CS 361 Project Description – Sprint 4

ChronoTimer 1009

We are on the final sprint for the Chronotimer! At the end of this sprint, you will deliver the first release of the product to your client.

The hardware development is still on-going, so we continue to use our emulator for the hardware. This sprint will add a new race type and a web interface for the results so that anxious parents and fans have easy access to the times.

Requirements

Overview

We need two new features implemented in this final sprint. A new type of race, PARGRP, is used for races that have a common start but multiple finishes with different finish lanes (such as swimming). The finish will occur on channels 1-8 inclusive (note that channel 1 serves two purposes).

The second new feature will be the ability to display the results of any race on a browser, ordered by finish time, in a table:

Place	Number	Name	Time
1	367	Bob Smith	1:25.05
2	211	Mary Edwards	1:28.15

Release 4.0

Race Type

Add the PARGRP race type to the system for this Sprint. For this type, up to 8 competitor numbers may be entered. The first number is assigned to lane (channel) 1, the second to lane (channel) 2, etc. Any numbers other than the first 8 are ignored.

Upon a start (trigger on channel 1), the times for all racers begin. Up to 8 pads may be connected to the finish channels. If there are not enough sensors connected for the racers, some times will not be recorded (a DNF). If there are fewer racer numbers entered than the number of channels connected, only the times for the racers entered will be recorded (if there is a trigger on a channel with no racer, it is ignored).

Display

After the end of each run, the system will send the results to a web display viewable on a standard browser, ordered by finish time, in a table:

Place	Number	Name	Time
1	367	Bob Smith	1:25.05
2	211		1:28.15
3	226	Ed Snowden	1:29.10
4	217	Tom Brookes	DNF
5	101	Mary Smith	DNF

You may add embellishments, as long as the basic information is provided. The competitor numbers are matched up with a list of competitors on the server. If the number is found, the corresponding name is included, otherwise just a blank name field is displayed (e.g. with competitor 211 above). The list of competitors will be available in the file "racers.txt." and can be read in or hard coded.

For this feature, use the simple server developed in Lab. The Chronotimer will send the results to the known network address each time an ENDRUN is issued. Any racers not finished at the end of a run get a DNF.

If there is no server available it ignores the error and continues.

Spectators should be able to connect to the port "results" on the local server. The Chronotimer should connect to a separate port that is used to update results. The server should be able to be run independently of the Chronotimer system.