1. **Learning** [5 minutes]

Frequently asked questions:

- **What are the goal and the scope of the interface?**
  
  Given the temporal and highly volatile nature of the velocity and forces data, we set out to build an application that would allow the user to quickly detect trends and changes in both of these variables for one or more companies simultaneously. We also thought it would be interesting to correlate changes in force and velocity with more traditional indicators such as price and volume. Finally, we envisioned this being a web application that would be readily available to anyone wishing to monitor the market throughout the course of a trading day.

- **What do velocity and force mean?**
  
  Market Velocity is akin to the noise and activity level that traders use on a physical trading floor to detect changes in direction, momentum, or liquidity. NASDAQ uses the frequency and share volume in orders submitted to the trading system. Current Market Velocity in each issue is contrasted to the normal level of activity in each stock at that time of day. NASDAQ Market Forces indicates the ratio of buying and selling interest in the NASDAQ Market Center. The goal is to provide an indication of market direction. The ratio is calculated every 5 minutes and includes all shares in market orders and near-marketable limit orders.

- **What are the components of the main window?**
  
  The main window is made up of three components:

  1. The stock selector and filtering mechanism on the left-hand side
  2. The Velocity and Forces visualization radar in the center
  3. Graphs on the right-hand side that show Velocity, Forces, Price, and Volume

- **What the central radar is showing?**
  
  The central radar is displaying the Velocity and Forces values organized per company for a specific minute of the day. Each wedge represents a company. The length of the wedge is proportional to the Velocity, and the color of the wedge indicates the Forces (from red: high selling pressure, to green: high buying pressure). A slider below the radar allows the user to modify the time period currently displayed. A play button is also provided to show the evolution of the Velocity and Forces values along the day. Pressing "play" will show each minute in turn until it is toggled back by pressing "pause".
• **How to use the company selector (accordion)?**
  Simply click on the sector that you're interested in seeing, and you'll see a scrollable list of stocks that belong to that sector. Clicking on a stock selects that company and displays its graphs. There is also a dropdown menu associated with each stock, and some of those menu elements may be functional. In addition, feel free to use the search functionality at the top. You may search for either a ticker or a portion of the full company name.

• **How to use sliders to filter companies?**
  You may grab the sliders by either end to filter out the low end or high end of a range. You may also drag the entire range you've defined back and forth by clicking on the blue line. The effect of filtering may or may not be obvious at first, but stocks that are filtered out should disappear from the visualization.

• **What is represented on the line graphs?**
  There are four line graphs on the right-hand side of the window, that represent from top to bottom: Velocity, Forces, Price and Volume. The time period displayed on the graphs is determined by the slider below the main radar. This slider allows the user to zoom in on a specific period of the day and to correlate the four metrics with more details.

II. **Practice [10 minutes]**

During the practice session, each participant is free to use the interface and test its functionality. One day of market data is available. Go wild and see what you can do, what you like and what doesn't make sense.

III. **Evaluation [15 minutes]**

After the practice session, each participant will have to fill out an evaluation form, part of which consists of statements about the usability of the interface. These statements are organized by functionality and responses are given on a five grade scale: from *Strongly Disagree* (1) to *Strongly Agree* (5).