

Software Demonstration

This software can be run successfully under the environment:

[~frodo/public/linux_lab/bin/sde_shell](https://frodo/public/linux_lab/bin/sde_shell)

How to run this software is really simple.

1. Type “**make**” in the terminal window.
2. Type “**./ECGDemo**” in the terminal after building successfully.

Then this GUI will come out, see Figure 1 below.

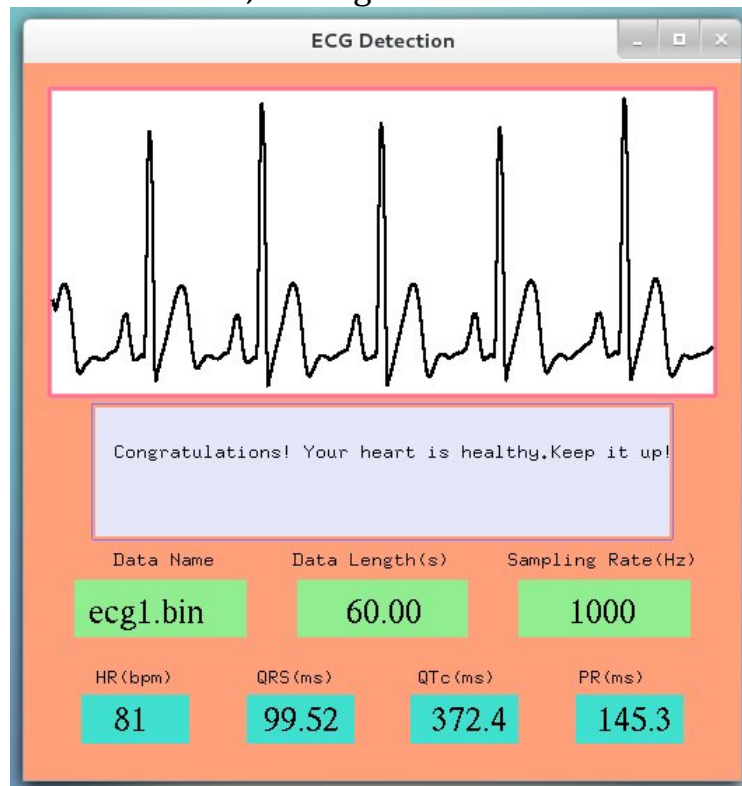


Figure 1. Initial GUI (ecg1.bin is default)

There are two main functions of this software:

1. **Pop-up menu**: easy for users to choose different ECG data.
 - First, make sure that your mouse cursor is within the GUI window.
 - Second, **right-click** the mouse, and then the pop-up menu will appear and display the names of different ECG data
 - Third, move the cursor to the ECG name you want to choose (color of that name will become darker), then **left-click** the mouse. Then, the information and waveform of that certain ECG data will appear.

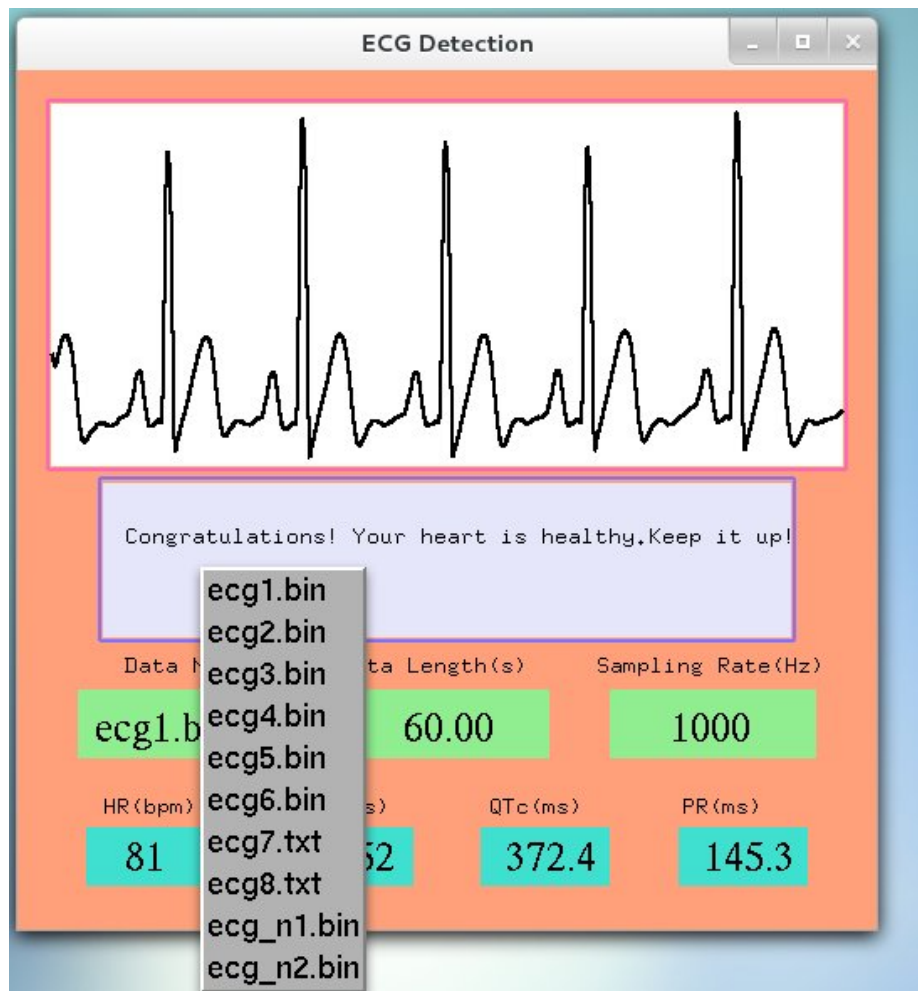


Figure2. Pop-up Menu Function

2. **Special keys:** Left-Key and Right-Key (showing whole ECG data)
 - After choosing the ECG data to display. You can use Left-Key (←) or Right-Key (→) on the keyboard to left shift or right shift the ECG waveform.
 - For example: choosing ecg7.txt:

The initial screen will look like the left figure in Figure3 below. If you press Right-Key (→), then the waveform will right shift half of the displayed ECG waveform. The right figure in Figure 3 shows the right-shifted waveform plot.

➤ **Press “q”, when you want to end the program.**

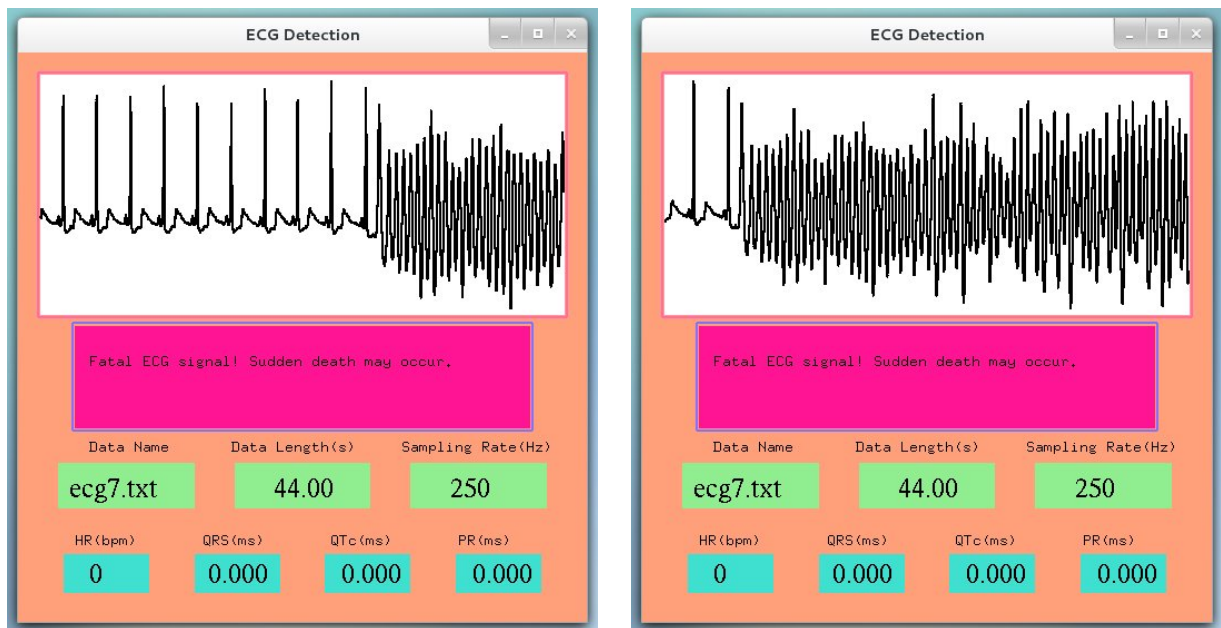


Figure 3. Left/Right Shift Function

Special Features:

1. **Result Comments.** After obtaining the ECG parameters, this software can automatically generate a comment according to the parameters, which indicates healthy heart or potential heart illness.
2. **Fatal ECG Signal Warnings.** When this software detected fatal ECG signal, it will change the color of comments window from light purple to bright pink in order to give the users an obvious notice. Under this circumstance, the parameters like HR, QRS, QTC and PR will set to zero, because this case of ECG is abnormal without normal parameters.

ECG Data Description:

- Ecg1.bin to ecg6.bin are regular ECG data.
- Ecg7.txt and ecg8.txt are fatal ECG data.
- Ecg_n1.bin and ecg_n2.bin are ECG data with obvious interference.