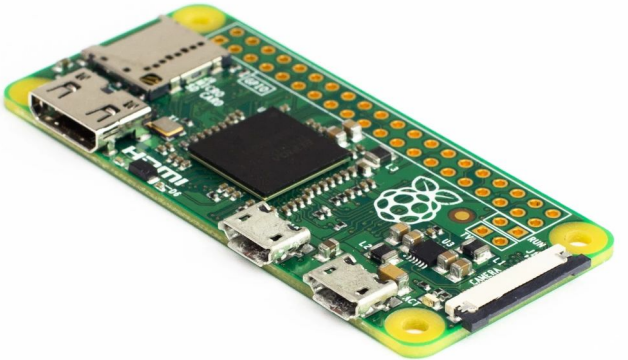
Raspberry Pi

Uvod

Sadržaj

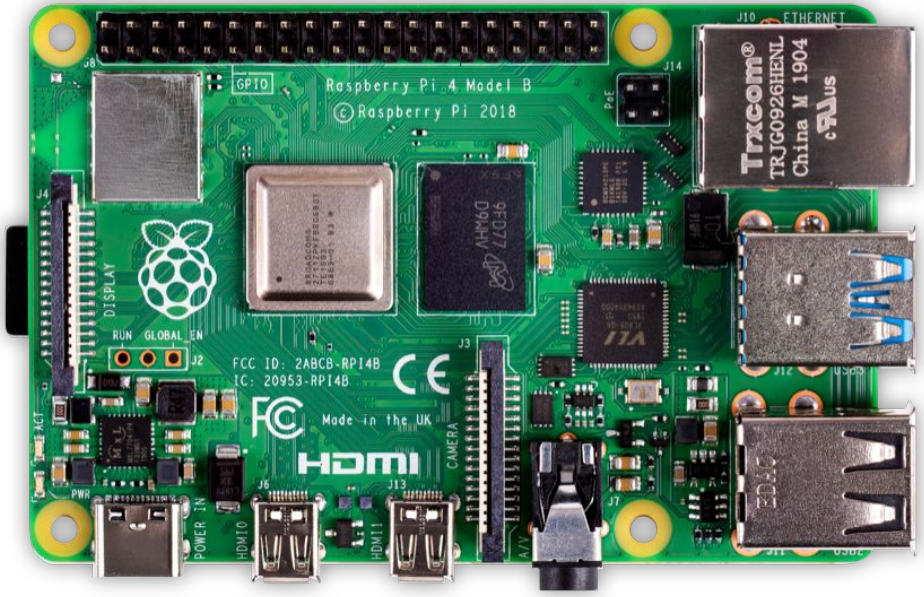
- **Šta je RPi?**
- Modeli RPi uređaja
  - RPi 3 detaljnije
- Raspbian - najčešće korišćeni OS
- Kako ćemo programirati RPi



RPi uređaj - Uvod

- Praktično RPi je mali računar
- Radi sa operativnim sistemom

- Najčešće primene…



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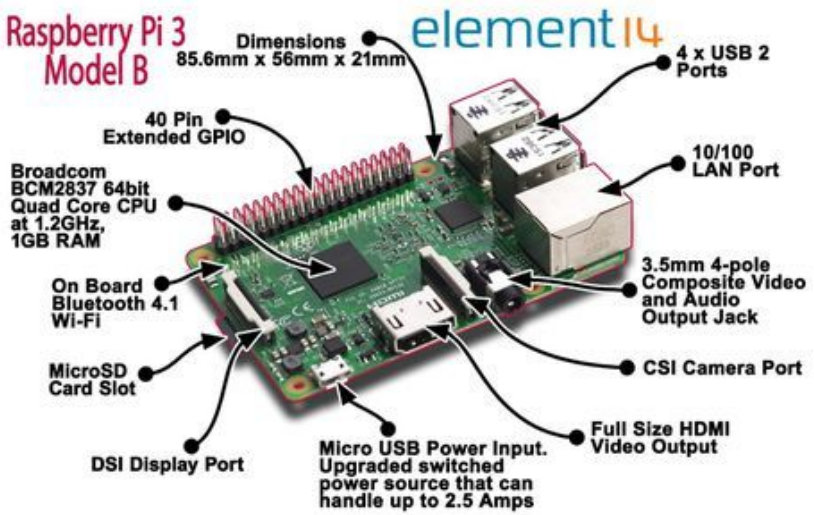
Modeli RPi uređaja

	Raspberry Pi 3 Model B	Raspberry Pi 2 Model B	Raspberry Pi Model B+
Processor Chipset	**Broadcom BCM2837 64Bit Quad Core ARM Cortex A53 at 1.2GHz**	Broadcom BCM2836 32Bit Quad Core ARMv7 at 900MHz	Broadcom BCM2835 32Bit ARMv6k at 700MHz
GPU	**Videocore IV @ 400MHz**	Videocore IV @ 250MHz	Videocore IV @ 250MHz
Processor Speed	**QUAD Core @1.2 GHz**	QUAD Core @900 MHz	Single Core @700 MHz
RAM	1GB SDRAM @ 400 MHz	1GB SDRAM @ 400 MHz	512 MB SDRAM @ 400 MHz
Storage	MicroSD	MicroSD	MicroSD
USB 2.0	4x USB Ports	4x USB Ports	4x USB Ports
Max Power Draw/voltage	2.5A @ 5V	1.8A @ 5V	1.8A @ 5V
GPIO	40 pin	40 pin	40 pin
Ethernet Port	Yes	Yes	Yes
WiFi	**Built in**	No	No
Bluetooth LE	**Built in**	No	No
Video Output	HDMI/Composite via RCA Jack	HDMI/Composite via RCA Jack	HDMI/Composite via RCA Jack
Audio Output	3.5mm Jack	3.5mm Jack	3.5mm Jack

Raspberry Pi 400 - tastatura računar

RPi 3 (model B)

- Quad Core 1.2GHz Broadcom BCM2837 64bit CPU
- 1GB RAM
- BCM43438 wireless LAN and Bluetooth Low Energy (BLE) on board
- 100 Base Ethernet
- 40-pin extended GPIO
- 4 USB 2 ports
- 4 Pole stereo output and composite video port
- Full size HDMI
- CSI camera port for connecting a Raspberry Pi camera
- DSI display port for connecting a Raspberry Pi touchscreen display
- Micro SD port for loading your operating system and storing data
- Upgraded switched Micro USB power source up to 2.5A



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- **Raspbian - najčešće korišćeni OS**
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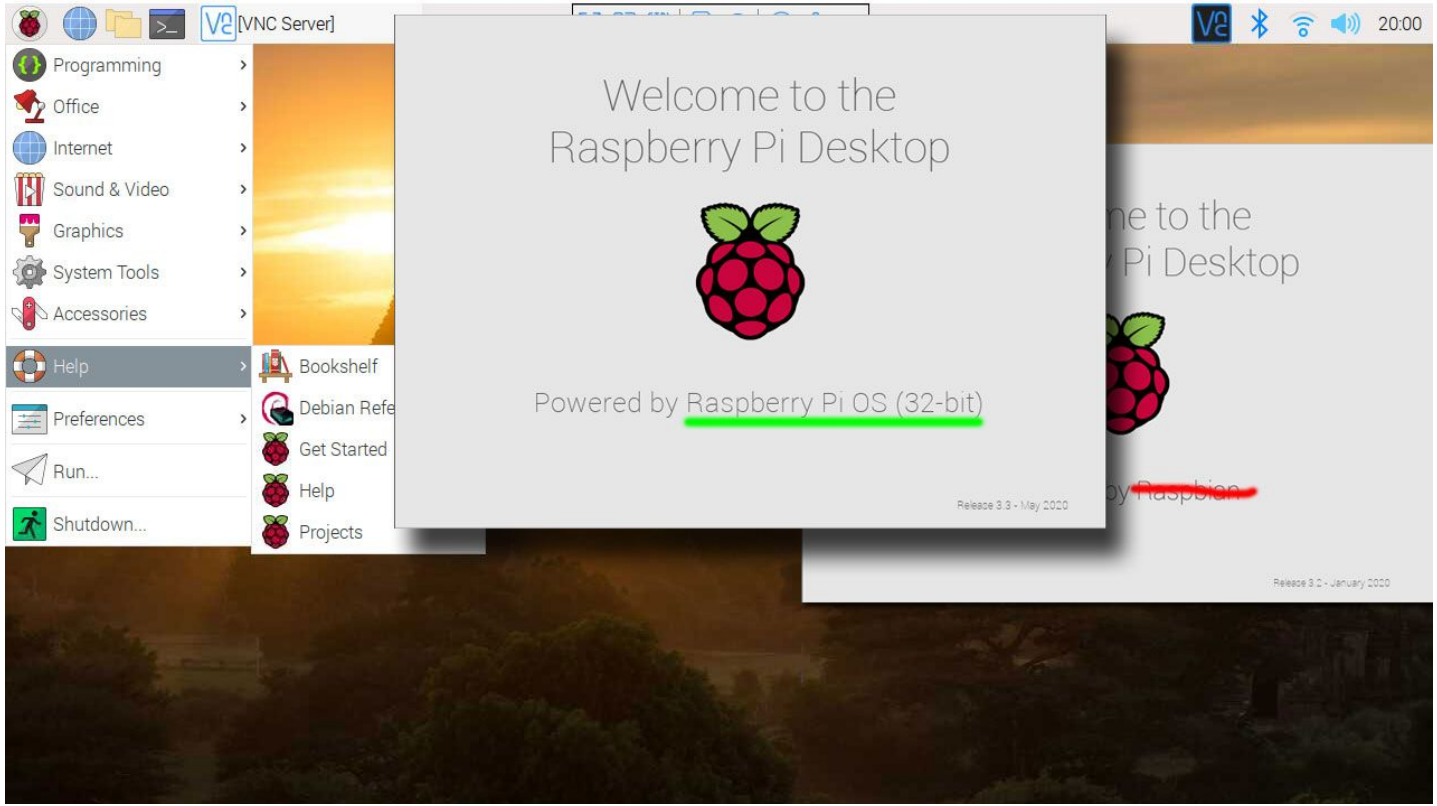
Raspbian OS (Raspberry Pi OS)

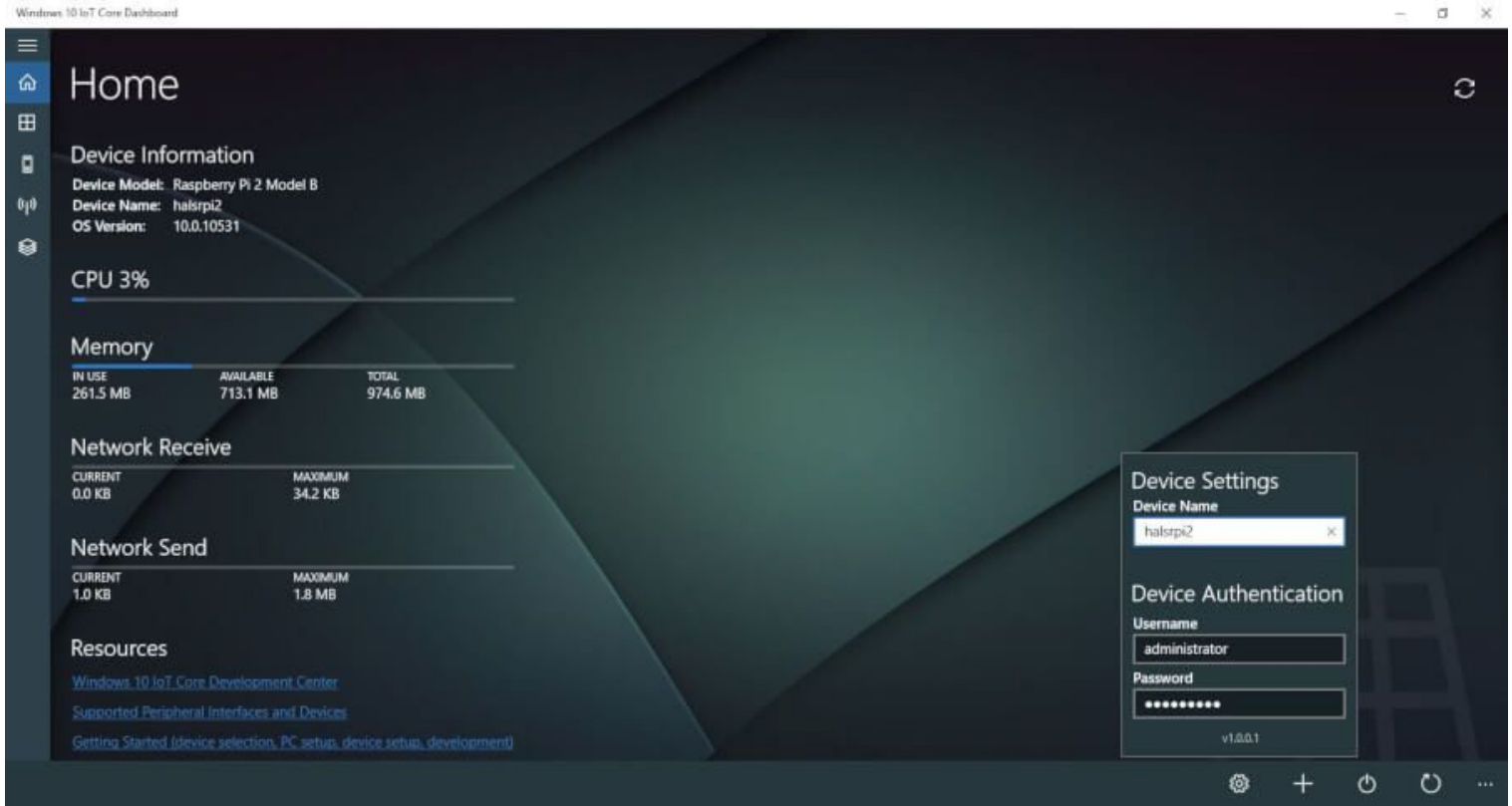
- Zasnovan na Debian Linux operativnom sistemu
- Optimizovan je za rad na RPi hardveru

- Sadrži veliki broj softverskih modula koji
  Nam olakšavaju život i rad na RPi

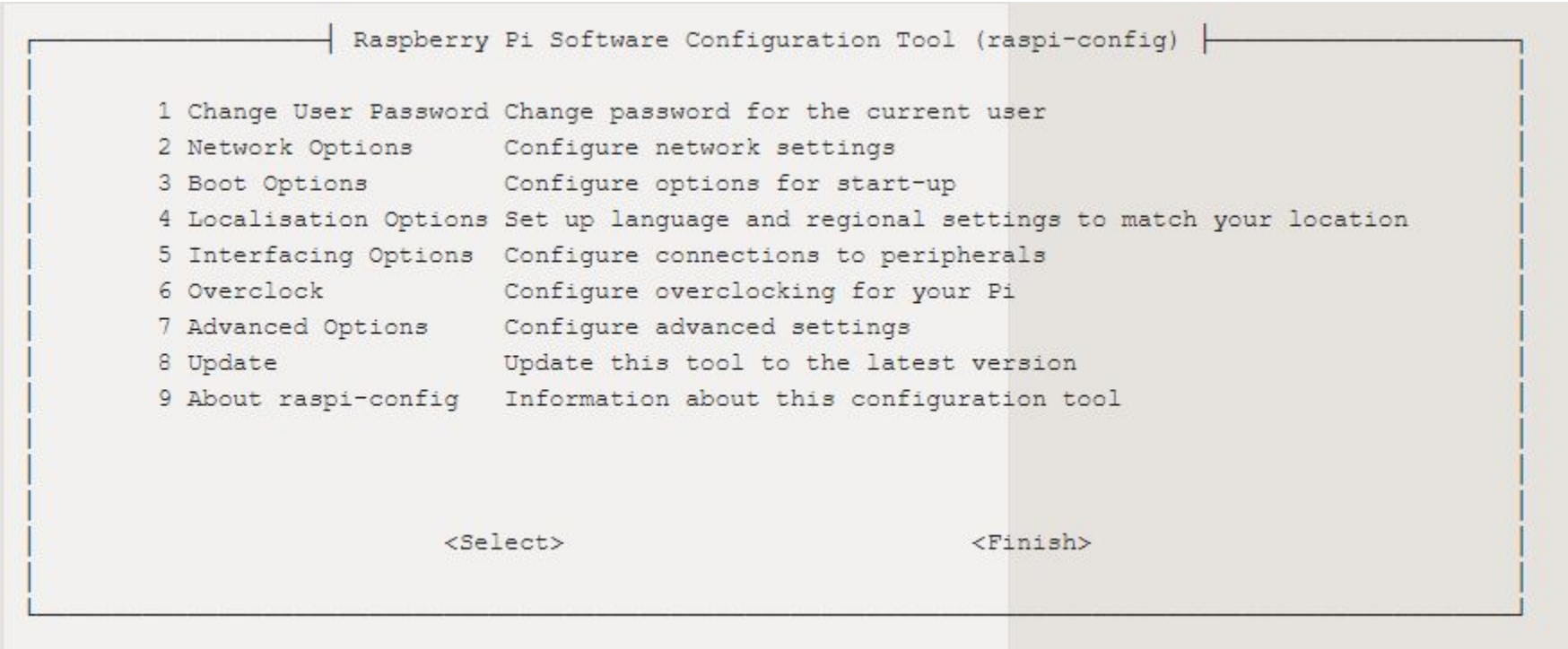
Raspbian OS (Raspberry Pi OS)



Windows alternativa - slabo se koristi



Konfiguracija OS-a - izuzetno bitno poznavati



https://www.raspberrypi.org/documentation/configuration/raspi-config.md

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- **Kako ćemo pristupati RPi**
- Kako ćemo programirati RPi

Načini pristupanja RPi uređaju

- Daljinski pristup - preko SSH protokola
  - Preko WiFi
  - Preko Ethernet kabla i rutera ili mrežnog haba
  - Povezivanje RPi direktno sa PC računarom pomoću ukrštenog (cross) kabla
- Pristup u GUI režimu pomoću monitora, tastature i miša

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- **Kako ćemo programirati RPi**

Programiranje na RPi

- RPi ćemo programirati preko Python programskog jezika
- Zašto Python?