Collecting and Annotating Georeferenced Photos

This document describes a strategy for collecting and indexing the photographic product of multiple participants in a site visit. The term, **Party** describes a group of people who will be moving around together as a group for some period of photo-taking. In the duration of a site visit, photographers may re-arrange themselves into different parties to visit and photograph different parts of the site or context area. In each site visit, the following roles carry particular responsibilities required for the success of photographic aspect of the site visit.

1. **Photographers:** carrying any digital camera.
2. **GPS Wranglers:** One participant in each party who carries a GPS unit or a smart-phone that has a GPS app installed.
3. **Photographic Coordinator:** is the person responsible for the success of the photographic documentation of the site visit.

The principles and tools involved in organizing collections of georeferenced photographs are described in the GSD's GIS manual page, www.gsd.harvard.edu/gis.manual/geophoto . The fundamental workflow involves the association of the timestamps of a collection of photos with a track-log from GPS that has accompanied the photographer. The track-log is essentially a record of point locations and time-stamps taken at a defined interval by the GPS.

Responsibilities of the Photographic Coordinator:

1. Provide **a shared storage device** available to the photographers and GPS Wranglers.
2. Create a folder on the shard storage device for eachof the GPS units that is being used by your group.
3. Make regular checks that the track logs and photo folders are deposited according to plan with meaningful names.

Responsibilities for Photographers

1. Adjust your camera clock to the local time zone!
2. At the beginning of each photo party, take a photograph of the GPS that is accompanying that party. This photograph should include the identifying label of the GPS, and if possible an image of the GPS clock.
3. After each photo party place all of your photos associated with a particular trip into a folder inside of the folder that has been created by your GPS wrangler within the shared storage device.
4. At some point you will use Geosetter to batch-process aeach folder of photos, embedding geocoordinates and other tags ,captions, and a reference to the folder where the high-res photos may be found. This process will also generate the map-index for your photos. This procedure will be covered in another document
5. Your photos and map indexes and associated gpx log files will be submitted to the Visual Resources collection in Loeb library

Responsibilities for GPS Wranglers:

1. Before the trip, print out a copy of the manual for your GPS. Make sure you know how to set the interval and the name of your track logs, and that you know how to download and save track logs as GPX files.
2. Make sure that you have plenty of spare batteries.
3. When the trip is in progress, check the GPS regularly to make sure that it is functioning. Especially at the beginning of the trip, that you have a sense for how quickly the track storage of the GPS is filling up.
4. At the end of each day, create a folder in the shared storage device for each of the photo parties that you have been involved with. Extract the GPS track-log covering that party to the folder. It is not necessary to keep distinct log files on a party-by party basis, but you do want to make sure that each party has a folder and that the log in that folder is the log taken by the GPS over the extent of that party.

References:

An overview of the process of georeferencing site photos: www.gsd.harvard.edu/gis/manual/geophoto

A page describing the GSD's loaner GPS Devices: www.gsd.harvard.edu/gis/manual/gps This page has links to the manuals and the software needed to work with each GPS.

Smartphone GPS Apps: I-Phones and Android phones have good GPS modules that will function even if you have no phone or data service in the area. If you are by yourself, your phone will embed geo-tags into your photos automatically. If you are with a group of people using other digital cameras, there are free apps that will fulfill the basic GPS function you need for georeferencing photos taken with any camera.

If you are using your own smartphone as a GPS for a group, be sure and give it a label so that each member of your party can positively identify the GPS that they were out with.

A couple of great free GPS apps for android:

MyTracks by Google, creates GPX files

GPS Status by eclipsim, permits detailed monitoring of GPS connectivity, etc

A tested free GPS App for I-Phone:

myTracksGPX by Dirk Stichling.