Assignment 1: Data Science 2012 - ITEC/CSCI/ERTH (10% of overall credit score)  
Due: September 11, 2012 (by 0900 ET) – before class!  
Submission method: email to pfox@cs.rpi.edu and chastk@rpi.edu  
Document naming: DataScience_2012_Assignment1_YOUR_NAME.ext (e.g. txt, pdf, doc, zip).  
Late submission policy: first time with valid reason – no penalty, otherwise 20% of score deducted each late day  
Office hours: Monday 2:30-3:30pm, Winslow 2120 or by arrangement  

Note: Your report for this assignment should be the result of your own individual work. Take care to avoid plagiarism (”copying”), including all web resources, texts, and class presentations. You may discuss the problems with other students, but do not take written notes during these discussions, and do not share your written solutions. Please use the numbering below when completing this assignment.  

General assignment: propose two data collection exercises and perform a survey of data formats, metadata and application support for data management suitable for the data you will collect in week 4. Note the overall modes of data collection:  
• Observation  
• Measurement  
• Generation  
Driven by  
• Questions  
• Research idea  
• Exploration  

1. Data collection – propose two data collection options 4%  
   a. State the details of the mode of collection and what the data collection need is being driven by. Suggested minimum response is 3-4 sentences.  
   b. Describe a management plan for the data and metadata acquisition and initial curation using the 9 headings under Management slides from week 2. Minimum 1-2 sentences per category.  

2. Survey of data storage / formats 3%  
   a. Based on Q1 (for both proposed collections), research and describe existing suitable data formats that could be used. If no suitable format is available, describe the data format needs (detailed format specification is not required) including any structure of the data. Minimum 4-5 sentences.  

3. Survey of metadata conventions, standards 3%  
   a. Based on 1 (for both proposed collections), research and describe existing metadata conventions/ standards in use. If there are no suitable ones, describe the metadata needs including any structure (detailed specification is not required). Minimum 4-5 sentences.  

Please include all citations and sources of information you use in Q 2 and Q3.