TECHNICAL PROPERTIES OF RASBERRY PI DEVICE AND ITS POSSIBILITIES

Qodirov Farrux Ergash o'g'li

Student of Master degree, e-mail: Farruxbek0209@mail.ru

Karshi branch of Tashkent University of Information Technologies named after Mohammed al-Khwarizmi

Zaripova Ziyoda Odiljon qizi

Shahrisabz city of Kashkadarya regionSchool 10 English teacher

Annotation: This article talks about the most common Raspberry Pi B +. The features and specifications of the Raspberry Pi are discussed.

Keywords: Arduino Uno, Raspberry Pi, B +, Linux, Debian, GNU / Linux, Fedora и Arch Linux ARM.

The Raspberry Pi is a very convenient single-board bank plastic card-sized computer with many great features, created by the Raspberry Pi Foundation. The creators of this computer device achieved greater results than they thought and quickly became popular in a very short time. The main reason for this is that it is very cheap and very simple to use. Based on a special Debian Linux operating system for this computer, a Raspbian operating system optimized specifically for ARMs has been created. It includes a Midori web browser, an Open Office office editor, and many other necessary applications. This operating system and all the programs it contains are open source, absolutely free, there is no need to pay for their use. The following is a list of computers in the Raspberry Pi family:

Version

Date

Processor

Frequency

Number of cores

Random access memory

GPIO

USB

Ethernet

WiFi

Bluetooth

Price

"A"

2013 february

ARM1176JZ-F

700MHz

256 MB

26 pin

1		port

No

20 $

"A+"

2014

no	vember

ARM1176JZ-F

700MHz

256 MB

40 pin

1 port

No

25$

"B"

2012 april

ARM1176JZ-F

700MHz

512 MB

26 pin

2		port

Yes

35$

"B+"

2014	June

ARM1	176JZ-F

700MH	z

512	MB

40	pin

4		port

Yes

30$

"2B"

2015 february

ARM Cortex-A7

900MHz

4

1 GB

40 pin

4

port

Yes

35$

"Zero"
2015
november
ARM1176JZ-F
1GHz
512 MB
40 pin
1 port miniUSB OTG
No
5$
"3"
2016 february

ARM Cortex-A53 x64
1,2GHz
4
1 GB
40 pin
4 port
Yes
802.11n
4.1
35$

Table 1. Raspberrey PI types and its technical characteristics.

The Raspberry Pi is 40 times faster than the Arduino in terms of clock speed. Another form of corruption for the Arduino is that the Pi has 128,000 times more RAM. The Raspberry Pi is a standalone computer that runs a real operating system on Linux. It can connect wirelessly to the Internet by supporting two USB ports. In short, it is capable of running as a personal computer (despite competing with a powerful Mac or PC).

This may be superior to an Arduino like the Raspberry Pi, but that's only when it comes to software applications. The simplicity of the Arduino gives a very good rating for these pure accessories.

The Arduino IDE makes Linux much easier to use. For example, if you want to write a program to turn off the LED with a Raspberry Pi, you need to install the operating system and some code libraries - and that's just the beginning. On the Arduino, you can get an LED that flashes in eight rows. Since the Arduino is not designed to run an OS or a lot of software, you can just plug it in and run it.

The Raspberry Pi can be connected to a computer monitor or a regular TV using HDMI. Or you can connect to it from the network. The putty (or kutty) program is the most convenient. Its most interesting and distinctive feature from other mini-computers is its GPIO (general purpose input / output) ports. With these ports, you can control various devices using software code using a Raspberry Pi. Depending on the type of Raspberry Pi, the number of pins in it will vary. You can see the number of pins in the table above.

The Raspberry Pi can perform many functions. It can run multiple apps in the background when activated. For example, there is the Raspberry Pi, which works as both a print server and a VPN server at the same time.

It has been used to create mainly home media servers, smart homes, hand-held tablets, various robots, 3D printers, clusters of “servers” and many other interesting devices. You can download the code and drawings of the project you like and create your own. The RASPBERRY PI has even increased memory capacity, the ability to connect additional external devices, and the speed of operation and the choice of software, so this device is now widely used and widely used in all aspects of life. The use of machinery in industry, medicine, and medicine is a clear example of this. The RASPBERRY PI is designed to be somewhat similar to the tires of the ARDUINO UNO, but the data exchange between the tires of the RASPBERRY PI is several times higher than that of the ARDUINO UNO. And again, these would mean that you have to spend for these processes.

REFERENCES:

1. F.E.Qodirov, R.O.Xoliqov/ Arduino Uno dasturidan foydalanish texnologiyasi / Respublika ilmiy amaliy anjumani Qarshi 2017.

2. Xoliqov R.OQodirov F.E / The use of hardware technology arduino uno / TATU Qarshi filiali 2017

3. https://www.texnoman.uz/post/raspberry-pi

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