

## Product Description

“Sail Times” is a “time-on-time” scoring solution for sailboat racing featuring:

- Mid-race position calculations adjusted for PHRF
- Time to next mark estimates based on competitive boat performance
- Immediate PHRF adjusted final results as each boat posts its final time
- Broadcasts mark-times and boat information to each entry in the regatta
- One-touch send of results to Facebook

“Sail Times” eliminates:

- Hand calculation of race results
- Calculating course lengths, helpful when last minute changes are made
- Noisy radio broadcasts

“Sail Times” is based on a paper published in 1996 by Russ Cardoza: “The Racer’s Guide to Time on Time Scoring” available on the SwapMeet Consulting website. It describes the algorithms used and the pros and cons of the solution. Other supporting information is also available.

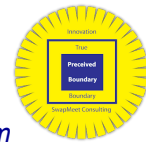
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## Features:

- Quick Start Guide (below)
  - Vessel name
  - Captain and cell phone number to receive broadcasts
  - The PHRF rating of the boat
  - Model and LOA
  - A photograph
- Ability to load race information
  - The number of marks (the finish being the last mark)
  - Race start time

## Includes:

- Text message broadcast of mark and finish times
- Estimate time to next mark calculations
- Mark counter
- Scrolling display
- Editable mark and time fields to make corrections and adjustments
- Post to Facebook



## Field Descriptions:

### *Heading*

Regatta Name – entered using the “Set Start Time” button in the application footer

Start Time – The planned start time of the race entered from the “Set Start Time” button. The field will accept any time using a 24 hour clock and currently displays data for the current day although it will calculate results for multiple days (multiday race display will be included in a later release). The start time should be entered prior to the race. Accidental posts to the race data prior to the start of the race will show nonsensical, inverted handicap results. However they will be automatically correct with the entry of valid times.

Mark Quantity – This is the total number of marks to be used as measuring points of the race. If the finish does not fall on a mark, the finish line must be counted as an additional mark. For example, a triangle course with 3 marker buoys and a start/finish line between two of the buoys will have 4 marks. Should the race have multiple laps, you double the number of buoys and add one for the finish line for a total of 7.

### *Footing*

Application “Profile” button - on the application footer allows you to enter information about your boat (the “primary” boat). The primary boat will always be displayed in the first boat position just below the header. The profile includes some basic information about the boat and 2 key pieces of information needed to make the application work correctly: a cell phone number with the capability of receiving text messages and the PHRF rating of the boat.

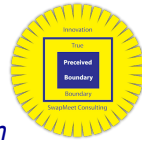
The “Add Boat” button is used to enter competitors’ boats information. It uses the same input screen as the “Profile” button, but inserts the new boat in the list just below the primary boat. Again, it is important to enter the correct PHRF information and a cell phone number for the captain of each boat. The list does not get sorted after installation (a future release may change this). Therefore, if you want to see the roster in a certain order, be sure to enter the boats in your preferred order.

Set Start Time – this button provides access to 4 data input functions. You can set the start time of the regatta, enter the mark count, record the regatta name and reset the race data. The first 3 functions are self-explanatory. Resetting the race data will clear the data associated with each boat, but not clear the roster of boats.

Touching the photo the primary boat– this feature acts only on the primary boat. When you reach a mark you press this button to broadcast your time to the other

# Sail Times

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boats on the roster. Only data for your boat will be broadcast. For security purposes, Apple requires that you be able to review the text and opt to send or cancel it.

Note: it is important to provide a cell phone number for each boat on the roster. If the text message to be sent displays in the color green, it indicates a cell number is not valid. You may simply edit the “To” field and press send to complete the process.

As the other boats in the regatta round their marks they will be broadcasting their times. You should be receiving texts from each of them. Entering competitors’ times is very simply done by touching the picture of the boat for which you have data and either accepting the time posted on the screen or editing the posted time and accepting it. Entering the competitor’s time will trigger a process that calculates the stats for each boat and posts them to the roster.

## *Roster Listing*

Photograph – using the “Profile” or “Add Boat” buttons allow you to select a photo for each boat. If you choose not to select a photo the “Sail Times” logo will be displayed in the photo field. The photo includes a posting of the boat’s PHRF for quick reference.

The roster displays the competitive boat’s names and captain’s name. This data can be modified by touching the boat’s picture and using the “Edit” button in the upper, right corner of the screen. You may save the edits without having to accept the time posted time.

“Mark” information – lists the last mark rounded and the time that was recorded for that mark.

“Next” or “Finish” will indicate the lead or lag time in minutes measured against the reference boat. The lead and lag values are used to determine the current position in the race.

“Lead Time” – indicates the number of minutes a boat is leading the reference boat.

“Lag Time” – in the event the estimated time at the next mark is earlier than the current time the display will indicate the lag time, which is the number of minutes the boat is trailing the reference boat.

“Reference” – when a boat reaches the next mark first it becomes the reference boat. All the other boats’ times will be posted using this boat’s “mark time” as milestone. Their display will include the number of minutes they lead (negative number e.g. -7) or the number of minutes they lag expressed in positive numbers.



“Position” - this is the PHRF adjusted position in the race. This may change multiple times as the boats mark times are entered. Once all the boat’s final times are entered the “Position” field will indicate the boat’s final position in the race.

“Finish Report” – builds a listing of the roster sorted by race position. The report will be broadcast to all captains’ cellphones (provided the number is correctly recorded). This report can be sent anytime during the race and is a report of the final results once all the boats have reported the times.

“Facebook thumbs-up” - use this to post the results of the regatta to Facebook.

[www.swapmeetconsulting.com](http://www.swapmeetconsulting.com) - connect to the website for technical support and documentation.

## *Theory of operation:*

“Sail Times” is designed to calculate the race position of each boat in the regatta based on the total elapsed time of the leading boat and its PHRF rating.

“Sail Times” uses the elapsed time between the start of the race and time to each mark of the leading boat to calculate the relative position of the primary boat and all other boats for which it has data. If the lead changes “Sail Times” dynamically recalculates the positions.

As “Sail Times” calculates the positions it also calculates the projected time to the next mark based on PHRF. If the “Next:” field displays a digital time, it indicates that boat may keep pace with the leader by rounding the next mark on or before that projected time. This field may also be displayed as “Lead Time” in minutes and displayed as a “negative” number. If the PHRF adjusted “Next:” time is calculated to be earlier than the competitor’s “Mark” time a “Lag Time” will be displayed indicating the number of minutes behind the leader after PHRF adjustments.

When the mark counter is one less than the total number of marks in the race, it projects the finish time and subsequently records the “final” time when the broadcast button is pressed.

When all the final times are entered “Sail Times” presents the finish positions on the screen and gives you the ability to post them on Facebook and send a report to each of the competitors’ boats.

Apple security guidelines do not allow applications to intercept text messages without user intervention. They also do not allow applications to send text messages



without the ability of the user to edit or cancel the report. For the reason it is necessary to read the incoming texts broadcast by “Sail Times” from the other boats and record the mark times by touching the display of the competitor’s boat.

## “Sail Times” - Quick Start

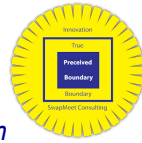
The application opens with a single vessel template with all data fields cleared

The bottom of the screen includes 4 labeled buttons and a link to our website for extra help and explanations.

- Begin by entering a profile for your own boat
  - Boat name
  - Captain
  - A cell phone number to be included with your broadcasts so others can add you to their roster
  - The PHRF rating of your boat – The app makes no attempt to provide a PHRF. The club or race committee should agree on a standard to be used for the race
  - You should include a picture to make the screen easier to read
  - Entering LOA information will enable the “Done” key on the keyboard allowing you to quickly save the data
- Enter the start time of the race
  - The set start time view includes two additional options:
  - The ability to set the mark quantity
    - The number of marks will be equal to the total number points you report your time during the race
    - If the race has multiple laps account the total number times you will report your time
    - The finish line must be added as a mark if it is separate from the last mark
    - The app defaults to 1 mark, setting the mark count to less than 1 will cause erroneous data to be displayed on the roster
  - Each time you pass a mark you need to touch the boat’s picture and accept (or edit and accept) the time posted time
    - If you are late to the draw, you can edit the field to correct the time you want to broadcast by touching the displayed time
    - Accepting will increment the mark counter on your app and send a text of your time to the other boats in the race
    - You will also receive texts from the other boats that you can record by touching the picture of that boat on your list

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- Note: Apple does not allow applications to intercept texts from other applications for security reasons. For this reason this is currently a manual operation
- Here is the magic of the application
  - As you record the mark-times of the other boats the app will calculate your position based on your PHRF rating
  - The app also calculates the number of minutes you lead or lag the reference boat
  - If you have fallen behind the application will report the number of minutes you need to catch-up
- When the number of marks reported is equal to the total quantity of marks the app reports the last update as “final” and no longer increments the mark counter
  - Again, if there is a need to edit the time you may do so by touching the picture of your boat
- - You may clear all previous race data without losing the roster of boats by pressing the “Reset Race Data” button at the top of the “Set Start Time” window.
  -
- Post to Face Book

“Good Sailing and best of luck with your racing”

Please share your comments on [www.swapmeetconsulting.com](http://www.swapmeetconsulting.com)

Sincerely,

Bob Feihel