run\_analysis.R Codebook

Frank Shuster

Friday, November 21, 2014

#### Field Description

The 2 fields that define the subject activity pair by which the measurements were avaraged are

* subject - anonymized subject number 1-30
* activityname - name of the activity taking place when measurements were taken. Values: LAYING, SITTING, STANDING, WALKING, WALKING\_DOWNSTAIRS, or WALKING\_UPSTAIRS

The variable names for the measurements in this analysis all contain information on the decomposition of the measurements. The units on all these fields are that of acceleration. Since the original data was normalized, the numbers are dimensionless, meaning they have no units.

The field names can be deciphered using the following Key:

* time/freq - signal was measured in the time or frequency domain
* angle - denotes measurement is the average angle between 2 vector measurements
* acc - denotes the acceleration signal broken down into either body or gravity component (e.g. bodyacc or gravityacc)
* gyro - signal associated with measuring angular velocity
* jerk - signal assoicated with measuring angular velocity
* mag - Euclidan norm of the 3 dimensional signal
* mean - the value is the mean measurement
* std - the value is the standard deviation measurement
* x,y,z - the axis (direction) the signal is measuring either x, y, or Z axis
* average - denotes that the values in the field are the average for the (subject:activity) pair

Example: timebodyaccmeanzaverage translates to:

For the subject:activity pair, this is the average of the signals in the time dimension of the body component of acceleration average on the z axis

#### Full Field List

subject  
activityname  
timebodyaccmeanxaverage  
timebodyaccmeanyaverage  
timebodyaccmeanzaverage  
timegravityaccmeanxaverage  
timegravityaccmeanyaverage  
timegravityaccmeanzaverage  
timebodyaccjerkmeanxaverage  
timebodyaccjerkmeanyaverage  
timebodyaccjerkmeanzaverage  
timebodygyromeanxaverage  
timebodygyromeanyaverage  
timebodygyromeanzaverage  
timebodygyrojerkmeanxaverage  
timebodygyrojerkmeanyaverage  
timebodygyrojerkmeanzaverage  
timebodyaccmagmeanaverage  
timegravityaccmagmeanaverage  
timebodyaccjerkmagmeanaverage  
timebodygyromagmeanaverage  
timebodygyrojerkmagmeanaverage  
freqbodyaccmeanxaverage  
freqbodyaccmeanyaverage  
freqbodyaccmeanzaverage  
freqbodyaccjerkmeanxaverage  
freqbodyaccjerkmeanyaverage  
freqbodyaccjerkmeanzaverage  
freqbodygyromeanxaverage  
freqbodygyromeanyaverage  
freqbodygyromeanzaverage  
freqbodyaccmagmeanaverage  
freqbodyaccjerkmagmeanaverage  
freqbodygyromagmeanaverage  
freqbodygyrojerkmagmeanaverage  
angletbodyaccmeangravityaverage  
angletbodyaccjerkmeangravitymeanaverage  
angletbodygyromeangravitymeanaverage  
angletbodygyrojerkmeangravitymeanaverage  
anglexgravitymeanaverage  
angleygravitymeanaverage  
anglezgravitymeanaverage  
timebodyaccstdxaverage  
timebodyaccstdyaverage  
timebodyaccstdzaverage  
timegravityaccstdxaverage  
timegravityaccstdyaverage  
timegravityaccstdzaverage  
timebodyaccjerkstdxaverage  
timebodyaccjerkstdyaverage  
timebodyaccjerkstdzaverage  
timebodygyrostdxaverage  
timebodygyrostdyaverage  
timebodygyrostdzaverage  
timebodygyrojerkstdxaverage  
timebodygyrojerkstdyaverage  
timebodygyrojerkstdzaverage  
timebodyaccmagstdaverage  
timegravityaccmagstdaverage  
timebodyaccjerkmagstdaverage  
timebodygyromagstdaverage  
timebodygyrojerkmagstdaverage  
freqbodyaccstdxaverage  
freqbodyaccstdyaverage  
freqbodyaccstdzaverage  
freqbodyaccjerkstdxaverage  
freqbodyaccjerkstdyaverage  
freqbodyaccjerkstdzaverage  
freqbodygyrostdxaverage  
freqbodygyrostdyaverage  
freqbodygyrostdzaverage  
freqbodyaccmagstdaverage  
freqbodyaccjerkmagstdaverage  
freqbodygyromagstdaverage  
freqbodygyrojerkmagstdaverage