Using a webcam on FreeBSD in web browsers

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Guides to enable webcam support in FreeBSD seem to stop short of using the webcam in a browser (e.g. Chrome or Firefox). This article describes how I've been able to use the webcam on FreeBSD 12.1-RELEASE-p3 with Chromium 81.0.4044.113 and Firefox 75.0 (currently both from the 'latest' branch of packages).

First, install `webcamd`, e.g. using `pkg install webcamd`. Load it at boot by adding the following line to `/etc/rc.conf`: `webcamd_enable="YES"`. If you have multiple webcams on your system (e.g. visible light and IR), you'll have to add a line specifying the location of each camera on the USB bus, e.g. `webcamd_0_flags="-d ugen0.6"` in my case (see `man 8 webcamd` and `man 8 usbconfig`). You'll also need to load the `cuse` kernel module, which you can do at boot by adding `cuse_load="YES"` to `/boot/loader.conf`.

To get everything going without rebooting, load the kernel module with `kldload cuse` and start `webcamd` with `service webcamd start`. You'll need to add yourself to the `webcamd` group, e.g. `pw groupmod webcamd -m $USER`, and log out to apply the changes.

You can test the webcam with `pwcview` (which you can install with `pkg install pwcview`), e.g. `pwcview -d /dev/video0`. Be sure to read the `man` page for all the options (resolution, framerate).

To actually use the webcam in browsers, you'll need to install a couple more packages: `pkg install v4l-utils v4l_compat`. With these video4linux packages installed, the webcam should be available in Chrome and Firefox.

> *You may also be interested in my article on [videoconferencing on FreeBSD](https://www.davidschlachter.com/misc/freebsd-videoconferencing) .*

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