ChessBot

Setup SD Card

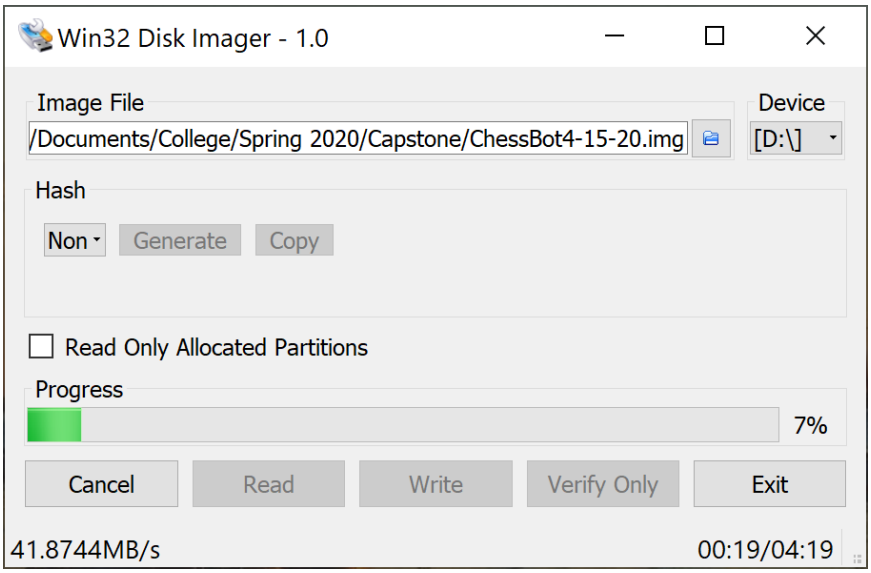
If data on the project's SD card ever becomes corrupt or a new card needs to be setup, follow these steps to prepare the card from scratch:

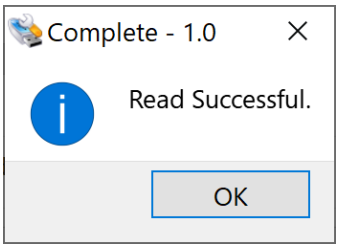
1. Install the latest version of Raspbian and flash it to a SD card.
2. Run through the setup process on the Raspberry Pi to install the Raspbian operating system.
3. Once installed, open the terminal and run the following commands: 1. *sudo apt-get update* 2. *sudo apt-get upgrade* 3. *sudo apt-get install git* 4. *sudo apt-get install python3* 5. *sudo apt-get install pip3* 6. *sudo pip3 install python-chess==0.23.0*
4. Install Python Kivy with the following terminal commands: 1. *sudo pip3 install kivy* 2. *sudo apt-get install libsdl2-2.0-0* 3. *sudo apt-get install libsdl2-image-2.0-0* 4. *sudo apt-get install libsdl2-mixer-2.0-0* 5. *sudo apt-get install libsdl2-tff-2.0-0*
5. Navigate to the Documents folder (*cd ~/Documents*) and download the ChessBot repository with the terminal command: "*git clone https://github.com/luntb/CheckMate2.0.git"*
6. Install the script for the physical shutdown button to work by adding the root crontab entry ("*sudo crontab -e"*): "*@reboot python3 /home/pi/Documents/CheckMate2.0/PiScripts/OffScript.py"*
7. Install the Pi UPS battery script with the command: "*sudo cp ~/Documents/CheckMate2.0/PiScripts/ups.sh /etc/init.d/"*
8. Copy the desktop shortcut with the commmand: "*sudo cp ~/Documents/CheckMate2.0/PiScripts/RUN.desktop ~/Desktop/"*
9. Have the application run on startup with the command: "*sudo cp ~/Documents/CheckMate2.0/RUN.desktop ~/.config/autostart/"*
10. Run the application manually with the command: "*sudo python3 ~/Documents/CheckMate2.0/GUI.py"* If an error occurs and states that a library is not found, install it with "*sudo pip3 install* <missing library>"

Alternatively, a backup SD card stored in the cabinet has the full image of the project on it. Copying this image will copy the new SD card *exactly* to the working state as of April 15, 2020. This can be done using any imaging tool such as “Win32DiskImager”.

1. Take the backup SD card from the cabinet and insert it into your computer’s SD card reader slot. Download and open “Win32DiskImager”.

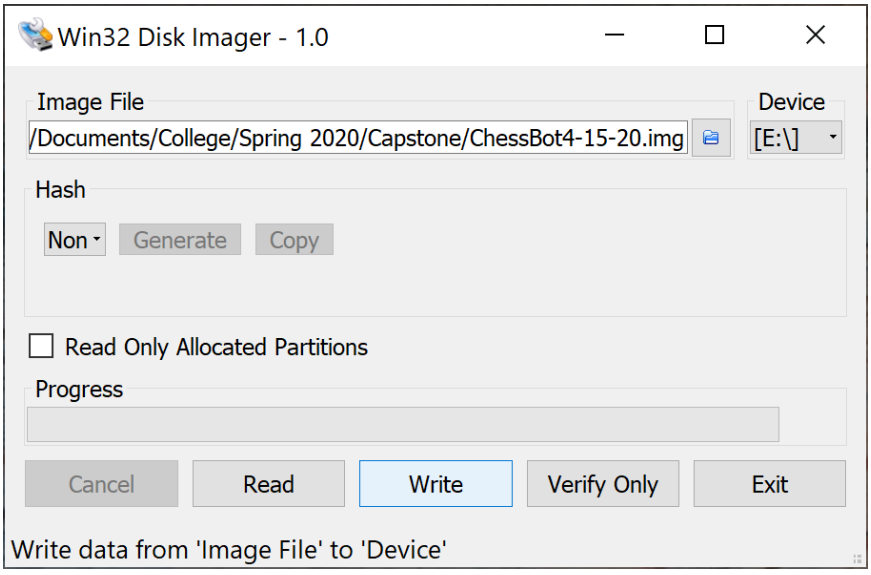
2. Set “Device” to the SD card reader drive. For “Image File”, navigate to a directory the image will be saved to and name the backup file. It is important to manually type in “.img” to save it with that extension. Press “Read” to create the backup image file.





3. Safely remove the backup SD card and insert the new SD card into your computer. Again, open “Win32DiskImager”.

4. Set “Image File” to backup file created earlier and set “Device” to the drive letter of the new SD card. Press “Write” to copy the image to the new SD Card.



5. Safely remove the new SD card and insert it into the ChessBot Pi unit. It will contain an exact copy of the disk’s image from April 15, 2020 (or whenever the most recent backup took place).