

The SmartPhone Challenge

Smartphones have become ubiquitous in our daily lives. These phones do a myriad of things, from documenting our lives with photos and videos, to helping us navigate our hometown as well as far-away places, to keeping us connected to family, friends, and “friends” through social media applications.

Cell phone companies are collecting data about our phone usage and our whereabouts, whether we like it or not. These datasets are a treasure-trove of information, interesting patterns, and cultural insights, if only you could make sense of the massive, and complex, datasets.

In this challenge, you’ll be using smartphone data from a fictitious company called SmartPhoneSLC. This data set consists cell phone records from 500,000 SLC residents for a one-month period. In this dataset, a single record consists of the sender phone number, the receiver phone number, whether the record is a phone call or text message, the GPS location of the sender and receiver, and a date and time stamp.

SmartPhoneSLC EXAMPLE DATA

sender	receiver	text call	sender GPS location	receiver GPS location	date & time
801-555-1234	801-555-5678	text	41° 15' N 111° 58' W	21° 19' N 83° 48' W	2/14/2012 1:24pm
801-555-2468	801-555-1357	call	40° 45' N 111° 53' W	78° 23' S 19° 50' E	2/14/2012 1:27pm

This exercise is similar to the Pancake Recipe Challenge, only with much more complex data. The goal of this exercise is to additionally incorporate the techniques that we have recently discussed in class, such as item and attribute reduction methods and multiple-view techniques.

PARTS 1-4

(in class)

PART 5

(at home, individually)

1) Coordinate with your group so that **each person has a copy of the abstraction** you created in class. Assign one person to bring the group’s abstraction to the next class for turning in. Write the name of group member on the abstraction.

2) **Sketch out three rough, but different, design ideas** for a visualization tool that will support your group's abstraction. Pick your favorite idea and **briefly** **describe your design** in terms of mark types, encoding channels, and interaction mechanisms. Also **give a short justification** for your decisions.

3) Bring your sketches and design description to class. You will need to turn it in at the end of the in-class portion of the exercise.