

Recreational and Rail Trail Imagery Data Collection and Distribution

2022-2023 Unified Planning Work Program Special Project

Presentation to the SNHPC Transportation Advisory
Committee on June 17th, 2021



Rail Trail Imagery Data Collection Initiative

As part of the upcoming FY 2022-2023 Unified Planning Work Program, the SNHPC will be proposing a special project to coordinate the imagery collection and publication of recreational and rail trail facilities within the region.

- Imagery collection relies on the combination of two technologies:
360-Degree Photos and Geolocated Photos

Making 360-Degree Photos



- Two-Sided Camera
- Each side has a fish-eye lens
- Photos taken on both lens at the same time.
- Photos stitched together to make a 360-degree view

Combined 360-Degree Photo



Combined
360-Degree
Photo

Rectilinear
Stitching for
2D image

Spherical
Stitching for
3D interactive
image

Combined 360-Degree Photo

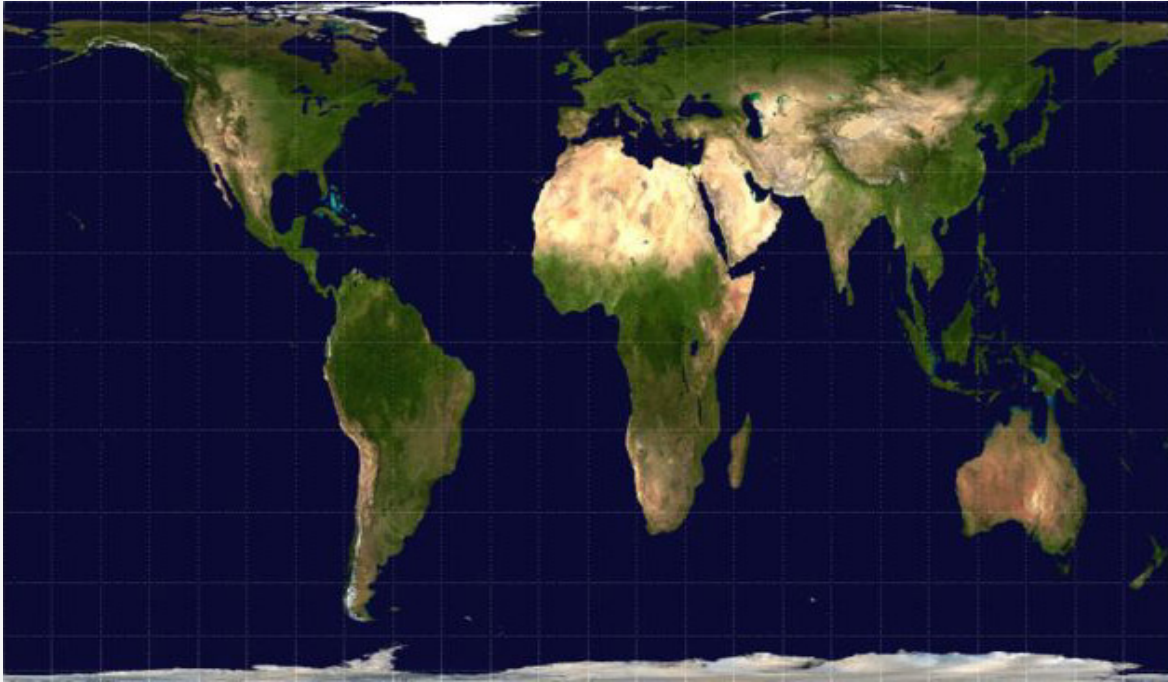


Combined
360-Degree
Photo

Rectilinear
Stitching for
2D image

Spherical
Stitching for
3D interactive
image

Projection of Imagery

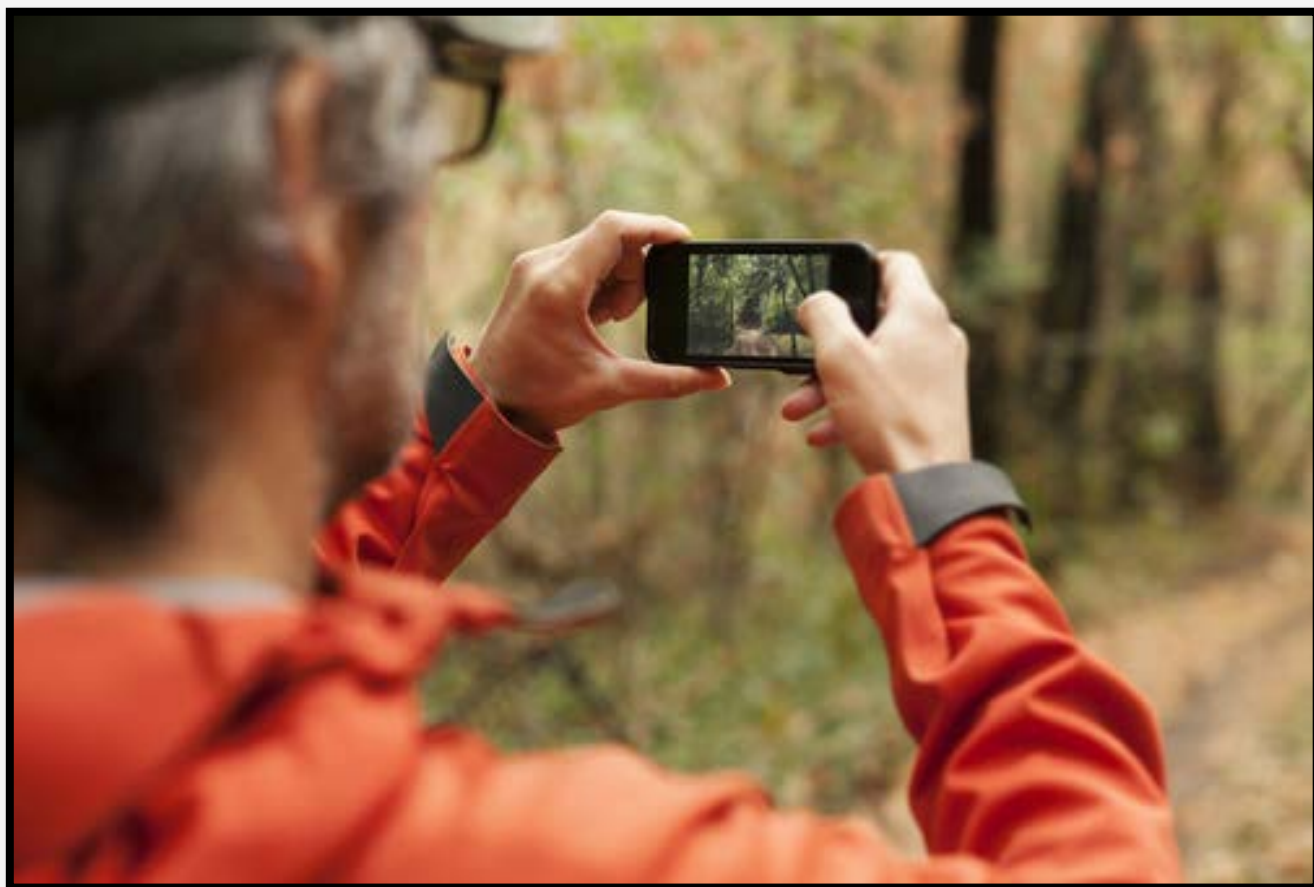


Mercator Image (2D)



Spherical Image (3D)

Geolocation of Photos

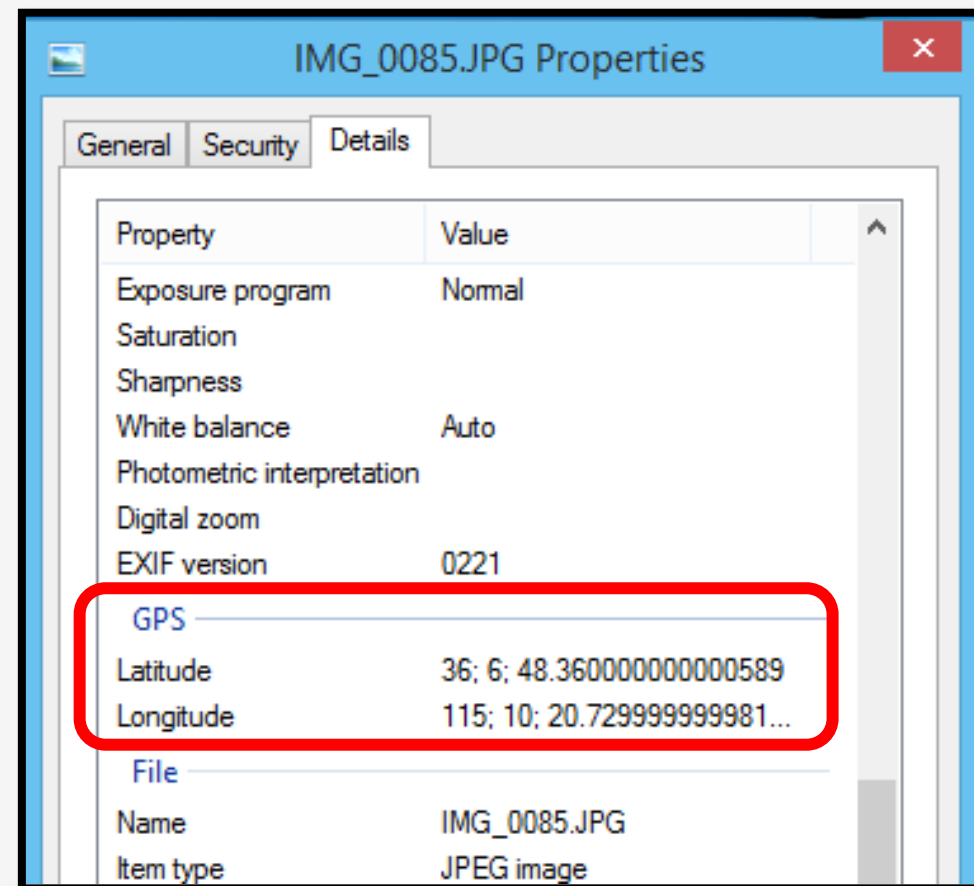
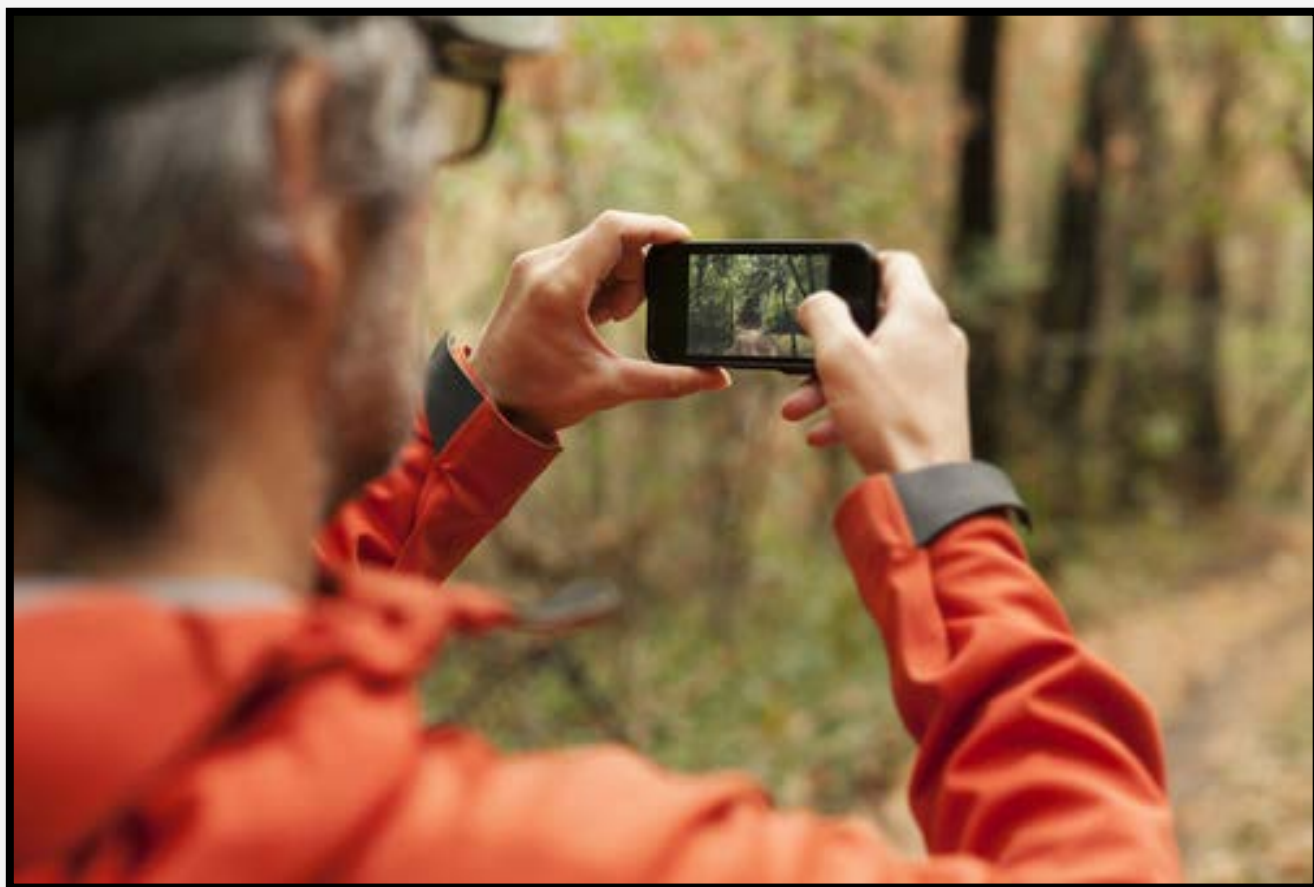


IMG_0085.JPG Properties

General Security Details

Property	Value
Exposure program	Normal
Saturation	
Sharpness	
White balance	Auto
Photometric interpretation	
Digital zoom	
EXIF version	0221
GPS	
Latitude	36; 6; 48.3600000000000589
Longitude	115; 10; 20.7299999999981...
File	
Name	IMG_0085.JPG
Item type	JPEG image

Geolocation of Photos



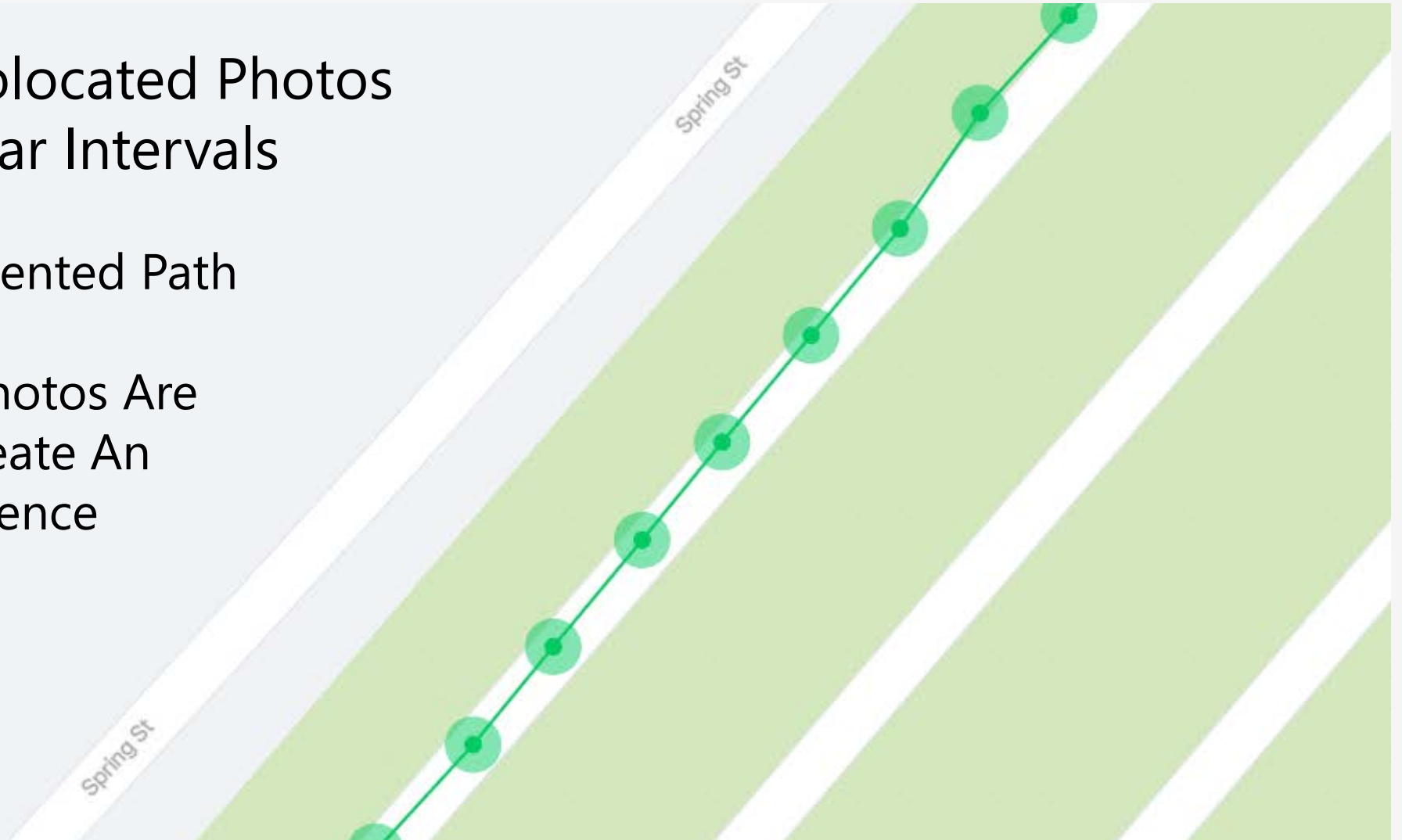
Property	Value
Exposure program	Normal
Saturation	
Sharpness	
White balance	Auto
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Digital zoom	
EXIF version	0221
GPS	
Latitude	36; 6; 48.360000000000589
Longitude	115; 10; 20.7299999999981...
File	
Name	IMG_0085.JPG
Item type	JPEG image

Viewing Platforms

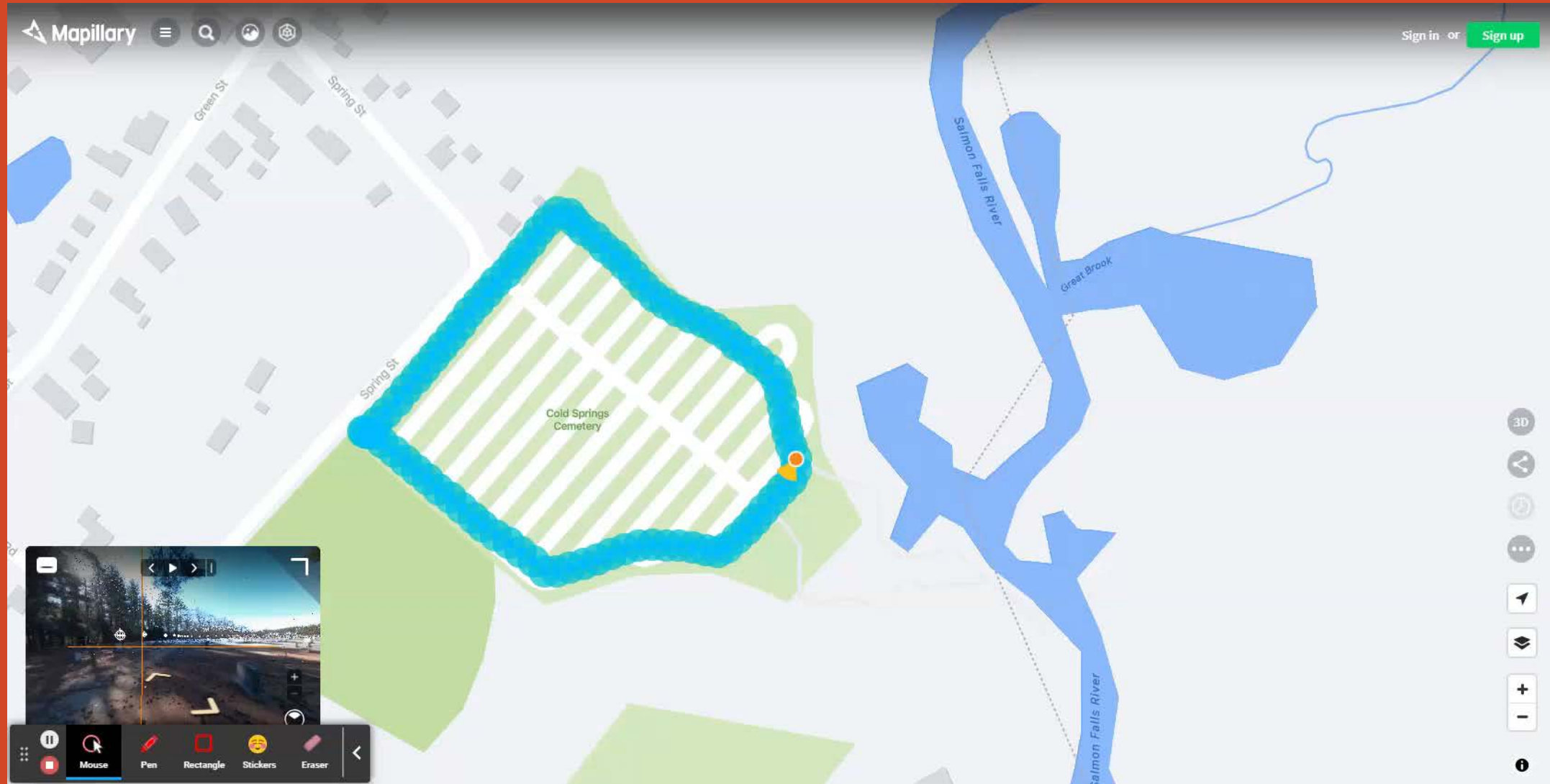
A Series of Geolocated Photos
Taken At Regular Intervals

Creates A Documented Path

Then Spherical Photos Are
Embedded To Create An
Interactive Experience



Generating an Interactive Experience



Widely Used Software Platforms



DRAFT Scope of Work

Three Task Categories

- Outreach and Engagement
- Data Collection and Distribution
- Project Findings and Reporting

Category 1 – Outreach and Engagement

Task 1.1 Draft Description: Notice of Project to Local Trail and Bicycle Organizations and other RPCs

- *Written summary of project activities, project goals, and description of data utility.*
- *Creation of a data collection protocol, volunteer sign-up sheet, and equipment calendar.*
- *Creation of an online volunteer training video for volunteer data collection.*
- *Communication to communities and trail groups organizing volunteers with request for data collection.*

Task 1.2 Draft Description: Ongoing Coordination of Volunteer Activities and Equipment Lending Program

- *Maintenance of the volunteer sign-up sheet and equipment lending calendar.*
- *Creation of an online volunteer training video for volunteer data collection.*
- *Communication with volunteers regarding data collection protocol, terms of use, and transfer of data.*

Category 2 – Data Collection and Distribution

Task 2.1 Draft Description: Field Test of Protocol Procedures, Utilization of Test for Protocol Content

- *Conducting and documenting the procedures for volunteer data collection.*
- *Creation of the field protocol to be utilized by volunteers to collect data.*
- *Record a narrated presentation explaining the procedure for collecting data with lending equipment.*

Task 2.2 Draft Description: Ongoing Processing, Review, and Edit of Field Data / Upload to Map Service

- *Staff review of imagery data to ensure proper functionality and verification imagery data follows terms of use.*
- *Processing of data to meet privacy standards and create a stitched spherical photos.*
- *Upload of video to online map service for general use by the public and for transportation planning activities.*

Category 3 – Findings Report, Project Closeout

Task 3.1 Draft Description: Project Impact Analysis and Findings Report

- *Analysis of project impact and development of a report to summarize project activities, lessons learned, data findings, and recommendations for data utilization. Closeout of Project*

Questions?

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