HPSDRProgrammer_web

HPSDRProgrammer_web is a cross platform command command line program with most the functionality of the HPSDRProgrammer but as a local web server program. It can be used to:

- Detecting the network connected to your computer
- Detecting HPSDR board(s) on one of your networks
- Changing the IPv4 address of your HPSDR board.
- Or specifying the address to come from DHCP
- Erasing and Programming firmware into the FPGA of your HPSDR Board by talking with the previous firmware.

The program will run on Linux, MacOS and Windows and can run on amd64, 386, arm architectures.

I did most of the development on the Linux 64 platform so that is the most thoroughly tested platform.

I will demonstrate the use of the program and describe platform differences we will start with Linux.

At the command prompt represented here as the “$” we type the name of the program in the directory where you put the executable file. Note that on Linux you need to put the path to the program using “./” to indicate the current working directory.
To start we just type the program name.

```
$ ./HPSDRProgrammer_web
2016/08/14 14:18:04     For a list of commands use --help

2016/08/14 14:18:04 RBF directory /home/dlarsen/Downloads/HPSDRfiles/
2016/08/14 14:18:04 Listening ...
2016/08/14 14:18:04 Point your web browser to: http://localhost:8228/intro/
```

If we point our web browser to this address we will see the following screen. I am using the Chromium web browser.

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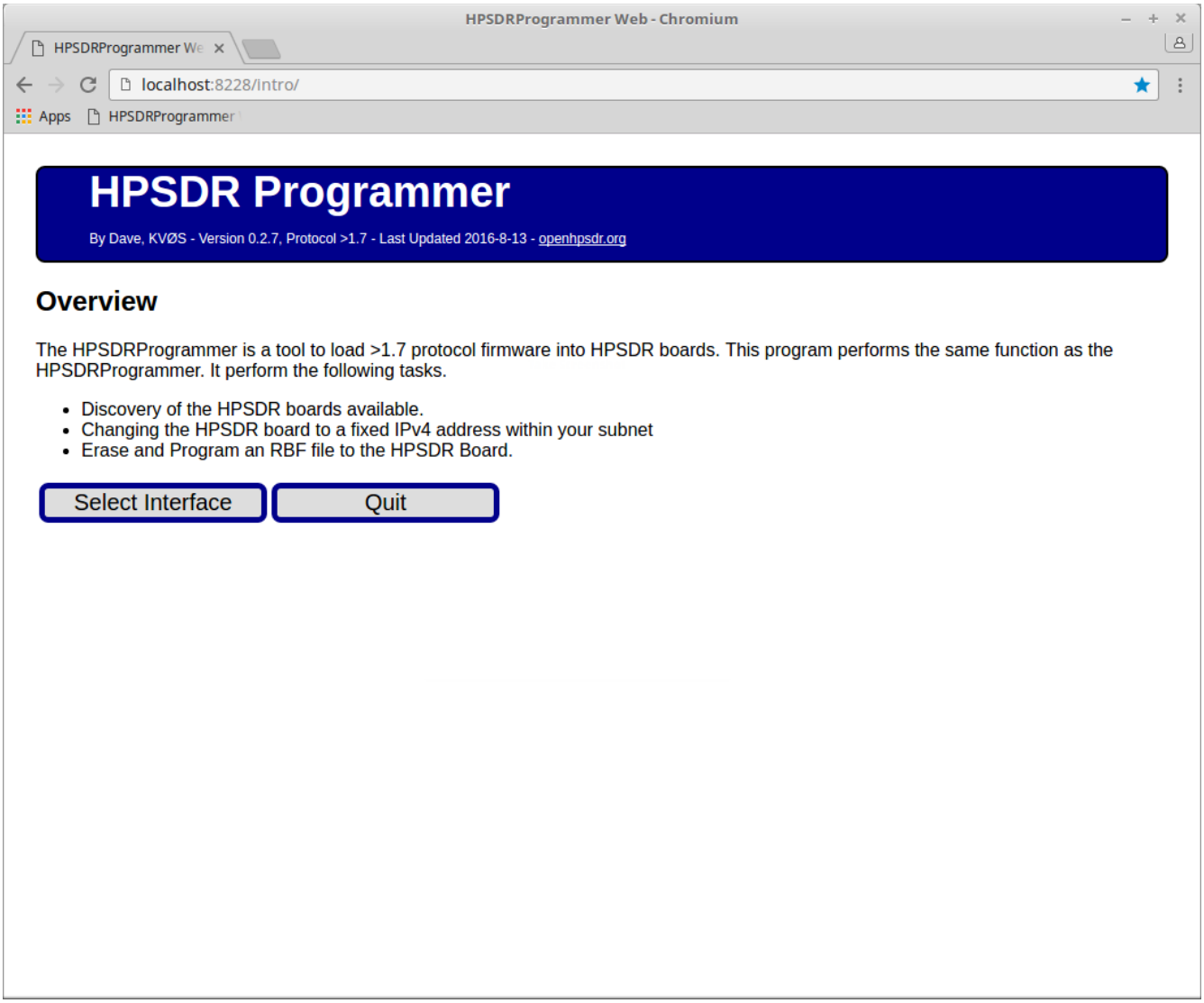

Next we select the select interface button and we see.

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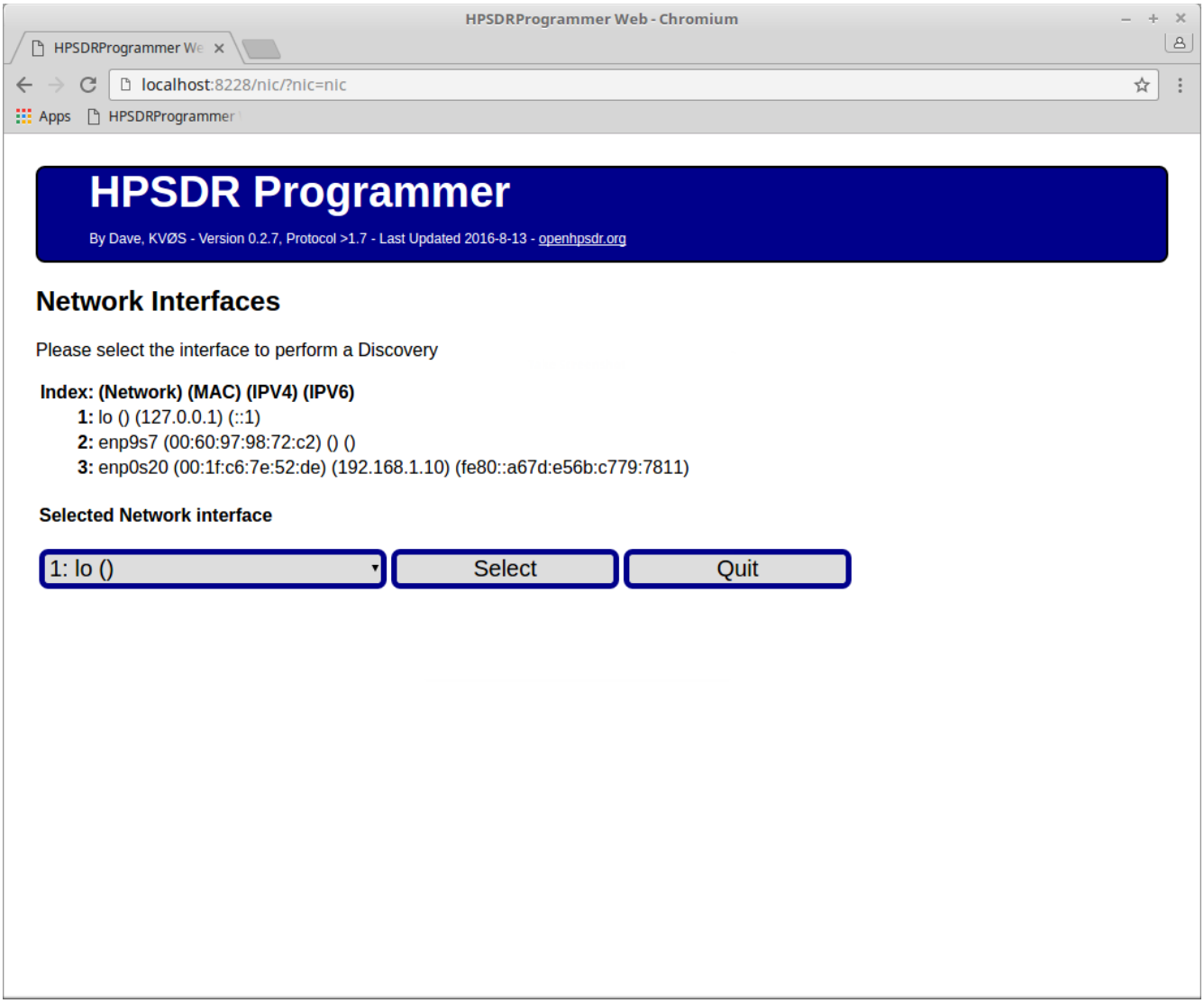

In the first box we have a pull down list the interfaces on this computer.
In this case we have lo which is a loopback, enp9s7 which is ethernet 0 and enp0s20 which erthernet 1.

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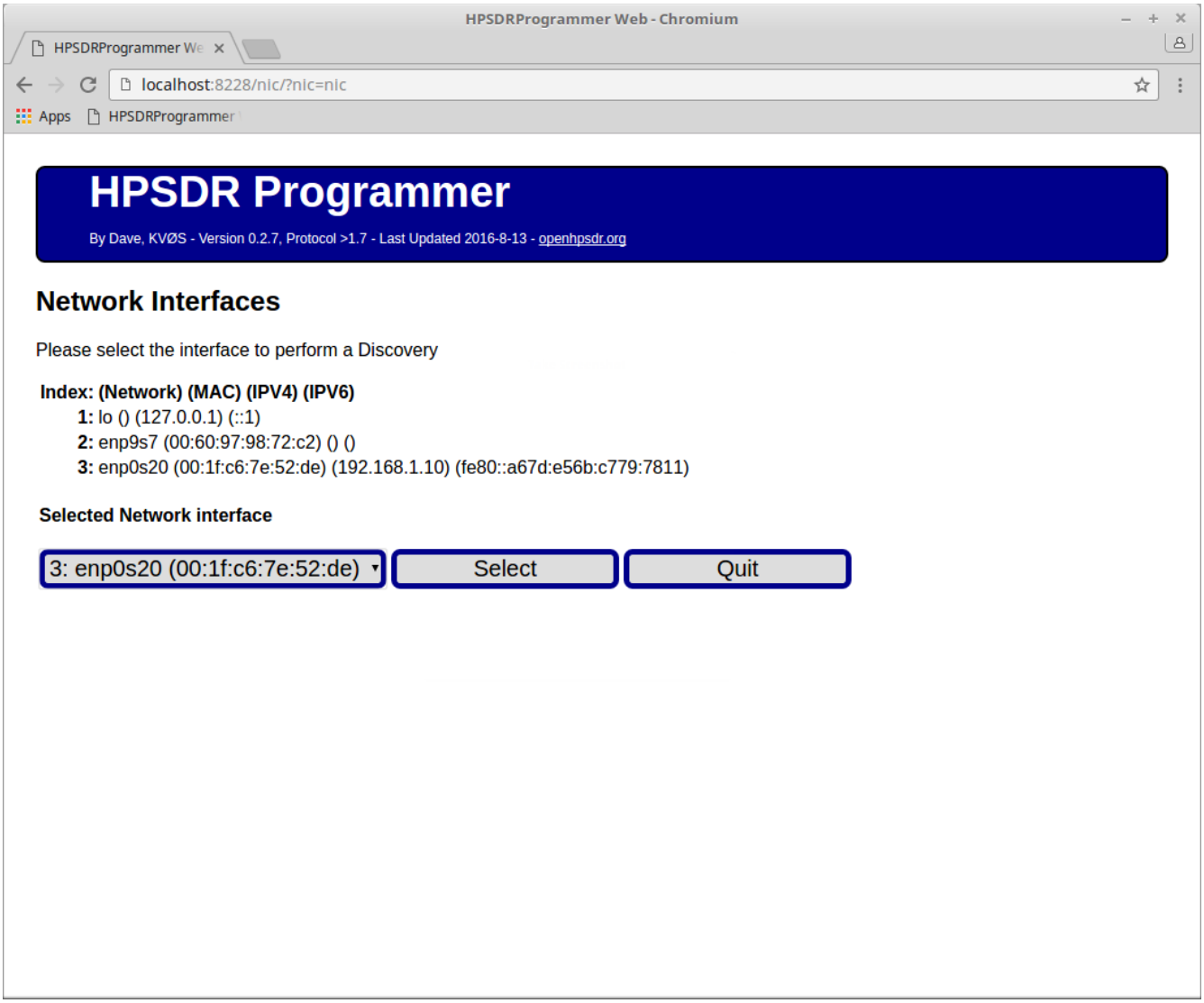

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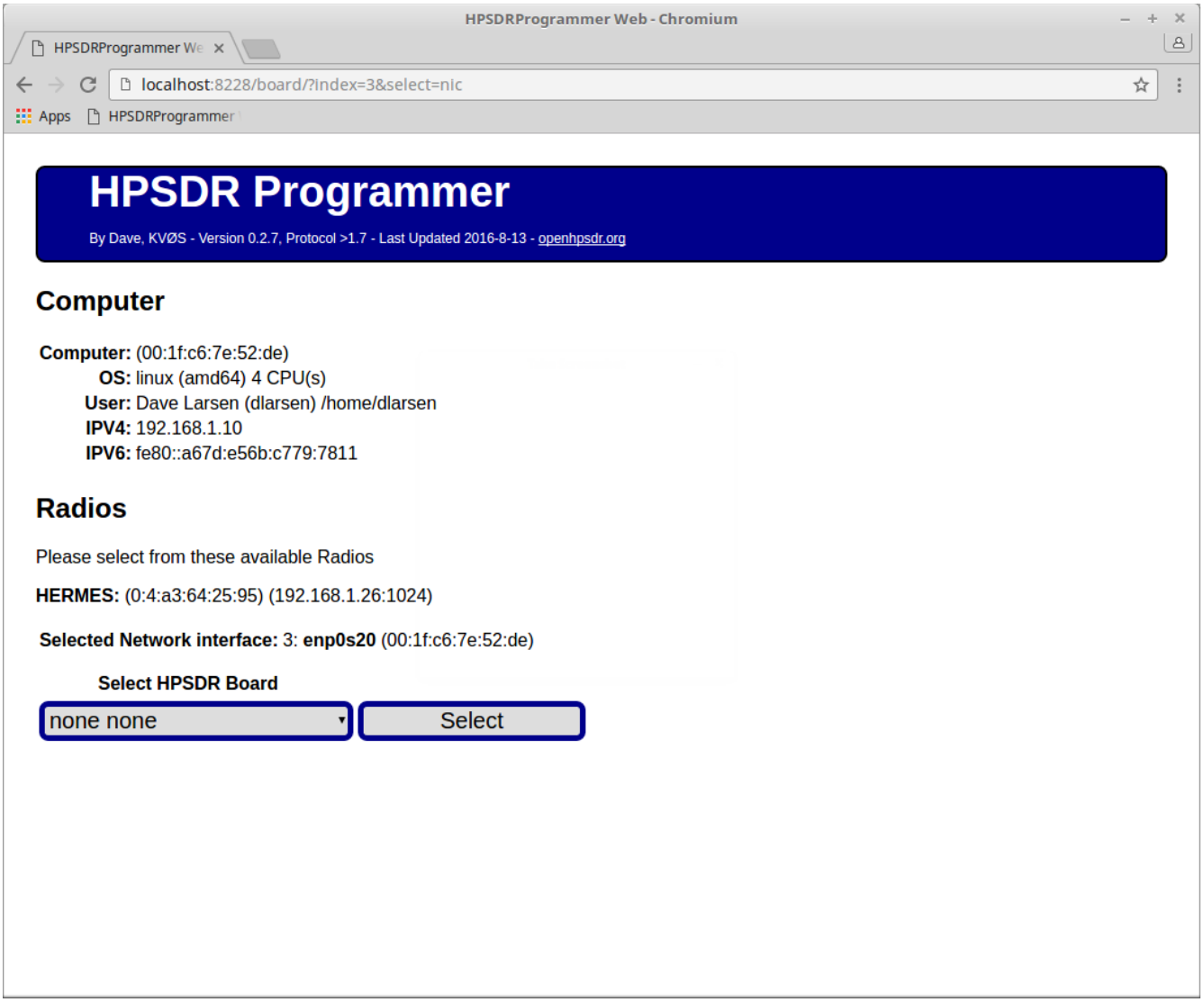

We have found a Hermes board. We next select the Hermes board.

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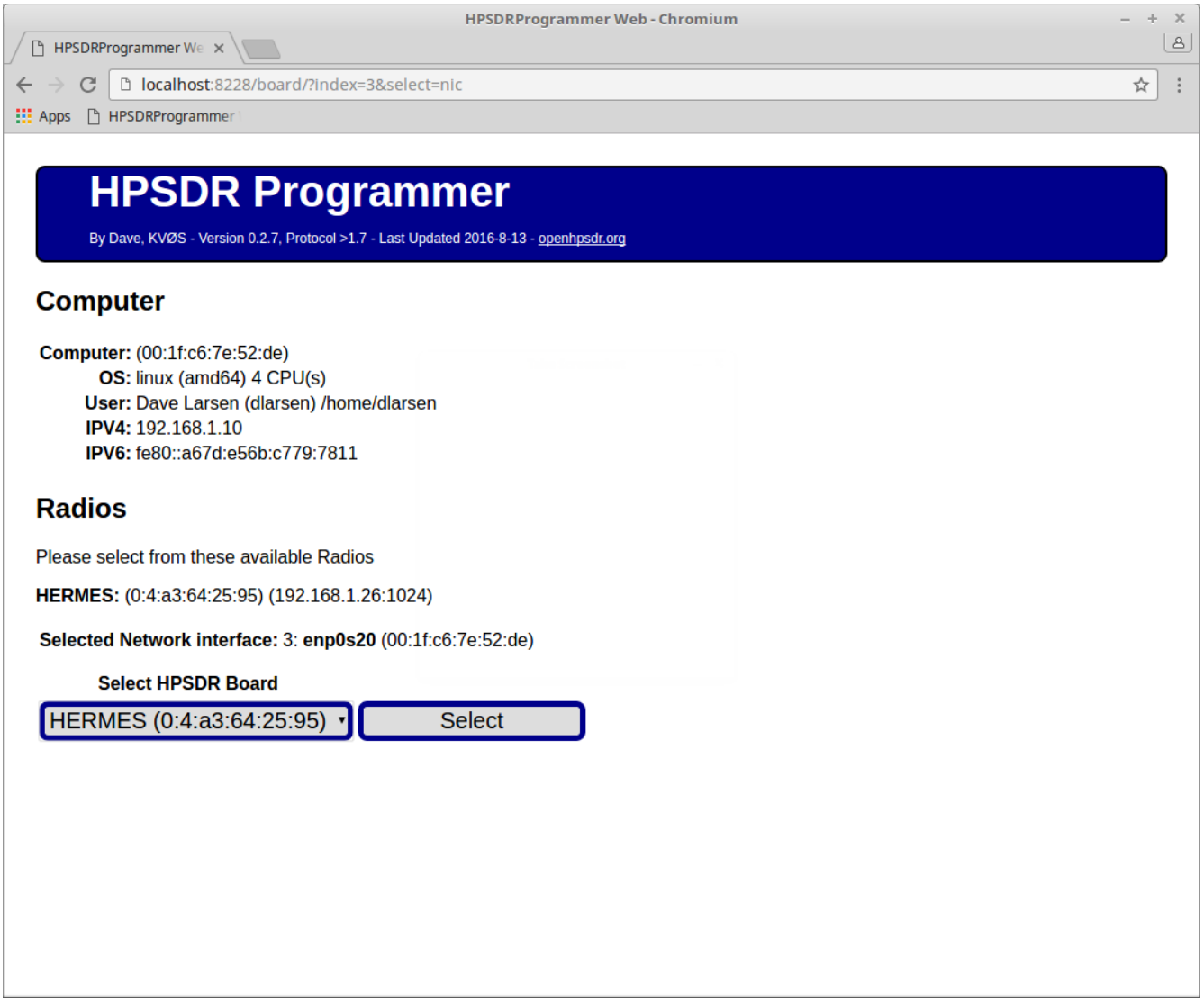

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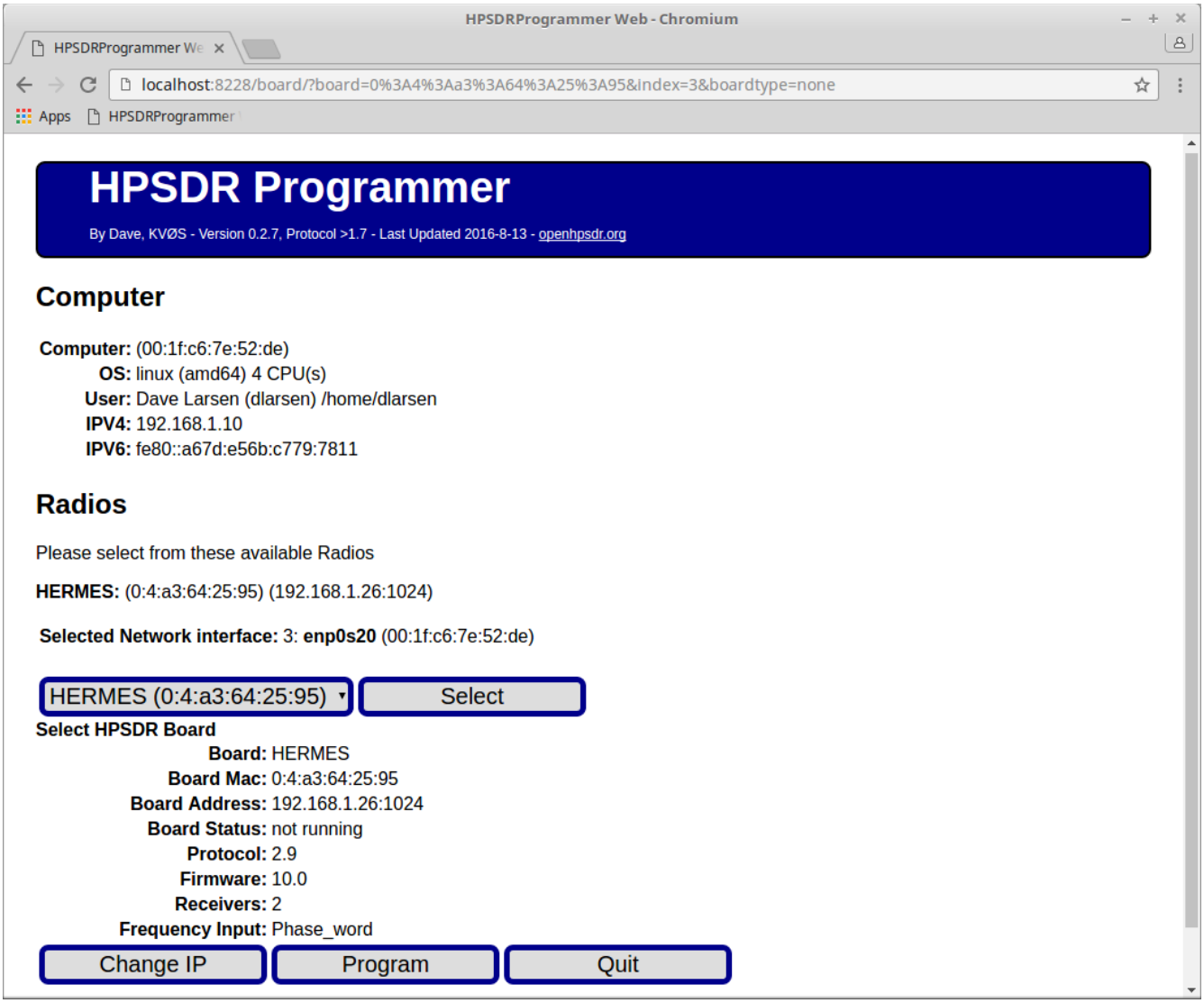

This the discovered HPSDR radio. At this point we can either change the fixed IP address or program the boar with new firmware.

First we will change the fixed IP address by pressing the Change IP button.

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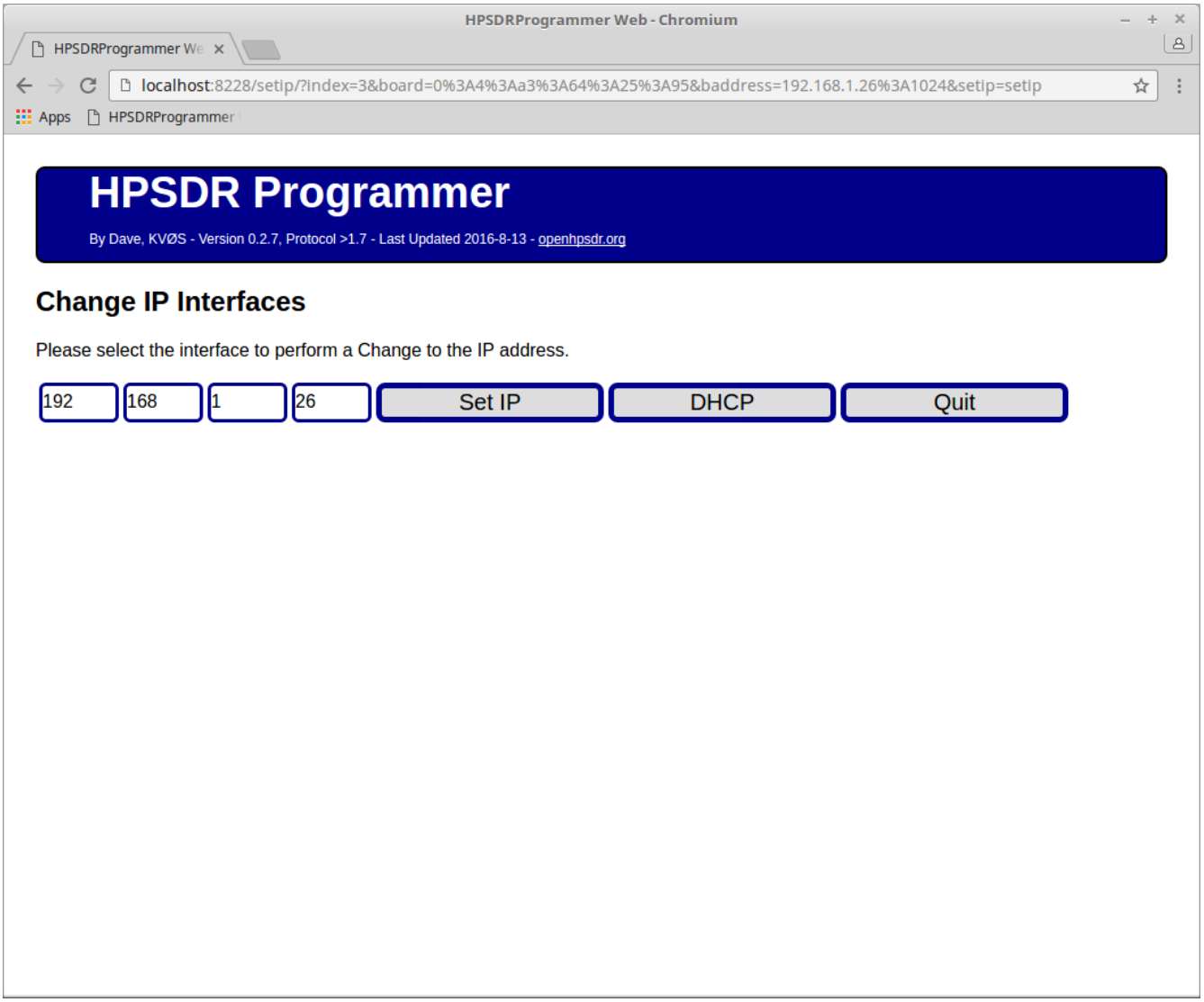
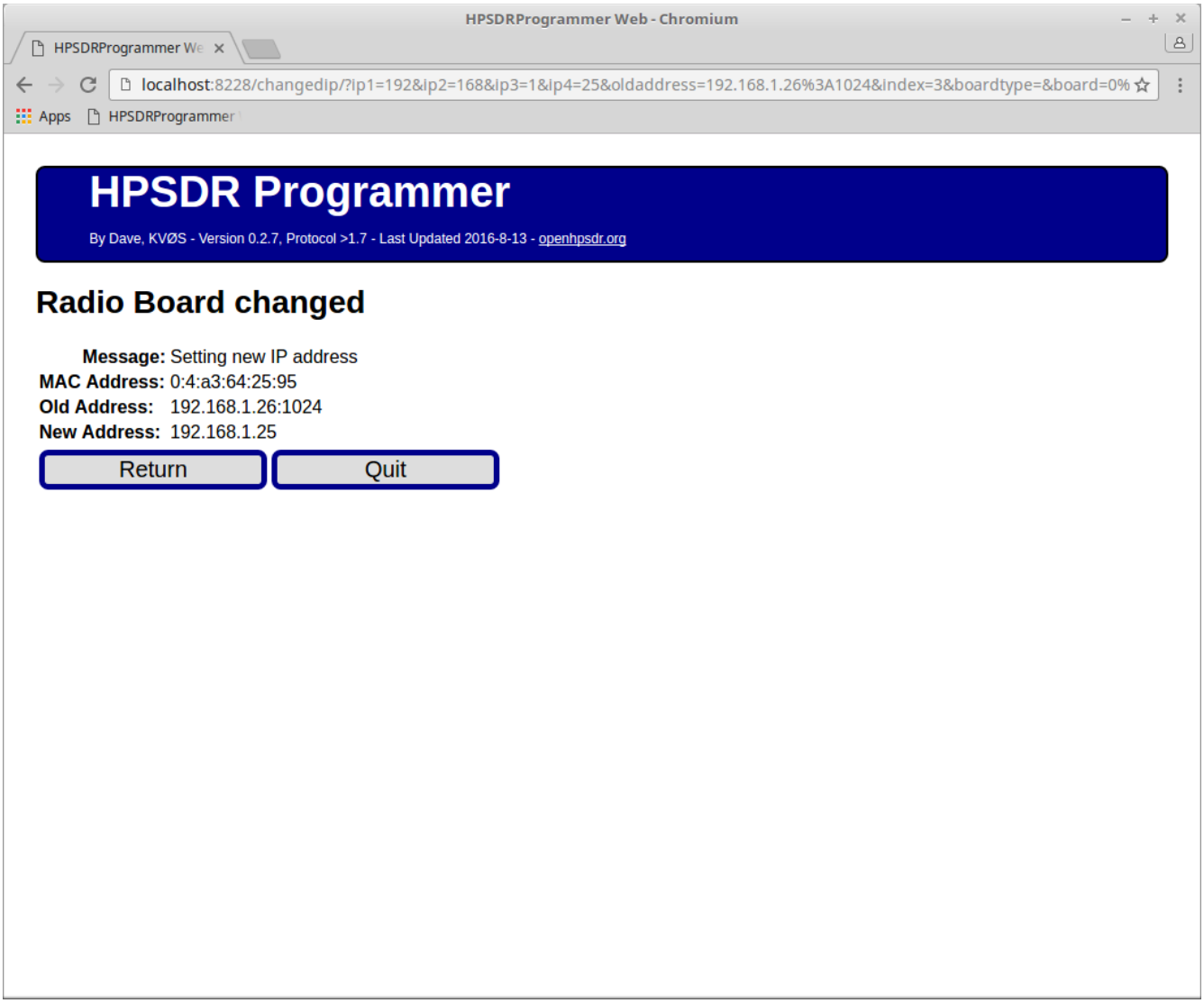


This is the change IP screen with the current IP address preloaded. We are going to change the last number of the IPV4 to 25. and then press Set IP button. If you want to revert back to a DHCP address from either your router or the radio select the DHCP button.



After pressing the set IP button we get a report of what has been done. We will now press the Return button, which takes us to an earlier point in the process.

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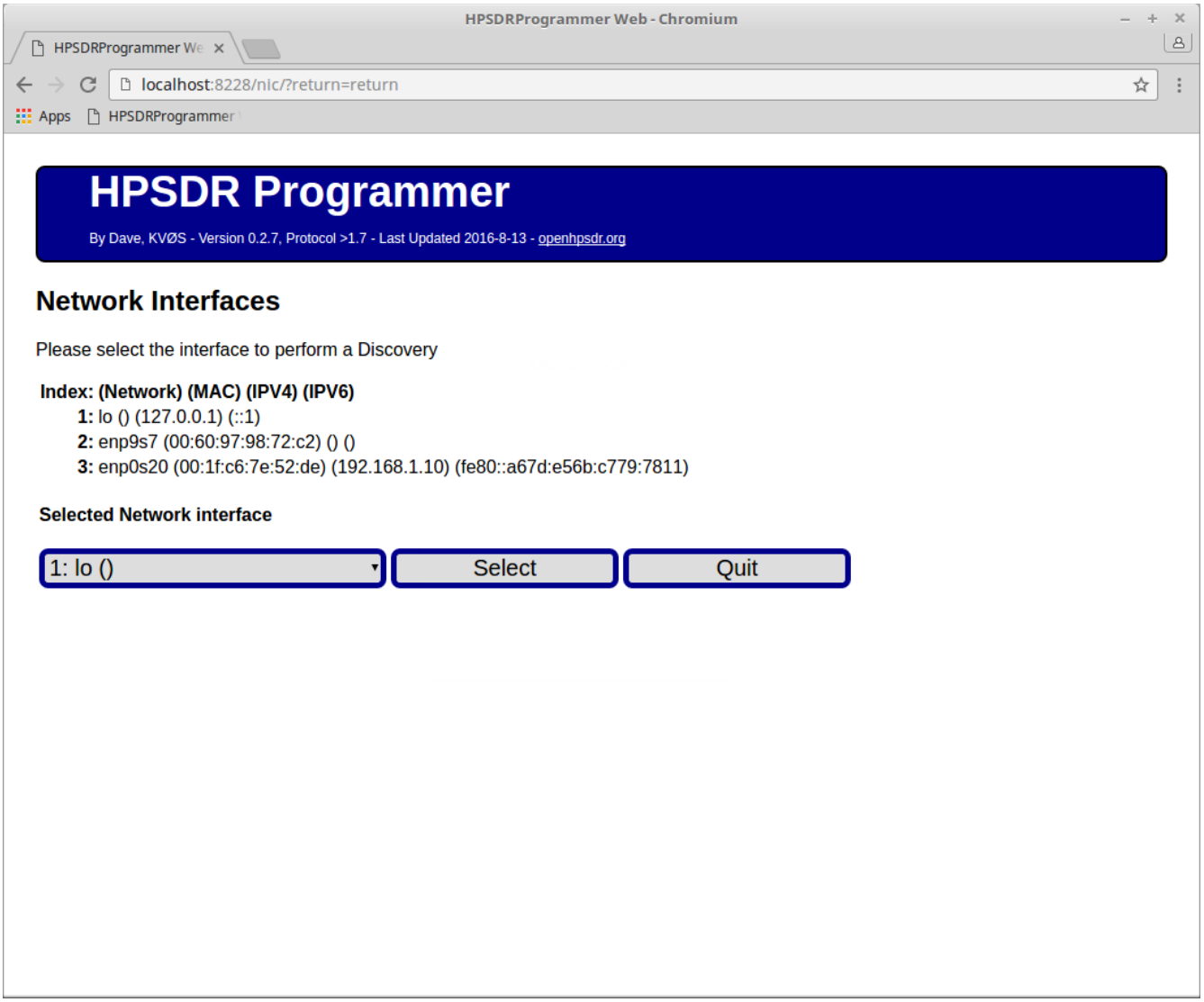

You need to select the interface again.

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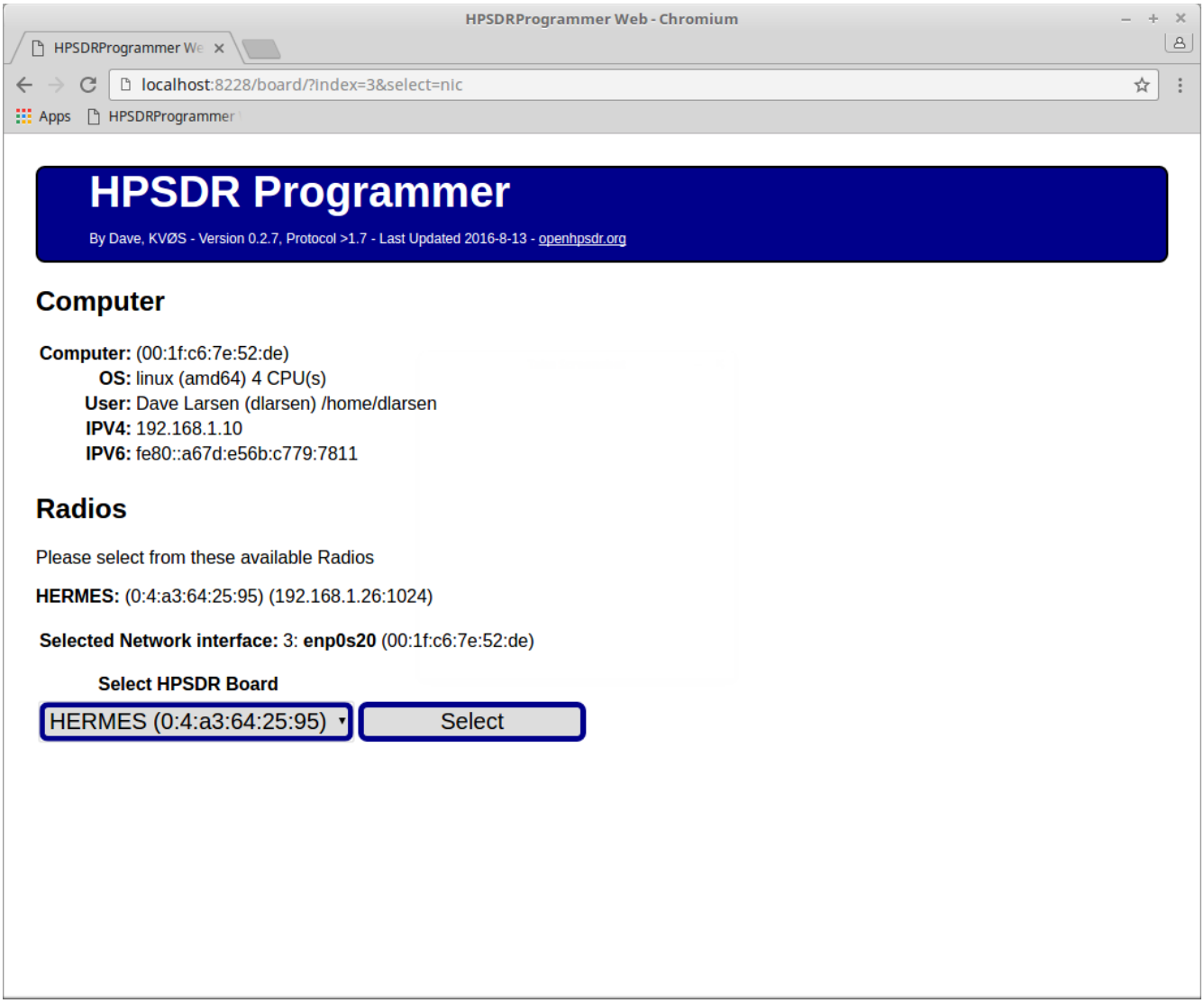

And then select the radio board again.

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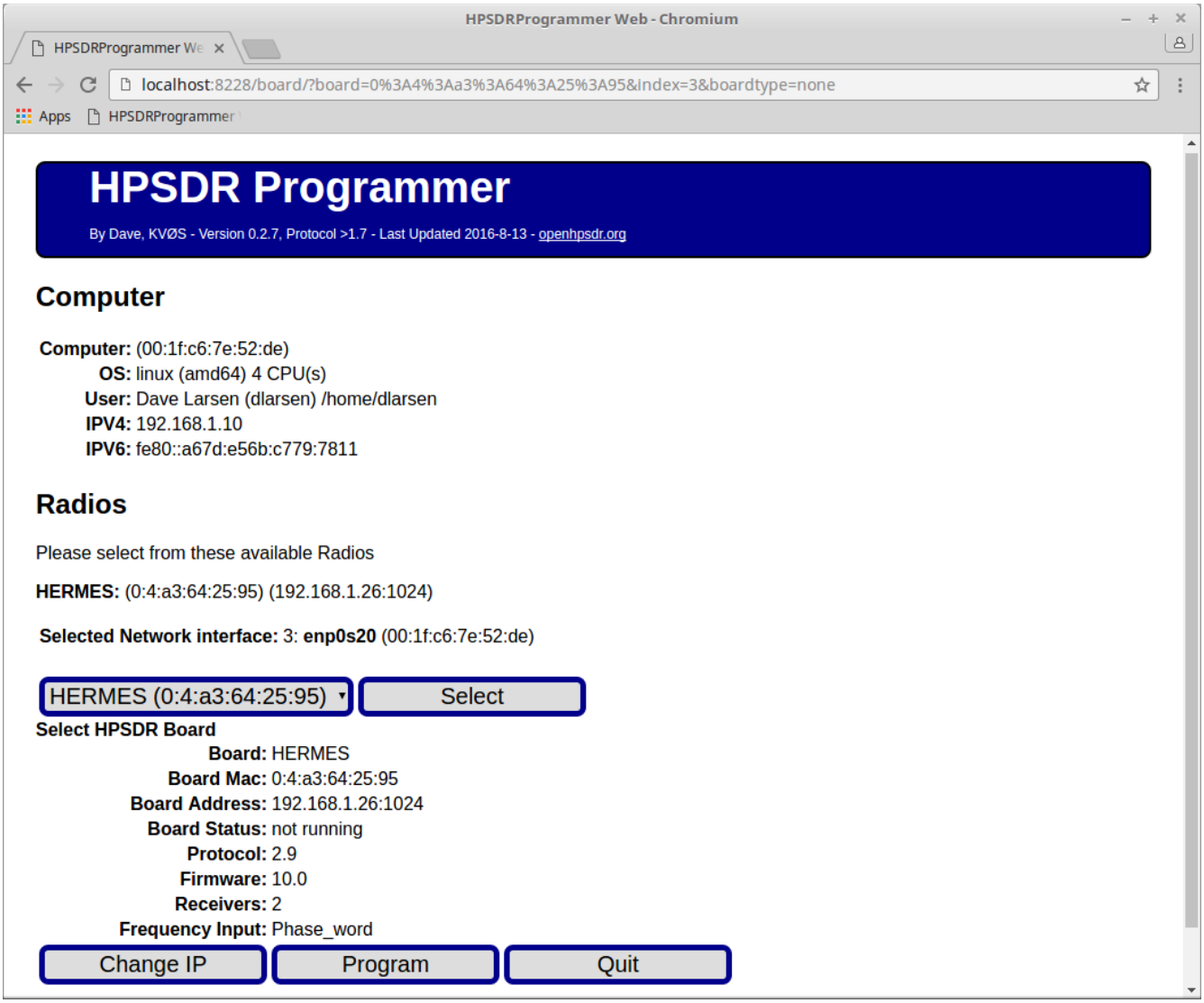

The HPSDRProgrammer_web can change the firmware if the old firmware is UDP enabled. Here is an example of updating the firmware on the Hermes board.

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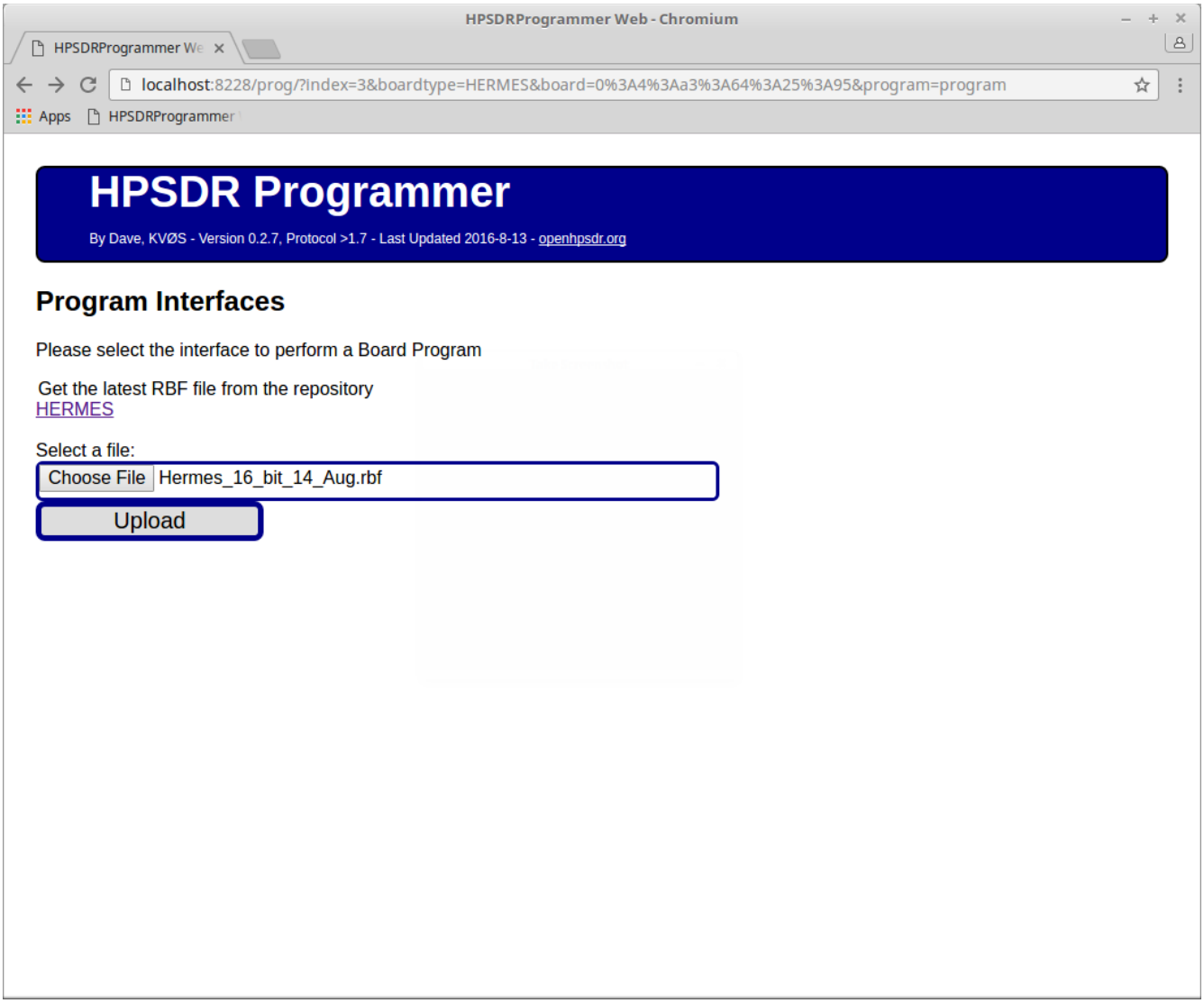

At this point you need to select the new firmware. In the future after beta testing the link will take you to the web location for the correct firmware for your radio. Or is you have download it from a website previously you can press the choose file button to select the firmware.

Next you have to upload the firmware. This is an security feature of web browsers that the firmware must be copied to a standard to allow the web server to access. The default location is HOME/Downloads/HPSDRfiles we do this as most webbrowser can write the the Downloads directory.

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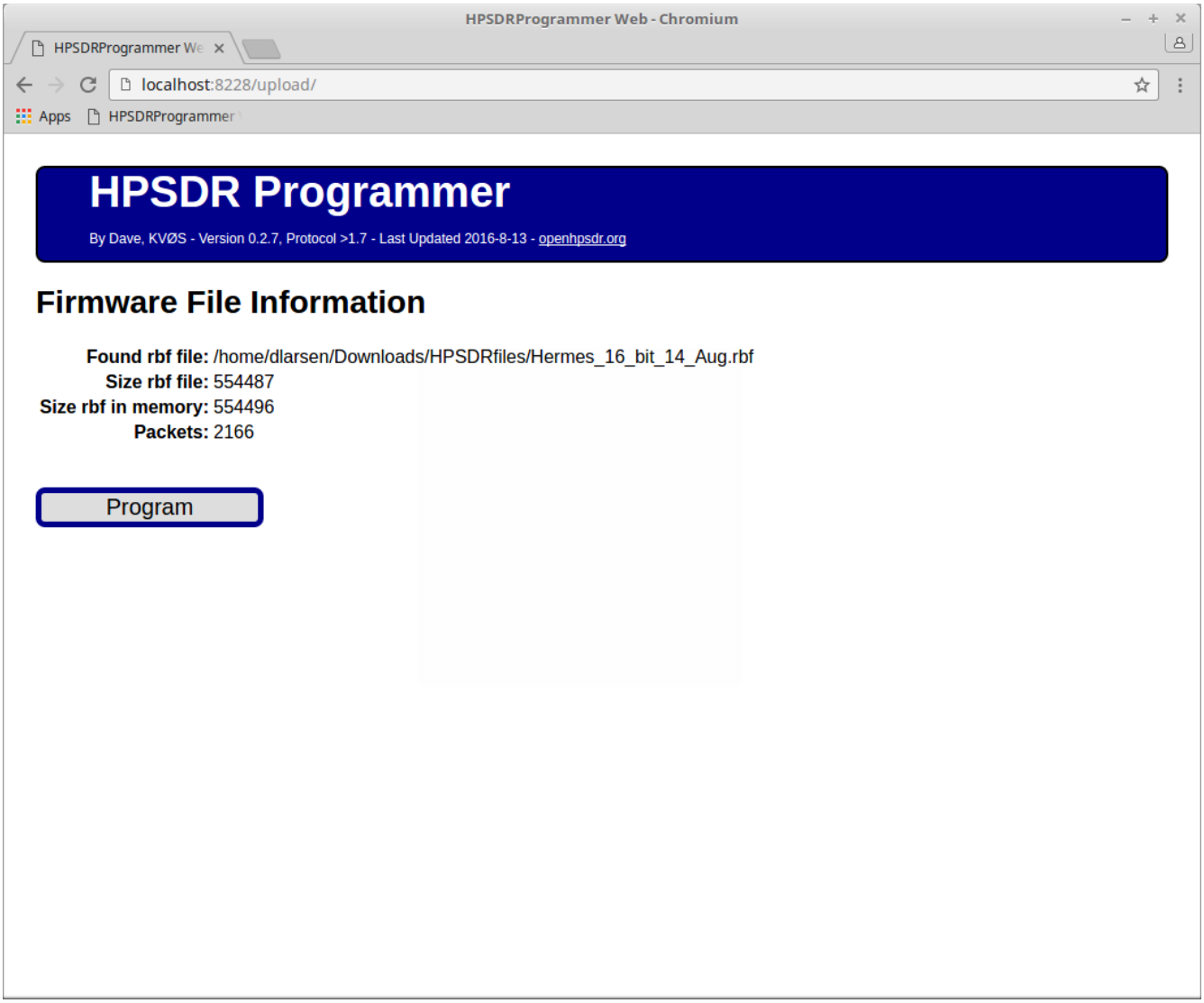

This web page report the file statistics including the location on your hard disk, the file size, the RBF memory size and the number of packets that will be sent in the programming process.

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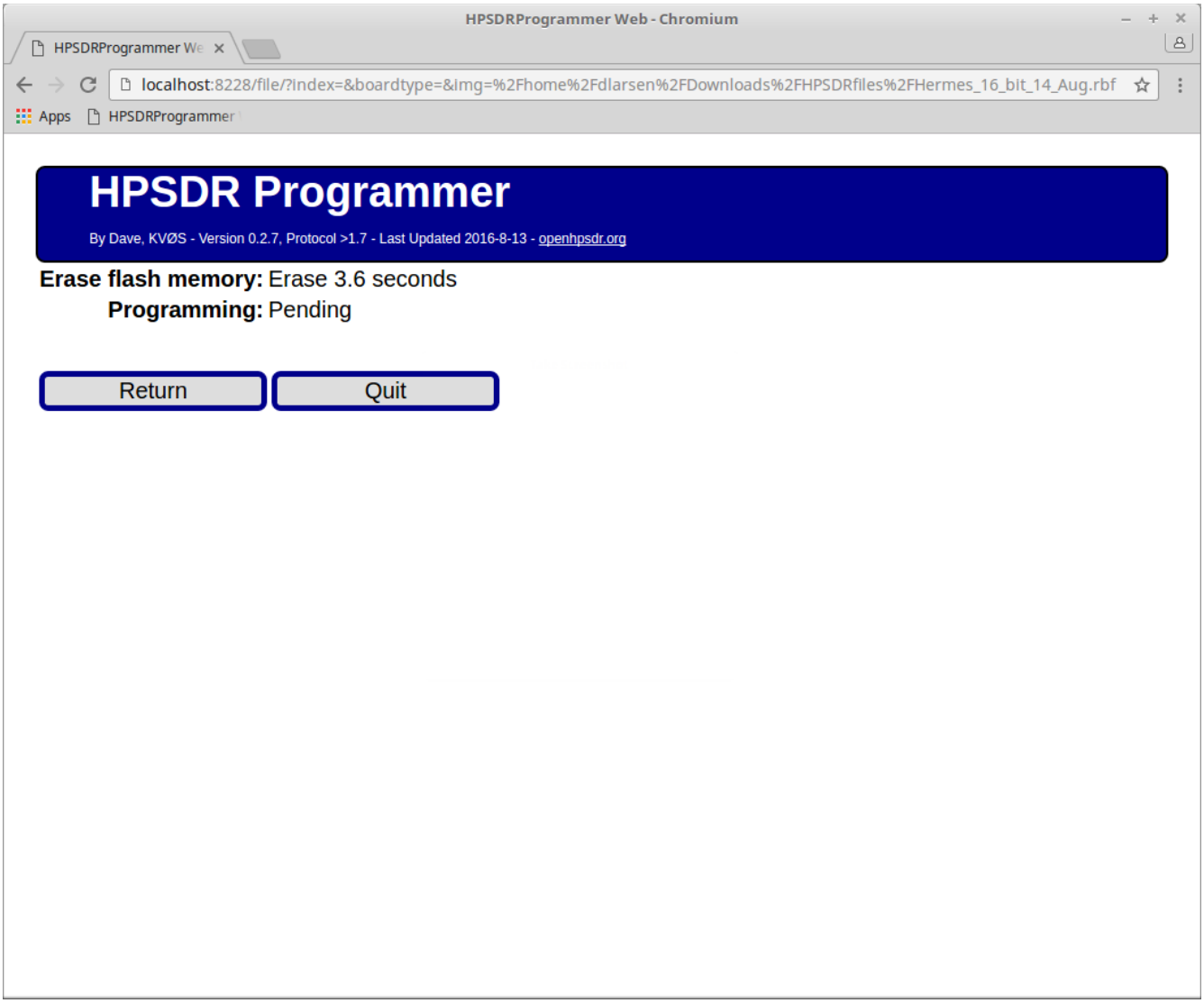

The HPSDRProgrammer_web uses websockets to provide real time feedback on the erasing and programming progress. Here we are part way into the erasing process and programming has not started yet.

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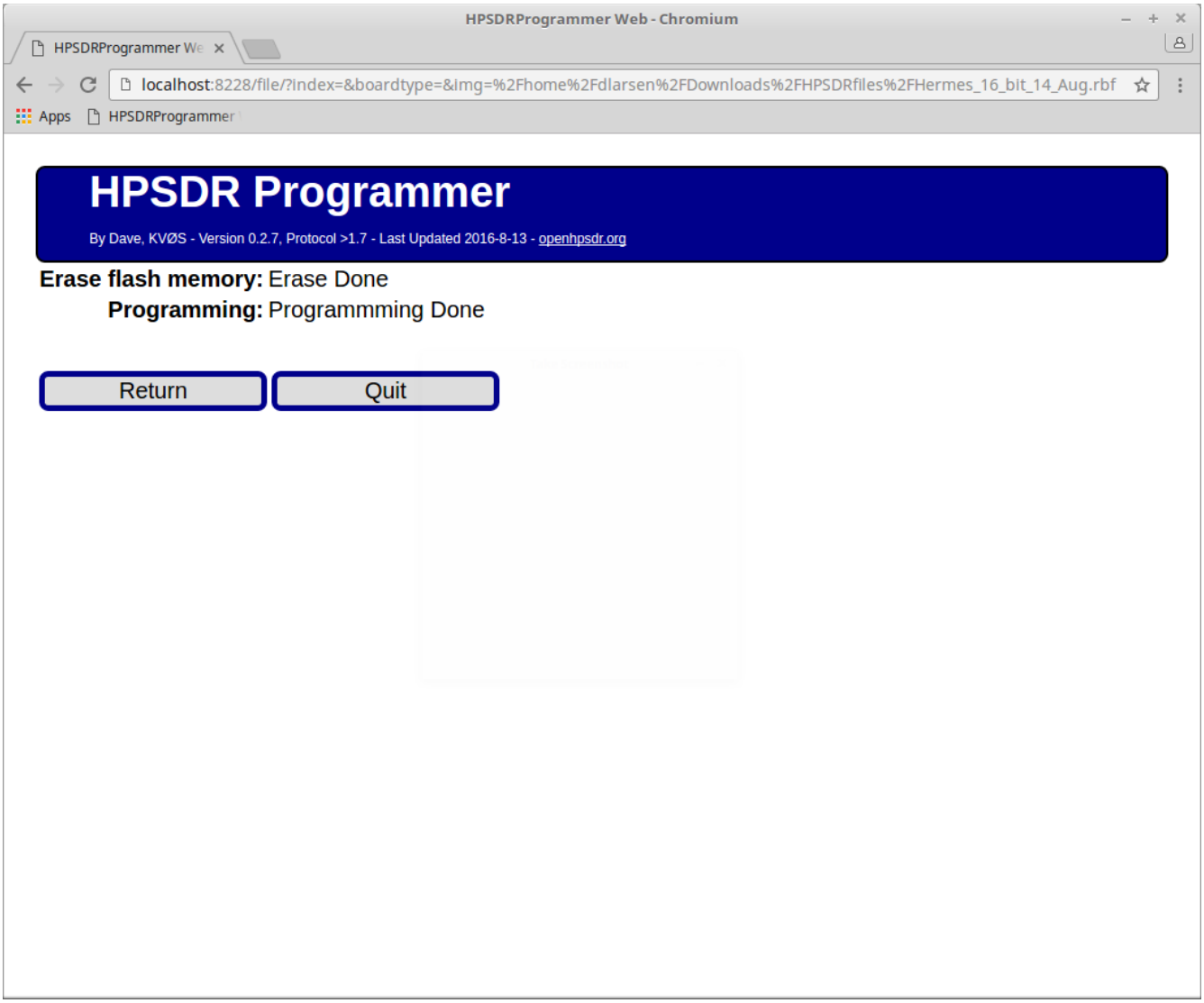

This would be the completion of the updating of the firmware.

Next you can return and program another radio or set the IP address. If you quite the web browser now it will continue to run until you turn the machine off. You could go back to the command line where you start the program and kill the program usually (ctrl C) or you can simply press the quit button.

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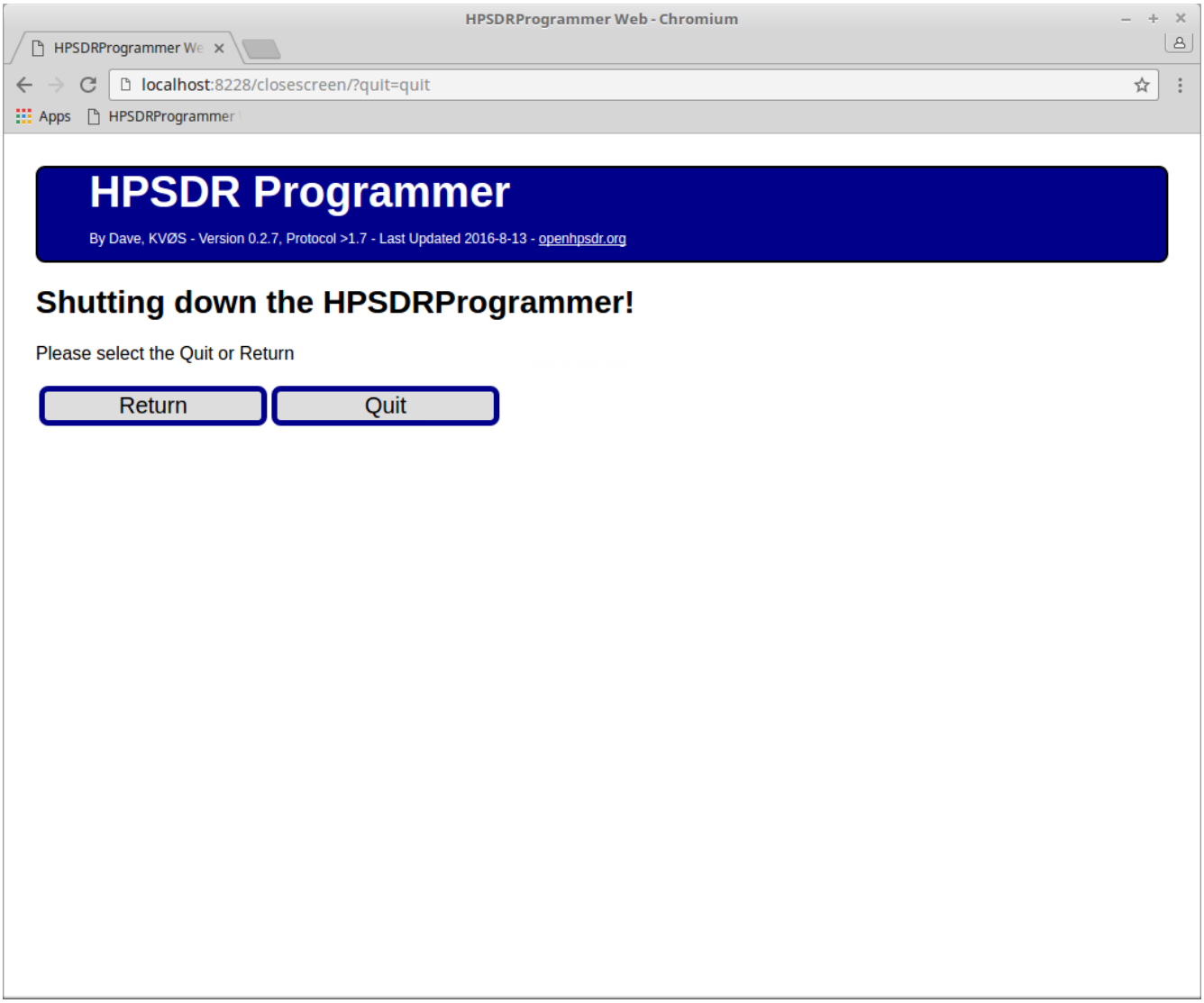

After pressing the Quit button you will get this warning message you can return at this point of stop the webserver with the Quit button.

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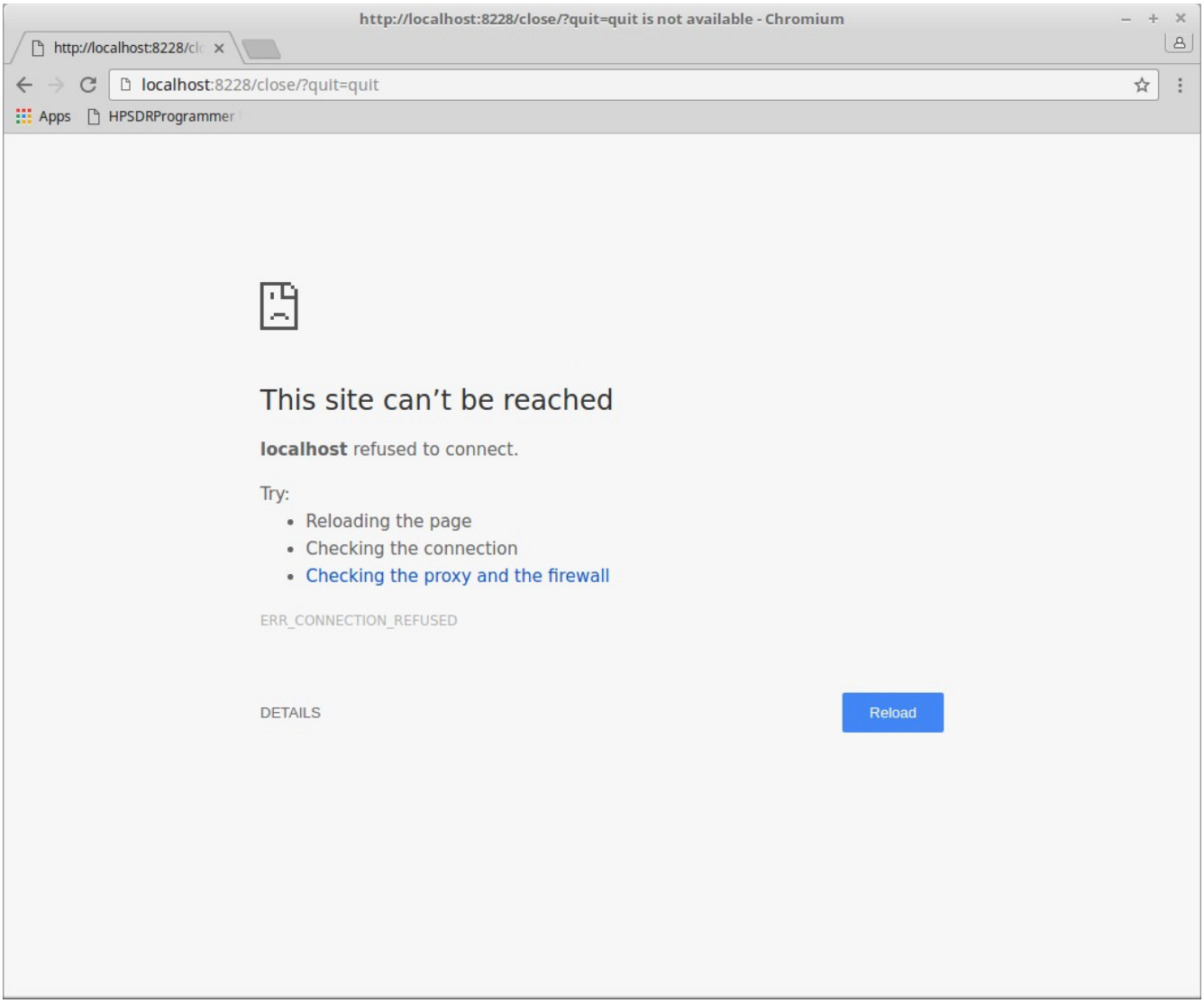

If you press the quit button again the webserver will stop and the web browser will have some message of site can’t be reached.