Provisioning Jig v3 Documentation

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Host Machine Details:

Raspberry Pi 3B+ with Raspberry Pi OS 64-bit, with 16GB SD Card, SSH and VNC enabled

Username: ProvisioningJig
Password: ProvisioningJig
Hostname: raspberrypi

System Routine:

- On power up, LEDs are lit, indicating that the Pi is still booting up
- Once script starts, STLink is enumerated and LEDs pulse periodically, indicating the Jig is ready (idle mode)
- Plug either device in, orange LED lights up, indicating a device is detected
- Device is provisioned, indicated by STLink LED flashing red-blue (new) or red-green (old)
- Green LED is lit, indicating provisioning is successful and device can be removed (If STLink LED stopped flashing and no LEDs are lit, provisioning failed, try again or device is faulty)

System Functions:

- Auto login and run provisioning script on startup
- Automatically detect which device is plugged in, and the version
- Flash the device via SWD, with its specific binary file
- Upgrade the STLink to a recent usable version, this step needed to be done with the STSW-LINK007 software package, but has been eliminated details found in the project report

For updates / reproduction:

- main script is located at /Desktop/ProvisioningJig_Code/newMain.py
- binary file selection can be done from the telnet_commands.py file
- use Win32DiskImager to create an .img of the ProvisioningJig's SD Card, and then PiShrink to compress it (optional, but saves a few GB and time)
- use Win32DiskImager to flash the desired .img file to an SD Card
- assemble the Jig according to the assembly guide