

# It is not your parents Windows anymore!

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## Windows 11

What does a designer of children's books and biscuit tins, or a psychology major got to do with Windows, the operating system from Microsoft?

The two, Priya Chauhan and Dorothy Feng are from the team that designed the new, signature feature for Windows 11 – the widgets, available next to the start button widgets provide you with a quick glance to information you need to know and care about, without you opening individual apps. Unlike the infamous business metrics like KPI, Chauhan and Feng are measured by how it can make the users happy. And that is a common theme you will hear nowadays from the Windows team, calmness, happiness, less stressful are the emotions they went for – words we normally don't associate with a software, that too something that is being used by over 1.3 billion users around the worldwide.

Building on the foundation of Windows 10, Windows 11 is the next version that is expected to be released by the end of 2021. At first new PCs will be shipping with Windows 11, followed by free upgrade options to users of Windows 10, provided their machines meet the hardware requirements – which are PCs with Intel Core 8<sup>th</sup> Generation or newer CPUs and AMD's Athlon & Ryzen CPUs released in the last few years, UEFI Secure Boot Capable Motherboard, TPM (Trusted Platform Module) version 2.0 enabled in the system BIOS and with DirectX 12 supported GPU. If you have an eligible PC to spare, you can sign up for free to Windows Insider program from Windows 10 settings app and then upgrade to Windows 11 Beta to give the OS a try. Since the OS is in development, currently I will not recommend this to be done on your primary work PC. For instructions on how to enable TPM feature in your PC's motherboard or laptop search in my blog (address in the references section).

A few weeks ago, I gave Windows 11 a spin on my PC using Microsoft's virtualization Hyper-V platform. The insider preview was looking gorgeous.

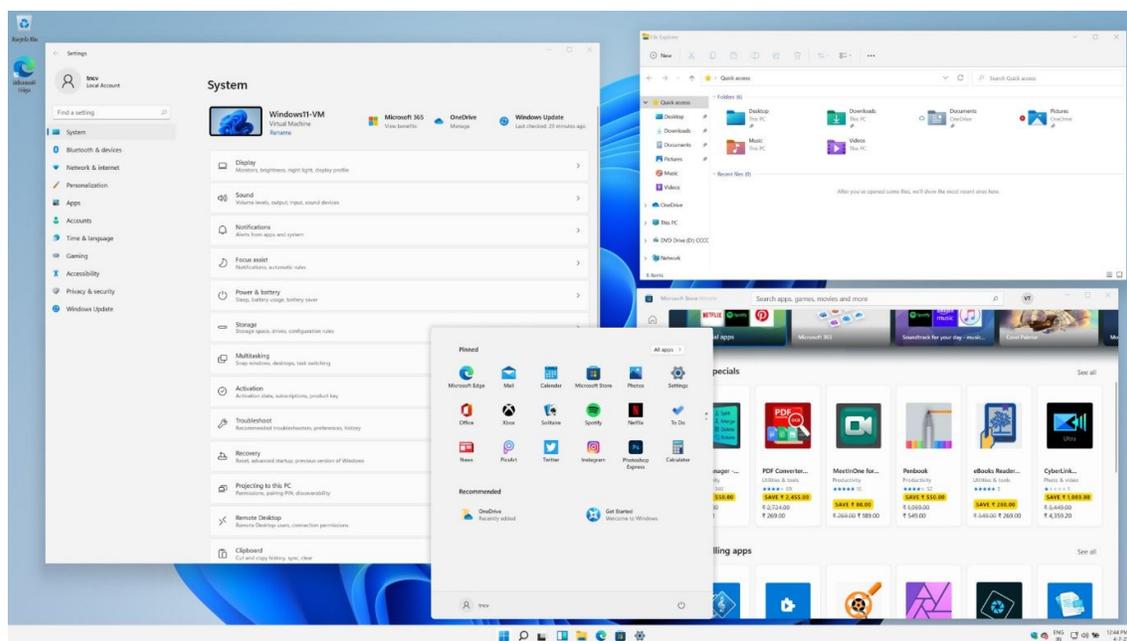


Figure 1: Windows 11-The all-new rounded-corners and fluent design, seen here are the Settings app, File Explorer, Dock, and the Microsoft Store.

I like the colour palette of the new File Explorer, the simplicity of the dock, the cleaner settings, a better Microsoft Store, and having as default Windows Terminal instead of the legacy Command Prompt & Winget as the app installer. In this early build the desktop, the dock (launcher) & the settings screen have been changed to the fluent UI with rounded corners.

Let us start with the improvements made to the most used app in Windows, the File Explorer. In the last twenty-five years from Windows 95, the File Explorer in Windows has got cluttered so much that when you right-click on a file, you see a screen-long list of items – I tried it now and got thirty-four options – there is no way a normal user will be able to find anything in this mess. While some of them are useful, most of the options, often don't make any sense.

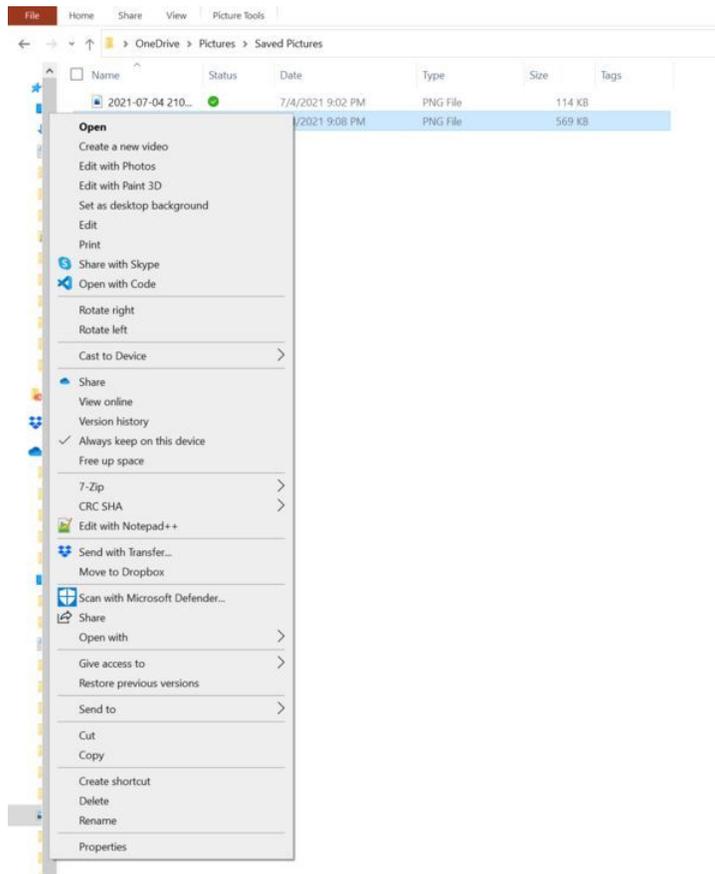


Figure 2: Windows 10 File Explorer, Right-Click options

Now, compare the above with the de-cluttered interface of the new File Explorer in Windows 11, it is remarkably clean. I will go on a limb here and say this looks simpler than the options list in the Finder app in macOS.

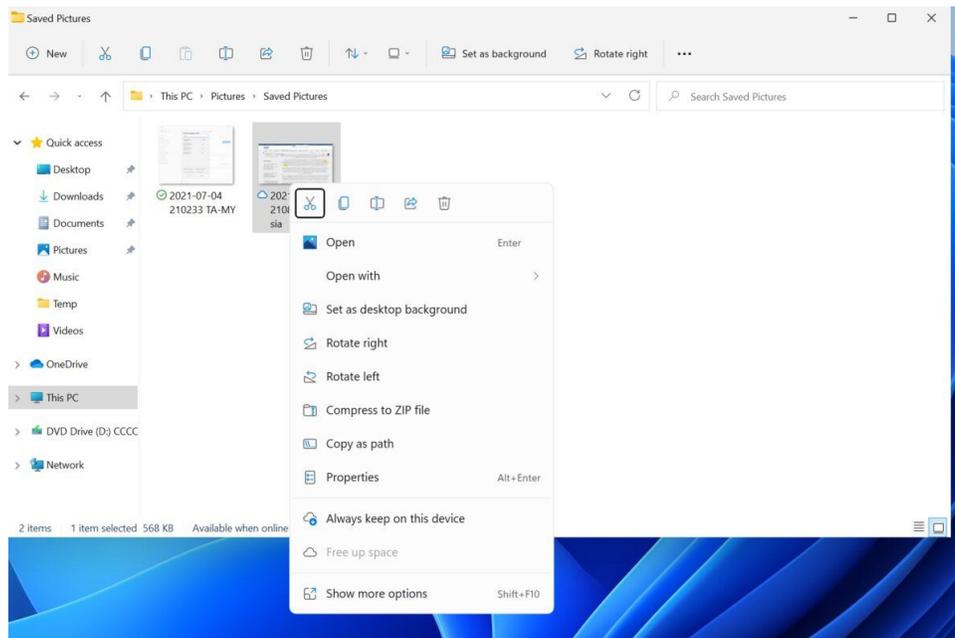


Figure 3: Cleaner looking File Explorer in Windows 11

Next to the File Explorer, the settings app has been streamlined. I was curious to check out whether any improvements have been made to the language support. I noticed the language and region settings have been cleaned and unified – it looks good. In my limited tests, third-party keyboard apps continue to work in Windows 11.

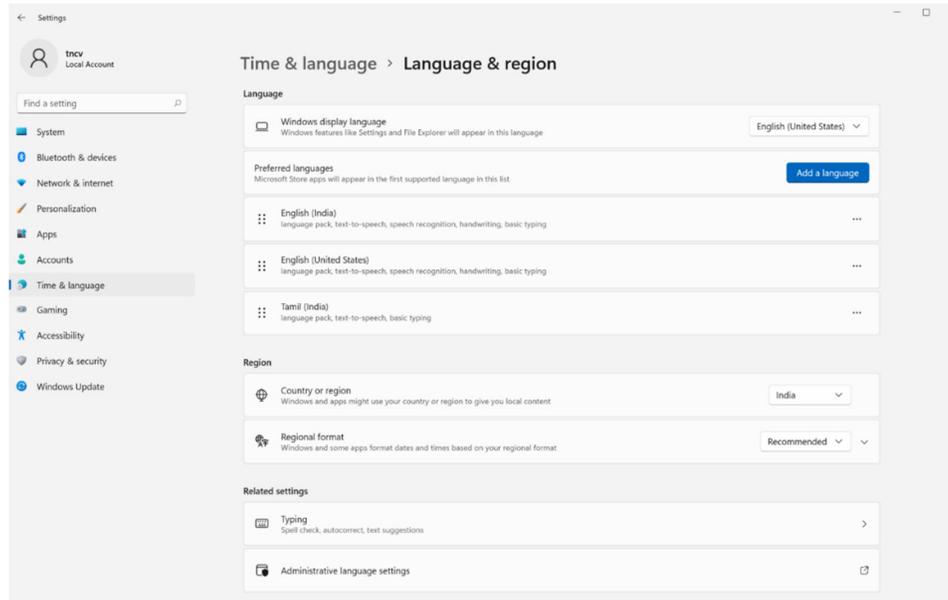


Figure 4: Windows 11 – Time & Language – Language & Region

One of the topics often discussed about Windows 11 was its requirement of a TPM 2.0 to run. Let us see what this is. Trusted Platform Module is a hardware module that has been shipping in most of the PCs sold in the recent years, but unfortunately most OEMs had it disabled in the BIOS, now Microsoft is requiring it is enabled before you can upgrade to Windows 11. The purpose of a TPM chip is to protect encryption keys, user credentials, and other personal data with the help of hardware, making it impossible to be altered unlike those stored in software. This provides a protective layer against malware and attackers from tampering with that data. Microsoft says that “Requiring the TPM 2.0 elevates the standard for hardware security by requiring that built-in root-of-trust.”

For a few years I have been using password-less login to my Windows 10 PC using Windows Hello face authentication (which works just like in the latest iPhones or Samsung Galaxy phones) and Bitlocker encryption in my laptops to secure them from bad actors even when they have physical access to the device. With TPM 2.0 enabled, Windows 11 takes it to the next level.

Microsoft is making changes to the out of the box apps that get shipped with Windows 11. The infamous Internet Explorer (IE) web browser and Paint 3D apps are not installed by default. The popular drawing app, Microsoft Paint is getting a fresh design with new toolbars. Productivity apps like the Mail, Calendar, People, Clock and Calculator are also seeing improvements made.

Today’s computer monitors and laptop displays are large, but most of the time we are having only a single window open on top, and not utilizing the real estate effectively. For most users multi-tasking with many apps open side-by-side has been difficult to discover and learn. Windows 11 hopes to solve it with the introduction of new features like Snap Layouts, Snap Groups and Virtual Desktops – these help you organize your app windows and improve your productivity significantly while keeping the visual layout clean.

The pandemic and the resulting lockdowns have shown us the importance of keeping in touch with friends, family, co-workers and partners through video calls. Windows 11 makes organizing a meeting or chatting super easy with the integration of Microsoft Teams, an app that has over 145 million daily active users.

Apart from the above, Windows 11 also comes with a redesigned and a new Microsoft store that makes discovering and installation of apps easy. Microsoft has also partnered with Amazon and Intel to make it possible for users to install and run Android apps in their PCs seamlessly – this opens a huge selection of millions of apps ranging from your favourite smartphone game to the secure banking app that you use. Developers and independent software vendors (ISVs) can now bring their apps regardless of whether they are Win32 apps or Progressive Web Apps (PWA) or Universal Windows App (UWP which was popularised with Windows 10) to Windows 11.

Windows 11 will be available through a free upgrade for eligible Windows 10 PCs and on new PCs beginning this year end.

## Windows 365

Early July 2021, Microsoft introduced Windows 365. What is it, how is it different from Windows 11?

Microsoft calls Windows 365 as the world's first cloud PC, no doubt this is a marketing claim, nevertheless this is a significant step for how businesses use Windows in the future. A cloud PC is your personalized desktop, apps, settings, and content streamed securely from the cloud to your devices. Simply put it is a copy of Windows 10 (later Windows 11) running securely in Microsoft's Azure cloud infrastructure exclusively for you. You can connect to it from a wide variety of endpoint devices including PC, Apple Mac, Smartphones, Tablets or even Chromebooks. What you need is a decent Internet connectivity and a web browser. All your files and data are preserved in the Windows instance running in the cloud.

"Just like applications were brought to the cloud with SaaS, we are now bringing the operating system to the cloud" says Microsoft's CEO Mr Satya Nadella while he introduced the offering to the public on 14<sup>th</sup> July 2021. Apart from the convenience of not needing to do any maintenance (which Microsoft takes care in the background), a Cloud PC facilitates you to upgrade or downgrade the resources available easily. For example, when you require more CPU cores or memory, you can get them with a click and on extra cost(!) without having to invest a huge sum upfront.

The ability to run Windows remotely was available through products like Microsoft's own Azure Virtual Desktop or Citrix and other vendors. They were difficult to procure and required an IT team to setup and maintain. Windows 365 aims to alleviate the complexities through predictable, flat pricing based on usage.

Windows 365 is available on two editions: 1) Windows 365 Business is for small & medium businesses who have less than 300 users, they require no other Microsoft licenses, and can get started with a credit card. 2) Windows 365 Enterprise is for large organizations of any size who want to deploy Cloud PCs and manage it with Microsoft Endpoint manager, this requires the organization to have existing licenses for Windows 10 Enterprise. The price for Windows 365 starts with INR 1,865 per user per month (plus GST) for a Single CPU core, 2 GB RAM, 64 GB storage cloud PC. It goes all the way to INR 12,605 (plus GST) for the top-end which comes with Eight CPU cores, 32 GB RAM and 512 GB storage.

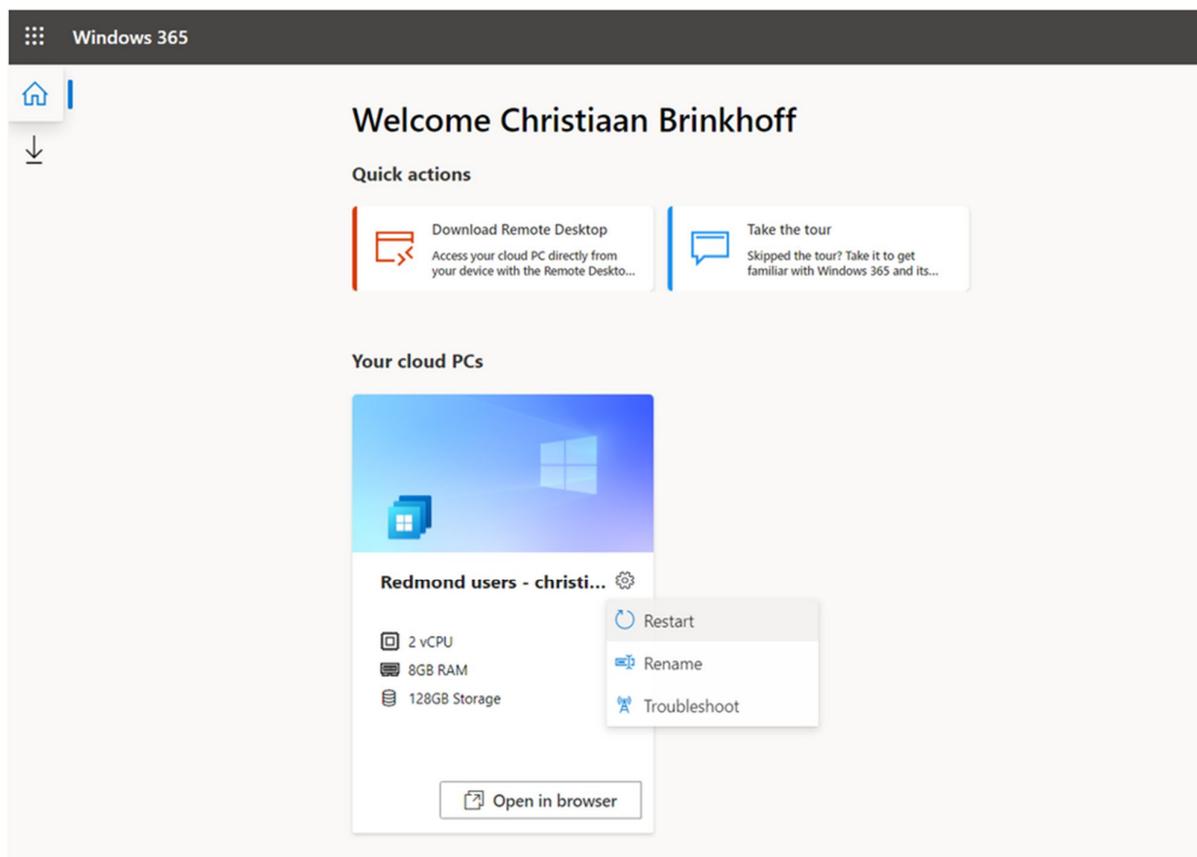


Figure 5: Windows365.com dashboard for self-service

Small businesses can benefit from the self-service features offered by Windows 365.

The three main benefits of Windows 365 over on-premises Windows are:

- **Powerful:** With instant-on boot to their personal Cloud PC, users can stream all their applications, tools, data and settings from the cloud across any device. Windows 365 provides the full PC experience in the cloud.
- **Simple:** With a Cloud PC, users can log in and pick back up where they left off across devices, providing a simple and familiar Windows experience delivered by the cloud.
- **Secure:** Windows 365 is secure by design, leveraging the power of the cloud and the principles of Zero Trust. Always up to date. Information is secured and stored in the cloud, not on the device.

The below table provides the differences between the Windows 365 editions and with Azure Virtual Desktop (which has been available for the last few years):

	Windows 365		Azure Virtual Desktop	
	Enterprise	Business	Personal	Pooled
<b>Management portal</b>	Microsoft Endpoint Manager	No admin portal	Azure Portal	
<b>Operating system</b>	Windows 10/11 Enterprise (single session)		Windows 10/11 Enterprise (Single session, multi-session), Windows Server	
<b>Desktop images management</b>	Custom and Microsoft-provided. No image based management due to persistent VMs.	Microsoft-provided only	Custom and Microsoft-provided. Image-based management possible with FSLogix.	Custom and Microsoft-provided. Image-based management.
<b>Applications and updates</b>	Delivered via MEM or manually installed	Manually installed only	Delivered via MEM, image updates or MSIX app attach	
<b>Backup and DR</b>	No hypervisor-level backups at this time		Full backup and DR flexibility of Azure	
<b>Monitoring</b>	Endpoint Analytics	Not available	Azure Monitor	
<b>User profiles</b>	Local profiles stored on C: drive		Native stored on C: drive or FSLogix stored on SMB file share	FSLogix stored on Azure Files, Azure NetApp Files or file server VM
<b>Networking</b>	Flexible, customer-managed	Not configurable, Microsoft-managed	Flexible, customer-managed	
<b>Auto-scaling</b>	Not applicable due to fixed monthly cost		Flexible and can save up to 75% of peak Azure costs	

Figure 6: Windows 365 Business & Enterprise compared with Azure Virtual Desktop

Future updates to Windows 365 will bring Windows 11 as a Cloud PC operating system and virtual graphics processing unit options that support advanced graphic workloads on Cloud PCs.

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**About the author**



Mr. T. N. C. Venkatarangan is a Geek, book worm, coach, professional speaker and a blogger. He is a software entrepreneur with 25 years’ experience of starting, growing and selling a company that operated in India, USA and UK. He holds the title of a Microsoft Regional Director (Honorary) from 1999 and is an IEEE Senior Member. Currently he is an advisor to the APJ Abdul Kalam International Foundation - House of Kalam in Rameswaram (India). He had predicted in 2003, that Mobile Phones will be the first and only computer for the developing world. By 2030, he foresees smartphones will cease to exist in the form we will identify, and he had created Simpligic – a U.S. patent pending (62/343,406) news app.