

Getting the Most from ROUTE GADGET

A tutorial by Eric Sandbo
Cascade Orienteering Club

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1. What is it?

Route Gadget provides an online map of the club's orienteering meets, with overlays of any of the courses on the meet. The map and the course overlays are identical to the map you carried while running the course.

Additionally, you can draw your route on the map -- not just the purple lines and circles, but the actual route you ran/walked, shown as precisely as you care to draw it. If others have also saved their own routes, you can compare theirs to yours. The table of times for each competitor and each leg allows you to deduce whether a runner's shortcut gave him/her an advantage or stalled him in the brush.



To put icing on the cake, you can select up to 10 runners and watch an animated race with color-coded squares tracking their routes at speeds corresponding to their actual speeds for each leg of the course.

2. Opening Route Gadget

There are two easy ways to reach Route Gadget from the club's website, www.cascadeoc.org. Oddly enough, we want to use both of them.

At the top of the www.cascadeoc.org page, click the word **results**. You're presented with a list of the latest meets. We want to open at least two pages from here; this is a good time to use your browser's tabs, so you can keep both pages open at once. First, open **Local events on RouteGadget...** (just above the list) in a new tab - we'll get around to it later. Then, still on the Results page, click the specific meet you want view.

Cascade Orienteering Club home events results search

► SITE NAVIGATION
 Getting Started
 ► Event Schedule & Results
 Upcoming Events
 Results
 Series Standings
 News
 Results File Archive
 School League (WIOL)
 Winter Orienteering Series
 Ultimate Orienteer Series

Event Results
 Series standings: WIOL, Winter-O, Ultimate-O...
 Local events on RouteGadget...

Sat, Jan 7, 2012	Winter O' Series #5/WIOL #5	Shoreview Park, Shoreline, WA
Sat, Dec 31, 2011	Bog Slog 2011	Kenmore WA
Sat, Dec 17, 2011	Winter O' Series #4/WIOL #4	Putney Woods, Whidbey Island, WA

The page for that meet opens, with that long list of runners and times for each division. Above the list, click **View and enter routes here**. You should get a picture of a steaming cup of Java, then the map.

- ON
- Results
- WIOL
- ing Series
- er Series
- enture Series
- Info

Winter O' Series #5/WIOL #5

Posted Sat, Jan 7, 2012
 Shoreview Park, Shoreline, WA
 Saturday, January 7, 2012
 Split times: [Click here for split times](#)

Route gadget: [View and enter routes here](#)

Result status: [View](#)

Video of course 7 run with commentary by Rebecca.

Registration - Karl Rouillard, Mary Kenngott, Ryan Rouillard, Ardis Dull
 E-Punch issue - Macy Ratliff
 Start - Mark Howlett, Jim Siscel, Doug Lawson, Rebecca Lawson
 Finish - Ing Uhiin, Debbie Newell, Eric Bone, Terry Farrah, Jan Urban
 Beginner nstruction - Jeff Grove
 Control Pick Up - Kathy Forgrave, Laszlo Kolyyek, Jerry Allmaras, Jason Allmaras
 E-punch coordinator - Debbie Newell, Jan Urban
 WIOL Director + registration - Bob Forgrave, Kathy Forgrave
 Meet Director - Jana Dvorak

Final class results 1/7/2012 4:56:07 PM

WIOL 2011-5, Shoreview Park
 ===Cascade OC=====Orienteering organiser 2010===

Final class results: P1 1.2km 8k

Name	School/Club	Result	Loss
1. David Alber	None	11.48 +	0.00
2. Rosemary Tanksley	Cascade OC	16.52 +	5.04
3. Nicholas Javadoff	None	17.34 +	5.46

3. Java required

If the link from the club's Results page brings up a map, you can skip this section. If instead, you get a message that Java is required... well, you need Java.

Java is a programming language designed to allow any program written in it to run on practically any computer. Apple computers come with it pre-installed; if you're running Windows or Linux, you may have to install it. It's worth it for the Route Gadget and other programs that make computers seem like magic.

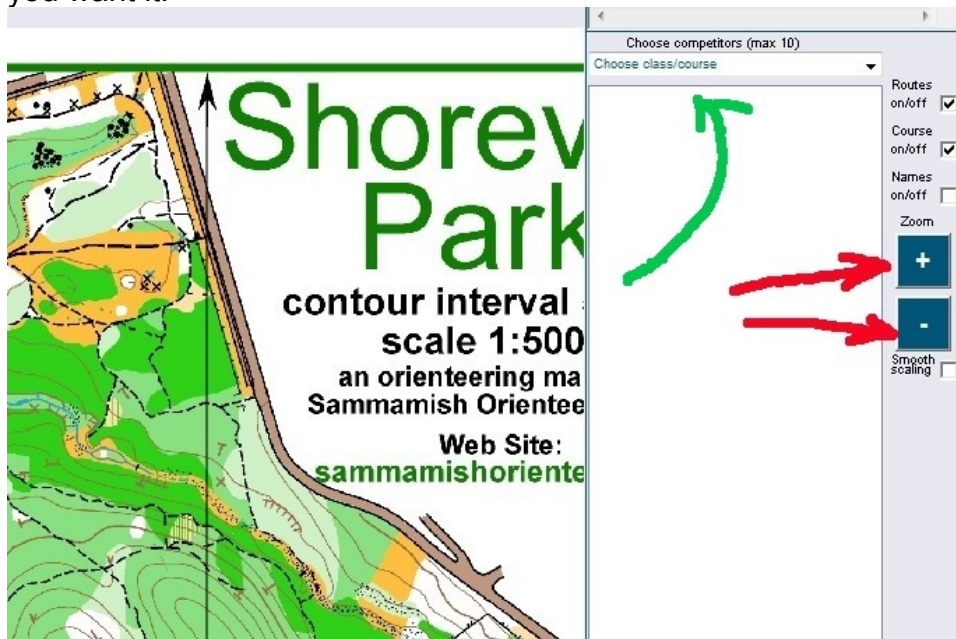
Getting Java for Windows is as simple as going to java.com and clicking Download, then going through an automated installation that's similar to installing pretty much any software on Windows.

One of the setup dialogs asks you if you want to also install some other programs from other companies. This is their way of making a buck to cover some of the cost of Java's development and distribution. Great if you really want those other programs, but don't install software you won't need or use just to be nice. I uncheck the box for those.

You have Java installed, and clicking on the Route Gadget link brings up a map. Now what?

4. Dragging and zooming the map

First, the map is probably the wrong size and not centered properly. The square, blue + and - buttons on the right will zoom in and out, and you can click and drag the map to put it where you want it.



5. Viewing the courses at a meet

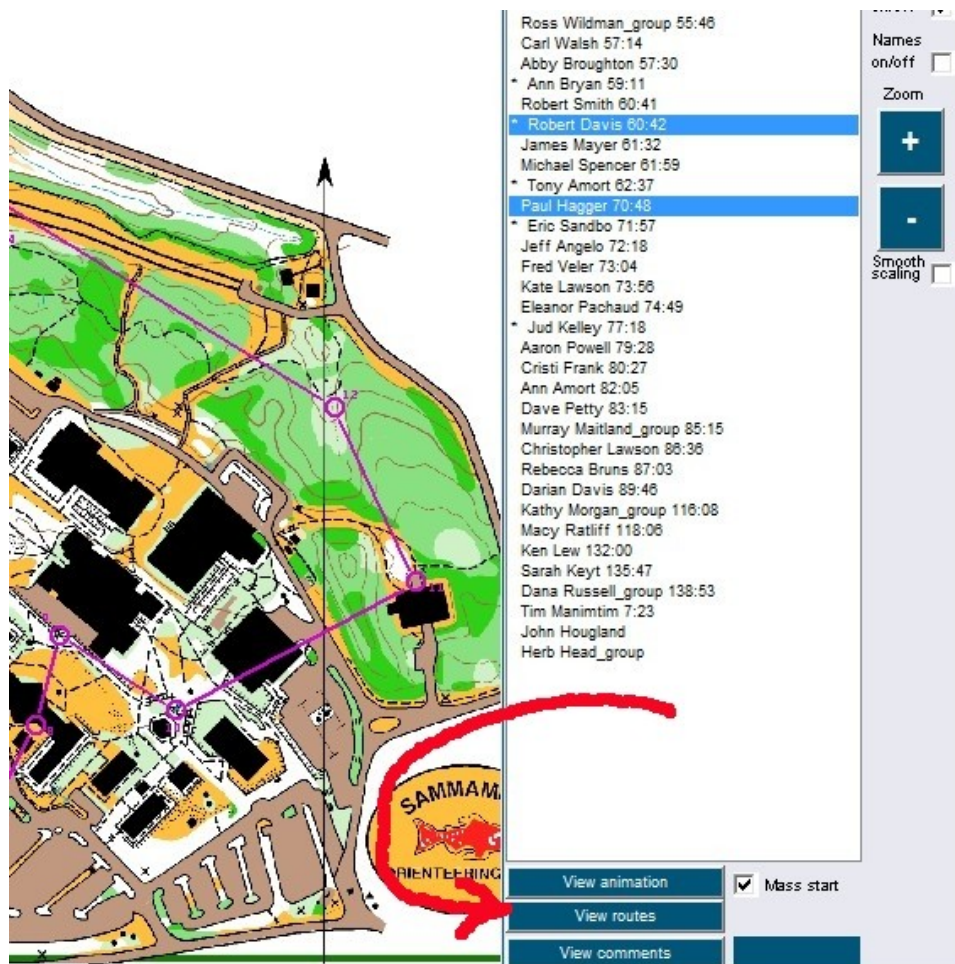
At the top of the sidebar it is a skinny list box that says, "Choose class/course." Click that, and a list of all the Public and WIOL courses on that meet will drop down. Click the course you ran, and the purple overlay of control points and the lines between them will appear. A

box in the sidebar will fill with the names of everybody who ran that course. Route Gadget doesn't care who you are -- you can view courses besides the one you ran, just by selecting a different course from the list. I like to review my kids' courses with them or check out P7 to see how much harder it was than the one I ran.

6. The routes

Some of the people in the list may have little dots to the left of their names. Yours doesn't, but we'll fix that later. On the list of people for your course, click your own name and one of the others that has a dot beside it. At the bottom of the sidebar, click **View Routes**.

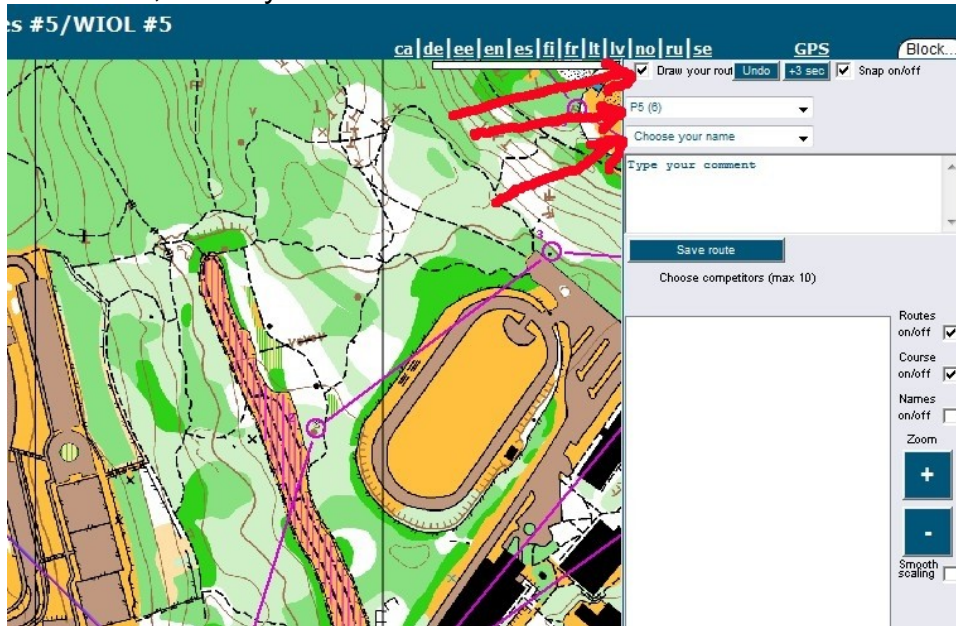
A red line appears, showing that person's route through the course, as drawn and saved by him/her on this website. Follow it carefully, and you'll probably see route choices different from your own. Maybe some mistakes where he overshot a control, or zigged when he should have zagged, or wandered around looking for the flag. This is the fun and the value of Route Gadget, learning from other's mistakes and from their triumphs. Keep that in mind as you record your own route.



7. Recording your own route

At the top of that sidebar is a little checkbox for “Draw your route.” Click it.

All the course and route overlays disappeared, didn't they? Even though you had already selected your own course and your name, Route Gadget doesn't assume those are who and what you want. In the list box just below the box you checked, select your course. In the list below that, select your name.



Your course is shown on the map again, with a blue line on top of the purple line from Start to Control 1. You are going to click along your route, breaking it up into segments short enough to fit every turn you made. As soon as you make that first click, Route Gadget draws a red line from Start to your click, and the blue line now leads from your click to Control 1. Make another click along your route, and the red line follows it while the blue line gets shorter. Is the map scale too small to do this accurately? Click the blue + button to zoom in a few times. And you can still drag the map around while recording a route. If you click the map, your red route line will be extended to the mouse pointer, but if you hold the mouse button down and drag the map, it won't affect your route. Try to follow every turn of the trail or route you ran.



Go around buildings, up stairs, follow every move and show every mistake you made, for four reasons:

1. So the rest of us can laugh at you. It's an "I'll show you mine if you show me yours" kind of thing.
2. Because Route Gadget already knows how long you took for each leg, from the data in your e-punch. If you roamed all over the woods looking for #7 and took 15 minutes to find it when others did it in 2, then you draw a route that goes straight to the control, it's going to look like everybody else ran to #7 while you crawled. Backwards. You might as well show your foibles; it explains the extra time you took on that leg.
3. The rest of us understand. We made mistakes, too.
4. The people who set these courses grade their job partly by how well they confused us. They want to see how well or poorly we solved their puzzles and use that input when planning next year's meets.

There's another check box in the top-right of the sidebar, labeled "**Snap on/off.**" If it's checked, Snap is on, and when you click near the center of the Control 1 circle, your route will automatically snap to the control, finishing that leg. Usually that's good; it saves you time. But if you had to go around the control and approach it from the other side, or if you had a tough time finding it and want to show your route passing it a few times, Snap will interfere, bee-lining to your control before you wanted to finish. You might want to turn Snap off (unchecked) as you get close to the circle sometimes. When your drawn route reaches Control 1, the blue line will suddenly snap to the next leg, stretching from Control 1 to Control 2.



If it doesn't, Route Gadget thinks you haven't clicked on Control 1 yet. Turn Snap on and try clicking the control again. Remember the Undo button is always available if you make a mess.

Keep going to all your controls and the Finish circle. The Finish is different; obviously the blue line won't jump to another control when you click Finish, so you might not be sure you officially hit it. But a line of text will appear momentarily at the bottom-left of the map, letting you know you've finished the route. You can type a comment in the text box provided for that if you want. Then click the blue **Save** button.

You've just earned a little dot beside your name.

If for some reason you want to abort the entire route you're drawing, uncheck the **Draw your route** checkbox any time before you click the **Save** button. Everything you've drawn will disappear.

8. GPS

It's against the rules to consult a GPS device while competing in an orienteering meet, but in most Cascade O.C. events it is permitted to carry one passively, that is, to let it track your movements while you use only the traditional tools. (If you're not sure, ask. Don't get tossed out on my account.) If you have a GPS track in your computer you can upload it to Route Gadget by clicking the GPS link at top-right and selecting a file format and location. GPS tracks are listed at the bottom of the list of names in the sidebar.

9. Comparing routes

Now that you're one of the elite with a saved route, what do you do with it? The most obvious

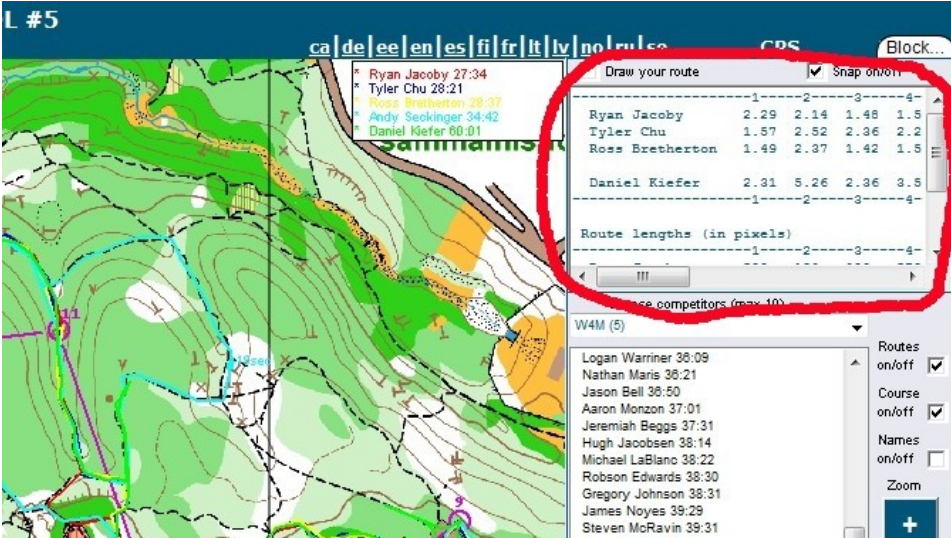
is to see what you did differently from others. Just like you did in part 5, select your course and click your name along with a few others who have dots beside their names. At the bottom of the sidebar, click **View Routes**. The routes for all the names you clicked will show up, each in their own color. At the top-right of the map, a small text box shows who is what color.

In a few places the lines will overlap exactly, but in others there will be small or large differences in routes. Some diversions may be mistakes, others deliberate, a few ingenious. Learn from them.

When you want to view a different course, click the **Deselect all** button at the bottom of the sidebar, then **View routes** again. This clears all the routes that were drawn on the map. Route Gadget seems to have a hard time switching courses when routes are showing on the map.

10. Table of times and distances

When you're viewing routes, a table appears at the top-right, showing the times taken by each runner on each leg of the course, like a simplified version of the WinSplits site (another great resource, by the way). If you're studying a major diversion, where runners took different trails or a shortcut through the woods, the table of times can give you an idea which gambles paid off.



The screenshot shows the Route Gadget interface. On the left is a topographic map with a route drawn. On the right is a sidebar with a table of runner times and distances. A red circle highlights the table. The table has columns for runner names and four legs of the course (1, 2, 3, 4). Below the table is a section for 'Route lengths (in pixels)' and a list of competitors.

Runner	1	2	3	4	
Ryan Jacoby	27:34	2.29	2.14	1.48	1.5
Tyler Chu	28:21	1.57	2.52	2.36	2.2
Ross Bretherton	38:37	1.49	2.37	1.42	1.5
Daniel Kiefer	60:01	2.31	5.26	2.36	3.5

Route lengths (in pixels)

Runner	1	2	3	4
Ryan Jacoby	1	2	3	4
Tyler Chu	1	2	3	4
Ross Bretherton	1	2	3	4
Daniel Kiefer	1	2	3	4

Use competitors (max 10)

W4M (5)

- Logan Warriner 38:09
- Nathan Maris 38:21
- Jason Bell 38:50
- Aaron Monzon 37:01
- Jeremiah Beggs 37:31
- Hugh Jacobsen 38:14
- Michael LaBlanc 38:22
- Robson Edwards 38:30
- Gregory Johnson 38:31
- James Noyes 39:29
- Steven McRavin 39:31

Routes on/off

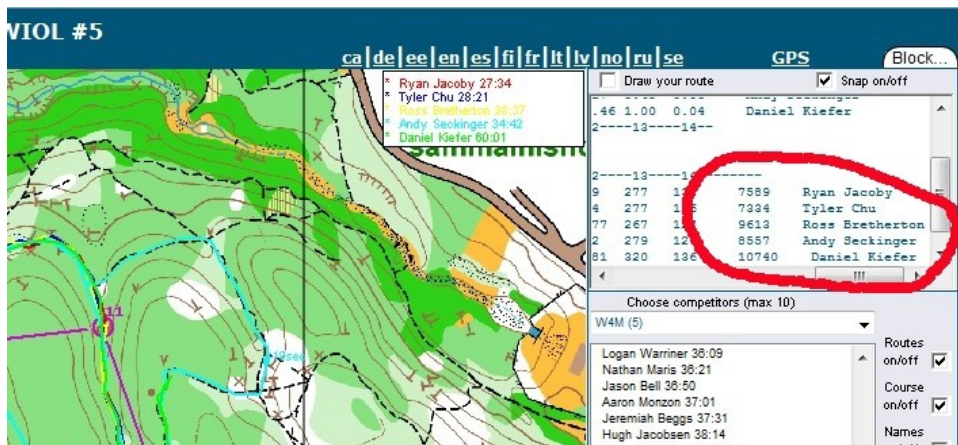
Course on/off

Names on/off

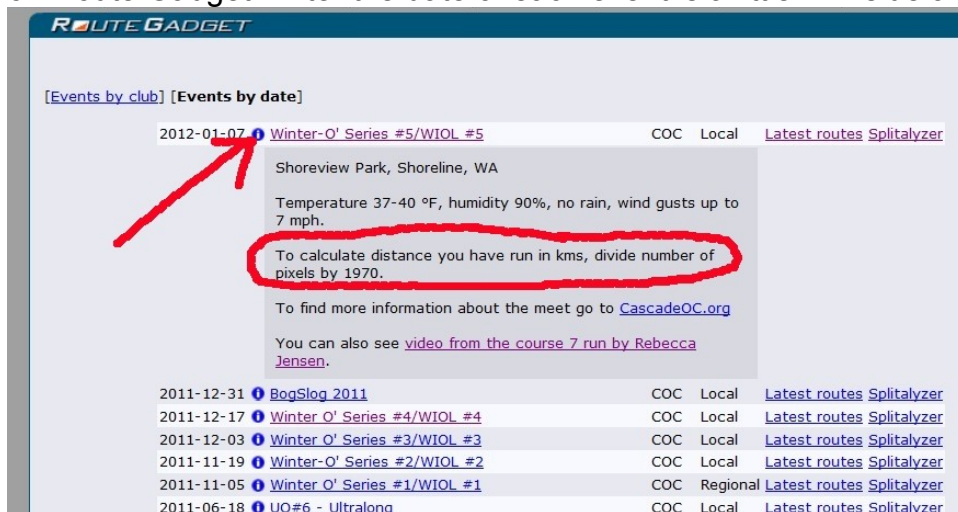
Zoom

11. Actual distance you ran

The lower half of that table shows the distance along the route you drew, measured in pixels. You'll need to use the scroll bars to get to the total distances at the far-right, bottom.



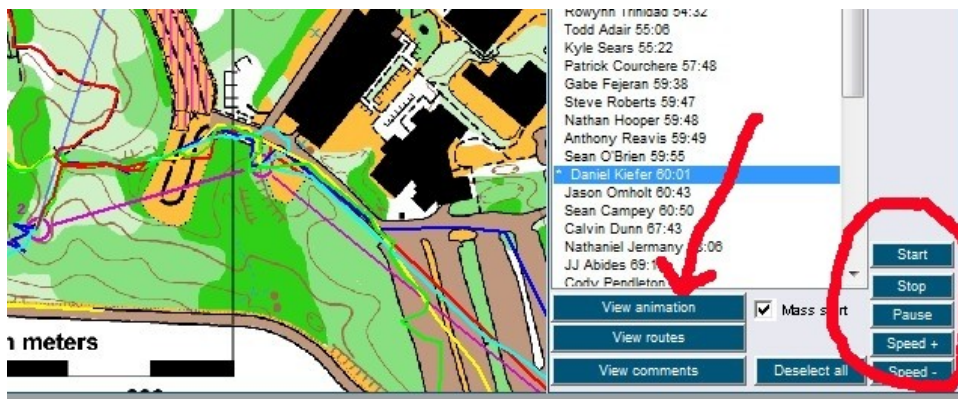
This is OK for comparing two runners' routes, but you need to do a little more to convert pixels to actual land distance. Remember that **Local events on RouteGadget...** page we opened back in Step 2? Go to that tab, where you'll find a list of the club's events that are available on Route Gadget. After the date of each event is a little "i" inside a blue circle.



Click it for a few lines of information about the meet. One of the lines tells you the divisor to divide the number of pixels by to convert to kilometers. (No, don't get up to look for a calculator. You're sitting at a computer, remember?) To convert km to miles, multiply by 0.62137. 5/8 is close enough.

12. Animated races

Now that you have a few routes on the map, you can run animated races between the competitors. Click the **View animation** button at the bottom of the sidebar.



A new column of buttons appears at the bottom-right; click **Start** to watch little colored squares start together and slowly race through the course. You can guess what the other buttons in the group do. If you **Pause** the race, click **Pause** again to resume from those points. If you click **Start**, it will start fresh from the... well, from the Start.

13. Splitalyzer

On the page of Route Gadget events -- the same page where we found the divisor to convert pixels to kilometers traveled in section 11 -- there's a link to **Splitalyzer** for each meet. Splitalyzer produces graphs of your performance along each leg of the meet and allows you to compare with other runners from your course, and even similar courses. For instance, you can combine competitors from P5 and W5F or W6M in one graph. The graphs can compare times for each leg, or accumulated times along the course. Most of the graphs treat the runners as if they'd all started together, but the "absolute time" graph shows all the runners, based on actual time of day. Splitalyzer does not require you to draw your route, only the input from your e-punch at the finish line.

14. Latest routes

Once you've saved your route and compared it to a few others, it's natural to watch for more people to compare to. On that same page of Route Gadget events, just left of the Splitalyzer link, is a link to **Latest routes**, a simple list of people who have saved their routes, with the most recent at the top. It's a quick way to find out whether there's a new route to look over.

15. Acknowledgements

I'm brand-new to this sport and can't claim any credit for inventing orienteering or Route Gadget or www.Cascadeoc.org. My sincere thanks go out to those who developed orienteering into a sport, promoted it in the U.S., and created the web tools to record and visualize our efforts after the fact. And to all the volunteers who turn a meet date into an

actual, challenging, well-mapped and organized event. Thanks also to those who answered my questions about Route Gadget, and to any of you who are kind enough to point out errors or omissions in this tutorial. Please pass any corrections to me at esandbo@frontier.com.

I typed this using LibreOffice with help from DropBox.com and screenshots from FoxArc Screen Capture.

16. The author

Eric Sandbo began poring over maps as a young teen when he'd carefully plan his 30+ mile bicycle rides into Seattle with the idea that not getting lost meant maybe having the energy left for the ride back to Bellevue. He came to love hiking in the Cascades, but not having a car meant he had more time to look at possible hikes on a map than to actually hike them. One of his first priorities upon leaving the Army was to learn to climb, and he has been climbing rocks, mountains, and ice (ocassionally) for over 30 years. He's climbed mostly in Washington with the ocassional detour to Oregon, California, Wyoming, BC, Alberta, or Pakistan. He has resorted to pencilling in compass bearings and distances on USGS maps more than once, and actually used them, counting steps while following his compass on a glacier in a whiteout or a thunderstorm. And he's chalked up at least one first ascent due to poor map reading. He's been a Search and Rescue volunteer since 1978, teaching wilderness navigation to new members and a couple of times building new compass courses for weekend-long trainings in the woods.

On very rare occasions he writes about himself in the third person.

17. Revisions

1/28/12: Added info about GPS, Splitalyzer, and the Latest Routes page. Minor edits.