CS 361 Project Description – Sprint 3

ChronoTimer 1009

Your client is delight with the results so far. Your team has now been tasked with building the next iteration of the system.

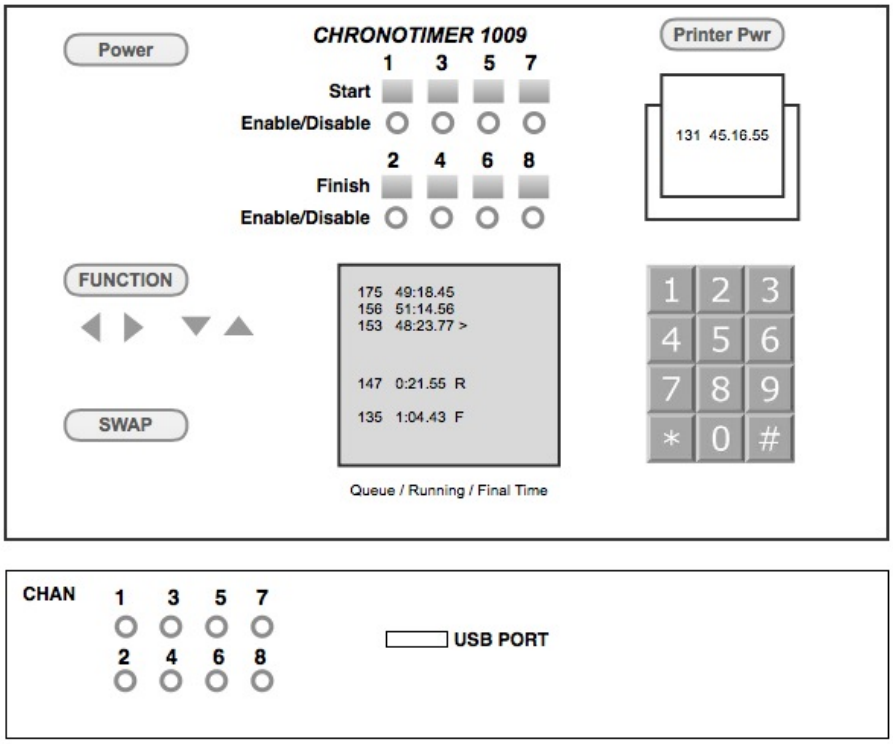
The hardware development is still going, so the client would like an interface emulator built in software for product field testing. Since the interface between the hardware and software has been well defined and you will able to develop your system as long as it is compatible with the interface definition. This sprint will add a new race type and a graphical user interface to make it easer to test the system.

Requirements

Overview

Timing for groups often involves a single start for a group of competitors followed by an ordered finish (1st, 2nd, 3rd, etc). Examples might be a cross country race (running or ski). A start signal can be generated manually or a single start for the racer to first trigger a sensor. Either way there is only one start on channel 1. The finish is on channel 2. The details are described below.

Physical Layout



Release 3.0

Race Type

Add the GRP race type to the system for this Sprint. The ability to handle group races such as cross-country races involves a single start (signaled on channel 1) and a series of single finishes (first, second, third, etc) that are signaled on channel 2. The finishes are stored in the order that they are completed. Each finish receives a placeholder number of 00001, 00002 00003, etc. until the race is ended. Racer numbers can be entered and associated with the finish times in the order they are entered. For example, if racer numbers 131, 145, 267 are entered, they replace 00001, 00002 and 00003 respectively. Racer numbers are not required to be entered.

User Interface

This Sprint will also introduce a user interface (in addition to the ability to read from a test file). Using the diagram above as a model, create a similar user interface using basic Java UI components. The appearance does not need to match exactly, as long as the required features are included.

Power Turns the system on. If it is on, clicking the power button turns it off. The same as POWER.

The buttons to the right of “Start” and “Finish” are buttons to manually trigger a channel (TRIG).

The Enable/Disable are binary (on or off). If the channel is enabled, then signals will pass through. Disabled means the signal is blocked. This is the TOGGLE command.

The Swap button only functions during "IND" type races and swaps the next two racers to finish (SWAP).

For channels, clicking on one channel will attach (CONN command) a type of sensor selected in a drop down list and show the button as selected. Clicking again disconnects the sensor (DISC)

The keypad allows numbers to be entered, using the "#" as a Enter symbol.

The printer is a fixed size text box that scrolls as events appear. It is also printed on the standardout as in previous Sprints.

The running display in the center shows the racers queued, the running time and finish time of the racers. Only the last finish time is displayed. The format will change depending on the type of race. For IND, you only need to show the next three to start, the current running racers and the last racer to finish. For PARIND, the display shows the next pair to run, the running time of the racer(s), and the finish times of the last pair to finish. For GRP, since there are no "starters," only the running time and the last finish needs to be displayed.