

# OmniFunds v3

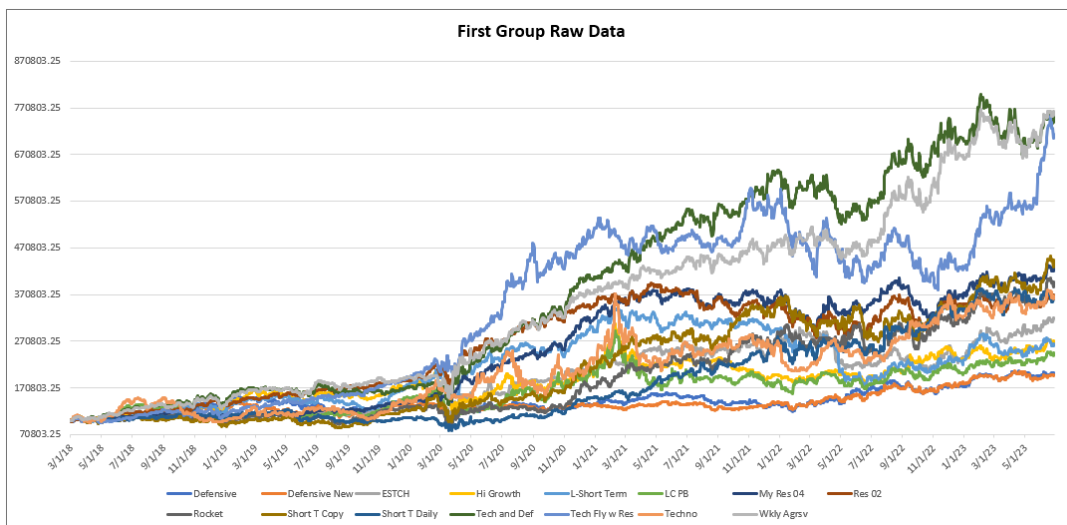
## Functional Specification v1.1

### Overview

OmniFunds is comprised of Portfolios, which are Trading Methods that have a List, Filtering, Ranking and Allocation defined. Two Portfolios are combined to define an OmniFund. Exits occur on the switching interval, when new Symbols pass the Filter AND have a higher Rank than existing trades within a Portfolio.

### Historical Trading Observations:

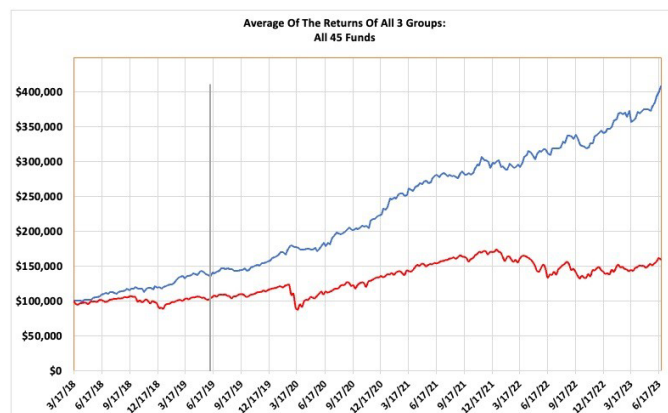
Studying historical Portfolio curves since 2018, it has been determined that a consistent return can be achieved by switching into the best Portfolios based on an analysis of recent returns. Here is a graph showing 15 “randomly” selected Portfolios from Omnifunds, showing tremendous variability of returns. This leads to losses and draw downs if only 2 Portfolios are chosen and left to run.



This one trades the middle 5 ranked Portfolios each week using Standard Deviation of Returns as the ranking function. **30%/year w 5% MDD**

Average Of All Groups (45 Funds)		
Equity \$	\$408,044.23	MDD Date:
MDD	-6.55%	6/8/19
CAGR	30.59%	
CALMAR	4.67	
Longest DD in Wks	20	4/2/22
Avg DD in Wks	2.5	
% Wks Profitable	62.5%	

62.5% (of the 275 weeks in the data) were profitable week to week



# Implementation

## Overall Goal:

Reconfigure OmnFunds to allow users to select the N Portfolios they want considered for trading in the future, to be selected using the algorithm.

## Primary Changes:

1. N Portfolios: Rather than “Conservative” and “Aggressive”, OmniFunds v3 will use N Portfolios for each OmniFund. Check boxes are used on the list to select those considered.
2. Switching: On a common switching interval (typically weekly), select M Portfolios (out of the N available) based on an analysis of recent past performance (Standard Deviation of Returns, per Holstius) to achieve a ranked order. Start from point R. That is, if R=5, then select Portfolio R, R+1, ... R+M-1.

## Secondary Changes

1. Preserve History: Preserve Trade History after a Fund is “published” regardless of changes made to the Fund after that point. Any trades that are available at the Open on any day are kept. Changes do NOT affect prior Trade History.
2. Speed of Analysis: Defer analysis of any Portfolios that are “dormant” – i.e., not being used in actual or simulated trading. Run analysis on dormant Portfolios after the Open each day. Consider archiving if unused for more than X Months.

## Interface Changes

1. Add CALMAR Metric: Portfolio List shows CALMAR metric (Avg APR/ Avg MDD) which can be used for sorting.
2. Select N Portfolios: Remove the Aggressive/Conservative control. Add check boxes to the List of Portfolios for the user’s selections.

## Important Additional Changes

1. Add Exit on Condition: If Flag is set, Exit when the Filter for any in-trade Symbol becomes False (in addition to the switching interval). This helps OmniFunds take profits on positions that have significantly advanced.

# Existing Pages

## Existing Portfolio List Page

omnifunds | How it Works | About Us | Products | FAQ | Blog | Explore | Lab | My Omnifunds | Logout | Haskell Downs

OmniFunds | Portfolios | Library | Experiments

### Portfolios Lab

Mine  All Owners  Nirvana Published

ID	Owner	Portfolio Name	YTD	1Y	3Y	5Y	Start Date	End Date	Action
4228	Jeff Drake	Tech Flyers w/ Resilient	37.5%	37405.6%	41.1%	15.9%	9/17/2022 4:03:53 PM	8/12/2023 11:06:01 PM	view debug
4229	Jeff Drake	Tech Flyers w/ Resilient 2 DAYS MOO	38.3%	41886.7%	36.2%	14.0%	10/26/2020 12:57:33 PM	8/12/2023 11:06:46 PM	view debug
238	Jeff Drake	US Industry ETFs	8.6%	363.9%	37.3%	14.0%	12/1/2017 5:29:46 PM	8/12/2023 10:00:50 PM	view
224	Jeff Drake	US Stocks ETFs 02	8.7%	372.0%	41.1%	15.5%	12/1/2017 5:29:48 PM	8/12/2023 10:00:34 PM	view

Add Portfolio

### Historical Performance: Tech Flyers w/ Resilient 2 DAYS MOO

Nas100, WDAY, Workday, Inc, ASML, Asml Holdings NV, WLTW, Willis Towers Watson Public Ltd Co, ADSK, AUTODESK, NVDA, NVIDIA, GILD, GILEAD SCIENCES, ALXN, ALEXION PHARMACEUTICALS, GOOG, ALPHABET INC CL C, COST, COSTCO WHOLESALE, SIRI, SIRIUS XM HOLDINGS INC, COMMON

Compare:  U.S. Stocks,  U.S. Bonds,  U.S. Robos

\$100k to \$40M

'05 '06 '07 '08 '09 '10 '11 '12 '13 '14 '15 '16 '17 '18 '19 '20 '21 '22 '23

01 Month 03 Months 06 Months 01 Year 05 Year All

Log Scale

Equity Curve Stop Level: 20

Stop re-entry type: No Stop

- No Stop
- Stop Percent
- Stop Percent - Re-enter on Monthly Boundary only
- High Watermark
- SMA(3)>SMA(21)
- SMA(7)>SMA(55)
- SMA(3)>SMA(21) Trade SMA Crossover
- SMA(7)>SMA(55) Trade SMA Crossover

Notes on the current implementation:

1. Columns can be sorted but headers do not stay at top.
2. A percent stop level is defined here.
3. A re-entry condition is also specified here.

## Existing Page to View Portfolio (from right side of Portfolio List)

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OmniFunds    Portfolios    Library    Experiments

### Portfolio

#### Details

Title: Tech Flyers w/ Resilient 2 DAYS MOO  
Internal Comment:  
Long Description:  
Last Calculated: 8/12/2023 11:06:46 PM (1 minute)

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Allocation Method: Fixed Allocation  
Switching Method: Market-on-Open: Formula: Close at end of interval using MOC  
Flat Formula: C >50   
Flat Symbol: \$VIX   
Interval: 2 Days  
Minimum Avg Volume: 0  
Invest Fully: Allow Cash   
Classification: Aggressive  
R&D: Debug Dump Enabled

### Sectors

Sector	Filter	Ranking	MarketState	actions
Nas100	V	V	V	
Resilient		V		

### Sector

Symbols: AAL, AAPL, ADBE, ADI, ADP, ADSK, ALGN, ALXN, AMAT, AMD, AMGN, AMZN, ASML, ATVI, AVGO, BIDU, BIIB, BKNG

Filter:  $EMA(100) > EMA(100)[2]$  AND  $C > EMA(20)$   
Rank:  $-1 * (AVG(V,60) * AVG(C,60))$   
MarketState:  $QQQ: C > SMA(20)$   
Max Concurrent Positions: 2  
Max Allocation: 100

### Notes:

1. Verify that “Flat Formula” and “Flat Symbol” create a Market State on the entire Portfolio. (Each sector has its own MS as well).
2. For “Invest Fully” selected, what is the behavior if “Allow Cash” is selected?

## Existing Page to Create an OmniFund

Selecting “Add OmniFund” from OmniFunds List shows this screen.

The screenshot displays the "OmniFund Setup" window, which is divided into two main sections: "Conservative Portfolios" and "Aggressive Portfolios".

Conservative Portfolios				Aggressive Portfolios					
ID	Name	Return	MDD	ID	Name	Return	MDD		
<input type="radio"/>	138	Cash	0.0%	0.0%	<input type="radio"/>	2913	Resilient US	3242.0%	38.1%
<input type="radio"/>	145	Conservative ETFs	172.2%	15.5%	<input type="radio"/>	4228	Tech Flyers w/ Resilient	37405.6%	41.1%
<input checked="" type="radio"/>	175	Defensive Stocks NEW	4221.0%	32.1%	<input checked="" type="radio"/>	4229	Tech Flyers w/ Resilient 2 DAYS MOO	41886.7%	36.2%
<input type="radio"/>	224	US Stocks ETFs 02	372.0%	41.1%	<input type="radio"/>	4817	Resilient V2	4460.4%	34.9%
<input type="radio"/>	231	Global Market ETFs	338.4%	42.5%	<input type="radio"/>	4818	Tech Flyers w/ Resilient V2	28555.5%	48.0%
<input type="radio"/>	233	Bear Market ETFs	177.8%	22.7%	<input type="radio"/>	5535	Tech and Defense	37524.9%	32.1%

Below the portfolio lists is a line chart showing performance from 2005 to 2023. The y-axis ranges from \$100k to \$50M. Two lines are plotted: a black line representing a conservative portfolio and a blue line representing an aggressive portfolio. The aggressive portfolio shows significantly higher growth, reaching over \$50M by 2023, while the conservative portfolio reaches approximately \$10M.

At the bottom of the window, there are input fields for "Name:", "Internal Comment:", and "Long Description:". A blue callout box labeled "Conservative" points to the "Name:" field, and another blue callout box labeled "Aggressive" points to the "Internal Comment:" field. The "Allocation Adj:" section has a checked box for "Invest Fully". "Cancel" and "Create" buttons are located at the bottom right.

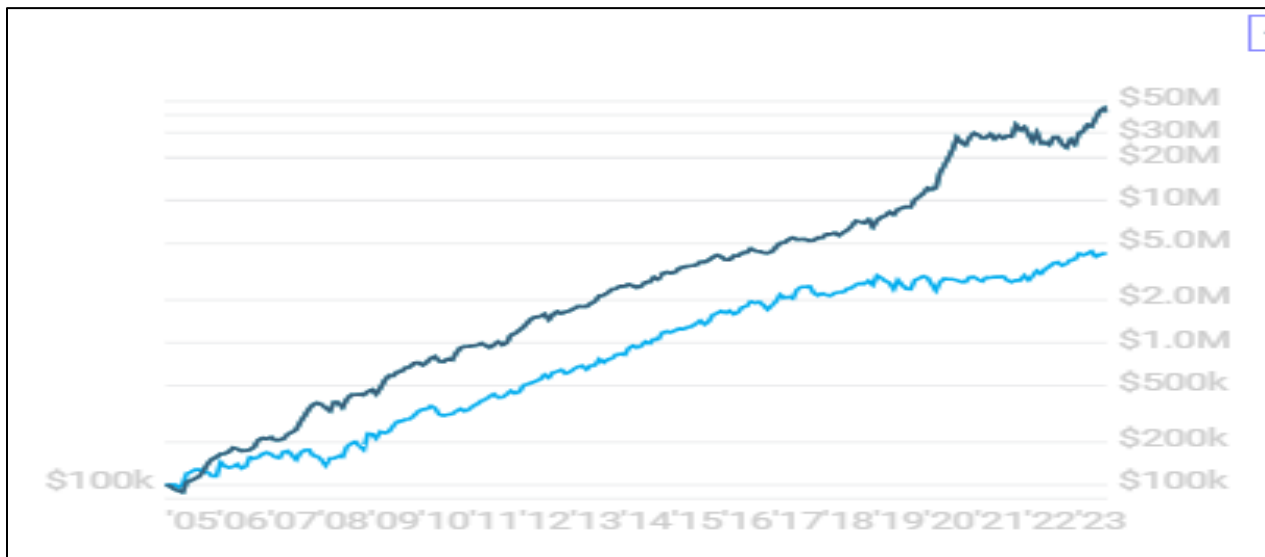
Notes:

1. Cannot Sort on the Portfolio Columns. Need to add CALMAR column and allow sorting with fixed header.
2. Investigate where the “Internal Comment” is used
4. The Symbol List for each Portfolio takes up a lot of space, and the fields (symbol, name) are staggered because there isn't enough space

# The NEW OmniFunds Creation Page

Show Portfolio List with Statistics and Check Boxes

OmniFund Name:



Data: (o) All ( ) 10 years ( ) 5 Years ( ) 1 Year ( ) 6 months ( ) 3 Months ( ) 1 Month ( ) YTD  
Curves: (o) Individual Portfolios ( ) Composite Curve [ ] Stock Market

Available Portfolios (2 selected):

Filter: Average Return >  Average Draw Down <  Calmar >

<input type="checkbox"/>			APR	AMD	Calmar
<input checked="" type="checkbox"/>	138	Conservative ETFs	72	10	7.2
<input checked="" type="checkbox"/>	145	Defensive Stocks	35	6	5.8
<input type="checkbox"/>	175	US Stocks	125	16	7.8
<input type="checkbox"/>	231	Bear Market ETFs	72	10	7.2
<input checked="" type="checkbox"/>	102	Tech Stocks	102	23	4.4
<input type="checkbox"/>	271	Consumer Stocks	65	5	13.0

Switching Method:

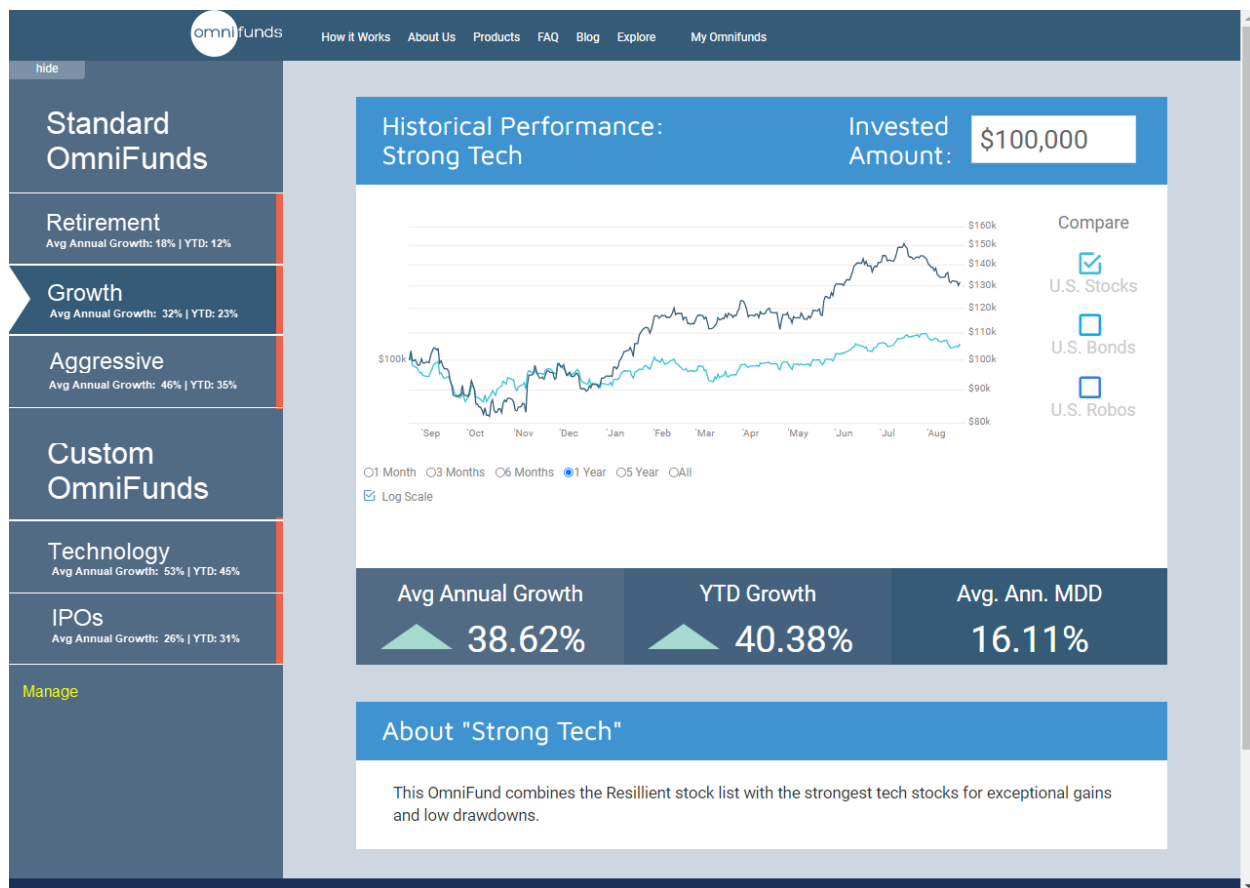
[x] Automatic

Max Portfolios to Trade:

Max Positions:

Clicking any Portfolio shows its curve in the main window or in a pop-up.

# OmniFunds Catalog Changes



- Remove Conservative-Aggressive Control.
- Provide a list of Standard OmniFunds
  - Retirement (Target 20% Return, 5% MDD)
  - Growth (Target 30% Return, 8% MDD)
  - Aggressive (Target 40%+ Return, 12% MDD)
- User (Custom) Portfolios
  - Users can select their own Portfolio mix in the Lab (as shown in the Spec), save and use them for a custom solution.

## API Project

This will be specified after we ascertain whether the target market wants to connect through an API or send users to our portal.