ETL Project Documentation (draft)

Purpose of project:

To provide data to user to analyze the trend of bitcoin market close value/unit plotted against various stock international market index values. We know that stock markets are made up of collective business stock values, while bitcoin seemingly has no such valuation.

Some questions to ask may include:

1. Do bitcoin values follow a similar trend as stock markets?
   1. If yes, this may show that bitcoin follows similar macroeconomic cycles as the collective business environment
      1. Perhaps they only align better with the specific markets (i.e., Dow, FTSE, Nikkei)
   2. If no, we may conclude that it is a market unto itself
      1. Further research needed to determine forces behind bitcoin value changes

Sources and tools:

* Bitcoin (<https://api.coindesk.com/v1/bpi/historical/close.json?start=2012-01-01&end=2018-10-20>')
* Stock Data (<https://www.alphavantage.co/>)
  + Alpha Vantage - timeseries data, daily, weekly, monthly, yearly data. Daily information was chosen for stock close to offer end user more flexibility in slicing the data
  + Bitcoin API- daily close data 2012-2018
* Transformation
  + Take info from api and csv and pass to Mysql
  + Convert unix timestamps to dates
  + Use date to uniquely identify data points and combine stock and bitcoin data
* Database
  + Mysql- Relational Database
* Tables
  + Stock data- bring in daily data to give user more flexibility in manipulating data as needed (weekly monthly, yearly, etc.)
  + Bitcoin data monthly close data (see above)