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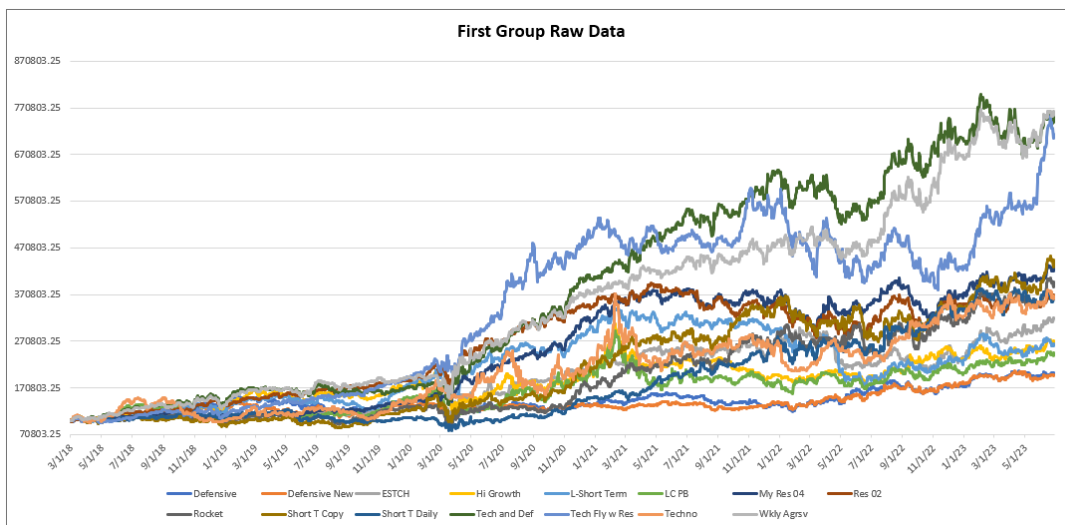
This one trades the middle 5 ranked Portfolios each week using Standard Deviation of Returns as the ranking function. **30%/year w 5% MDD**

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
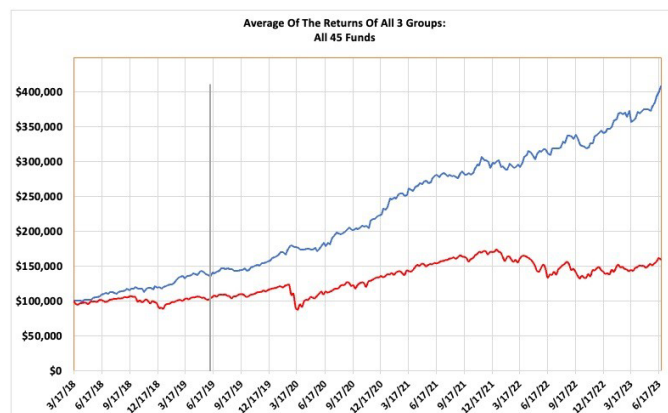
Implementation

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 inverval (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

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)

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.


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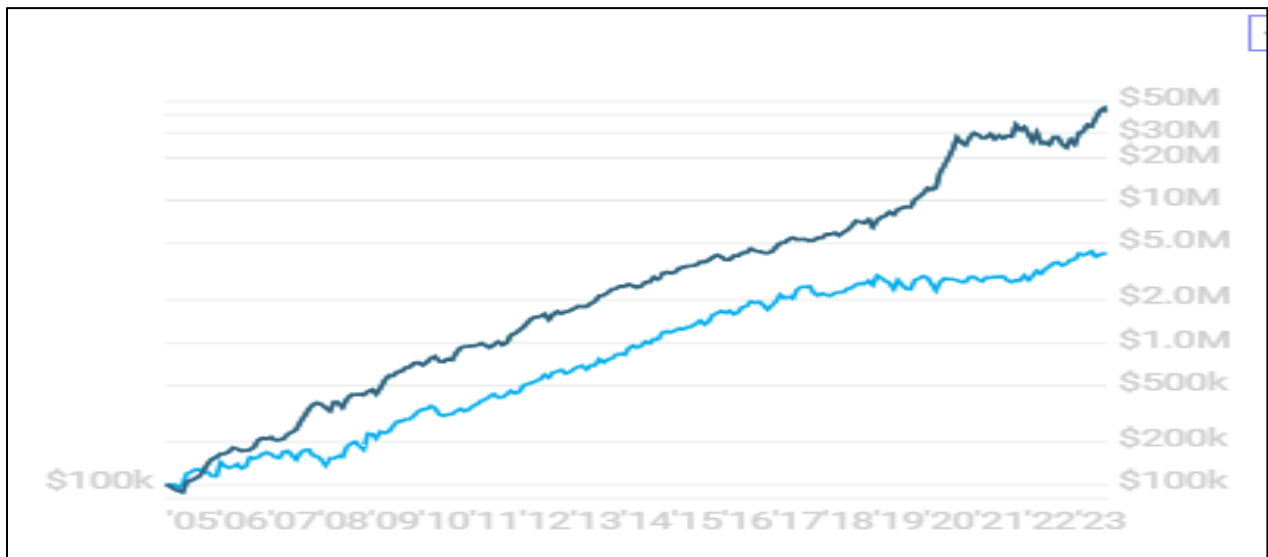
Data: (o) All ( ) 10 years   ( ) 5 Years   ( ) 1 Year   ( ) 6 months   ( ) 3 Months ( ) 1 Month   ( ) YTD
Curves: (o) Individual Portfolios   ( ) Composite Curve   [ ] Stock Market

Available Portfolios (2 selected):

Filter: Average Return > 30%   Average Draw Down < 25%   Calmar > 3.0

S	ID	Portfolio	APR	AMD	Calmar
☐	138	Conservative ETFs	72	10	7.2
☒	145	Defensive Stocks	35	6	5.8
☐	175	US Stocks	125	16	7.8
☐	132	Global ETFs	72	10	7.2
☐	231	Bear Market ETFs	102	23	4.4
☒	102	Tech Stocks	65	5	13.0
☐	271	Consumer Stocks	40	10	4.0

Switching Method: | STDev of Returns_v |
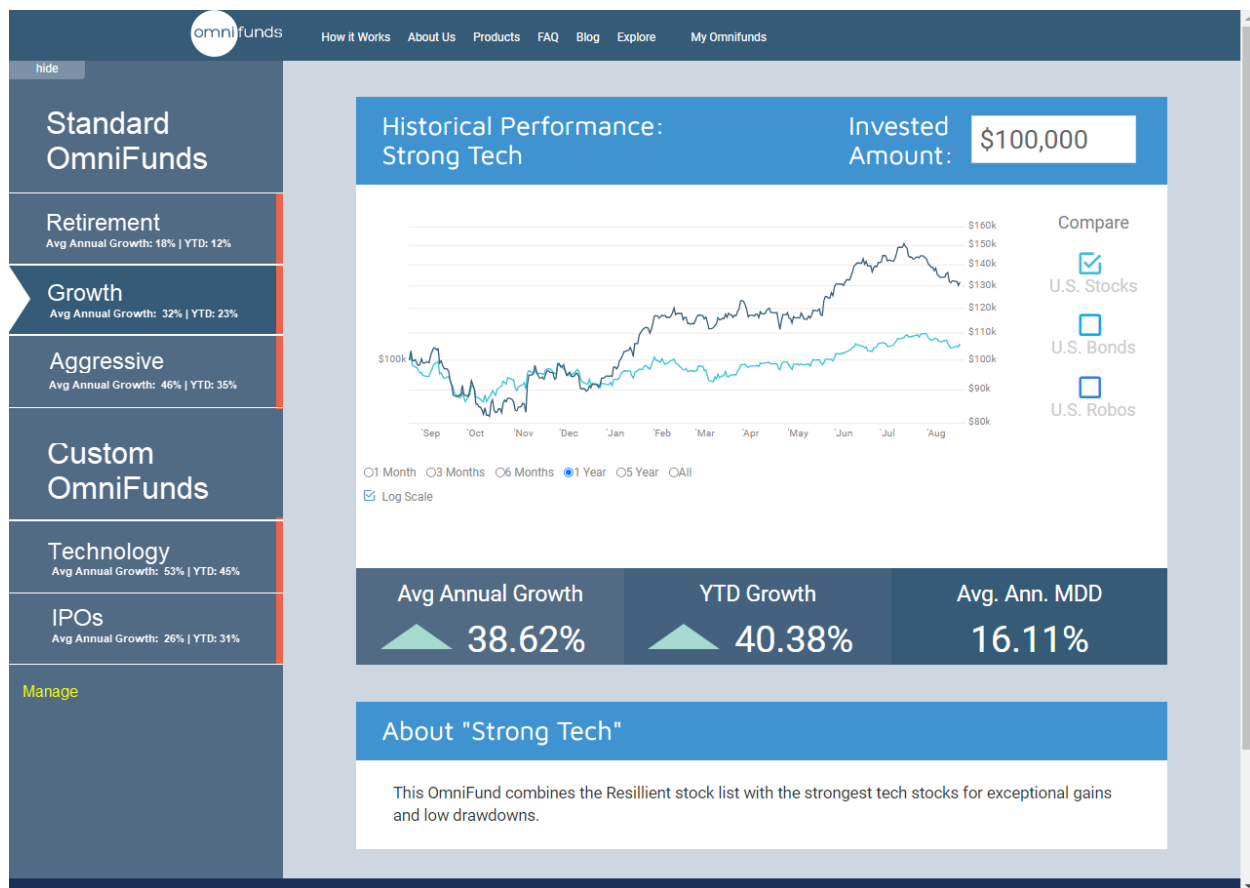
[x] Automatic

Max Portfolios to Trade: [3]

Max Positions: [20]

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

Cancel   **Save**   **Save As**

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.