Assignment 7

1. Research Question

Is there any relationship between the accuracy and the time of answering? What effect does the crowd size have on accuracy in that period?

2. Literature

No previous research which correlates time with accuracy was found. The answer to the second question seems to be, 'The larger the crowd, the wiser it is.' according to:
[1] Wisdom of the Crowds: Decentralized Knowledge Construction in Wikipedia

3. Experiment

Two different types of tasks are chosen:
a) Prediction based questions (Box office collection of a movie)
b) Knowledge based questions (Word Origin)

For each of the above two types of tasks, users would be asked to submit their responses. Only those times of day for which the number of responses is above a specific threshold will be considered.

4. Analysis of Data:

The accuracy of a crowd would be defined as follows:
a) Prediction based questions:
Suitable statistical methods like mean, median etc. would be used and the method leading to the closest answer in the questions:
The percentage ofmost cases would be chosen uniformly over tasks.

b) Knowledge based questions:
Correct answers of the multiple choice questions would be the measure of accuracy.

The entire day would be divided into 8 time frames – 12am -3 am, 3am -6am ... 9pm-12am. For each given time frame, accuracy as defined above, would be calculated. The results of a similar type of task (prediction or knowledge based) accross the different time frames would be compared and the pattern (if any) would be observed.

This would determine if the accuracy of crowd changes depending on the time of day in both prediction and knowledge based tasks.

A uniform random selection of a smaller crowd would then be done and the above analysis would be repeated. The results would then be compared with the larger crowd data and it could be determined if a smaller crowd or a larger crowd performs better at a given time of day. Also, the size of smaller crowd data set would be increased slowly to determine if there are any sharp changes in accuracy when the size of crowd reaches a certain limit.