

# Running A Race With DerbyNet

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This document will take you through the full process of running a pinewood derby-like race with stand-alone DerbyNet.

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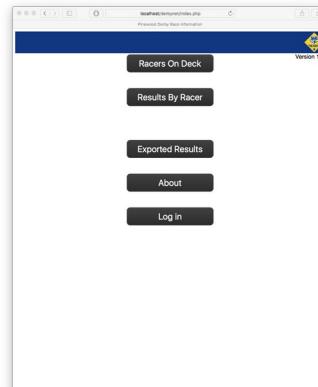
## Initial Set-Up

The initial set-up steps can and generally should be accomplished one or more days before your event. You don't need access to the track or timer; all that's required is the laptop on which you'll be running DerbyNet.

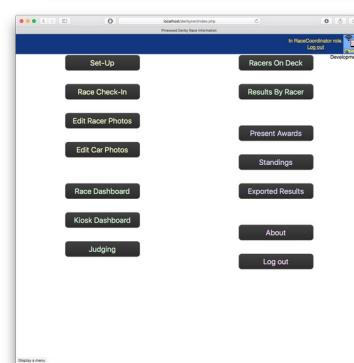
### Choose Database

You would normally use a separate database for each derby event. DerbyNet can use several available database libraries, although in most cases, a SQLite database is the easiest to set up.

1. To get started, point your browser to <http://localhost/derbynnet>, or to whatever URL takes you to the web server running DerbyNet.
2. If you see a guest screen like this, click “Log In” and log in as the Race Coordinator and continue with the next step.



3. If you see the Race Coordinator's home page, like this, then click “Set-Up.”



- Now you should see the Set-Up page, like this. Click “Choose Database.”
- Choose a name for your new database, or select an existing database (if you’re returning to a prior event).

(If for some reason you need to use a database that doesn’t reside in the standard directory, or you need to use a different database technology (e.g., Microsoft Access), then instead of entering a database name here, click the “Advanced” button and follow the instructions in the “Advanced Database Set-Up for DerbyNet” document.)

The “OR … Please select” controls will be absent if there are no existing databases available.

You may use whatever naming convention you wish, but you probably should include your group’s name. Click “Submit.”

Name for new database:

OR

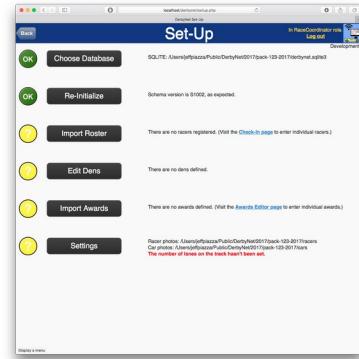
Please select:

**Submit**

**Cancel**

**Advanced**

- The Set-Up page now reflects the name of your new database.



## Initialize Database

Normally, a DerbyNet database is initialized when it is first created, and there’s usually no need to repeat the initialization. However, databases created or chosen by the “Advanced” option may require manual initialization before it can be used by DerbyNet.

More commonly, re-initializing a database is a convenient way to erase all the data in the database.

To (re)initialize a database, click the Initialize or Re-Initialize button, and then confirm your intent in the dialog box that appears.

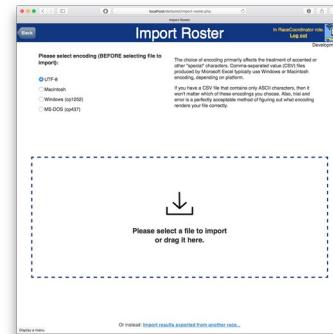
## Import Roster

Once the database itself is initialized, it’s probably time to populate it with data about the racers in your event. This is normally done by importing a spreadsheet. Most common spreadsheet formats can be imported directly, including Excel (.xls and .xlsx) and OpenOffice/LibreOffice (.ods) files, as well as comma-separated value (.csv) files.

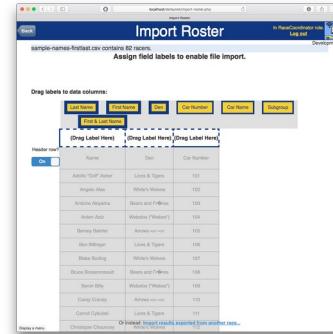
(In addition to importing a roster, it's also possible to enter racer data one entry at a time through the check-in page. Late registrants would be accommodated in this way, but it's generally faster and easier to import a roster for the majority of entrants.)

It's common (but not universal) for the field of racers to be segmented in some way. For example, a Cub Scout pack is typically divided into dens. The name used for the segmenting is settable by the user; once again, for Cub Scout packs, one would most commonly call a segment a "Den." Segments are used as the basis for racing groups and/or subgroups; see Define Your Racing Groups, below.

1. From the Set-Up page, click the “Import Roster” button. The Import Roster page looks like this:



2. Particularly if you’re importing a spreadsheet in csv format, you may need to consider character encodings. A csv-format spreadsheet is a simple text file, but there are different ways the characters in the text file may be represented. If your csv file does not contain accented characters or special symbols, the choice of encoding may not matter, as simple ASCII characters will generally be expressed the same way in all encodings. However, if you know what encoding was used in preparing your csv file, you should make the appropriate selection in the Import Roster page.
  3. Locate your spreadsheet, either by clicking the “Choose File” button, or by just dragging the file to the target area surrounded by dashes. The contents of the spreadsheet should now appear.



- Now that the file contents are displayed, **you should inspect them** to be sure they're correct.

If some characters in the spreadsheet don't appear as they should, try different encodings until you find one that renders your text correctly.

5. Take a look at the top row in your spreadsheet, and decide whether it contains column headers, or data for the first racer. Set the “File has a header row?” switch appropriately.
6. Drag the column label boxes that appear above the data so they label the appropriate columns.

Each racer to be imported must have a first name and a last name. First and last name can either be in separate columns, or combined in a single column. (If combined into a single column, the import process will attempt to identify the first and last names within each entry. It's likely to get some wrong, so you should review your roster after import.)

You may also have columns for segment, car number and car name.

7. If the “Den” or segment column label has been placed, the summary line at the top of the page will update to show the total number of segments to be imported, and the number of segments that will be in the database after importing. You can click on this part of the summary line to see the names of the new and existing segments.

If some of the entries' den names are misspelled, you may end up with two or more variations on a single den name in the database. If that's the case, click the “Back” button, fix your spreadsheet, and start again.

8. When the required column labels have been placed, the “Import Roster” button appears. Click the “Import Roster” button. A green “OK” will appear on each row as it's imported.

If there were already racers present in the database before you imported, the spreadsheet's contents will be added to those existing entries. Importing a roster does not replace or delete existing data.

If you make a mistake or are otherwise unhappy with the import results, you can erase all the data in the database by returning to the Set-Up page and re-initializing the database schema.

## Define Your Racing Groups

Next you decide how you want your organization's structure (the segments you defined earlier, if any) should be reflected in your race.

## DerbyNet Racing Structures

### **Racing Groups**

For racing, the full field of racers within the database is organized into **racing groups**. Each racer is in exactly one racing group, and, if subgroups are used, in exactly one subgroup of that group.

A **racing round** is a set of heats for a particular racing group formed from racers in one particular

racing group. (There are also aggregate rounds, see below.) Racers from different racing groups will not be included in the same racing round, and therefore won't ever be scheduled to race head-to-head in the same heat, except possibly in an aggregate round.

## Subgroups

If desired, each racing group can be divided into **subgroups**. Subgroups support the calculation of separate standings by subgroup, and speed awards by subgroup, but they don't affect race scheduling. Racers in different subgroups of the same group can appear in the same heat.

## Aggregates

Standings and awards are automatically calculated for the full field of racers, in addition to those calculated per racing group and per subgroup. Sometimes, however, it's desirable to calculate standings and awards across multiple racing groups, but less than the full field of racers. An **aggregate group** is just a selection of two or more racing groups or other aggregate groups, and allow the calculation of awards and standings across multiple racing groups.

It's possible to create racing rounds for an aggregate groups, e.g. to define a "Grand Finals" racing round in which the top racers from the constituent racing groups compete for an overall award.

## Options for Race Organization

The Racing Groups page allows you to choose how your segments are reflected in the organization of your race. The choices available are:

- **Race each segment as a group:** This reflects the most common practice for Cub Scout packs, in which each den is treated as a racing group.
- **Race as one big group:** This reflects the second most common practice, in which racing heats draw from the entire field of racers. With this option, you may wish to treat segments as subgroups: all racers race together, but awards and standings will still be calculated for each segment.
- **Custom racing groups:** This lets you organize the segments into groups in any way you like. For example, if you mostly want to race each segment as a group, but you have one or two very small segments, you can consolidate two or more of the segments into a single racing group.

## The Racing Groups Page

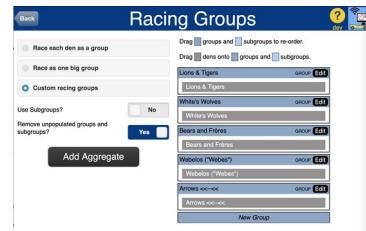
1. From the Set-Up page, click the "Racing Groups" button. The Racing Group page looks like this:

The screenshot shows the 'Racing Groups' configuration page. At the top, there are three radio button options: 'Race each den as a group' (selected), 'Race as one big group', and 'Custom racing groups'. Below these is a checkbox labeled 'Use Subgroups?' which is checked. At the bottom of the page, there is a large 'Yes' button. To the right of the main content area, there are buttons for 'Add Aggregate' and 'Edit' next to each of the five groups listed: Lions & Tigers, White's Wolves, Bears and Friends, Webelos ('Webelos'), and Arrows ooc-ooc. Each group entry includes a 'GROUP' link and an 'Edit' icon.

2. For a new database, the “Race each *segment* as a group” option will be chosen, unless there aren’t at least two segments defined for your racers. With this option, each segment will be its own racing group.

<input checked="" type="radio"/> Race each den as a group
<input type="radio"/> Race as one big group
<input type="radio"/> Custom racing groups

3. Alternatively, the “Race as one big group” option constructs one racing group encompassing the entire field of racers. If the “Use Subgroups” option is on, each segment will be its own subgroup.
4. Finally, the “Custom racing groups” option allows you to organize the segments into groups as you choose. Drag and drop segments onto new or existing groups.



5. The “Add Aggregate” button allows aggregate group to be defined. Choose which of the existing groups should be included in the new aggregate group.

Aggregate by	<input type="checkbox"/> Den
Add New Den	
<input type="text"/> Number of speed trophies: Default	
Lions & Tigers <input type="checkbox"/> Off White's Wolves <input type="checkbox"/> Off Bears and Frères <input type="checkbox"/> Off Webelos ("Webes") <input type="checkbox"/> Off Arrows <<->< <input type="button" value="Submit"/> <input type="button" value="Cancel"/>	

6. The “Edit” button on each group or subgroup allows the name of the racing group or subgroup to be changed. It also allows you to customize the number of speed trophies for an individual racing group or subgroup.

Den Name	
<input type="text" value="White's Wolves"/>	
Number of speed trophies: Default	
<input type="button" value="Submit"/> <input type="button" value="Cancel"/>	

## Import Awards

Many organizations use trophies or other awards to recognize achievement other than speed – awards

for design, workmanship, or paintwork are typical examples.

DerbyNet lets you import a list of awards from a spreadsheet or csv file if that's convenient for you. The process is exactly like that for importing a roster, with each row serving to define one award. Each row of the spreadsheet must have an award name and award type. If you have some awards that are specific to a group (den) or subgroup, you may optionally designate columns for those restrictions.

Each award's entry in the award type column must be populated with one of the following types:

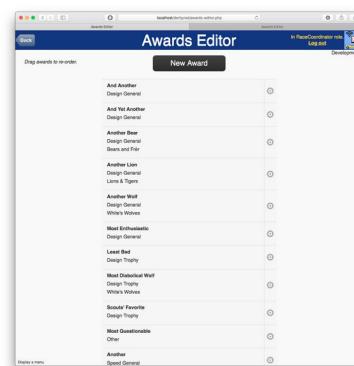
- Speed Trophy
- Speed General
- Design Trophy
- Design General
- Other

(An additional award category, *Ad Hoc* awards, is described in the Judging section.)

## The Awards Editor

Awards may also be entered by hand, using the Awards Editor. The Awards Editor can be accessed either by a link on the Set-Up page, or by a button from the Judging page. The Awards Editor allows you to add, rename, re-categorize, re-order, and delete awards.

1. From the Set-Up page, click the “Awards Editor” link to reach the Awards Editor page. (Alternatively, from the Judging page, click the “Awards Editor” button.)



2. To create a new award, click the “New Award” button. Enter a name for the award, and choose the award category. If the award is specific to a group or subgroup, make that choice here, too. When you’re finished, click “Submit.”

A screenshot of a modal dialog box titled "New Award". The dialog contains the following fields:

- Award Name: (empty input field)
- Award Category: (dropdown menu set to "Design General")
- Submit (dark blue button)
- Close (dark blue button)

The dialog has a light gray background and a thin black border.

3. To modify or delete an existing award, click on the small gear icon to the right of the award in the list. A similar dialog box appears.

To modify the award, make the changes you wish and click “Submit.”

To delete the award altogether, click the “Delete Award” button. You’ll be asked to confirm that you want to delete the award.

A screenshot of a modal dialog box titled "New Award". The dialog contains the following fields:

- Award Name: (input field containing "And Yet Another")
- Award Category: (dropdown menu set to "Design General")
- Submit (dark blue button)
- Close (dark blue button)
- Delete Award (red button)

The dialog has a light gray background and a thin black border.

- The order of the awards can be changed by dragging and dropping the award entries within the list.

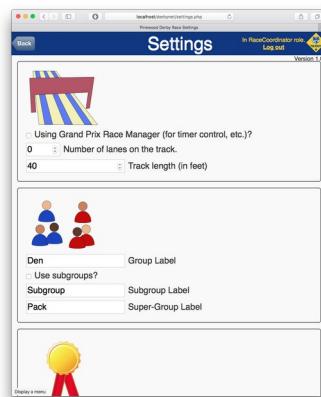


## Settings

Once your initial roster has been imported, a few housekeeping settings should be set before proceeding further. (Setting changes may be made at any time, but you're better off getting them set correctly earlier rather than later.)

- From the Set-Up page, click the “Settings” button to reach the Settings page.

In the steps below, only the most important settings are mentioned, but you should review and adjust all the settings while on this page.



- Select the number of lanes in your track, if known. You will not be able to schedule any heats until you've entered the number of lanes for racing.

If you wish, you can choose to use fewer lanes than are present on the track. Enter the actual number of lanes for the track, and then click on the “lanes available for scheduling” icons to disable or enable individual lanes on the track.

- The “Group Labels” sections allows you to select the appropriate terminology for the subdivisions of your organization. “Den” and “Pack” are Cub Scout terms, but you should change them as appropriate for your organization.

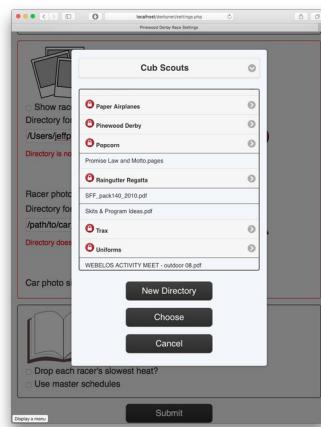
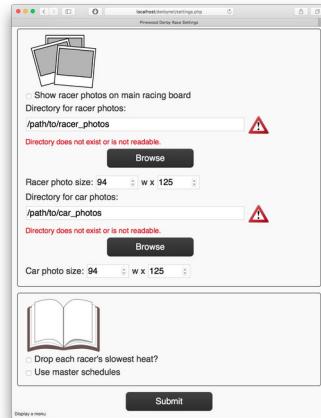
- DerbyNet has powerful features for collecting and displaying photos of your racers, their cars, or both. It can also collect videos of each race if you're using the Replay Kiosk feature. To make the most effective use of these features, you must specify file paths for the directories in which you want uploaded photos and videos to be stored.

These file paths should already be filled in for you if you used the easy database set-up. However, if you used the “Advanced” database set-up, you may need to select the directories here.

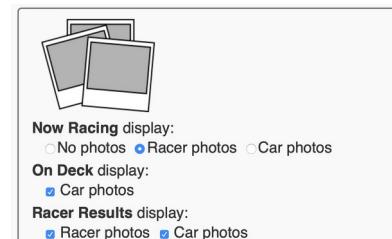
Note that the directories must be on the same machine (laptop) that's hosting the web server, and the directories must be writable by the web server. (The web server process typically runs as its own user, with different access restrictions. Just because *you* can open a folder doesn't mean the web server can.)

- You can enter the file paths for the directories directly in the input boxes, OR you can click the “Browse” button to navigate through the server's file system.

Pay attention to any red warnings that are shown for the chosen directories.



- If you wish, you can display racer photos on several of the displays. To enable these features, click the appropriate checkbox(es).



- See the “Race Option Settings” section, below, for details about the last group of settings.

## Race Option Settings

The last group of settings on the Settings page control procedure and scheduling for your event. These are described here in more detail:

- Interleave heats from different (groups)?** Racers for a particular heat are always drawn from the same group (called a “den” by default). If this box is unchecked (the default), all the heats

from one group are run, in succession, before heats from another group are run. If this box is checked, heats from each group are spread out among the scheduled heats for all groups. Some organizations prefer this option in order to keep group engaged in the event as long as possible.

- **Race by points (place) instead of by times?** Standings are normally calculated based on finish times, but some timers only report finish place (first, second, third, ...). Check this box if you wish to consider place within each heat instead of finish times for scoring. This scoring change affects the displayed standings, and is also used for selecting racers to advance from one round to the next.
- **Abbreviated single-run-per-car schedule?** The heat scheduler normally generates schedules that ensure that each racer runs the same number of times in each lane. (The resulting schedule has as many heats as there are racers, provided there are more racers than lanes.) For very large events, the alternative scheduler enabled by this check box will generate a schedule in which each car races only once, rather than once per lane. For an n-lane track, this schedule will have  $1/n$  heats (rounded up to an integer).
- **Scoring Method:**
  - **Average all heat times** Take an average of all of the heat times for each racer.
  - **Drop slowest heat** Exclude each racer's slowest heat time and then calculate the average of all the remaining heats. Some organizations use this option as a hedge against certain kinds of track inconsistencies, or against a poor staging.
  - **Take fastest single heat** Ignore all but the fastest heat for each racer.

## Other Considerations Before Race Day

As you plan the details of your event, you may also want to visit the Scene Editor (to make it easier to manage the kiosk displays) or set a racing rounds playlist.

## On-Site Set-Up

With the DerbyNet web server set up, consider some of these options for your on-site set-up.

### Bring Your Own Network

DerbyNet operates without any need to connect to the public internet. Accordingly, regardless what kind of internet or WiFi capabilities are offered by your venue, consider bringing your own stand-alone WiFi router, and connecting all your DerbyNet elements to that local network.

Aside from freeing you from dependence on the (perhaps not great) Wi-Fi at your event's venue, bringing your own router also affords you some control of the low-level details, allowing you to do more set-up in advance and less on-site. In particular, if your router can assign a static IP address for a particular device, set the IP address for the laptop that's hosting DerbyNet so that it's known in advance. Other elements of the set-up can then be pre-configured to contact that specific address upon start-up.

If your router can also provide some level of DNS service, you could also assign a domain name, not just an IP address, for the DerbyNet server. That in turn facilitates using SSL connections (<https://> instead of <http://>), which can be useful in some circumstances.

If you're considering buying a router for this purpose, consider open-source (free) router firmware replacement projects such as dd-wrt or Tomato. These provide advanced router features for many base-model (i.e., cheap) routers. Check compatibility before you buy.

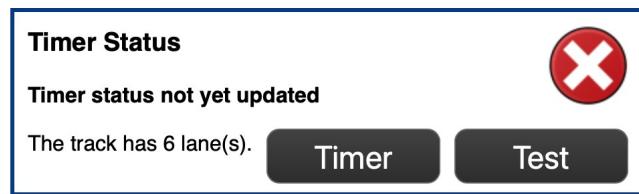
## The Timer

DerbyNet can interface with most popular digital track timers. There are two options available for connecting the timer to the DerbyNet server: via the in-browser interface, provided certain conditions are met, or via the small derby-timer.jar Java program. These options are described below:

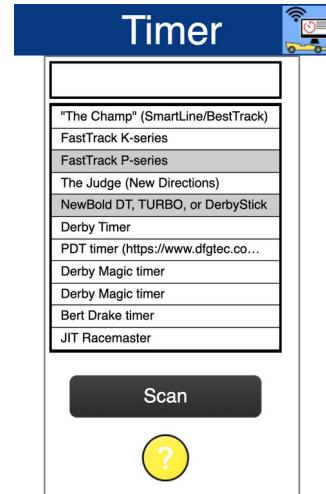
### Connecting the Timer Hardware With The In-Browser Interface

Using the in-browser interface requires:

1. A browser that supports the Web Serial API.
2. Your browser is either running on the same machine as the DerbyNet server, or is connected to the server using a secure (https) connection.
3. From the Race Dashboard, in the timer status area, the “Timer” button will launch the in-browser timer interface in a separate window.



2. To use the in-browser timer interface, click the “Scan” button. You will be presented with a list of available serial ports on the machine. (Unlike derby-timer.jar, the in-browser timer interface is not able just to scan all the available serial ports – you must explicitly grant access to each serial port to which your track timer might be connected.)

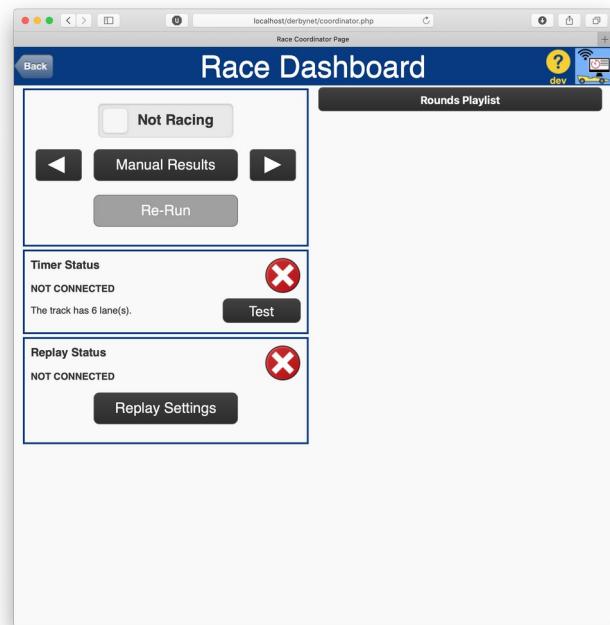


3. In most cases, you'll be using a USB-to-serial adapter. If so, be sure that the adapter is connected before clicking the “Scan” button; otherwise, the serial port that the adapter provides won't appear as an

available serial port.

4. Note that, for the in-browser timer interface, a connection to the DerbyNet server has already been established, so there's no need to specify a URL for connection to the server.
5. As with derby-timer.jar, if you're using a track timer that's not automatically detectable (shown with a grey background), you'll need to click the entry that describes your timer.
6. You can verify the status of the timer from the "Race Dashboard" page. Visit the Race Coordinator's home page, and click on "Race Dashboard."

The second box on the left shows the timer status. Here, the red "X" icon indicates no timer connection.



## Connecting the Timer Hardware With derby-timer.jar

The derby timer manager is a small Java program that can run on most platforms (Windows, Mac, Linux, including Raspberry Pi) and provides the connection between your hardware timer device and DerbyNet.

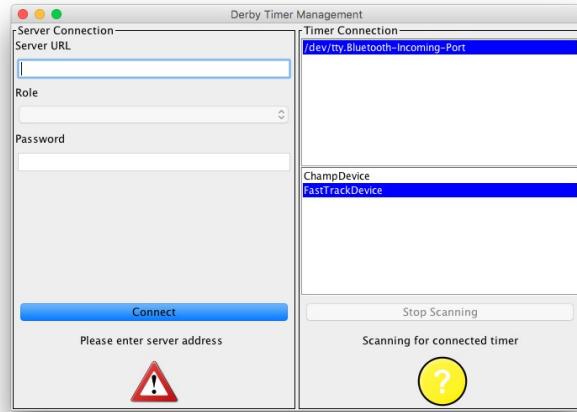
1. Choose a host system (most likely the same laptop running the DerbyNet web server, but it need not be) and connect your timer, usually via a USB serial adapter. (If you have a laptop that still has a hardware serial port, you can use that, too.)

- From the command line, launch the derby timer manager:

```
java -jar derby-timer.jar
```

(Alternatively, you may just be able to double-click on the jar file in the native operating system's file browser, e.g., Finder or Windows Explorer.)

derby-timer.jar will launch a small UI panel, like this:

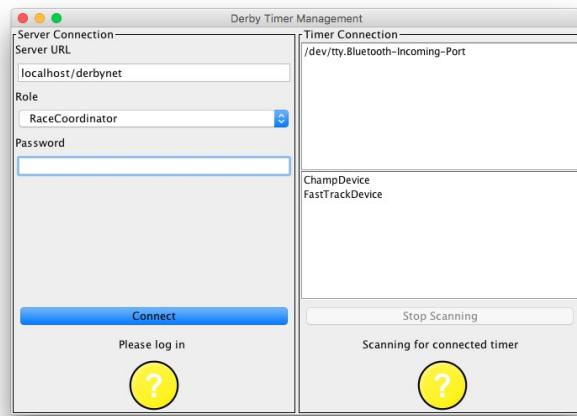


- The left side of the derby-timer UI is concerned with the connection to the DerbyNet web server, while the right side is dedicated to the connection to the physical timer device.

On the left side, enter the URL (including IP address or domain name) you're using for the DerbyNet web server and press enter. If you're running derby-timer on the same laptop as the DerbyNet web server, that URL might be <http://localhost/derbynnet> or similar.

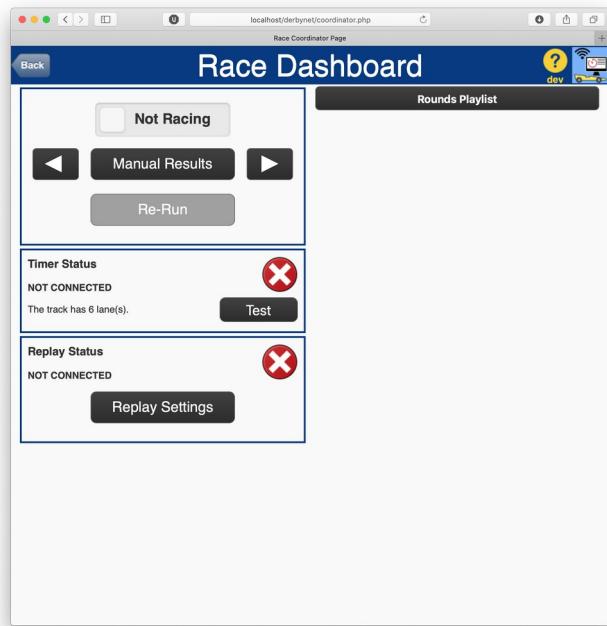
If the connection can be successfully made, you'll be prompted to log in to the web server:

- Enter the role (usually Timer) and password (none by default) to log in to the web server. You should see a green "OK" symbol on the left.
- Meanwhile, on the right side, derby-timer should be scanning all the available serial ports it knows about, trying to discover your timer device. When the timer is successfully detected, you'll see a green "OK" symbol on the right.

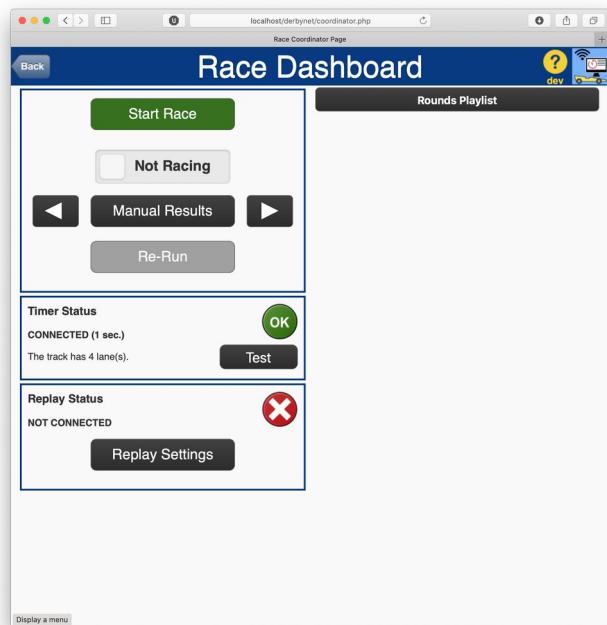


6. You can verify the status of the timer from the “Race Dashboard” page. Visit the Race Coordinator’s home page, and click on “Race Dashboard.”

The second box on the left shows the timer status. Here, the red “X” icon indicates no timer connection.



7. When derby-timer successfully connects, you'll see the timer status change to “OK”:



8. If derby-timer does not successfully detect and identify your timer, you may need to specify the correct serial port or timer profile on the command line. See

```
java -jar derby-timer.jar --help
```

for more information.

## Testing the Timer: Simulated Racing

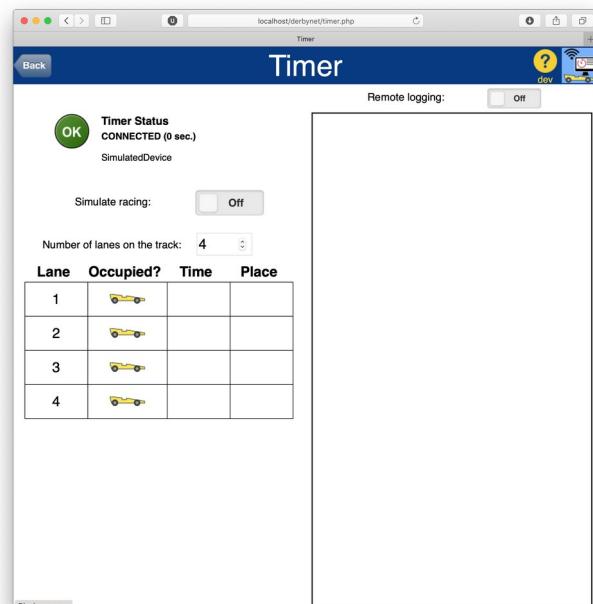
Once the timer is hooked up, it's a good idea to confirm that everything's working as expected.

The timer test page allows you to experiment with your track and timer with simulated racing heats.

Simulated racing does not require to be entered in the database, and allows you to observe the operation of the timer without capturing the results as would happen for your real race heats.

In addition, the timer test page optionally allows you to observe the log stream produced from the derby-timer.jar. This information can be helpful for troubleshooting any connection or timer problems.

1. From the Race Dashboard, click the “Test” button to visit the Timer Test page.



2. On the left is the control to turn on simulated racing mode. In simulated racing mode, DerbyNet interacts with the derby-timer.jar and the timer as it would during actual racing.

The table on the left shows times and place information reported by the timer for each lane.

3. For timers that support lane masking, you can click on entries in the “Occupied?” column to mark a lane occupied or vacant for a simulated heat.	<table border="1" data-bbox="833 164 1470 530"> <thead> <tr> <th>Lane</th><th>Occupied?</th><th>Time</th><th>Place</th></tr> </thead> <tbody> <tr> <td>1</td><td></td><td>3.4231</td><td></td></tr> <tr> <td>2</td><td></td><td>2.3305</td><td></td></tr> <tr> <td>3</td><td></td><td>3.8618</td><td></td></tr> <tr> <td>4</td><td></td><td>3.7143</td><td></td></tr> </tbody> </table>	Lane	Occupied?	Time	Place	1		3.4231		2		2.3305		3		3.8618		4		3.7143	
Lane	Occupied?	Time	Place																		
1		3.4231																			
2		2.3305																			
3		3.8618																			
4		3.7143																			
4. On the right side, turn on “Remote Logging” to observe the log stream coming from derby-timer.jar.																					

## Simulated Timer

If you wish only to experiment with DerbyNet without connecting a hardware timer, you can use the timer simulator program, included in the derby-timer.jar, instead. The timer simulator connects to the server like the regular derby-timer.jar program, but generates random timing results for each requested heat.

The timer simulator is run from the command line, and does not have a GUI. It takes a parameter for the number of lanes the simulated track should have:

```
java -jar derby-timer.jar -simulate-timer -lanes 4 <web-server-URL>
```

## The Check-In Desk

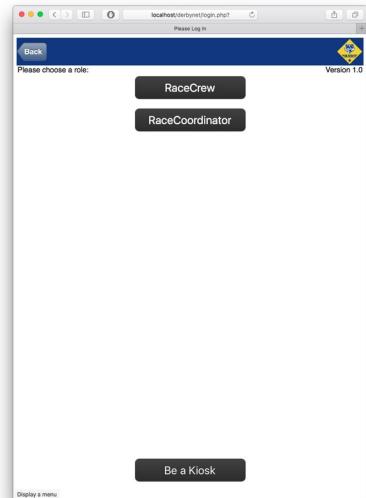
For checking in your entrants after inspection, set up a laptop or tablet on your network and connect to the DerbyNet web server. The Race Check-In page lets you or other volunteer(s) check users in.

## Kiosks (Digital Signage) Set-Up

A key feature of DerbyNet is being able to control unattended kiosks (digital signage). Anything that can run a browser can be set up as a kiosk: smart TV's, Raspberry Pi's, an Android stick, a tablet or a laptop.

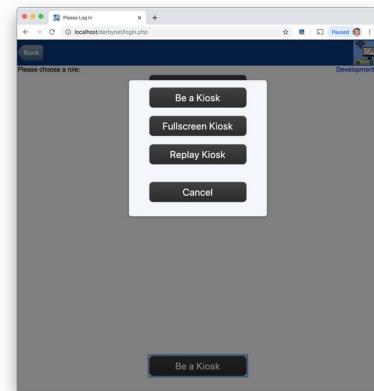
- To set up a kiosk interactively, first visit the guest home from the kiosk's browser. Click the “Log In” button.

2. Click the “Be a Kiosk” button.



3. Choose among the options presented for controlling the kiosk display:

- Use the “Replay Kiosk” button if you plan to incorporate instant replay features via a webcam; see the “Replay Kiosks” section, below.
- Use the “Fullscreen Kiosk” button to place the browser in fullscreen mode.
- Otherwise, use the “Be A Kiosk” button to use the current browser frame as a kiosk.



4. The kiosk will initially display an identification screen, so you can distinguish between different kiosks running at the same time.



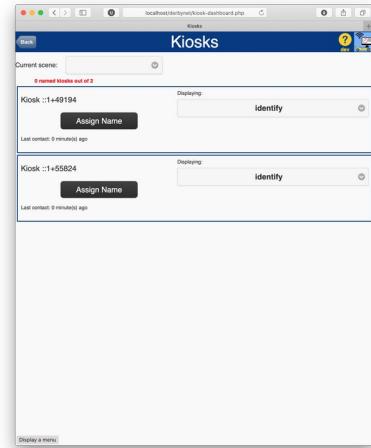
5. In a different browser, visit the Kiosk Dashboard, accessible from the Race Coordinator's home page. Scroll down to find the entry for the new kiosk; the correct entry will have matching identification information.

- If you wish, assign a name to the new kiosk by clicking the “Assign Name” button. If you’re using scenes, it’s important to name your kiosks to match names expected by the scenes you wish to use.



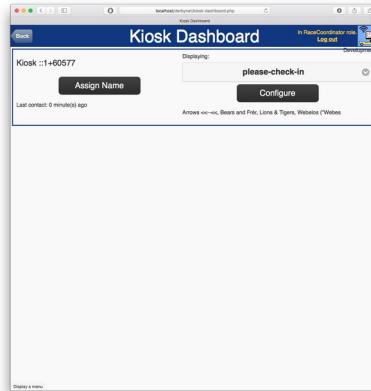
- Once the kiosk is set up, you can control what's displayed on the kiosk at any time by using the selector for that kiosk.

See the “Managing Kiosks” section, below, for more about using the Kiosk Dashboard.



- Some kiosk pages have additional configuration options, e.g., to present information only about specific subgroups. After choosing what to display on a kiosk, click the “Configure” button, if present, to further configure the information presented by the kiosk.

See the “Managing Kiosks” section, below, for more about using the Kiosk Dashboard.



## Available Kiosk Displays

Once a kiosk is set up, it can display any of the available kiosk pages. These include:

### Welcome

Please Check In      Displays the names of registered racers who have not yet checked in.

Slideshow      Displays a continuously-updated slideshow of car and racer photos.

Now Racing      Display this on your main presentation device (projector or large display) to show who's in the current heat and then what the heat's results are.

On Deck      Run this display for the car wrangler(s), to help them know what heats are

coming up.

Results By Racer      This supplemental display summarizes each racer's heat results by lane. It scrolls continuously to cover the entire field.

Award Presentations

Identify      This display lets you figure out which kiosk is which when you're setting up.

DerbyNet      A shameless self-promoting advertisement, in case anyone in the audience is curious what software you're running.

You can add additional display pages, perhaps specific to your event, by adding them to the local/kiosks subdirectory of the web site's base directory.

### Turnkey Kiosk with a Raspberry Pi

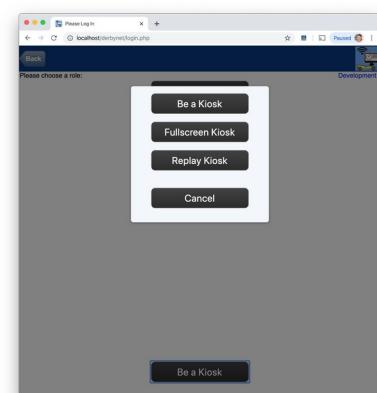
If you know in advance what either the DNS name or IP address for the DerbyNet web server will be, you can configure a Raspberry Pi so that it becomes a kiosk as soon as it's plugged in, with no additional intervention required. See the “Installation- Debian” document for details.

### Replay Kiosks

If your browser supports it, and you have a webcam or similar video capture device attached to the kiosk, a kiosk can provide video instant-replay capability in the browser. When a racing heat completes, the last few seconds of video captured by the camera are presented, temporarily displacing the normal kiosk display.

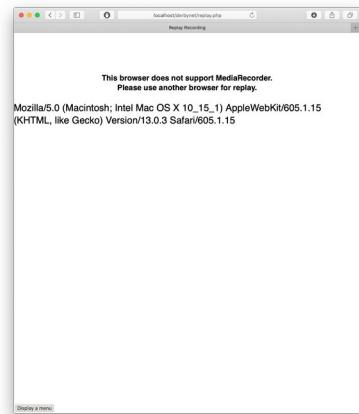
Replay kiosks require a certain level of computational power to provide acceptable results. Some platforms (e.g., a Raspberry Pi) may not provide satisfactory performance.

1. Set up in the usual way, as described above. Choose “Replay Kiosk” when presented with the kiosk options dialog.



- Video replay depends on certain features being present in the browser. If you’re using a browser that doesn’t yet provide support for these features, you’ll see a display similar to this.

As of late 2019, Chrome and Firefox browsers support video replay, while Safari does not.



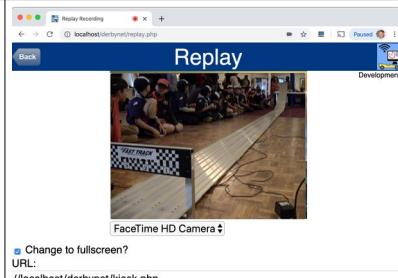
- If your browser does provide the necessary support, the Replay window will appear, including a live preview of what the camera is recording.

You likely will have to grant permission for the browser to access any camera(s). The means for granting permission vary by browser.

If you have more than one attached camera, the selector under the preview image allows you to choose which camera to use. (The selector under the preview image also includes a “Remote Camera” option; see “Remote Replay Camera,” below, for more information.)

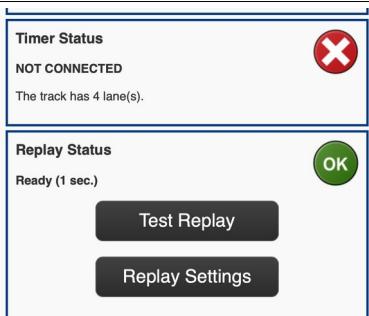
If the “Change to fullscreen?” check box is checked, the browser will enter fullscreen mode after you click the “Proceed” button.

When you’ve finished positioning the camera and making other adjustments, click the “Proceed” button, and continue configuring the kiosk as usual.



- From the Race Dashboard page, use the “Test Replay” button to test the instant replay feature.

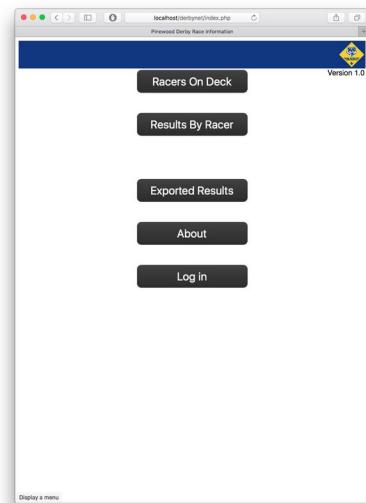
The “Replay Settings” button will allow you to change how long a replay clip should be, and how many times it should be shown after completing a race.



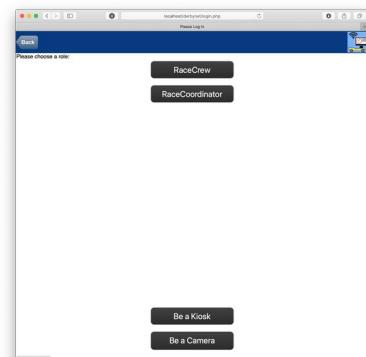
## Remote Replay Camera

In addition to using directly attached cameras, a replay kiosk can provide replay capability based on video streamed from a remote camera. The machine with the remote camera uses the Replay Camera page to transmit video from the camera machine to one or more replay kiosks.

1. To set up a remote replay camera, first visit the home page. Click the “Log In” button.



2. Click the “Be a Camera” button.

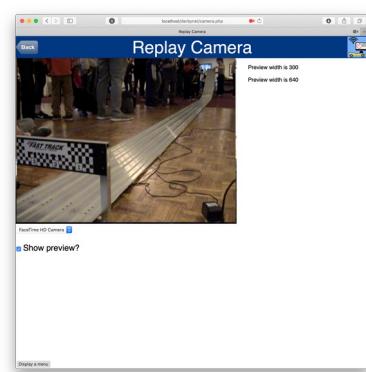


3. The Replay Camera page appears.

You likely will have to grant permission for the browser to access any camera(s). The means for granting permission vary by browser.

If you have more than one attached camera, the selector under the preview image allows you to choose which camera to use. (The selector under the preview image also includes a “Remote Camera” option; see “Remote Replay Camera,” below, for more information.)

Once the camera is aimed as desired, you can turn off the preview and its associated processing by unchecking the



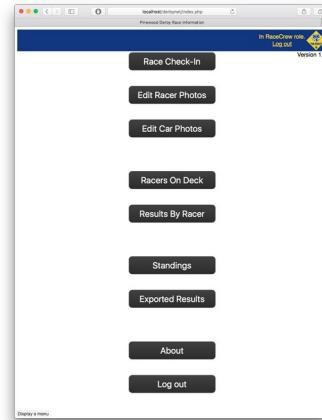
“Show preview?” checkbox.	
4. On another machine, set up a replay kiosk as described above. Choose “Remote Camera” for the video source. The video feed from the Replay Camera page will appear in the replay kiosk.	

## Running the Event

### Check In Participants As They Pass Inspection

As participants arrive at your event, check them in as they pass inspection via the check-in page.

1. Log in as “Race Crew” on the check-in laptop or tablet if you expect to staff this station with other volunteers. (The “Race Crew” log-in allows someone to check racers in and perform certain other tasks, but not do things like establishing the race schedule or entering manual heat results.)
2. Click the “Race Check-In” button that appears on either the Race Crew home page or the Race Coordinator home page.



3. The racer check-in page presents a list of the racers:

Racer Check-In						
New Racer						
Den	Car Number	Photo	Last Name	First Name	Car Name	Checked In?
Change	Bears and Fdr	303	Alyona	Andrea		<input type="checkbox"/>
Change	White's Wolves	202	Alee	Angela		<input type="checkbox"/>
Change	Lions & Tigers	101	Asher	Adith "Dad"		<input type="checkbox"/>
Change	Wolves ("Wolves")	304	Aria	Arden		<input type="checkbox"/>
Change	Annes <del>con-c</del>	405	Banner	Benney		<input type="checkbox"/>
Change	Wolves ("Wolves")	309	Silly	Syron		<input type="checkbox"/>
Change	Lions & Tigers	106	Stringer	Ben		<input type="checkbox"/>
Change	Bears and Fdr	308	Briannault	Bruce		<input type="checkbox"/>
Change	White's Wolves	207	Bulding	Brake		<input type="checkbox"/>

4. To check in a racer, tap or click “checked in?” switch for that racer in the rightmost column.

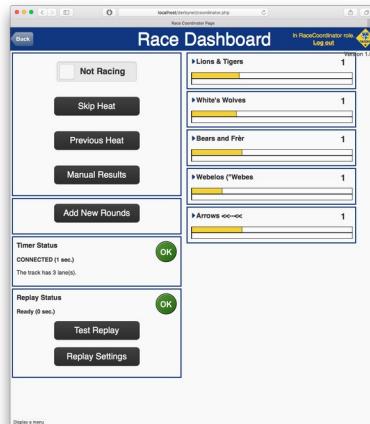
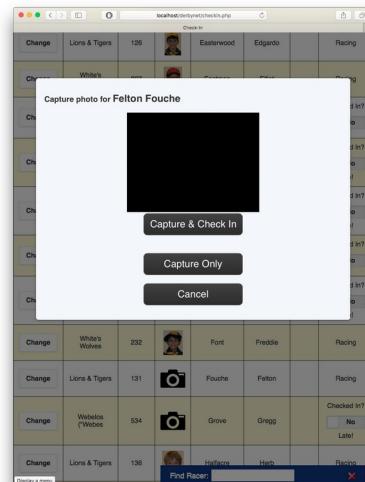
5. Other data changes can be made (correcting misspelled names, etc.) by clicking on the “Change” button for a racer, in the leftmost column.
6. If it's easier, type part of a racer's name in the search box on the bottom of the window to scroll to matching entries.
7. If you're using a device with an attached webcam, you may be able to use the webcam to capture car or racer photos during the check-in process. Click on a camera icon to bring up the photo capture dialog.

At this point the browser may prompt you for permission to allow the photo dialog to access your webcam. In many cases, it's necessary to give permission every time the photo capture dialog comes up. Some browsers may allow a domain to be considered “trusted,” provided the connection is secure (made with https rather than http). See the “Webcams and Secure Contexts” document for additional details.

Use the “Switch Camera” button to switch between different cameras if you're using a device (e.g., phone) that has more than one.

Alternatively, if you have photos available, you can upload them by dragging to the photo capture dialog.

8. If desired, certain operations can be applied to whole groups or subgroups, or to the whole field. These include checking in racers, assigning car numbers, or marking award eligibility. Click the “Bulk” button for these operations.
9. Progress of the check-in process can be assessed from the Race Dashboard. For each den, the top progress bar shows how many of the registered participants have been checked in.



## Using a Barcode Scanner

Barcode scanners are inexpensively available, and connecting one to your check-in desk's laptop can help to speed up your check-in process. (The “Car Tag” or “Check-In Card” printables include

barcodes.)

You can choose how the check-in page should respond when a racer barcode is scanned by clicking on the barcode icon at the top of the check-in page. The default response is to locate  and scroll to the racer on the check-in page. Other options include automatically checking in the racer, capturing a racer photo, or capturing a car photo.

## Mobile Check-In (Experimental)

A simplified version on the check-in page, the “Mobile Check-In” page, is optimized for use with a smartphone camera and barcodes.

To select a racer for check-in and/or photo capture, choose the racer from the presented list, *or* switch to the camera and point the camera at a barcode from one of the printable artifacts (car tag, check-in card, driver’s license, etc.). Once a racer is identified, their name appears at the bottom of the screen, and the user is presented with controls to check in the racer and/or capture photos.



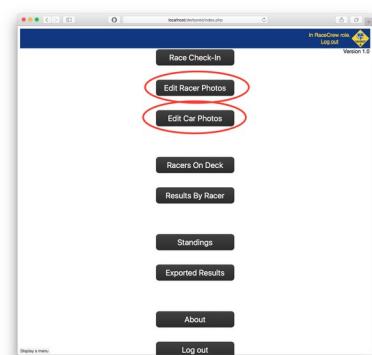
The Mobile Check-In page is accessed with the “Mobile” button on the regular check-in page. The “Mobile” button allows navigation to the Mobile Check-In page, as well as presenting a QR code by which a phone can navigate to the Mobile Check-In page.

Access to a smartphone’s camera requires that the server be set up to support encrypted communication ([https](https://) vs [http](http://)). See [Webcams and Secure Contexts](#) for details.

## Photo Editing

Once uploaded to the server, captured photos (of racers or cars) can be cropped, rotated, and assigned.

- From the home page for Race Crew or Race Coordinator, click “Edit Racer Photos” or “Edit Car Photos”.



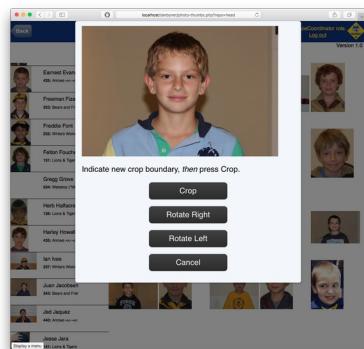
2. The photo editor page lists racers in a (scrollable) list on the left, and unassigned photos in the remainder of the page.



3. Assign a photo to a racer by dragging the photo from the array of photos to the entry for a particular racer.



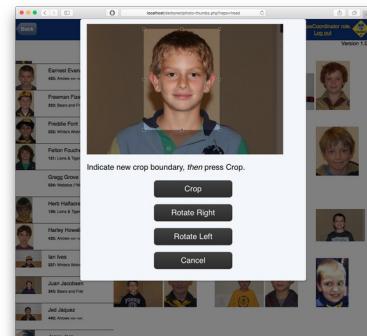
4. To remove a photo assignment, drag a photo from a racer's list entry back to the pool.



5. Click on a photo to bring up the dialog for manipulating the photo itself.

6. To crop the photo, drag out a rectangle and then click the “Crop” button.

The aspect ratio of the cropping rectangle is determined by the values specified on the Settings page.

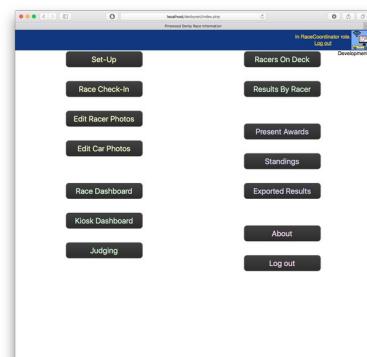


7. The dialog also makes it possible to rotate the photo 90° left or right.

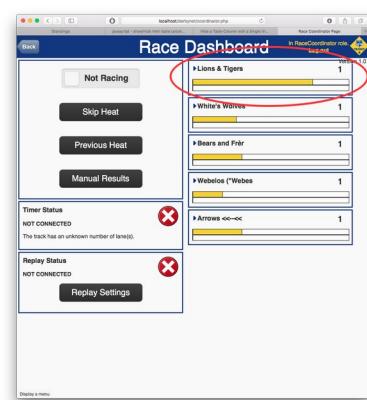
## Start Racing

When you're ready for a den to start racing (i.e., enough racers from the group have checked in), you create a racing schedule for that den, and then start the actual race.

1. From the Race Coordinator's home page, click on “Race Dashboard.”



2. Tap on the box that summarizes the first racing group. As long as some racers have checked in, this will expose the “Schedule” button for that group.



3. Click on the “Schedule” button to bring up the race scheduling dialog.

4. From the race scheduling dialog, choose how many times each racer should race in each lane, and then click the “Schedule” button.

If the number of lanes on your track has not yet been determined, you will see an alert to that effect, and scheduling will not occur. In that event, go back to the “Settings” page and set the actual number of lanes for your track, and then return to the race dashboard to schedule the racing group.

5. Once a race group’s schedule has been set, the top progress bar (showing checked-in racers) changes color. Click again on the summary box for the racing group to expose the “Unschedule” and “Race” buttons.

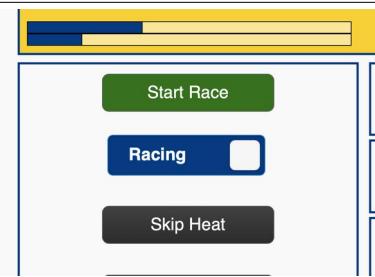
The “Unschedule” button removes the generated schedule (e.g., in case more racers need to be checked in for this racing group).

Click the “Race” button to begin racing for the race group.

6. Clicking the “Race” button prepares for the first heat in that round to begin:

- The summary box is moved to the top of dashboard.
- The “Racing” control moves to the “On” position.
- The first heat for the round becomes the current heat.
- The timer is prepared for the first heat.

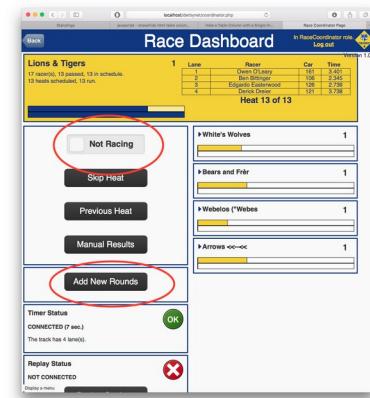
7. If you're using a timer that supports a remote gate release feature, you should see a "Start Race" button above the "Racing" control. Clicking this button will operate the track start gate, assuming you have the necessary solenoid or similar hardware.



8. When the timer reports the results of the current heat, racing advances automatically to the next heat. As each heat is completed, the lower progress bar advances.
9. When the last heat for the round has completed, the racing control will move to the "Not Racing" position, as shown.

You should now do one of the following:

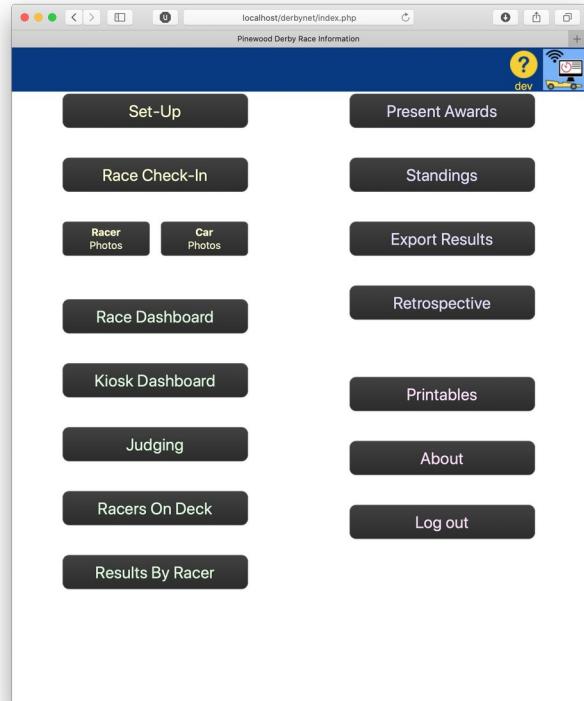
- Select another racing group to schedule and race, as described in step 2, above. (Note that you can generate a group's schedule in advance, while another group is racing. In that case, you can immediately start the next group racing.)
- Click on the "Add New Rounds" button and schedule another round for the same group.
- Click on the "Add New Rounds" button and schedule a aggregate round across several racing groups.



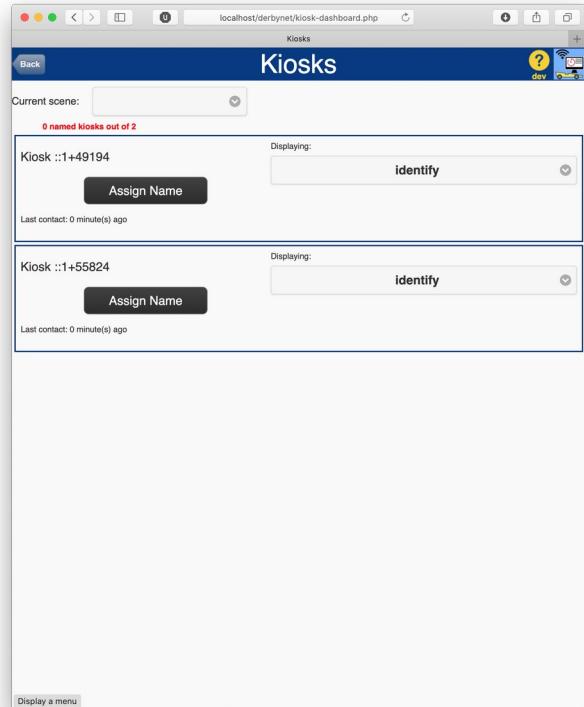
## Managing Kiosks

See the section on "Kiosks (Digital Signage) Set-Up" for guidance on initially setting up kiosks at your site. This section describes the management of the displays during your event.

- From the Race Coordinator's home page, click "Kiosk Dashboard."



- The Kiosk Dashboard page shows all the kiosks that are currently (or have recently been) in contact with the web server. It also shows the currently selected scene, if any.



3. You can choose a scene to become the current scene by using the current scene control.

Note that scenes affect only those kiosks that have been named to match the scene's kiosk names. The "named kiosks" message is a reminder of how many kiosks match the scene kiosk names.

Current scene:

**0 named kiosks out of 2**



## Unusual Situations

### Re-run a heat

Should it be necessary to do so, a heat can be re-run as follows:

1. Use the "Skip Heat" and "Previous Heat" buttons, as necessary, until the heat to be re-run becomes the current heat.

Lane	Racer	Car	Time
1	David Lafferty	108	2.911
2	Ben Sillinger	106	2.942
3	Edgaro Estevanwood	108	2.942
4	Patricia	121	3.708

Heat 13 of 13

2. Click the "Manual Results" button to bring up the dialog that allows changing the results for the heat.

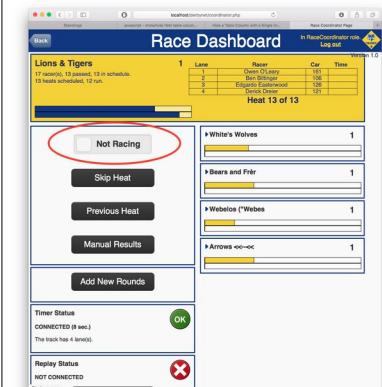
Lane	Racer	Car	Time
1	David Lafferty	108	2.911
2	Ben Sillinger	106	2.942
3	Edgaro Estevanwood	108	2.942
4	Patricia	121	3.708

Heat 13 of 13

3. Click the “Discard Results” button to delete the previously-recorded heat results for the heat.



4. Click the “Racing” slider to initialize the timer and prepare to re-run the heat.

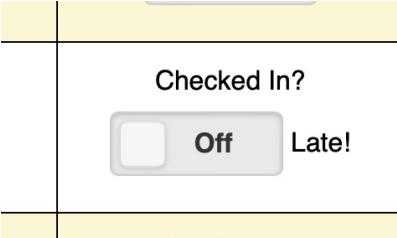


## Late Arrivals and Other Race Schedule Changes

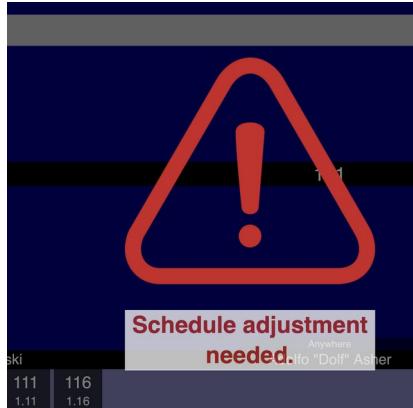
No matter how good your planning, preparation, and organization, sooner or later you'll have the experience of a racer showing up to your event *after* the racing for their group has started and some heat results have been recorded. (Slightly less common, and perhaps more preventable, is having a racer or their parent ask why they're not shown in the currently-racing group, even though they checked in a while ago, leading you realize they were assigned the wrong group. And, again, the group they should be in has already run some heats.)

DerbyNet now supports making *adjustments* to an existing schedule, in order to accommodate changes in the roster for the round. (In the past, the options were to throw out the results of the already-run heats and generate a new schedule, or to race the affected racers in a group that hadn't started racing.)

- From the check-in page, check in the late arrival, or reassign the misplaced racer to the correct group.

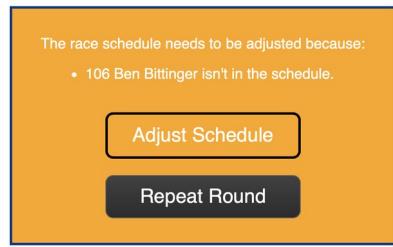


- If the change affects the currently-racing round, the “Now Racing” and “On Deck” kiosks will show an overlay to indicate that the schedule needs changing.



- On the race dashboard, the affected racing rounds will show with an orange background, indicating that there's a discrepancy between the race schedule and the race roster. Opening the controls for the round will describe the specific discrepancy, and provide an “Adjust Schedule” button to resolve.

Note that the discrepancy itself may be an error – maybe someone at the check-in desk clicked the wrong thing. In that case, resolve the issue from the check-in page, and the warnings and overlays will clear by themselves.

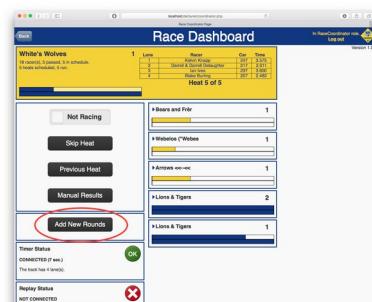


## Adding a New Round

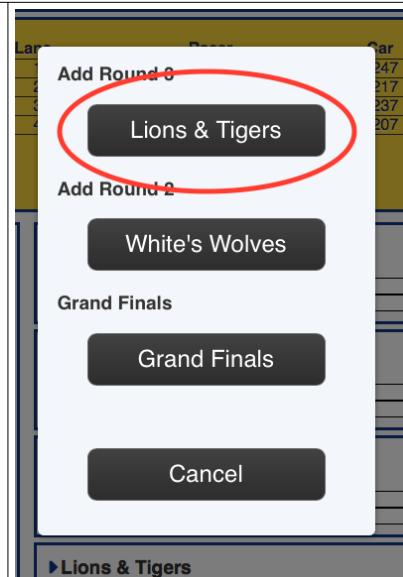
If you need to add a new round for racing, there are generally two cases to consider: adding a round to an existing, native, racing group, and adding an aggregate round incorporating finalists from multiple groups. The two cases are similar, but not identical.

### Adding a Native Round

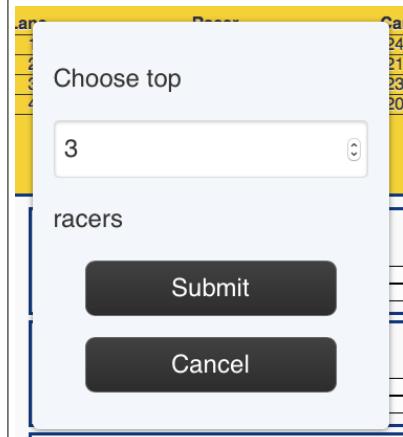
- From the Race Dashboard, click the “Add New Rounds” button.



2. In the dialog that appears, choose the racing group for which you wish to add a new round.

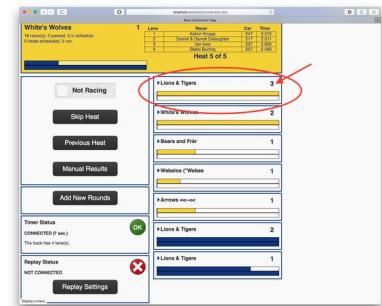


3. Another dialog appears, asking you to select the number of racers to include in the new round. The racers chosen will be the top finishers from the previous (i.e., highest-numbered) round from the chosen racing group.



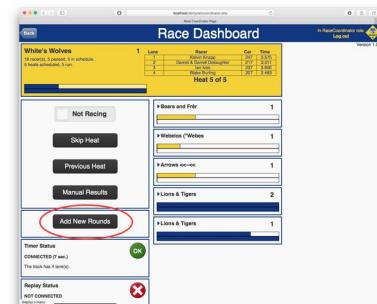
4. The new racing round appears in the list of racing rounds. Notice the round number that appears in the corner of the box displayed for each racing round.

As with the other racing rounds, click on the newly-added round to expose buttons for scheduling and racing.

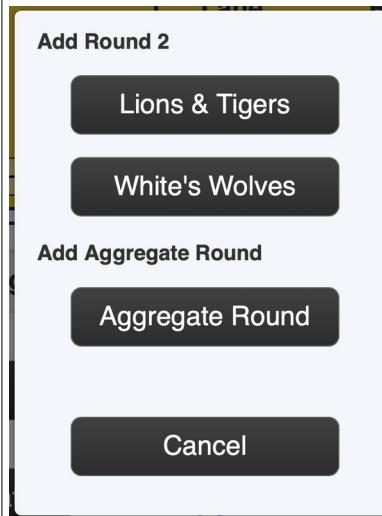


## Adding an Aggregate Round

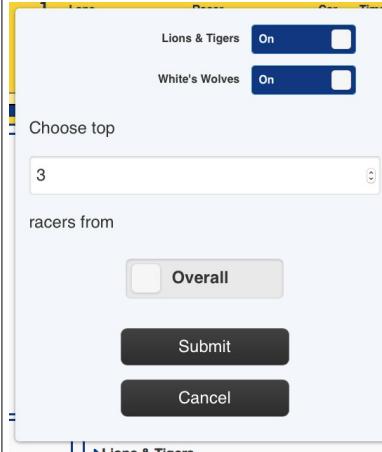
1. From the Race Dashboard, click the “Add New Rounds” button.



2. Click the “Aggregate Round” button.

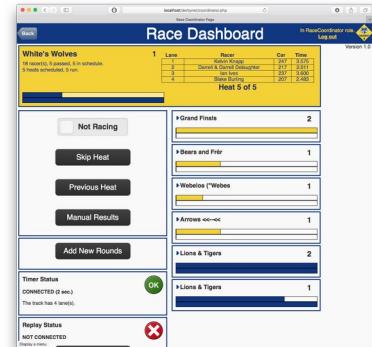


3. Decide how the roster for the aggregate round should be constructed: from which race groups to draw entrants, and either the number of entrants to choose from each group, or the total number of best results to choose. Click “Submit.”



- The aggregate round appears in the list of racing rounds.

As with the other racing rounds, click on the newly-added round to expose buttons for scheduling and racing.



## Additional Features

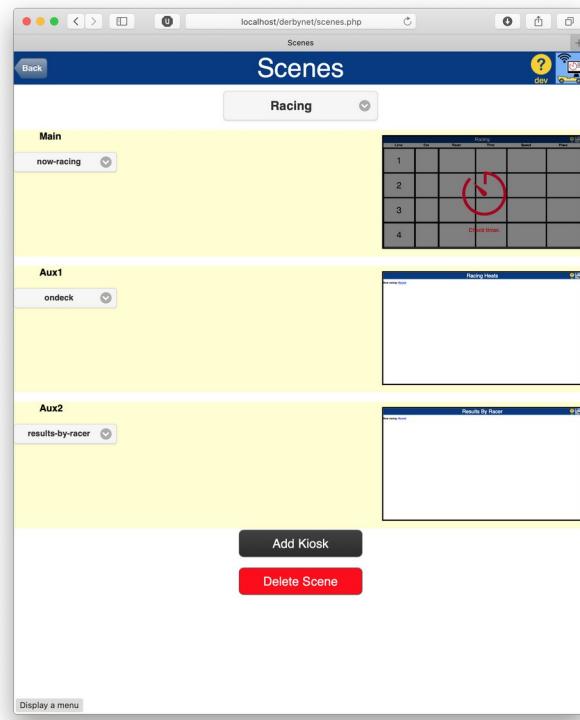
### Scenes

If you will be running your event with more than one kiosk, it can be cumbersome to switch several displays at once, for example, when you switch from racing to presenting awards. Scenes allow you to package together the page selections for several kiosks, and switch between them with a single gesture. Scenes are also used in the construction of the racing rounds playlist (see next section).

From the Kiosk Dashboard, click the “Scene Editor” button to visit the Scenes editor. (There’s also a link to the scene editor from the Set-Up page.) You’ll see there are several pre-defined scenes you can use (or change); you can also define new scenes of your own.

Each row in the Scenes editor represents one kiosk name for the scene. The pre-defined scenes use the kiosk names “Main,” “Aux1,” and “Aux2;” you can add additional names if you like. (A kiosk name will be removed if no scene specifies a kiosk page for that name.)

For the currently selected scene, the scene editor shows a miniature (live) version of what a kiosk with that name would display.



## Racing Rounds Playlist

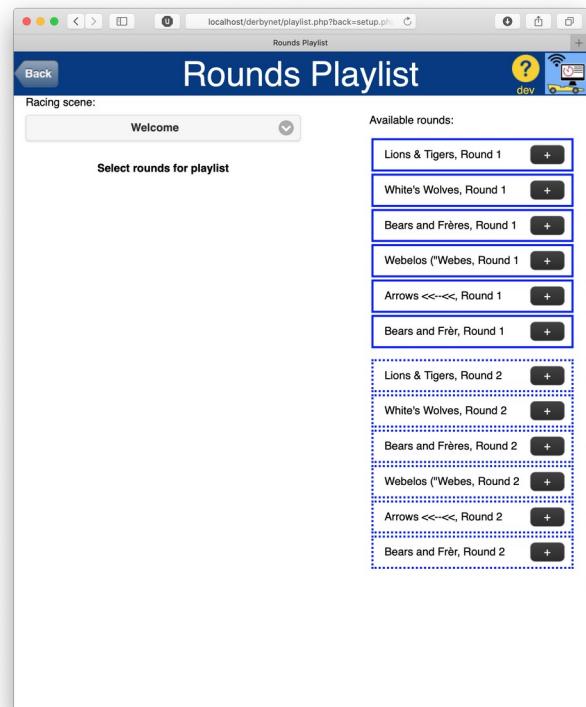
The racing rounds playlist allows you to plan the sequence of racing rounds for your event, and automatically advance from one round to the next. This relieves the race coordinator of the work to manage the roster and heat schedule for each round manually. With a playlist defined, when one racing round finishes, the playlist advances automatically to whatever the next step is.

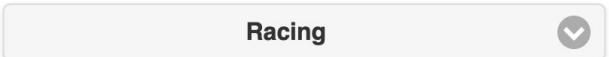
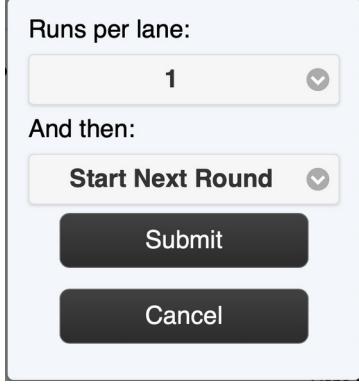
Many groups will plan a pause between racing rounds, e.g. for the presentation of awards from the previous round. The playlist allows each racing round to include a scene change to occur at the conclusion of the racing round. (A scene change is not required: the default end-of-round action is “Start Next Round” to continue racing with the next round.)

When the playlist advances from one entry to the next, the following happens:

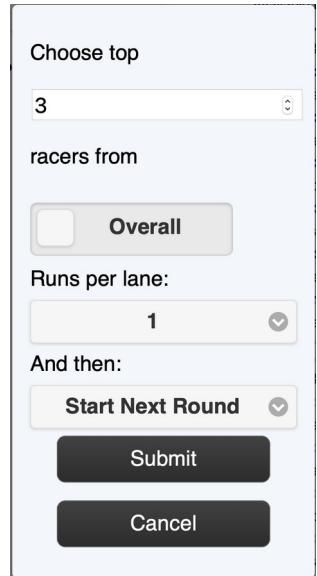
- As happens whenever a racing round finishes, the state changes from “Racing” to “Not racing.”
- If the new racing round doesn’t have a roster, the roster is constructed based on the parameters you set when you added the round to the playlist.
- If the new racing round doesn’t have a schedule, a heat schedule is generated using the parameters you set when you added the round to the playlist.
- The first heat of the new racing round becomes the current racing heat.
- If the just-finished round specifies “Stop” as the after-racing action, then nothing else happens. Otherwise, if an after-racing scene was specified, that scene is made current, and nothing else happens. Finally, if the just-finished round specified “Start Next Round,” then the state changes from “Not racing” back to “Racing.”

1. From the Race Dashboard page, visit the Rounds Playlist page. (A link to the Rounds Playlist page is also available on the Set-Up page.)



<p>2. If you wish, use the “Racing scene” control to define a scene for racing. Whenever you switch from “Not racing” to “Racing” (on the race dashboard), the selected scene will become the current scene, and any matching kiosks will be updated to match.</p>	<p>Racing scene:</p> 
<p>3. From the “Available Rounds” column on the right, choose racing rounds to add to the playlist by clicking the “+” button.</p>	
<p>4. When adding a playlist entry, you specify:</p> <ul style="list-style-type: none"> <li>○ a “runs per lane” value that will be used to generate a schedule for the round (when it becomes the current round); and</li> <li>○ an after-racing action, which can be one of the following: <ul style="list-style-type: none"> <li>■ Stop (do nothing);</li> <li>■ Start Next Round (continue to the next racing round in the playlist, if any);</li> <li>■ A scene. (Racing will stop, and the selected scene will become the current scene.)</li> </ul> </li> </ul>	

5. If the round being added to the playlist does not have a defined roster (shown by a dotted outline), then adding the playlist entry will also require specifying how the round roster should be constructed.



6. The playlist on the left shows the scheduled racing rounds.

To change the settings for a round, click on the entry.

The interface shows a list of scheduled racing rounds:

- ▶ Lions & Tigers, Round 1 (red X button)
- Awards Scene
- ▶ White's Wolves, Round 1 (red X button)
- ▼ Bears and Frères, Round 1 (red X button)
  - Runs per lane: 1
  - After racing: Start Next Round
- ▶ Webelos ("Webes, Round 1 (red X button)

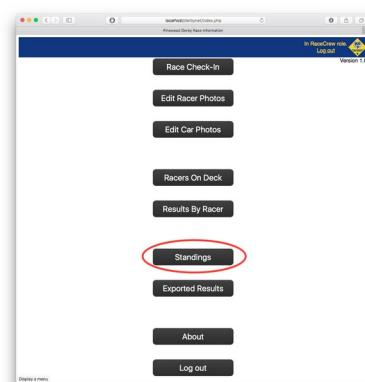
7. To remove a playlist entry, click the red “x” button on the entry.

8. You can drag entries in the playlist to reorder them, if desired.

# Wrapping Up

## View Standings

1. The “Standings” page is available to logged-in users from the home page:



2. The “Standings” page lets you view standings for each round, as well as the overall standings. Use the selector control at the top of the page to switch view different rounds.

Lions & Tigers, Round 1 Standings								
Averaging all heat times								
Place	Car Number	Name	Den	In Den	In Pack	Heats	Average	Best
1	121	Derrick Oehler	Lions & Tigers	1		4	3.758	3.640
2	136	Hett Hoffmire	Lions & Tigers	4		4	2.749	2.199
3	101	Abdoh "Duff" Asher	Lions & Tigers	3		4	2.815	2.432
4	161	Owen O'Leary	Lions & Tigers	2		4	2.822	2.186
5	116	Daniel Depacio	Lions & Tigers			4	2.918	2.168
6	141	Jesse Jara	Lions & Tigers			4	2.929	2.222
7	146	Kelvin Kinnan	Lions & Tigers			4	2.942	2.094
8	106	Ben Bittinger	Lions & Tigers			4	2.962	2.491
9	151	Levi Latte	Lions & Tigers			4	3.233	2.670
10	196	Eugene Eastwood	Lions & Tigers			4	3.269	2.726
11	131	Fenton Fouche	Lions & Tigers			4	3.398	2.581
12	158	Michael Melendez	Lions & Tigers			4	3.459	3.096

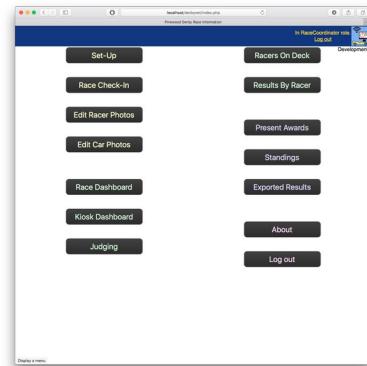
## Judging for Awards

If you intend to present non-speed related awards (“Best Design,” “Best Workmanship,” etc.), judging the recipients of any awards would happen either during the event or just afterwards.

Additionally, some organizations choose to recognize some participants with *ad hoc* awards, invented just for that recipient: “Best Use of the Color Red,” or “Fastest Looking.” These *ad hoc* awards are handled on the same award judging page.

For some awards, you may wish to allow participants to decide the winners by ballot, rather than relying on a set of judges. DerbyNet supports online balloting for awards; see the “Online Balloting in DerbyNet” document for additional details.

- From the Race Coordinator's home page, click on "Judging."



- The judging page shows all the defined awards on the left, and all the (passed) racers on the right.



- Racers who are slated to receive speed awards will have laurel leaves shown. (Some organizations elect not to award design awards to racers already receiving speed awards.)



- To select a recipient for an award, you can *either*:

- Drag the award onto the racer, *or*
- Drag the racer onto the award.

<p>5. When a named award has been assigned to a racer, an award ribbon appears on the entry for the racer.</p>	
<p>6. When a recipient has been assigned for an award, the name of recipient appears in the award list.</p>	<div style="border: 1px solid black; padding: 5px;"> <p><b>Scouts' Choice</b> <i>Other</i></p> <p><b>Edgardo Easterwood</b></p> </div>
<p>7. To remove the recipient from an award, click on the “X” symbol in the award entry.</p>	
<p>8. Click on the racer entry to see a modal dialog for <i>ad hoc</i> awards.</p> <p>To remove an <i>ad hoc</i> award, just delete the text of the award’s name.</p>	<div style="border: 1px solid black; padding: 10px; width: fit-content; margin: auto;"> <p>Awards for 136 Herb Halfacre</p> <p><i>Ad hoc award:</i></p> <div style="border: 1px solid #ccc; padding: 5px; width: fit-content; margin-bottom: 10px;"> <p>Most lifelike</p> </div> <div style="background-color: #2e3436; color: white; text-align: center; padding: 5px; border-radius: 5px; width: fit-content; margin-bottom: 10px;"> <p>Submit</p> </div> <div style="background-color: #2e3436; color: white; text-align: center; padding: 5px; border-radius: 5px; width: fit-content;"> <p>Close</p> </div> </div>
<p>9. A racer with an <i>ad hoc</i> award assigned gets a small yellow star.</p>	

### Award Presentations

The “Present Awards” page and the “Award Presentations” kiosk display are intended to work together. Using the Present Awards page, the event emcee can select each award as it’s about to be presented; the “Award Presentations” kiosk(s) will update to reflect the name of the award currently being presented, but, at first, will not identify the recipient of the award.

On the “Present Awards” page, the currently-selected award appears on the right, along with the

recipient's name and car number. A switch on the right ("Hidden"/"Showing") controls when the identity of the recipient is revealed. When the switch is flipped to "Showing," the racer's name and car number, along with photos of the recipient and their car, if available, are displayed on the "Award Presentations" display. A video of celebratory confetti is overlaid on the display.

localhost/derbynet/kiosk.php

Database Set-Up      Award Presentation

# Fastest in Tigers

126

## Edgardo Easterwood

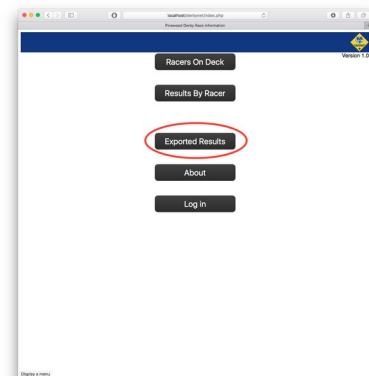


## Exporting Results for Distribution

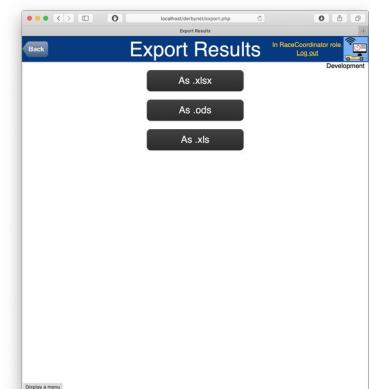
The “Export Results” option is available from the home page, even for users who are not logged in.

Clicking this button downloads a spreadsheet file containing:

- the results of each heat for each racer;
- overall standings, as well as standings for all groups, subgroups, and aggregate groups;
- all awards and their recipients.



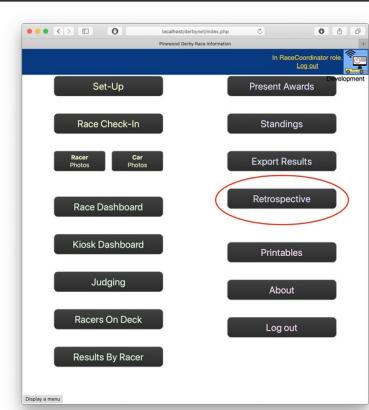
The “Export Results” page offers a choice among several popular spreadsheet formats. Choose the format in which you would prefer to receive the data.

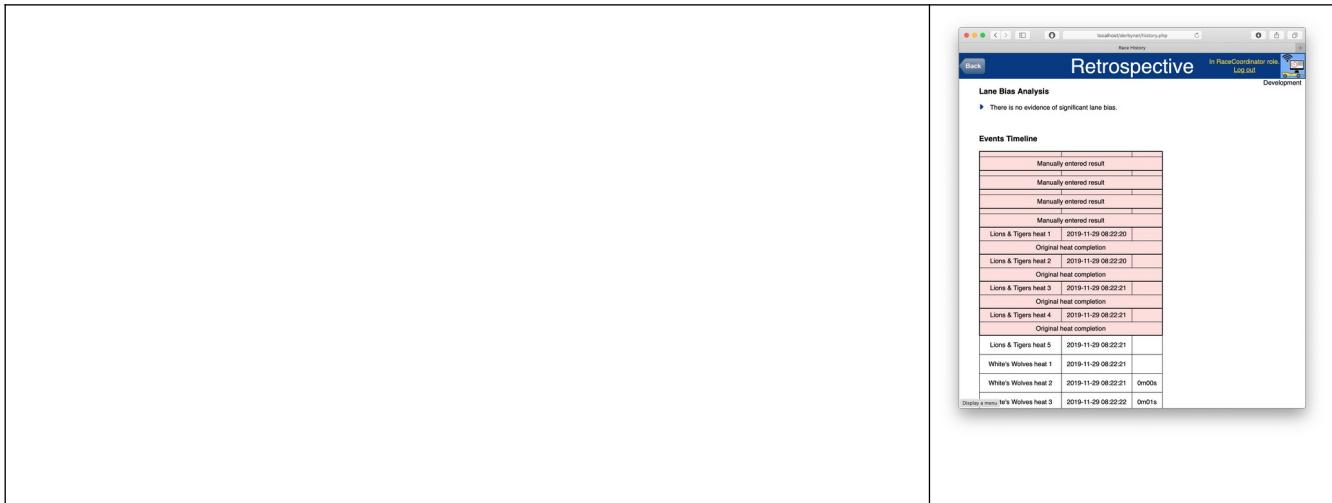


## Looking Back At Your Event

Putting on a great pinewood derby event takes a lot of effort, and there are always opportunities to improve for next time.

The “Retrospective” page allows a look back on the now-completed event to gain some insights for the race coordinator.





At the top of Retrospective page is a “Lane Bias Analysis” section that applies a statistical test to try to answer the question, “Are any lanes on the track particularly fast or slow?” Click on the triangle control to see the details.

The “Events Timeline” section of the page records the “significant” events that occurred during the race, including:

- Completion of a heat
- Discarding of any previously-captured heat results
- Manually recorded heat results

For normal heat completions, other than for the first heat in a round, the rightmost column shows the time between heats, in minutes and seconds. This can help you assess how fast your race crew was able to advance from one heat to the next. Knowing the average turnaround time can also help you predict how long an event should take.

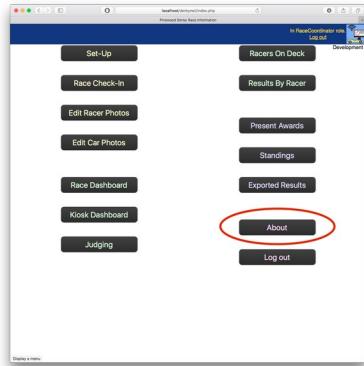
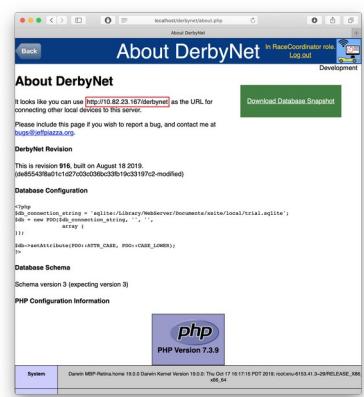
Bears and Frér heat 2	2019-11-29 08:22:22	0m00s
Lions & Tigers heat 1	2019-11-29 08:22:23	
Discarded result for lane 1: car 101 Adolfo "Doll" Asher		
Lions & Tigers heat 2	2019-11-29 08:22:23	
Discarded result for lane 1: car 111 Carroll Cybulski		
Lions & Tigers heat 3	2019-11-29 08:22:23	
Discarded result for lane 1: car 121 Derick Dreier		
Lions & Tigers heat 4	2019-11-29 08:22:23	
Discarded result for lane 1: car 131 Felton Fouche		

## The “About” Page

The “About” page displays details about the DerbyNet installation you’re using.

### Reporting Bugs

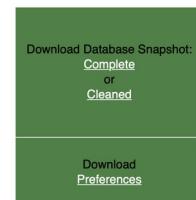
If you encounter a bug or other problem with DerbyNet, please report it! Include the content of the “About” page, which will capture details about your particular configuration.

<p>1. The home page always includes an “About” button.</p>	
<p>2. The “About” page includes details about your installation environment and database configuration that can be useful for debugging.</p> <p>Please note that the “About” page includes more information if you are logged in as “Race Coordinator” than if you are not logged in. If you have a choice, please log in before clicking the “About” button.</p> <p>Please capture the “About” page content, perhaps by printing to a PDF or by saving the page on your hard drive, and include with your bug report.</p>	
<p>3. Use the green “Download Database Snapshot” button to download a copy of your database. If possible, please include this database when reporting a bug. (The data include the names of the racers, which may be a reason for some to hesitate in sharing. The snapshot does <i>not</i> include any photos or video.)</p>	

## Exporting Preferences

You can export a preferences file that describes the customizations you made for your event, including racer segments, awards, custom racing group and aggregate group structures, and individual settings from the settings page. This may make it easier to set up your next event.

1. Export a preferences file from the “About” page from the link in the upper right.



2. When setting up your next event, import your preferences by dragging and dropping on the Set-Up page.



## Appendix: Data File Locations and Customization

DerbyNet organizes all user data within an “umbrella” data directory whose location varies by the type of installation:

Windows	The Data directory is found directly under the UniServerZ directory.
Mac	~/Public/DerbyNet
Linux (including Raspbian)	/var/lib/derbynnet
Docker	/var/lib/derbynnet, but this is commonly mapped to a directory on the machine hosting the docker instance.

The umbrella data directory can hold within it the data for several distinct races or events, each in a separate sub-folder grouped by the year in which the event occurred. In addition, the umbrella data directory has folders named slides and imagery, to support customization of slide shows and kiosk imagery.

E.g., the files for a 2024 event called TheBigRace would be found in:

Windows	...\\UniServerZ\\Data\\2024\\TheBigRace\\
Mac	~/Public/DerbyNet/2024/TheBigRace/
Linux	/var/lib/derbynnet/2024/TheBigRace

For each race or event, the file hierarchy looks like this:

cars	Captured car photos are stored here.
derbynnet.sqlite3	This is the database for the race, holding all the racer names, round schedules, heat results, etc.
imagery	Imagery customized to this race or event; see below.
logs	Server-side timer logs (if enabled from the timer test page) are stored here.
racers	Captured racer photos are stored here.

slides	Slides customized to this race or event; see below.
videos	Captured instant replay videos are stored here.

### Custom Slides

You can add custom slides to slide shows you present by adding images or photos to one of two designated folders. Images can be most any file type that's displayable as an image (e.g., .jpeg, .png, .ico, .svg, .tiff, .bmp, etc.).

Slides can be added to either:

- The `slides` directory that's directly under the “umbrella” data directory. Images found here are added to slide shows for *every* event served from this installation.
- The `slides` directory within the data folder for a specific race or event. Images found here will be added to slide shows for that specific race.

If the `slides` folder contains an image named ‘`title`’ (e.g., `title.png` or `title.jpeg`), that image will replace the title slide for the slide show. Otherwise, all slides are presented after the title slide and before the racer photos, in order by file name.

### Custom Imagery

Customization across other kiosk pages is available by adding images to one of two `imagery` folders, found alongside the `slides` directories: one directly under the “umbrella” data directory (and used for all events served from this installation), and one within the data folder for a specific race or event.

Images in the `imagery` directories override specific images that would otherwise be taken from the stock Image Set (selected on the Settings page). As with the `slides` folders, images are chosen by the base file name, ignoring the file extension.

Image name	Generic image
Emblem (e.g. emblem.png)	The emblem image appears on: <ul style="list-style-type: none"> <li>• The “Welcome” kiosk page</li> <li>• The “Please Check In” kiosk page</li> <li>• “Check-In Card” printables</li> <li>• “Driver’s License” printables, and</li> <li>• “Pit Pass” printables.</li> </ul> 
Flag (e.g., flag.svg)	The flag image appears on the “Flag” kiosk. (Non-U.S. groups, take note!) 
centuries/x00-series (e.g., centuries/000-series.jpg)	The <code>imagery/centuries</code> folders contain images used for “Car Tag” printables, based on the car number for each car. (E.g., the tag for car number 203 would be rendered with the 200-series image.) 

## Custom URL Base

Both the About page and the QR code on the check-in page attempt to present the IP address for the DerbyNet server. If a custom URL is preferred (perhaps the server is behind a network translation layer, or perhaps uses a specific domain name), a custom URL base can be used instead. Start with the desired URL for the DerbyNet index page, and remove the trailing “/index.php”; the result should look something akin to “<https://my.derbynnet.instance.com/derbynnet>”. Note that there should be NO trailing slash.

Once the URL base has been determined, create a text file named “config-url” (no extension) containing just the URL base. The config-url should be placed as follows:

Windows	...\\UniServerZ\\www\\local\\config-url
Mac	~/Public/DerbyNet/config-url
Linux (including Raspbian)	/var/lib/derbynnet/config-url
Docker	/var/lib/derbynnet/config-url, but the directory is commonly mapped to a directory on the machine hosting the docker instance.