



“a platform for platform creators” - Windows 11: An Empirical Study Exploring the Evolution and Success of Windows 11 in According to User POV [Point of View]

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Abstract: “Personal Computer” is one of the greatest innovation and creation of history. From the initial stage to the current scenario with high end graphics and more fast processor with continuously increasing hard disk space for multiple functioning.

There has been a continuous evolution in the “Operating System” for PC from last many decades. Windows from MS-DOS – Microsoft Disk Operating System (1981) to Windows 11 (2021). There are other players in the market like Mac OS, , Apple iOS, Android, Red Hat Enterprise Linux- Ubuntu, CentOS, Apple OS X El Capitan, Sierra, Fedora but the windows is still maintaining its position in the mindset of the users. The ease of use and attractive graphics are always plus point for windows. The current study is based on the new version of windows OS soon to be released - Windows 11, as win 10 is not so old to replace with the new version and what are the new features offered and how it attracts the uses to move to upgrade to win 11.

Keywords: Personal Computer, MS-DOS, Windows 3.0, Windows 95, Windows 98, Windows ME, Windows 2000, Windows XP, Windows 7 ,Windows 8, Windows 10, Windows 11, Evolution and Success of Windows 11.

I. INTRODUCTION

Microsoft is one of the biggest companies in the technology market, and their products like operating system, office etc. are backed up by decades of experience and a great variety of different services meant to increase productivity and usability. From collaboration tools and cloud services to useful apps and programs, and even gaming and quality hardware, the technology giant continuously seeks to offer a complete and satisfying computing experience.

Undoubtedly, one of Microsoft’s biggest assets is its operating system, Windows. If Windows 95, 98, and NT were only the first steps, Windows XP and Vista

had a lot more to offer in terms of design, usability and practicality. This evolution continued with Windows 8 and 8.1. They were modest successes at best. Overall, however, the biggest improvement came with the introduction of Windows 10 in 2014 from click to touch.

From the era of dull back and white to the colorful and smooth interface there has been a lot of development and milestones created for easy user interface that makes the windows the choice of the world. The current research work is about the latest soon to be releasing Windows 11, what are the new attraction added to this flavor how does the user respond to this for this the author had design a set of questionnaire to have the view point on the windows 11.

II. EVOLUTION OF WINDOWS

The evolution of windows from MS- DOS to the current soon to be release windows 11. There has been a lot of creative development done to ease out the user working one of the best development was point and click after introduction of MS- DOS now shift from the keyboard and mouse to the latest touchscreen.

I | **MS-DOS** – Microsoft Disk Operating System (1981) was designed for personal computers compatible with IBM. At that time it was a great achievement and challenging task to operate MS-DOS with internal and external commands on the black screen.

I | **Windows 1.0 (1985)** was the first time when the “point and click” mechanism was used to interact with the operating system. Windows 2.0 marked the introduction of desktop icons and improved graphics.

The “point and click” mechanism was the best milestone by Microsoft that still continues with the evolution there are many things that come and disappear according to the usage and less usage like the “briefcase” was introduced in



windows 95 OS but in the later OS it was removed.

In Microsoft Windows, the Briefcase is a special folder that supports a simple two-way file synchronization between itself and another folder. The Briefcase is designed for mobile PC users so that they may transfer it to a removable drive and have it synchronize with the computer to which the removable drive is attached, in Windows 8 and completely disabled. [1]



Image 1. Showing screenshot of Windows Operating system version 1.01
Source: Wikipedia [7]

Windows 2.0 (1987) - Microsoft's Windows 2 replaced it in December 1987. The big innovation for Windows 2 was that windows could overlap each other, and it also introduced the ability to minimize or maximize windows instead of "iconizing" or "zooming".

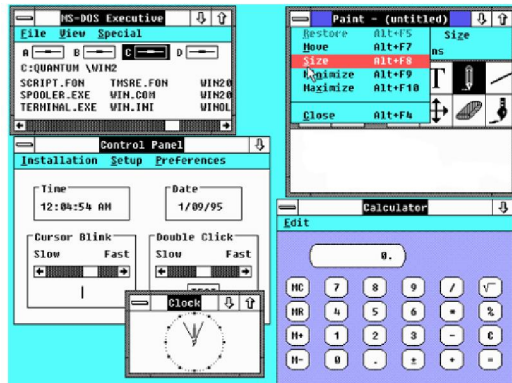


Image 2. Showing screenshot of Windows 2 with overlapping windows
Source: Wikipedia

The control panel, where various system settings and configuration options were collected together in one place, was introduced in Windows 2 and survives to this day.

Microsoft Word and Excel also made their first appearances running on Windows 2.

Windows 3.0 (1990) debuted with 16 colour support for Intel 386 processor. The look from this version of Windows has formed the basis of many upcoming versions

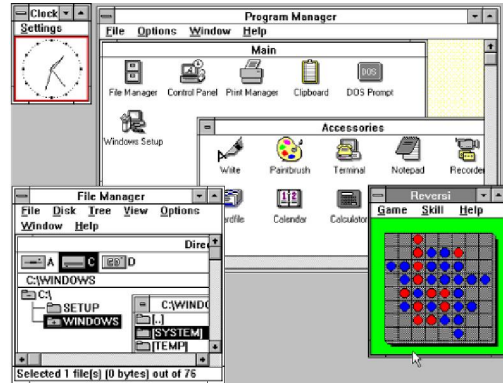


Image 3. Showing screenshot of Windows 3; Windows 3.0 got colourful
Source: Wikipedia

Windows 3 introduced the ability to run MS-DOS programmes in windows, which brought multitasking to legacy programmes, and supported 256 colours bringing a more modern, colourful look to the interface.

Windows NT 3.1 – 4.0 (1993) two versions - Windows NT server and Windows NT Workstation

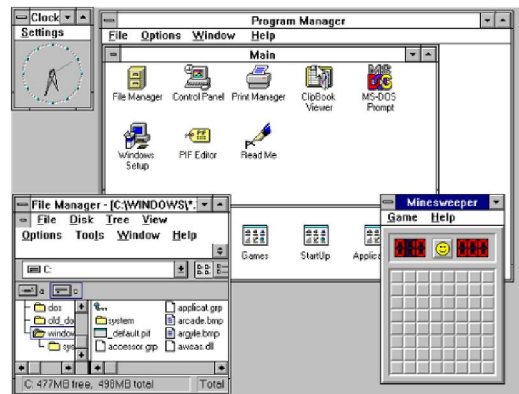


Image 4. Showing screenshot of Windows 3.1 with Minesweeper.
Source: Wikipedia

Windows 1 and 2 both had point release updates, but Windows 3.1 released in 1992 is notable because it introduced TrueType fonts making Windows a viable publishing platform for the first time.

Minesweeper also made its first appearance. Windows 3.1 required 1MB of RAM to run and allowed supported MS-DOS programs to be controlled with a mouse for the first time. Windows 3.1 was also the first Windows to be distributed on a CD-ROM, although



once installed on a hard drive it only took up 10 to 15MB (a CD can typically store up to 700MB).

1 **Windows 95 (August 1995)** was the first version to support 32-bit applications. It ran on a DOS-free platform.

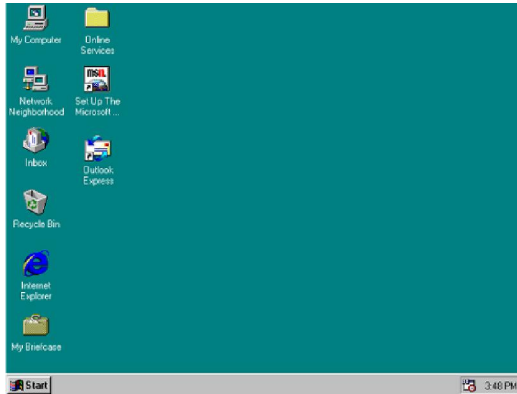


Image 5. Showing screenshot of Windows 95 with Start menu.

Source: Wikipedia

As the name implies, Windows 95 arrived in August 1995 and with it brought the first ever Start button and Start menu.

It also introduced the concept of “**plug and play**” – connect a peripheral and the operating system finds the appropriate drivers for it and makes it work. That was the idea; it didn’t always work in practice.

Windows 95 also introduced a 32-bit environment, the task bar and focused on multitasking. MS-DOS still played an important role for Windows 95, which required it to run some programmes and elements.

Internet Explorer also made its debut on Windows 95, but was not installed by default requiring the Windows 95 Plus! pack. Later revisions of Windows 95 included IE by default, as Netscape Navigator and NCSA Mosaic were popular at the time.

Windows 98 (June 1998) came with a desktop that combined Internet Explorer with the operating system. Released in June 1998, Windows 98 built on Windows 95 and brought with it IE 4, Outlook Express, Windows Address Book, Microsoft Chat and NetShow Player, which was replaced by Windows Media Player 6.2 in Windows 98 Second Edition in 1999.

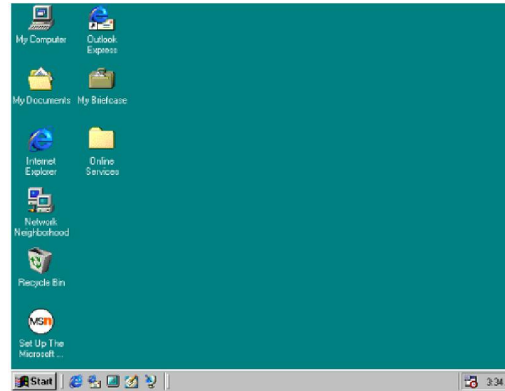


Image 6. Showing screenshot of Windows 98, Source: Wikipedia

Windows 98 introduced the back and forward navigation buttons and the address bar in Windows Explorer, among other things. One of the biggest changes was the introduction of the Windows Driver Model for computer components and accessories – one driver to support all future versions of Windows. USB support was much improved in Windows 98 and led to its widespread adoption, including USB hubs and USB mice.

1 **Windows ME – Millennium Edition** (September 2000) was a minor upgrade that laid the foundation for coming versions.



Image 7. Showing screenshot of Windows ME, Windows Millennium Edition was the last Windows to be based on MS-DOS. Source: Wikipedia

1 **Windows 2000** (February 2000) revolutionize the operating system forever. It could run full-fledged applications, supported data exchange over the internet. The company released 4 versions, namely Windows 2000 Professional, Windows Server, Windows Advanced Server and Windows Data center Server, which were based on the amount of traffic they could



manage.

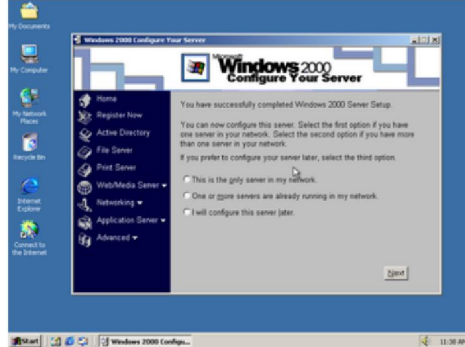


Image 8. Showing screenshot of Windows 2000
Source: Wikipedia

The enterprise twin of ME, Windows 2000 was released in February 2000 and was based on Microsoft's business-orientated system Windows NT and later became the basis for Windows XP.

Microsoft's automatic updating played an important role in Windows 2000 and became the first Windows to support hibernation.

Windows XP (October 2001) was a refined version of Windows 2000 and came with refined connectivity features for interacting with wireless networks. It was the first operating system to support 802.11x WSS which is used even today in computers. It was one of the most successful operating systems from Microsoft. Microsoft ended support for Windows XP back in 2014.



Image 9. Showing screenshot of Windows XP
Source:

<https://guidebookgallery.org/pics/gui/desktop/firstrun/winxp-r0-2-1.png> [2]

One of the best Windows versions, Windows XP was released in October 2001 and brought Microsoft's enterprise line and consumer line of operating systems under one roof. It was based on Windows NT like Windows 2000, but brought the consumer-friendly elements from Windows ME. The Start menu and task bar got a visual overhaul, bringing the familiar green Start button, blue task bar and vista wallpaper, along with various shadow and other visual effects.

ClearType, which was designed to make text easier to read on LCD screens, was introduced, as were built-in CD burning, autoplay from CDs and other media, plus various automated update and recovery tools, that unlike Windows ME actually worked.

Windows XP was the longest running Microsoft operating system, seeing three major updates and support up until April 2014 – 13 years from its original release date. Windows XP was still used on an estimated 430m PCs when it was discontinued.

Windows Vista (November 2006) was an improvement over Windows XP. It offered a more secure, reliable and manageable OS for computers. Hardware troubleshooting capability was also introduced through this version of Windows. Along with that, faster boot time and a 'sleep' state were new features that came with Windows Vista.



Image 10. Showing screenshot of Windows Vista
Source: Microsoft

Windows 7 (October 2009) came along with an improved user interface, multi-touch controls and Internet Explorer 8. It was perhaps the foundation of several latest windows version. A new Windows Media centre, graphical interface layout, support for virtual drives and improve security were some of the key features of Windows 7.

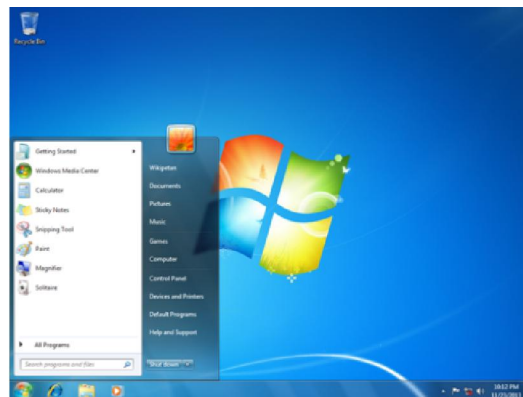


Image 11. Showing screenshot of Windows 7
Source: Wikipedia



Windows 8 came with instant boot support and was designed for touch-enabled devices. The Metro design incorporated in Windows 8 was borrowed from the previous version and refined for delivering better performance and usability. A completely new Start menu, Live Tiles and support for ARM processors were the key features of Windows 8.

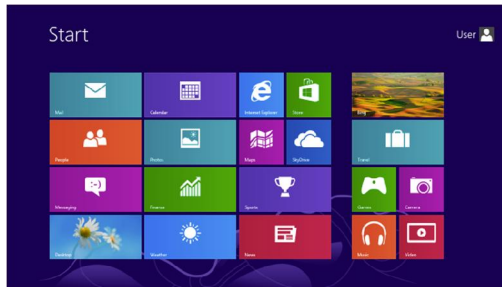


Image 12. Showing screenshot of Windows 8
Source: https://en.wikipedia.org/wiki/Windows_8

Released in October 2012, Windows 8 was Microsoft's most radical overhaul of the Windows interface, ditching the Start button and Start menu in favour of a more touch-friendly Start screen.

The new tiled interface saw programme icons and live tiles, which displayed at-a-glance information normally associated with "widgets", replace the lists of programmes and icons. A desktop was still included, which resembled Windows 7.

Windows 8 was faster than previous versions of Windows and included support for the new, much faster USB 3.0 devices. The Windows Store, which offers universal Windows apps that run in a full-screen mode only, was introduced. Programs could still be installed from third-parties like other iterations of Windows, but they could only access the traditional desktop interface of Windows.

The radical overhaul was not welcomed by many. Microsoft attempted to tread a fine line between touchscreen support and desktop users, but ultimately desktop users wanting to control Windows with a traditional mouse and keyboard and not a touchscreen felt Windows 8 was a step back. There were also too few touchscreens in use, or on offer, to make its touch-oriented interface useful or even necessary - despite the parallel rise of tablets such as the iPad, and smartphones, which had begun outselling PCs by the end of 2010.

Windows RT, which runs on ARM-based processors traditionally found in smartphones and non-PC tablets, was introduced at the same time as Windows 8 with the Microsoft Surface tablet. It looked and felt like Windows 8, but could not run traditional Windows

applications, instead solely relying on the Windows Store for third-party apps.

Windows 10 was launched in July 2015 and is still the official flag-holder of Microsoft's operating system. Windows 10 came with advanced multi-device support, high-speed data transfer rates and Microsoft Edge, the new internet browser. Users who were using the previous version of Windows were eligible to upgrade to Windows 10, completely free. According to reports, Windows 10 has over 1 billion users globally, who are using one of the seven different versions that are available since launch. Currently, the Windows 10 21H1 is the latest windows version. However, it might be the Windows 10 last version as Windows is about to reveal the next big update on June 24, 2021.



Image 13. Showing screenshot of Windows 10
Source:

<https://www.theguardian.com/technology/2014/oct/02/from-windows-1-to-windows-10-29-years-of-windows-evolution>

Announced on 30 September 2014, Windows 10 has only been released as a test version for keen users to try. The "technical preview" is very much still a work in progress.

Windows 10 represents another step in Microsoft's U-turn, bringing back the Start menu and more balance to traditional desktop computer users.

Some interesting features include the ability to switch between a keyboard and mouse mode and a tablet mode, for those computers like the Surface Pro 3 with a detachable keyboard.

Windows 10 – despite being the ninth version of Windows – is designed to unify all Windows platforms across multiple devices, including Windows Phone and tablets, with universal apps that can be downloaded from the Windows Store and run on all Windows devices. [3]



I Windows 11

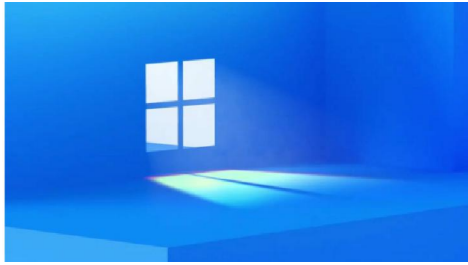


Image 14. Showing screenshot of Windows 11
Source: Internet

This is the upcoming version of Windows, which has already surfaced on the internet earlier this week. Also being called the 21H2 update, Windows 11 is said to take over from Windows 10 last version in the later part of this year.

III. WINDOWS 11



Image 15. Showing screenshot of Windows 11
Source: Microsoft

The upcoming release of Microsoft's new operating system after windows 10, windows 11. Windows 11 is the successor to Windows 10 with all the advantages of win 10 plus more advanced features to be offered to the users. It is most likely to be release in 2021, late October. However, this may be the date that new laptops and PCs are sold with Windows 11 pre-installed. It is "free" upgrade for the windows users. For people running Windows 10 and want to upgrade, you may have to wait until 2022.

Microsoft also released a tool that allowed you to see if your desktop PC or laptop will be able to run Windows 11, which gives you much clearer detail for how eligible for PC is that would have no problem in running the update. This also help the user to decide whether to update the current machine or buy a new one if it is not compatible with win 11.

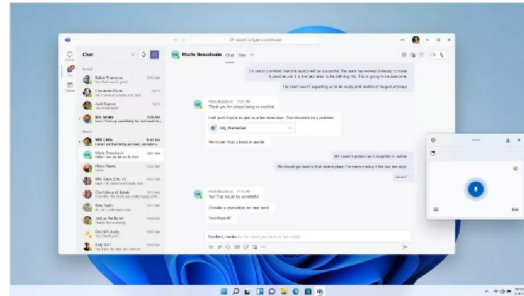


Image 16. Showing screenshot of Windows 11
Source: TechRadar

How to download Windows 11

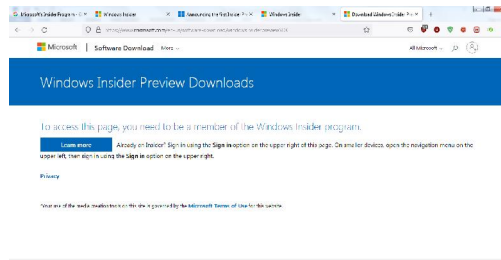


Image 17. Showing screenshot of Windows 11
Source:

<https://blogs.windows.com/windows-insider/2021/06/28/announcing-the-first-insider-preview-for-windows-11/> [4]

Microsoft have updated the Insider build named 22000.132 on the developer channel, before this the user's PC is enrolled for Microsoft's Insider Program first, as long as it meets the requirements to install win 11.

The available release is the initial one with some known issues and some may be still unknown but the user can have a good look and feel about it what's inside the windows 11.

Beautiful, fresh, calm visuals and sounds

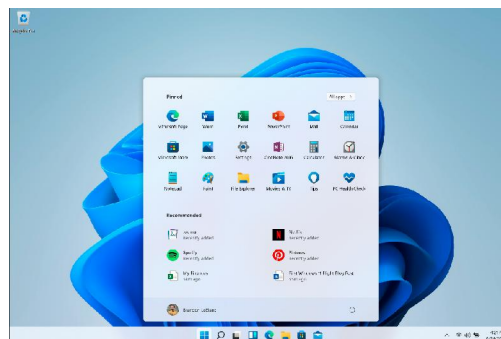


Image 18. Showing screenshot of Windows 11, Start with pinned apps and cloud-powered "Recommendations".

Source:

<https://blogs.windows.com/windows-insider/2021/06/28/announcing-the-first-insider-preview-for-windows-11/>



From rounded corners to the centering of content and new animations, this new visual design extends across multiple areas of Windows 11.

Here are some key highlights that user will see after installing this build:

Start: Start puts everything you need on your PC at the center with a set of pinned apps and a cloud powered “Recommended” section that shows your recently opened files from both your PC and across your devices like your smartphone with OneDrive.

Taskbar: Taskbar is also centered with beautiful new animations. Try pinning, launching, switching, minimizing, and rearranging your apps on Taskbar to see the beautiful new animations.

Notification Center & Quick Settings: The lower right corner of Taskbar has a button for Notification Center (WIN + N) and Quick Settings (WIN + A). Notification Center is the home for all your notifications in the OS and a full-month calendar view. Quick Settings is the place for you to manage common PC settings quickly and easily like Volume, Brightness, Wi-Fi, Bluetooth, and Focus Assist. Directly above your Quick Settings, user will see media playback controls when playing music or videos in Microsoft Edge or streaming music in apps like Spotify.

File Explorer: File Explorer modern with a clean look and brand-new command bar. Microsoft have also introduced beautifully designed context menus when right-clicking in File Explorer or on your desktop. App developers will be able to extend the new context menus. Microsoft is working on to publish documentation for app developers on how to do this with their apps soon.

Themes: In addition to brand new default themes for Windows 11 for both dark and light mode, it also includes four additional themes so you can make Windows feel the way you want it to. All the new themes were designed to complement the centered Taskbar. We have also added new contrast themes for people with visual impairments such as light sensitivity. To change your theme, just right-click on your desktop and choose “Personalize”.

Sounds: The sounds in Windows 11 have been designed to be lighter and more atmospheric. They are also slightly different depending on whether your Windows theme is in dark mode or light mode. The startup sound for Windows also makes its return in which user will hear when your PC boots up to the Lock screen and is ready to go for you to login.

Widgets

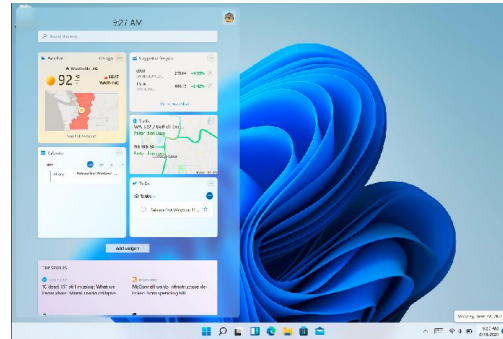


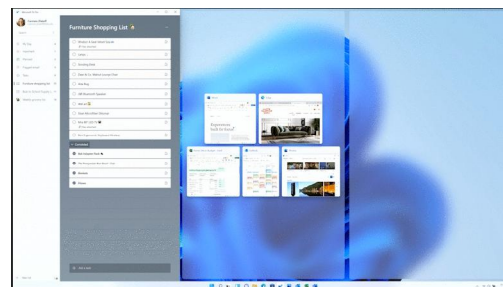
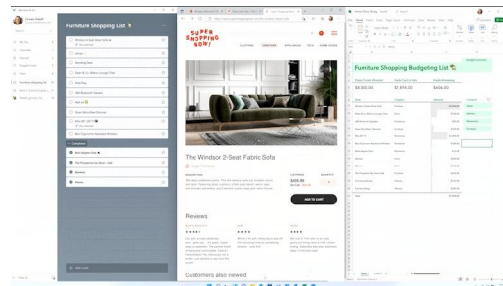
Image 19. Showing screenshot of Windows 11, desktop with widgets.

Source:

<https://blogs.windows.com/windows-insider/2021/06/28/announcing-the-first-insider-preview-for-windows-11/>

Widgets bring you closer to information you both want and need. Just click on the widgets icon on the Taskbar, swipe from the left using touch, or hit WIN + W on your keyboard, and your widgets slide out from the left over your desktop. User can personalize your experience by adding or removing widgets, re-arranging, resizing, and customizing the content. The set of widgets we provide currently focus on your calendar, weather, local traffic, your Microsoft To Do lists, your photos from OneDrive, sports and esports, your stock watchlist, and tips.

Multitasking



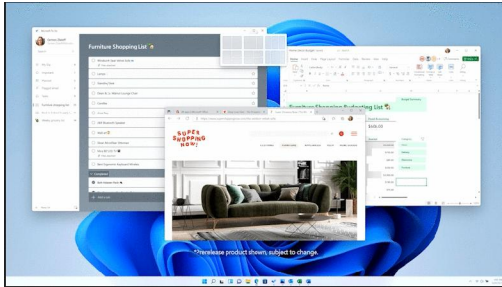


Image 20. Showing screenshot of Windows 11, desktop with Multitasking.

Source: <https://46c4ts1tskv22sdav81j9c69-wpengine.netdna-ssl.com/wp-content/uploads/prod/sites/44/2021/06/Snap-layout-gif.gif>

Snap layouts: Just hover your mouse over a window's maximize button to see available snap layouts, then click on a zone to snap the window. You'll then be guided to snap windows to the rest of the zones within the layout with guided snap assist. For smaller screens, you'll be offered a set of 4 snap layouts. You can also invoke the snap layouts flyout with the WIN + Z keyboard shortcut.

Snap groups: Snap groups are a way to easily switch back to your snapped windows. To try this out, snap together at least 2 app windows on your screen. Hover over one of these open apps on the Taskbar to find the snap group and click to quickly switch back.

Desktops: Access your Desktops via Task View (WIN + Tab) on the Taskbar. You can reorder and customize the backgrounds for each of your Desktops. User can also mouse-over Task View on the Taskbar for quick access to your existing Desktops or to create a new one!

The new Microsoft Store



Image 21. Showing screenshot of Windows 11, desktop with Microsoft Store.

Source:

<https://46c4ts1tskv22sdav81j9c69-wpengine.netdna-ssl.com/wp-content/uploads/prod/sites/44/2021/06/MicrosoftStore.png>

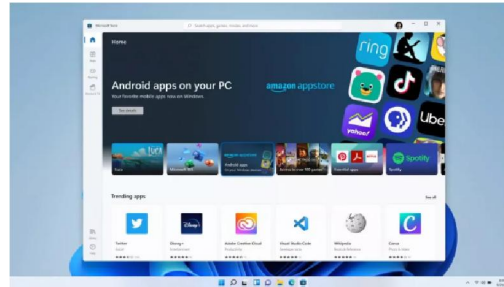


Image 22. Showing screenshot of Windows 11, desktop with Microsoft Store.

Source: Microsoft

With today's build, User will be able to try out an early preview of the new Microsoft Store. This build reveals a first look at the Store's all-new design; in the coming months you'll see us add other features

The Microsoft Store is finally seeing a redesign, with better-curated content, and a better options for managing your purchased shows, such as mirroring them to your television. Apps such as Disney+, Adobe Creative Cloud, Pinterest and more are already in this redesigned store for Windows 11, ready to go. WPA, EWP and Win32 apps are now all in the Microsoft Store, ready to go. If a developer has a commerce engine, they can keep 100% of the revenue brought from the Microsoft Store.

Android apps are also ready for Windows 11, discoverable from the Microsoft Store, via the Amazon App Store, so you can download TikTok and more, ready to use on your PC or tablet.

The new store opens up possibilities for other applications to arrive in Windows 11, even Apple's iMessage, which could follow iTunes and Safari.

Docking

Teams is also integrated to the dock, so you can easily join in with meetings and family calls.



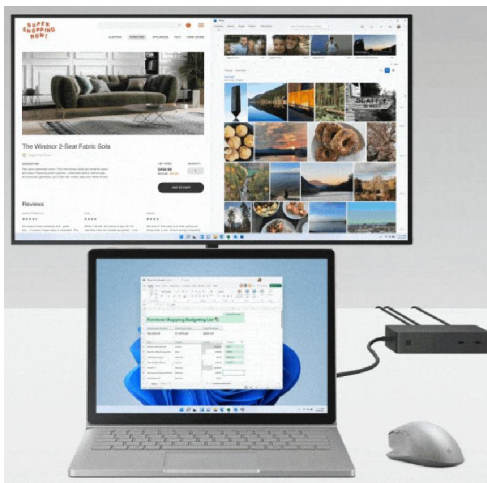


Image 23. Showing screenshot of Windows 11, with Desktop Showing the docking/undocking experience in Windows 11.

Source:

https://46c4ts1tskv22sdav81j9c69-wpengine.netdna-ssl.com/wp-content/uploads/prod/sites/44/2021/06/20210625_Undock_Dock_Stitched.gif

When you undock your laptop, the windows on your external monitor will be minimized. When you re-dock your computer to your monitor, Windows puts everything back exactly where you had it before! You can find the settings for these features under System > Display > Multiple Displays.

Input (touch, inking and voice)

Touch Keyboard personalization: To personalize Windows experience, Microsoft have designed 13 new themes for the touch keyboard including three hardware matching themes that match the Surface colors. Microsoft have also built in a brand-new theme engine that allows you to create a fully customized theme including background images.



Image 24. Showing screenshot of Windows 11, with Desktop Showing Personalized Touch Keyboard

<https://46c4ts1tskv22sdav81j9c69-wpengine.netdna-ssl.com/wp-content/uploads/prod/sites/44/2021/06/Personalized-Touch-Keyboard.png>

Voice typing launcher: Our new voice typing launcher is a quick and easy way for you to start voice typing in a selected text field. It is off by default, but you can turn it on within the voice typing settings (WIN + H to start voice typing) and then place it anywhere you would like on your screen.

Improved Touch Gestures: Check out these new on-screen touch gestures for you to easily switch among apps and desktops with smooth transitions. The gestures are like the touchpad gestures but have thoughtful improvements designed specifically for touch. Here's a list you can try:

Three-finger gestures:

Swiping left/right – quickly switch to the last used app window.

Swiping down – go back to the desktop (if you follow it with a swiping up, you can restore the app windows).

Swiping up – open Task View to browse all app windows and desktops.

Four-finger gestures:

Swiping left/right – switch to the previous/next desktop

Swiping up/down – (same with three-finger ones).

Pen menu: If you're using a digital pen, you can open pen menu by clicking the pen icon at the lower right on your Taskbar. (If the pen icon isn't there, you can enable it by right-clicking on Taskbar and going to Taskbar settings to enable it. By default, it contains two apps which can be customized by clicking the gear button and selecting "edit pen menu". In the flyout, you can add up to four of your favorite drawing or writing apps in the pen menu, to open them quickly when you're using your pen.



Language/Input switcher: User can quickly switch between additional languages and keyboards via a switcher a switcher will show up at the lower right on your taskbar next to Quick Settings. User can also use the keyboard shortcut WIN + [Spacebar] to toggle between input methods. To add additional languages and keyboards, go to Settings > Time & Language > Language & Region.

Display Improvements

Dynamic Refresh Rate: Dynamic Refresh Rate allows your PC to automatically boost the refresh rate when you're inking or scrolling (which means you'll get a smoother experience) and lower when you don't need it so that your laptop can save power. You can try out DRR on your laptop via Settings > System > Display > Advanced display, and under "Choose a refresh rate" select a "Dynamic" refresh rate. DRR is being rolled out to select laptops running the latest Windows 11 Insider Preview builds and only on laptops with the right display hardware and graphics driver will have the feature available. For more details, check out this blog post.

Other display improvements coming in Windows 11: Auto HDR, Content adaptive brightness control (CABC) disabling, HDR support to color managed apps, and HDR certification.

Settings

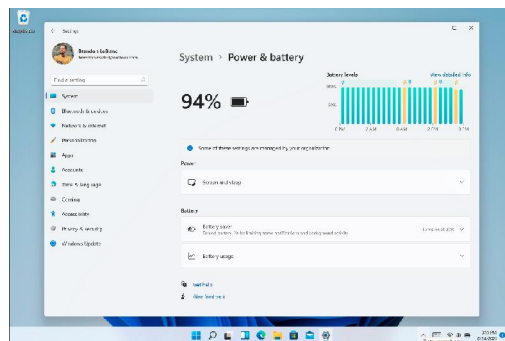


Image 25. Showing screenshot of Windows 11, with system settings.

Source

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Microsoft has designed Settings to be beautiful, easy to use and inclusive of all your Microsoft experiences in Windows 11. Settings has left-handed navigation that persists between pages, and we have added breadcrumbs as you navigate deeper into Settings to help you know where you are and not lose your place. Settings pages are also all new, with new hero controls at the top that highlight key information and frequently used settings for you to adjust as you need. These new hero controls span across several category pages like

System, Bluetooth & devices, Network & Internet, Personalization, Accounts, and Windows Update. Microsoft also have added expandable boxes for pages with a lot of settings.

The new Windows 11 setup experience

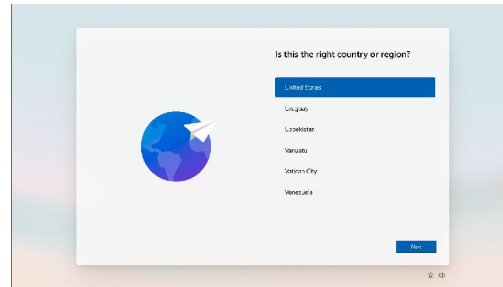


Image 26. Showing screenshot of Windows 11, with "out of box experience"

Source:

<https://46c4ts1tskv22sdav81j9c69-wpengine.netdna-ssl.com/wp-content/uploads/prod/sites/44/2021/06/OOBE-Begin.png>

The Windows 11 setup experience (often referred to as the "out of box experience" or OOBE for short) has been redesigned with brand new colorful animated iconography and more modern light theme. This new setup experience is designed to build excitement for Windows 11 right from the moment you first turn on a new Windows 11 PC for the very first time. Based on your feedback, we have added the ability to name your PC during the setup experience.

After running through the setup experience, the Get Started app is a new first run experience app that will help user to quickly get setup on a new PC. Currently, Get Started has a limited number of pages but over time, we plan to add in more content to further educate and assist people new to Windows 11.

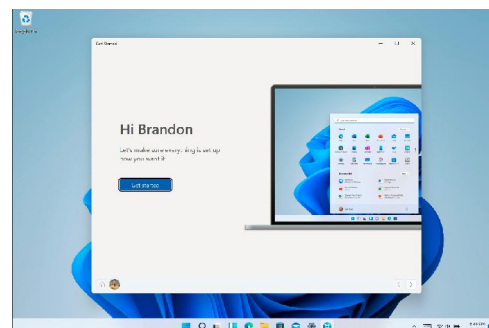


Image 27. Showing screenshot of Windows 11, with "out of box experience - setup experience"

Source:

<https://46c4ts1tskv22sdav81j9c69-wpengine.netdna-ssl.com/wp-content/uploads/prod/sites/44/2021/06/GettingStarted.png>

For Insiders wanting to go the extra mile and try this experience out, you can reset your PC by navigating to **Settings > System > Recovery > Reset this PC** and



choose to “Remove everything”. This will wipe your machine, so **Microsoft recommend you back up your files before resetting your device.**

Wi-Fi 6E Support

Wi-Fi 6E to the Windows ecosystem, enabling our Windows OEMs, Wireless IHVs and ecosystem partners to deliver leading edge Wi-Fi on new Windows PCs. Wi-Fi 6E is a revolutionary advancement that enables up to 3x more Wi-Fi bandwidth and will transform Wi-Fi experiences through faster speeds, greater capacity, reduced latency, and better security. Many OEMs are already shipping Wi-Fi 6E capable Windows PCs and the first Wi-Fi 6E capable access points and mesh devices are also commercially available.

Once user is on this Insider Preview build with a Wi-Fi 6E capable PC and driver, along with a capable Wi-Fi router, it'll just work. User will need a PC that's equipped with a Wi-Fi 6E device such as the Intel AX210™ and a capable driver.

Windows 11 + Office

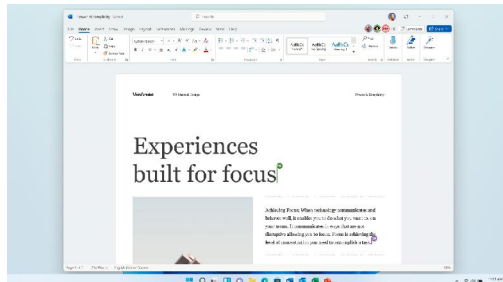


Image 28. Showing screenshot of Windows 11, with “Windows 11 + Office”

Source:

https://46c4ts1tskv22sdav81j9c69-wpengine.netdna-ssl.com/wp-content/uploads/prod/sites/44/2021/06/Word_MLR-1.png

Coinciding with the release of today's Windows 11 Insider Preview build, the Office Team is releasing a preview for Office Insiders of their Office apps with a new design that will shine on Windows 11! Designed based on user's feedback, the new design gives you a natural and coherent experience across all your Office apps.

Known issues with Build 22000.51

When upgrading to Windows 11 from Windows 10 or when installing an update to Windows 11, some features may be deprecated or removed. See details here.

Taskbar:

Taskbar will not be shown across multiple monitors but will return in an upcoming build.

The preview window may not display the entire window when hovering over Task View on the taskbar.

Settings:

When upgrading a device with multiple user accounts to Windows 11, Settings will fail to launch.

A small set of Settings legacy pages as well as fit and finish bugs will be addressed in future releases.

The ‘Power mode’ setting does not show up on the Power & battery page.

When launching the Settings app, a brief green flash may appear.

When using Quick Settings to modify Accessibility settings, the settings UI may not save the selected state.

Start:

In some cases, you might be unable to enter text when using Search from Start or the taskbar. If you experience the issue, press Win + R on the keyboard to launch the Run dialog box, then close it.

We're working on fixing an issue that's preventing unpinning apps from Start, making the command bar in File Explorer disappear, or hiding snap. To work around these, restart your PC.

Search:

App icons in the Search panel may do not load, and instead appear as gray squares.

When hovering your mouse over the Search icon on the taskbar, the third recent search does not load and remains blank.

After clicking the Search icon taskbar, the Search panel may not open. If this occurs, restart the “Windows Explorer” process, and open the search panel again.

When you hover your mouse over the Search icon on the taskbar, recent searches may not be displayed. To work around the issue, restart your device.

Search panel might appear as black and not display any content below the search box.



Widgets:

System text scaling will scale all widgets proportionally and may result in cropped widgets.

Launching links from the widgets board may not invoke apps to the foreground.

When using screen reader/Narrator in widgets may not properly announce content

Widgets board may appear empty. To work around the issue, you can sign out and then sign back in again.

When using the Outlook client with a Microsoft account, Calendar, and To Do changes may not sync to the widgets in real time.

Widgets may be displayed in the wrong size on external monitors. If you encounter this, you can launch the widgets via touch or WIN + W shortcut on your actual device monitor first and then launch on your secondary monitors.

After adding multiple widgets quickly from the widgets settings, some of the widgets may not be visible on the board.

Store:

The install button might not be functional yet in some limited scenarios.

Rating and reviews are not available for some apps.

Minimum Specifications

There's been a lot of discussion as to which devices are eligible for Windows 11. Regardless of the TPM requirement, others are simply wondering if they need to look to upgrade their PC or laptop soon.

For now, Microsoft have published the requirements for the update, but they are subject to change as we near release and the company take feedback on board.

Processor: 1 gigahertz (GHz) or faster with at least two cores on a compatible 64-bit processor or SoC.

RAM: 4GB

Storage: 64GB

System Firmware: UEFI, Secure Boot capable

TPM: Trusted Platform Module 2.0

Graphics Card: DirectX 12 or later with WDDM 2.0 driver

Display: 720p, 8-bit per color channel, at least 9-inch diagonal

Internet Connection and Microsoft Account: Windows 11 Home requires an active internet connection and a Microsoft Account to complete initial, first-use setup of the operating system,

or when switching a device out of Windows 11 Home in S-mode.

Trusted Platform Module (TPM) technology is designed to provide hardware-based, security-related functions. A TPM chip is a secure crypto-processor that is designed to carry out cryptographic operations. The chip includes multiple physical security mechanisms to make it tamper-resistant, and malicious software is unable to tamper with the security functions of the TPM. Some of the key advantages of using TPM technology are that you can:

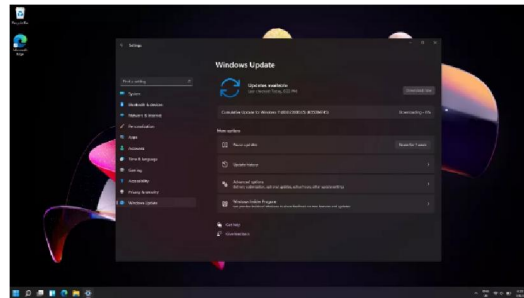


Image 29. Showing screenshot of Windows 11, with "Windows update"
Source: TechRadar

Downgrade to Windows 10: There's even an option to downgrade to Windows 10 if user is facing experiencing any issues with Windows 11. This is available in the current Insider builds, but you can only do it within 10 days of upgrading your machine, otherwise a clean install has to be done in order to go to Windows 10.

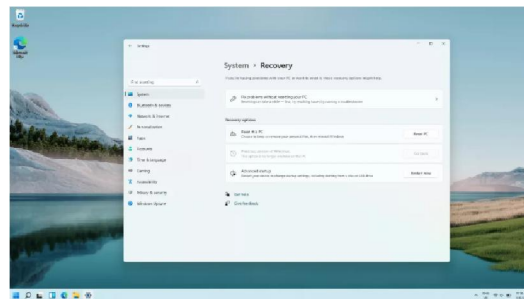


Image 30. Showing screenshot of Windows 11, with "Windows downgrade to win 10"
Source: TechRadar [5]

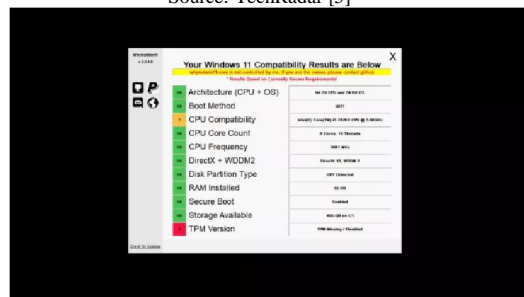


Image 31. Showing screenshot of compatibility status"
Source: Future [6]



Gaming on Windows 11

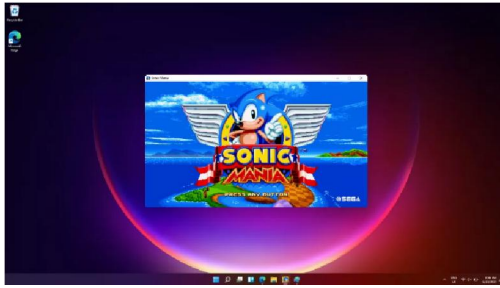


Image 32. Showing screenshot of Gaming status”
Source: Techradar

Gaming will be a much bigger focus in Windows 11, with the sluggish and frustrating-to-use Windows 10 Xbox app replaced by a new Game Pass app that enables you to buy, manage and remove games, making it easier for you to access and download games, from Doom Eternal to – soon – Halo Infinite.

HDR will also be supported on compatible machines, offering improved lighting and contrast for gaming and viewing media. Direct Storage is also here, with the main game assets able to be downloaded and installed, enabling you to play your games even faster than before.



Image 33. Showing screenshot of Gaming status”
Source: TechRadar

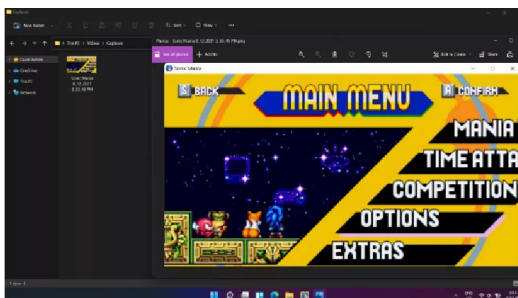


Image 34. Showing screenshot of Gaming status”
Source: Microsoft

IV. NEED OF WINDOWS 11

Looking at all the attractive and fascinating features of Windows 11, although these are pre-release features there could be some more or at least the known issues will be gone in the final release. It seems that Microsoft is in a bit hurry to release windows 11 like windows 8, windows 8.1, windows 10 all come at faster pace if compared with other versions like windows XP and windows 7. Another issue with windows 11 is the hardware compatibility to install it.

Users existing computers may not work with it. A quick look at the minimum system requirements reveals that it will only work on 64-bit computers. In addition, it must be capable of supporting UEFI (Unified Extensible Firmware Interface) which has replaced the BIOS on newer computers, and must be capable of supporting Secure Boot. In addition, Windows 11 will require a Trusted Platform Module, version 2.0, which is an encryption engine embedded in newer computers that Windows requires for some security functions.

Windows 10 already supports these security features, but the difference is that it doesn't require them. Windows 11 will require those features to run.

What are feature-specific requirements for Windows 11?

There are many useful features available in windows 11 but same time they have increased requirements to use them the user has to have their compatible hardware too.

The following is the list that shows the features and their requirements -

- **5G support:** Requires a 5G-capable modem.
- **Auto HDR:** Requires an HDR monitor.
- **BitLocker to Go:** Requires a USB flash drive (available in Windows Pro and above editions).
- **Client Hyper-V:** Requires a processor with second level address translation (SLAT) capabilities (available in Windows Pro and above editions).
- **Cortana:** Requires a microphone and speaker and is currently available on Windows 11 for Australia, Brazil, Canada, China, France, Germany, India, Italy, Japan, Mexico, Spain, U.K. and U.S.
- **DirectStorage:** Requires an NVMe SSD to store and run games that use the Standard NVM Express Controller driver and a DirectX12 GPU with Shader Model 6.0 support.
- **DirectX 12 Ultimate:** Available with supported games and graphics chips.



- **Presence:** Requires a sensor that can detect human distance from device or intent to interact with device.
- **Intelligent Video Conferencing:** Requires video camera, microphone and speaker (audio output).
- **Multiple Voice Assistant (MVA):** Requires a microphone and speaker.
- **Snap:** Three-column layouts require a screen that is 1920 effective pixels or greater in width.
- **Mute/Unmute from Taskbar:** Requires video camera, microphone and speaker (audio output). App must be compatible with feature to enable global mute/unmute.
- **Spatial Sound:** Requires supporting hardware and software.
- **Teams:** Requires video camera, microphone and speaker (audio output).
- **Touch:** Requires a screen or monitor that supports multi-touch.
- **Two-factor authentication:** Requires use of PIN, biometric (fingerprint reader or illuminated infrared camera) or a phone with Wi-Fi or Bluetooth capabilities.
- **Voice Typing:** Requires a PC with a microphone.
- **Wake on Voice:** Requires Modern Standby power model and microphone.
- **Wi-Fi 6E:** Requires new WLAN IHV hardware and driver and a Wi-Fi 6E capable AP/router.
- **Windows Hello:** Requires a camera configured for near infrared (IR) imaging or fingerprint reader for biometric authentication. Devices without biometric sensors can use Windows Hello with a PIN or portable Microsoft compatible security key.
- **Windows Projection:** Requires a display adapter that supports Windows Display Driver Model (WDDM) 2.0 and a Wi-Fi adapter that supports Wi-Fi Direct.

Although, some basic hardware like mic, speaker and camera comes with all the laptops but a desktop PC requires them externally if they do not have or they are outdated.

This generates a question, how many users are willing to upgrade their system to windows 11, how many desktop PC and laptops are compatible to upgrade, what would be the decision of the user to upgrade the current machine or buy a new one with pre-installed windows 11 on it.

V. USERS OPINION ON WINDOWS 11

All the new things comes with a price although windows 11 is "Free" to upgrade but at the time when the author is writing this research paper how many laptops and desktop PC are compatible to upgrade to windows 11.

This gives the idea to know the user opinion about the windows 11 upgrade, what is the view point of the users whether they want to move to the new interface with more secure and advance features or they will move to an alternative like MacOS or Linux.

To understand this the author has designed a set of questionnaire to get the view point of the users and floated by all possible means like email, whatsapp and other social media platform to get the responses.

VI. QUESTIONNAIRE

The questionnaire is designed to know the user's view point about windows 11 and whether they want to upgrade to the latest upcoming version. To know that the users are satisfied with the current operating system that they are using, do they know the latest highlighting features of windows 11.

*Q1. According to you, what operating system you are using currently for the daily computing need?

Windows 10 Windows 8, 8.1 Windows 7 Windows XP
 Linux Android Apple IOS Mac OS
 Not used here.

*Q2. According to you, kindly rate the user experience of Windows on the scale 1 to 5, 5 being the highest how satisfied are you with the windows user experience.

1 - Very much not satisfied	2 - Not satisfied	3 - Neutral	4 - Somewhat satisfied	5 - Very Satisfied
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

*Q3. According to you, your current operating system is meeting your daily needs for computing.

Yes No I'm thinking to upgrade my operating system for more performance and security.

*Q4. According to you, are you planning to upgrade to windows 11 ?

Yes, I am. I'll get a new machine to upgrade to win 11. No, my hardware won't support it so I'm staying on current version of windows. No, I'm planning to stay at windows current version because I like it. Yes, I'm planning to purchase a new machine with pre-installed windows 11.

*Q4. According to you, are you planning to upgrade to windows 11 ?

Yes, I am. Upgrade my current machine to win 11. No, my hardware won't support it so I'm staying on current version of windows. No, I'm planning to stay on Windows current version because I like it. Yes, I'm planning to purchase a new machine with pre-installed windows 11.

*Q 5. Are you planning to move to another alternative OS like Linux or Mac etc. Due to non supportive hardware or other issues with windows 11.

Yes No

*Q5. According to you, what do you think about the Microsoft's new soon to be release operating system - Windows 11?

It's time for the next version of Windows There was no need of Windows 11 I'm not aware of Windows 11
 I think it's a update or Windows 10, not a new OS I don't like the idea, it's increasing the hardware cost

*Q 7. According to you, what do you expect from Microsoft's new Operating system [Windows 11]

Improved security Faster performance Smooth look Fewer hot time and slow down

*Q8. According to you, if you are not willing to upgrade to windows 11, what could be best possible reasons? Kindly choose.

I'm satisfied with my current OS It will increase the hardware cost It's very similar to win 10, no point to upgrade.
 Afraid of losing data and applications Want to do, but I don't know how to upgrade.

*Q9. According to you, do you know that, Android apps can be download and installed on windows 11 from the Microsoft store via the amazon app store?

Yes No

*Q10. According to you, do you know that Microsoft is committed to supporting Windows 10 through 14 October 2025?

Yes No

*Q11. According to you, do you know that Microsoft Teams is integrated into Windows 11, allowing quick access to chat and video conferencing from the taskbar?

Yes No

VII. ANALYSIS AND INTERPRETATION

The study becomes important when any product is about to launch in near future. When there is a talk about the Microsoft and Windows it became sensitive due to its vast presence and acceptance all over the



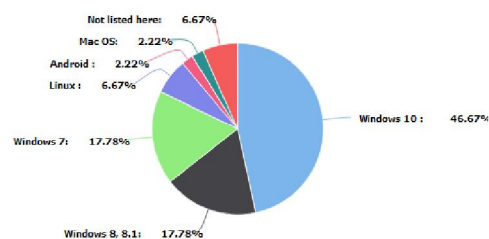
world. Moreover, there are other competitors in the market like MacOS and Linux etc. who are giving stiff competition to Windows.

As far as the information available about the upcoming new windows operating system – Windows 11. It is full of features and improved security and performance based operating system having all the features of windows 10 in it.

Moving forward to the respondent's point of view about the windows 11.

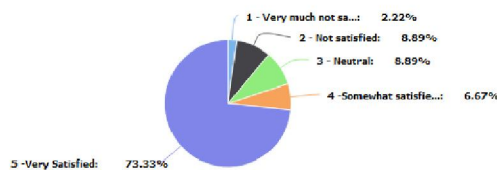
The first question in the questionnaire is about- need.

Q1. According to you, what operating system you are using currently for the daily computing need?



Majority of the respondents, $46.67\% + 17.78\% + 17.78\% = 82.23\%$ of the population are using different version of Windows operating system. This shows the dominance of windows in the market. Users are very comfortable in using windows and Microsoft is continuously adding and upgrading the operating system in the market and people are also using them like Linux and MacOS. Android system is also picking up all the smartphones are using the same. Nowadays, smartphones are becoming more smart email, chatting, editing, office documents such as excel and word file can be opened and edited in smartphone very easily.

Q2. According to you, kindly rate the user experience of Windows on the scale 1 to 5, 5 being the highest how satisfied are you with the windows user experience.

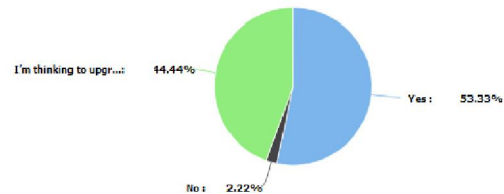


As per question 2, satisfaction level of users on windows operating system, majority of the population 73.33% are very satisfied, 8.89% are not satisfied and 2.22% are very not satisfied with the windows user experience.

Every product has loyal customers, majority of the respondents are loyal to the windows and some are

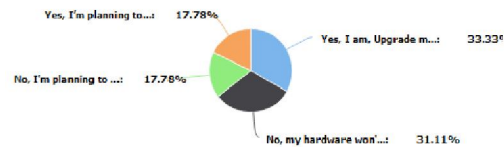
loyal to the other operating system like, MacOS and Linux due to their own reasons.

Q3. According to you, your current operating system is meeting your daily needs for computing.



According to the question 3, the current operating system is full filling the daily computer needs. More than 50% of the respondents are satisfied with the performance of their current OS, $44.44\% + 2.22\%$ of the respondents are thinking of upgrading their OS. As their computing needs demands a better performing OS. This gives the glimpse of light of success for windows 11 in the market. As there are population of users who wish to upgrade their system and windows forthcoming operating system is full of features and security.

Q4. According to you, are you planning to upgrade to windows 11?

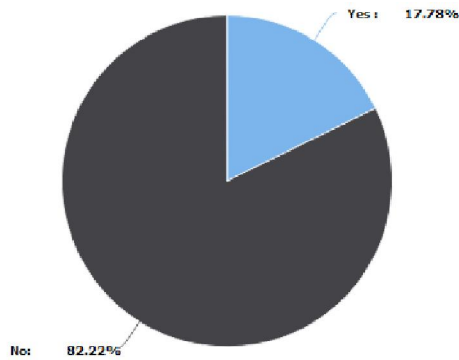


According to the question 4, it's about planning to upgrade to windows 11. The responses collected are mixed, some are satisfied with their current OS some want to upgrade but there are hardware issues.

Yes, I am, Upgrade my current machine to win 11 - 33.33%, No, my hardware won't support it so I'm staying on current version of Windows - 31.11%, No, I'm planning to stay on current OS because I like it - 17.78%, Yes, I'm planning to purchase a new machine with pre- installed windows 11. - 17.78%

33% of the respondent population are in favor to upgrade their operating system, it's a good sign for Microsoft. Another 31% wish to upgrade but their hardware do not support for the up gradation. This will increase the cost of hardware up gradation who want to upgrade to windows 11. Some are still in love with their current operating system. 17% of the users are planning to purchase a pre - installed windows 11 on a new machine to avoid any hardware issues on future.

Q 5. Are you planning to move to another alternative OS like Linux or Mac etc.? Due to non-supportive hardware or other issues with windows 11.

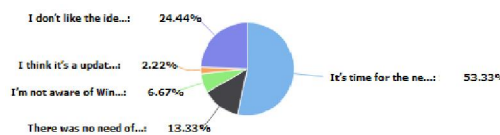


Question 5 is about the movement from windows to another operating system.

The inclination towards windows 11 is positive, one issue that can bother the user and let them think twice is the hardware cost as many users are using the hardware configuration that do not support the installation of windows 11 on it. Moreover, windows 10 do not increased the hardware cost but windows 11 is making it happen. Windows 11 is very similar to windows 10 in look and feel for a normal user it doesn't makes a greater difference.

This issue can make the user to think to move to alternative operating system like Linux or MacOS. Majority of the respondents are not giving the indication to move they are loyal to the windows platform, but still a significant amount like 17 % of the respondents giving inclination of movement.

Q6. According to you, what do you think about the Microsoft's new soon to be release operating system - Windows 11?

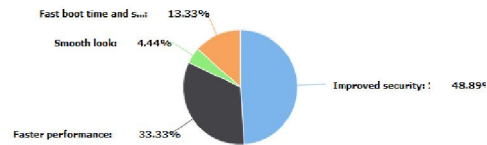


The next question Q6, is about the windows 11. The responses are - It's time for the new version of Windows - 53.33% , There was no need of Windows11 - 13.33%, I'm not aware of Windows11 - 6.67%, I think it's a update of Windows10, not a new OS - 2.22%, I don't like the idea, it is increasing the hardware cost - 24.44%.

Majority of the respondents are in favor of windows 11, yes it's time to have a new and improved version of windows. That is a good sign for the Microsoft from marketing angle. But there are still some respondents who do not think that there is a need of the new OS – 13% and a small population is still unaware of the windows 11. 24% of the respondents' population

raising the issue of increasing the hardware cost, this is the point where the Microsoft should focus.

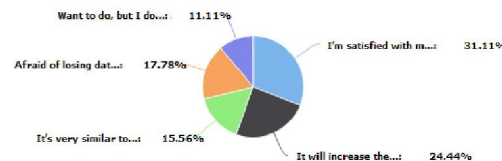
Q 7. According to you, what do you expect from Microsoft's new Operating system [Windows 11]



The next question is about expectation from the windows 11. The respondents - Improved security - 48.89%, Faster performance - 33.33%, Smooth look - 4.44%, Fast boot time and shutdown - 13.33%.

Improved security - 48.89%, is the major expectation followed by the faster performance. As per the information about specification and features available its gives the glimpse that the new operating system is secured with TPM [Trusted Platform Module (TPM) technology is designed to provide hardware-based, security-related functions. A TPM chip is a secure crypto-processor that is designed to carry out cryptographic operations]. The security and performance is increasing the hardware cost, the situation is like people want more secure environment and faster performance but do not wish to put extra money for the same. The hardware increasing the cost for installation is coming up again and again, the country like India where the people are price sensitive and discount seeker may be they can switch to other operating system like Open source software.

Q8. According to you, if you are not willing to upgrade to windows 11, what could be best possible reasons? Kindly choose.



The next question Q8, talks about the scenario where people do not wish to upgrade. The responses are - I'm satisfied with my current OS - 31.11%, It will increase the hardware cost -24.44%, It's very similar to win 10, no point to upgrade. - 15.56%, Afraid of losing data and applications - 17.78%, Want to do, but I don't know how to upgrade - 11.11%.

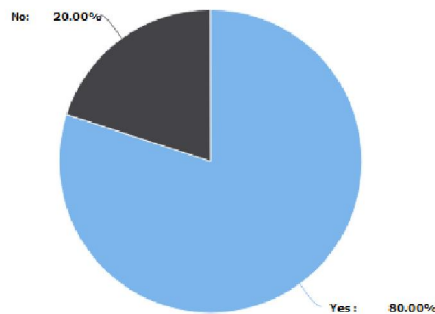
The reasons came up, the most picked reason is people are satisfied with their current OS followed by the increasing the hardware cost, some are afraid of losing the data after installation as windows 11 seems to be more secure what if some of the software are not compatible or not run properly. The users of windows



10, it is very similar and did not increased the hardware cost for installation. 11% are still unaware how to upgrade, the final version is not still in the market but the insider version is available from Microsoft insider website.

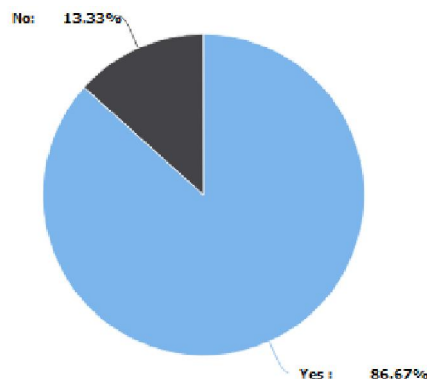
People have their own reasons for not to upgrade, issue of data loss and increase hardware cost are more prominent reasons to ponder.

Q9. According to you, do you know that, Android apps can be download and installed on windows 11 from the Microsoft store via the amazon app store?



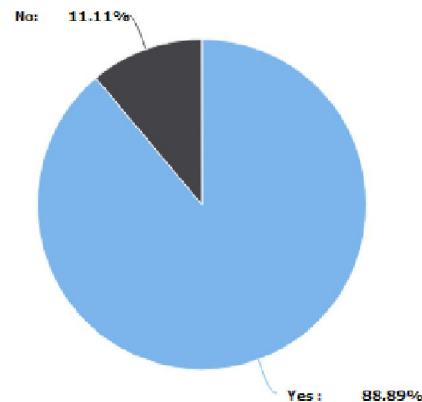
The next question Q9, is about the features associated with windows 11 version. This question talks about the android apps that can be downloaded and installed on windows. Android apps can be installed on windows but by using third party software's, here those can be directly downloaded and installed from new Microsoft Store. Apps such as Disney+, Adobe Creative Cloud, Pinterest and more are already in this redesigned store for Windows 11, ready to go. If a developer has a commerce engine, they can keep 100% of the revenue brought from the Microsoft Store. Still 20% of the respondents are unaware from this fact, proper introduction and marketing should be done through various social media platform to convert this unaware population so that they can go for windows 11 in near future.

Q10. According to you, do you know that Microsoft is committed to supporting Windows 10 through 14 October 2025?



The next question Q10, is about the support available for windows 10 in near future, the respondent's major population 86% is aware from the fact that it will end in the year 2025. Still around 13% of the population is unaware from the fact. According to the previous question in this questionnaire people are still using windows 7 and the support for the same is gone, on January 14, 2020. It can lead to security vulnerabilities, software incompatibility, compliance issues, and poor computer performance and reliability. That is what expected from windows 11 more secure environment.

Q11. According to you, do you know that Microsoft Teams is integrated into Windows 11, allowing quick access to chat and video conferencing from the Taskbar?



The next question Q11, it's about Microsoft Teams is integrated into Windows 11. It's a new and timely integrated feature in windows, people have taken classes, meetings, conferences, seminar online during COVID-19 scenario. It was almost new to the users taking online meetings and class's people had faced many problems while doing the same. The most popular platform were Google Classroom and Microsoft Teams for education and Skype and zoom for business. MS Teams is also used for business meetings too. The integration of MS Teams in the task bar make the windows 11 future ready, now the meeting is just a click or touch away.

Majority of the respondents are aware of this feature 88% and a few 11% are unaware of it. But it is a renowned tool and very soon people will know and get used to it.

IX. CONCLUSIONS

To conclude the study, overall there is a positive response for the windows operating system. The users are satisfied by its performance and they are loyal customers. Some of them are loyal to other operating system like Linus or MacOS so they can be counted out whether its windows 10, 11 or 12. The study focuses on the users whether they wish to upgrade or not from their current operating system to the upcoming version windows 11. There are many facts and findings came up in the studies like the hardware



up gradation part most of the current users have to change their hardware to upgrade and it increases the cost. Moreover by look and feel it is very similar to windows 10, it is not like people are changing from windows XP to windows 11. But people are still ready to make the change and having their option in their mind that they will buy a new machine with pre-loaded windows 11 on it. Some may move to alternative OS but they are in the mode of wait and watch.

Overall, windows 11 is seems to be more secure and giving better performance operating system and full of various utility and features that makes it stand out from its older versions and other competitors the only question of increase in the hardware cost has to be handle carefully.

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