ECPS 203

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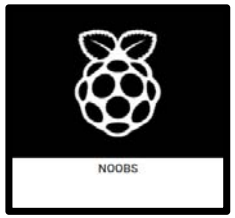
Agenda

- Assignment 7
  1. install the OS on the board
  2. timing measurement

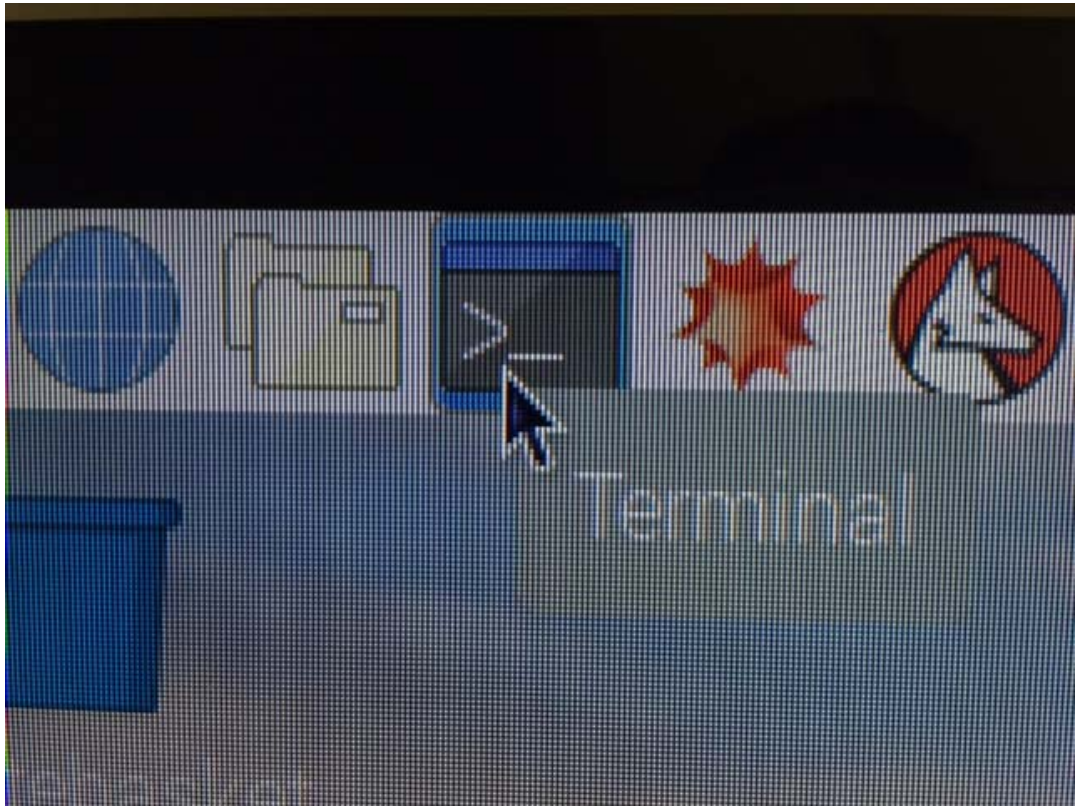
install the OS on the board

- Install Raspbian on the board
  1. download NOOBS



  2. unpack it to your SD card
  3. power up your board, select Raspbian as the operating system
- You may backup your old operating system, so that our assignment will not mess up the other course.

Open the terminal



Time measurement

- Based on CannyA4_ref.cpp
- The pure C++ code that does Canny on an image stream
- We need timing information for future Canny model optimization

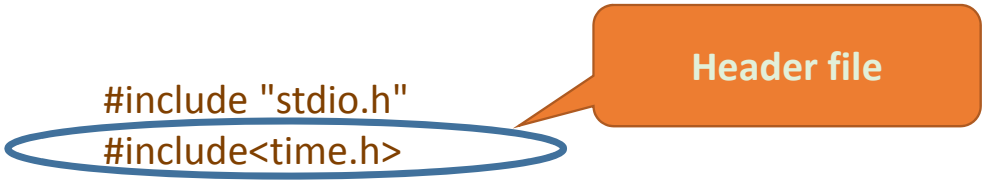
- SystemC:
  1. verification of functionality
  2. evaluation of timing

Time measurement

- We need to collect the execution time for each function call inside these modules
  1. Gaussian_Kernel
  2. BlurX
  3. BlurY
  4. Derivative_X_Y
  5. Magnitude_X_Y
  6. Non_Max_Supp
  7. Apply_Hysteresis

Time measurement

- An example




```
#include "stdio.h"
#include<time.h>
using namespace std;

int main()
{
   clock_t start_time=clock();    //clock() returns the elapsed clock ticks since the start of the program
   f();
   clock_t end_time=clock();
   printf("running time = %f ms\n",(double)(end_time-start_time)/CLOCKS_PER_SEC*1000);
   return 0;
}
```

Copy the file to your board

- I use email to send my file to the board
- You may also try USB stick

Compiling and Submission

- compile with

  g++ -Wall canny.cpp -o canny

- submit
  1. canny.cpp
  2. canny.txt