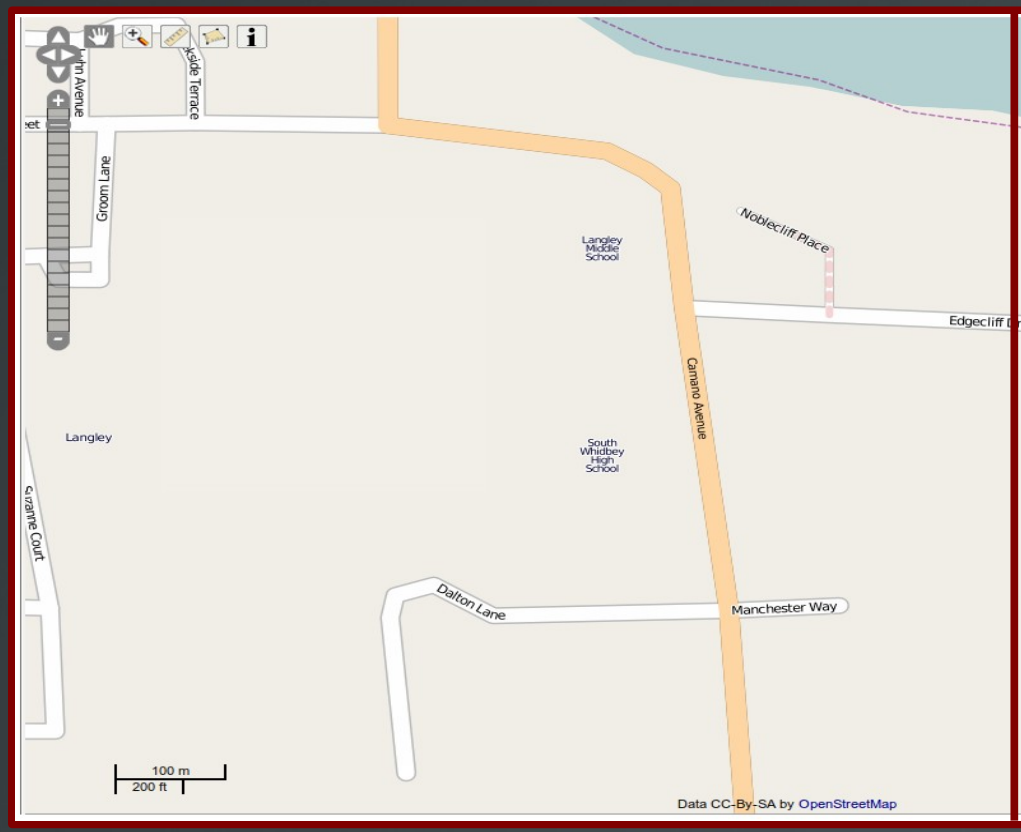
GIS Apprenticeship



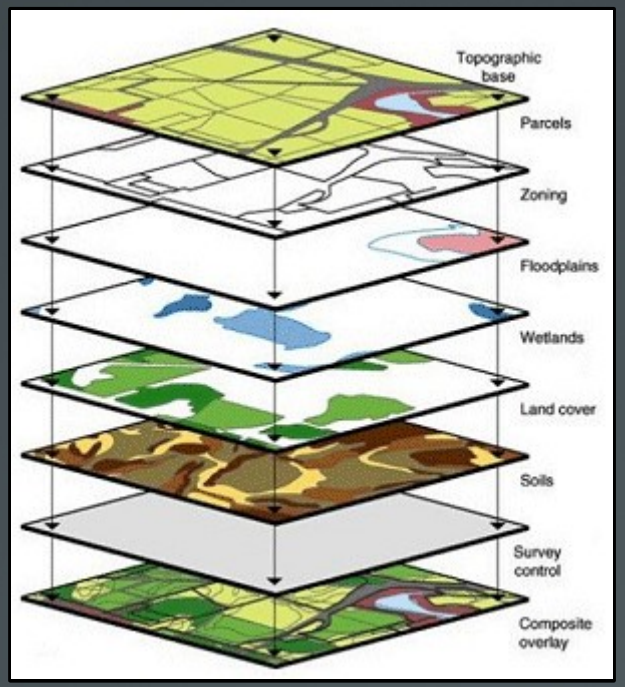
School: South Whidbey Middle School
Student: Will Simms
Organization: Z-Pulley Inc.
Mentor: Aaron Racicot

What is GIS?

Geographic

Information

Systems



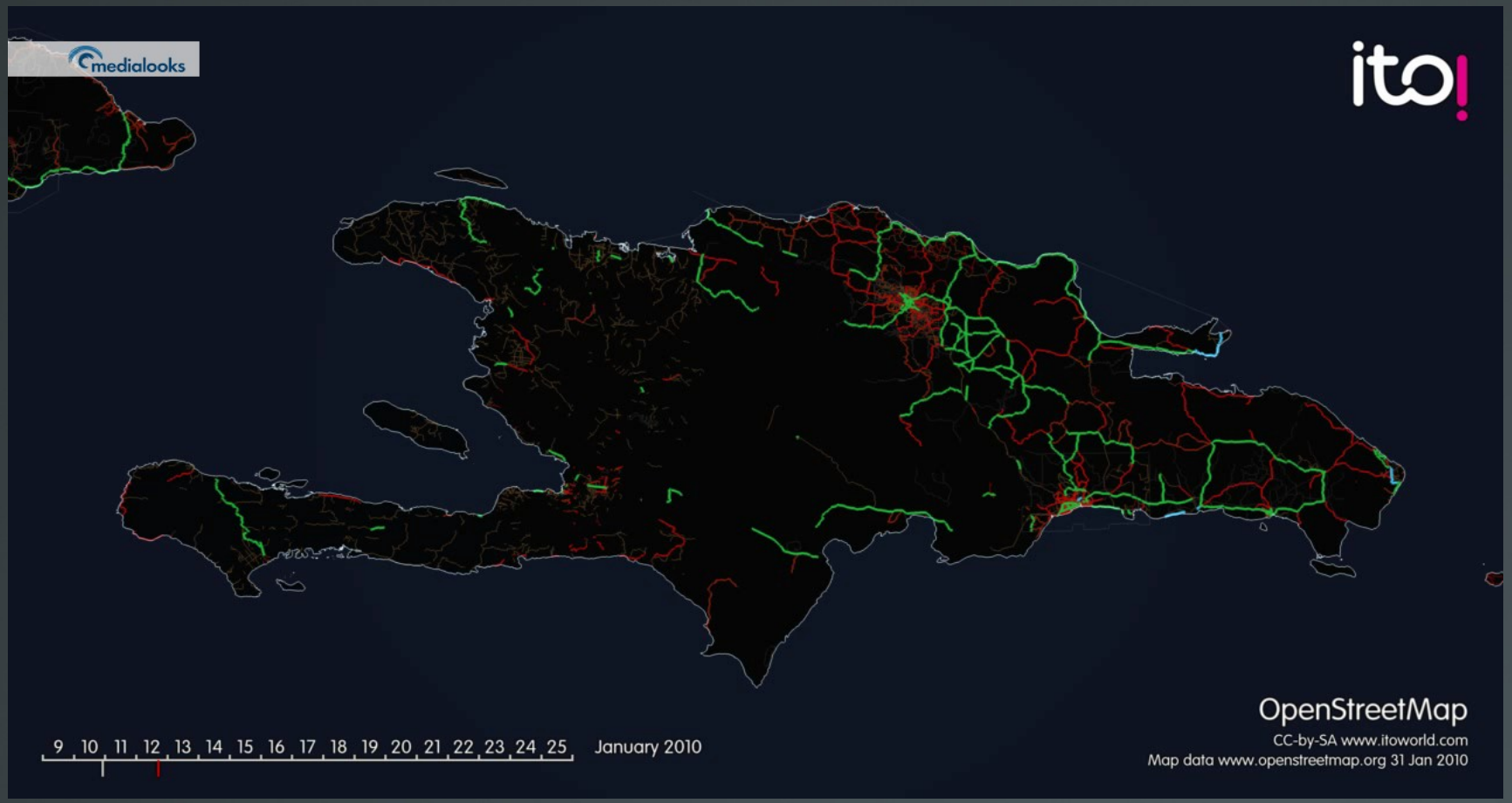
Key concepts learned

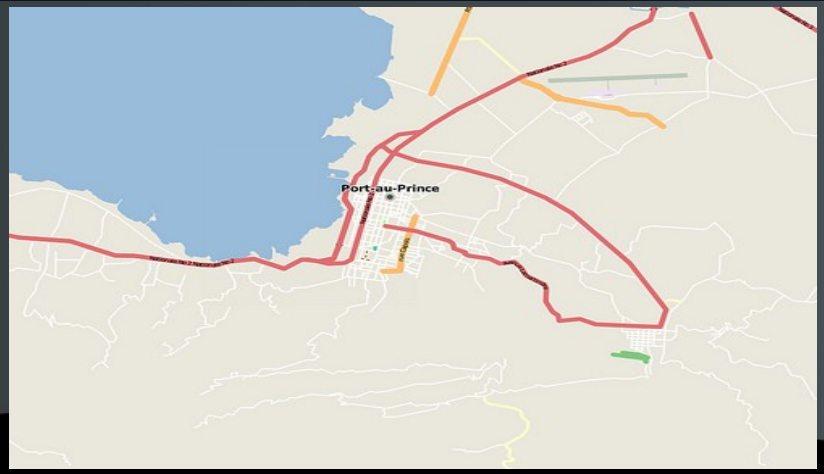
1) OSM (open street map)
2) GPS Mapping
3) Rasters and Vectors
4) Making presentations
5) Why should we be doing this?

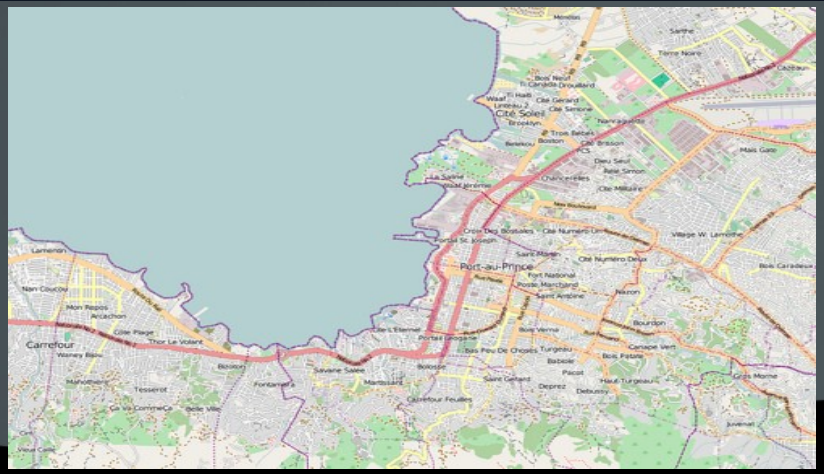
OSM

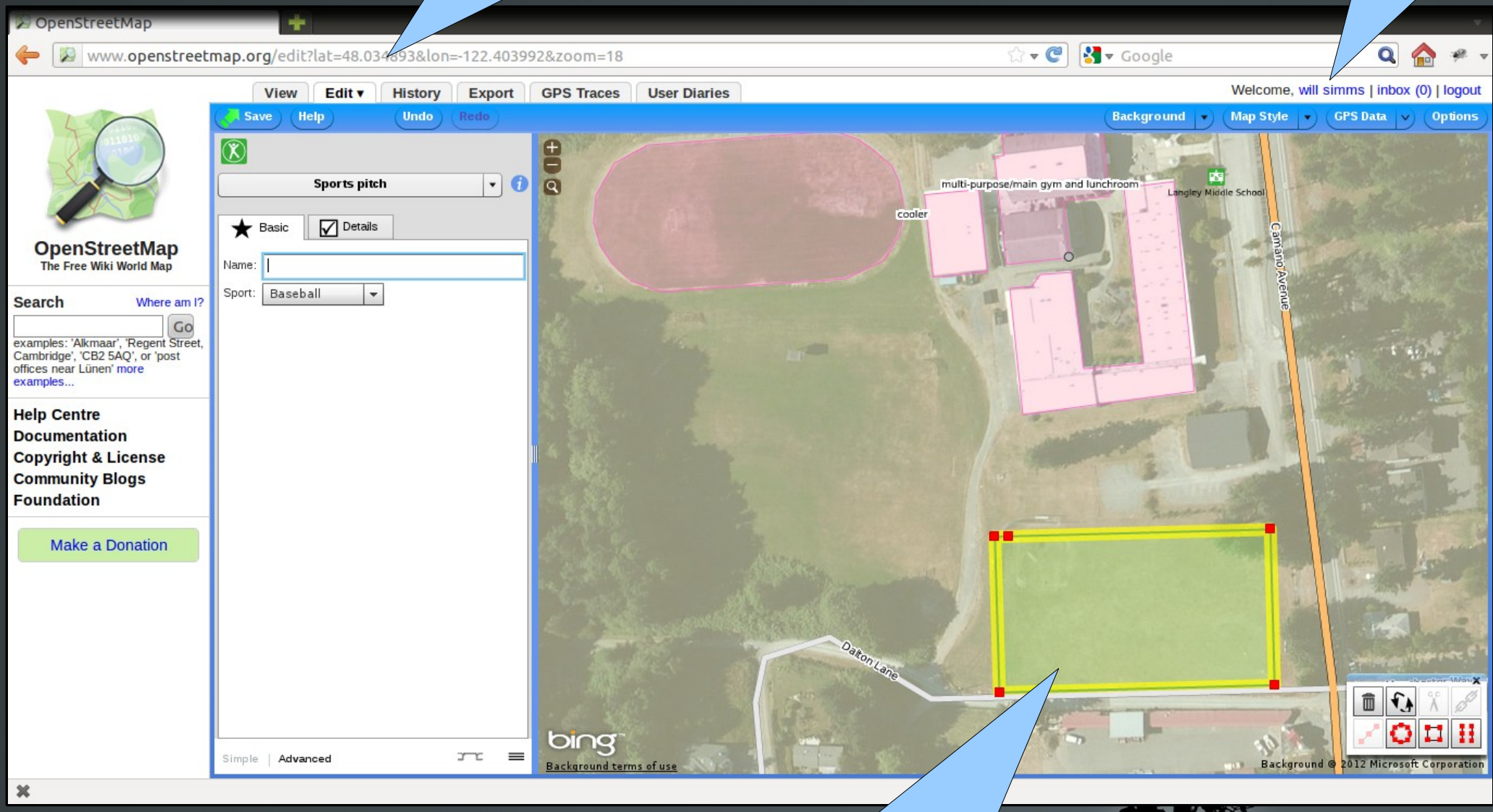
- Free and open map of the world
- Anyone can edit, like wikipedia
- Engages local community
- Learned how to edit
  - Digitize over rasters (images)
  - Digitize over vectors (GPS traces)
- Areas of focus
  - South Whidbey Schools & Parks

Why is OSM so important?

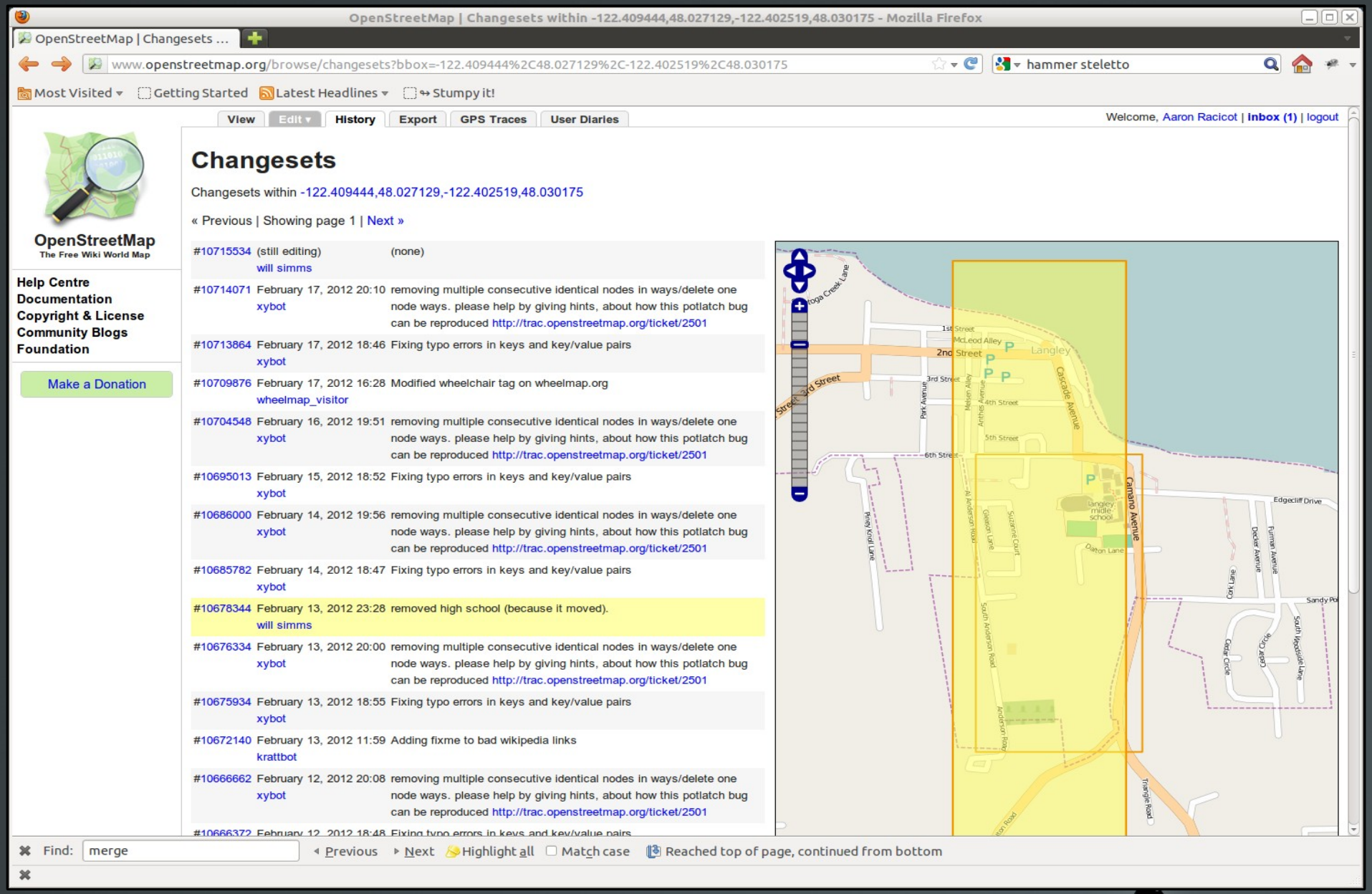




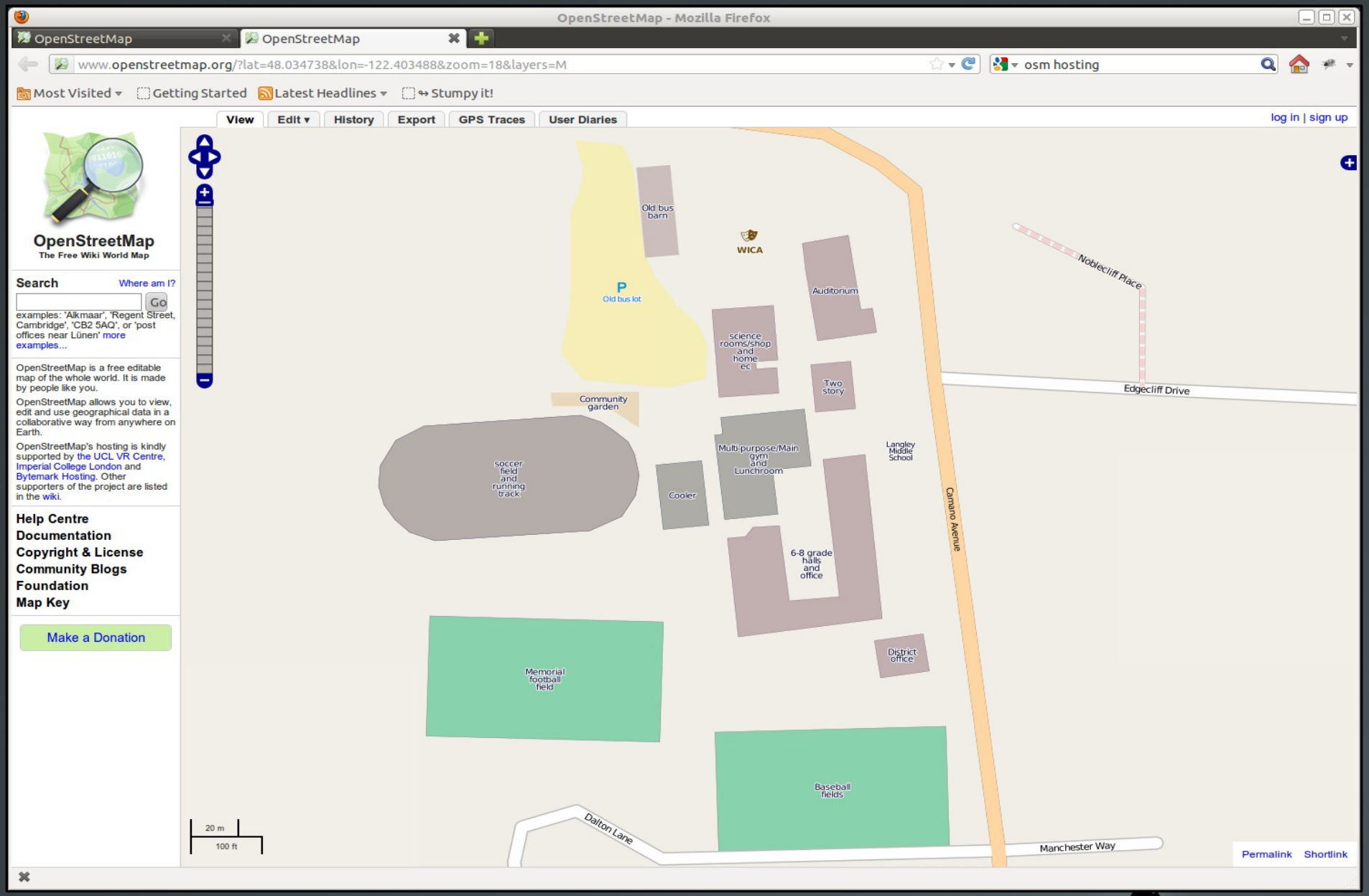



All done in a browser
Will Logs In
OpenStreetMap
www.openstreetmap.org/edit?lat=48.034893&lon=-122.403992&zoom=18
Google
View
Edit ▾
History
Export
GPS Traces
User Diaries
Welcome, will simms | inbox (0) | logout
OpenStreetMap
The Free Wiki World Map
Search
Where am I?
Go
examples: 'Alkmaar', 'Regent Street, Cambridge', 'CB2 5AQ', or 'post offices near Lünen' more examples...
Help Centre
Documentation
Copyright & License
Community Blogs
Foundation
Make a Donation
Save
Help
Undo
Redo
Background
Map Style
GPS Data
Options
Sports pitch
Basic
Details
Name:
Sport:
Baseball
Simple | Advanced
multi-purpose/main gym and lunchroom
Langley Middle School
cooler
Camano Avenue
Dalton Lane
bing
Background terms of use
Background © 2012 Microsoft Corporation
Edit data based on images

DELL



Edits come in from all over the world...



2nd Day and already mapping up a storm!

GPS Mapping

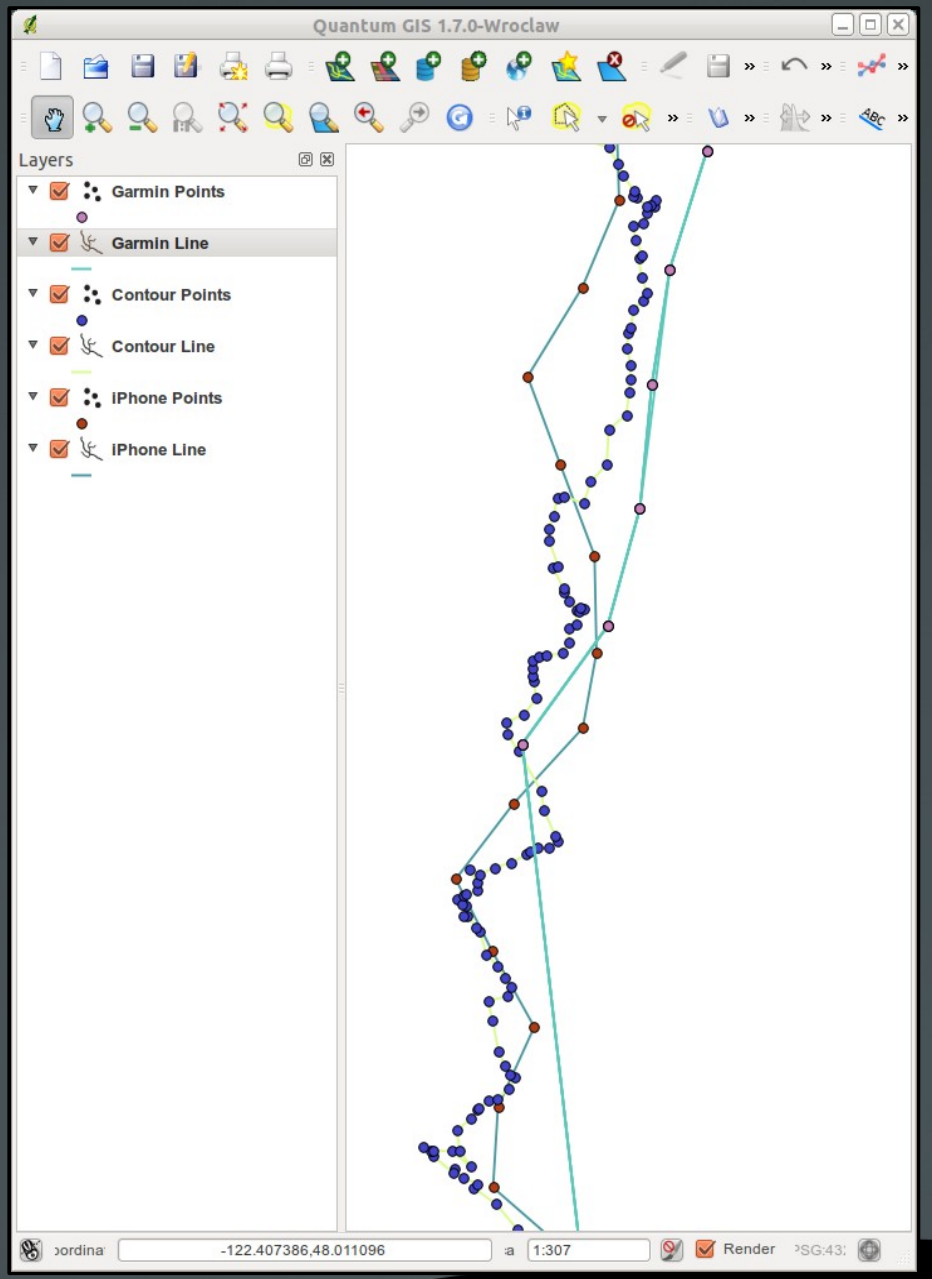
Which do YOU think would be best GPS?

Sample time

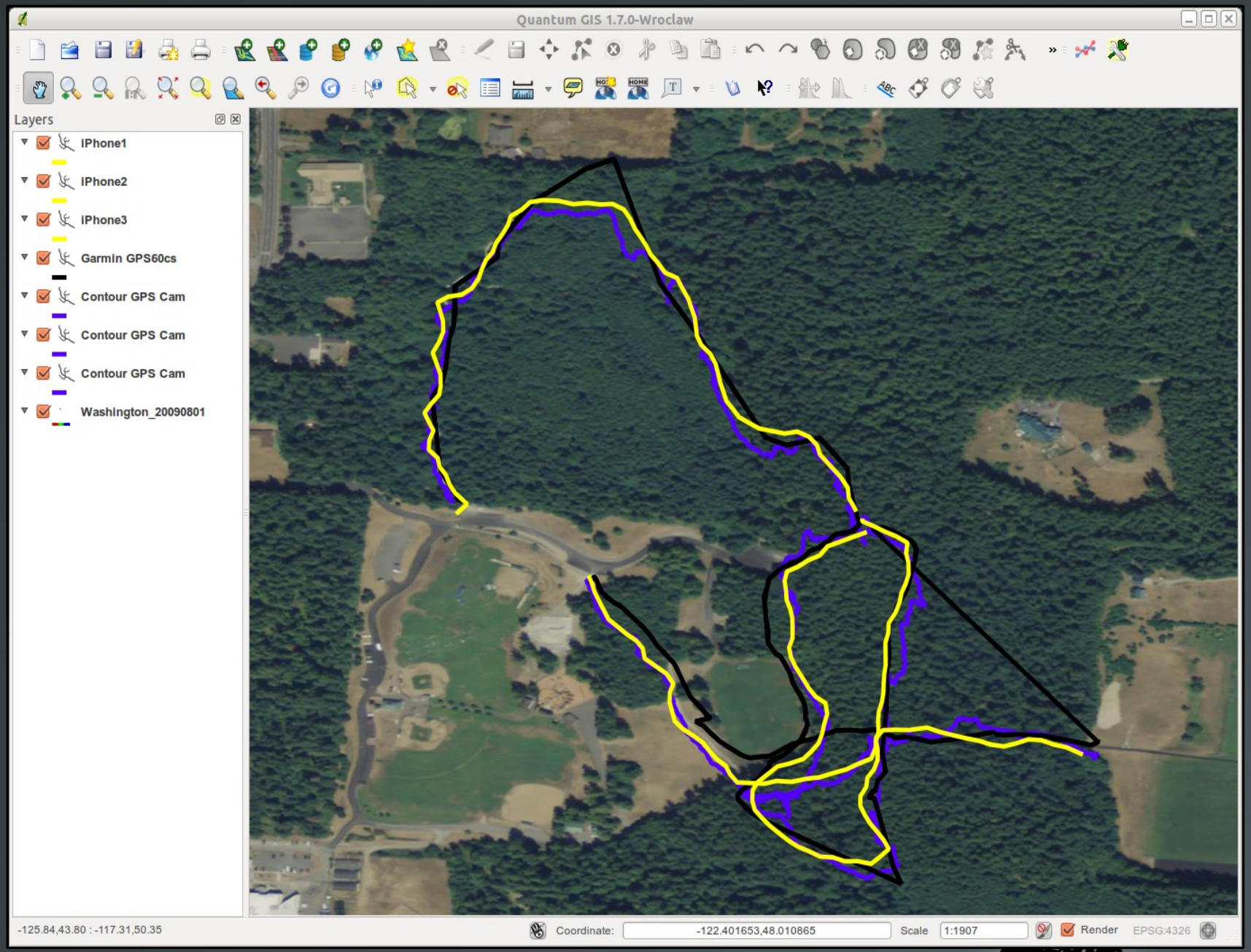
Sample time is how often a GPS takes a point.

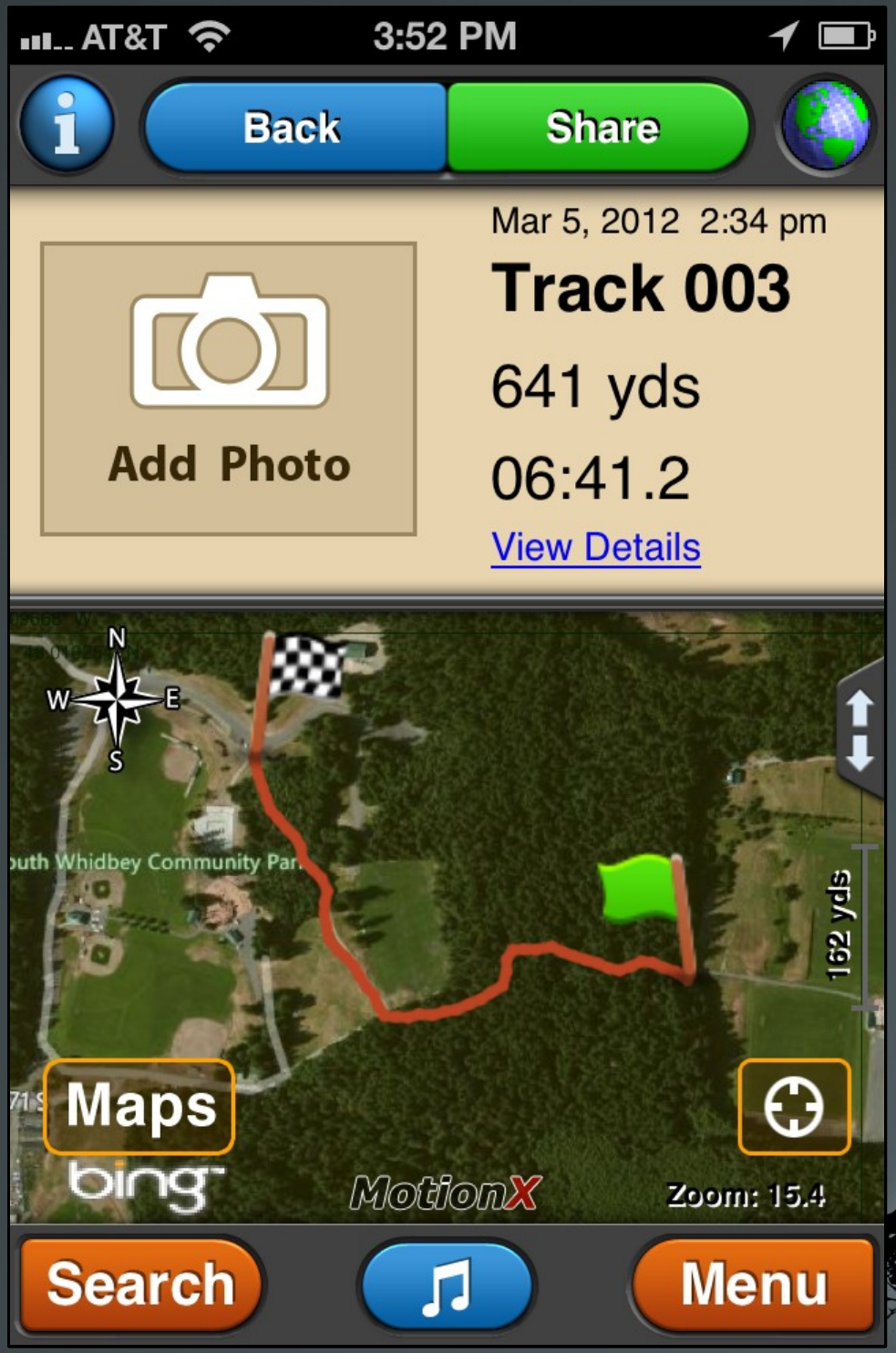
We learned that if you want better/more detailed results you need to have a faster sample time.

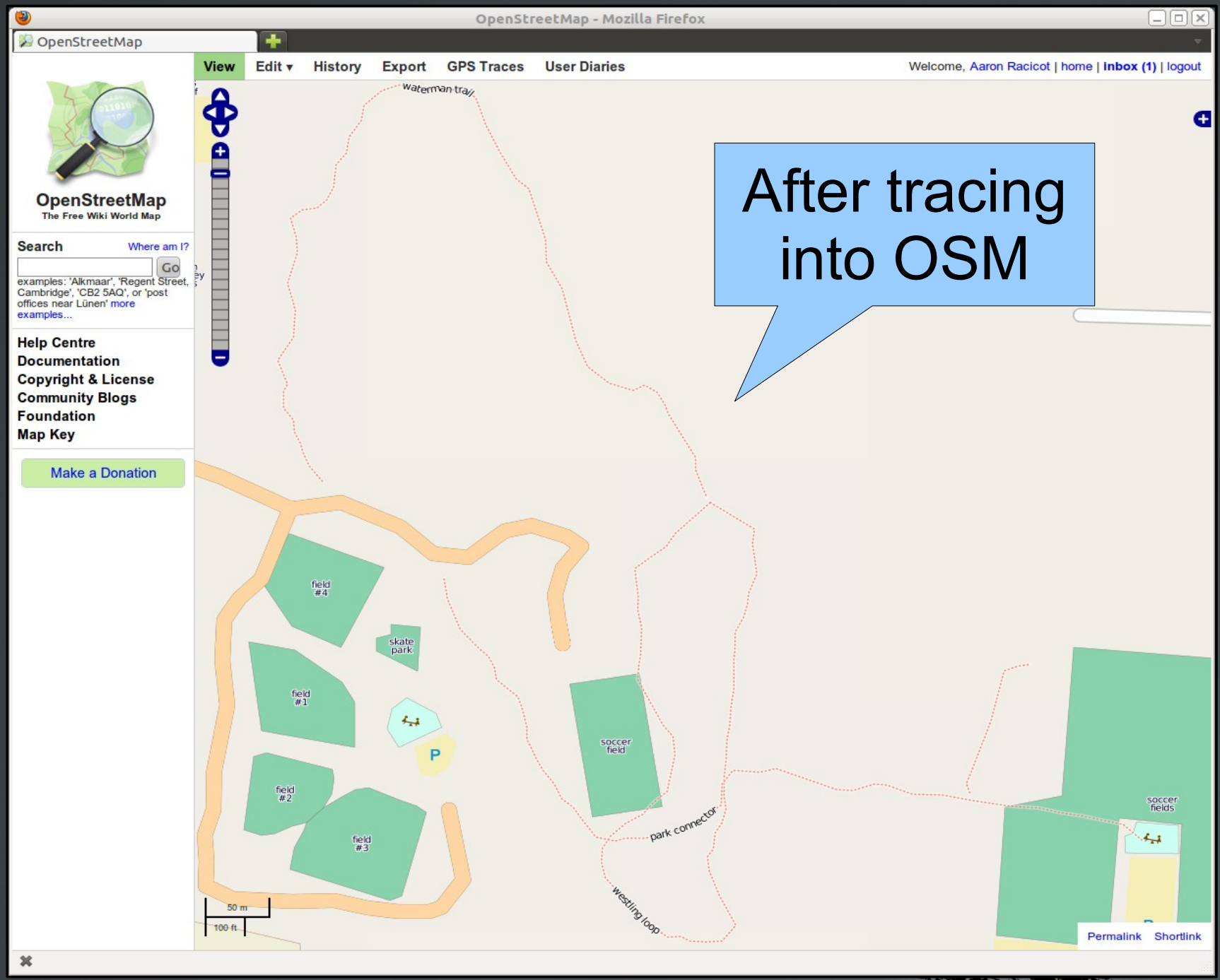
When we went to the woods we had a sample times up to 4 times a second, so our traces were really accurate.
(Exept for the fancy Garmin.) :)



Welcome to South Whidbey Community Park & Sports Complex
Especially fun for families, South Whidbey Community Park has it all, with a playground, skate park, picnic area, baseball and soccer fields, and groomed trails for walking and running.
Langley Road
Waterman Loop
Park Connector
Maxwelton Road
Guide to Trails
PARK SERVICE VEHICLES ONLY BEYOND THIS POINT


Quantum GIS 1.7.0-Wroclaw
Layers
IPhone1
IPhone2
IPhone3
Garmin GPS60cs
Contour GPS Cam
Contour GPS Cam
Contour GPS Cam
Washington_20090801
-125.84,43.80 : -117.31,50.35
Coordinate:
-122.401653,48.010865
Scale
1:1907
Render
EPSG:4326


AT&T
3:52 PM
Back
Share
Mar 5, 2012 2:34 pm
Track 003
641 yds
06:41.2
View Details
Add Photo
N
W
E
S
162 yds
Maps
bing
MotionX
Zoom: 15.4
Search
Menu


OpenStreetMap - Mozilla Firefox
OpenStreetMap
View
Edit
History
Export
GPS Traces
User Diaries
Welcome, Aaron Racicot | home | Inbox (1) | logout
OpenStreetMap
The Free Wiki World Map
Search
Where am I?
Go
examples: 'Alkmaar', 'Regent Street, Cambridge', 'CB2 5AQ', or 'post offices near Lünen' more examples...
Help Centre
Documentation
Copyright & License
Community Blogs
Foundation
Map Key
Make a Donation
waterman trail
After tracing into OSM
field #4
skate park
field #1
field #2
field #3
soccer field
park connector
westling loop
soccer fields
50 m
100 ft
Permalink
Shortlink

Rasters and Vectors

- Rasters are gridded images
  - Like the images used in OSM
  - Made up of many pixels
    - Pixels are made up of three base colors (RGB)
- Vectors are points, lines and polygons.
  - Like the traces we added to OSM
  - Also like the GPS traces we gathered

Making Presentations

Hello! :) Are you watching?

Why should we be mapping?

1) Help people
2) The city/government needs the data.
3) The public also needs the maps for directions or trails in the woods
4) It is also a chance to learn about the local area and shops.
5) It's fun to do

What still needs to be mapped

- Work with Langley to map resources
- More trails (original data for parks are gone)
- Buildings and businesses for rest of south end of Whidbey
- Habitats (whale sightings etc.)
- Updating bad data or new features (new roads etc)
- Work with school district on things like bus routing