**Raspberry Pi**

**What does it do?**

A Raspberry Pi is essentially a mini, affordable computer. It connects (optional) to a monitor/TV and functions as a regular computer. Unlike a regular PC, a Raspberry Pi can also be used for a multitude of purposes, including a robot controller, a stop motion or time lapse camera, a radio station, a web server, a security system and a home automation system. A Raspberry Pi as defined by its own website is “*a credit-card-sized computer that plugs into your TV and a keyboard. It is a capable little computer which can be used in electronics projects, and for many of the things that your desktop PC does, like spread sheets, word processing, browsing the internet, and playing games.*”[[1]](#footnote-0) Essentially, the Raspberry Pi is a more dynamic, affordable alternative to a specialised computer system.

The Raspberry Pi’s adaptability is demonstrated through its capability of running a variety of operating systems and software, and its physical capacity to harbour at least four USB ports, HDMI and Ethernet ports. It can also connect via Wi-Fi and Bluetooth. The physical model of the Raspberry Pi consists of a processor, a graphics chip, some RAM and the features previously mentioned. The model is around 8.5cm x 5.5cm and costs approximately $25 - $30, depending on the exact model. Upon purchase, the user has the option to purchase a variety of accessories, which include; a camera, an infrared camera, a specialised Raspberry Pi keyboard and a Gertboard, which is described as *“…a Raspberry Pi Foundation sanctioned device, designed for educational purposes, that expands the Raspberry Pi's GPIO pins to allow interface with and control of LEDs, switches, analogue signals, sensors and other devices.”*

The website ‘Gizmodo’ claims that “*Knowing what you can use the Pi for can help in understanding exactly what it is. This* [*motion-sensing security camera*](http://www.lifehacker.com.au/2016/04/build-a-motion-sensing-security-camera-with-a-raspberry-pi-and-windows-iot)*, this* [*Game Boy retro emulator*](http://www.gizmodo.com.au/2016/04/american-hero-hacks-game-boy-to-run-almost-any-retro-game)*, and this* [*music player*](http://www.lifehacker.com.au/2015/08/use-a-raspberry-pi-as-a-google-play-frontend) *all use a Raspberry Pi with some extra bits and pieces bolted on top. We've previously covered* [*a bunch of other Pi-inspired ideas*](http://www.gizmodo.com.au/2014/11/16-fun-projects-for-your-new-raspberry-pi) *on Field Guide which you can read up on,”* they continue to add that: *“As your technical prowess grows, the Pi is able to grow with you -- it can be used as the basis of projects that are more and more advanced if you want to get serious about your DIY computing. The GPIO (*[*General Purpose Input/Output*](https://en.wikipedia.org/wiki/General-purpose_input/output)*) pins on the board let you hook up LED lights, motors, sensors, buttons and a host of other electronics quite easily.”[[2]](#footnote-1)*

While the extent of the Pi’s adaptability isn’t strictly limitless, it is worth noting that the device is capable of a wide variety of functions. It has the potential to revolutionize the way society runs.

To summarise, the Raspberry Pi is capable of infinite functions. It can be described as revolutionary technology through its capacity to serve a multitude of purposes. The Raspberry Pi is a pioneer in terms of usability. No other single piece of technology has had a similar degree of usability.

**What is the likely impact?**

The current impact of the Raspberry Pi is already revolutionary. The Raspberry Pi Foundation sold their 10 millionth computer back in September 2016.[[3]](#footnote-2) The foundation itself has described the Raspberry Pi’s impact as altering how the younger generations view computers by “*filling the void that was left when computers became less like programmable machines and more like consumer products*.” They also go on to report that their product is “*used in classrooms, libraries, hackspaces, research laboratories, and within the industrial environment.”*

In terms of education, the Raspberry Pi has allowed for significant development, particularly in the area of programming. Many governments from around the world have expressed their interest in integrating the Raspberry Pi technology into their existing school systems. This has allowed for the efficient teaching of programming skills and techniques to children, through programs like Scratch.

The Raspberry Pi has also become popular for personal use. Its enhanced adaptability has made the Pi a game changer for home automation projects.

This impact could be significantly magnified if the minicomputer had an increase in popularity.

**How will this affect you?**

Owning a Raspberry Pi could potentially increase the efficiency of my everyday life. I could implement any model as a security system, earthquake detector, media player, general computer or any other home automation project. The Raspberry Pi is capable of a role in every application of home automation and, ideally, should be used as such. The Raspberry has the potential to revolutionize our lives in ways we wouldn’t think possible previously. The Raspberry Pi is perfect example of changing technology. “*The Pi can be used for other projects, too. Things like alarm clocks, media players and even a bot that tweets automatically can also be made. Also, its price of about $30 can make DIY projects a lot cheaper than buying pre-made retail products,”* [[4]](#footnote-3) reports the Burlington County Times, exemplifying its usefulness.

The Raspberry Pi is made for home automation projects. Its low cost, size, flexibility makes for an affordable, ideal alternative for DIY projects. In terms of accessibility, virtually anyone, regardless of wealth or IT knowledge, can work the Raspberry Pi into their personal home system in at least one instance.

1. Christian Cawley, (2018) https://www.makeuseof.com/tag/different-uses-raspberry-pi/ [↑](#footnote-ref-0)
2. David Nield,(2016) https://www.gizmodo.com.au/2016/07/the-beginners-guide-to-the-raspberry-pi/ [↑](#footnote-ref-1)
3. Matt Richardson, (2016) https://www.raspberrypi.org/blog/the-impact-of-ten-million/ [↑](#footnote-ref-2)
4. Eric Owens, (2016) http://www.burlingtoncountytimes.com/a8a4c982-803a-5b59-9400-3ce14e650f49.html [↑](#footnote-ref-3)