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Week 14 Logbook

Since this week worksheet is about our project's driver, I made some interesting findings about printers and USB.

After some reading and searching, I found out that USB printer's has a unique device driver. First the device driver installed on linux is the usbld module. It is use to retrieve information about the printer and configure the protocol that the printer use to communicate with the host system. There are 3 types of printer protocol, dubbed in the usbld.c source file as:

- a) USB_CLASS_PRINTER/1/1
- b) USB_CLASS_PRINTER/1/2
- c) USB_CLASS_PRINTER/1/3

Most printer are compatible with the second protocol, but on default when a printer is connected to a USB port, usbld module will do an iterate check on each protocol with the printer, and when it founds one, it will bind to it.

So in our worksheet we were asked how can we modify our device driver to fulfil our project needs. When we try for speed in detection, we try hardcoding our usbld to have a static protocol of 2 by compiling a new kernel with the modified usbld.c.

In our test it show an improvement of less than a second detection after boot. An improvement but it is not worth it. By setting a static protocol, our system could not detect other printer with a different protocol. So we decided to not implement this modification in favour of compatibility with multiple printers.

Extra bits than I learn on the way:

- a) USB devices on detection will use the USB core module before switching to a more specific ones like printers with usbld and USB flash drive with uas.