



Microsoft Office

## Core Functions

- Like all pure Android installs, Chrome OS focuses on Google's services, like Gmail, YouTube, Maps, and Docs.
- You can install web-based Chrome apps from the Chrome Web Store, and Android apps from the Google Play Store.
- Many require an internet connection, while others can function offline.

# CHROMEBOOKS AN ALTERNATIVE

- The big question for many users is, do you have to be connected to the internet to use a Chromebook? Nope. Certainly, for cloud-based apps or remote desktop tricks, you will need an internet connection.
- But many applications, including Google Drive, Kindle, Gmail, and Google Calendar, now let you store working versions of your files right on your Chromebook for offline use.
- Just about any of the Android apps available through Google Play work fine without an internet connection. That includes Instagram, Dropbox, and Evernote. Want to watch movies, view your photos, or listen to your favorite music on your Chromebook? Just download them.

# CHROMEBOOKS AN ALTERNATIVE

You can use offline-ready apps to keep using a Chromebook when it's not connected to the Internet. Below are some examples:

- Read and write emails with Offline Gmail
- Write a note or make a list with Google Keep
- Create and edit documents, slides, or spreadsheets with Google Drive apps (Google Docs, Sheets, and Slides)
- View and RSVP to events with Google Calendar
- View and edit photos saved with the built-in photo editor
- Enjoy music or movies with the built-in media player
- Google Play video content is available offline using a Chrome browser extension.

# CHROMEBOOKS AN ALTERNATIVE

- The Chromebook Keyboard



# CHROMEBOOKS AN ALTERNATIVE

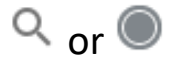
- The Chromebook Keyboard Computer keyboards are all pretty similar, but Chromebooks break the mold. Instead of the typical function keys, there's a row of keys for specific Chrome OS functions. However, the function keys are still present if you know where to look.
- The image below shows the top row of keys on a typical Chromebook keyboard. It may not look like it, but there are function keys hidden in that row. The keys between ESC and Power/Lock double as F1 through F10.



# CHROMEBOOKS AN ALTERNATIVE

Unique keys on your Chromebook keyboard

Your unique Chromebook keys usually appear on the top row of your keyboard from left to right.



Use the Search key or the Launcher key to search, show your apps, and interact with Google Assistant.

To turn Caps Lock on or off, press Alt + Search . Or press Alt + Launcher .



Go to the previous page



Go to the next page



Refresh your current page



Make your page take up the full screen



Show all your open windows



Take a screenshot



Decrease screen brightness

# CHROMEBOOKS AN ALTERNATIVE

-  Increase screen brightness
-  Turn on electronic privacy screen
-  Decrease keyboard backlight brightness
-  Increase keyboard backlight brightness
-  Rewind to last track
-  Play/pause
-  Skip to next track
-  Turn off the sound
-  Lower the volume
-  Raise the volume

Tip: If you're using a Windows keyboard with your Chromebook, the Windows key between Ctrl and Alt works as the Search key  or the Launcher key .

# CHROMEBOOKS AN ALTERNATIVE



# CHROMEBOOKS AN ALTERNATIVE

The “Everything Button.”



- Do you know this key by another name?
- It's a new name for the “Launcher” or “Search” button on Chromebook keyboards. The new name for the “Launcher” in this campaign was chosen to reflect user feedback, and highlight that Chromebooks have a dedicated button on their keyboards that enables them to search through files, apps, Drive, the web and more.
- You'll still see references to “Launcher” within your Chromebook. We hope that when you tell your friends about why Chromebook is easy to use, the Everything Button will make it simpler to explain.

# CHROMEBOOKS AN ALTERNATIVE

- On Chromebooks, very few applications are actually installed on the hard drive. Instead, the applications shown in your App Launcher are more like links that open web applications in the Chrome web browser. You can view the applications on your computer in a couple different ways:
  - Press the Everything Button. This opens the App Launcher and places a cursor in the search bar. You can then scroll between your windows in the App Launcher by using two fingers to swipe up or down on the touchpad.
  - Click the App Launcher icon. This icon is located on the bottom-left of your desktop on your Chromebook shelf. Launcher key .
- Your Chromebook comes with shortcuts for several applications already in place, this may differ slightly from Chromebook to Chromebook. If we cover an application not already existing on your Chromebook, it can be easily added through the Chrome Web Store.

# CHROMEBOOKS AN ALTERNATIVE

- Chromebooks are designed for use while connected to the Internet and signed into a Google account.
- Instead of installing traditional such as word processing and email clients, users add web apps from the Chrome Web Store.
- Although some apps require connection to the Internet, some apps allow users them offline such as Gmail, Google Calendar, Google Keep, Google Drive and Microsoft Office and One Drive.
- A multi-layer security architecture eliminates the need for anti-virus software. More on this later.

# CHROMEBOOKS AN ALTERNATIVE

- **Google Chrome** – This is your browser. It allows you to view web pages and performs most tasks for you on your Chromebook.
- **Files** – This app allows you to manage your files on your Chromebook, Google Drive account, and any external media you have plugged in.
- **Google Docs** – A very feature-rich word processing program.
- **Google Drawings** – Allows you to draw images, as well as diagrams with simple shapes.
- **Google Sheets** – Full featured spreadsheet program.
- **Google Slides** – Allows you to create presentations for business.



# CHROMEBOOKS AN ALTERNATIVE

- **Google Forms** - Event registration, opinion polls, create and analyze surveys.
- **Google My Maps** - Maps out virtually any trip, complete with stops, using Google Maps.
- **Web Store** - Access to the Google Web Store, allowing you to browse thousands of apps, themes, and plugins; many free.
- **Play Store** - Your Chromebook can now run Android apps! This gives you access to that store, with hundreds of thousands of apps and games, both free and paid-for, covering just about every possible interest.

# CHROMEBOOKS AN ALTERNATIVE

## Use the Google PlayStore to Expand the Platform

- One of the most exciting changes Google made to its Chrome OS platform in recent years was the addition of Android app support.
- While Chrome OS could already run Chrome browser extensions, web apps, and Chrome apps, the addition of the millions of Android apps has dramatically increased the platform's value.
- Most modern Chromebooks come with the Google Play Store out of the box, which allows you to quickly install most of your favorite Android apps.

# CHROMEBOOKS AN ALTERNATIVE

- If your Chromebook was introduced in or after 2017, it's guaranteed to run most Android apps.
- The overall functionality of Chromebooks was exponentially enhanced with this Android merge and is one of the most talked-about perks that no other OS offers.
- This means any Adobe or Microsoft apps created for Android are available for installation on new Chromebooks.
- If you're not sure if your Chromebook qualifies, Google provides an extensive list that you can check.
- Google rolls out Android compatibility on a device-by-device basis, so it's a good idea to find your specific model if possible.

# CHROMEBOOKS AN ALTERNATIVE

## Stretching the Limits

- Chromebooks have their strengths, but they also have their weaknesses.
- At first glance, their biggest flaw is the inability to install traditional desktop software.
- For instance, there doesn't appear to be any means to install photo editing applications like the full versions Adobe's Photoshop or GIMP.

$$\lim_{x \rightarrow 0} \frac{\cos(x) - 1}{x} = 0$$

# CHROMEBOOKS AN ALTERNATIVE

## Stretching the Limits

- To compensate, there are plenty of Android and Chrome OS apps that can fill the niches typically taken by Windows or MacOS desktop apps.
- If you're a prolific Google product user, all of those services and apps are entwined with Chrome OS and work well with it.
- However, the problem lies with those who want and need more than that from their Chromebook.

$$\lim_{x \rightarrow 0} \frac{\cos(x) - 1}{x} = 0$$

# CHROMEBOOKS AN ALTERNATIVE

## The Beauty of Chrome Extensions

- Google Chrome is the most popular web browser.
- If you are looking for something exciting to improve your way of using Chrome, Chrome Extensions help a Chromebook emulate a desktop experience.
- The Chrome browser is part and parcel of the Chrome OS.
- Web extensions designed for the Browser also work in the OS.
- Extensions literally extend the capability of your Chromebook.

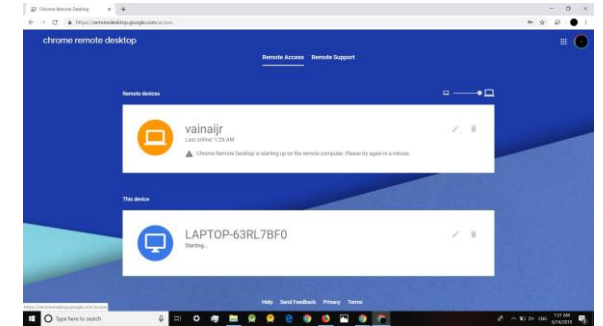
# CHROMEBOOKS AN ALTERNATIVE

## Turning my 'Couch' Computer into a Powerhouse with Extensions

- Chromebook specifications often seem weak compared to their Windows laptop counterparts, but that's because they don't need to be super powerful.
- Chrome OS was never intended to run desktop software – or Android apps, for that matter.
- Your Chromebook starts new and stays new over time.
- With automatic updates in the background, your device gets the latest software without interrupting you.

# CHROMEBOOKS AN ALTERNATIVE

Three Chrome extensions that are important to turn your 'couch' computer into a powerhouse are Google Remote Desktop and the Microsoft Office extensions.



Remote Desktop

Microsoft Office

Real-Time Tab Sync



# CHROMEBOOKS AN ALTERNATIVE

## Chrome Remote Desktop - What is It?

- A Chrome Browser extension on your Chromebook.
- That allows you to **remotely connect and control** a device from your Chromebook i.e. a Windows or Mac computer.
- The app was developed and published by [Google](#) and can be used with [Apple Mac](#) and [Microsoft Windows](#) PC operating systems—as well as on [Android](#) and [iOS](#) portable devices like **mobile phones** and **tablets**.

# CHROMEBOOKS AN ALTERNATIVE

## How to use Chrome Remote Desktop?

- Sign into your Google account on the Chrome Remote Desktop's official website
- Once signed in, you now have complete access to the remote computer from your Chromebook.
- From your Chromebook you can use the remote computer as if you were sitting in front of it.
  - Execute and use programs that are not available on your Chromebook
  - View, manage, and save files
  - Read, write and send email from the remote computer

# CHROMEBOOKS AN ALTERNATIVE

## **Using the Microsoft Office Extension - What is It?**

- The Office browser extension puts an icon on the Microsoft Edge toolbar that gives you direct access to your Office files, whether they are stored online or on your computer.
- You get the features of Word, Excel, PowerPoint, OneNote, and Sway right in your browser without Office installed.

# CHROMEBOOKS AN ALTERNATIVE

## Using the Microsoft Office Extension.

- Click on the Microsoft Office Extension using your Microsoft Account.
- Once signed in, you now have complete access to the full Microsoft Office suite.
- From your Chromebook you can use the mobile version.
  - View, manage, and save documents
  - Documents are saved to One Drive, making it available from all the computers on your network



# CHROMEBOOKS AN ALTERNATIVE

## **Real-Time Tab Sync - What is It?**

- Keeps the same tabs on all your machines.
- Chrome Web browser tab changes are applied in real time on all your devices including Chromebooks..
- The extension watches for tab changes and synchronizes them in real time across all your computers that have it enabled (Chrome on Android does not support extensions yet).
- You need to enable synchronization in the Chrome settings.

# CHROMEBOOKS AN ALTERNATIVE

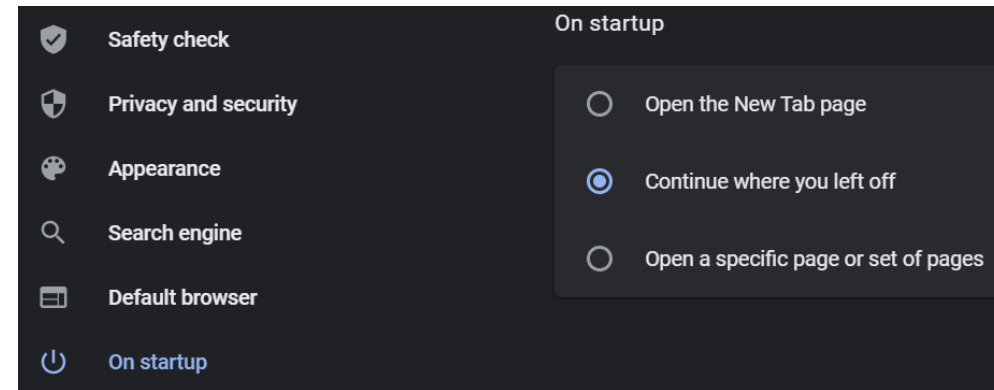
## How Do I Use Real-Time Tab Sync?

- You can toggle synchronization on/off from the extension's icon.
- The extension works in unison with Chrome "On startup" settings
- \*\*If you choose "Open a new tab" - it will start with a new tab and sync the tabs from other computers on your network or a previous session in the background.



# CHROMEBOOKS AN ALTERNATIVE

- \*\*If you choose "Continue where I left off" or a set of pages it will merge them with the sync tabs
- Windows' and tabs' positions and size can be individual on each device , as the synchronization only takes in account the tabs' URLs.
- It's implied that you want to keep your tabs across sessions. Otherwise (if tabs are removed at sessions' end) when you close the browser on one device - the tabs (therefore windows) on all other devices will close.



# CHROMEBOOKS AN ALTERNATIVES

## Photo Editing, is it really for Chromebooks?

- One of the questions asked about Chromebooks is “can I use Photoshop?”
- The answer to that is *no*—at least not the full version you’ll find on other platforms.
- But that doesn’t mean you can’t do *photo editing*.
- And that’s really the key here: knowing when you need Photoshop versus when you just need something to edit photos.
- There are some powerful tools available for Chromebooks—perhaps not *quite* as powerful as Photoshop, but they can get pretty close for most uses.

# CHROMEBOOKS AN ALTERNATIVE

## Photo Editing with your Chromebook

- The nice thing about photo editing is that it doesn't require an insane amount of horsepower on the computer side—it's pretty easy to run in a web browser and let the server handle most of the heavy lifting.
- As a result, one of the best photo editor for your Chromebook is a web tool: [Pixlr Editor](#).



# CHROMEBOOKS AN ALTERNATIVE

## Retouch that Photo - Polarr

- If you're more into retouching photos, cool filters, and the like, then Pixlr will probably leave you wanting.
- But that's where [Polarr](#) comes in—it's great at these kinds of tweaks.
- The interface is different than what you may have come to expect from a photo editor, which is one of the things that makes it really good—it's very intuitive and easy to use.

**POLARR PHOTO EDITOR**

# CHROMEBOOKS AN ALTERNATE

## **Retouch that Photo - Polarr**

- You can use Polarr for free, but there's also a Pro version that adds a variety of tools to the editor—like better masking tools, more powerful retouching, text, and premium filters.
- While once upon a time, Polarr offered the Pro version for a one-time flat fee, it now costs \$23.99 a year or \$2.49 a month.
- Still, it's an exceptionally well-made app, so it's worth it.

# CHROMEBOOKS AN ALTERNATIVE

## **Adobe apps to the Rescue - Maybe!**

- Use Chrome Remote Access to interface with Adobe apps installed on another device.
- There are also Photoshop Android apps that run on Chromebooks.
- From the Google Play Store, you can install Adobe Photoshop Express, Photoshop Mix, Photoshop Fix, and Photoshop Sketch.
- So now you can use Photoshop Android apps to edit photos on Chromebooks.
- There are also Android app versions of Adobe Lightroom, Illustrator, and much more.

# CHROMEBOOKS AN ALTERNATIVE

## Can you use a Chromebook for watching movies?

- Download your flicks for remote use.
- You can store movies and shows just like you'd download music files to your Chromebook.
  - With the Google Play Movies & TV Chrome extension installed, click the Launcher
  - Click Play Movies
  - Under any TV episode or movie in your library, click the little download icon (it looks like a down-arrow)



# CHROMEBOOKS AN ALTERNATIVE

## **Use Android apps like Skype Zoom and Google Assistant**

- Chromebooks are like the little computing engine that could.
- You can hold remote meetings with friends, family, and co-workers with Skype, Zoom....
- Of course, you can use run-of-the-mill standbys like Facebook, YouTube, Netflix, WhatsApp, and all the Google Suite apps like Drive, Calendar, and Gmail, on or offline.
- But you can also rock Spotify, Soundcloud, Apple Music (yep!), dozens of news and sports apps, Kindle, Tumblr, Steam, PlayStation Now, Twitch, Mint, PayPal, and thousands more.

# CHROMEBOOKS AN ALTERNATIVE

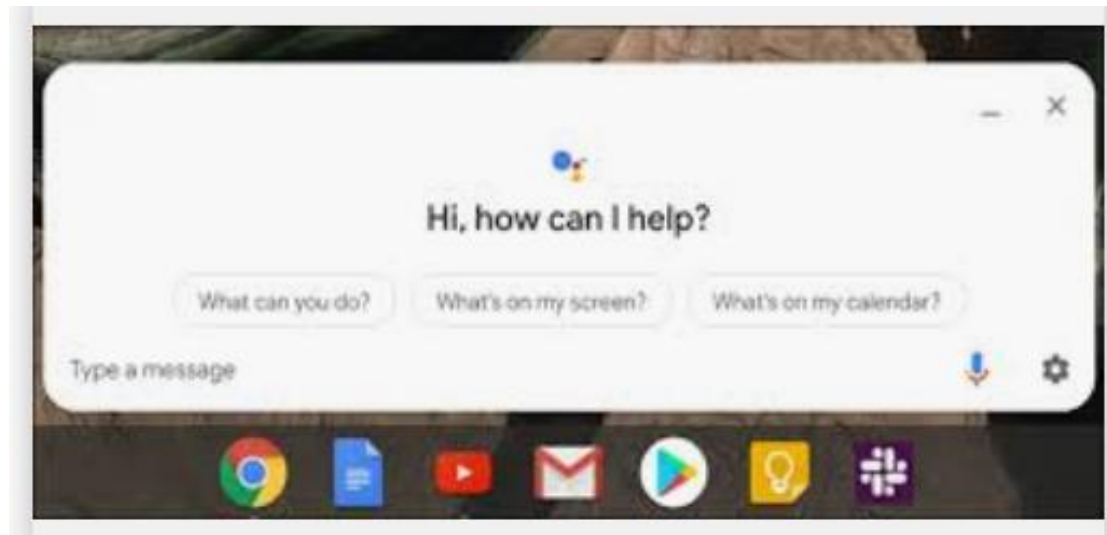
## Using Zoom

- Zoom functionality on a Chromebook works as a Progressive Web App (PWA).
- PWA offers much of the same great Zoom functionality as you would experience on a Windows or Mac desktop, and has even more features than the previous Zoom app for Chromebook:
  - Customizable Gallery View (*on supported machines*)
  - Self-select Breakout Rooms
  - Live transcription
  - Live translation (with assigned interpreters)
  - A new background masking feature for privacy
  - Raised hand and meeting reactions

# CHROMEBOOKS FOR GEEKS

## Use Android apps like Skype and Google Assistant

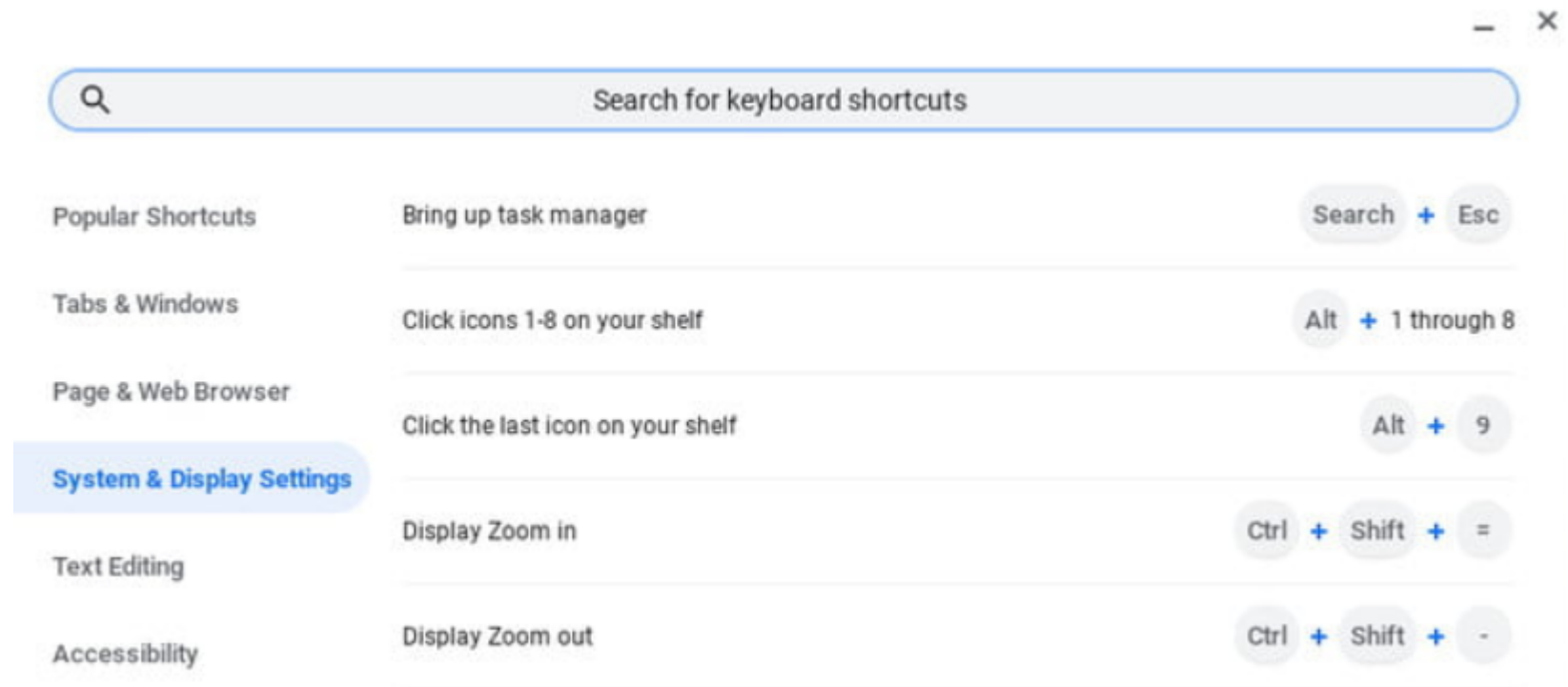
- Have you always wanted a voice assistant?
- You're in luck, because your Chromebook can run Google Assistant, with all the shopping-listing, reminder-creating, and smart-home-control that implies.

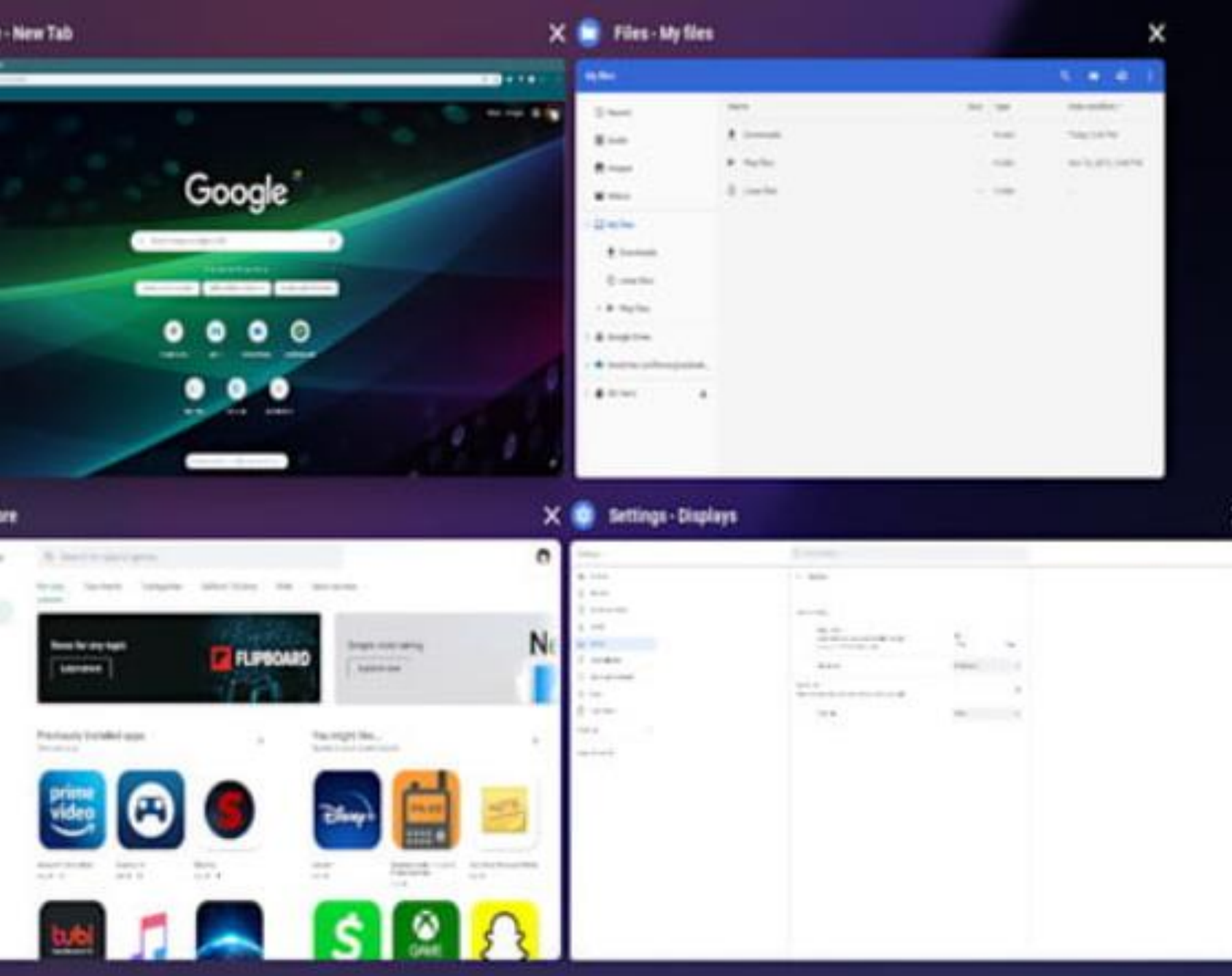


# CHROMEBOOKS AN ALTERNATIVE

## Do you like using shortcuts?

- Press Ctrl + Alt + ? simultaneously to open a window listing all keyboard shortcuts divided into six categories.





# CHROMEBOOKS AN ALTERNATIVE

## Utilize overview mode

- Want to see all the windows and desktops you have open on one screen?
- Simply swipe three fingers down on your touchscreen or trackpad to activate this mode.

# CHROMEBOOKS AN ALTERNATIVE

## Virtual Desktops

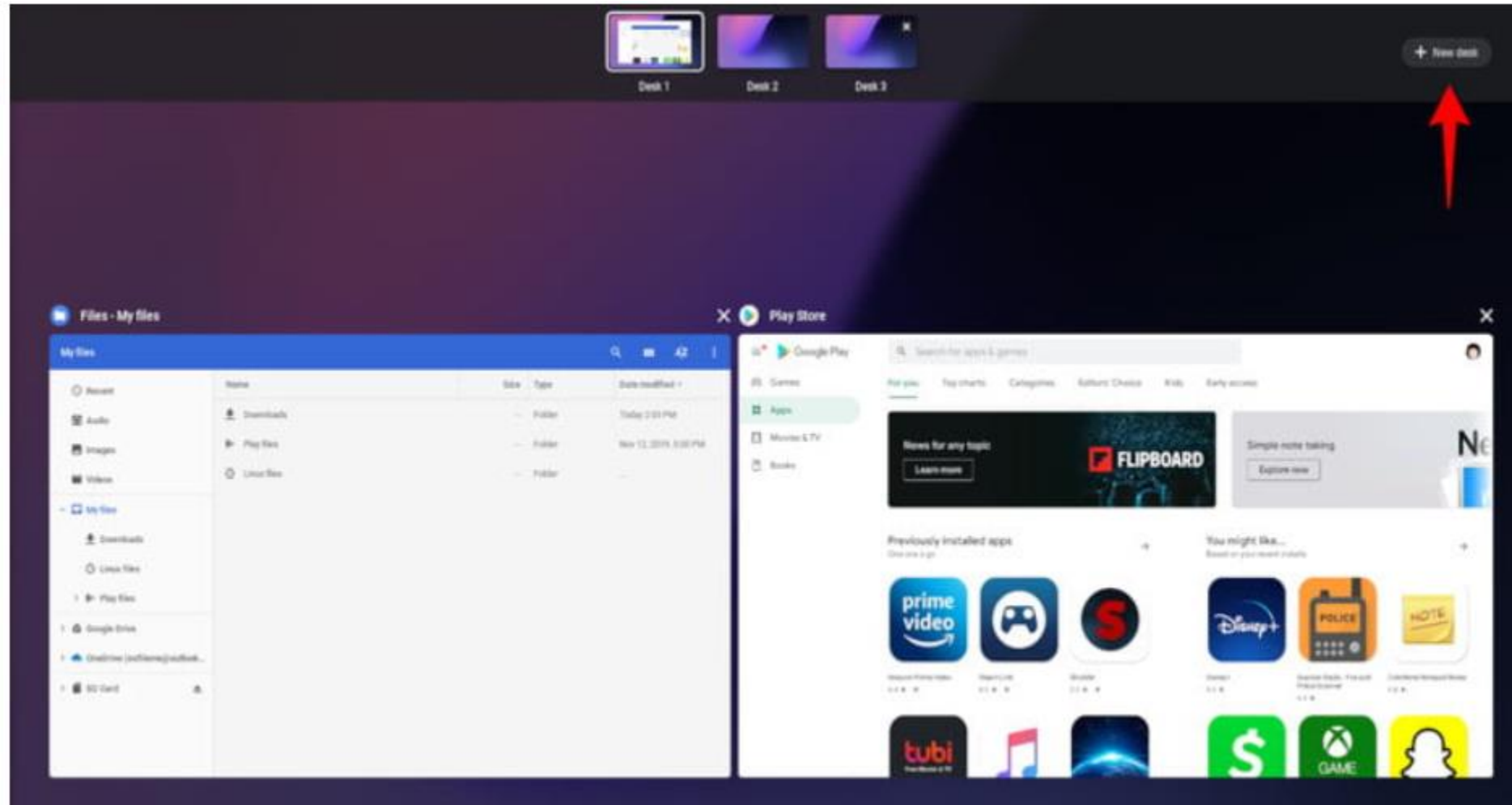
- Like Windows and MacOS, Chromebooks have the native ability to create new virtual desktops.
- This allows you to assign different groups of windows to different desktops, arranging more complicated projects effortlessly without getting them too confused or overloading any single desktop.
- To add a virtual desktop, press Shift + Search + = simultaneously.
- Or use three fingers to swipe down on your touchscreen or trackpad.

# CHROMEBOOKS FOR GEEKS

## Virtual Desktops

- Alternatively, press the Show windows button key, or F5.
- You also can tap or click New Desk located in the top right corner.
- You'll see the new desktop listed next to your original desktop in a ribbon running along the top edge of your screen.
- You can delete a virtual desktop by clicking the "x" on the desktop's thumbnail.

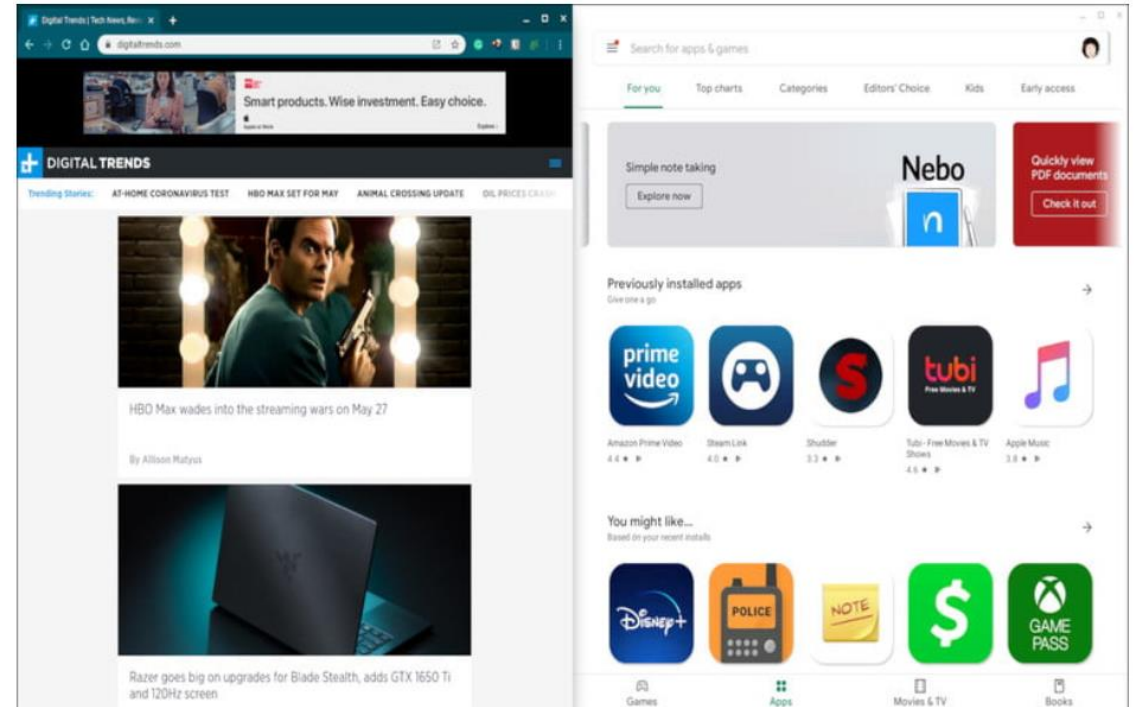
# CHROMEBOOKS AN ALTERNATIVE



# CHROMEBOOKS AN ALTERNATIVE

## Multitask like a pro

- Like Snap Assist in Windows 10, Chrome OS allows you to “snap” windows to the sides of your display, essentially splitting your screen in two.
- You can have a browser open on the left and Google Docs open on the right, filling the entire screen – no stacked or floating windows.





## Snap a Screenshot

# CHROMEBOOKS AN ALTERNATIVE

- Screenshot captures work differently on every operating system, which can get frustrating if you are switching to a Chromebook keyboard, as it doesn't support the Print Screen key.
- But fear not: Taking a screenshot is just as easy just slightly different - Ctrl + Switch window (F5)

# CHROMEBOOKS AN ALTERNATIVE

## What I Like

- **Security** - Google controls the Chromebook ecosystem using a multi-tier solution, it keeps a tight grip on security and frequently updates its code base to stay a step ahead of hackers.
- **Battery life** - Chromebooks are great for people on the go who spend the day away from an AC outlet - typically 8 to 9 hours.
- **Start-up time** - Chromebooks excel in the ability to start up in a few seconds, making them great for the stop-and-go computing that dominates our digital lives.

# CHROMEBOOKS AN ALTERNATIVE

## What I Like

- **Size and weight** - With lower hardware requirements, the typical Chromebook weighs a few ounces lighter and can be a few tenths of an inch thinner than a comparable PC system
- **Recycling** - Chromebooks have the ability to PowerWash the system in a few minutes to wipe it clean of your files and bring it back to the way it left the factory.

# CHROMEBOOKS AN ALTERNATIVE

## Living on the 'Bleeding Edge' - Switch between stable, beta & dev software

- You can test the latest features of the Chrome OS by switching to a more experimental software channel.
- Chrome OS has three different software channels:
- **Stable channel** - This channel is fully tested by the Chrome OS team and is the best choice to avoid crashes and other problems.
- It's updated roughly every 2-3 weeks for minor changes, and every 6 weeks for major changes.

# CHROMEBOOKS AN ALTERNATIVE

- **Beta channel** - To view upcoming changes and improvements with low risk, use the Beta channel.
- It's updated roughly every week, with major updates coming every 6 weeks, more than a month before the Stable channel gets them.
- You can test the latest features of the OS by switching to a more experimental **Dev channel**. The Dev channel gets updated once or twice a week.
- While this build is tested, it might have bugs, as we want people to see what's new as soon as possible.

# CHROMEBOOKS AN ALTERNATIVE

## When Things Goes Wrong!

- Chromebooks are a great, budget-friendly laptop option, but they aren't perfect. Any laptop computer is bound to have flaws, and some of the most common problems faced by Chromebook users can feel difficult or even impossible to solve on your own.
- From issues with updates to internet connectivity, troubleshooting your common Chromebook problem doesn't have to ruin your day. ***Here are some easy fixes to the most frequent issues Chromebook users face.***

# CHROMEBOOKS AN ALTERNATIVE

- **Your Chromebook runs really slow**

- If your Chromebook feels sluggish, your best bet is to just restart and see if the performance issue cleared.

- **Your Chromebook keeps restarting**

- This is a serious error that indicates a problem with the OS.
- If this happens, you need to perform a full recovery know as a Powerwash, which attempts to save as much data as possible.
- A Powerwash will remove any of the data stored on the Chromebook, so it's important you back up any data you may want to keep.

# CHROMEBOOKS AN ALTERNATIVE

- **Updating your Chromebook but received an error**
  - To resolve this, start by checking your internet connection.
  - Ideally, you want a strong Wi-Fi connection or an Ethernet connection.
  - Don't use your data connection for updates as it uses your monthly allotment and often causes these error messages.
- **Downloaded an important update, but it won't work**
  - If you attempt to download the same update several times, try rebooting.

# CHROMEBOOKS AN ALTERNATIVE

- **Can't sign into your Chromebook without getting errors**
  - There are many different error messages you can get when signing into a Chromebook.
  - Rather than going through each of them, it is suggested you use Google's handy walkthrough for dealing with these errors one at a time.

# CHROMEBOOKS AN ALTERNATIVE

- **You can't get my printer to work with my Chromebook**
  - You can print from your Chromebook using most printers that connect to Wi-Fi or a wired network. Currently, Chromebooks don't support Bluetooth printing.
  - Tip: You can connect your printer to your Chromebook with a USB cable. When you use a cable, a notification appears. Follow any on-screen instructions. When your printer is connected to your Chromebook, it doesn't need to be connected to Wi-Fi.



# CHROMEBOOKS AN ALTERNATIVE

- **Bluetooth isn't connecting**

- First, keep in mind that not all Chromebooks include Bluetooth, so check the product specifications.
- If available, the icon appears on the pop-up menu when you click the System Clock.
- A blue icon means the Bluetooth component is enabled, while a gray icon shows it's disabled.
- Click Gray Icon if Bluetooth is disabled.

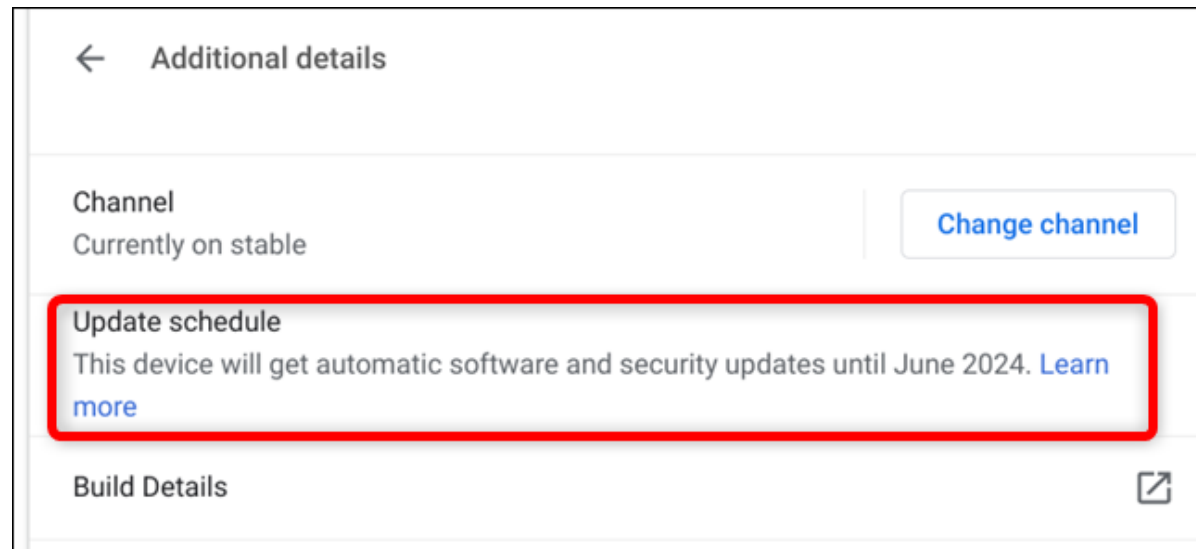
# CHROMEBOOKS AN ALTERNATIVE

- **You can't use your Word docs on your Chromebook**
  - If you recently switched to a Chromebook and you are having trouble accessing your old documents, there are several workarounds.
  - Google's first suggestion is, naturally, to use Google Docs.
  - Another option – add the Microsoft Office Extension to Chrome
  - This extension functions just as it does on your Windows desktop, so you should feel right at home.

# CHROMEBOOKS AN ALTERNATIVE

## Chromebook End of Life

- There comes a time in your Chromebook's life when it no longer receives updates from Google.
- It's inevitable and could be a lot sooner than you think.
- Here's how to see your Chromebook's scheduled end-of-life date



# CHROMEBOOKS AN ALTERNATIVE

## What it means for You

- According to Google, each Chromebook is guaranteed a minimum of 6.5 years of updates after the product's original release date (not to be confused with the time of purchase).
- Every two to three weeks during that time, Google provides automatic security and feature updates using a ***Multiple Layer Solution.***

# CHROMBOOKS AN ALTERNATIVE

## Differences between Single Layer and Multi-Layer Solution

- Single-layer architecture implies putting all of the required components for a software application (both the backend and the frontend) on just one server.
- Having all the resources on the same machine can create an availability and security risk. If the server is down, the application will be down, and it will not communicate with the database. If the server is externally attacked, you are at greater risk of data loss if you do not have a replica of your database.

# DIFFERENCES BETWEEN SINGLE-LAYER AND MULTI-LAYER SOLUTION

- The Google Chrome Solution solves these problems by splitting data access across more than one server or a ***Multi-Layer Solution***. Having all the resources spread into different servers boosts your deployment performance.
- In addition to this, having different layers for different resources implies adding an extra security layer by separating data from code.
- In those applications that include replication, the database can be replicated across more than one server which prevents the loss of data in case of cluster failure.

# CHROMEBOOKS AN ALTERNATIVE

## Final Thoughts

- What I love about the Chrome OS it makes great use of use of Google's services, and because there's next to no learning curve.
- Anyone can pick up a Chromebook and know how to immediately use it because of the similarities of using the Chrome browser.
- However, simplicity of the OS' may be its' biggest weakness.

# CHROMEBOOKS AN ALTERNATIVE

## Final Thoughts

- You can work comfortably on a Chromebook without leaning on a Windows PC for support.
- However, this does not mean others with more intense computer needs for graphics and design, gaming or Web development may not be able to pull off the switch.
- If you are looking for a device larger than a phone or tablet to browse the web, access email, communicate with Skype or Zoom and other basic computer functions, you will love a Chromebook.

# CHROMEBOOKS AN ALTERNATIVE

## Final Thoughts

- Chromebooks are available in various sizes and price points.
- Most major manufactures, such as Dell, HP and Asus have models to fit any budget.
- Some are powered by Intel i-series processors rather than ARM processors for those that have a need for a more robust experience.
- A Chromebook is an affordable laptop with its limited resources distributed to do those few things very well.
- It is the Ultimate 'couch' computer.

# CHROMEBOOKS AN ALTERNATIVE

## Final Thoughts

- Chromebooks are the perfect computing solution for light, novice, or Google dependent PC users. Instead of being bogged down by typical computer hardware, the Google Chromebook paves its own lane in the laptop market.
- Taking on well-loved features Mac and Windows users value most, the Chromebook is the futuristic innovation the digital age never knew it needed.
- It is the Ultimate 'couch' computer.

# CHROMEBOOKS AN ALTERNATIVE

## Resources

- [How to Use Your Chromebook: Tips and How-Tos](#)
- [The Best Chromebooks Available Now](#)
- [The Best Chromebook Games](#)
- [Should I Buy a Chromebook? Buying Guide and Advice](#)
- [Chromebooks vs. Windows 10 Laptops: What Should You Buy?](#)
- [Chromebook vs. Tablet: Which Should You Buy?](#)
- [The best Chromebook tips and tricks](#)

# CHROMEBOOKS AN ALTERNATIVE QUESTIONS?

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