

# CPSC334 Creative Embedded Systems

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Observations: Lab 1, Development, Setup, Network Transfer, unix 'time'

Below are a list of observations, ideas, and solutions from our lab yesterday. These should inform your future lab sessions as well as serve as a reminder of tasks, solutions, and topics not included in the slides.

Team performance:

1. Overall, teams performed to expectations or better.
2. Those teams that got the furthest into the list of tasks for the day were those that took the divide-and-conquer approach, taking on different tasks simultaneously.
3. Use of the internet for problem solving \*mostly\* worked. Following in-box instructions for screens would have been a good idea as well.
4. Work between teams was okay - there could have been more, but some teams showed willingness to ask others (mostly, with the same hardware) for advice -- this is good and should be a regular part of these pair-programming exercises.

Technical Notes:

1. For disk-image writing: dd or Etcher (balenaetcher) with the latest Raspbian (Full) image. Image-writing is different than file-transfer (copy/paste)
2. Text Editing: vi/vim or nano are command-line based text editors available almost everywhere. These are needed for files requiring 'sudo' as superuser privileges cannot be extended to GUI editors.
3. For file upload/pulldown: git (first choice) or zoo (with scp)
4. For screens: the small 3.5" screens worked because of the custom image on the included SD card -- without this you need to download drivers for that (and most other) small form-factor screens for use with Pis.
5. Need for Unix-based (bare metal) OS for development.
6. Using the Unix utility 'time' revealed significant time-to-run differences between laptops and Pis [hardware matters]. Further, it revealed the significant difference between using Perl and Python to accomplish the same task [language/style matter]