

Name:

Date:

Class:

## Tracking Movement with Metadata Activity – Rubric

**Scenario** – Your team is a group of private digital forensic engineers. The FBI has information that an older man may be responsible for several bank robberies across the nation. Currently, there is no evidence that links the man to the robberies; however, the FBI has one of the man's thumb drives which holds ten digital pictures. The FBI wants your team to find the date, time and location of each picture and then put together a visual representation of the location for each image. The FBI will then cross-correlate your data with the known dates, times, and locations of the bank robberies. Remember, the FBI needs solid location information only, no speculation should be made about the image itself, the older man is presumed innocent until proven guilty.

**Directions** – Use the Exiftool to read each picture's metadata. Then use GPS Coordinates Finder website ([www.gps-coordinates.org](http://www.gps-coordinates.org)) to locate the exact physical address of each image. While extracting the metadata and finding the physical address, record all of the pertinent data onto an Excel spreadsheet. Once all of the data is recorded, create a PowerPoint presentation that roughly displays the position of the image superimposed on an image of the United States.

Each team member should conduct their fair share of the work. This means that if there are 10 pictures and five team members, each member should work on two of the images.

1. Each team member will access the *Tracking Movement with Metadata* folder that is on the desktop of their computer. In the folder each member will fill out the Excel spreadsheet document listing their name as well as the team name. This document will be printed up and put with the other team members' names at the end of the activity. **(50 points)**
2. Using the Excel spreadsheet provided in the folder, for each image, the team member must record the image file name, the date the original picture was taken, the GPS Coordinates, the physical address of where the coordinates are, and a description of the location of the picture. **(50 points)**
3. Using the PowerPoint presentation in the folder, the team member will create slides for each image they work on. Each slide will have a background of the outline of the United States. The team member will insert a small filled in circle where each image was taken. See the example slide provided in the PowerPoint presentation. **(50 points)**
4. Once all team members have completed their own work, select one team member's Excel spreadsheet and PowerPoint to be the team's documents. Once chosen, all other team members will copy and paste all data to the team Excel spreadsheet and PowerPoint (ask for assistance from the teacher as needed). Teams will make their presentation to the FBI (class) using their team PowerPoint presentation and then print all documents, staple them together with the Word documents on top, Excel spreadsheet second, and PowerPoint slides last. **(100 points)**

**Bonus Points** - The example Excel spreadsheet and PowerPoint presentations provide the minimum needed format to gain full points. If you enhance the spreadsheet or presentation without taking away any of the required information you will receive bonus points. **(50 points)**

**\*\* Remember all team members must work in each phase of the metadata extraction, including recording data and visually presenting the data.**