Arduino Vs. RasberryPi

Basis of differentiating	Arduino	RasberryPi
Definition	Arduino is a simple electronics prototyping tool with open-source hardware and software. Arduino is essentially a Microcontroller development board using which you can Blink LEDs, accept inputs from Buttons, read data from Sensors, control Motors and many other “Microcontroller” related tasks.	Raspberry Pi is a Microprocessor (usually an ARM Cortex A Series) based board that acts as a computer. You can connect several peripherals like a Monitor (through HDMI or AV Port), Mouse and Keyboard (through USB), connect to internet (through Ethernet or Wi-Fi), add a Camera (through the dedicated Camera Interface), just like we do to our desktop computer.
What are these?	An Arduino is a microcontroller that is similar to a simple computer. It is used to run one program at a time and it operates again and again. It is very easy to use.	A Raspberry Pi is a general-purpose computer that is used to run more than one program. It usually used with Linux operating system. It is more complex than Arduino.
Usage	For beginners, who is learning projects and for small and single application where one program installed and run it again and again for a specific task, then go for Arduino. Because it is easy to use, easy to program, easy to power, and chip compared to the Raspberry Pi.	But if you need a controller for multitasking applications like driving robot, streaming media, Arduino is not suitable. Hence go for the Raspberry Pi.
Connect to internet	Arduino needs extra hardware to connect with the internet and needs to program Arduino to interface with an external module.	There is an ethernet port available in some model of Raspberry Pi which can directly connect with the Internet.
Language	Generally, it uses Arduino and C/C++ languages.	Python is recommended programming language but C/C++, Python, and Ruby are pre-installed on a board.
Processor	It uses a processor of the ATmega family. The processor speed in Arduino ranges from 8MHz to 400MHz. The average speed of most of the types of Arduino is 16MHz.	It uses a processor of the ARM family. The processor speed in Raspberry Pi ranges from 700MHz to 1.5GHz.
RAM	Arduino has around 2kB SRAM.	Raspberry Pi has a RAM of 256 MB to 4 GB.
Design of Board	The design of the Arduino board consists of different controllers and microprocessors. Some board also includes USB (Universal Serial Bus), models, and serial communication interfaces.	The design of Raspberry Pi board consists of CPU (Central Processing Unit), GPU (Graphics Processing Unit), the graphics chip, RAM, Xbee port, Ethernet port, power source connector, UART (Universal Asynchronous Reciever/Transmitter), and GPIO (General-Purpose Input/Output) pins.
Pins	The Arduino UNO has 14 digital Input/Output pins, 6 analog pins, and power pins.	The Raspberry Pi3 has 40 Input/Output pins on board.
Cost	Arduino is much cheaper compared to Rasberry Pi	This is quite costly considering its complexity and wide range of applications

You want to create a nice robotics or electronics application and you wonder: when to use Arduino vs Raspberry Pi ? Could your application run with an Arduino board only, or a Raspberry Pi board only? Do you need both? In this post you will get some idea on when to use each board.

Arduino is an open-source hardware development board. It has a programmable circuit board and a software (IDE-Integrated Development Environment). Arduino was developed at the Ivrea Interaction Design Institute by Massimo Benzi in Italy. It was developed for fast prototyping, and aimed at people who do not have much knowledge of electronics and programming.

Raspberry Pi is founded and registered by an educational charity based in the UK. It was developed with an aim to educate people in various subjects on computer science. It has a 64-bit microcontroller that can run an operating system (Linux). The main supported operating system is Raspbian. It is a mini computer without a screen.