

Swift Data Visualization

November 10th, 2016

Nicolas Seriot



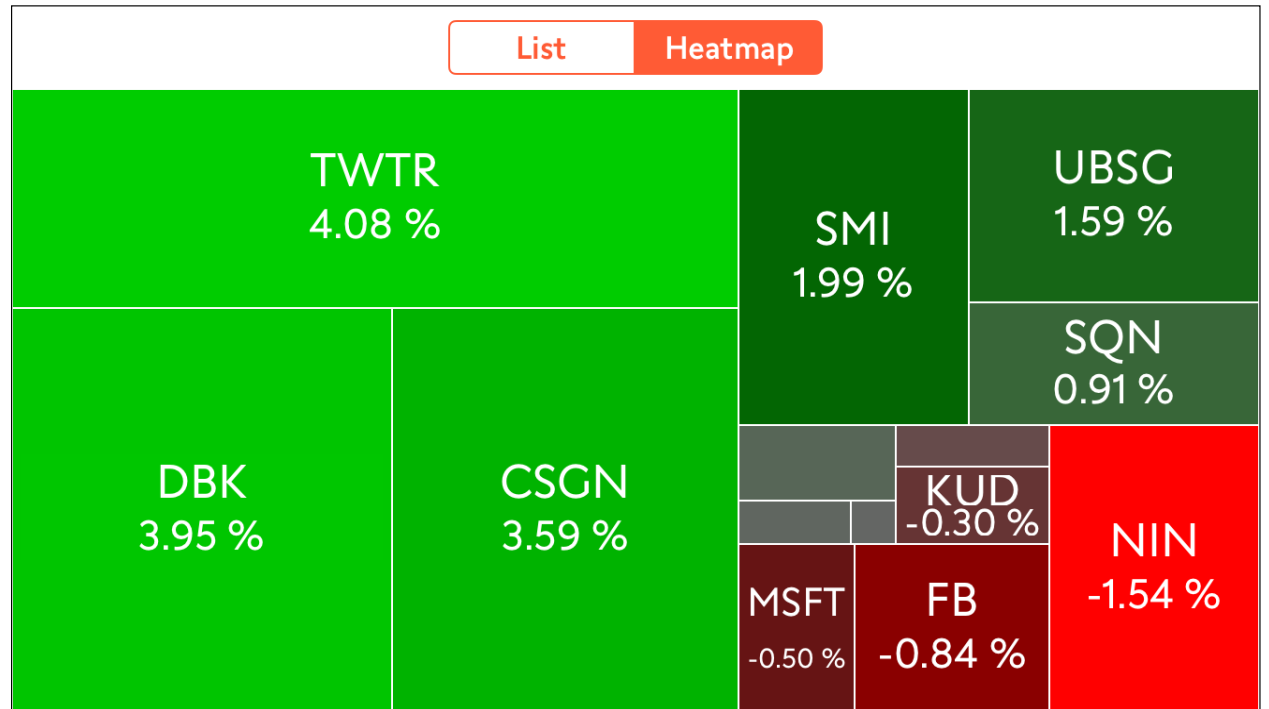
Search ●●○○○ 23:34 72%

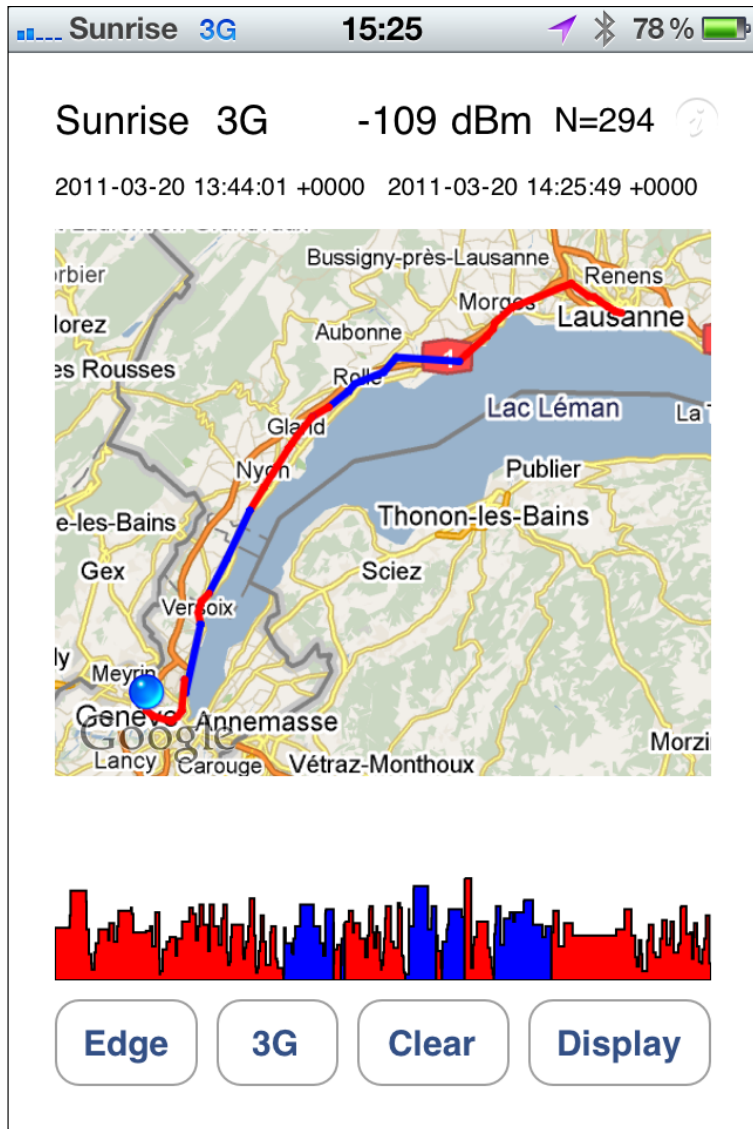
Loading...

↓ Sort Edit

AAPL APPLE ORD	109.56	-1.35 %	>
CSGN Estim. 13.07	13.00	3.59 %	>
DBK DEUTSCHE BANK N ORD	13.291	2.75 %	>
EUR/CHF EUR/CHF	1.0746	-0.33 %	>
FB FACEBOOK CLA ORD	123.00	-0.98 %	>
KUD KUDELSKI I	16.45	-0.30 %	>
MSFT MICROSOFT ORD	60.385	-0.14 %	>
NIN NINTENDO CO LTD	229.50	-1.54 %	>
SMI SWISS MARKET INDEX	7'897.84	1.99 %	>
SQN SWISSQUOTE N	27.60	0.91 %	>

Dashboard Quotes Account News More





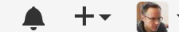
<https://github.com/nst/BatteryChart>

<https://github.com/nst/MobileSignal>



This repository Search

Pull requests Issues Gist



apple / swift

Watch 2,388

Unstar 35,086

Fork 5,037

Code

Pull requests 115

Projects 0









Pulse

Graphs

Branch: master

Commits on Nov 10, 2016



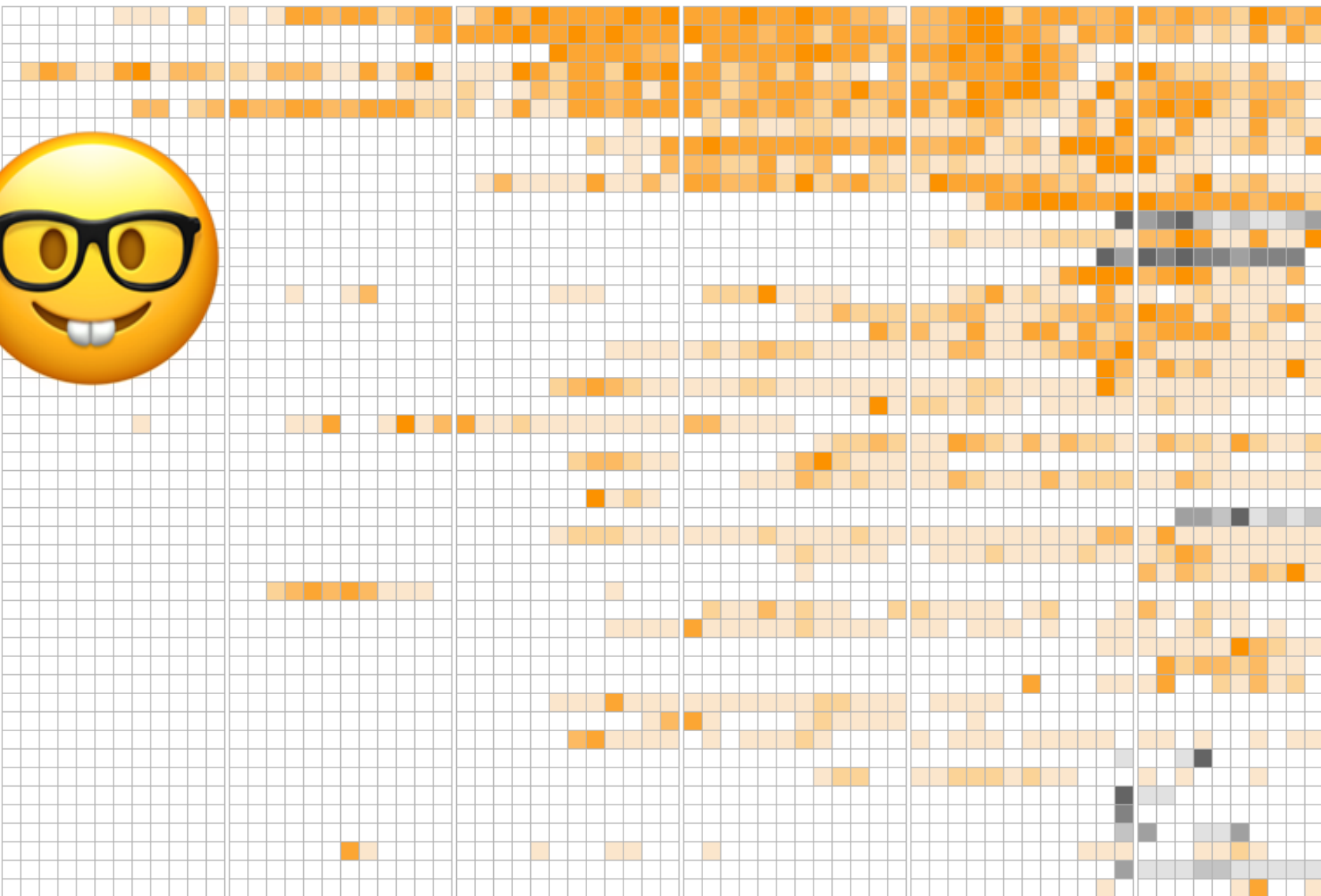
- 
Merge pull request #5702 from nkcsgexi/digester-compare
 swift-ci committed on GitHub 3 hours ago
 📄
0f75036
<>
- 
swift-api-digester: when comparing name alias, comparing the underlying...
 nkcsgexi committed 6 hours ago ✓
 📄
f3a13e3
<>
- 
swift-api-digester: consider name alias type as a standalone node kin...
 nkcsgexi committed on GitHub 6 hours ago
 📄
3682476
<>
- 
Merge pull request #5700 from benlangmuir/noassert-crasher
 swift-ci committed on GitHub 6 hours ago
 📄
a1dbe06
<>
- 
Merge pull request #5682 from slavapestov/fix-dispatch-overlay-deploy...
 swift-ci committed on GitHub 6 hours ago
 📄
9b79dcf
<>
- 
Add REQUIRES: asserts to 016-swift-mangle-mangler-mangleidentifier.swift
 benlangmuir committed 7 hours ago ✓
 📄
917a09e
<>
- 
[test] Fix three Driver tests under cross-compilation. (#5694)
 jrose-apple committed on GitHub 7 hours ago
 📄
3e4a78f
<>
- 
ClangImporter: Targeted fix for <rdar://problem/29081276>
 slavapestov committed 2 days ago ✓
 📄
a52b095
<>

https://github.com/apple/swift

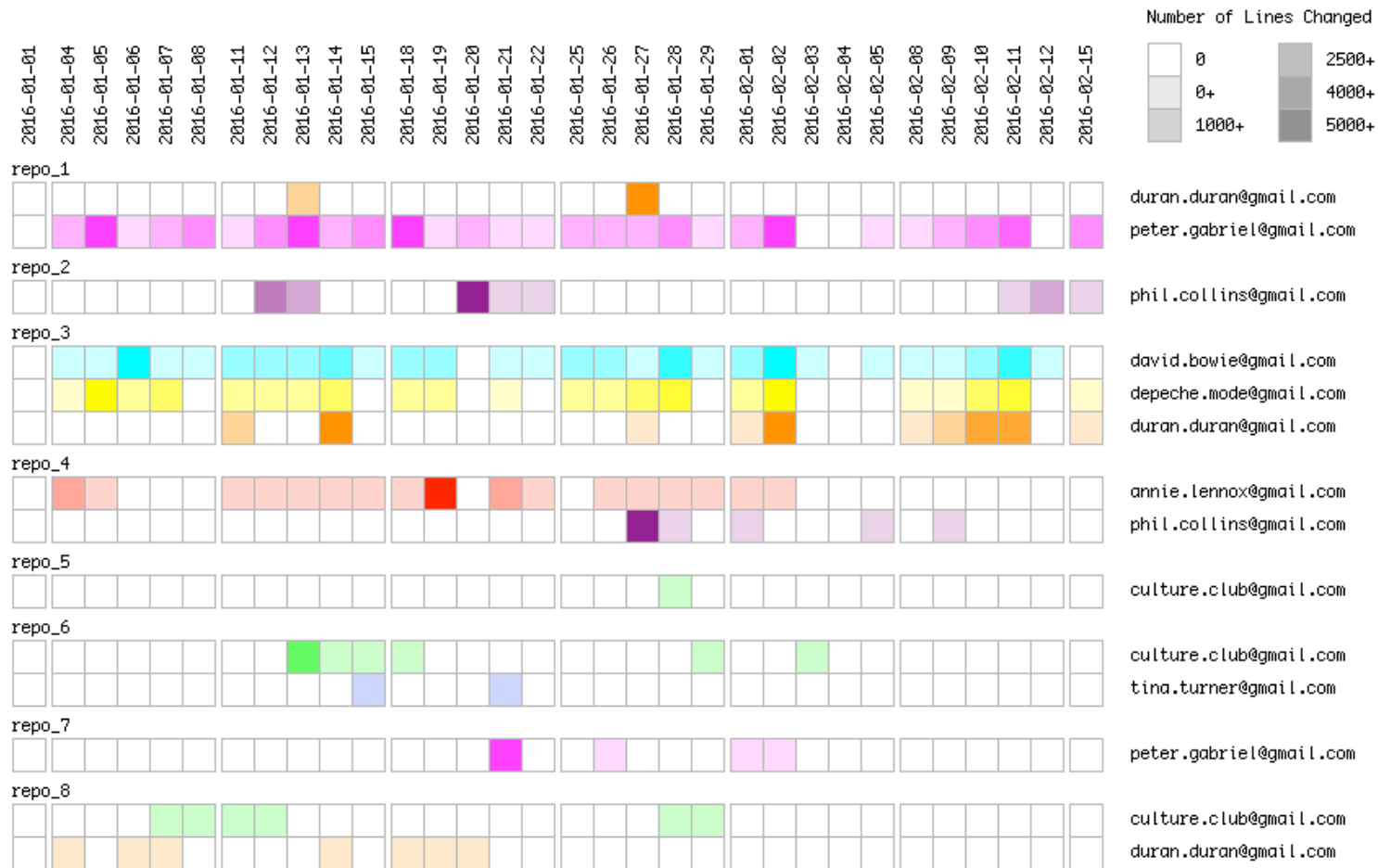
Number of Lines Changed

2011-01 2011-02 2011-03 2011-04 2011-05 2011-06 2011-07 2011-08 2011-09 2011-10 2011-11 2011-12 2012-01 2012-02 2012-03 2012-04 2012-05 2012-06 2012-07 2012-08 2012-09 2012-10 2012-11 2012-12 2013-01 2013-02 2013-03 2013-04 2013-05 2013-06 2013-07 2013-08 2013-09 2013-10 2013-11 2013-12 2014-01 2014-02 2014-03 2014-04 2014-05 2014-06 2014-07 2014-08 2014-09 2014-10 2014-11 2014-12 2015-01 2015-02 2015-03 2015-04 2015-05 2015-06 2015-07 2015-08 2015-09 2015-10 2015-11 2015-12 2016-01 2016-02 2016-03 2016-04 2016-05 2016-06 2016-07 2016-08 2016-09 2016-10

0 0+ 1500+ 3000+ 6000+ 15000+

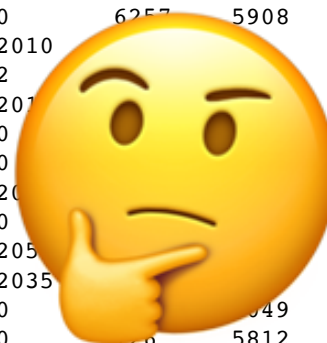


- dgregor@apple.com (527787)
- jgoff@apple.com (444806)
- dgribenko@apple.com (415532)
- clattner@apple.com (397863)
- jordan_rose@apple.com (388019)
- rjmccall@apple.com (357578)
- atrick@apple.com (318969)
- ngottesman@apple.com (318527)
- nrotm@apple.com (225633)
- dabrahams@apple.com (210698)
- spestov@apple.com (209173)
- practicalswift@users.noreply.github.com (206634)
- xi_ge@apple.com (177665)
- gribozavr@gmail.com (146523)
- xin_tong@apple.com (127636)
- kremenek@apple.com (126866)
- eckstein@apple.com (110694)
- dfarler@apple.com (107656)
- mark.lacey@apple.com (103813)
- moiseev@apple.com (100205)
- kyrtzidis@apple.com (97788)
- cwillmore@apple.com (73565)
- zarzycki@apple.com (64309)
- rlevenstein@apple.com (64064)
- ganna@apple.com (52891)
- aschwaighofer@apple.com (48941)
- swlin@apple.com (48702)
- fs.output@gmail.com (43496)
- aprantl@apple.com (43302)
- blangmuir@apple.com (37459)
- milseman@apple.com (36797)
- eli_friedman@apple.com (35333)
- jpamer@apple.com (30626)
- gparker@apple.com (30512)
- mishal_shah@apple.com (29881)
- nmerethcook@apple.com (27353)
- llarson@apple.com (23595)
- mren@apple.com (22613)
- cwakamo@apple.com (18486)
- egranata@apple.com (18342)
- manav1907@gmail.com (18303)
- dcoughlin@apple.com (17192)
- jacob@bandes-storch.net (15457)
- joe@polka.cat (12125)
- austinzheng@gmail.com (11959)
- daniel_dunbar@apple.com (11498)
- modocache@gmail.com (11118)
- anthony.parker@apple.com (10771)

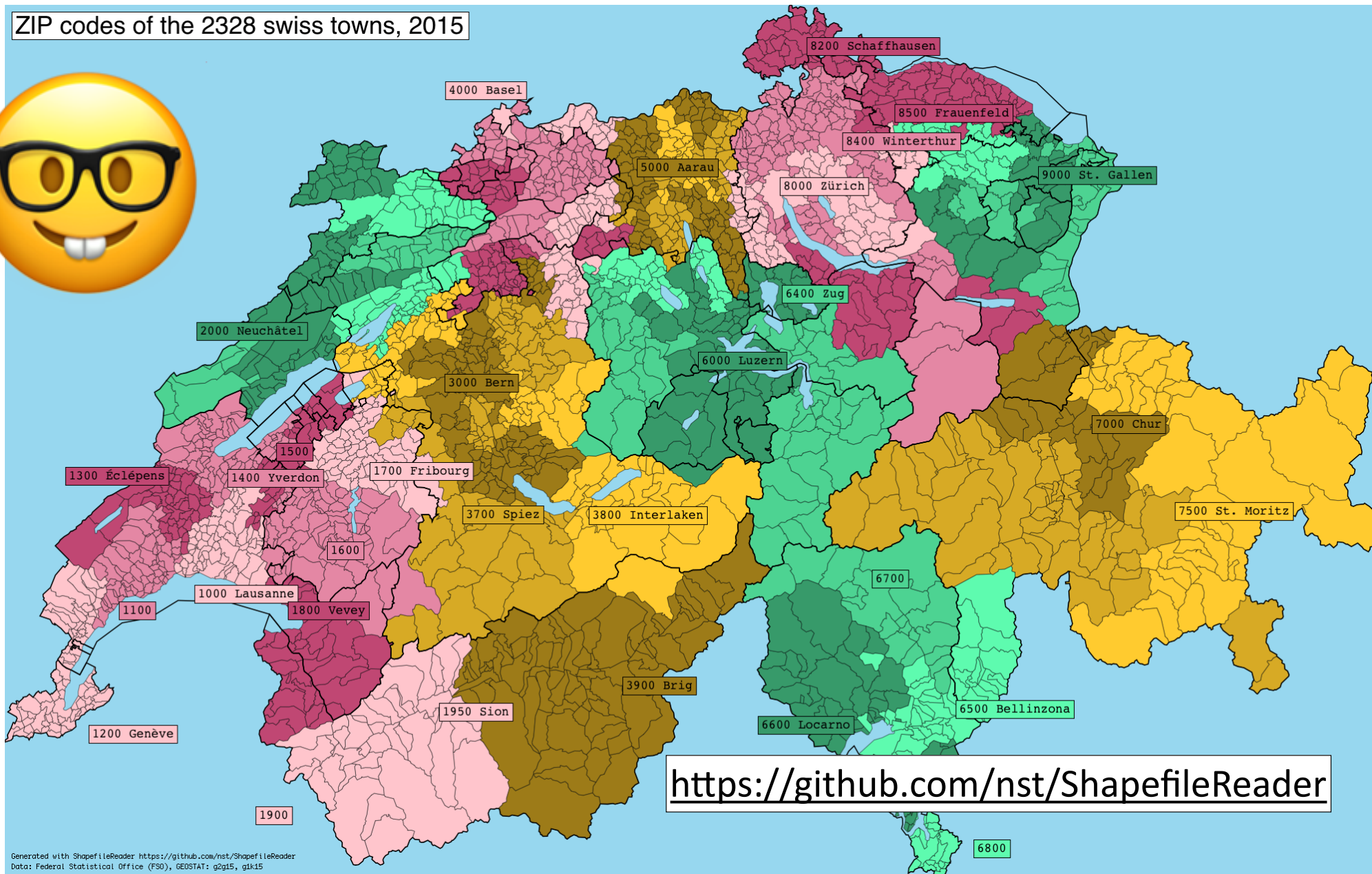


<https://github.com/nst/DevTeamActivity>

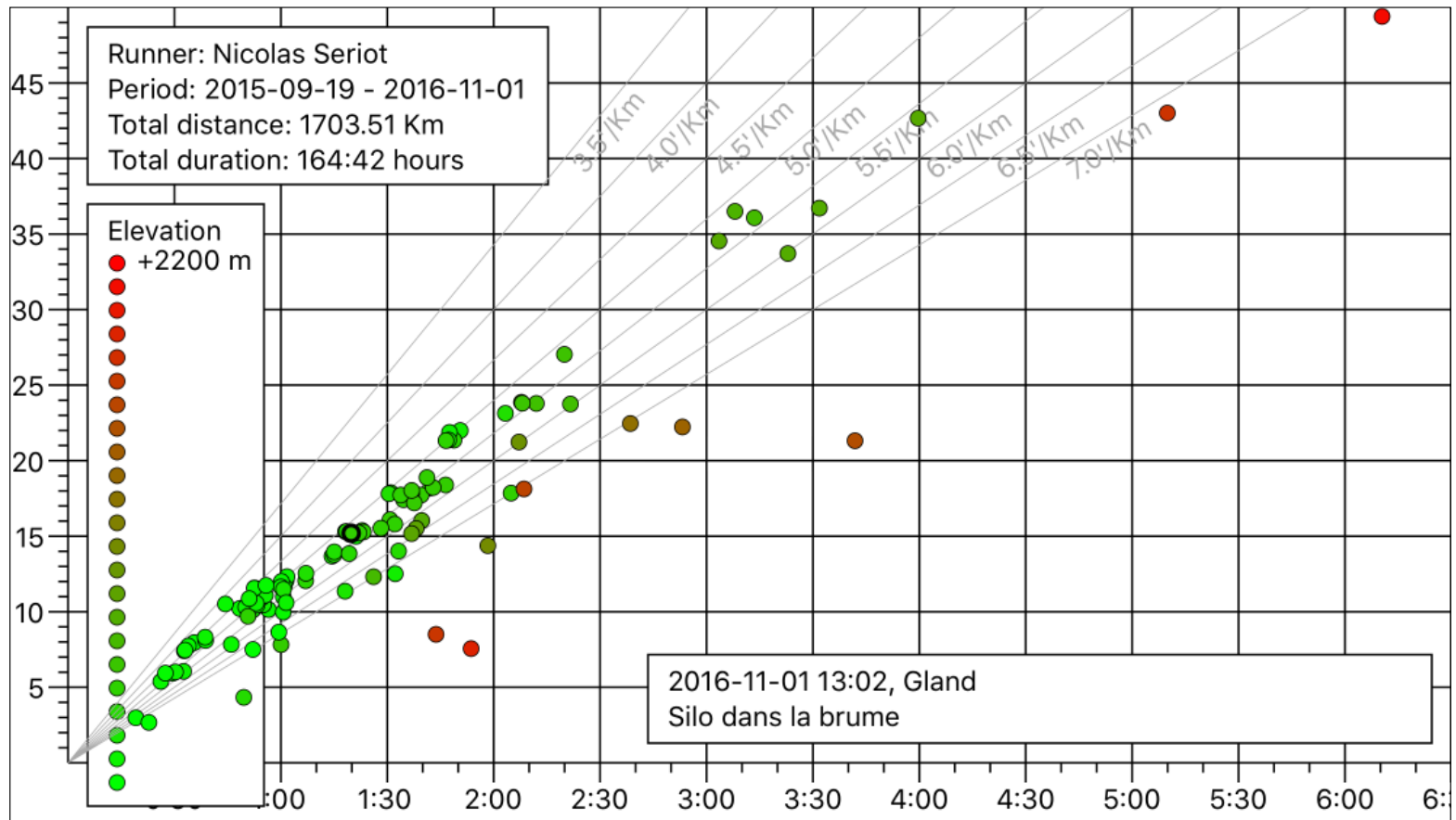
665	20	1452	00	Les Rasses	Les Rasses	VD	2		0	8092	5552	20020901			
666	20	1453	00	Bullet	Bullet	VD	2	0	8092	5552	20070801				
667	20	1450	03	Le Château-Croix	Le Château-de-Ste-Croix	VD			2		1	8092	5568	20090401	
669	10	1462	00	Yvonand	Yvonand	VD	2	1	6257	5939	19930826				
672	20	1463	00	Rovray	Rovray	VD	2	0	6257	5928	19931227				
673	20	1464	00	Chavannes-le-Chêne	Chavannes-le-Chêne	VD			2		0	6257	5907	20110301	
674	20	1464	02	Chêne-Pâquier	Chêne-Pâquier	VD	2		0	6257	5908	19890606			
675	10	1468	00	Cheyres	Cheyres	FR	2	0	726	2010					
680	10	1470	00	Estavayer-le-Lac	Estavayer-le-Lac	FR			2			726	2015	19960904	
681	20	1473	00	Font	Font	FR	2	0	726	2010					
682	20	1474	00	Châbles	Châbles	FR	FR	2		0		20061201			
691	10	1483	00	Montet (Broye)	Montet (Broye)	FR		2		0		19960904			
692	10	1482	00	Cugy	Cugy	FR	FR	2	0	726	2010				
693	20	1541	00	Bussy	Bussy	FR	FR	2		0		20110901			
694	20	1484	00	Aumont	Aumont	FR	2	0	726	2050					
695	20	1485	00	Nuvilly	Nuvilly	FR	2	0	726	2035					
696	20	1486	00	Vuissens	Vuissens	FR		2		0	549	20000201			
697	20	1537	00	Champtauroz	Champtauroz	VD	2		0	726	5812	20010906			
698	20	1538	00	Treytorrens-Payern	Treytorrens (Payerne)	VD		2		0		726	5828	20010906	
699	20	1489	00	Murist	Murist	FR	2	0	726	2034	20110501				
700	10	1510	00	Moudon	Moudon	VD	2	1	7661	5678	19880901				
705	20	1512	00	Chavannes-s-Moudon	Chavannes-sur-Moudon	VD			2		0	7661	5665	19930928	
706	20	1513	00	Hermenches	Hermenches	VD	2		0	7661	5673	19960919			
707	20	1514	00	Bussy-sur-Moudon	Bussy-sur-Moudon	VD			2		0	7661	5663	20000401	
708	20	1522	09	Oulens-sur-Lucens	Oulens-sur-Lucens	VD			2		1	726	5675	19991122	
709	20	1515	00	Villars-le-Comte	Villars-le-Comte	VD			2		0	7661	5690	20110501	
710	20	1515	01	Neyruz-sur-Moudon	Neyruz-sur-Moudon	VD			2		0	7661	5693	19940726	
711	20	1410	03	Denezy	Denezy	VD	2	0	6257	5693	20020701				
712	10	1522	00	Lucens	Lucens	VD	2	1	726	5675	19881201				
713	20	1521	00	Curtilles	Curtilles	VD	2		1	726	5669	20010701			
715	10	1523	00	Granges-Marnand	Granges-près-Marnand	VD		2		0	726	5831	19960904		
716	20	1527	00	Villeneuve	Villeneuve	FR	FR	2		0	726	2047	20010701		
717	20	1528	00	Surpierre	Surpierre	FR		2		0	726	2044	20111001		
718	20	1529	00	Cheiry	Cheiry	FR	2	0	726	2009	20021001				
720	10	1530	00	Payerne	Payerne	VD	2	1	726	5822	19960904				
726	20	1532	00	Fétigny	Fétigny	FR	2	1	726	2016	20130701				
727	20	1533	00	Ménières	Ménières	FR		2		0	726	2027	20021001		



ZIP codes of the 2328 swiss towns, 2015

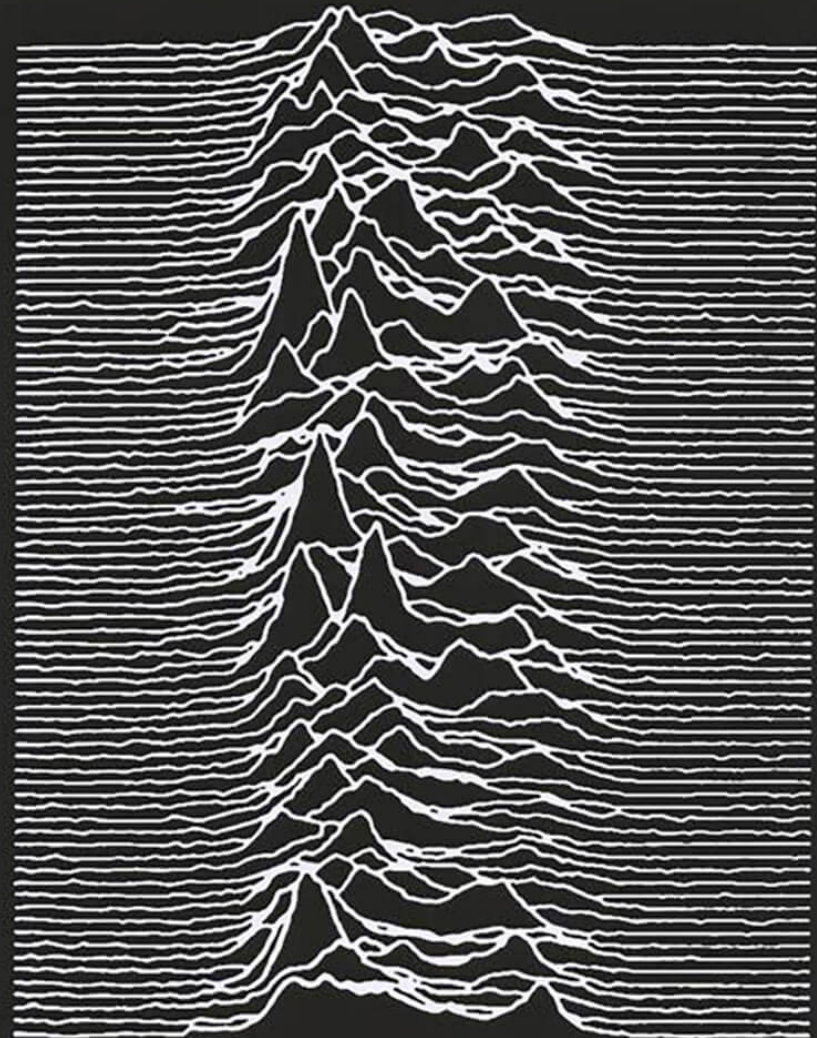


<https://github.com/nst/ShapefileReader>



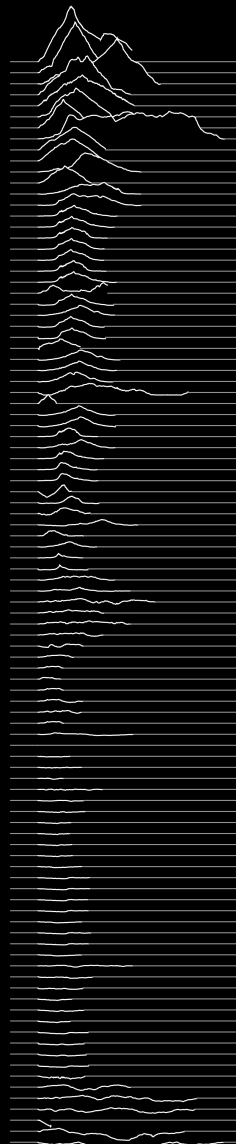
<https://github.com/nst/STStrava>

JOY DIVISION

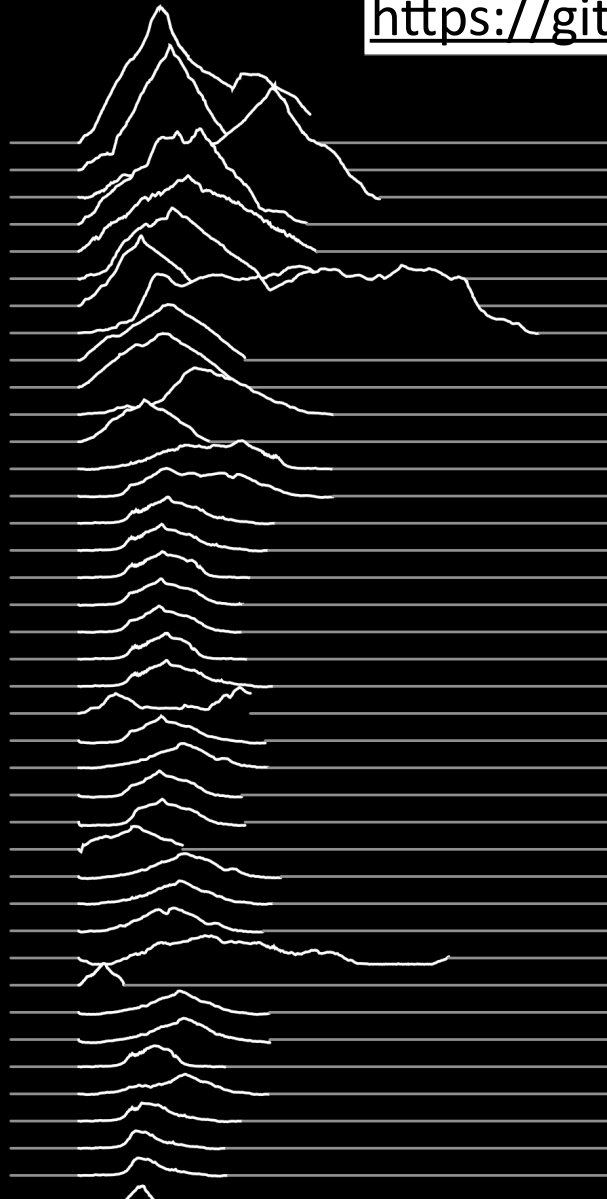


UNKNOWN PLEASURES

<https://github.com/nst/PulsarRuns>

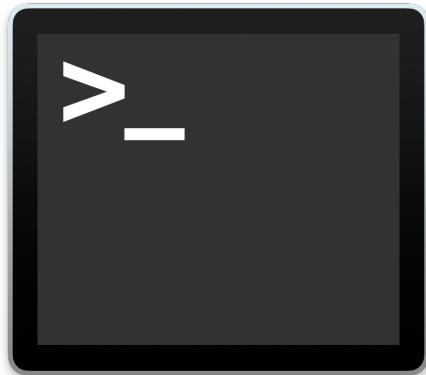


Double KV de Chandolin
Grand Trophée des Martiniaux
Montreux - Rochers de Naye
Le semi des sommets - lac de la Forcla et cabane Rambert
La Rippe - La Dôle et retour
Semi au-dessus de Jorasse, 1240 m D+
Mayens de Chamoson / Alpage de la Loutze / Pointe de Cherr
Trail du Salève 2016
la Barillette avec Seb et Pierrick
La Dôle avec Pierrick, mais pas de Kuffer :-/
Semi vers St-Cergue et Arzier
Crêt de la Neuve
Bassins / Burtigny, 23km, 2h10, 560m
SQ June Half-Marathon: Silo / Arzier
Silo / Begnins avec Seb
Montée de Luins / Silo / Begnins
16 km 1:30 +457 m
Silo sous la pluie avec Seb
Silo
Montée de Luins puis au-dessus du silo
Silo / Begnin avec Seb et Florian
Thyon-Dixence
Silo
Bassins
Silo
Silo avec Pierrick et Seb
Georgette Rovéréaz 400 m D+
Bassins
Gland-Arzier et retour, 18km 1:40 +380 m
Bassins avec Seb
Ouchy - Le Mont - Lutry - Georgette
Tourbillon - La Loutze avec Vince
Arzier
Gland - Bassins par 29° C
Silo et retour
Gland - Genolier - Le Muids - Gland avec Pierrick
Montée de Luins, plateau, toblerones
Lunch Run
Montée de Luins, plateau, toblerones avec Seb
Montée sur l'Ardèche
Presses au silo mais trop chaud
Georgette / Clergère / Rovéréaz / Chailly
Semi Golf / Bois de Chêne / Cézille
10km, Châterberg, Zürich
Le Cézille avec Seb
Montée de Luins, retour par les vignes
CR Montée de Luins 4:18
Genolier 28 départ
Semi Duillier / Begnins / Aéroport
27 km, 2h20, 525 m D+
Afternoon Run
2ème semi de la semaine, 429 m de dénivelé positif
new record 15 km 1:19
Afternoon Run
Night Run
6 km 29 minutes
Reprise en douceur
6 km 30 minutes
10 km 52 minutes
10 km 52 min +180 m
6 km 32 minutes
semi-marathon (de) sauvages !!!
Evening Run
Exercices dans le Golf avec Marc
new record 10 km
le petit bois
new record 15 km
Gland - Bursinel, best 5k best 10k
le Golf dans la neige
le Golf à fond
Le Golf à fond les manettes
Lunch Run
le Golf avec Seb et Florian
new record 10 km 40 minutes
Golf / Prangins / Aéroport
Golf + Prangins sous la neige
Golf / Prangins avec Seb, testest 10k sous la pluie
Golf / Prangins avec Seb, Xavier et Fabien
Lunch Run
Golf / Prangins avec Seb et Louis
Back to the Golf avec Bruno et Gaëtan
10 km 51 minutes avec seb et gaëtan
Gland - Rolle et retour avec Seb
Nyon, avec une grande pause
Dully, pour garder la forme
Lunch Run
Golf avec Seb, Marc et Fabien
Record du Golf
Golf / aéroport sous la pluie
Golf tranquille
Golf aller-retour
Golf / Prangins tranquillo Billou
Afternoon Run
Semi-marathon VT-Ropraz, 1h45, 380 D+
36.5km, 3h07, 655m D+ en t-shirt sous la pluie glacée
36 km Gros de Vaud / Bois du Jorat, 3h12, 587m D+
Lunch Run
VT - Corcelles - Vucherens - Moudon - Sottens - VT
Marathon des champs

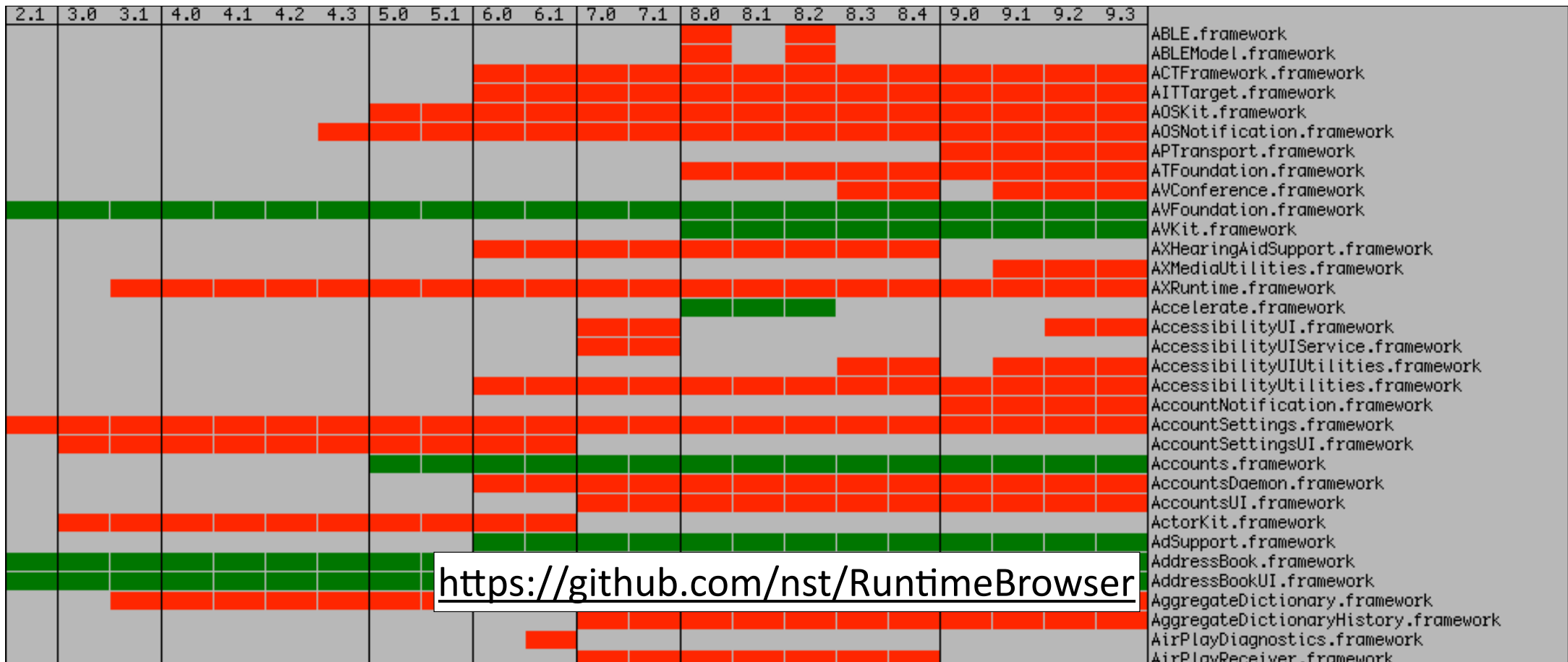


Double KV de Chandolin
Grand Trophée des Martiniaux
Montreux - Rochers de Naye
Le semi des sommets - lac de la Forcla et cabane Rambert
La Rippe - La Dôle et retour
Semi au-dessus de Jorasse, 1240 m D+
Mayens de Chamoson / Alpage de la Loutze / Pointe de Cherr
Trail du Salève 2016
la Barillette avec Seb et Pierrick
La Dôle avec Pierrick, mais pas de Kuffer :-/
Semi vers St-Cergue et Arzier
Crêt de la Neuve
Bassins / Burtigny, 23km, 2h10, 560m
SQ June Half-Marathon: Silo / Arzier
Silo / Begnins avec Seb
Montée de Luins / Silo / Begnins
16 km 1:30 +457 m
Silo sous la pluie avec Seb
Silo
Montée de Luins puis au-dessus du silo
Silo / Begnin avec Seb et Florian
Thyon-Dixence
Silo
Bassins
Silo
Silo avec Pierrick et Seb
Georgette Rovéréaz 400 m D+
Bassins
Gland-Arzier et retour, 18km 1:40 +380 m
Bassins avec Seb
Ouchy - Le Mont - Lutry - Georgette
Tourbillon - La Loutze avec Vince
Arzier
Gland - Bassins par 29° C
Silo et retour
Gland - Genolier - Le Muids - Gland avec Pierrick
Montée de Luins, plateau, toblerones
Lunch Run
Montée de Luins, plateau, toblerones avec Seb
Montée sur l'Ardèche

Nicolas Seriot



```
$ swift myScript.swift arg1 arg2 arg3
```



TOOLS AND TECHNIQUES



Quartz 2D Programming Guide

[▼ Table of Contents](#)**Introduction**

- ▶ Overview of Quartz 2D
- ▶ Graphics Contexts
- ▶ Paths
- ▶ Color and Color Spaces
- ▶ Transforms
- ▶ Patterns
- ▶ Shadows
- ▶ Gradients
- ▶ Transparency Layers
- ▶ Data Management in Quartz 2D
- ▶ Bitmap Images and Image Masks
- ▶ Core Graphics Layer Drawing
- ▶ PDF Document Creation, Viewing, and Transforming
- ▶ PDF Document Parsing
- ▶ PostScript Conversion
- Text
- Glossary
- Revision History

Introduction

[Next](#)

Quartz 2D is an advanced, two-dimensional drawing engine available for iOS application development and to all Mac OS X application environments outside of the kernel. Quartz 2D provides low-level, lightweight 2D rendering with unmatched output fidelity regardless of display or printing device. Quartz 2D is resolution- and device-independent; you don't need to think about the final destination when you use the Quartz 2D application programming interface (API) for drawing.



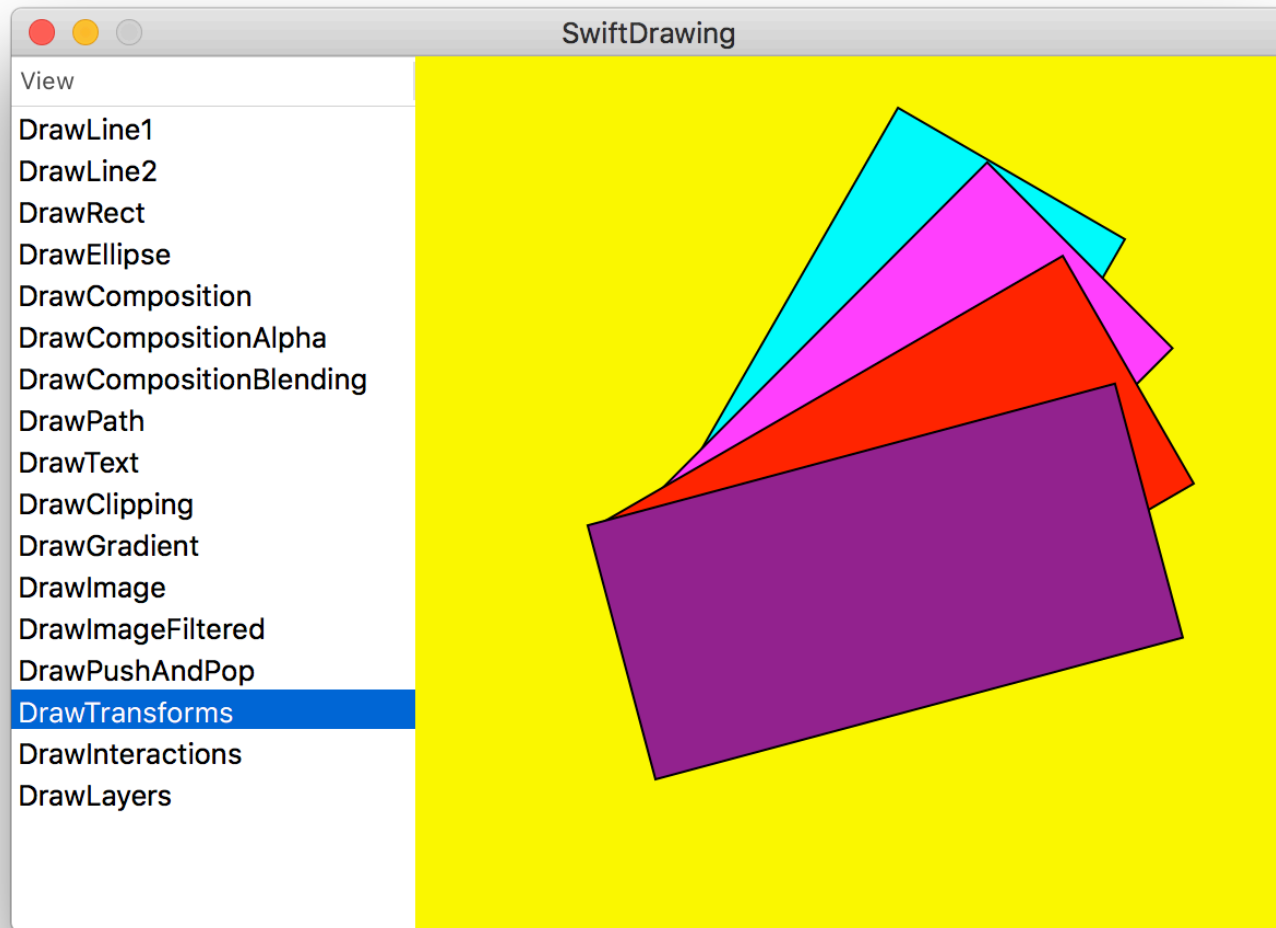
View Programming Guide

[▼ Table of Contents](#)**Introduction**

- ▶ What Are Views?
- ▶ View Geometry
- ▶ Working with the View Hierarchy
- ▶ Creating a Custom View

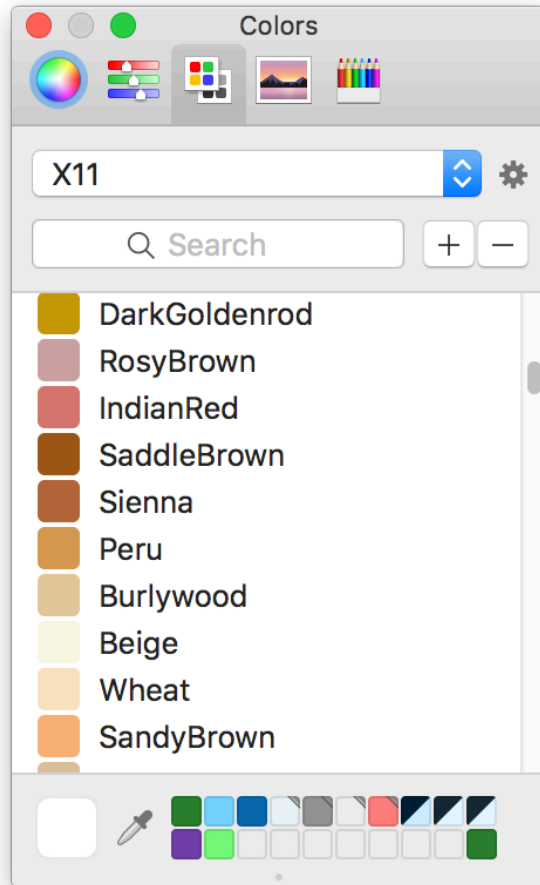
Introduction to View Programming Guide for Cocoa

[Next](#)



<https://github.com/nst/SwiftDrawing>

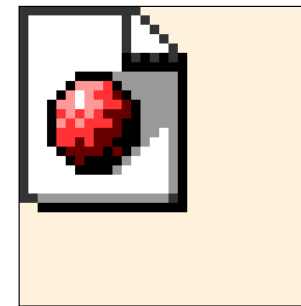
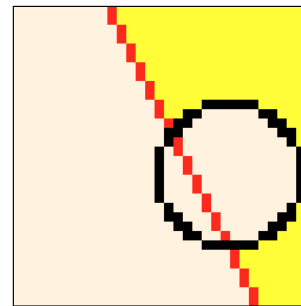
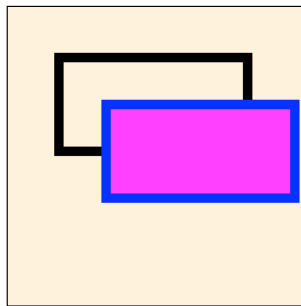
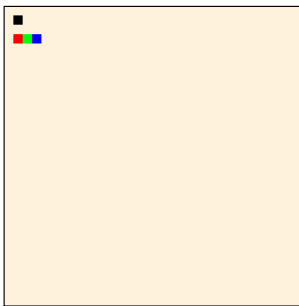
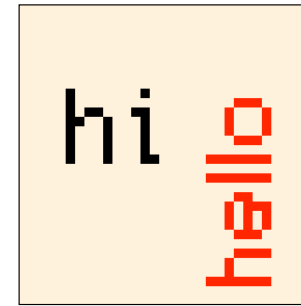
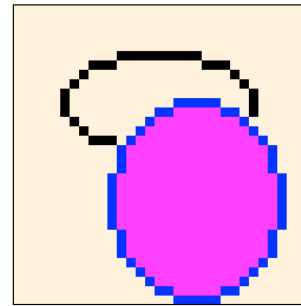
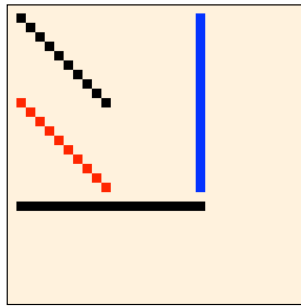
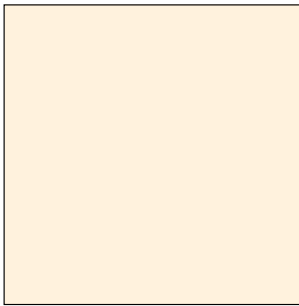
X11Colors.swift



```
let c1 = "IndianRed".color // NSColor  
  
let c2 = "#00FF00".color // NSColor  
  
let c3 = NSColor(r, g, b)
```

<https://github.com/nst/BitmapCanvas>

BitmapCanvas.swift

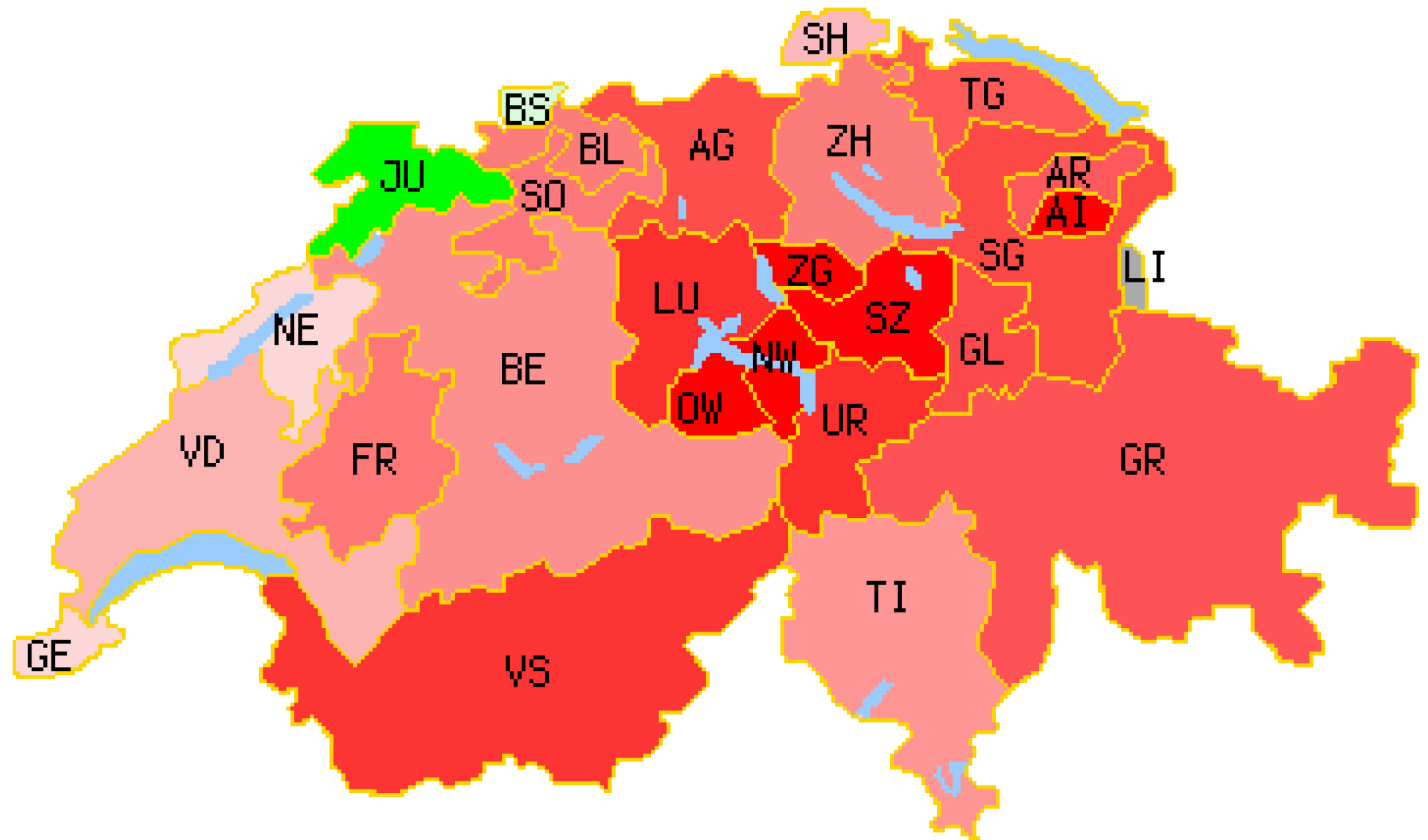


BitmapCanvas.swift



```
let (w, h) = (255, 255)

let b = BitmapCanvas(w, h)
for i in 0..
```



2016-02-28 "Pas de spéculation sur les denrées alimentaires"

.GIF

```
let gm = STGIFMaker(  
    destinationPath: "/tmp/test.gif",  
    loop: true)!  
  
for i in images {  
    gm.append(image: i, duration: 0.5)  
}  
  
gm.write()
```

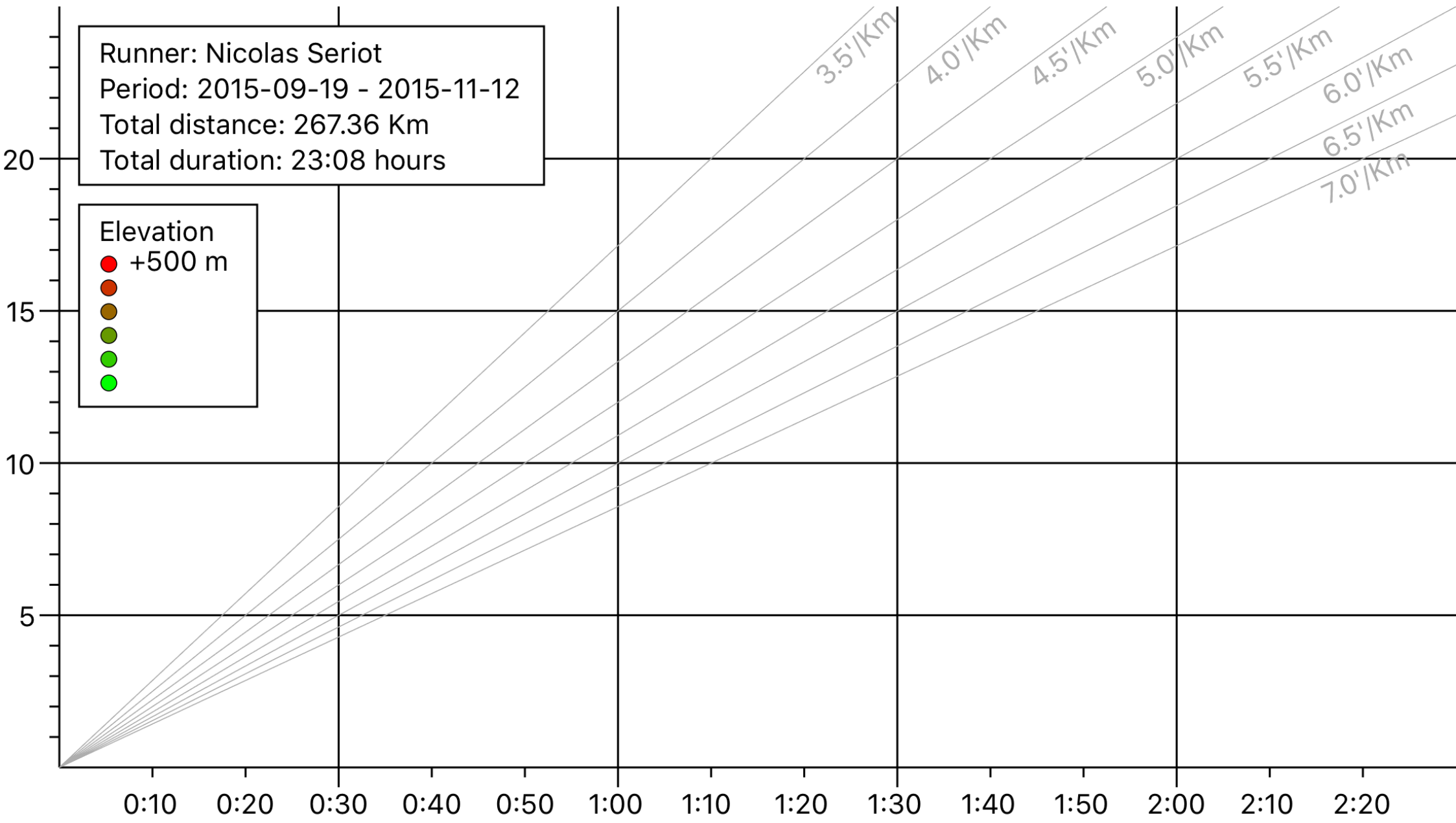
.mov

```
let mm = STMovieMaker(  
    path: "/tmp/test.mov",  
    frameSize: CGSize(width:600,  
                        height:300),  
    fps: 2)!  
  
for i in images {  
    mm.append(i)  
}  
  
mm.write { (path) in  
    //  
}
```

<https://github.com/nst/STMovingImages>

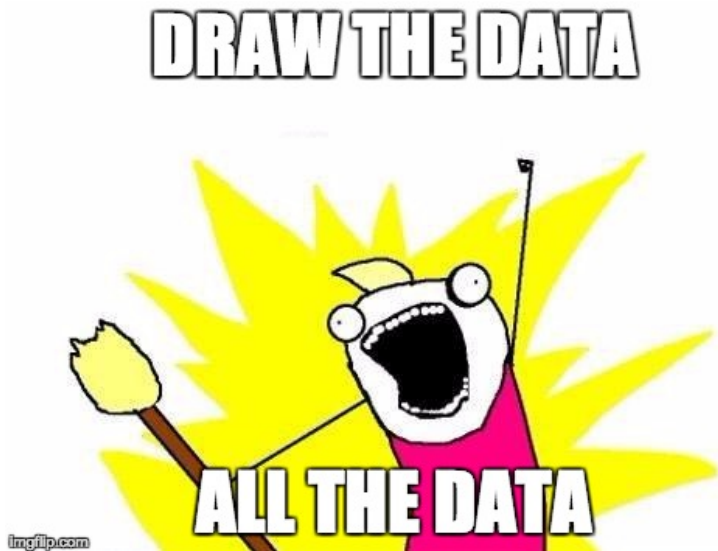
Runner: Nicolas Seriot
Period: 2015-09-19 - 2015-11-12
Total distance: 267.36 Km
Total duration: 23:08 hours

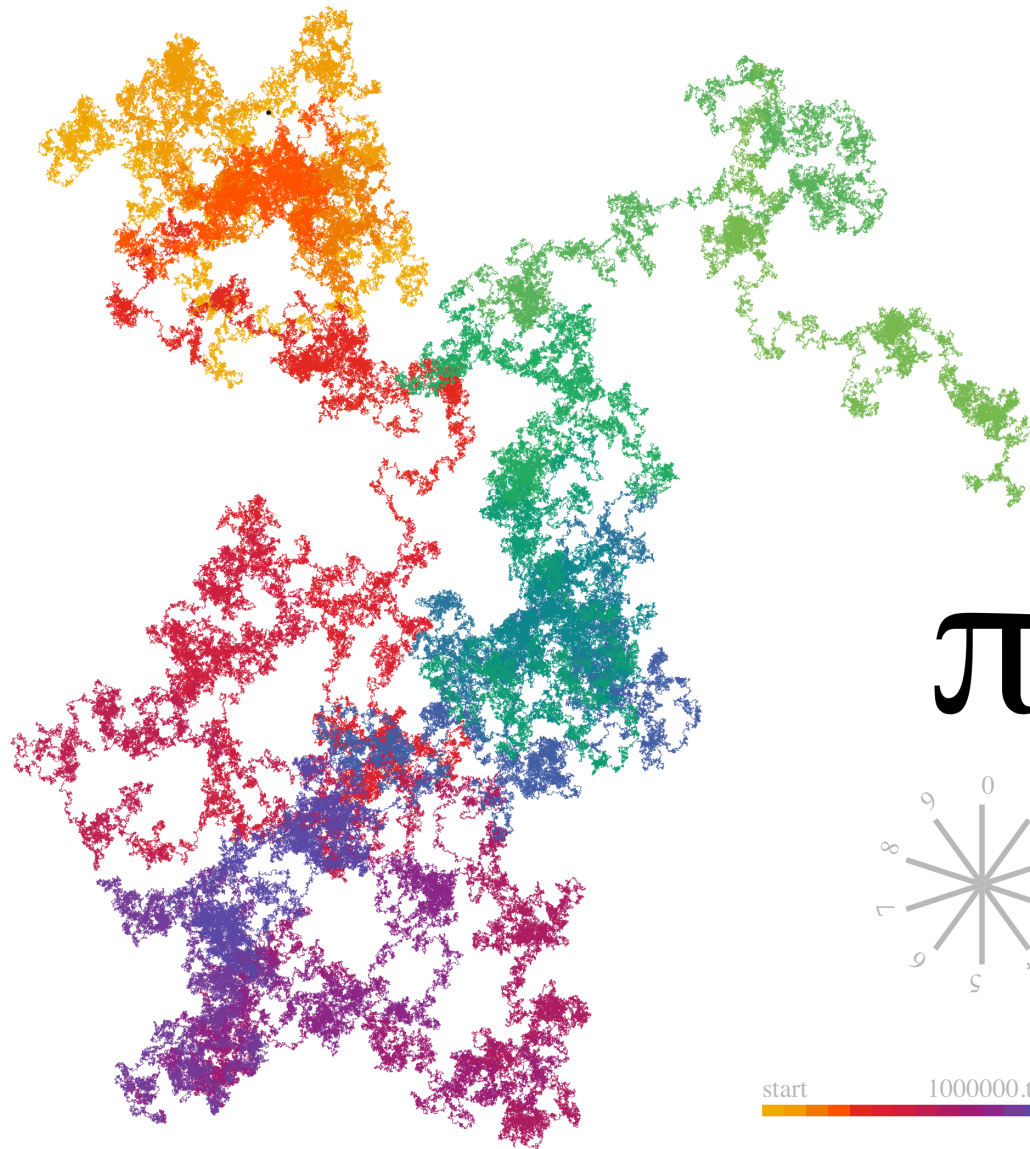
- Elevation
- +500 m
 -
 -
 -
 -



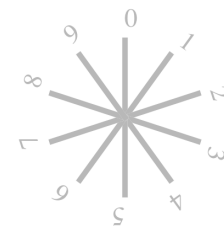
Data

- Swift commits
- Your emails, queried by Spotlight API
- US Elections votes
- metadata extracted with SourceKitten
/cc @Orta
- Your own ideas





π



start 1000000.txt end



Data-Driven Documents



D3.js is a JavaScript library for manipulating documents based on data. **D3** helps you bring data to life using HTML, SVG, and CSS. D3's emphasis on web standards gives you the full capabilities of modern browsers without tying yourself to a proprietary framework, combining powerful visualization components and a data-driven approach to DOM manipulation.

See [more examples](#).



<https://github.com/nst/SwiftAlps2016>