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1. PURPOSE


Market Scanner is intelligent price trend prediction software which is based on popular 24 technical studies. Further it drills down to each technical study and gives you simple meaning of the indicator's present state which could be Buy, Sell, High Volatility, Overbought, Oversold or Neutral.

Presently it can scan up to 71 stocks, 27 Forex currency pairs, 2 Futures and 3 Indices. It automatically filters out risky instruments and prepares a watch list for the safe trending instruments. Further it provides you buy or sell signals for the safest trades / instruments.

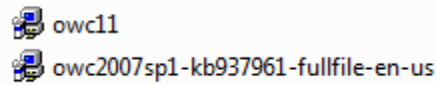
Market Scanner gives you Fibonacci Support, Resistances and Pivot points which you can use for entry and exit from the Market. Market Scanner works as an essential when you trade with Rekon Xs template for spot or binary option trading.

2. Project Specification:

Development Environment	Description
Languages	VBA
Project Type	Office Automation – MS Excel 2007 Add-Ins. Windows – XP, Windows7.

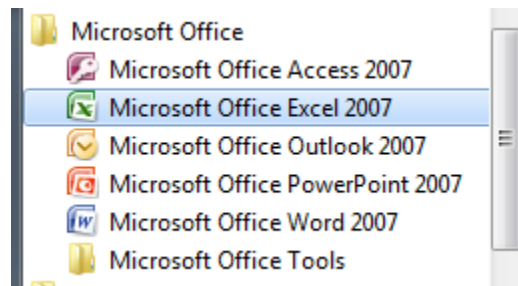
3. **Install OWC:** Open the folder  **MS Office Components** you will get two OWC files, install **owc11**

file first then install owc2007sp1 file.

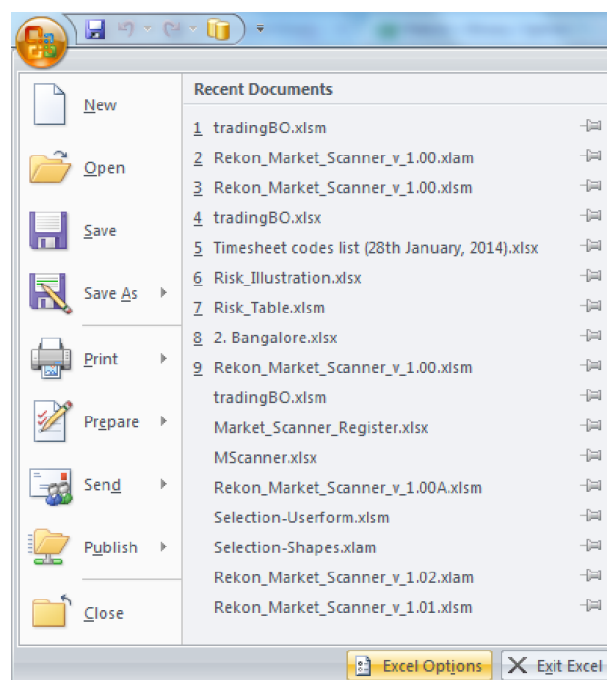


4. **Enable Macro:** Before deploying the application we need to enable the Macro Option in the User System. Please follow the following Steps to enable the Macro.

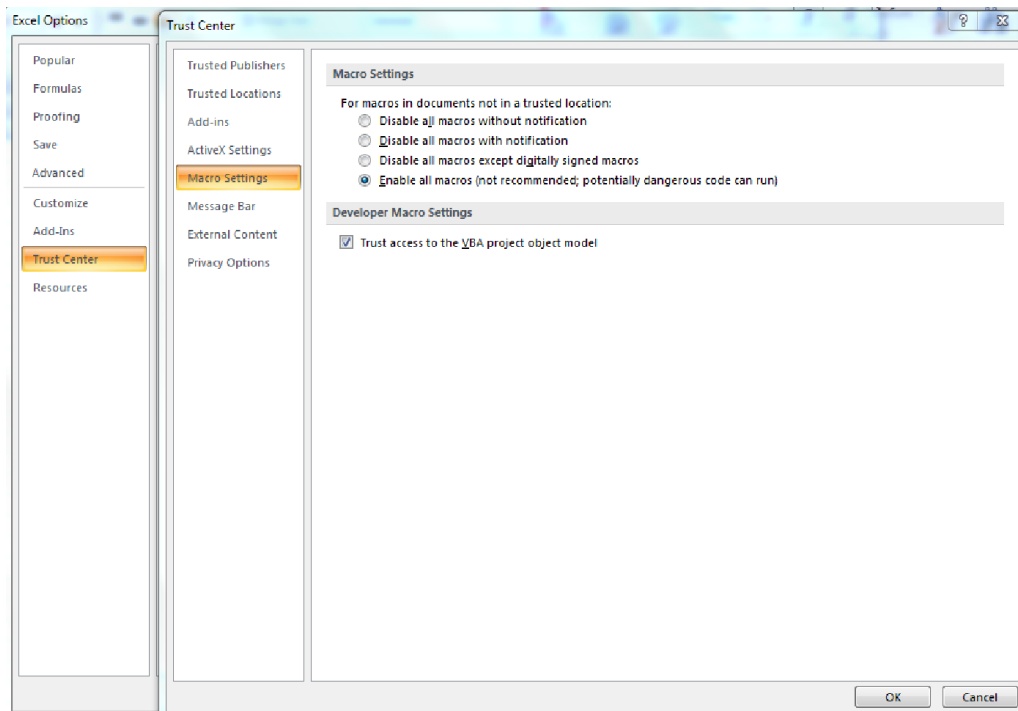
- a. Open the MS Excel 2007 Application



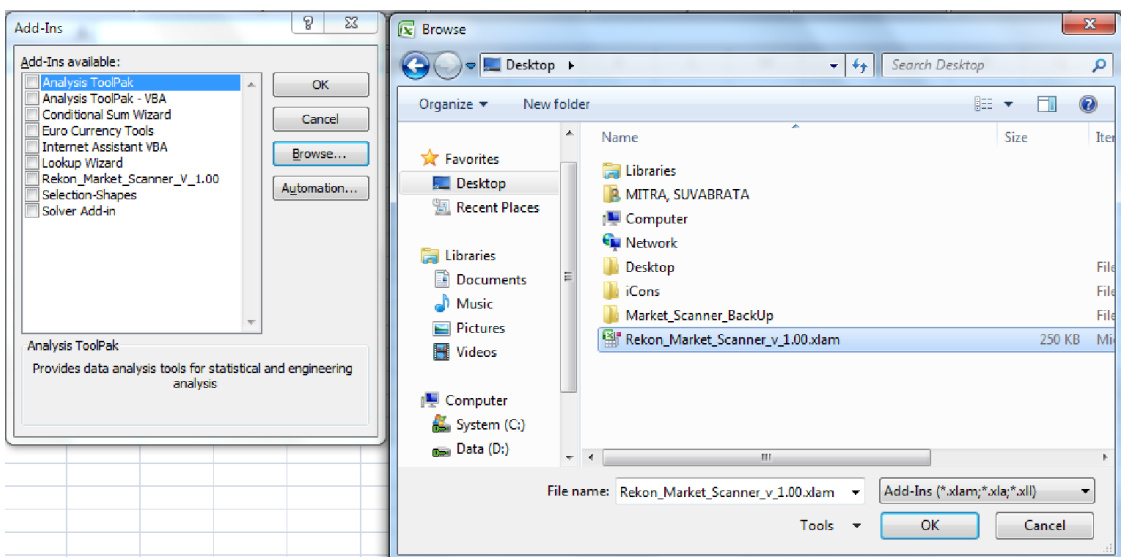
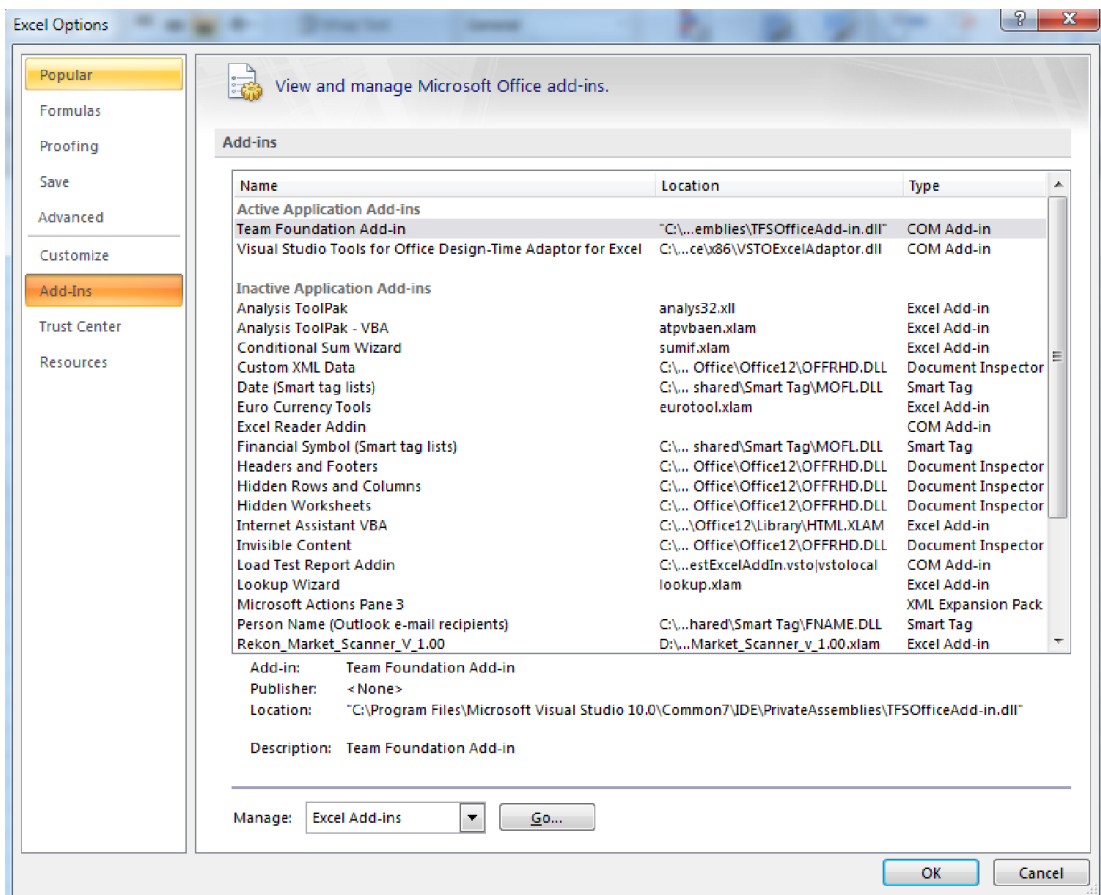
- b. Click on the Office Button and choose **Excel Options**.



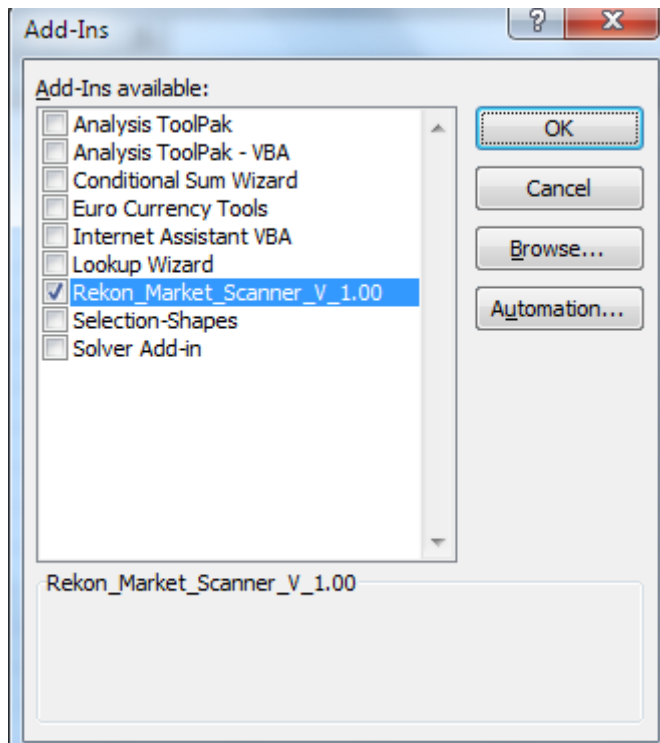
- c. Then go to **Trust Center, Trust Center Settings**. In the **Macro Settings** choose **Enable All Macros**.



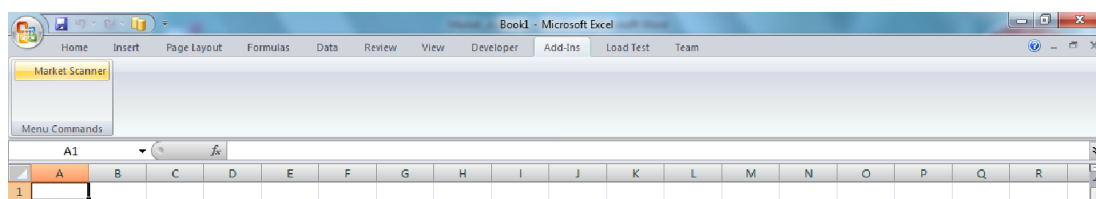
d. Click Add-Ins. Click on “Go”. Click on Browse.



- e. Click **Rekon_Market_Scanner_v_1.00** from available Add-Ins. Click on **Ok**.

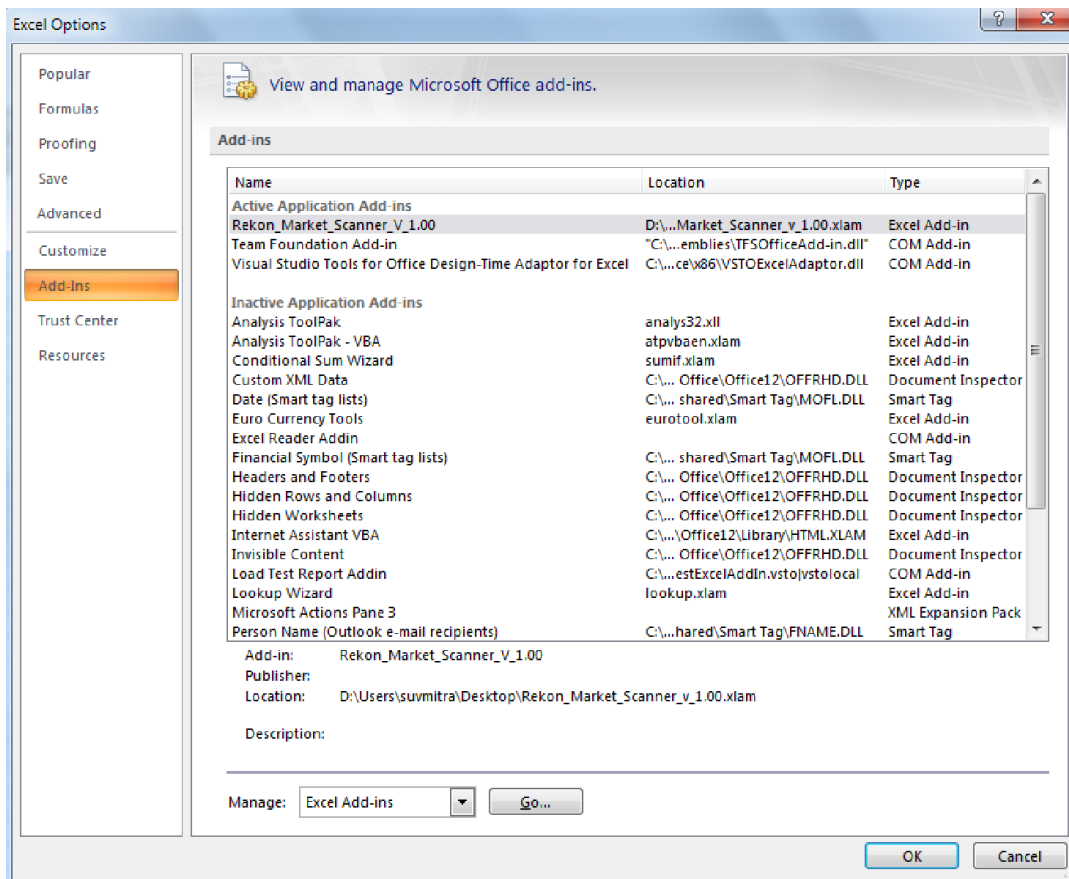


- f. You will find an additional ribbon “Add Ins”. Click on **Market Scanner**.

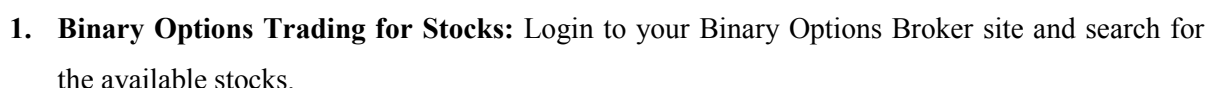
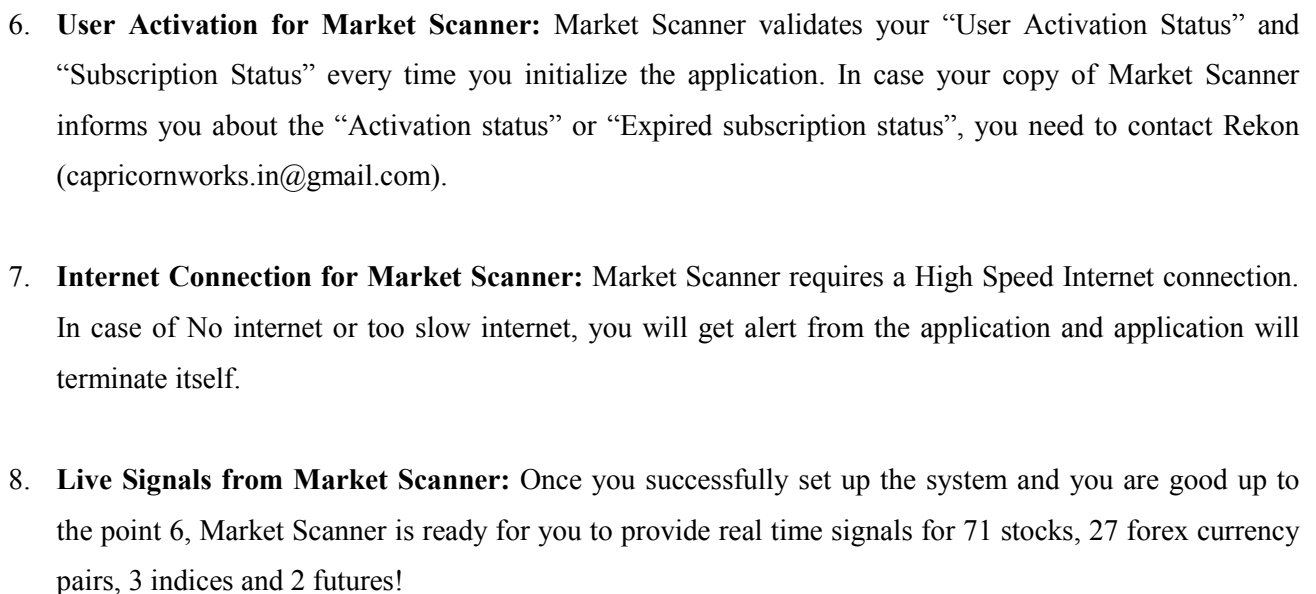


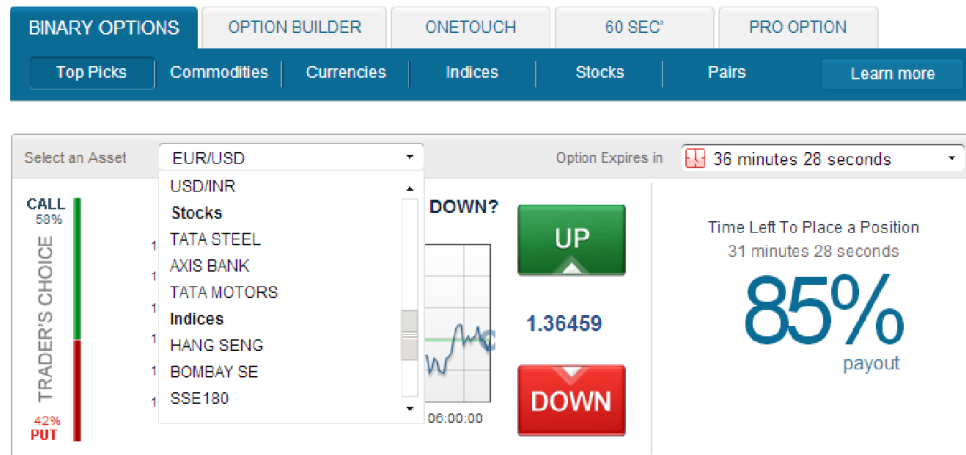
5. **Removing Add-Ins:** To remove the Market Scanner Add-Ins from MS Excel just follow the steps as instructed below.

A. Excel Options → Add-Ins → Go



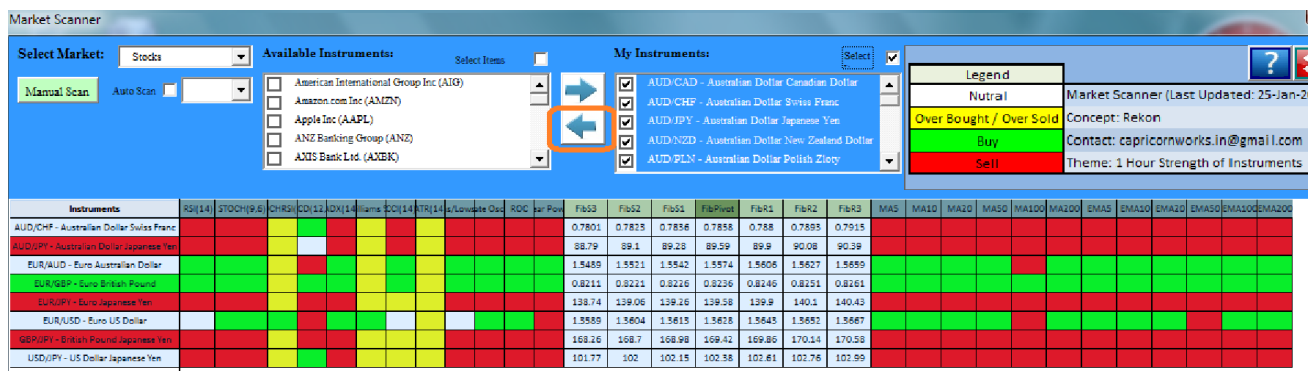
B. Check Off the Add-Ins → Ok



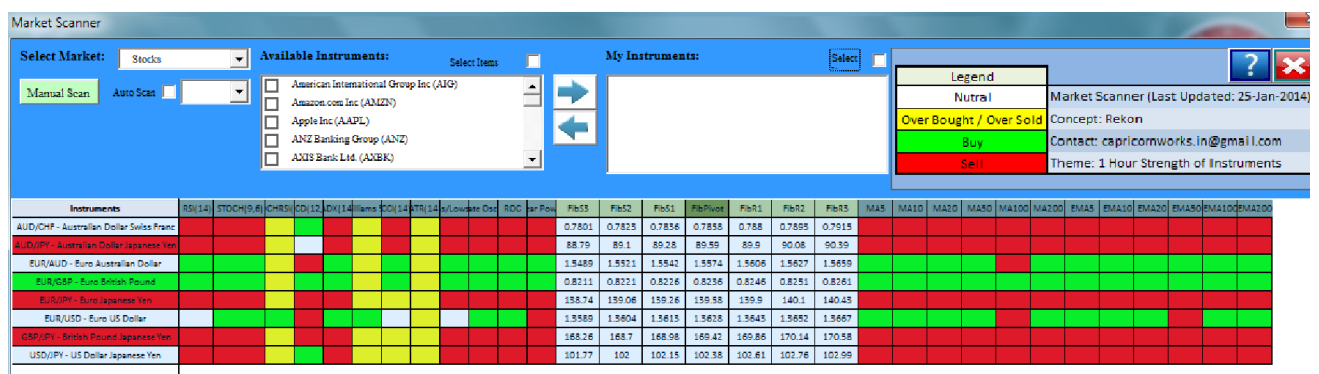


Next, Select **Stocks** from Market Scanner application, this will populate 71 listed stocks from the application. You only select the stocks offered by your broker at this time. Remember the fewer instruments you select, the faster will be the scanning result, loading unnecessary instruments will slow down the scanning procedure.

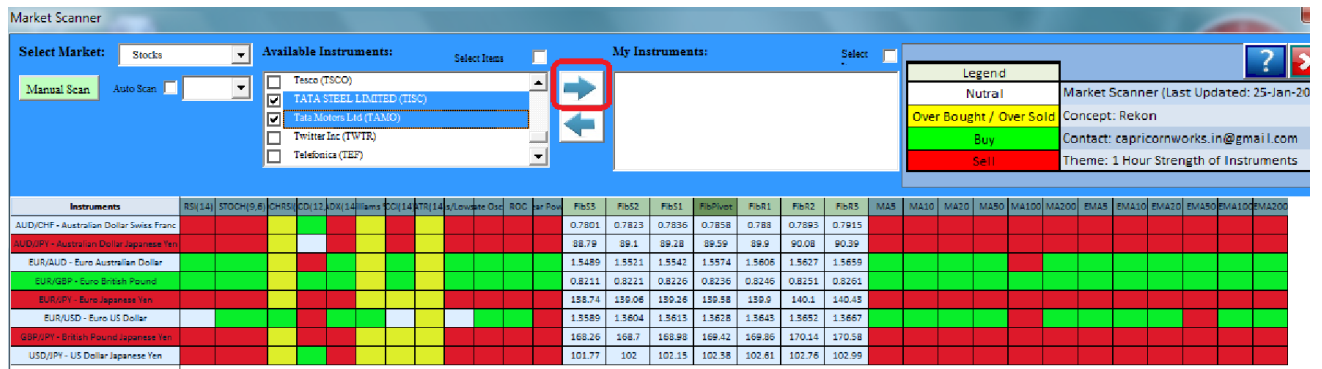
Please follow the procedure, A. Remove already loaded unnecessary items from “My Instruments”, Select all and click on the **Remove** button as highlighted in the picture.



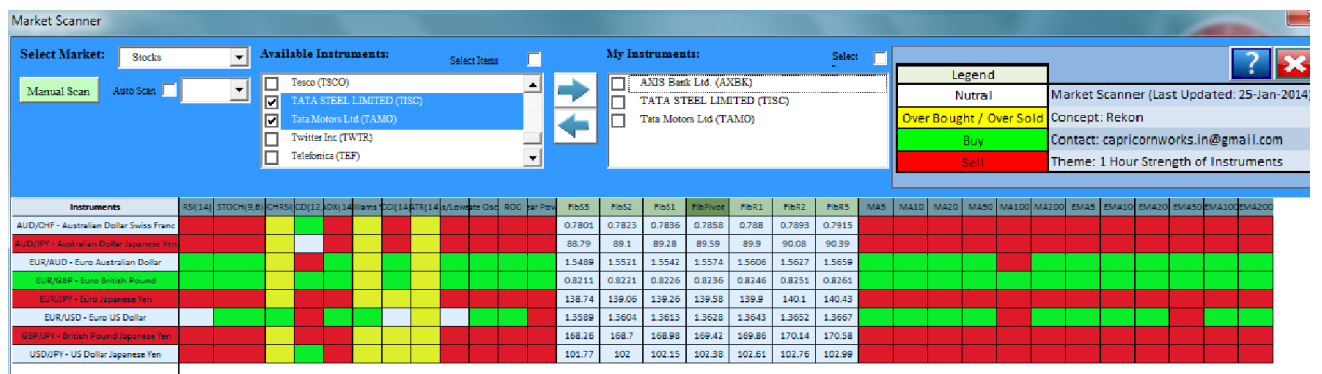
B. This will clear the “My Instruments”.



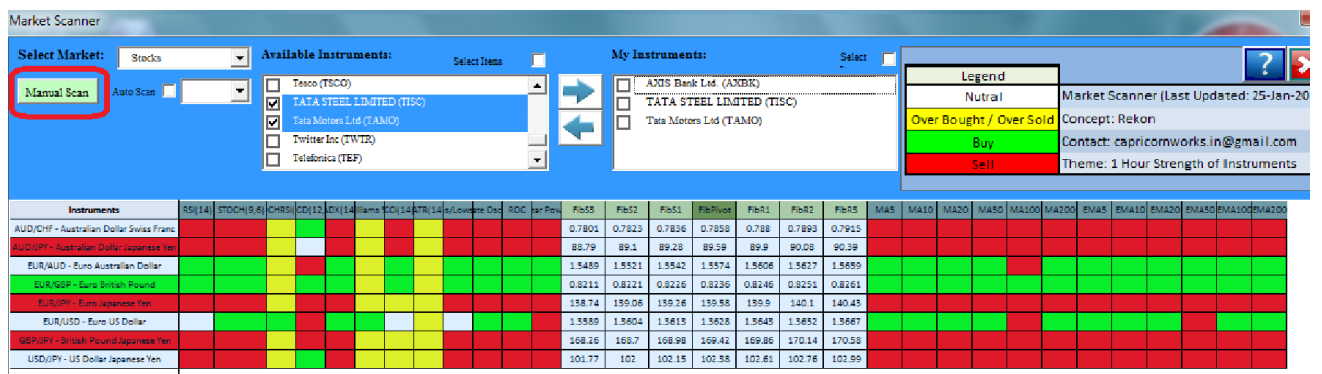
C. Select all the required instruments at once and click on the “Add” button as highlighted in the picture.



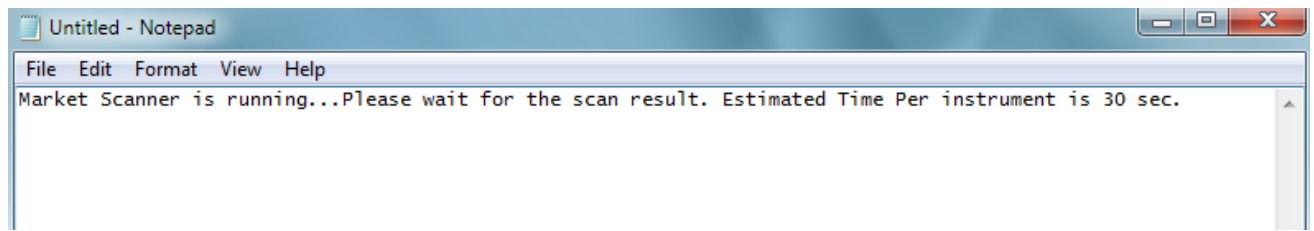
D. Now, you should have the “My Instruments” section populated!



E. Next, just click on the Manual Scan button, alternatively you can set the “Auto Scanning” feature on as per your preference.



F. You will get a response from the Market Scanner and the application will run in the system’s background.



G. Scan result will be published once the scanning is finished, and you will get a very detailed yet simplified dashboard just in front of your screen!

A. **Legend:** Color “White” means Neutral, “Yellow” means Overbought / Oversold / High Volatility, “Green” means Buy and “Red” means Sell.

B. **Highlighted Instruments:** We will only look for a trade set up on the highlighted instrument, as per the picture it is “TATA STEEL LTD” is on strong sell and application is suggesting trading this instrument only.

C. **Fib Levels:** These levels and points are very important, especially for Binary Options on Stocks. We can have different trading strategies, but essentially we will be looking out for 30 mins to 45 mins expiry on this instrument.

7.2 Trading Strategies: Following trading approaches have more than 90% success rate so let’s consider the approaches once.

A. **With-Trend entry for Put:** when at-least 22 technicals out of 24 are in same direction.

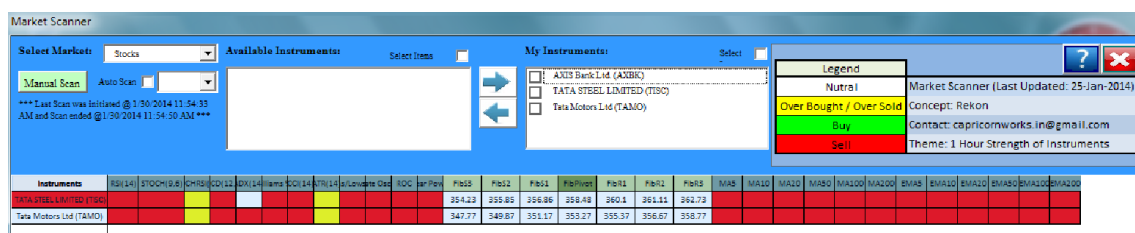
- * Present price is above R3 (Put Option for 30-45 mins) [Success rate 95 to 100 %]
- * Present price is between R2 and R3 (Put Option for 30-45 mins) [Success rate 85 to 95 %]
- * Present price is between R1 and R2 (Put Option for 30-45 mins) [Success rate 85 to 95 %]
- * Present price is between Pivot and R1 (Put Option for 30-45 mins) [Success rate 80 to 90 %]

B. With-Trend entry for Put: when at-least 19 technicals out of 24 are in same direction.

- * Present price is above R3 (Put Option for 30-45 mins) [Success rate 80 to 90 %]
- * Present price is between R2 and R3 (Put Option for 30-45 mins) [Success rate 75 to 80 %]
- * Present price is between R1 and R2 (Put Option for 30-45 mins) [Success rate 70 to 75 %]
- * Present price is between Pivot and R1 (Put Option for 30-45 mins) [Success rate 70 to 75 %]

C. Counter-Trend entry for Call: when at-least 3 technicals out of the first 11 are contradicting the main direction (last 12 technicals).

- * Present price is below S3 (Call Option for 30-45 mins) [Success rate 90 to 100 %]
- * Present price is between S2 and S3 (Call Option for 30-45 mins) [Success rate 85 to 90 %]
- * Present price is between S1 and S2 (Call Option for 30-45 mins) [Success rate 80 to 85 %]
- * Present price is between Pivot and S1 (Call Option for 30-45 mins) [Success rate 70 to 80 %]

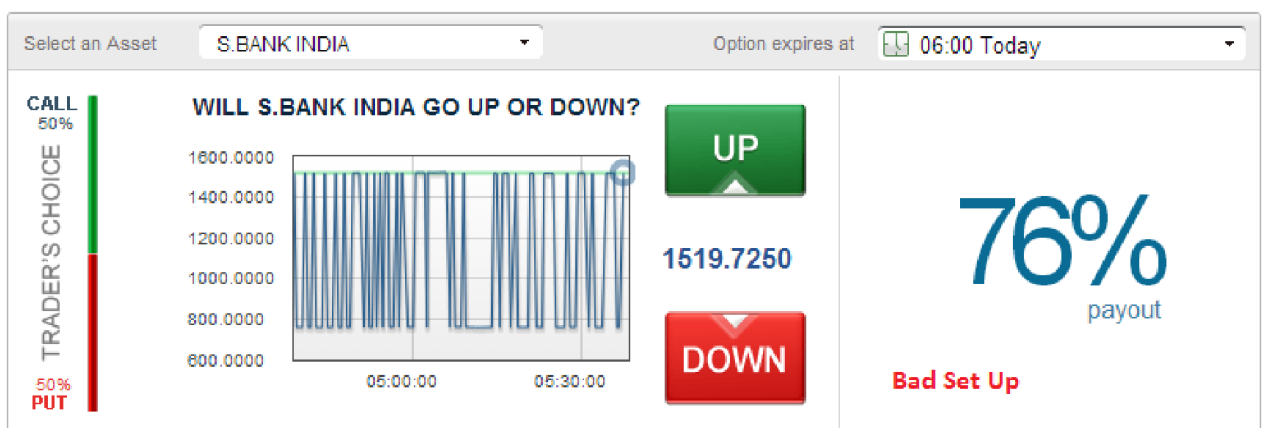
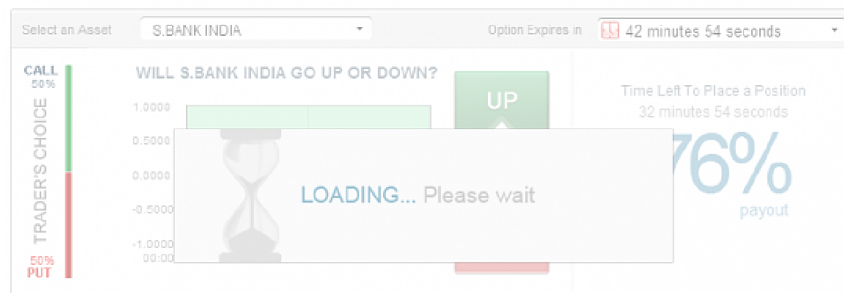


***** Call set Up: We will do just the opposite of Put Set Up *****

Please join Rekon's Interactive Trading Threads to know more on this.

7.3 Understanding Trade Set Ups:

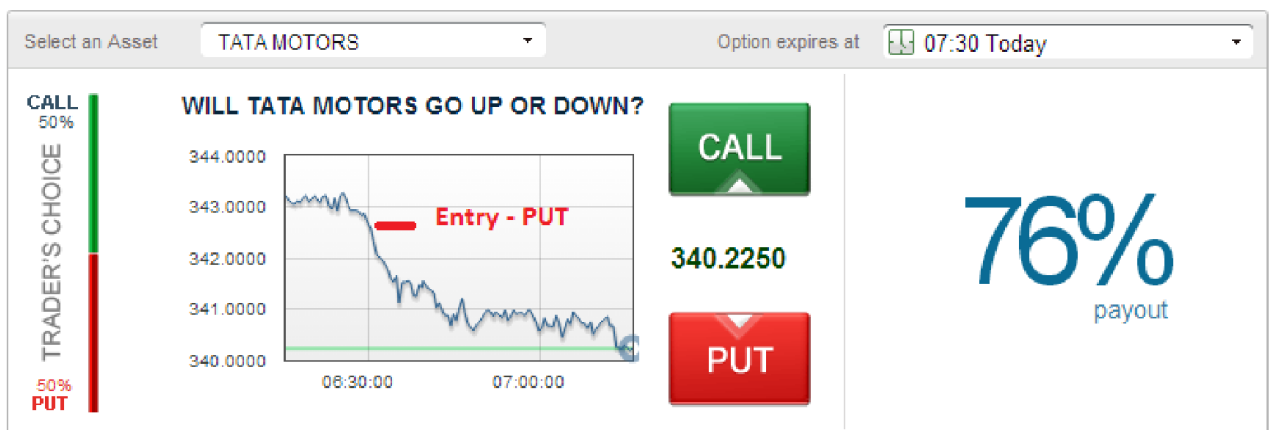
A. Bad Trade Set Up - Where the instrument takes time to load or choppy.



A Good Trade Set Up: Where we can watch for entry



Visually we can identify the price in which level it is consolidating or getting rejected by the Market participants. And we can go for “With-Trend” entry for the instrument.



We can go for 30 – 45 mins expiry PUT option with this kind of set up.

OPEN POSITIONS			EXPIRED POSITIONS			ONE TOUCH POSITIONS			Total Current Profit/Loss: \$ 0.00	
id	Asset	strike	option	Date	endDate	expiryRate	amount	outcome	Payout	
3134886	TATA STEEL	348.277	▼ Put	6:55 30/01/14	7:30 30/01/14	347.450	\$ 19	won	\$ 34.2	
3105868	SAP	57.4629	▼ Put	8:36 29/01/14	9:30 29/01/14	57.3550	\$ 19	won	\$ 34.2	

8. Technical Studies Discussion

Read Market Scanner for Technical Signals:

Legend	
Nutral	Market Scanner (Last Updated: 31-Jan-2014)
Overbought / Oversold	Concept: Rekon
Buy	Contact: capricornworks.in@gmail.com
Sell	Theme: 1 Hour Strength of Instruments
ATR - High Volatility	Good for With Trend Entries
ATR - Low Volatility	Requires additional attention before placing a trade

1. RSI (14): Developed by J. Welles Wilder, the Relative Strength Index (RSI) is a momentum oscillator that measures the speed and change of price movements. RSI oscillates between zero and 100. Traditionally, and according to Wilder, RSI is considered overbought when above 70 and oversold when below 30. Signals can also be generated by looking for divergences, failure swings and centerline crossovers. RSI can also be used to identify the general trend.

$$RSI = 100 - \frac{100}{1 + RS}$$

$RS = \text{Average Gain} / \text{Average Loss}$

To simplify the calculation explanation, RSI has been broken down into its basic components: RS, Average Gain and Average Loss. This RSI calculation is based on 14 periods, which is the default suggested by Wilder in his book. Losses are expressed as positive values, not negative values.

2. Stochastic Oscillator (9, 6): Developed by George C. Lane in the late 1950s, the Stochastic Oscillator is a momentum indicator that shows the location of the close relative to the high-low range over a set number of periods. According to an interview with Lane, the Stochastic Oscillator "doesn't follow price, it doesn't follow volume or anything like that. It follows the speed or the momentum of price. As a rule, the momentum changes direction before price." As such, bullish and bearish divergences in the Stochastic Oscillator can be used to foreshadow reversals. This was the first, and most important, signal that Lane identified. Lane also used this oscillator to identify bull and bear set-ups to anticipate a future reversal. Because the Stochastic Oscillator is range bound, is also useful for identifying overbought and oversold levels.

```
%K = (Current Close - Lowest Low)/(Highest High - Lowest Low) * 100
%D = 3-day SMA of %K

Lowest Low = lowest low for the look-back period
Highest High = highest high for the look-back period
%K is multiplied by 100 to move the decimal point two places
```

3. StochRSI (14): Developed by Tushard Chande and Stanley Kroll, StochRSI is an oscillator that measures the level of RSI relative to its high-low range over a set time period. StochRSI applies the Stochastics formula to RSI values, instead of price values. This makes it an indicator of an indicator. The result is an oscillator that fluctuates between 0 and 1.

Chande and Kroll explain that RSI can oscillate between 80 and 20 for extended periods without reaching extreme levels. Notice that 80 and 20 are used for overbought and oversold instead of the more traditional 70 and 30. Traders looking to enter a stock based on an overbought or oversold reading in RSI might find themselves continuously on the sidelines. Chande and Kroll developed StochRSI to increase sensitivity and generate more overbought/oversold signals.

```
StochRSI = (RSI - Lowest Low RSI) / (Highest High RSI - Lowest Low RSI)
```

4. Moving Average Convergence-Divergence (MACD):

Developed by Gerald Appel in the late seventies, the Moving Average Convergence-Divergence (MACD) indicator is one of the simplest and most effective momentum indicators available. The MACD turns two trend-following indicators, moving averages, into a momentum oscillator by subtracting the longer moving average from the shorter moving average. As a result, the MACD offers the best of both worlds: trend following and momentum. The MACD fluctuates above and below the zero line as the moving averages converge, cross and diverge. Traders can look for signal line crossovers, centerline crossovers and divergences to generate signals. Because the MACD is unbounded, it is not particularly useful for identifying overbought and oversold levels.

```
MACD Line: (12-day EMA - 26-day EMA)
Signal Line: 9-day EMA of MACD Line
MACD Histogram: MACD Line - Signal Line
```

5. Average Directional Index (ADX):

The Average Directional Index (ADX), Minus Directional Indicator (-DI) and Plus Directional Indicator (+DI) represent a group of directional movement indicators that form a trading system developed by Welles Wilder. Wilder designed ADX with commodities and daily prices in mind, but these indicators can also be applied to stocks. The Average Directional Index (ADX) measures trend strength without regard to trend direction. The other two indicators, Plus Directional Indicator (+DI) and Minus Directional Indicator (-DI), complement ADX by defining trend direction. Used together, chartists can determine both the direction and strength of the trend.

1. Calculate the True Range (TR), Plus Directional Movement (+DM) and Minus Directional Movement (-DM) for each period.
2. Smooth these periodic values using the Wilder's smoothing techniques. These are explained in detail in the next section.
3. Divide the 14-day smoothed Plus Directional Movement (+DM) by the 14-day smoothed True Range to find the 14-day Plus Directional Indicator (+DI14). Multiply by 100 to move the decimal point two places. This +DI14 is the Plus Directional Indicator (green line) that is plotted along with ADX.
4. Divide the 14-day smoothed Minus Directional Movement (-DM) by the 14-day smoothed True Range to find the 14-day Minus Directional Indicator (-DI14). Multiply by 100 to move the decimal point two places. This -DI14 is the Minus Directional Indicator (red line) that is plotted along with ADX.
5. The Directional Movement Index (DX) equals the absolute value of +DI14 less -DI14 divided by the sum of +DI14 and -DI14.
6. After all these steps, it is time to calculate the Average Directional Index (ADX). The first ADX value is simply a 14-day average of DX. Subsequent ADX values are smoothed by multiplying the previous 14-day ADX value by 13, adding the most recent DX value and dividing this total by 14.

6. William %R

Developed by Larry Williams, Williams %R is a momentum indicator that is the inverse of the Fast Stochastic Oscillator. Also referred to as %R, Williams %R reflects the level of the close relative to the highest high for the look-back period. In contrast, the Stochastic Oscillator reflects the level of the close relative to the lowest low. %R corrects for the inversion by multiplying the raw value by -100. As a result, the Fast Stochastic Oscillator and Williams %R produce the exact same lines, only the scaling is different. Williams %R oscillates from 0 to -100. Readings from 0 to -20 are considered overbought. Readings from -80 to -100 are considered oversold. Unsurprisingly, signals derived from the Stochastic Oscillator are also applicable to Williams %R.

```
%R = (Highest High - Close)/(Highest High - Lowest Low) * -100  
  
Lowest Low = lowest low for the look-back period  
Highest High = highest high for the look-back period  
%R is multiplied by -100 correct the inversion and move the decimal.
```

7. Commodity Channel Index (CCI):

Developed by Donald Lambert and featured in Commodities magazine in 1980, the Commodity Channel Index (CCI) is a versatile indicator that can be used to identify a new trend or warn of extreme conditions. Lambert originally developed CCI to identify cyclical turns in commodities, but the indicator can successfully applied to indices, ETFs, stocks and other securities. In general, CCI measures the current price level relative to an average price level over a given period of time. CCI is relatively high when prices are far above their average. CCI is relatively low when prices are far below their average. In this manner, CCI can be used to identify overbought and oversold levels.

```
CCI = (Typical Price - 20-period SMA of TP) / (.015 x Mean Deviation)  
  
Typical Price (TP) = (High + Low + Close)/3  
  
Constant = .015  
  
There are four steps to calculating the Mean Deviation. First, subtract the most recent 20-period average of the typical price from each period's typical price. Second, take the absolute values of these numbers. Third, sum the absolute values. Fourth, divide by the total number of periods (20).
```

8. Bull and Bear Power oscillators (13):

The Bull and Bear Power oscillators developed by Dr Alexander Elder attempt to measure the power of buyers (bulls) and sellers (bears) to push prices above and below the consensus of value. The primary principles on which Elder based the oscillator are:

The highest price displays the maximum buyer's power within the day.

The lowest price displays the maximum seller's power within the day.

The moving average can be construed as a price agreement between buyers and sellers for a given time period.

The Bulls/Bears power balance is important since changes in this balance can signal the early stages of a potential trend reversal.

Elder uses a 13-day exponential moving average (EMA) to indicate the consensus market value.

Bull Power is calculated by subtracting the 13-day EMA from the day's high.

Bear Power is derived by subtracting the 13-day EMA from the day's low.

9. Highs/Lows (14):

The Highs-Lows indicator (14) displays the daily difference between the number of stocks reaching new 14-Days highs and the number of stocks reaching new 14-Days lows.

Calculation

The New Highs-New Lows is calculated by simply taking the difference between the number of instruments that made new 14-days highs and the number of instruments that made new 14-days lows.

10. Ultimate Oscillator:

Developed by Larry Williams in 1976 and featured in Stocks & Commodities Magazine in 1985, the Ultimate Oscillator is a momentum oscillator designed to capture momentum across three different time frames. The multiple time frame objectives seek to avoid the pitfalls of other oscillators. Many momentum oscillators surge at the beginning of a strong advance and then form bearish divergence as the advance continues. This is because they are stuck with one time frame. The Ultimate Oscillator attempts to correct this fault by

incorporating longer time frames into the basic formula. Williams identified a buy signal based on a bullish divergence and a sell signal based on a bearish divergence.

```
BP = Close - Minimum(Low or Prior Close) .  
TR = Maximum(High or Prior Close) - Minimum(Low or Prior Close)  
Average7 = (7-period BP Sum) / (7-period TR Sum)  
Average14 = (14-period BP Sum) / (14-period TR Sum)  
Average28 = (28-period BP Sum) / (28-period TR Sum)  
UO = 100 x [(4 x Average7)+(2 x Average14)+Average28]/(4+2+1)
```

11. Rate of Change (ROC):

The Rate-of-Change (ROC) indicator, which is also referred to as simply Momentum, is a pure momentum oscillator that measures the percent change in price from one period to the next. The ROC calculation compares the current price with the price "n" periods ago. The plot forms an oscillator that fluctuates above and below the zero line as the Rate-of-Change moves from positive to negative. As a momentum oscillator, ROC signals include centerline crossovers, divergences and overbought-oversold readings. Divergences fail to foreshadow reversals more often than not so this article will forgo a discussion on divergences. Even though centerline crossovers are prone to whipsaw, especially short-term, these crossovers can be used to identify the overall trend. Identifying overbought or oversold extremes comes natural to the Rate-of-Change oscillator.

```
ROC = [(Close - Close n periods ago) / (Close n periods ago)] * 100
```

12. Average True Range (ATR):

Developed by J. Welles Wilder, the Average True Range (ATR) is an indicator that measures volatility. As with most of his indicators, Wilder designed ATR with commodities and daily prices in mind. Commodities are frequently more volatile than stocks. They were often subject to gaps and limit moves, which occur when a commodity opens up or down its maximum allowed move for the session. A volatility formula based only on the high-low range would fail to capture volatility from gap or limit moves. Wilder created Average

True Range to capture this "missing" volatility. It is important to remember that ATR does not provide an indication of price direction, just volatility.

Current ATR = [(Prior ATR x 13) + Current TR] / 14

- Multiply the previous 14-day ATR by 13.
- Add the most recent day's TR value.
- Divide the total by 14

13. Moving Average: A widely used indicator in technical analysis that helps smooth out price action by filtering out the “noise” from random price fluctuations. A moving average (MA) is a trend-following or lagging indicator because it is based on past prices. The two basic and commonly used MAs are the simple moving average (SMA), which is the simple average of a security over a defined number of time periods, and the exponential moving average (EMA), which gives bigger weight to more recent prices. The most common applications of MAs are to identify the trend direction and to determine support and resistance levels.

Daily Closing Prices: 11,12,13,14,15,16,17

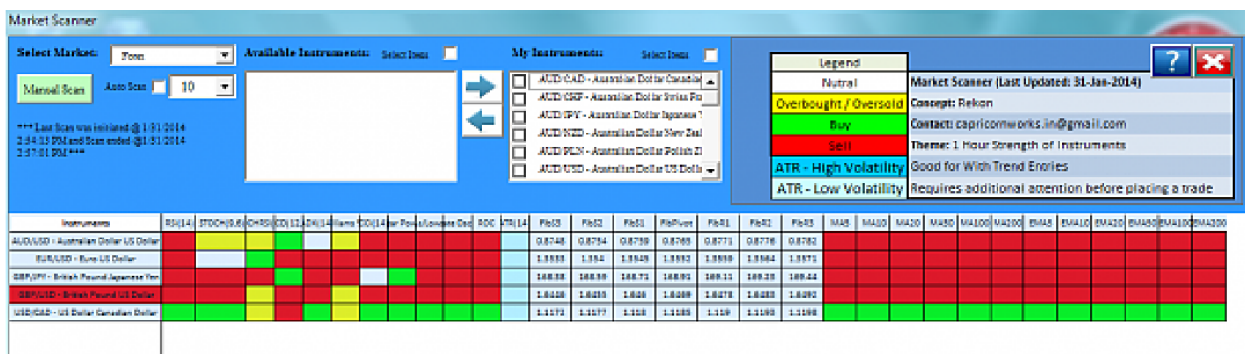
First day of 5-day SMA: (11 + 12 + 13 + 14 + 15) / 5 = 13

Second day of 5-day SMA: (12 + 13 + 14 + 15 + 16) / 5 = 14

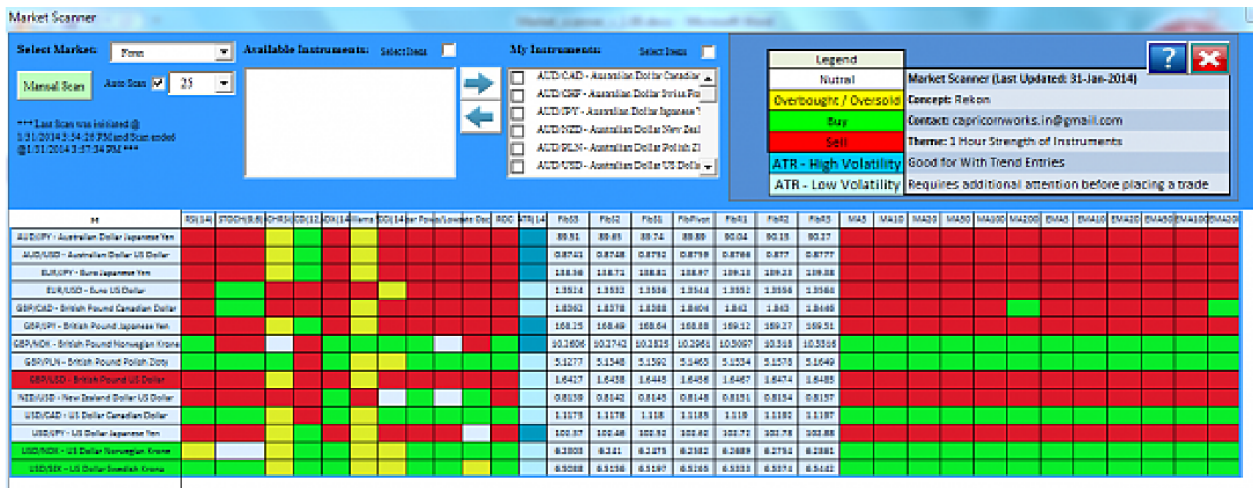
Third day of 5-day SMA: (13 + 14 + 15 + 16 + 17) / 5 = 15

9. Understanding various Market States: Specially for spot forex you need a Moderately Performing or High Performing Market. Where you will be getting multiple instruments with “Strong” Buy or Sell signals to trade. The various states of Market can be visualized as below:

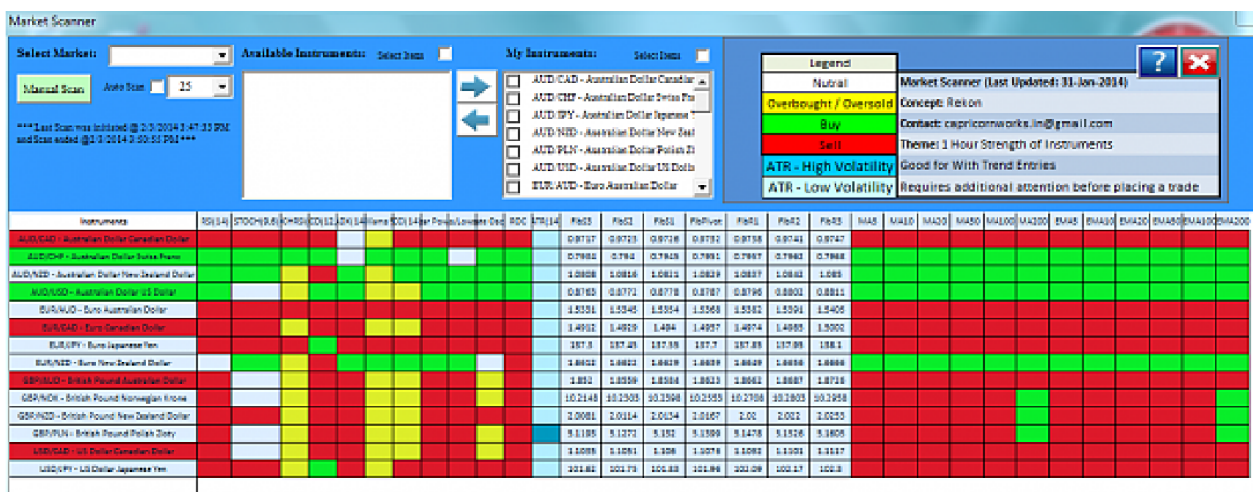
A. Low or non-performing Market (Not good for trading):



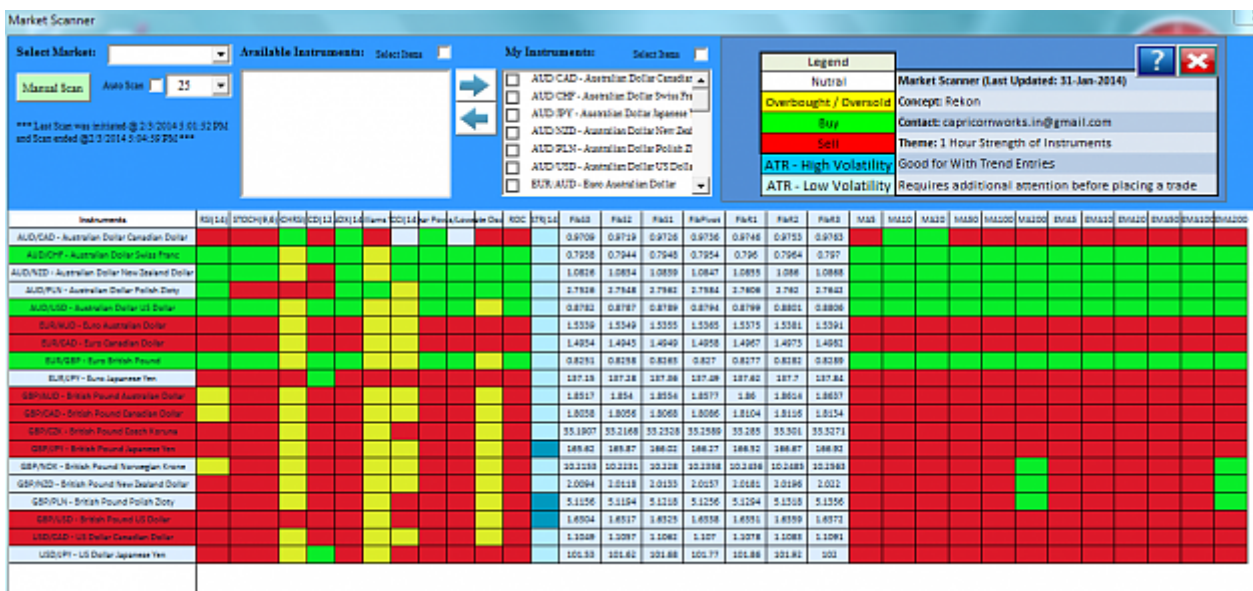
B. Slowly maturing Market (Need to be careful about entries):



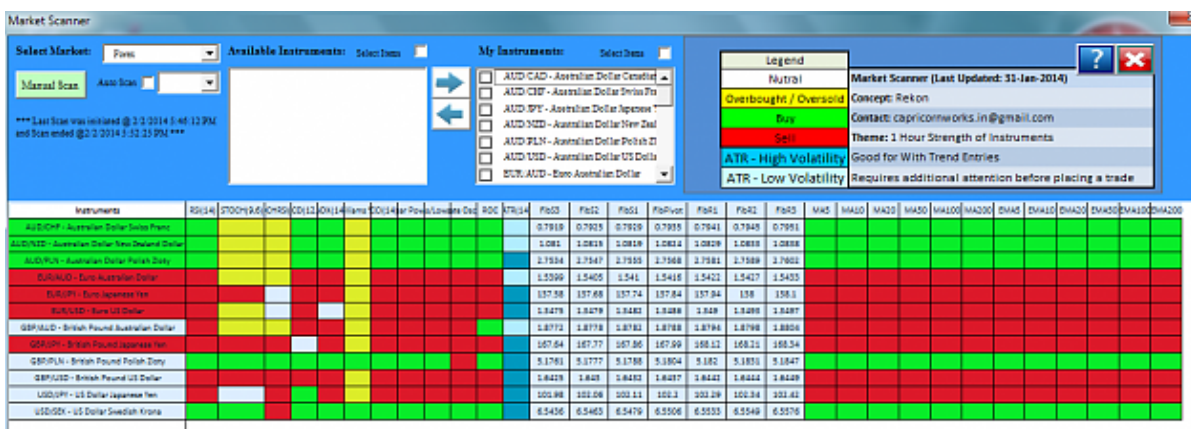
C. Matured and performing Market (Good for trading):



D. Matured and High Performing Market (Good for trading):



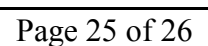
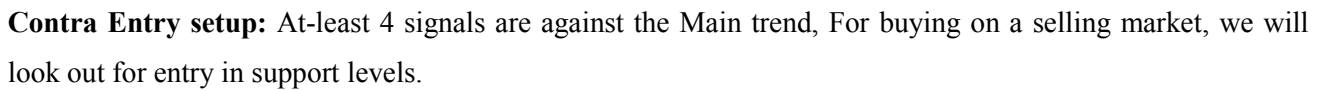
E. Matured Market which created a co-relation harmony is the best for trading:



With Trend Entry: It has higher success rate > 80 %, you need to closely follow the pivot and fib levels mentioned in the Application. Pick Pivot or R levels when you are selling, Pick Pivot or Support levels when you are buying.

With Trade Entry Setup: First 11 technicals are suggesting same direction, upto 3 signals can go against the main trend, in that case we will wait for the price to reach pivot or Resistance level for “with-trend” entry.

If more than 3 signals are going against the Main trend, we can suspect for a trend reversal, but it is not confirmed.



2. DOCUMENT CONTROL

2.1 Document information

Source File Location	None
Document Owner	CapricornWorks
Confidentiality Level	User
Proposing Changes	If you have suggestions for improving this document, please contact document owner.

2.2 Version History

Version	Date	Author	Comments
1.0	29-Jan-2014	Suvabrata Mitra	Created version 1.0

2.2 Document Reviewed By

Version	Date	Reviewer	Comments
0.1	29-Jan-2014	Suvabrata Mitra	Reviewed version 1.0

2.3 Document Approved By

Version	Date	Approver	Comments	Attachments
1.0	29-Jan-2014	Suvabrata Mitra	Approved Release	