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Apps and Applications – Mobile and Desktop

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When we talk about computer software nowadays, we typically use the term Apps, referring to any software that is running on a computer, smartphone, or tablet. The term Applications was originally used for software other than the Operating System, but that seems to have changed over the last few years with the advent of Mobile devices - Smartphones and tablets. Also driving the change has been the migration towards the “Client – Server” architecture, where smaller Apps running in a client device (smartphone or tablet) can control a much more elaborate collection of Applications software running in a much larger server (in the cloud). Computing has been moving in this direction ever since the internet and the World Wide Web have become available to us. The term "App" has become very popular. In 2009, technology columnist David Pogue even proposed that the new mobile smartphones be nicknamed “App Phones”.

And in 2010 App was listed as the “Word of the Year” by the American dialect Society.

So, here are some definitions, at least for this discussion. A computer program is a generally structured collection of instruction sequences that perform a specific task when executed by a computer. (How’s that for a “Nerdy” definition?) Software is a general term and will refer to all types of computer programs for all types of computers. An Operating System is a collection of computer programs that manage computer hardware and software resources and provides common services for Application programs. An Application program is a computer program designed to perform a group of coordinated functions, tasks, or activities for the benefit of the user, for example, a Word Processor, a Spreadsheet, an Accounting program, a Web Browser, or even a computer game. These applications are designed to run on the computer hardware with the assistance of the Operating System (like Windows10, macOS, or Android), which is mainly involved with managing the computer hardware.

Before the Smartphone, circa 2007, we only had Desktop Applications, because we only had Desktop computers. Yes, I know laptops were available and they could be easily moved around, but basically, they were just portable desktop computers. So, Desktop Applications are software programs intended to be run on a desktop (or laptop) computer. Then came the Smartphone (and shortly later, circa 2010, the tablet), and these devices were very much different in that their screens were noticeably smaller and there was no mouse for selection/navigation, only a touch-sensitive screen. So, applications that could be used in this new smaller environment had to be created specifically to run on a small screen using your finger as a pointer/navigation device. These applications are software programs intended to be run on a mobile computer, a smartphone, or tablet, with limited input and output capabilities. So, a mobile app is a computer program designed to run on a mobile device, like a smartphone or tablet, with the assistance of the Mobile Operating System (like Android or iOS, or even Windows 10 for tablets).

Desktop applications are usually "fuller featured", whereas the Mobile app equivalent is usually smaller, “lesser featured”, simpler, and may or may not be easier to use. This should not be unexpected when you consider that most desktop Apps are built to be used with the more capable input and output devices, (a mouse, a keyboard, and a much larger display), whereas mobile Apps are intended to be used with only a finger and a much smaller screen.

With the arrival of mobile devices, many popular Desktop Applications were the basis for new mobile Apps for the new mobile devices. Many Google desktop applications have been recreated for mobile devices. Your Google email can be accessed from the desktop application or the mobile App. Both devices will provide the same information from the Google email server. But, as we have noted, Mobile Apps are different from Desktop Applications in that they have to run on a much smaller device with limited input and output capabilities. And not only is there a display size and input/output capability difference, but the mobile devices are different way down at the hardware level, the central processing units, most of which are slower than their desktop counterparts. So, many applications exist as both desktop and mobile versions. Microsoft Word is available in a desktop version, the one that most of us learned word processing on, and Microsoft has released a mobile version that is available for both Android and iOS devices. This also holds for Excel and PowerPoint. Adobe Photoshop image editor is a desktop application and Adobe Photoshop Sketch is a mobile app that lets you draw and paint on a mobile device but is a condensed version of Photoshop.

Besides the Apps that have migrated from the Desktop world, there are hundreds of thousands of Apps that have been developed for mobile devices that take advantage of the fact that these devices are mobile. These Apps use the power of the server to provide capabilities to the user that could never have been accomplished with only the processing power of the device itself. Maps and navigation immediately come to mind. The memory and the processing power required for these capabilities, at least with the current technology, would never fit into a device the size of a smartphone. And some Apps take advantage of the fact that they know your location; remember smartphones have GPS and other techniques for location determination. For example, Glympse lets you send your current location to another device, so the user of that device will know where you are (for as long as you choose to give him that information). There are even some Apps that use your location to notify you if one of your friends (or contacts) is nearby. The capabilities that can be developed for the mobile devices have only scratched the surface. It almost looks like the software applications development emphasis has moved from desktop Applications to mobile Apps.