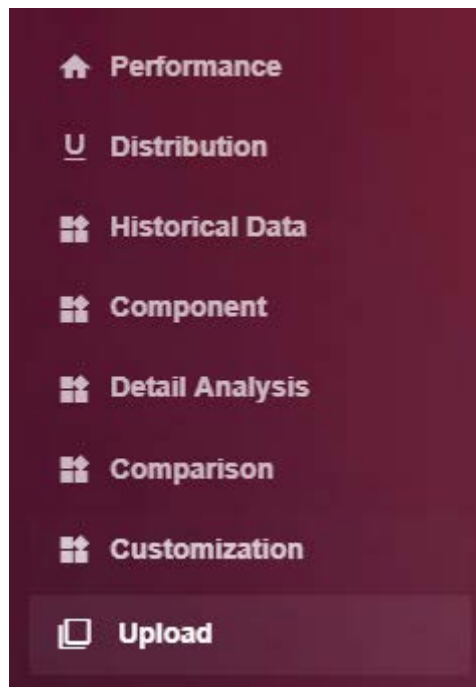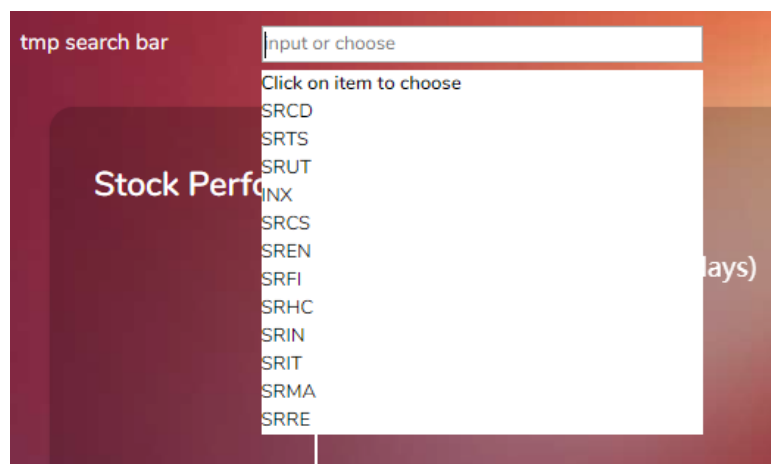# User Manual

1. Navigation Bar

There would be a navigation bar on every page, it direct user to all other pages the website has.
Upload is the function that ASKV finally decided to drop currently.

2. Performance

    2.1 Stock selection

After entering t Performance page, there will be no default selected stocks, users need to first pick up a stock from the search bar on the upper web content part.

2.2 Stock Performance

After a stock is selected, stock performance will be created. It contains multiple data about the stock select. For basic information the stock, users are supposed to hover the mouse on the specific day to have the numbers. Also, there are multiple legends on the top of the line chart that are interactive, users can turn on or off the certain line by clicking the legend.

The bar in between of two charts are interactive as well, users can change the time period by moving the small bars on it.
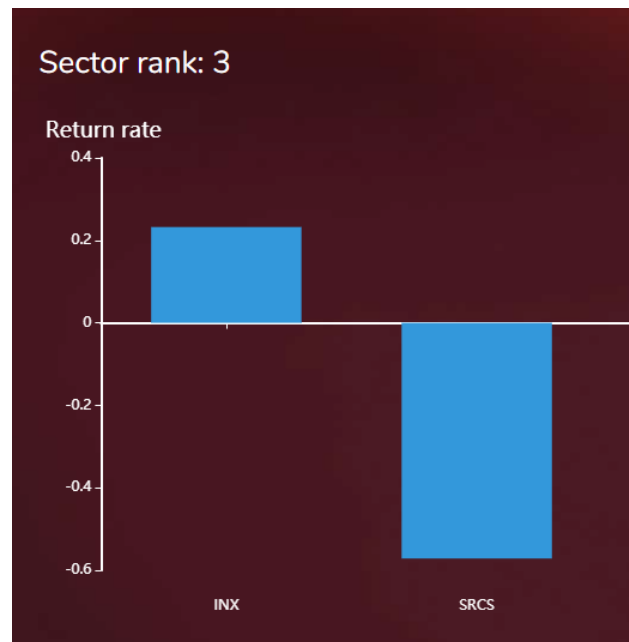
The line and area chart below stands for the return rate.

2.3 Risk Indexes
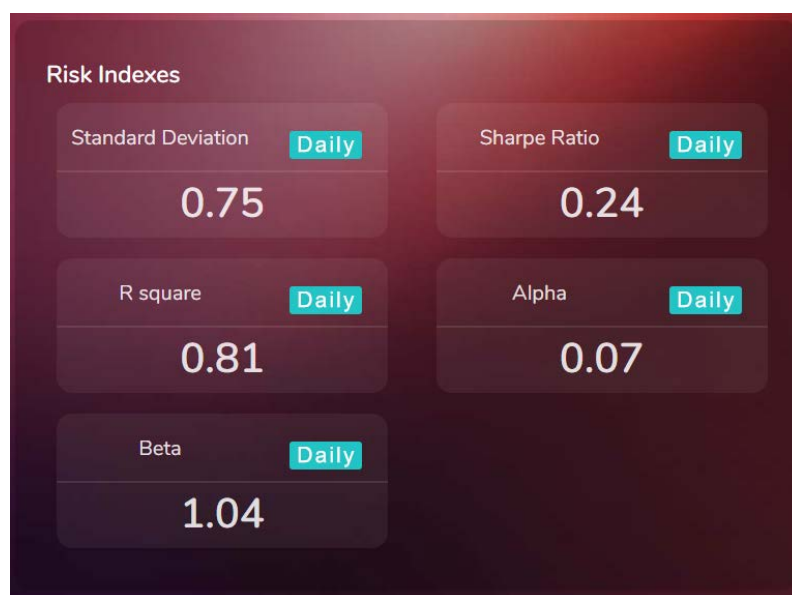
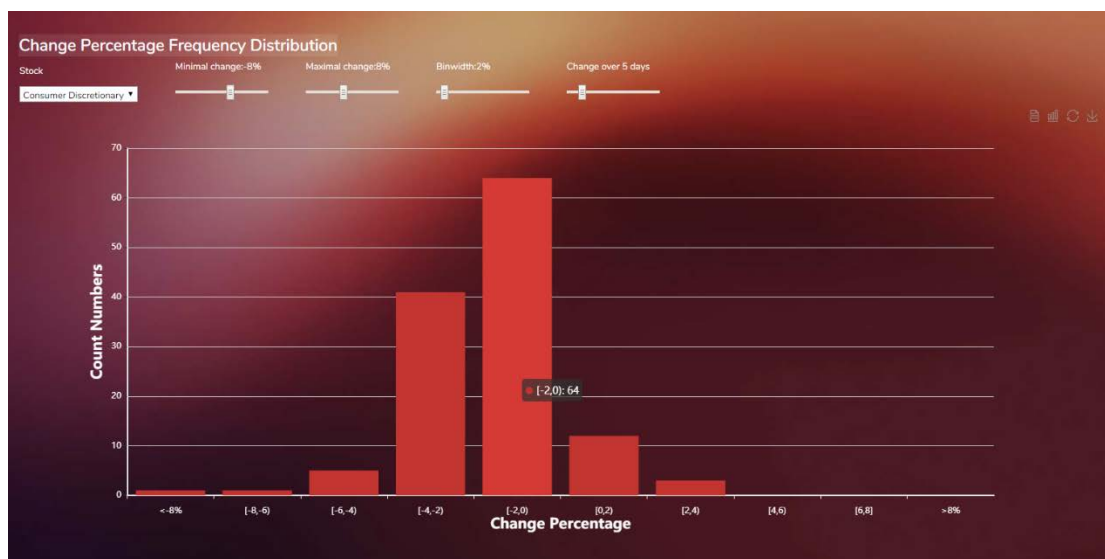The newest 5 indexes displayed in text

2.4 Sector Rank

Selected sector's return rate rank, compares to the SP500

3. Distribution

3.1 Change Percentage Frequency Distribution

There are 5 parameters on this page, after entering the distribution page, there will be default setting of the parameters.

In terms of the default setting, the stock consumer discretionary is selected, so the information on the chart is all about this stock.

Minimal change and maximal change stand for the extreme value of the bar chart, here default setting sets them to -8% and 8% which would give the extreme value on the left and right side of the bar chart as <-8% and >8%.

Binwidth stands for the percentage within a bin, here is 2% so in the bins except the extreme bins, the value range is 2%.

Change over 5 days means now the the changes are calculated by the 5 days, so the first change is day 5 - day 1 and second is day 10 - day 6. So there we basically set 5 days as a week, even the days are not in the same week.

Also, by hovering mouse on any bar, the chart will give the specific count of that change range.

For users, they only need to change the value by drag the value bar or switch to the other stocks, then the chart will be automatically created.

3.2 Change Percentage Frequency Distribution 2

Change Percentage Frequency Distribution

Percentage of Change	Count
Less than –8%	1
[-8,-6)	1
[-6,-4)	5
[-4,-2)	41
[-2,0)	64
[0,2)	12
[2,4)	3
[4,6)	0
[6,8)	0
Larger than 8%	0

The table here basically display the same information as above, but in a text form.

3.3 5 Key Indexes of Latest 10 Days
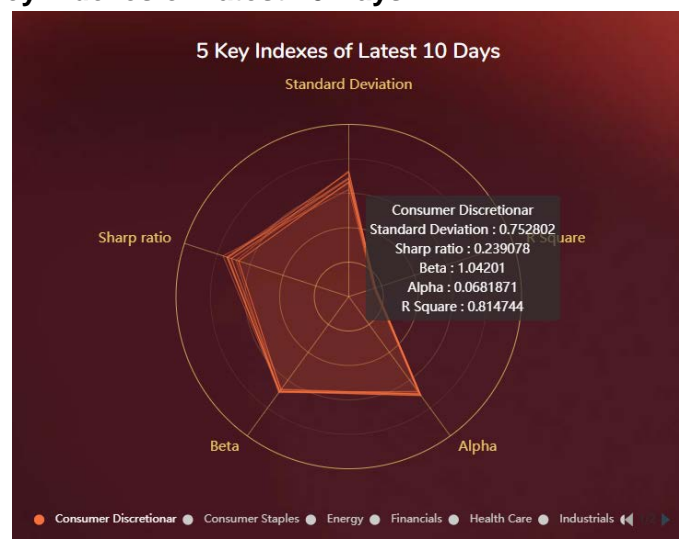
The radar chart displays 5 indexes of the stock selected below for the latest 10 days, hovering mouse on could trigger the specific number.

4. Historical Data

4.1 Historical Data

There is no default selection of this page considering the loading time. After selecting a certain stock all the raw data of that stock in the database will be displayed below.

The 50 on the top left stands for the data per page, now there are 50 data on this page, it could be changed to 10,25 or 100.

Search function on the top right support all fields searching, but now it mainly targets at the date searching.

Each column could be sorted ascending or descending by clicking the double arrow on the table head.

5. Component

There is no default setting, users need to select the stock then will have further manipulations, similar to 4.2 Performance.

5.1 Joint Distribution
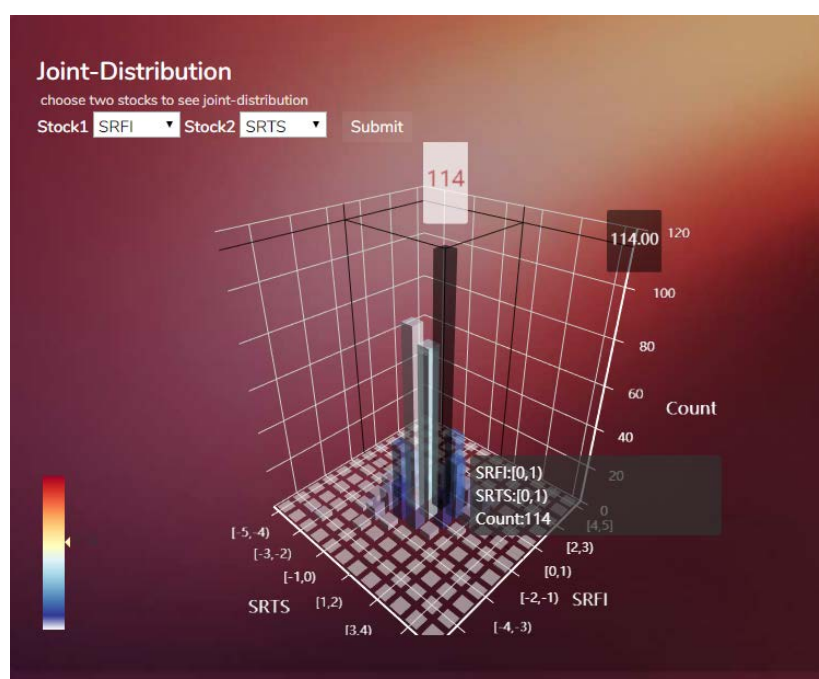
Joint-Distribution will need the user to pick 2 stock with the drop down menu locates at the top right. After clicking submitting, the 3D barchart will be created. X-axis and Y-axis stand for the range of the r100 of each stock, Z-axis is the count of r100. Hovering mouse over a bar could give a detailed information, for example the information gave here means there are 114 days when SRTS's r100 in the range [0,1], SRFI's r100 in the range [0,1].

5.2 Weight
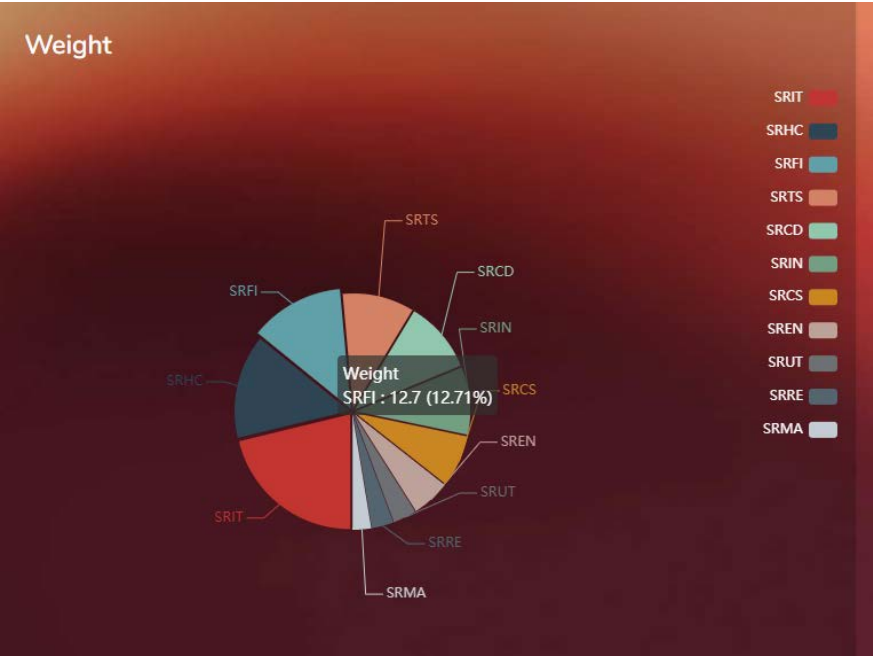
The pie chart gives information about currently what's percentage of a certain stock among all stocks. Hovering over mouse gives details. Also users could remove any stock by clicking the legend on the right, as well as adding it back after removing it.

5.3 Detail table

| Component	Close price	Return rate	Standard deviation	Sharpe ratio	Beta	Alpha	R^2	Weight	Contribution in overall return	
INX (S&P500 Index)	2873.9	0.23%	0.65	0.16	1.00	0.00	1.00	100%	0.23%	
SRIT (Information Technology)	1331.0	0.72%	0.91	0.32	1.32	0.15	0.90	21.20%	0.15%	
SRHC (Health Care)	1058.3	-0.32%	0.80	-0.04	1.02	-0.14	0.69	14.60%	-0.05%	
SRFI (Financials)	438.8	0.31%	0.95	-0.01	1.16	-0.14	0.63	12.70%	0.04%	
SRTS (Communication Services)	161.4	0.47%	0.69	0.24	0.76	0.08	0.52	10.10%	0.05%	
SRCD (Consumer Discretionary)	917.8	0.69%	0.75	0.24	1.04	0.07	0.81	10.10%	0.07%	
SRIN (Industrials)	643.1	-0.31%	0.81	0.03	1.04	-0.08	0.70	9.50%	-0.03%	
SRCS (Consumer Staples)	570.7	-0.57%	0.51	0.12	0.43	0.01	0.31	7.30%	-0.04%	
SREN (Energy)	486.6	-1.23%	1.06	-0.01	1.24	-0.15	0.58	5.40%	-0.07%	
SRUT (Utilities)	293.9	0.18%	0.56	0.20	0.04	0.11	0.00	3.30%	0.01%	
SRRE (Real Estate)	225.6	-0.02%	0.57	0.27	0.41	0.11	0.22	3.10%	-0.00%	
SRMA (Materials)	358.9	1.41%	0.88	0.11	1.09	-0.02	0.65	2.60%	0.04%	

In the later section, a detailed table containing important factors, respectively current price, return rate, risk related indexes, the stock weight in this portfolio of each component shows. The same information can also be found in previous introduced pages or other parts in this Component page in the format of charts. The table list here serves mainly for systematic comparison and reference for a portfolio's component data. Besides, by multiplying the weight and current price of each

component stock, their contribution to today's portfolio return is inducted, as the table shows in last two columns.

6. Detail Analysis

There is no default stock selection on this page, users are supposed to select a stock then get start, similar to 4.5 Component

6.1 Group by Sector
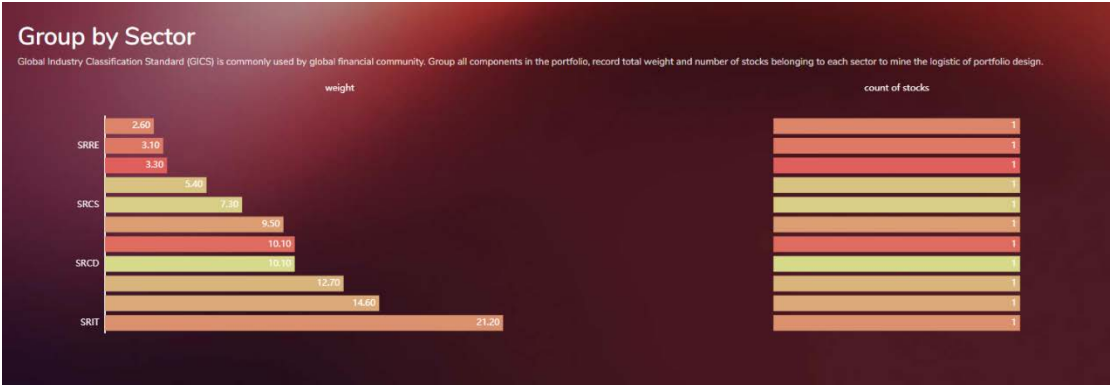
Global Industry Classification Standard (GICS) is commonly used by global financial community. Group all components in the portfolio, record total weight and number of stocks belonging to each sector to mine the logistic of portfolio design.

6.2 Alpha

Alpha (Greek letter) is a term used in investing to describe a strategy's ability to beat the market. In this chart it is displayed by sector.

6.3 Beta
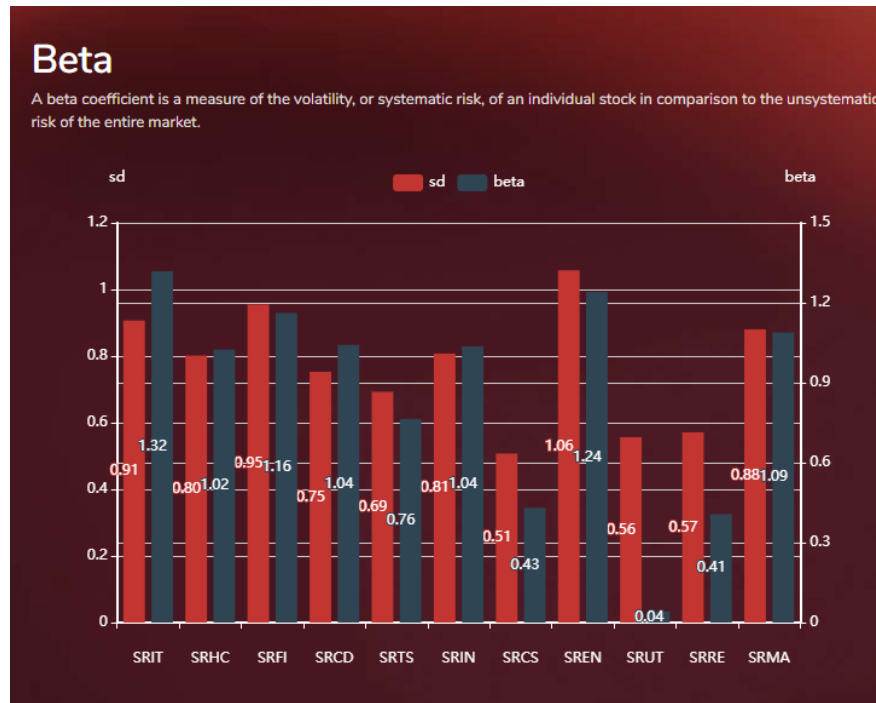
A beta coefficient is a measure of the volatility, or systematic risk, of an individual stock in comparison to the unsystematic risk of the entire market. In this chart, standard deviations are also provided, by clicking the legend on the top certain index will be removed from the chart.

6.4 Sharpe Ratio
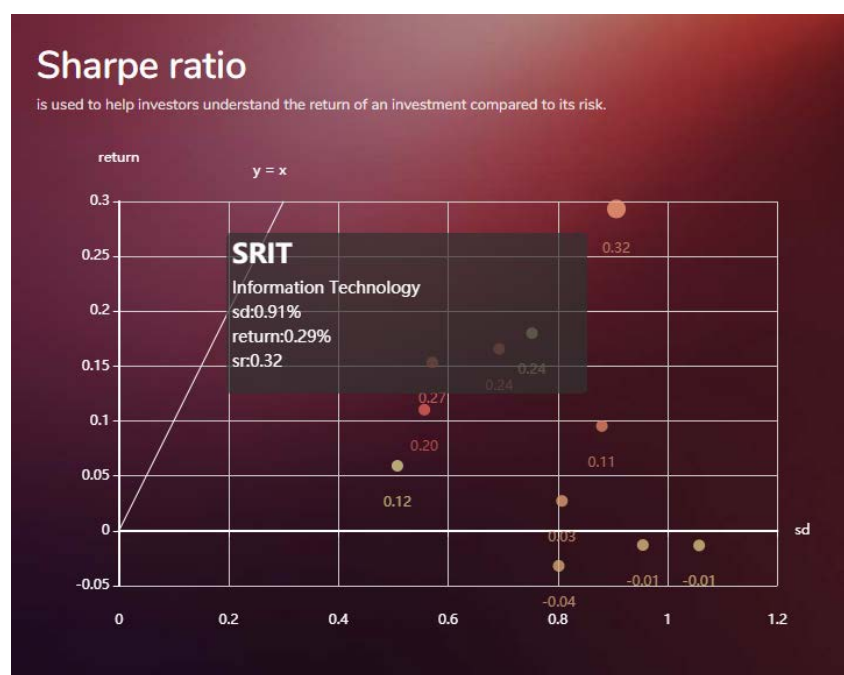
Sharpe ratio is used to help investors understand the return of an investment compared to its risk. Hovering mouse over the dot could have detailed information of the stock.

6.5 R square
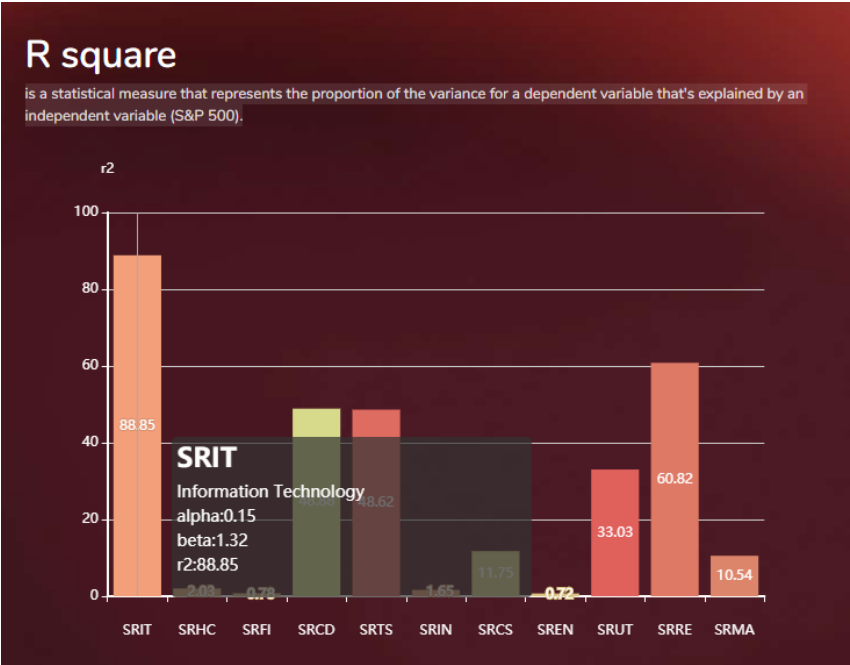
R square is a statistical measure that represents the proportion of the variance for a dependent variable that's explained by an independent variable (S&P 500). Hovering mouse over could see the alpha and beta as well.

7. Comparison

Comparison has no default stock selected, users need to select a stock and get start, similar as 4.2 Performance.
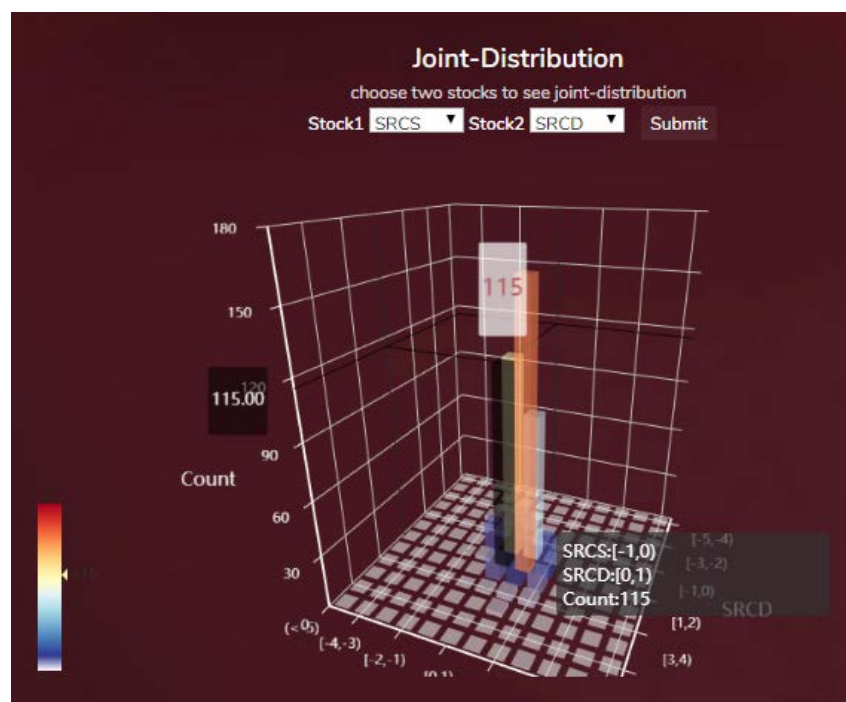
7.1 Performance Comparison

What's unlike performance page is that Comparison page allows users to have multiple stock selection to put them on the same chart. To remove a stock just click the X on the top right of the stock box. In the line chart box's top right there are 3 options to display different values of the selected stocks. Also, hovering mouse over could have details and the time range could be changed by dragging the bar below.

7.2 Historical Return Rate Distribution

For the stocks selected, their possibility of certain return rate will be displayed on this page.

7.3 Joint Distribution

Same to the Joint Distribution in 4.5 Component, only difference is the stock selection here limits to these has been selected in the 4.7.1 Performance Comparison

8. Customization

Customization has no default stock selection, users need to select stocks and set weight to get started.

### 8.1 Stock Selection and Weight Setting

In the stocks selection and weight setting part, users are supposed to select 1 or multiple stock and set their weight in the portfolio. The sum of weight here does not need to be a 100, the system will give relative weight base on the number gave.

8.2 Portfolio Performance

Same to 4.5.1 Performance, by displayed data is calculated by combining stocks selected and their weight in the portfolio

8.3 Change Percent Distribution
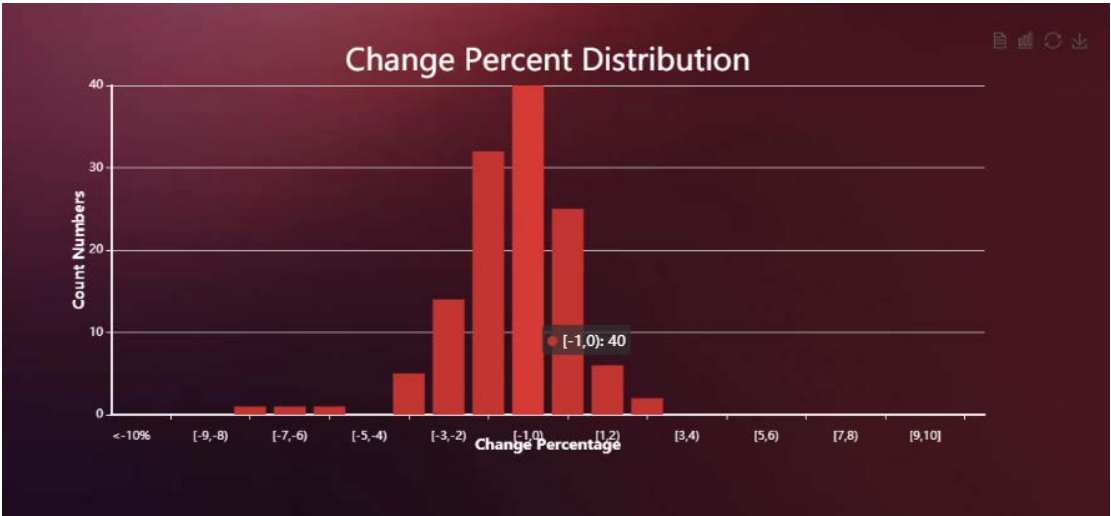
Same to 4.3 Distribution, but without parameters setting, system will give a default setting and keep using it.

8.4 Weights Proportion

The pie chart displays the element in the portfolio and its weights.