

# SwimCoach

## for PalmOS



## Users Guide

Version 1.1  
September 2001

### Introduction

Coaches in many sports are becoming "more scientific" in their approach to training and swimming is no exception. There are three parameters which can be measured which characterize any swimming stroke - stroke length or distance (referred to by some authors as SL), stroke turnover or rate (referred to by some authors as SR, and also called "cycling rate" because it refers to a complete stroke cycle), and overall swim speed or velocity, which is a product of the distance covered by each stroke multiplied by the number of strokes per unit of time. In order to measure and compute these parameters, you need both a stopwatch and a calculator. **SwimCoach** (tm) from **Stevens Creek Software** provides both of these functions in one easy to use software package, designed for Palm handheld computers from Palm, Handspring, IBM, Sony, and others running the PalmOS. The unit can be held in one or two hands at poolside, and operated by a swimming coach or by a friend of the swimmer, to conveniently measure these important parameters.

### Some background swimming theory

Two excellent books on current swimming theory are [Total Immersion](#), by Terry Laughlin, and **Swimming Into the 21st Century**, by Cecil Colwin. Here's what Laughlin says about the subject:

"Virtually every swimmer I see already has all the SR [stroke rate] they'll ever need; it's the SL [stroke length] they're lacking. They always make their most dramatic improvements when they give up a bit of their SR in order to gain a lot of SL."

- SL is skill-oriented. You get better by improving your body's position or profile.
- SL improvements depend on brainpower. You use your knowledge, body awareness, and concentration to maintain sleek, efficient positions in the water. That's nervous system - instead of aerobic system - training. The energy cost is minimal.
- SL can be improved at any age. There's no such thing as "too old," because it's skill-oriented, and our ability to learn or improve SL remains acute far into our 70s, allowing smart swimmers to gain speed well into middle age and beyond.
- SL improvements are permanent. Skills, once learned, become permanently imprinted in our "muscle memory." Invest time and effort in improving your SL and you won't lose it when you take a break from training.
- SR is training-oriented. You have to work hard to build up your muscles and energy systems to make those limbs move fast.
- SR improvements depend on working your heart and lungs harder - much harder.
- SR is age-limited. Eventually, your muscles just won't move any faster. The fuel for a high SR is provided by your aerobic capacity - the total amount of oxygen your muscles can burn to produce energy - which usually peaks at about age 40. That means your ability to increase your SR peaks too.
- SR improvements are temporary. They demand fitness and fitness is transient, as anyone who's had to quit qorking out for a couple of weeks can tell you. Stay away just a little too long and you're right back where you started, forced to do the work all over again to rebuild that capacity.

"The best...of the world's elite swimmers...establish SL first, then try to gradually increase SR, giving up the least possible SL in return."

And here's Colwin:

"Researchers agree...that stroke length rather than stroke frequency is the determining factor in a swimmer's average speed."

For a discussion of the technique used by **SwimCoach** to measure SR and SL, you can see the ASCA (American Swim Coaches Association) news, Volume 1997-9, p. 12.

## Installing SwimCoach in Your Palm

Whether you downloaded the software from our Web site or received it in the mail, you should have a file called `SwimCoach.prc` on your computer or floppy disk. Here's how to install it on your Palm:

### From a Macintosh:

**Using MacPac Version 2:** Select the **HotSync Manager** from the "Instant Palm" menu on the upper right of your menu bar. In the **HotSync** menu, select **Install**. Click on the **Add To List** button. Locate and select the file `SwimCoach.prc`, and click **Add File**. The next time you HotSync your Palm, the program will be downloaded.

**Using MacPac Version 1:** Run the program **InstallApp**. Click on the **Select** button, set the **List Files of Type** to **All Files**, locate and select the file `SwimCoach.prc`, and click **Open**. Now click on the **Install** button. The next time you HotSync your Palm, the program will be downloaded.

## From Windows:

**Using the Install software that came with SwimCoach:** As part of the download or on this diskette or CD you should see a program named **Install** in the same folder as the **SwimCoach** software. Double-click on **Install**, and it will copy all of the files to a new **SwimCoach Software** folder in your **Palm** folder on your computer, and at the same time will perform all the steps to install the software in your Palm, except for the final step of performing an actual HotSync. When you do your next HotSync, the software will be installed in your Palm.

If the procedure above does not work for some reason, try the "manual" procedures described in the next few paragraphs; if those don't seem to apply to your setup, please consult the manual that came with your handheld device (Palm, Handspring Visor, Sony Clie, etc.), which contains instructions on installing applications into the handheld.

**Using current Palm desktop software:** Start your Palm desktop software. Click on the **Install** button. Check to make sure the User name displayed at the top of the Palm Install Tool window which appears is the user name of the Palm handheld device on which you want to install the software; if not, select the correct user name. Now click on **Add**. Using the file browser which appears, locate and select the **SwimCoach.prc** file, and click **Open**. Now click on the **Done** button, and then on **OK**. The next time you HotSync your Palm, the program will be downloaded.

**Using old Pilot desktop software:** Run the program **INSTAPP.EXE** (it may be displayed simply as **INSTAPP**, depending on how you have Windows configured), which is located in the **C:/PALM** folder. Click on the **Browse** button, locate and select the **SwimCoach.prc** file, and click **Open**. Now click on the **Install** button. The next time you HotSync your Palm, the program will be downloaded.

## Starting the Application

From the **Applications** window on your **Palm**, look for the icon labelled **SwimCoach** which looks like this:

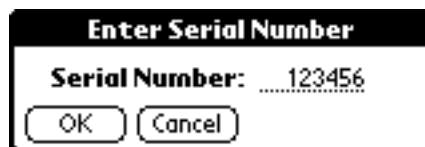


## Entering Your Serial Number/Unlocking the Application

When you start the application, you'll see this screen:



Tap on the "License" button, and you'll see this screen:



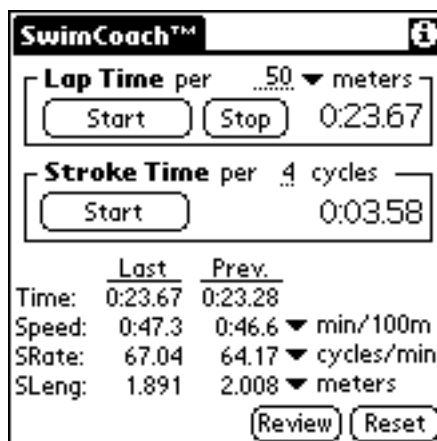
A dialog box titled "Enter Serial Number" with a black header. Below the header, it says "Serial Number: ....123456". At the bottom, there are two buttons: "OK" and "Cancel".

Use Graffiti (or the on-screen keyboard) to enter your serial number (supplied to you by Stevens Creek Software); when you're done, tap on the **OK** button. If you enter an incorrect number, the software will let you know. If necessary, tap on the **Cancel** button to dismiss the Enter Serial Number screen.

If you run into a problem, this probably means that when you provided your Palm name to Stevens Creek Software, you did so incorrectly. To get the User Name, tap on the Applications button (the "house"), then tap on the HotSync application. If you have a Palm of recent vintage, the name appears in the extreme upper right of the same HotSync screen (if you have a very old unit, the top line of the screen will read, "Welcome, XXX." "XXX" is your user name; that's what we need). Please be sure you write down the name EXACTLY as it appears, including upper or lower case letters, punctuation, and spaces as appropriate, then [email it to Stevens Creek Software technical support](#) and wait for a new serial number to be provided to you.

## Configuring SwimCoach

When you start **SwimCoach**, you'll see the main screen of the program which looks like this:



The main screen of the SwimCoach application. It has a title bar "SwimCoach™" with an information icon on the right. The screen is divided into sections for "Lap Time" and "Stroke Time".

**Lap Time** per 50 meters (pop-up menu)  
Start Stop 0:23.67

**Stroke Time** per 4 cycles (pop-up menu)  
Start 0:03.58

	Last	Prev.
Time:	0:23.67	0:23.28
Speed:	0:47.3	0:46.6 min/100m (pop-up menu)
SRate:	67.04	64.17 cycles/min (pop-up menu)
SLeng:	1.891	2.008 meters (pop-up menu)

Review Reset

**SwimCoach** is used to time two different events. First, you are timing the amount of time it takes to swim a single fixed length. This is configured on the top line of the program, which in the screen above reads "Lap Time per 50 meters." The length of each lap is a simple number, which you enter in your Palm in the usual way. You'll usually want 25 or 50 in that field, but of course you can enter any number at all. At the end of that line, a pop-up menu lets you choose the units for the length, choosing between meters and yards.

The second event timed is the amount of time it takes to swim a fixed number of complete cycles (the time to perform a complete stroke cycle). Articles in the literature have used 4 cycles as a convenient number, but you can time any number of cycles you choose; just enter the number in the field where it reads "Stroke Time per 4 cycles" in the screen above.

All of these configuration parameters (the length and units of each lap, and the number of stroke cycles to measure), are saved, so that you will only need to enter these the first time you use

**SwimCoach** (of course you can change them if the circumstances change).

The remaining configurability of the program is found in three more pop-up menus in the lower right of the screen. The speed (velocity) of the swim can be displayed in a variety of units - minutes per mile or kilometer, miles or kilometers per hour, or minutes per hundred meters or yards. The stroke rate (SR or "SRate" in the **SwimCoach** display) can be read out in cycles per minute or second, as you prefer, and the stroke length or distance (sometimes called SL and labelled "SDist" in **SwimCoach**) can be displayed in meters or yards. You can change these units at any time, and the displayed numbers will change accordingly.

## Timing Swimmers with SwimCoach

Referring again to the main screen, you'll see that the screen is divided into two areas - **Lap Time** and **Stroke Time** - and has three buttons, which are labelled here **Start**, **Stop**, and **Start**.

The screenshot shows the SwimCoach™ interface. At the top, there's a title bar with 'SwimCoach™' and an information icon. Below it, the 'Lap Time' section is set to 'per 50 meters' and shows a 'Start' button and a 'Stop' button with a timer reading '0:23.67'. The 'Stroke Time' section is set to 'per 4 cycles' and shows a 'Start' button and a timer reading '0:03.58'. At the bottom, there's a table comparing 'Last' and 'Prev.' results for Time, Speed, SRate, and SLeng. 'Review' and 'Reset' buttons are at the bottom right.

	Last	Prev.
Time:	0:23.67	0:23.28
Speed:	0:47.3	0:46.6 ▼ min/100m
SRate:	67.04	64.17 ▼ cycles/min
SLeng:	1.891	2.008 ▼ meters

When the lap is started, press the **Lap Time Start** button. Once you do, you'll see that the label on the button changes to read **Split**, and of course you'll see the time start to count on the "stopwatch" counter to the right of that button.

Now when a stroke cycle starts (e.g., the right hand enters the water in a freestyle stroke), press the **Stroke Time Start** button. The stroke timer will now start, and the label on that button will now change to read **Stop**. After the completion of the desired number of stroke cycles, press the **Stroke Time Stop** button and the time for that number of cycles will be frozen. The stroke rate (SR) will be immediately calculated and displayed below.

When the lap finishes, you have two choices. If you want to measure another lap, press the **Lap Time Split** button which will stop the time for the lap just completed and start the time for the next lap. At the appropriate time, measure the stroke time again using those buttons. Repeat this process as often as you like. When you don't want to measure another lap, press the **Lap Time Stop** button to stop the whole process.

Whenever a set of measurements (lap time and stroke time) are complete, the complete set of results are displayed on the bottom of the screen in two columns. **Last** displays the results and calculations of the last lap (the one just completed), while **Prev.** (Previous) displays the results from the previous lap for comparison. The lap time, speed, stroke rate (cycling rate), and stroke distance (or length) are displayed. If you change the units of any of the items, the numbers are recalculated and redisplayed.

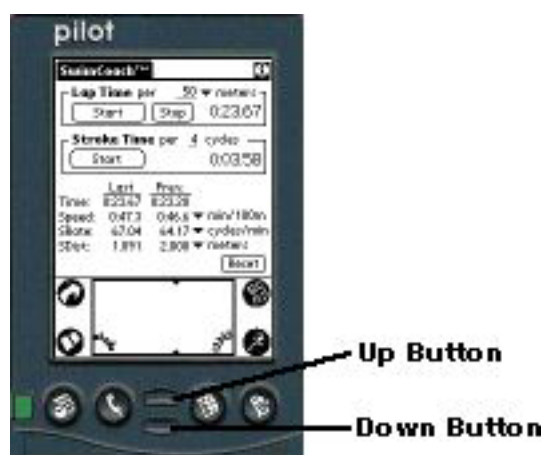
When you want to reset the timer for the next swimmer, press the **Reset** button (actually you don't

really need to; if the timer is stopped and you re-start it, the time starts from zero anyway).

If you just want to measure lap times (and hence speed or velocity), you can do that just by starting and stopping the lap timer, without using the stroke timer at all. Likewise, if you just want to measure cycling rate (stroke rate), without measuring speed or stroke length, you can just start and stop the stroke timer, without using the lap timer. In general, of course, you'll use them both.

## Using the Scroll Buttons for Improved Reaction Time

Using on-screen buttons with the Palm's stylus may be somewhat difficult for you, because you want to have your eyes focussed on the swimmer in order to start and stop the timer at the right time. Because of that, **SwimCoach** is configured to also use the up and down scroll buttons, located in the center of the bottom of your Palm, in order to start and stop the two timers.



The buttons are configured like this - the **Up** button operates all functions except the final **Lap Time Stop** function. In other words, if both timers are stopped, first press the **Up** button and the Lap timer will start. Now press the **Up** button again and the Stroke timer will start. Now press the **Up** button yet again and the Stroke timer will stop. The only choice occurs at the end of the lap. If you want to take a split, in order to measure another lap, you press the **Up** button yet again. Only if you want to stop both timers, because it is the last (or only) lap, should you press the **Down** scroll button.

## Online Help

If you forget the proper sequence of operations, tap on the "Information Icon" in the upper right of the screen, and you'll see onscreen instructions which will remind you of what you have read here.

## Reviewing the Results

Whenever you take a split (or stop) the main lap timer, the results for that lap, and any stroke time that was taken during that lap, are automatically saved. To review all the stored splits, tap on the **Review** button (you can do this with the timer running if you want to). You'll see this screen:

Recorded Times				
Lap#	Time	V/TT	SR	SL
21-1	0:30.79	1:01.6	59.70	1.632
2	0:31.13	1:02.3	61.22	1.574
3	0:31.36	1:02.7	58.82	1.626
4	0:31.97	1:03.9	54.67	1.716

Done Clear

Recorded Times				
Lap#	Time	V/TT	SR	SL
21-1	0:30.79	0:30.79	59.70	1.632
2	0:31.13	1:01.92	61.22	1.574
3	0:31.36	1:33.28	58.82	1.626
4	0:31.97	2:05.25	54.67	1.716

Done Clear

In the **Lap#** column is the number of the lap. The first lap you record each time you use the program is numbered #1, and is preceded on-screen with the month and day as shown, for identification purposes. The **Time** column shows the time for the lap. **SR** and **SL** show the stroke rate and stroke length, respectively. The units for V, SR, and SL are as shown on the main screen, and if you return to the main screen and change those units of measurement, when you return to the review screen, the numbers will change to reflect the new units.

The third column can show two different things. If **V** is highlighted (bold font), then column 3 shows the velocity of the swim in the chosen units. If **TT** is highlighted, column 3 shows the total (cumulative) time for the swim (obviously, this only applies to multi-lap swims). To toggle between the two modes, just tap on the letter "V" or "TT"; the one you tap on becomes the display mode that you'll see, and **SwimCoach** will remember your preference until you change it.

If there are more splits than fit on one screen, you'll see up and down scroll arrows in the lower right which let you scroll through the recorded times. If you want to erase all the times, tap on the **Clear** button, or tap on the **Menu** button and select **Erase** from the menu. You'll be given a chance (two, actually) to verify that you really want to do that.

The **Done** button returns you to the main screen.

The **i** icon in the upper right of the screen displays on-screen help which reminds you about the meaning of the different columns, and how to change the display in column three.

## Transferring the Results

If you tap on the **Menu** button in the review screen, you'll see this menu:

Recorded Times	
Transfer to Memo Pad	
Transmit	
Print	
.....	
Erase	

The **Erase** function has already been discussed above. The other three menu items all allow you to transfer the recorded times somewhere else. **Transfer to Memo Pad** automatically creates a new memo in your Memo Pad, labelled "SwimCoach times" (if there are more recorded times than can fit into a single memo, additional memos are created).

The **Print** and **Transmit** menu items will print the recorded times directly to a printer attached to your Palm, or transmit the recorded times to another computer connected to your Palm via the serial

port (bypassing the usual HotSync procedure, and allowing you to transfer data even to a computer which does not have HotSync software installed). Both of these features require that you have a copy of **PalmPrint** (tm) software installed on your Palm; if you do not, you'll get a simple error message if you try to use them.

Data are transferred to the Memo Pad, or transferred to another computer, in a tab-delimited columnar format, to make it easy for you to insert the information into, for example, a database program.

## **Warning - Palm Not Waterproof!**

Please be advised that a Palm is **not** waterproof. You should take care not to get it wet. If you are at all worried about the unit, you might consider getting a clear plastic ziplock bag and enclosing the Palm within it; there are also several commercial products we have seen designed for this purpose. You'll find that you can read the screen, and operate the buttons, perfectly well in this way. Alternatively, just stay away from the edge of the pool!

## **For Support**

If you have any problems using **SwimCoach**, please contact **Stevens Creek Software** by email or fax:

By email: [support@stevenscreek.com](mailto:support@stevenscreek.com)

By fax: 1-603-698-4777

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