

- 1. 2. 4. Music, photos, movies, and games -

Not that long ago, your PC was the indispensable hub of digital media.

Music and movies were delivered on shiny discs, and you needed a desktop or laptop PC to rip CDs, watch a movie while traveling, transfer photos from your digital camera, and share your photos on social media.

Today, the explosion of mobile devices and cloud-based entertainment services means the PC is no longer a hub, and shiny discs are now an endangered species.

The PC is still uniquely qualified for tasks that involve editing and managing a media collection and syncing it with cloud services, but for playing those files you're more likely to use a smaller mobile device.

The three core media apps included with Microsoft Windows 10—Groove Music, Photos, and Movies & TV—are tightly connected to the cloud.

Like other apps built on the Universal Windows Platform, they're touch-friendly but also work well in a window on a conventional PC.

If you're worried that the digital media landscape in Windows 10 will be completely alien, we can reassure you that a few familiar touchstones remain: Windows Media Player is still available for playing music and movies on a desktop or portable PC.

Likewise, the venerable Windows Photo Viewer and, yes, Microsoft Paint are still around, virtually unchanged from their Windows 7 incarnations.

In the living room, it's still possible to connect a PC to a home entertainment system directly, although the experience is less enjoyable than it used to be now that Windows Media Center is no longer available with any edition of Windows 10.

In fact, Media Center is removed from your system when you upgrade from a prior edition.

More modern alternatives include streaming content from a Windows tablet or PC to a large display (like your big-screen TV) by using built-in support for the Miracast standard.

And if your living room or rec room includes an Xbox One game console, it's easy to connect to a Windows 10 PC.

Managing your digital media libraries

Regardless of whether they're stored on a local drive or in the cloud, digital media files are managed just like other files.

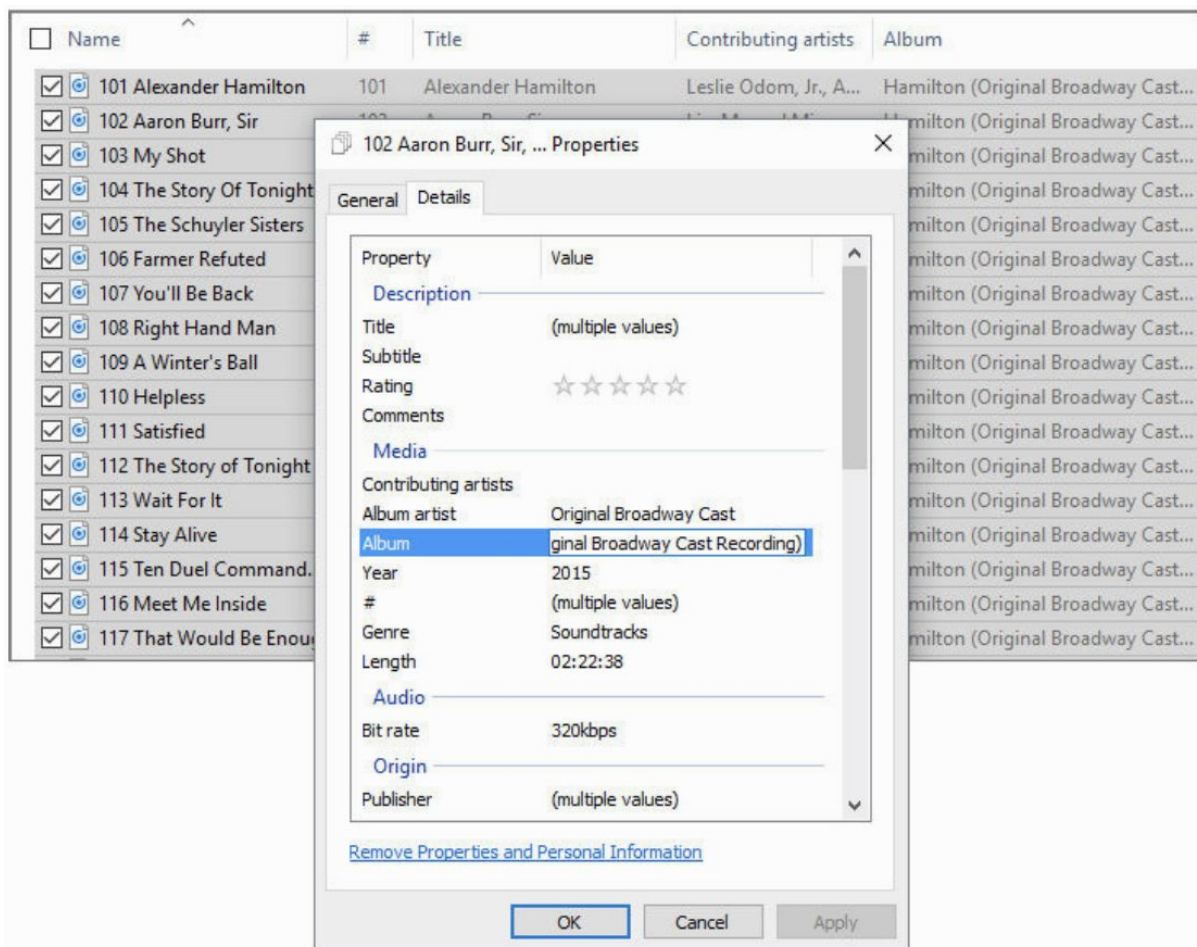
As with earlier versions, Windows 10 creates default libraries named Music, Pictures, and Videos, and it uses metadata in files stored within folders in those libraries to organize their contents.

In OneDrive, the contents of the Music, Photos, and Videos folders are available for use with the corresponding Windows 10 apps when you sign in to those apps using the same account.

When you open any of these locations using Details view in File Explorer, files are arranged in columns that reflect their content.

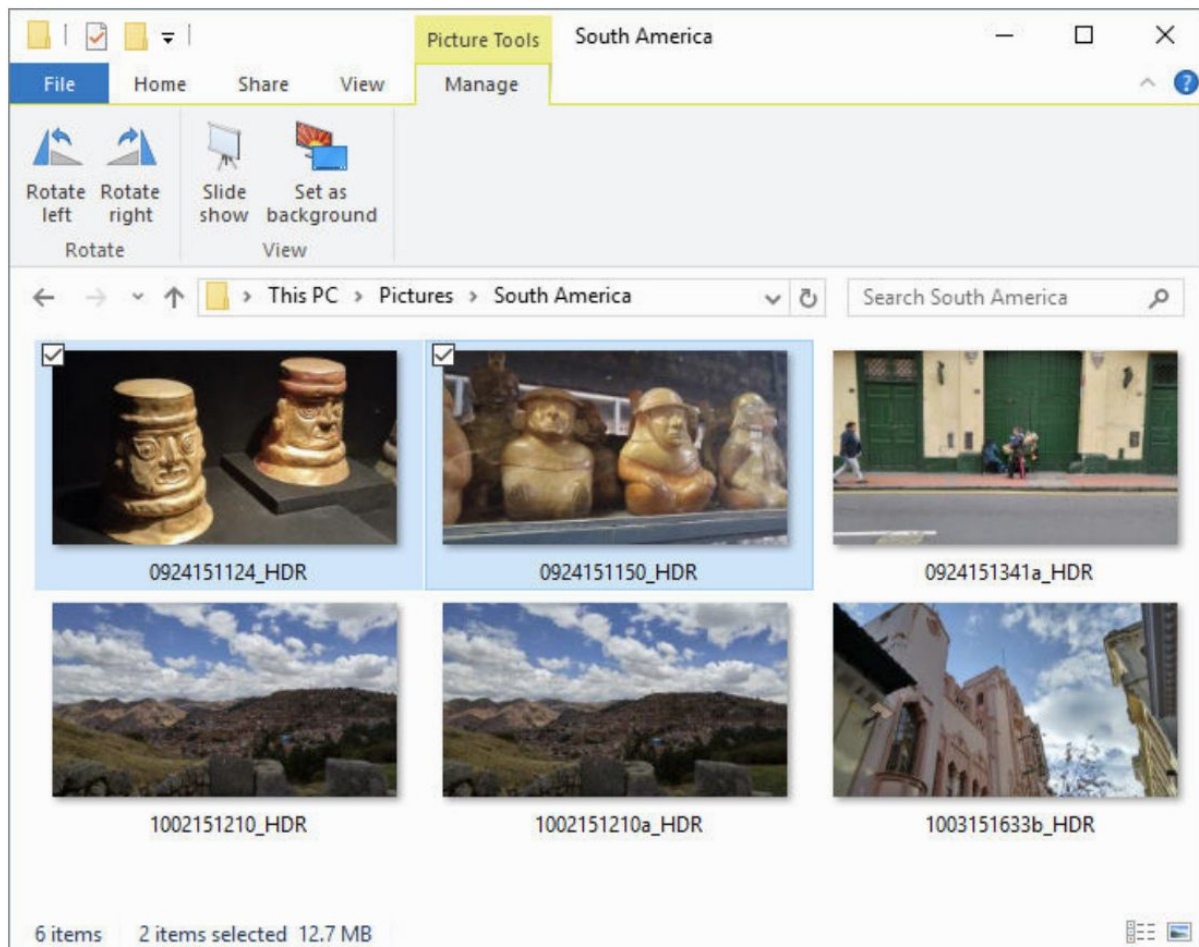
The default Music folder, for example, displays song titles, contributing artists, and the name of the album containing those songs.

After selecting multiple MP3 files, you can use the properties dialog box to change the album or artist title for the entire group, as shown in the next figure:



When you use File Explorer to open folders that contain music, pictures, or videos, Windows adds a custom tab to the ribbon, with tasks appropriate for that type of data.

The following figure, for example, shows the Picture Tools tab, with options to quickly rotate one or more pictures or display them as a slide show; if you have multiple pictures selected, the Set As Background option uses only the most recent selection:

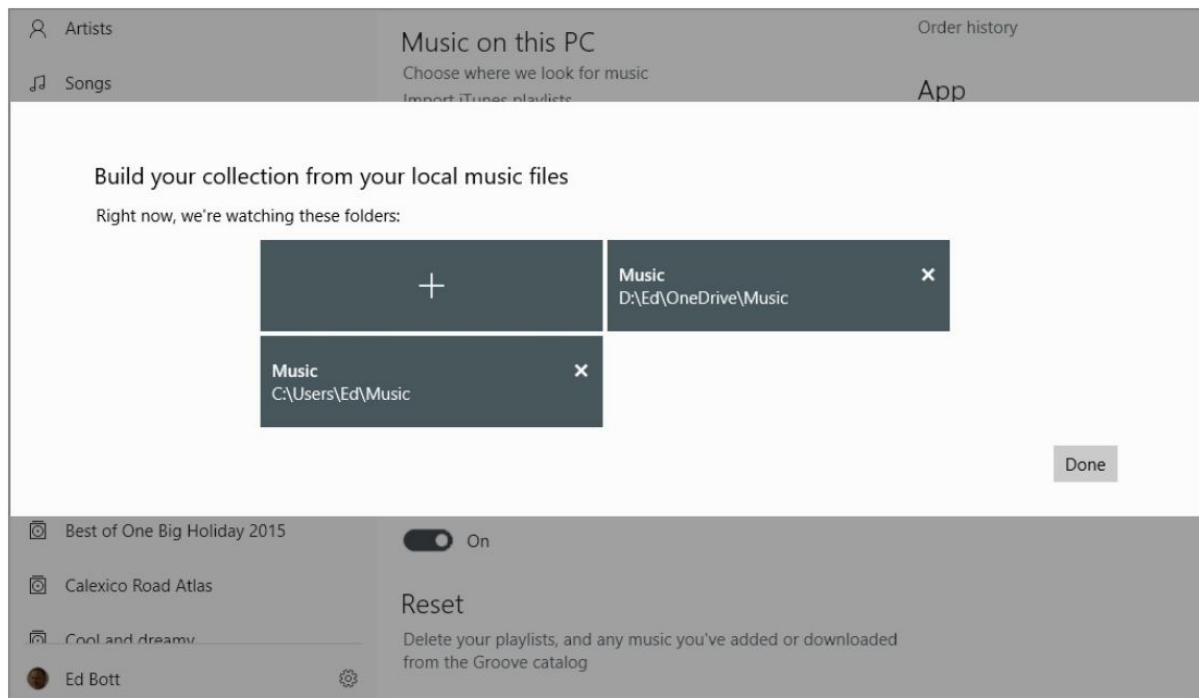


Likewise, folders containing digital music and video files contain a custom Music Tools or Video Tools tab, respectively, with an equally limited selection of playback options.

Despite the new look, all the new digital media apps use the tried-and-true library capabilities in Windows 10 to determine which files to display when you open the respective app.

You can customize the selection of folders included in each library by clicking the gear icon to open Settings in any of the three apps.

The next figure, for example, shows the dialog box that appears when you click or tap Choose Where We Look For Music in the Groove Music app:



Note that any changes you make to the selection of folders in any of the three core digital media apps are automatically reflected in the corresponding Windows 10 library and vice versa.

And, of course, as befits a cloud-centric operating system, all those apps are also integrated with Microsoft OneDrive.

The Photos app, for example, includes the contents of your OneDrive Camera Roll folder, which contains photos you upload from mobile devices.

iPhones and Android devices are supported, as are Windows phones.

You can upload pictures to OneDrive manually or configure your phone so that new photos are automatically uploaded to OneDrive for safekeeping and sharing.

Similarly, you can store your music collection in OneDrive and stream or download its contents to any Windows 10 device using the Groove Music app.

Music

No, you're not seeing double.

Windows 10 includes two programs whose primary purpose is to play digital music files:

- Groove Music is a Universal Windows app and the default app for playing music files in Windows 10. It's the direct successor to the Xbox Music app from Windows 8.1, and it traces its ancestry (at least indirectly) to the late, lamented Zune Music app. Using Groove Music, you can stream or download your music

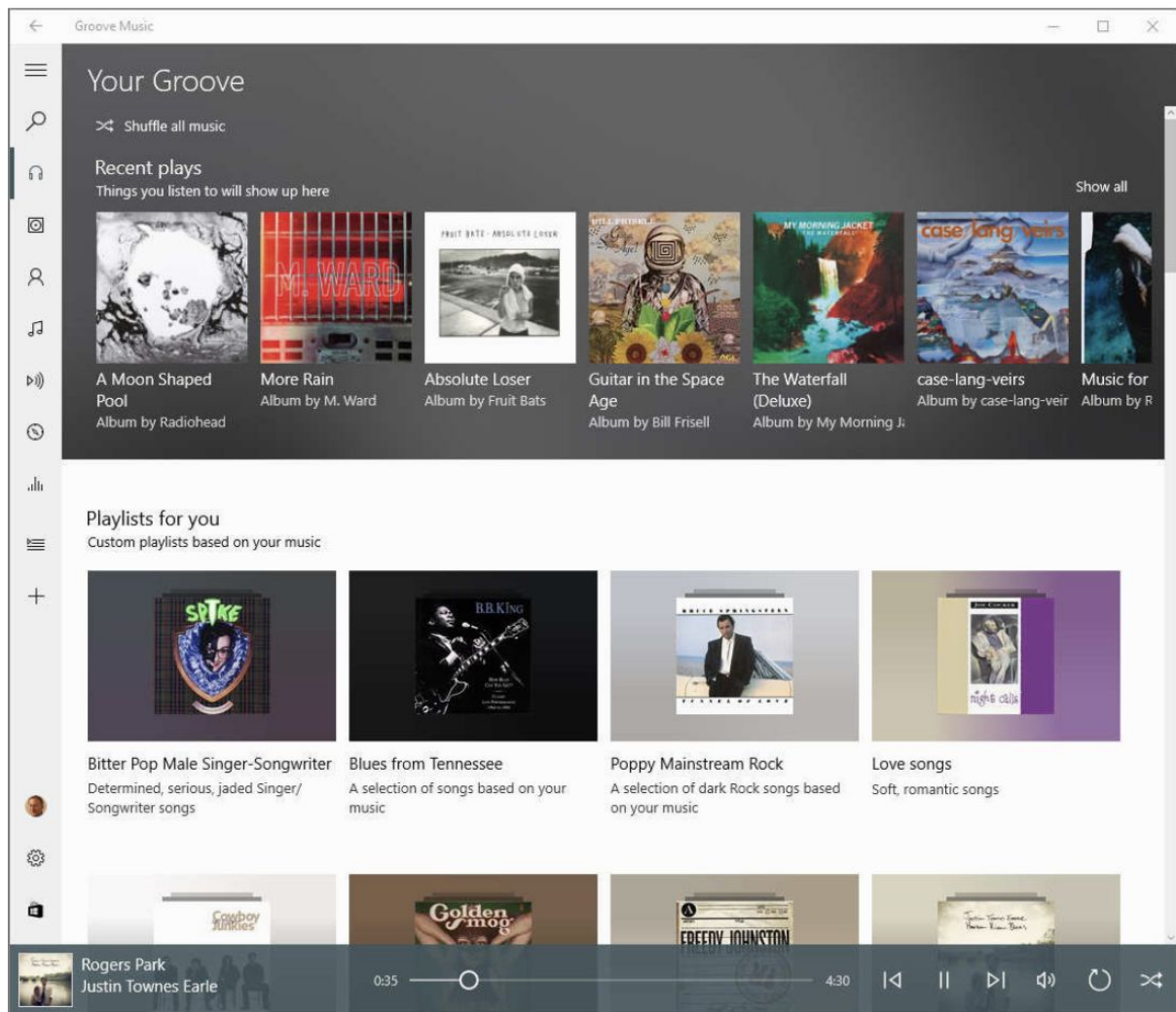
collection from OneDrive, play music files in various formats, and stream customized playlists from the Groove Music service based on a single track, an album, or an artist. With a Groove Music Pass, you can listen to any album in the service's vast collection and download those album tracks for offline listening on up to four devices.

- Windows Media Player in Windows 10 is virtually identical to the version shipped with Windows 7. The single, very large exception is support for files saved using formats based on lossless compression. The most distinctive feature of Windows Media Player compared with Groove Music is its ability to play CDs and rip their contents to digital formats. It can also sync content with some older models of portable music players.

Using Groove Music

Every installation of Windows 10 sets Groove Music as the default music player, unless you choose a different app when you first set up a user profile.

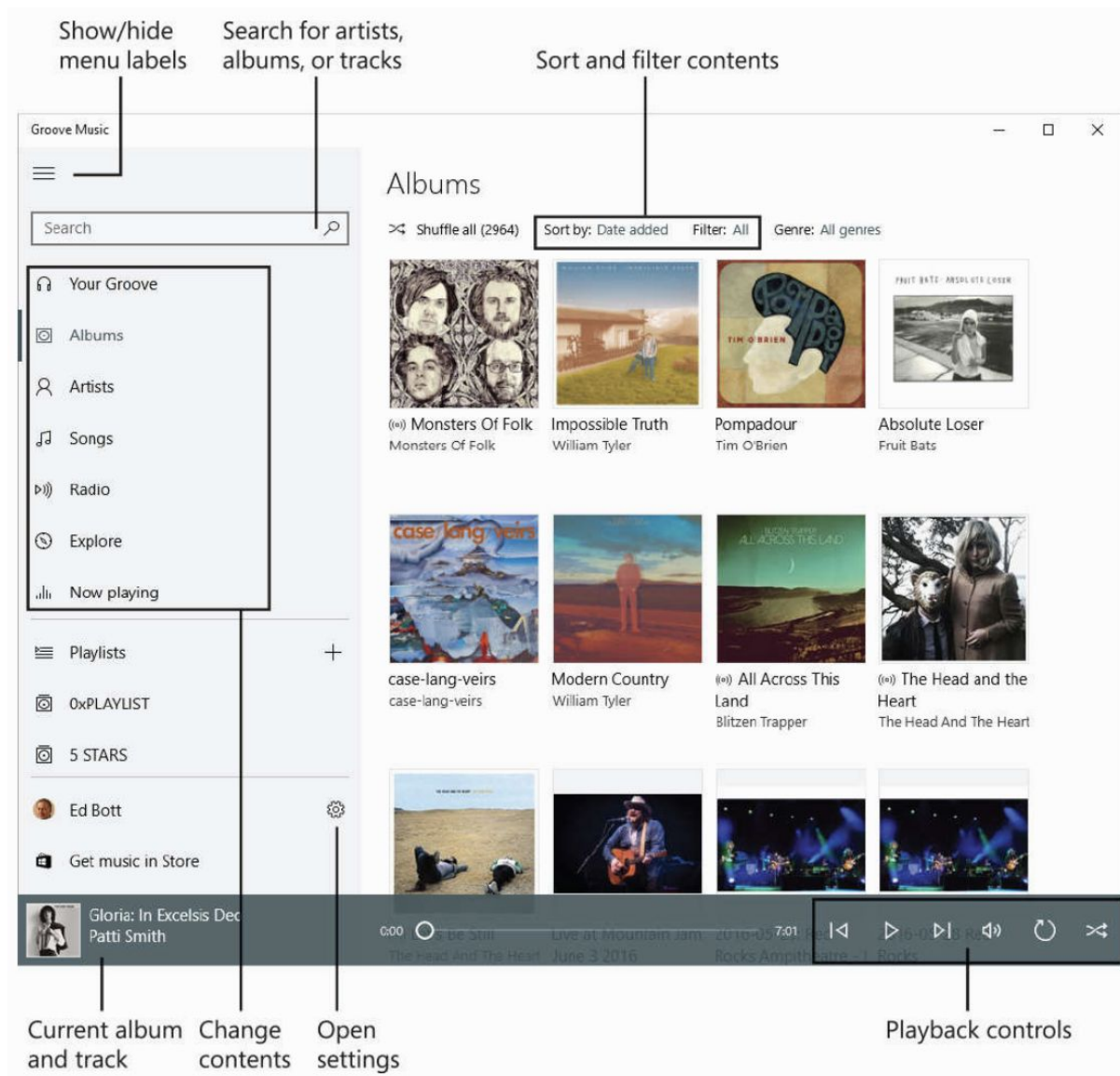
Your Groove page, which occupies the top slot in the navigation pane: this screen shows tracks you recently played, organized by album, and also recommends custom playlists based on your music collection.



The navigation pane—that thin column of icons on the left—follows the same interface conventions as other universal apps.

If the app's window is wide enough, the labels for the navigation pane appear automatically; to make those labels visible, or to hide them if you want more room for the current view, click the Maximize/Minimize Navigation (aka “hamburger”) button at the top of the pane.

The following figure offers an overview of the Groove interface with the navigation pane expanded to show all its labels:



As we noted earlier, Groove Music integrates neatly with OneDrive.

Any compatible files you save to the Music folder in OneDrive are available for playback when you sign in on any Windows 10 device.

The resulting collection can be displayed along with locally stored files or maintained separately.

Managing photos and digital images

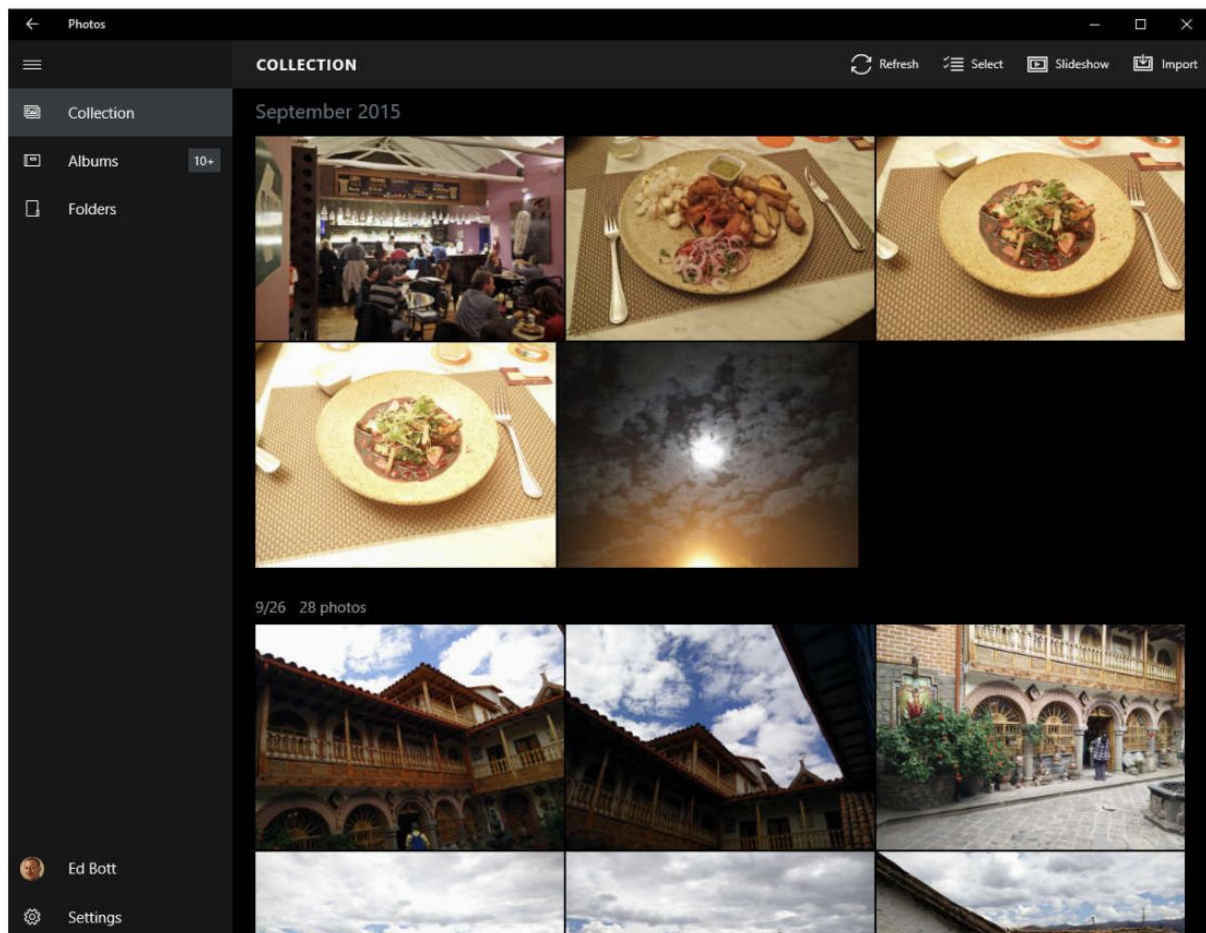
Windows 10 includes three built-in apps suitable for viewing, managing, and editing photos in digital image formats.

In this section, we concentrate on the Photos app, with a nod to two older desktop programs—Windows Photo Viewer and Paint—that exist primarily for compatibility's sake.

As with its music and movie counterparts, the Photos app displays the contents of all files it finds in your Pictures library.

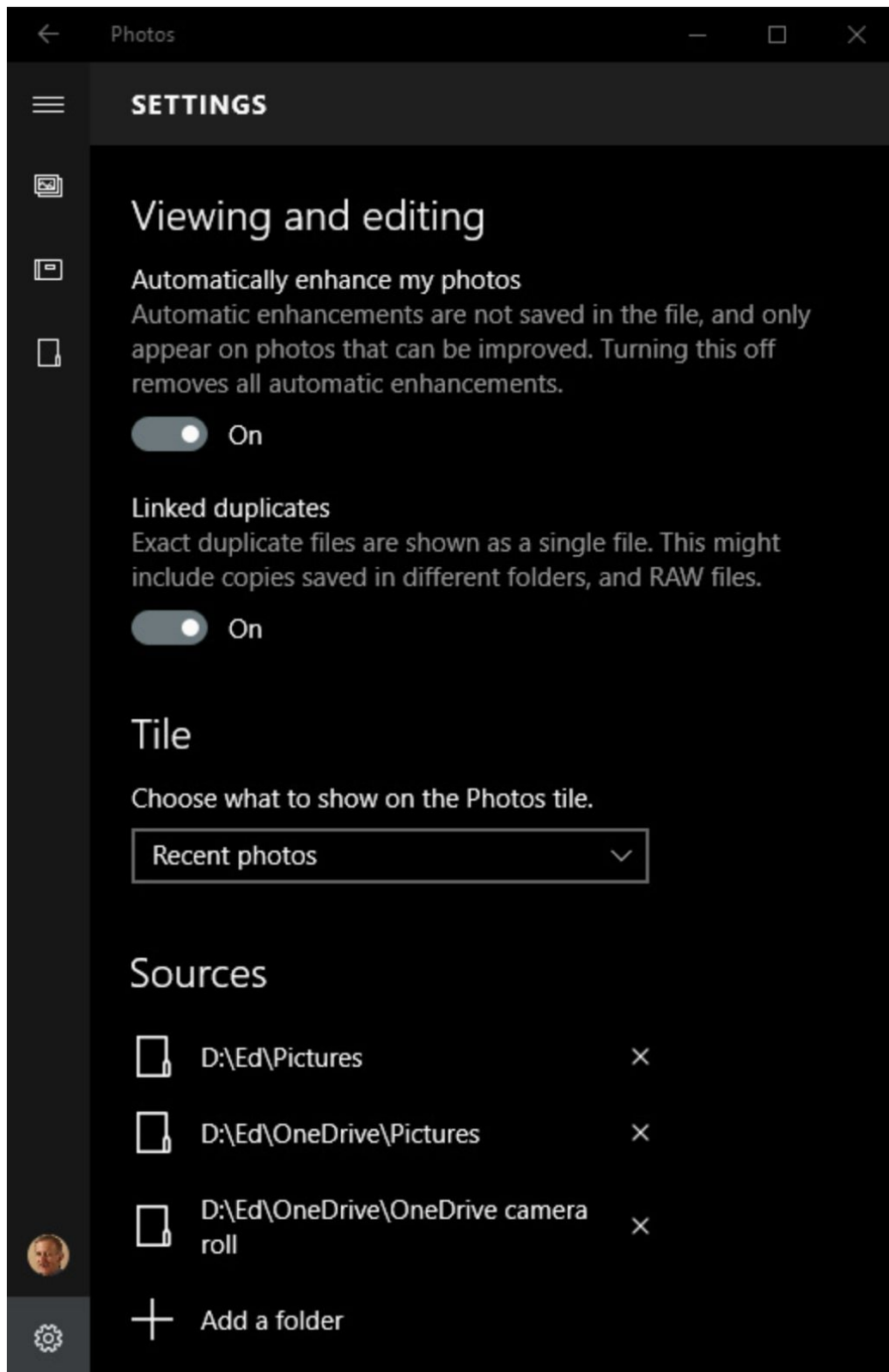
It also includes the option to show photos and videos from OneDrive, even if those files are not synchronized with your PC or tablet.

The next figure shows the relatively simple user interface of the Photos app, with the entire collection available for browsing and editing:



Several options in the Photos app's Settings page are worth checking before you invest a lot of time and energy learning its inner workings.

The next figure shows these options, with the two most important ones at the top of the list:



Digital photography purists will probably want to disable both of the options at the top of this list, or at least be aware that they're enabled.

The first option automatically “enhances” photos as they’re displayed.

The underlying file isn't altered, but the image you (and your audience) see in the app might be changed to make it look better—at least in the eyes of the Photos app's algorithms.

The Linked Duplicates setting is intended to eliminate the frustration of seeing multiple copies of the same image.

This can occur if your camera captures images in RAW format but also saves a lower-resolution copy for easier downloading on space-sensitive mobile devices.

You can see the full selection of image files by using File Explorer.

Finally, at the bottom of the list is a switch you can use to include photos and videos from OneDrive.

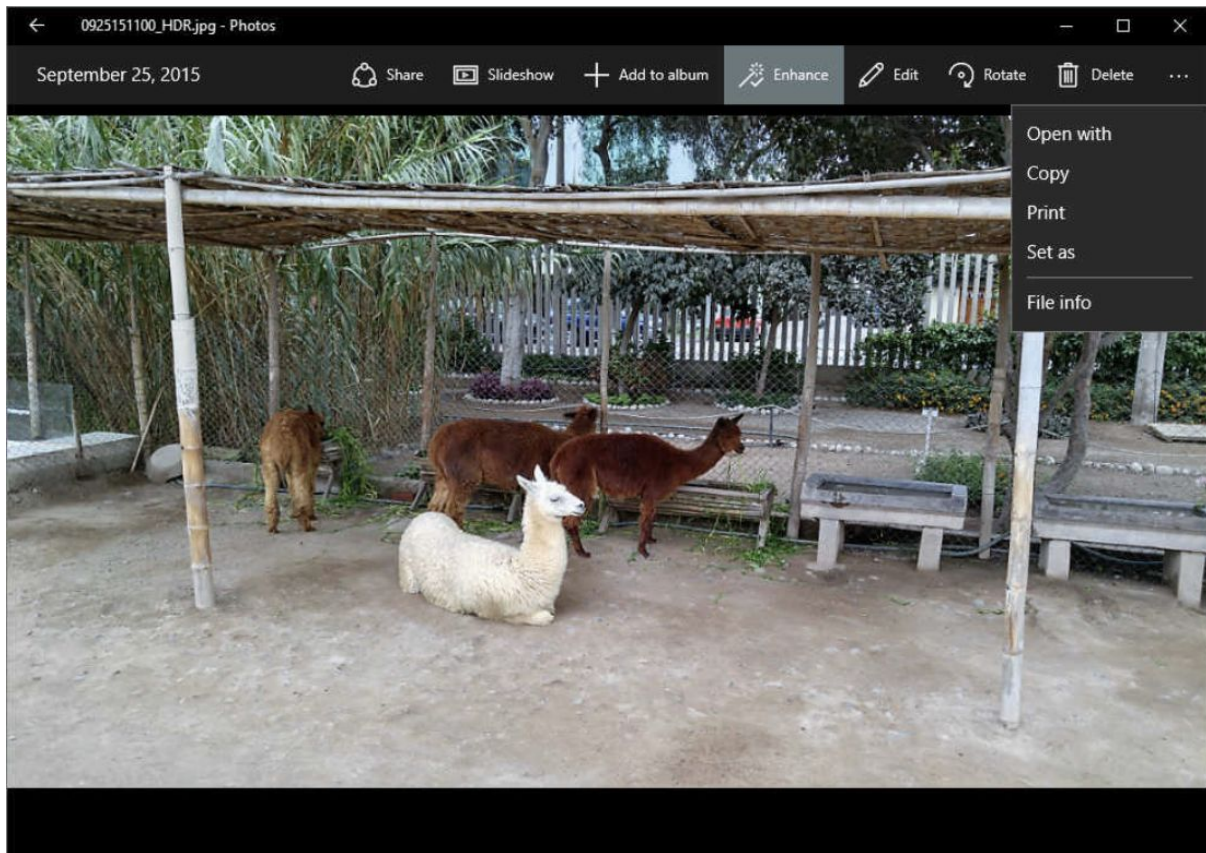
Beneath that switch is an option to select which photos and videos are included.

If you don't want album art from the Music folder and random images from your Documents folder in the Photos app, select Pictures Folder Only.

If you prefer to see only files in selected folders that are synced to your local PC or device, turn this option off and add the local synced OneDrive folders to your Pictures library.



“Clicking an individual photo from your collection or from an album opens it for viewing, sharing, and editing, with an array of tools appearing in a bar above the image, as shown in the following figure:



Note that we clicked the ellipsis at the end of the menu bar to show a drop-down menu of additional options.

You can modify your photos: enhance, rotate, crop, filters, light...

Organizing photos into albums

Previously, we discussed tools for managing an entire collection, which can be organized by date or by folder.

Using the second option in the Photos app navigation bar, you can create albums made up of photos and videos you select, which in turn can be uploaded to the cloud for sharing.

The albums feature represents one of the biggest areas of improvement for the Photos app over the past year, specifically the integration between albums in OneDrive and the corresponding feature of the same name in this app.

In OneDrive, you create albums manually and can add photos from any folder.

The Photos app is capable of sharing those cloud-based albums as well as those stored locally.

The Photos app creates some albums automatically, based on dates and events.

You can then use those albums as is, customize them, or create new albums manually.

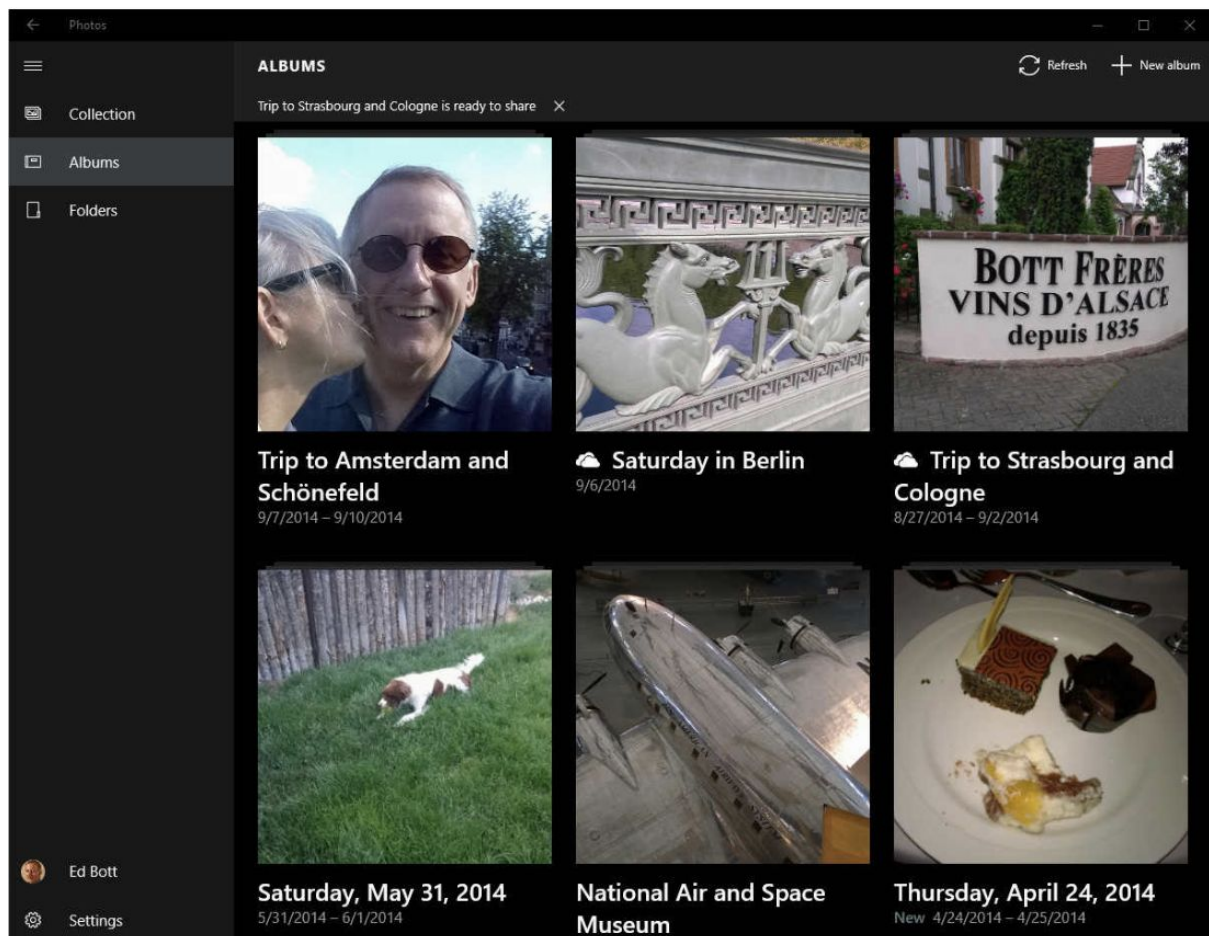
Every album has a cover photo, an album title, and a selection of pictures.

You can refine that selection at any time by adding and removing photos, and it's even possible to combine two albums into one.

Note that albums are made up of pointers to files only.

Removing an album doesn't remove the photos within it.

Switching to Albums view in the Photos app produces a scrolling list of all albums, regardless of how they were created, as shown in the next figure:



The algorithm that creates albums adds a label to each one, based on the date the photos were taken, and then picks a cover photo and a selection of photos to include in the album.

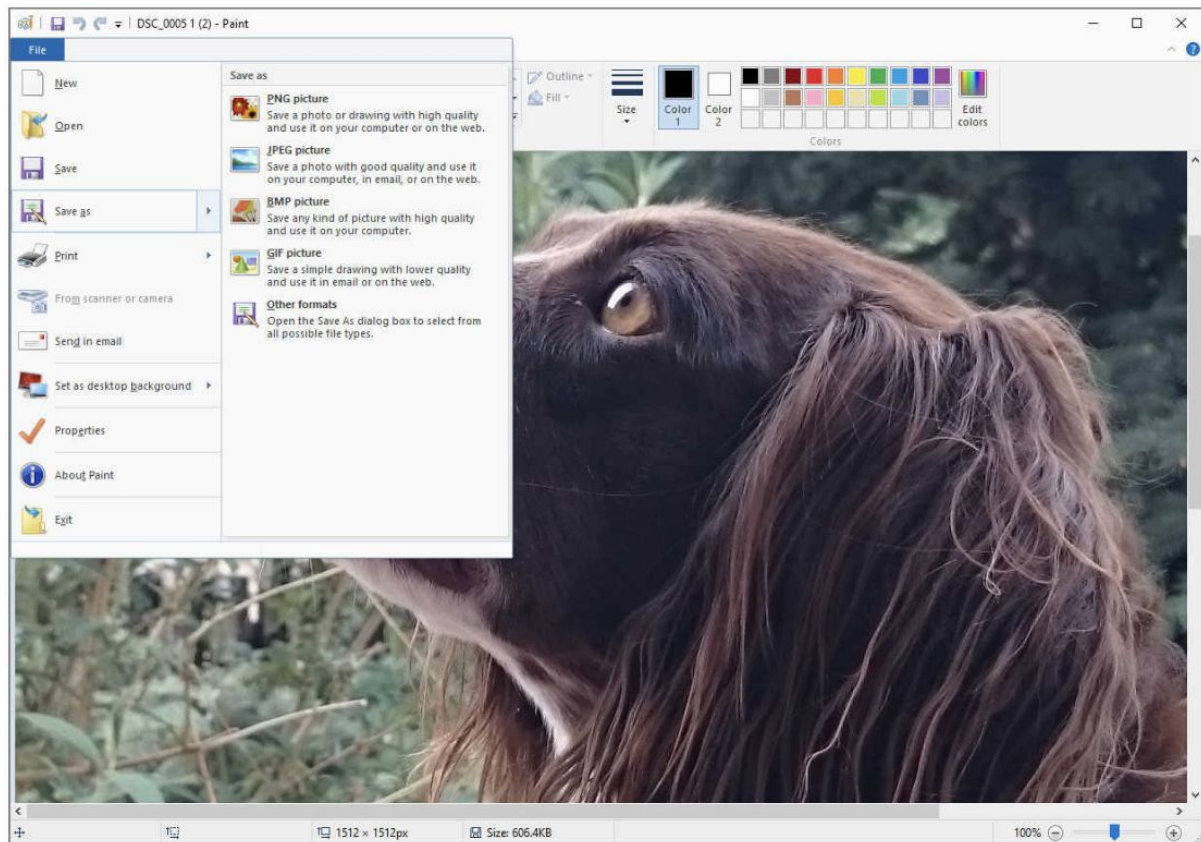
You can customize the name, change the cover photo, and select a different batch of photos.

Using Paint

Microsoft Paint (Mspaint.exe) has been a part of Windows since version 1.0.

Despite its age, Paint still has a few useful tricks up its sleeve.

Its most useful feature is the capability to save an image in an alternative format—if you saved an image in the space-hogging Windows Bitmap format, for example, you can quickly convert it to a much more efficient, compressed format, such as PNG or JPEG, by using the Save As option on the File menu, as shown in the next figure:

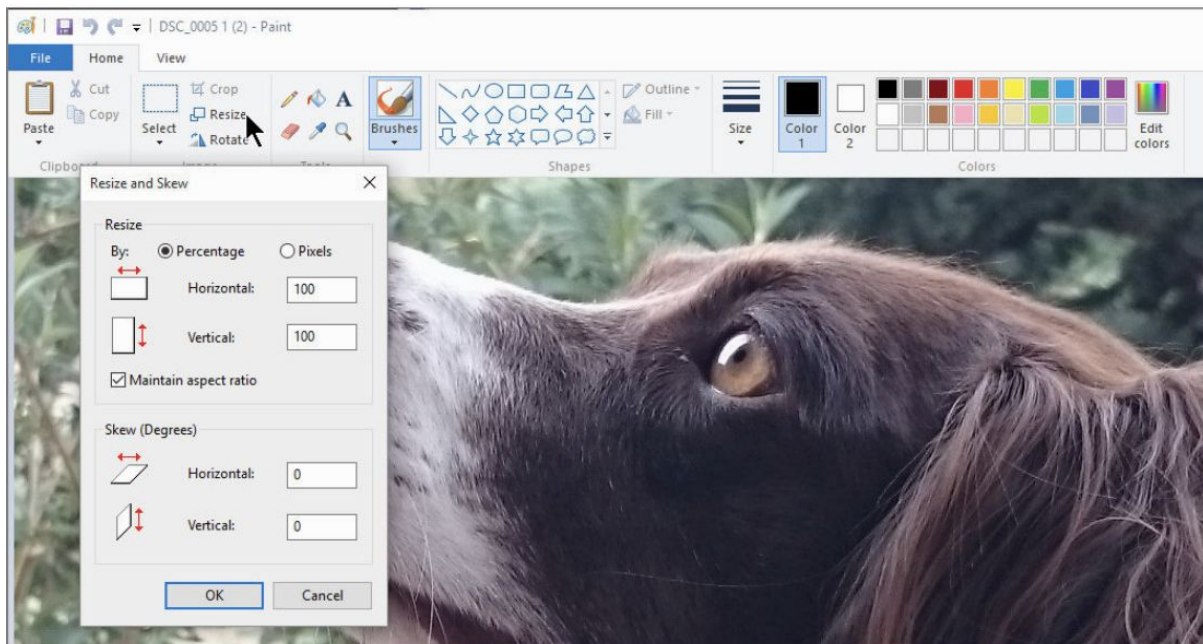


You also can use the Paint app to resize an image, a capability that's useful if your original image was captured at a high resolution (with a correspondingly large file size) and you plan to post it on a webpage or share it via email, where the large file size might be unwelcome.

To shrink an image using Paint, click Resize on the Home tab.

That opens the dialog box shown in the following figure, which you use to specify a percentage or an actual height or width, measured in pixels.

The decrease in file size can be substantial.



Watching movies, recorded TV shows, and video clips

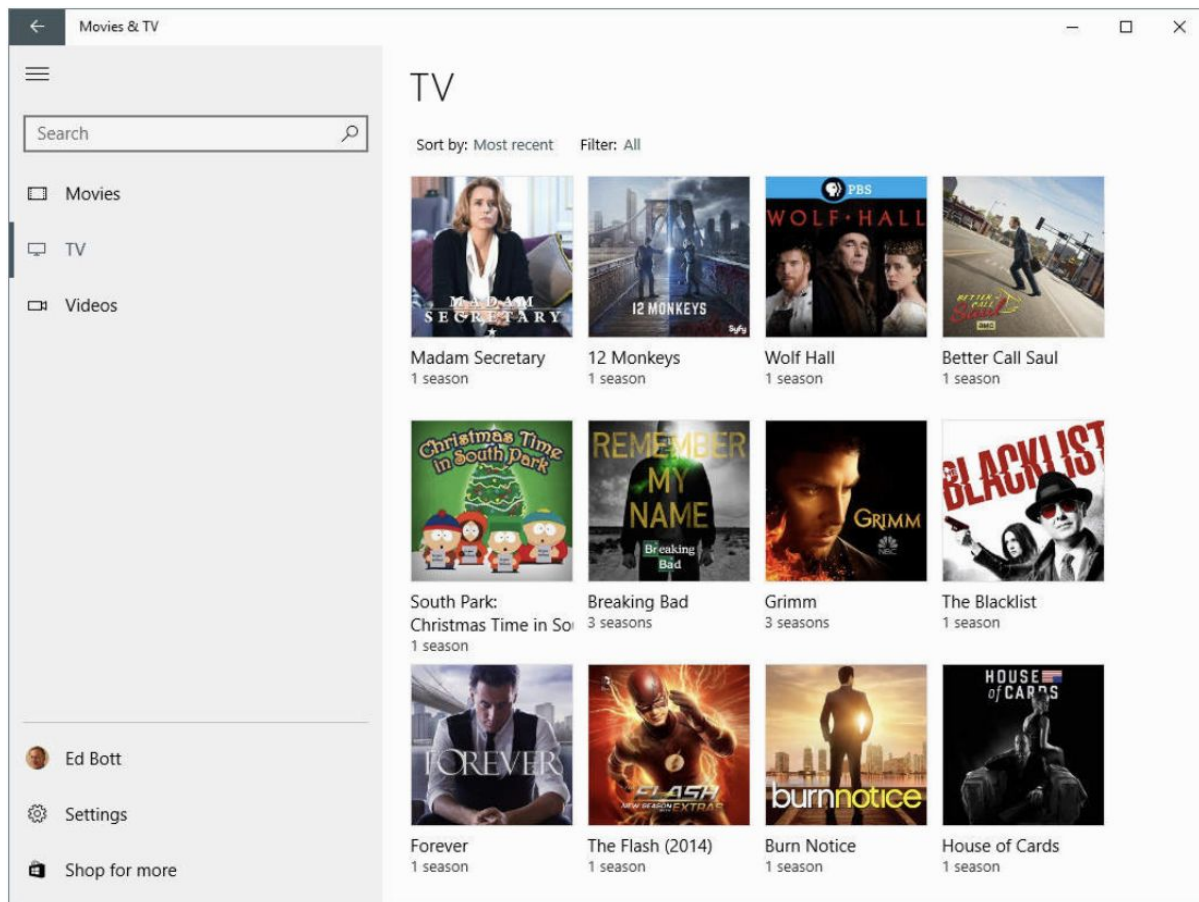
The Movies & TV app is similar in design to Groove Music and Photos.

Of the three, it's probably the simplest to use, doing its handful of required tasks very well.

The left-side menu bar in the Movies & TV app allows you to see content you purchased from the Windows Store.

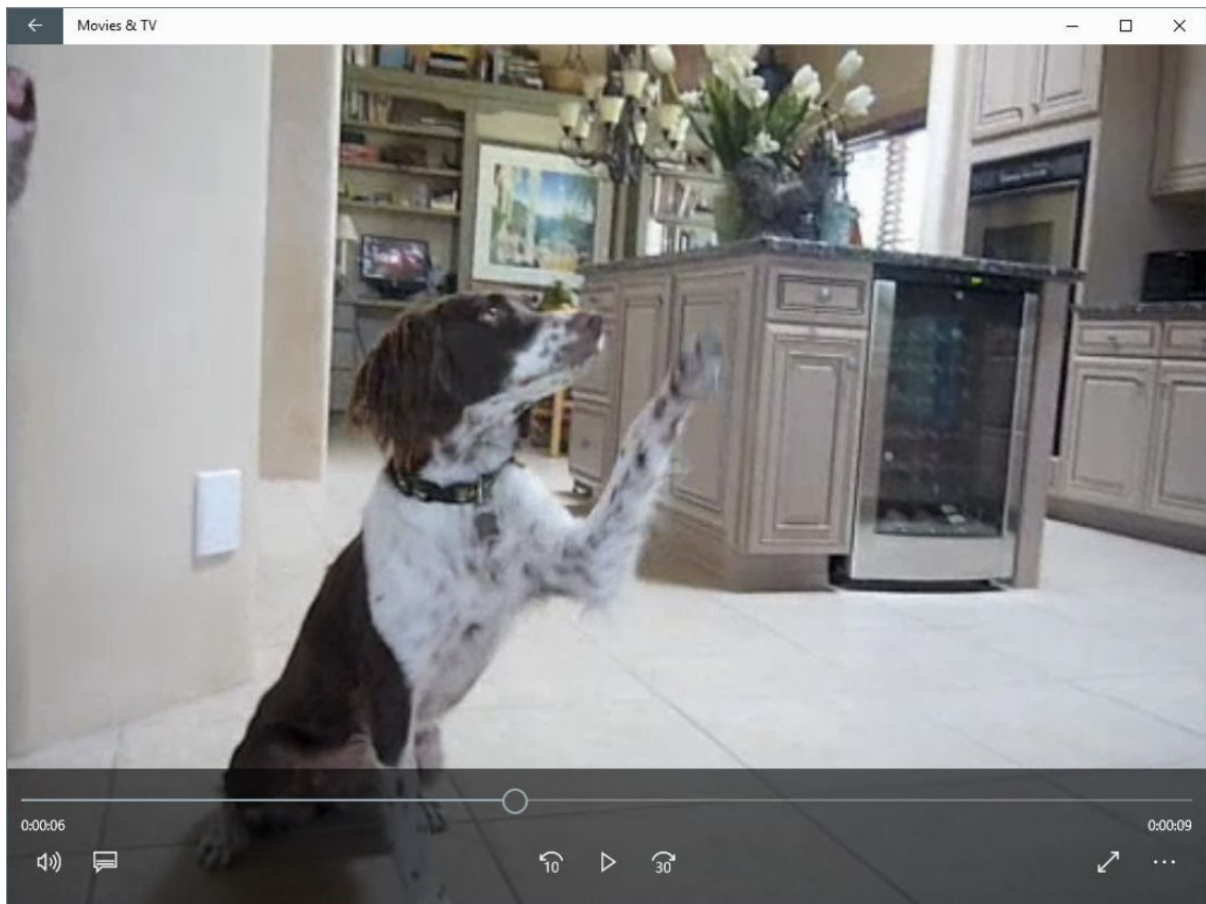
Previous purchases from the Xbox store are also included and can be played back.

The following figure shows a typical TV library:



You use the Videos page to see your collection of personal video files captured in compatible formats, such as those in MP4 formats recorded on a modern smartphone.

The player window, shown in the next figure, includes the typical controls for playback, with a slider bar you can use to move to a specific point in the file.



The More button (indicated by an ellipsis in the lower-right corner of the app) reveals menu options you can use to cast the video to a device such as a large-screen TV.

Projecting to another screen

You have a high-definition video on your Windows 10 laptop or tablet.

That's fine for watching a rented movie or TV show as you fly cross-country, but that laptop screen isn't big enough for the entire family to share.

For that, you need the large, high-definition TV connected to a surround-sound system in your living room.

If you have a long enough HDMI cable, you can connect your laptop's video output to a spare HDMI input on the big-screen TV.

That option works, but it's an awkward solution at best.

So how do you bring that video to the big screen without tripping over a 15-foot cord?

One answer, if you have the right hardware, is to stream your laptop display (with multichannel surround sound) to the larger, louder living-room system.

For this task, you can choose from a variety of wireless standards, each one backed by a large hardware or software company.

Windows 10 natively supports a standard called Miracast, which is designed for wirelessly mirroring a mobile display and streaming high-quality sound between mobile devices and large displays, with (in theory) perfect fidelity.

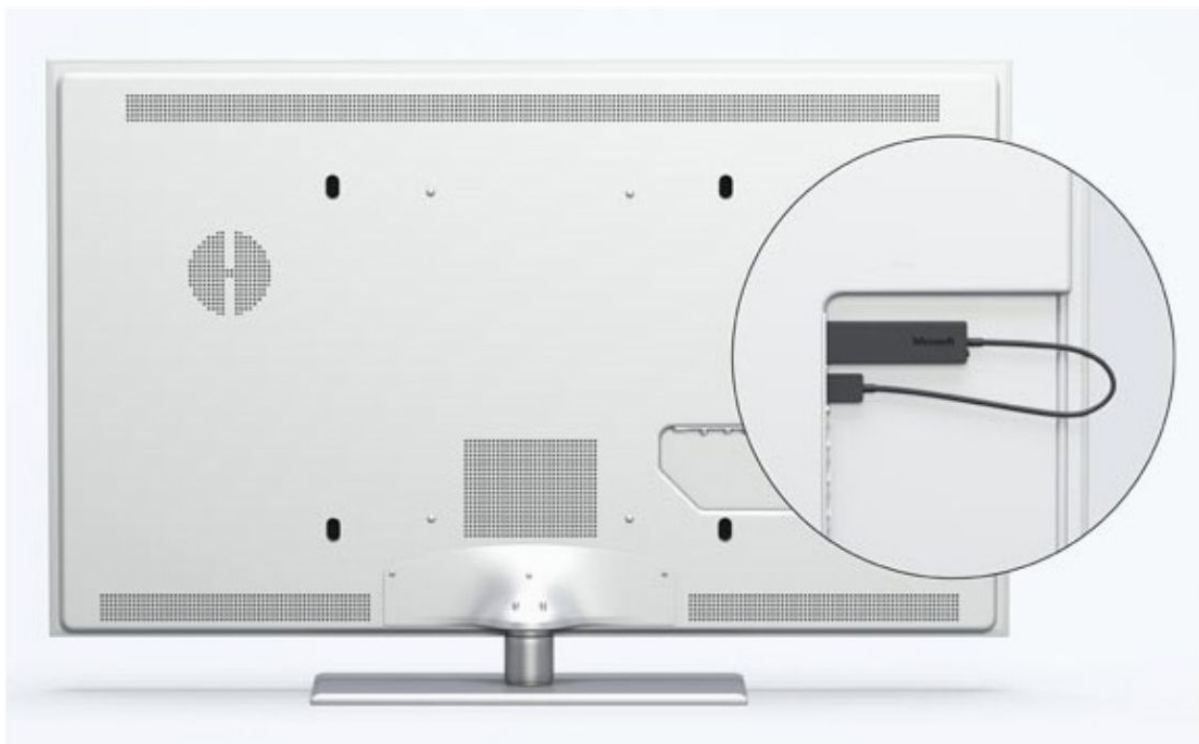
In homes, Miracast is mostly an entertainment option, good for projecting YouTube videos and the occasional webcast to a larger screen.

This setup is also effective for a conference room or a classroom, where the Miracast adapter can be permanently attached to a large-screen display and available for connection from any Windows 10 device.

The Anniversary Update adds the capability for any Windows 10 PC to become a Miracast receiver, allowing you to cast a video from a smaller screen to a larger one.

To project your laptop or tablet display to a TV using Miracast, you need a compatible receiver, such as a TV or Blu-ray player that also supports the standard, or an external adapter that connects to your TV's HDMI port.

The most versatile option is a thumb drive-sized adapter like the Microsoft Wireless Display adapter shown in the next figure, which plugs into an HDMI input on a TV or monitor and draws power from a USB port on the TV:

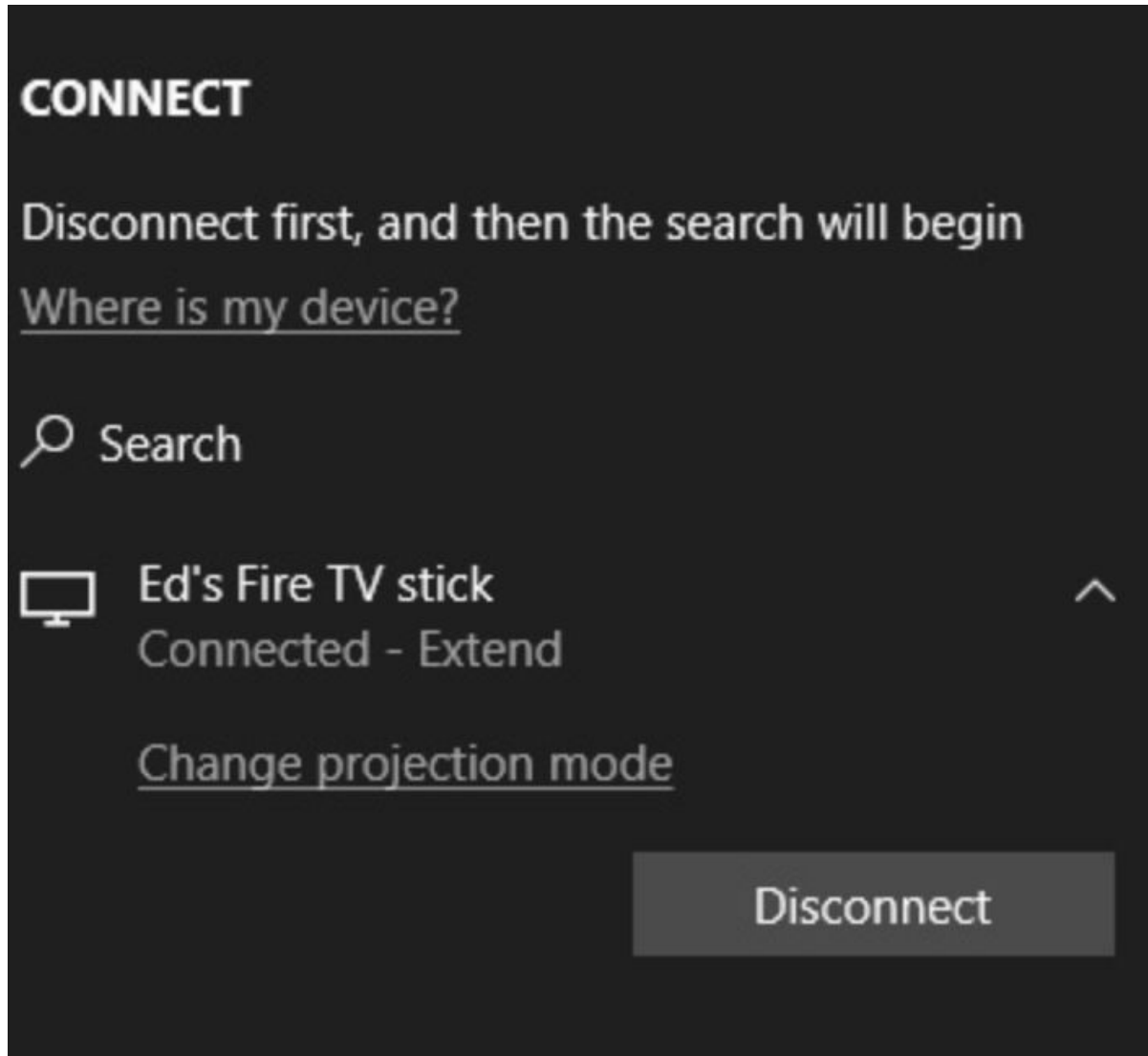


A Miracast receiver uses Wi-Fi Direct to turn itself into a special-purpose wireless hotspot.

Connecting a Miracast-compatible device to that invisible hotspot allows the device to mirror or extend its display to the larger screen.

After preparing the Miracast receiver to accept incoming connections (usually a simple matter of turning it on and selecting the matching input on the TV), open Windows 10's Action Center and click or tap the Connect button.

That opens up a panel that lists available devices, where you can click or tap the entry for your Miracast receiver, with the goal of making a connection like the one shown in the following figure:



The first time you encounter a Miracast adapter, you're prompted to add it, installing a device driver in the process.

You can see previously paired and available devices in the Connect pane.

On subsequent visits, that device should be available as a target you can tap or click in the Connect pane.

After successfully connecting to the Miracast receiver, you can duplicate the display on your laptop or tablet to the larger screen, allowing you to wirelessly project a Microsoft PowerPoint presentation to a conference room TV, watch a livestream in your living room, or cue up a music playlist for a party.

All three built-in Windows 10 media apps include a Cast option you can use to send the current video and audio output to a previously configured device.

After you make a Miracast connection, you can change the projection mode just as you would with a second display connected directly to your PC.

You use the options in the Connect pane to extend the display so that you can watch a webcast or a video conference call on the large screen while you work on your laptop; use the second screen only; or use the PC screen only, severing the Miracast connection.

Xbox and other forms of online entertainment

Microsoft's Xbox One game console doesn't just connect with Windows 10 devices.

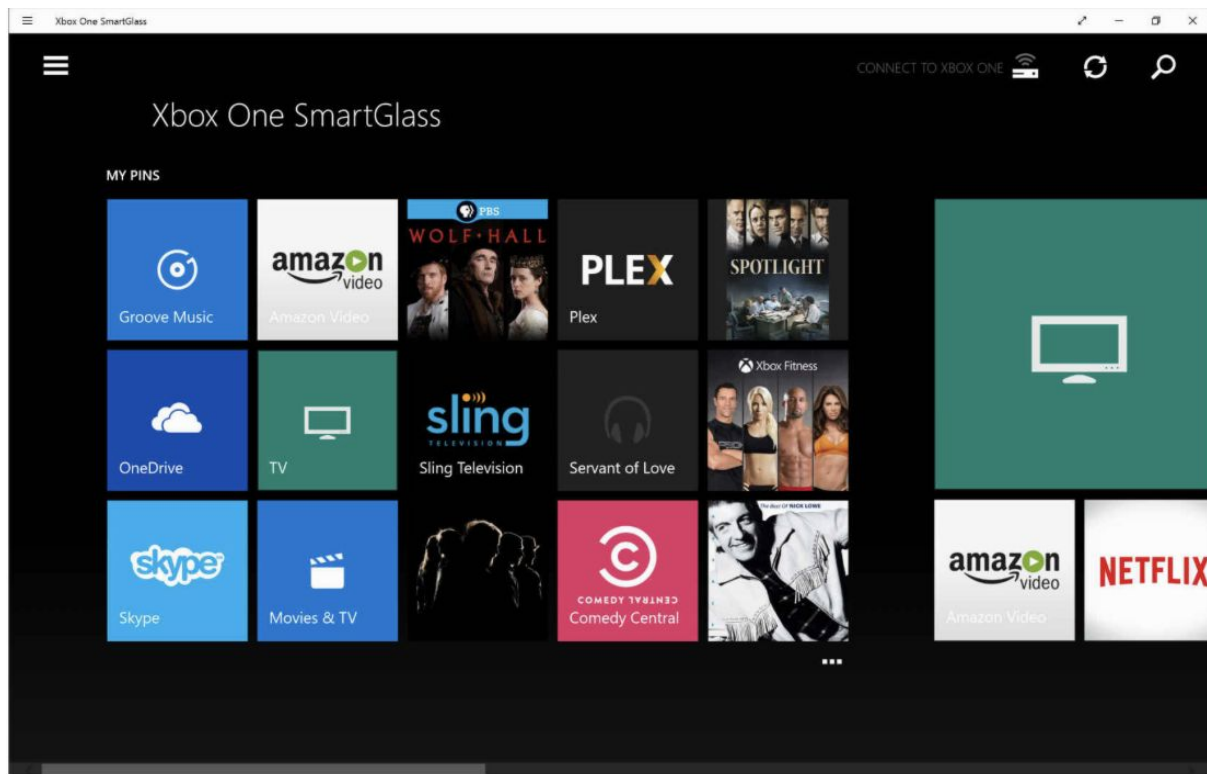
It actually is one.

The November 2015 update for the Xbox One is built on the Windows 10 foundation, and the Anniversary Update adds support for universal apps that target the console.

If you own an Xbox One console, we recommend you check out two apps available for your Windows 10 PC: Xbox One SmartGlass and Xbox app for Windows 10.

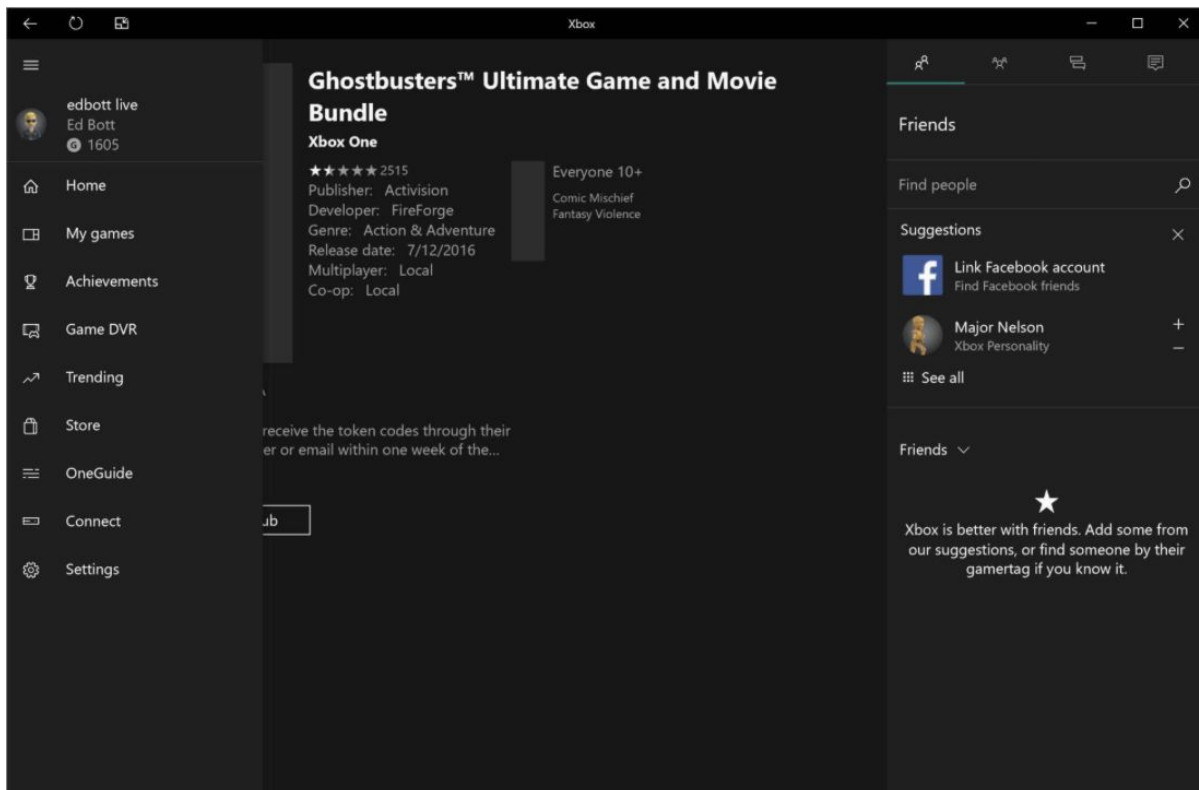
Xbox One SmartGlass, shown in the next figura, turns a Windows 10 touchscreen device into a capable remote control for your console.

You can tap, slide, and type to control games, navigate the Xbox home screen, and pause or play back media files.



The Xbox app for Windows 10 allows more direct connections to an Xbox One, including the capability to stream games directly from the console to a Windows 10 device for immediate play even if someone else is using the TV that the Xbox One is connected to.

As the following figure shows, you can see your entire activity feed, connect with friends, and record games by using this versatile app.



- Exercises - 1. 2. 4. Music, photos, movies, and games

-

Open the following Google Document that you have created in a previous sub-unit:

"1. 2. Working and playing with Windows 10 - Apellidos, Nombre"

being "Apellidos, Nombre" your Last Name and Name.

Inside this Google Document you are going to copy and answer all the "Exercises" of this sub-unit:

1. Open the Groove Music app and a new folder to your music sources.
2. Add a MP3 file to your music library and open it with the Groove Music app.
3. Open the Photos and a new folder to your photos sources.
4. Check that the Photos app is showing the pictures from your OneDrive account.
5. Open a picture with the Photos app and modify it, using the following features: Draw, Enhance, Select a filter, Adjust (Light, Colour, Warmth, Clarity, Vignette, ..), Crop, Rotate...
6. Open File Explorer and open your OneDrive folder: login into OneDrive in case you have not done it yet.
7. Create a new folder name "OneDrive Photos" inside your OneDrive and add some pictures to this folder.
8. Check that you can see this "OneDrive Photos" folder in your Photos app, and modify one of its pictures.
9. Check that your changes have been saved in that picture in the cloud.
10. In the Photos app, create a new Album ("Album 1"), add some pictures to it, and change the title and the cover photo of the Album.
11. Open a picture with the "Paint" program and resize it. Save it as a .PNG file.
12. Download a video, and open it with the "Movies & TV" app.