MORNINGSTAR® Design System

Scaling Design At Morningstar

Brian Verhoeven, Director of Design Operations

MORNINGSTAR®

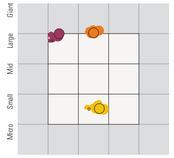
American Funds Inc Fund of Amer A AMECX

Holdings-Based Style Consistency

Start Date	End Date	Morningstar Category
2004-09-01	2007-08-31	US OE Moderate Allocation

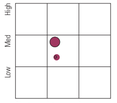
Style and Sector Trails

Equity Style



Sector Delta

Fixed Income Style

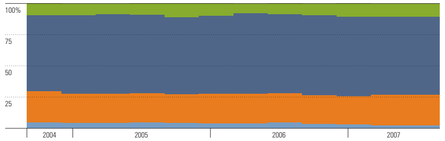


	# of Total Portfolios	Most Recent Portfolio Date
● American Funds Inc Fund of Am...	11	2007-03-31
▲ ● S&P 500 TR(B1)	36	2007-08-31
● Russell 2000 TR(B2)	36	2007-08-31

Equity Style Consistency	Subject	B1	B2
Overall Style	Medium	High	Medium
Score	9.3	5.9	15.1
Value-Growth	Medium	High	Medium
Score	12.5	8.7	16.1
Size	Medium	High	High
Score	8.8	3.7	5.8

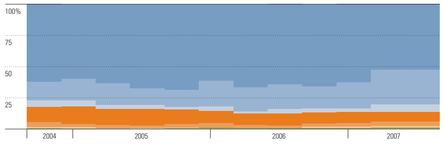
	○ Start Date	○ End Date
● American Funds Inc Fund of Amer A	2004-09-30	2007-03-31
▲ ● S&P 500 TR(B1)	2004-09-30	2007-08-31
● Russell 2000 TR(B2)	2004-09-30	2007-08-31

Asset Allocation History



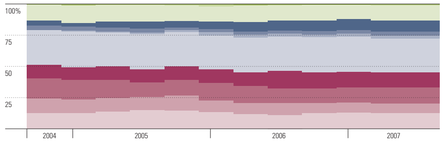
	Most Recent			Average		
	Subject	B1	B2	Subject	B1	B2
Cash	10.8	0.0	0.0	9.7	0.0	0.0
Stocks	62.3	100.0	99.9	62.9	99.9	99.9
Bonds	24.5	0.0	0.0	23.6	0.0	0.0
Other	2.4	0.0	0.1	3.8	0.1	0.0

Equity Style Allocation History



	Most Recent			Average		
	Subject	B1	B2	Subject	B1	B2
Large Value	52.4	30.9	0.0	62.3	31.9	0.0
Large Core	27.8	33.7	0.0	19.2	34.4	0.0
Large Grwth	6.2	24.7	0.0	3.8	23.8	0.0
Mid Value	7.7	3.8	1.4	10.5	3.6	4.2
Mid Core	3.5	3.8	3.3	2.8	3.8	5.1
Mid Grwth	1.5	3.0	7.4	0.7	2.4	6.4
Small Value	0.8	0.1	29.3	0.5	0.1	29.0
Small Core	0.2	0.0	31.2	0.1	0.0	29.0
Small Grwth	0.0	0.0	27.4	0.1	0.0	26.2

Equity Sector Allocation History



	Most Recent			Average		
	Subject	B1	B2	Subject	B1	B2
Hardware	0.3	10.5	8.4	0.2	9.7	8.8
Software	0.5	3.7	4.8	0.7	4.0	4.9
Media	0.5	3.2	1.6	0.3	3.7	1.7
Telecom	11.9	3.7	2.6	12.5	3.3	2.0
Health Care	9.1	11.7	11.9	6.7	12.7	11.7
Cons Svcs	3.2	7.6	9.6	2.9	8.4	9.6
Bus Svcs	2.3	4.1	11.3	1.7	3.7	10.6
Financial	27.1	20.1	20.6	27.7	21.0	21.7
Cons Goods	12.0	8.4	6.1	11.5	8.6	5.6
Materials	13.0	12.5	15.8	13.4	12.2	15.2
Energy	7.8	11.0	4.7	9.7	9.4	5.5
Utilities	12.3	3.4	2.7	12.7	3.4	2.7

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American Century Balanced Adv TWBAX

Investment Summary

Data as of	Currency	Benchmark 1	Benchmark 2
2007-08-31	USD	S&P 500 TR	Russell 2000 TR

Trailing Return

	Total Return %	+/- BM1	+/- BM2	Cat % Rank*
1 Mo	1.07	-0.43	-1.20	28
3 Mo	-2.10	1.18	4.02	51
6 Mo	3.37	-2.33	2.83	55
YTD	3.25	-1.95	1.83	73
1 Yr	9.70	-5.44	-1.67	79
3 Yr	8.30	-3.87	-6.15	79
5 Yr	8.89	-3.11	-7.70	67
10 Yr	5.55	-1.20	-2.24	70
15 Yr	7.32	-3.60	-4.20	86

* Rank date as of 2007-08-31

Ratings as of 2007-08-31

	Overall	3 Year	5 Year	10 Year
Rating	2★	2★	3★	2★
Risk	—	0.25	0.46	0.82
Return	—	3.96	5.77	1.73
# Investments Rated	876	876	665	374

Risk/Reward

Versus Benchmark 1	3 Year	5 Year	10 Year
Alpha	-0.95	0.67	-0.15
Beta	0.65	0.57	0.57
R-Squared	91.80	90.57	90.56
Tracking Error	2.99	5.17	6.87
Information Ratio	-1.29	-0.60	-0.17
Excess Return	-3.87	-3.11	-1.20

Miscellaneous	3 Year	5 Year	10 Year
Standard Deviation	4.93	6.58	8.90
Sharpe Ratio	0.84	0.90	0.20
Sortino Ratio	1.55	1.62	0.32

Manager Information

Robert V. Gahagan. Since 2001-12. B.A. U of Missouri - Kansas City. M.B.A. U of Missouri - Kansas City.

G. David MacEwen. Since 2001-05. B.A. Boston U. M.B.A. U of Delaware.

William Martin. CFA. Since 1992-05. B.S. 1986 U of Illinois.

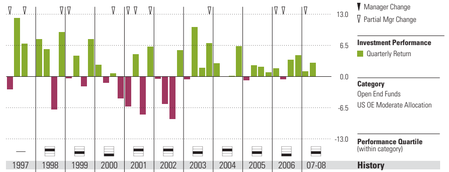
Investment Strategy

The investment seeks capital growth and current income. The fund normally invests approximately 60% of assets in equity securities and the remainder in bonds and other fixed-income securities. The fixed-income portion of the fund's portfolio is invested primarily in a diversified portfolio of high-grade government, corporate, asset-backed and similar securities payable in U.S. currency. Up to 20% of the fixed-income assets may be invested in securities rated in the fourth category by a nationally recognized statistical rating organization, and up to 15% may be invested in securities rated in the fifth category.

Operations

Minimum Initial Investment	2500
Inception Date	1997-01-06
Management Fees	Actual: 0.90% Max: 0.90%
Sales Fees	—
Firm Name	American Century Investments
Telephone	800-345-8765
Web Address	—

Performance



▼ Manager Change
▽ Partial Mgr Change

Investment Performance
■ Quarterly Return

Category
Open End Funds
US OE Moderate Allocation

Performance Quartile (within category)

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	07-08	History
	—	▬	▬	▬	▬	▬	▬	▬	▬	▬	▬	
Total Return %	16.67	16.01	9.75	-2.90	-3.95	-9.76	19.39	9.38	4.54	9.36	3.25	Total Return %
+/- Benchmark 1	-16.69	-12.57	-11.29	6.20	7.94	12.34	-9.30	-1.50	-0.37	-6.43	-1.95	+/- Benchmark 1
+/- Benchmark 2	-5.69	18.56	-11.50	0.12	-6.44	10.73	-27.87	-8.95	-0.02	-9.01	1.83	+/- Benchmark 2
Turnover Ratio %	110.00	102.00	128.00	85.00	107.00	108.00	133.00	204.00	206.00	197.00	197.00	Turnover Ratio %
Share Class Assets (mil)	6	7	11	18	18	14	17	17	16	16	13	Share Class Assets (mil)
Expense Ratio	1.25	1.25	1.25	1.22	1.15	1.15	1.15	1.15	1.15	1.15	1.15	Expense Ratio
Stock %	60.15	56.87	60.12	58.82	57.84	56.91	57.63	53.35	56.90	48.86	46.93	Stock %
Bond %	36.81	37.84	36.39	37.51	36.82	37.20	36.83	42.35	39.91	49.97	31.78	Bond %

Holding Analysis as of 2007-06-30

Composition

	%	#
Cash	21.3	—
Stocks	46.9	121
Bonds	31.8	217
Other	0.0	—
Total	100.0	355

Equity Style %

28	22	19
8	10	10
1	1	1

Lg Mid Sm
Val Core Grth

Market Cap	%
Giant	43.2
Large	26.7
Mid	28.4
Small	1.7
Micro	0.0
Avg Market Cap (mil)	32,911.2

Measures	%	Growth Factors	%
Price/Earnings	13.96	LT Earn Gr	10.18
Price/Book	2.86	Hist Earn Gr	25.38
Price/Sales	1.25	Book Val Gr	10.50
Price/Cash Flow	8.41	Sales Gr	11.46
Dividend Yield	1.38	Cash Flow Gr	20.88

Fixed Income Style

Avg Eff Duration†	5.1 Yrs
Avg Eff Maturity†	7.8 Yrs
Avg Credit Quality†	AAA
Avg Wtd Coupon†	5.34%
Avg Wtd Price	88.56

† as of 2007-06-30

Credit Rating Breakdown	%	Maturity Breakdown	%
AAA	84.5	1-3	8.5
AA	3.6	3-5	10.3
A	4.6	5-7	5.5
BBB	7.1	7-10	14.9
BB	0.2	10-15	7.3
B or below B	0.0	15-20	6.0
Not Rated	0.0	20-30	42.9
		30+	4.6

Top Holdings as of 2007-06-30

	Style Box	Sector	Mkt Cap (mil)	% Mkt Cap
ExxonMobil Corporation			472,519	2.48
Citigroup, Inc.			253,703	1.60
IBM			156,278	1.37
J.P. Morgan Chase & Co.			165,511	1.29
Hewlett-Packard Company			116,855	1.23
Cisco Systems, Inc.			169,084	1.19
Chevron Corporation			181,052	1.13
Morgan Stanley			88,404	1.06
Bank of America Corporation			216,963	0.93
Goldman Sachs Group, Inc.			88,536	0.92
TXU Corporation			30,901	0.92
EnCana Corporation			46,891	0.89
Walt Disney Company			67,653	0.84
Baxter International Inc.			36,706	0.82
Accenture, Ltd.			33,390	0.82
Pfizer Inc.			179,457	0.80
Lockheed Martin Corporation			39,499	0.78
General Mills, Inc.			20,235	0.77
Kroger Company			19,960	0.75
AT&T, Inc.			255,871	0.75
Top 20 holdings				21.3

Top 3 Equity Sectors	%	Rel BM1%	Rel BM2%
Financial Services	22.04	109.66	107.16
Energy	14.12	128.15	299.66
Health Care	11.85	101.05	99.58

Top 3 Fixed Income Sectors	%	Rel BM1%	Rel BM2%
Cash	40.11	—	—
US Agency	16.53	—	—
US Treasury	12.25	—	—

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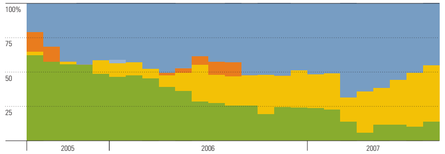
First Private Europa Aktien ULM Acc DE0009795831

Returns-Based Style Analysis

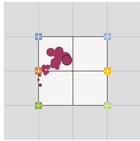
Currency	Morningstar Category
EUR	Europe OE Europe Large-Cap Value Equity

Historical Asset Class/Style Exposures: 36 Month Rolling Window

Historical Style Exposure



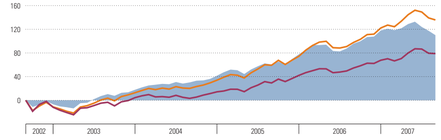
Style Trail



Summary of Historical Exposures	Most Recent	Average	Std Dev	Min	Max
DJ EURO STOXX Style Lg-Cap Val R	45.10	47.61	9.84	21.05	68.56
DJ EURO STOXX Style Lg-Cap Gr R	0.00	0.11	0.56	0.00	2.79
DJ EURO STOXX Style Md-Cap Val R	0.00	2.26	4.30	0.00	14.33
DJ EURO STOXX Style Md-Cap Gr R	41.34	18.91	11.98	0.00	41.34
DJ EURO STOXX Style Sm-Cap Val R	13.56	31.11	16.86	5.83	62.01
DJ EURO STOXX Style Sm-Cap Gr R	0.00	0.00	0.00	0.00	0.00

Cumulative and Excess Performance: Single Calculation

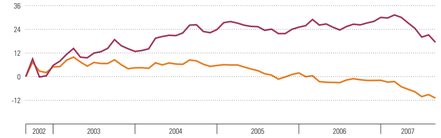
Cumulative Total Return %



	Cum Return	Annual Return	Std Dev	Sharpe Ratio
First Private Europa ...	110.01	16.00	12.65	1.05
Style Benchmark*	135.70	18.71	15.83	1.01
DJ Euro Stoxx 50 TR ...	78.83	12.33	17.20	0.56

Notes
*Style Benchmark is defined as the weighted average of all style indexes used in the calculation.

Cumulative Excess Return % Relative to Benchmarks



From 2002-09 to 2007-08	Cum Excess	Annual Excess	Info Ratio	Track Error
Style Benchmark	-25.69	-2.71	-0.46	5.90
DJ Euro Stoxx 50 TR ...	31.17	3.67	0.43	8.52
Most Recent 36 months				
Style Benchmark	-34.98	-7.93	-1.96	4.04
DJ Euro Stoxx 50 TR ...	-11.89	-2.81	-0.52	5.43

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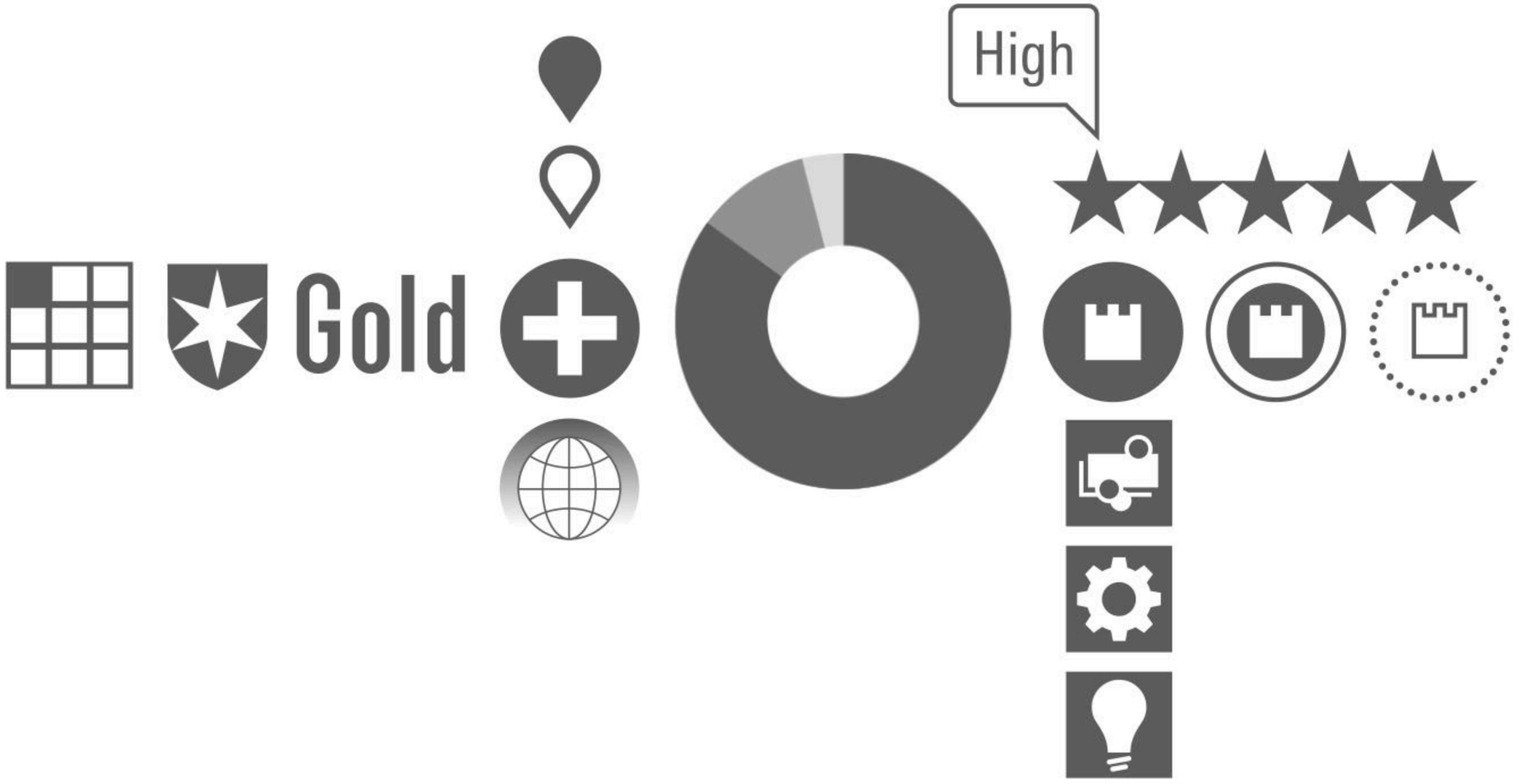
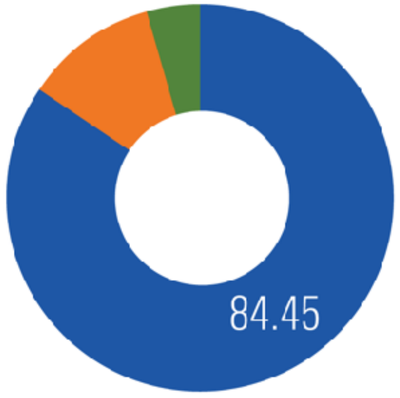
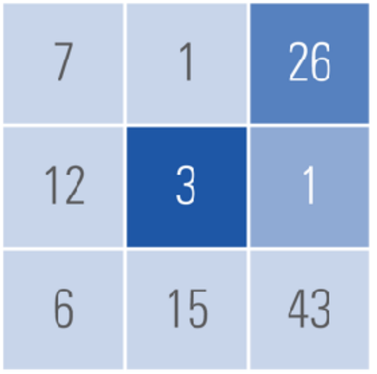
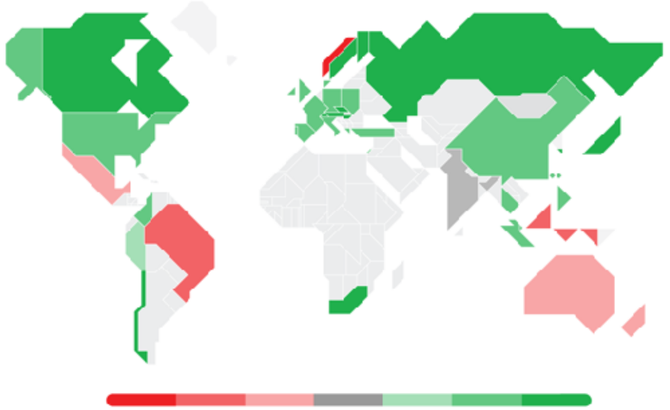

Gold
High

ABC Fund
Gold
Large Blend
Russell 1000 TR
Performance
Positive
Process
Positive
People
Positive
Parent
Positive
Price
Negative
Analysis
Oakmark stays true to strategy, not style.
Intraday Price
Historical Price
Time & Sales
Latest News
Morningstar's Take
Wall Street Recomm
Splits
Earnings
Dividend
Recent Dividends
Purchase Options
Competitors
MacBook Pro







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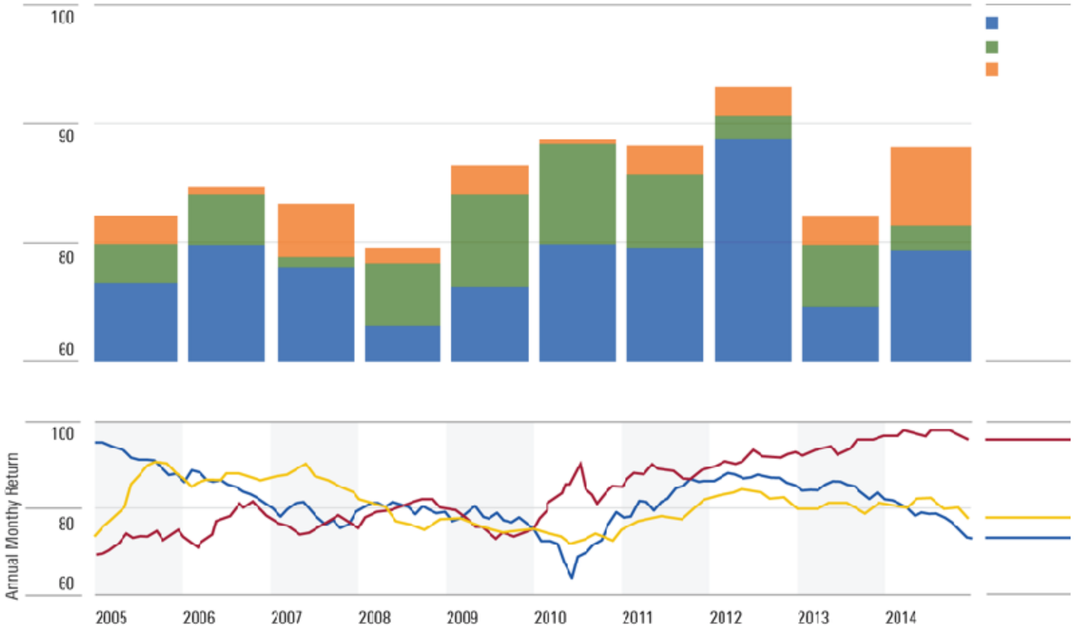
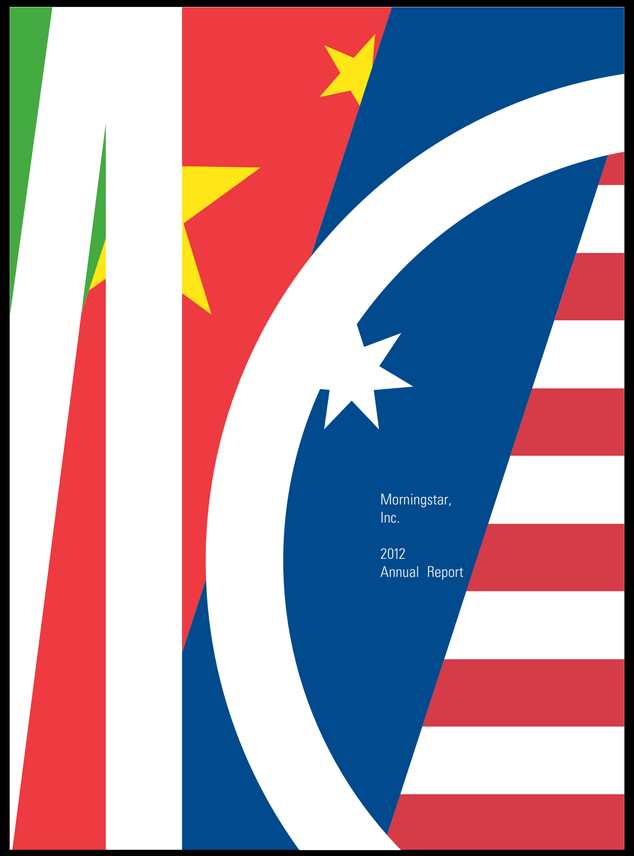
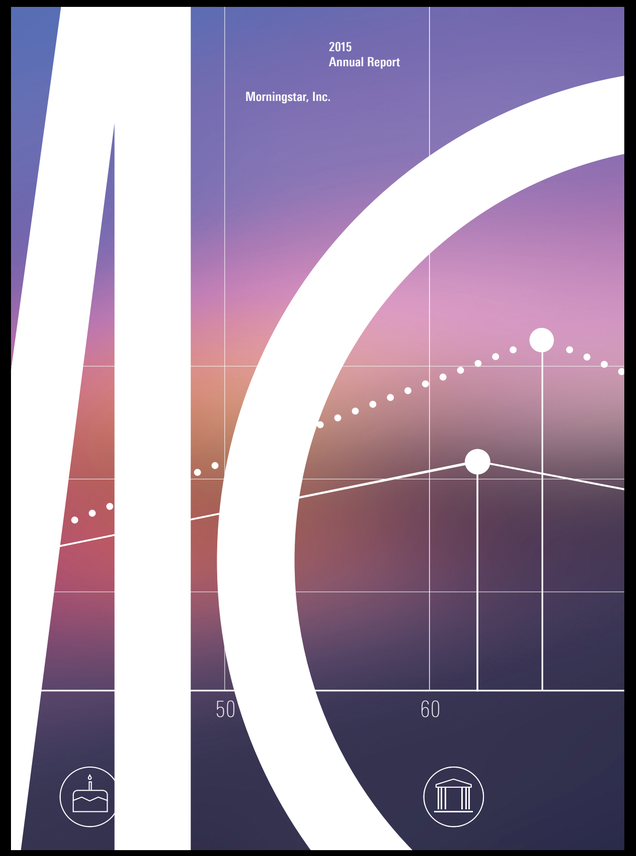


2008
Annual Report
Morningstar,
Inc.


Morningstar,
Inc.
2012
Annual Report


2015
Annual Report
Morningstar, Inc.
50
60

Fund News

Fact Check

Neuberger & Berman filed for an initial public offering. The offering is expected to take place this fall and will leave Neuberger & Berman's principals with an 85% ownership stake.

Paul Baran, one of the managers featured in June's "Earning Their Keep," left Wachovia Growth & Income for Ivy Mackenzie.

Vanguard/Trustees merged into **Vanguard Growth and Income.**

American International Group agreed to acquire SunAmerica in a stock swap worth $18 billion.

A Bigger Heartland

The $1.8 billion **Heartland Value,** closed since 1995, is reopening to new investors in November. The fund suffered more than $146 million in net cash outflows between January and July as small-cap strategies have taken a beating—the fund was down 19% for the year-to-date through August. But manager Bill Nasgovitz said he's looking for a rebound. "This is the worst I've seen small-cap stocks," Nasgovitz told Morningstar. "I'm getting ready for a resurgence." The fund has a $25,000 minimum for most new investments, but IRAs can be opened for a modest $500.

If shareholders approve, Heartland Value will also swallow $127 million Heartland Small Cap Contrarian, effectively burying Contrarian's poor record. The latter is down 26% year to date through August. Following the merger Value will have $1.9 billion in assets. It is already the third largest small-value fund, and Nasgovitz may have to take more positions—he already holds 337 names—or buy bigger stocks if the fund grows much larger. Coincidentally, the fund raised its market cap ceilings from $500 million to $750 million just last month.

That's the Way You Do It

On August 19, **Weitz Hickory** closed without warning, a move we heartily applaud. Hickory's category topping three- and five-year performances led to massive inflows: Assets exploded from $20 million to more than $900 million between January and August. By not notifying investors of its plans ahead of time, Hickory didn't get swamped with even more cash and maintained its reasonably small size.

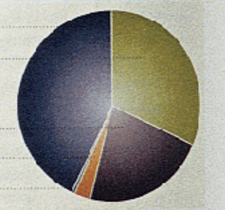
"One reason I wanted to close the fund," said manager Rick Lawson, "is that I tend to concentrate and buy small companies. I can't do that forever if the assets keep growing." Current investors will still be able to purchase shares for their accounts, as will 401(k) participants and advisors with more than $1 million invested in the fund.

Sold!

Jean-Marie Eveillard has a new boss. Liberty Financial will buy the SoGen funds, which include **SoGen International, SoGen Overseas,** and SoGen Gold, from French bank Societe Generale for $216 million. Shareholders don't have to worry about Eveillard taking off anytime soon, though. He and comanagers Elizabeth Tobin and Charles de Vaulx have each signed five-year contracts. Tobin also says expense ratios on the funds will remain the same for now, but that the funds' names will change.

Two important questions remain unanswered. For starters, it's unclear how large Liberty will allow the funds to grow. Eveillard has voiced concern about rapid asset growth and has closed SoGen International in the past. But Liberty indicated it would like to bulk up the funds' assets by selling them through its broker network. Also up in the air is whether or not Liberty will hike the funds' 3.75% loads to bring them in line with the 4.75% to 5.75% commissions its other funds charge.

Fund Family	Mutual Fund Assets ($Billions)
Colonial	9.3
Stein Roe	6.9
SoGen	4.7
Newport	0.9
Crabbe Huson	0.6



Shaking the Tree

At **Sequoia**'s annual shareholder meeting, comanager Richard Cunniff said he planned to "float off to the perhaps dignified but amorphous role of vice chairman," a statement that might lead one to assume his retirement is imminent. But a Sequoia spokesperson insists Cunniff will continue to work on the fund. Meanwhile, partner Bill Ruane said he plans to continue "thinking about stocks" in his new role as chairman of the fund.

Late-Breaking News

Oakmark Small Cap reopened to new investors on September 1. The fund closed in June 1997 at $750 million. Oakmark would not specify what the fund's current asset level is.

In our eyes, that leaves longtime associate Robert Goldfarb, who was named Sequoia's new president, as lead portfolio manager. The changing of the guard shouldn't have much of an impact on the fund, though: Goldfarb has been working on the Sequoia team for 26 years.

Taxing Matters

Clipper shareholders received a bit of a surprise in the mail: a midyear capital gains distribution of more than $10 a share. **Oakmark Fund** and **Oakmark Small Cap** also payed out modest distributions in early August. Receiving the payout now should give shareholders a jump start on their taxes. If need be, they can offset the gain with losses elsewhere in their portfolios.

But we're sad to see current investors weren't the only people on Clipper's and Oakmark's mind when they made these distributions. In a letter to shareholders, for example, Clipper explained that the substantial pay out also benefits "future Clipper Fund shareholders who otherwise would be purchasing a significant tax liability."

New Opportunities

Investors will soon have greater access to BEA's international and growth expertise. As a result of its joint venture with Warburg Pincus, 11 existing BEA funds will be rebranded under the Warburg Pincus moniker, subject to shareholder approval. Of those funds, only four have been available to the public in the retail format before. Among the funds switching to the Warburg Pincus brand are BEA Institutional International Equity and BEA Institutional High-Yield, both of which land in the top quintile of their categories for the trailing 12-month period.

While Warburg Pincus already has an international equity offering, "The new fund will be distinct," says Warburg Pincus spokeswoman Leslie Mayock. "The top-down, macroeconomic focus of the BEA funds is substantially different from Warburg Pincus' fundamental investment approach." Warburg Pincus also plans to introduce two new European funds that Credit Suisse will manage. MI

Fund Screen: Funds with the Most Russian Exposure

Fund	% of Assets in Russia	Year to Date Return %
Lexington Troika Dialog Russia	79.7	-60.6
Lindner International Investor	14.8	-28.7
Vontobel Eastern European Equity	14.0	-40.3
Regent Eastern European	10.2	-28.8
AIM Developing Markets A	7.5	-30.4
Morgan Stanley Institutional Emerging Markets A	7.3	-28.4
Van Kampen Emerging Markets A	7.1	-29.1
Hansberger Institutional Emerging Markets	6.9	-29.1
GMO Emerging Markets III	6.6	-25.3
GMO Evolving Countries III	6.4	-28.5

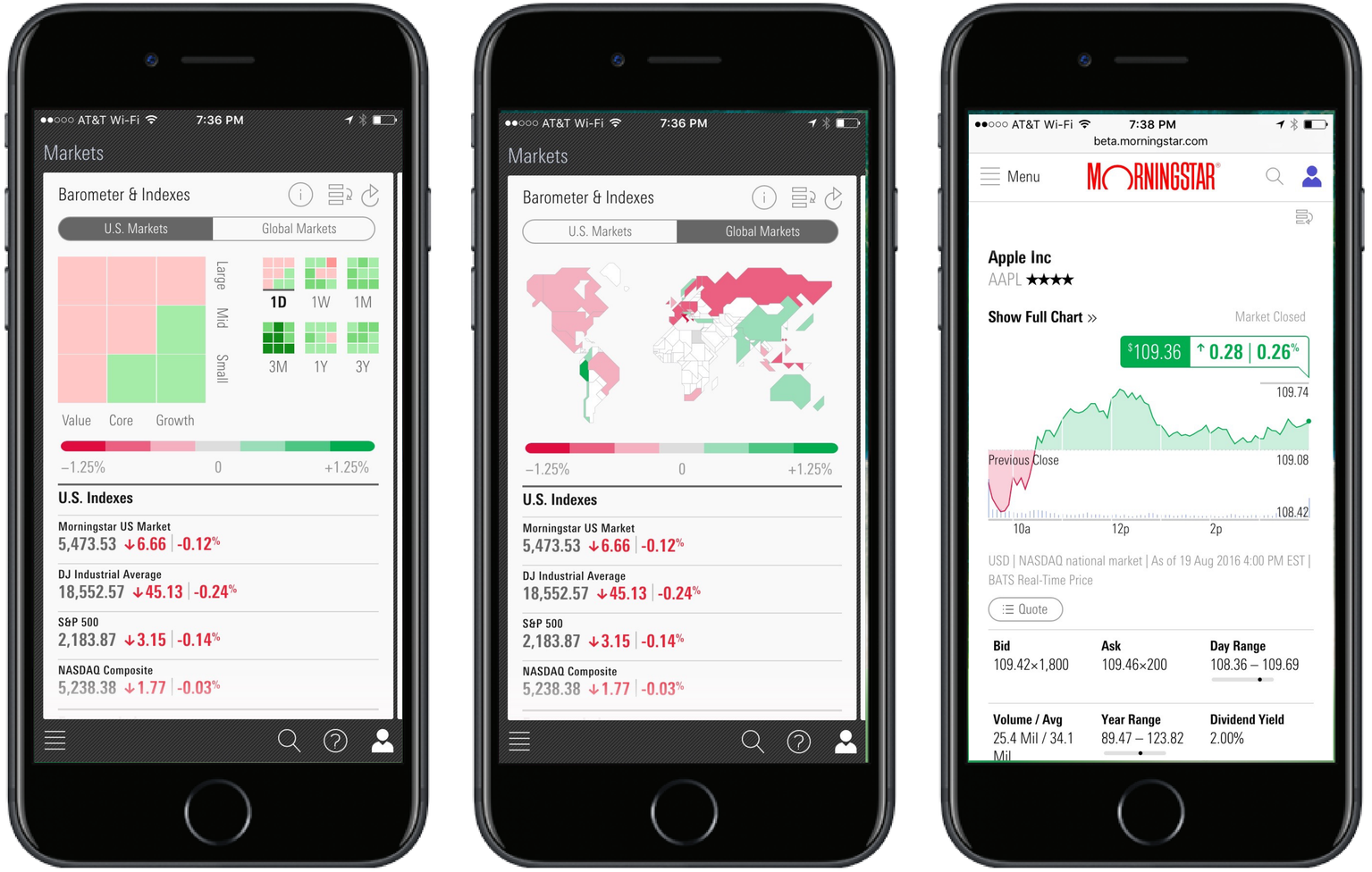
Note: % of assets in Russia from most-recent portfolios. Return data through August 31, 1998. Only open-end funds listed.

Russian securities haven't been too kind to investors this year. No wonder: The country has devalued its currency and defaulted on its debt.

New Fund Roundup

Fund	Barr Rosenberg Select Sector Market Neutral
Managers	Barr Rosenberg, Marlis Fritz, and Kenneth Reid
Comment	Managers will buy undervalued stocks screened from the 500 largest U.S. companies and will short sell stocks they find are overvalued. Managers may also overweight or underweight sectors.
Funds	Nicholas-Applegate Global Technology; Nicholas-Applegate Large Cap Value
Managers	Management Teams
Comment	Global Technology invests at least 65% of its assets in technology-related companies in at least three countries including the U.S.; Large Cap Value looks for stocks with attractive valuations, below-average risk, and improving business prospects.
Fund	Scudder Corporate Bond
Managers	Stephen Wohler, Kelly Babson, and Robert Gessine
Comment	Managers will invest in investment-grade and, to a lesser extent, high-yield corporate bonds.
Fund	UAM ISI Small Cap Value
Managers	Ronald McCullough, Robert Stephenson, and Scott Fitz
Comment	Fund looks for undervalued Russell 2000-sized firms undergoing positive change, such as offering a new product or hiring new management.

iPad
4:21 PM
100%
Jane Doe | Discretionary
Portfolio X-Ray
Asset Allocation
U.S. Stocks
51.42
% Net
Non-U.S. Stocks 38.65
Bond 17.15
Cash 2.41
Other 2.00
Not classified 0.44
Stock Regions
Americas
50.27
% Weight
North America 33.43
Latin America 7.81
Stock Sectors
Cyclical
43.32%
31.12%
% Weight Benchmark
Consumer Cyclical 32.87 10.66
Financial Services 4.94 15.23
Basic Materials 4.01 3.39
Real Estate 1.50 1.85
Stock Style
Large Growth
23.48%
% Weight
0 10 25 50 >
17 21 23 Large
6 8 13 Med
2 5 5 Small
Value Core Growth
Fixed Income Style
Medium Extensive
41.85%
% Weight
0 10 25 50 >
17 21 23 High
6 8 13 Med
2 5 5 Low
Ltd Mod Ext
Sensitive
22.55%
42.39%
% Weight Benchmark
Technology 7.61 16.94
Industrials 5.68 11.35
Energy 2.50 10.12
Communication Services 0.99 3.97
Stock Stats
Price/Prospective Earnings
12.40
11.02
Portfolio Benchmark
Price/Book Ratio 1.23 0.83
Price/Sales Ratio 1.45 1.05
Price/Cash Flow Ratio 7.89 6.71
Return on Equity (ROE) 20.47 18.63
Return on Assets (ROA) 11.93 13.72
Fees & Expenses
Potential Cap Gains Exposure
1.14%
Avg Net Expense Ratio $18,728.81
Avg Gross Expense Ratio $10.00
Defensive
39.91%
26.49%
% Weight Benchmark
Consumer Defensive 37.00 10.21
Healthcare 2.42 13.22
Utilities 0.49 3.07
Not Classified: 0.00%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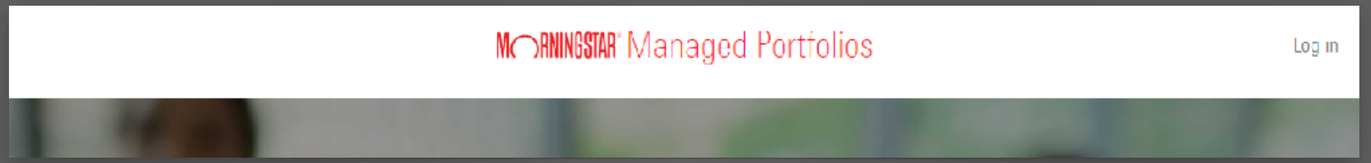
Markets
Barometer & Indexes
U.S. Markets
Global Markets
Large
Mid
Small
1D
1W
1M
3M
1Y
3Y
Value
Core
Growth
–1.25%
0
+1.25%
U.S. Indexes
Morningstar US Market
5,473.53 ↓6.66 | -0.12%
DJ Industrial Average
18,552.57 ↓45.13 | -0.24%
S&P 500
2,183.87 ↓3.15 | -0.14%
NASDAQ Composite
5,238.38 ↓1.77 | -0.03%
●●○○○ AT&T Wi-Fi 7:36 PM
Markets
Barometer & Indexes
U.S. Markets
Global Markets
–1.25%
0
+1.25%
U.S. Indexes
Morningstar US Market
5,473.53 ↓6.66 | -0.12%
DJ Industrial Average
18,552.57 ↓45.13 | -0.24%
S&P 500
2,183.87 ↓3.15 | -0.14%
NASDAQ Composite
5,238.38 ↓1.77 | -0.03%
●●○○○ AT&T Wi-Fi 7:38 PM
beta.morningstar.com
Menu
MORNINGSTAR
Apple Inc
AAPL ★★★★
Show Full Chart »
Market Closed
$109.36 ↑0.28 | 0.26%
109.74
Previous Close
109.08
108.42
10a
12p
2p
USD | NASDAQ national market | As of 19 Aug 2016 4:00 PM EST | BATS Real-Time Price
Quote
Bid
109.42×1,800
Ask
109.46×200
Day Range
108.36 – 109.69
Volume / Avg
25.4 Mil / 34.1 Mil
Year Range
89.47 – 123.82
Dividend Yield
2.00%

**“Design has been a huge part of our success.
It has transformed good products into great products
and given us a distinctive edge over the competition.“**

—Joe Mansueto, founder and Chairman.

How do you scale design?

MORNINGSTAR
IBM
salesforce
Spotify
airbnb
Office
CapitalOne
Google
Audi
BBC
shopify

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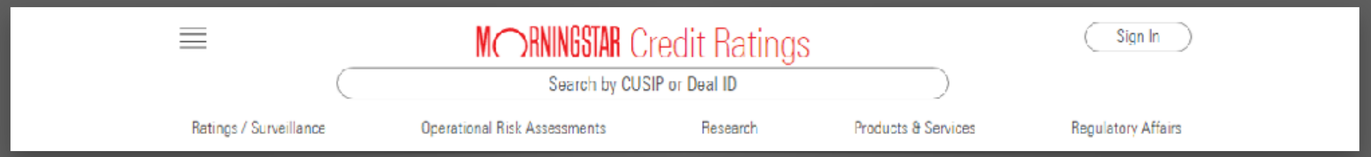


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<link href="/MCR/Content/css/mstarcr/mstar_override.css?v=06152016" rel="st
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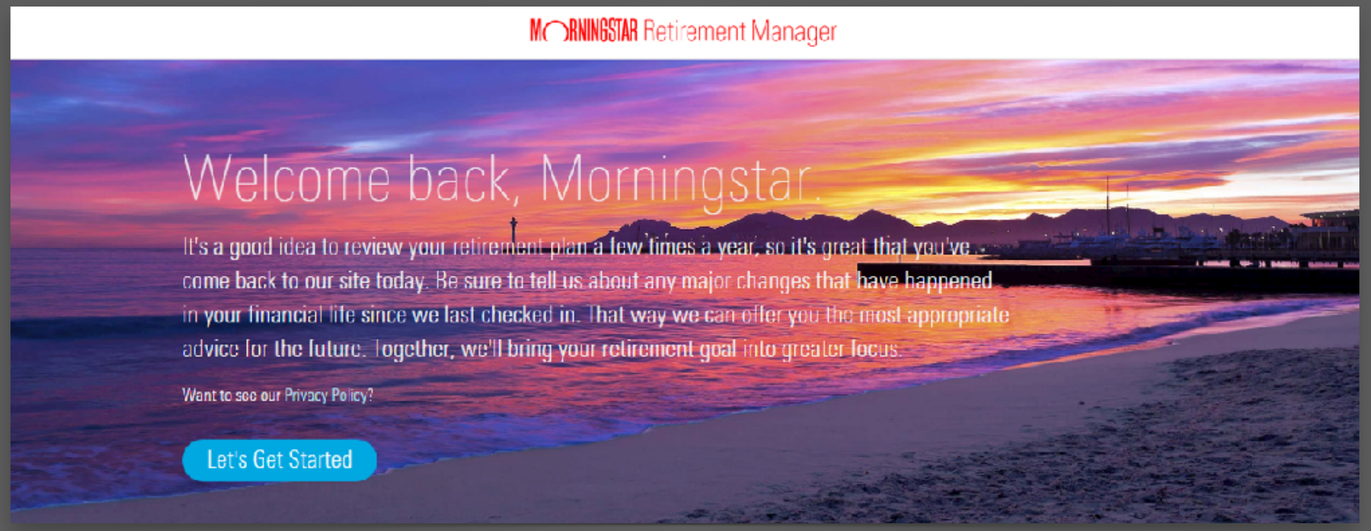


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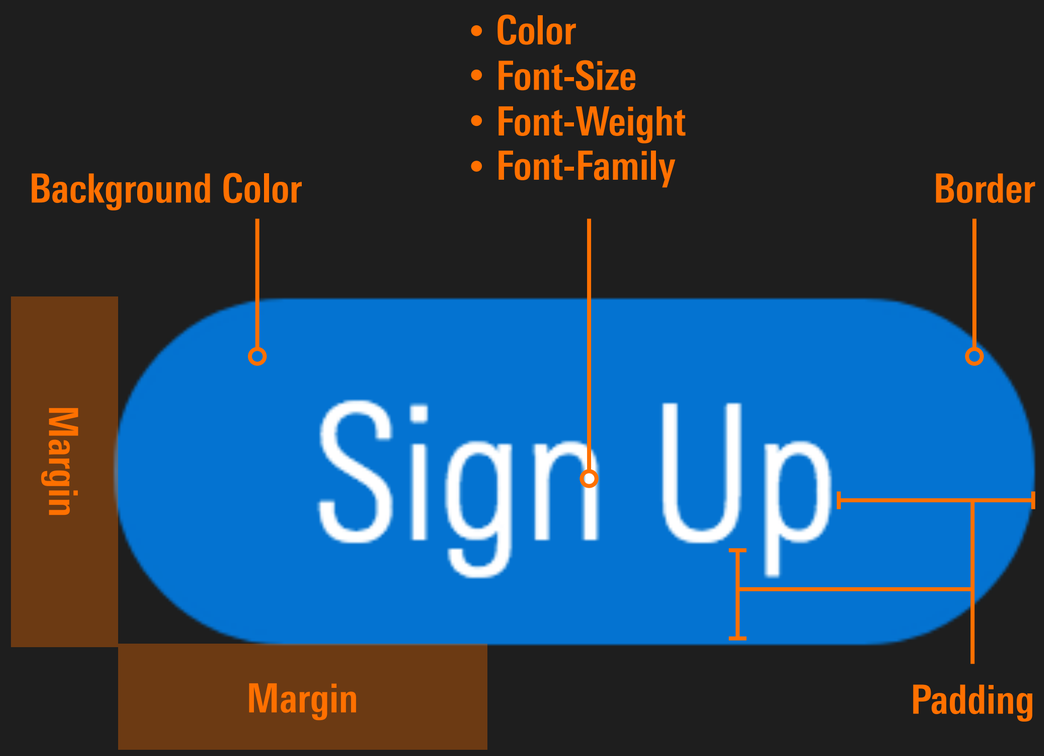
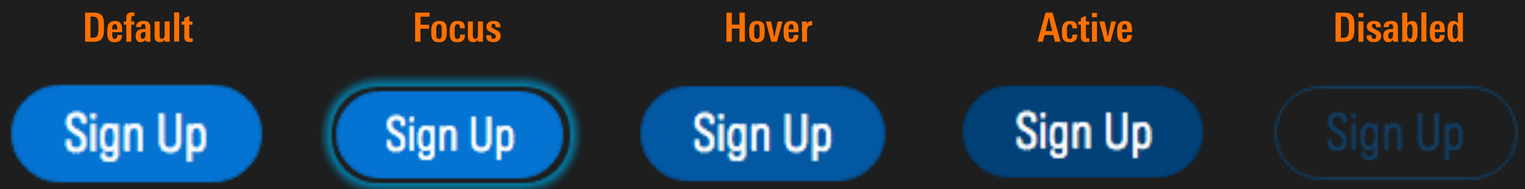
<link href="/css/app.min.css" rel="stylesheet">
<link href="/css/print.min.css" media="print" rel="stylesheet">
```

Buttons

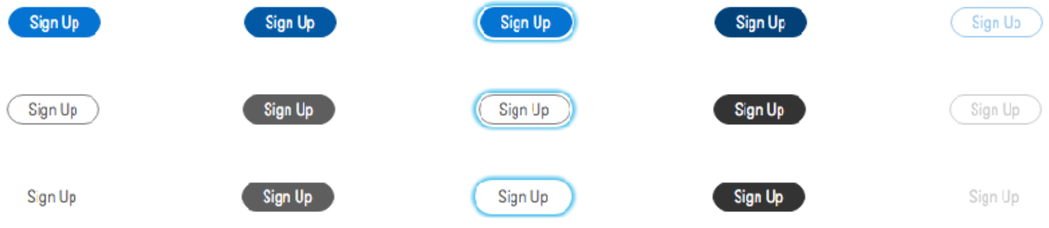

• Color
• Font-Size
• Font-Weight
• Font-Family
Background Color
Border Radius
Margin
Sign Up
Margin
Padding

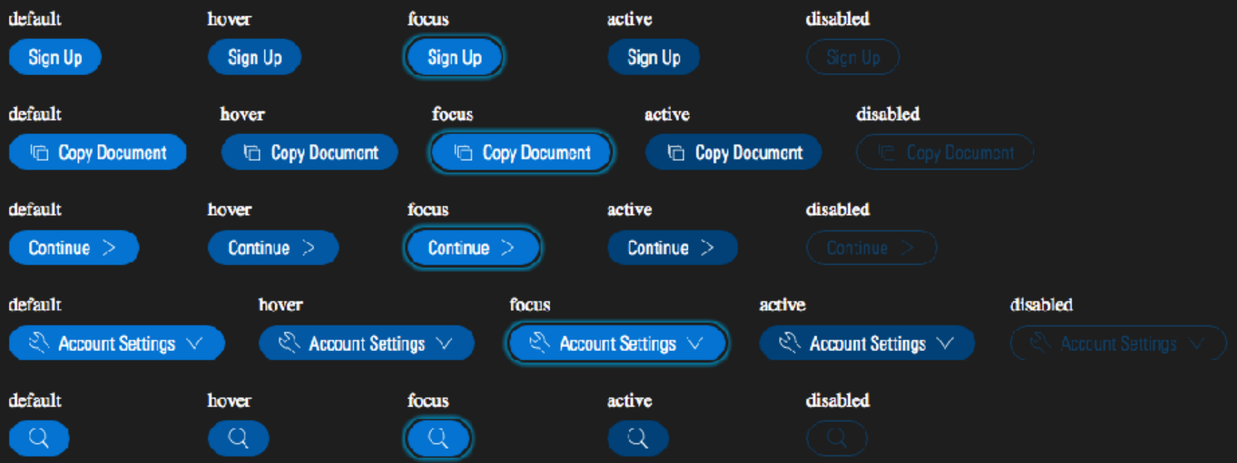

Default
Focus
Hover
Active
Disabled
Sign Up
Sign Up
Sign Up
Sign Up
Sign Up

Buttons are Complex

Large

Small





Design systems solve easier problems so that product teams solve harder problems.

The Morningstar Design System is a collection of brand, visual, UX and technical standards built into an HTML & CSS framework so that products can quickly build accessible, high-quality, consistent experiences.

Visual Style

Color

Typography

Univers **Univers** Univers

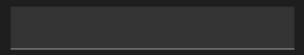
Space

Iconography

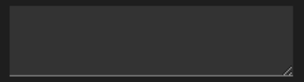
Components in MDS

Button

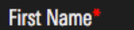
Textbox



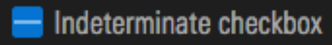
Text Area



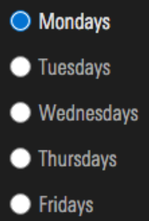
Form Label



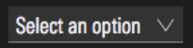
Checkbox



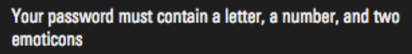
Radio Buttons



Select Box

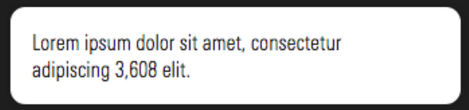


Microcopy

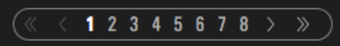


Range Slider

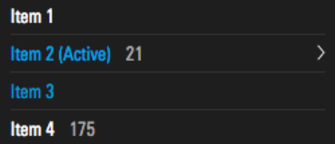
Notification



Pagination



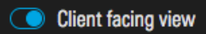
List Groups



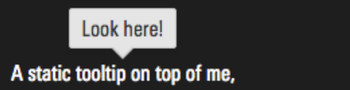
Data Tables

Ticker	Price($)	Selected Column	Content Test
FSHBX	8.60	0	The fox jumps
HAINX	60.32	-0.59	The fox jumps
HABDX	11.47	0.44	The fox jumps

Switches



Tooltips



Done by v1.0

Popovers

Modals

Dialogs

Combo Box

Loaders

Dropdown

Forms

Email (Optional)
If you provide your email address we'll send a receipt for your purchase

Best Time to Contact You? (Optional)
- (•) Choose this one
- ( ) Choose this one

Street

City | State | ZIP
CA

- [x] Same as billing address

Street

City | State | ZIP
CA

Special Instructions for your order which you can provide right here this label is long to test wrapping behavior (Optional)

Email (Optional)
If you provide your email address we'll send a receipt for your purchase

Best Time to Contact You? (Optional)
- (•) Choose this one
- ( ) Choose this one

Street

City | State | ZIP
CA

- [x] Same as billing address

Street

City | State | ZIP
CA

Special Instructions for your order which you can provide right here this label is long to test wrapping behavior (Optional)

Email (Optional)
If you provide your email address we'll send a receipt for your purchase

Best Time to Contact You? (Optional)
- (•) Choose this one
- ( ) Choose this one

Street

City | State | ZIP
CA

- [x] Same as billing address

Street

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CA

Special Instructions for your order which you can provide right here this label is long to test wrapping behavior (Optional)

Email (Optional)
If you provide your email address we'll send a receipt for your purchase

Best Time to Contact You? (Optional)
- (•) Choose this one
- ( ) Choose this one

Street

City | State | ZIP
CA

- [x] Same as billing address

Street

City | State | ZIP
CA

Special Instructions for your order which you can provide right here this label is long to test wrapping behavior (Optional)

Code Documentation

CSS Class References

Class	Applies to	Outcome
`.mds-button`	`<button>`, `<a>`, `<input type="submit"/>`, `<input type="button"/>`, `<input type="checkbox"/>`, `<input type="checkbox"/>`, `<input type="radio"/>`, `<div>`, or `<span>`	Applies base button styles to an element. Always couple with a variant for semantics, though a stand-alone `.mds-button` will apply the same visual treatments as `.mds-button` paired with `.mds-button--secondary`.
`.mds-button--primary`	`.mds-button`	Shows primary-styled button, to be coupled with `.mds-button`.
`.mds-button--secondary`	`.mds-button`	Shows default-styled button, to be coupled with `.mds-button`.
`.mds-button--small`	`.mds-button`	Tightens padding to render a smaller button.

Accessibility

- Use a `<button>` element type when displaying buttons.
- Include a `role="button"` attribute, although `<button>` and `<input type="button"/>` elements do not require this attribute. This declaration can make any HTML element appear as a button to a screen reader.
  - A `<div role="button">` or `<span role="button">` without a `tabindex` attribute will not receive a tabbed focus state.
  - A `<div role="button">` or `<span role="button">` cannot be triggered from a keyboard without javascript.
- An `<a>` element cannot be triggered from a [spacebar] press, only from an [enter]/[return] press
- It is expected that a button can be triggered from a [spacebar] or an [enter]/[return] press
- Always include an `aria-label` attribute on an icon button or a button with nested text that does not explicitly describe the button's intent.
  - `<button aria-label="Close" onclick="myDialog.close()">X</button>`

Design Documentation

Buttons

Use buttons to represent interactions throughout the experience.

Primary

Button Text — DEFAULT

Button Text — HOVER

Button Text — ACTIVE

Button Text — FOCUS

Copy to Clipboard

```
<button class="mds-button mds-button--primary" type="button" role="button"> Button Text </button>
```

Button Text — DISABLED

Copy to Clipboard

```
<button class="mds-button mds-button--primary" type="button" disabled role="button"> Button Text
```

- Use a primary button only for highest-priority actions that are required to complete the user's task.
- Use a primary button only once per page, though an additional primary button can appear within modals, popovers, or alerts when needed to signal critical actions.

Use When

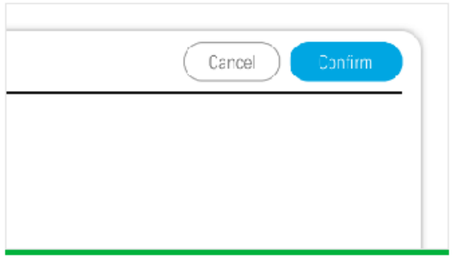
- Affording interaction to key behaviors and features.
- Confirming or submitting information entered into a form.
- Cancelling an action.
- Resetting a form or dataset.
- Closing a container or section.
- Opening a popover menu.
- Moving forward or backward through a wizard-type workflow.
- Creating an object within a group.
- Applying a non-critical action to a dataset.

Don't Use When

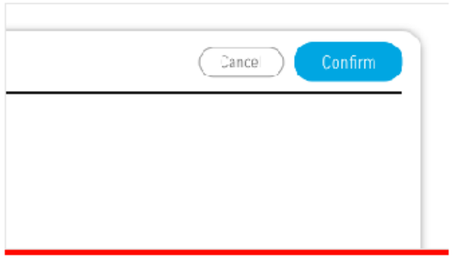
- Displaying a collection of links to sections. Use link instead.
- Linking to an external site. Use link instead.

Visual Style

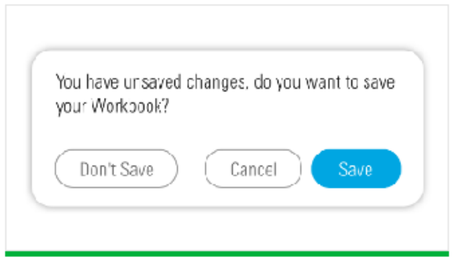
- Use an icon-only button when space is limited and the icon's meaning is unambiguous.
- Pair a tooltip with an icon-only button to reveal a label of the action.
- Use only one primary button per page. The exception is when a modal header contains a primary button and the modal content also includes a required action from the user.



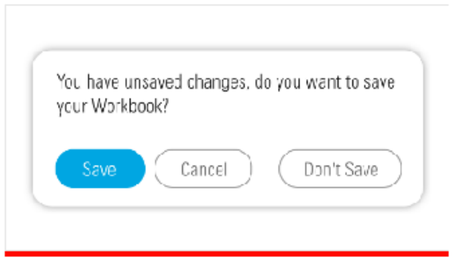
Do use the same button size for adjacent buttons.



Don't display normal and small buttons together in the same row.



Do place primary buttons to the right within a group of buttons.



Don't place primary buttons to the left within a group of buttons.

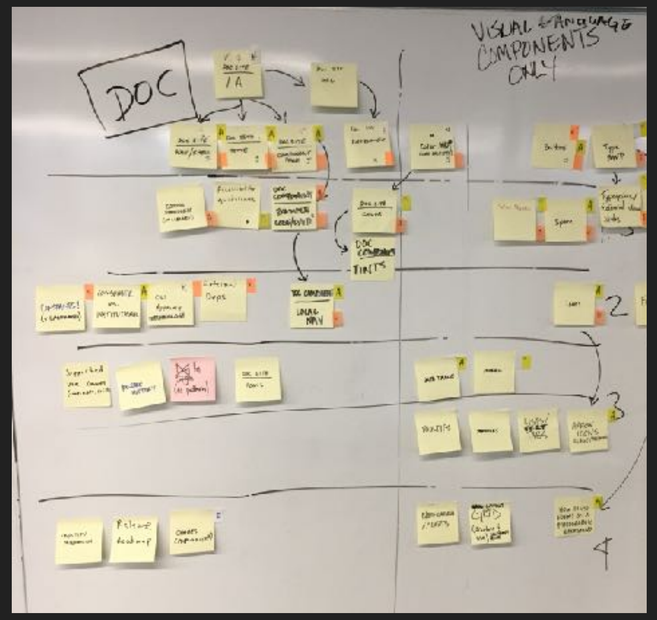
How we built our design system

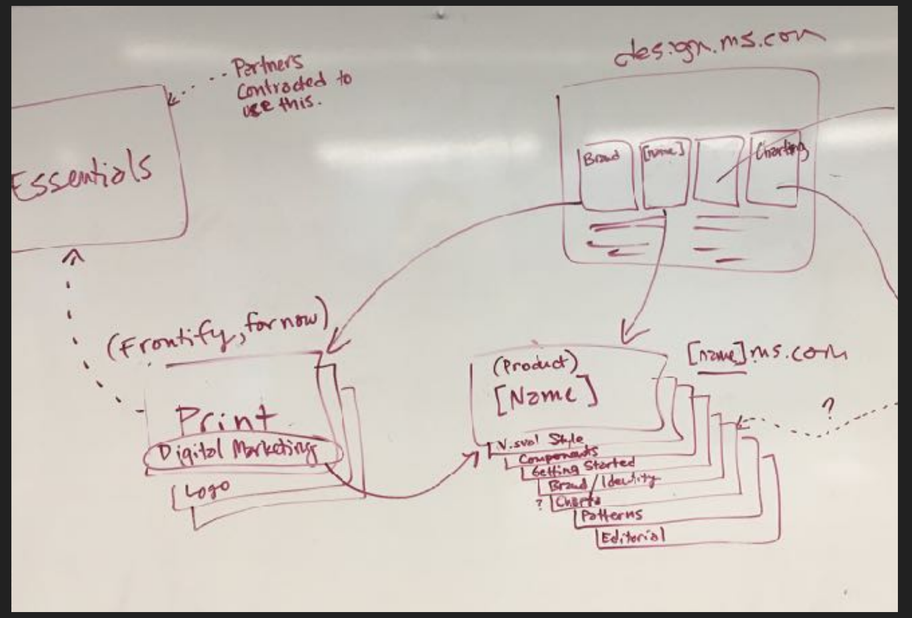
Building a Morningstar Design System, Over Time

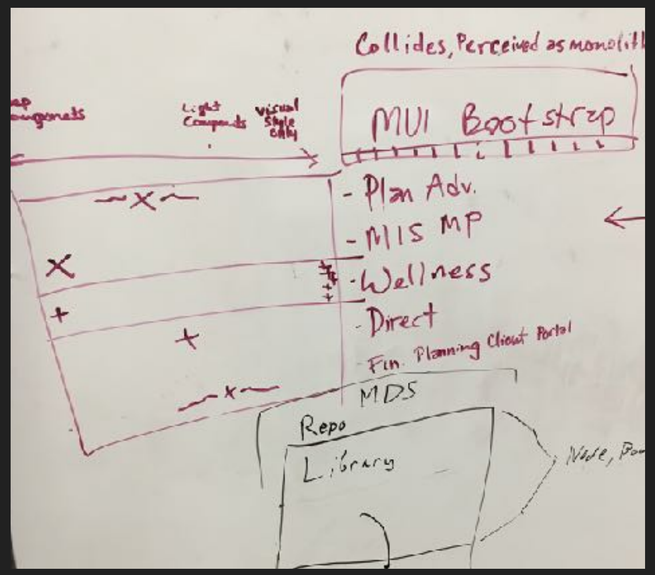
Previous Systems | **Strategy** | **v1.0.0 Release** | **1.1.0 & Beyond**

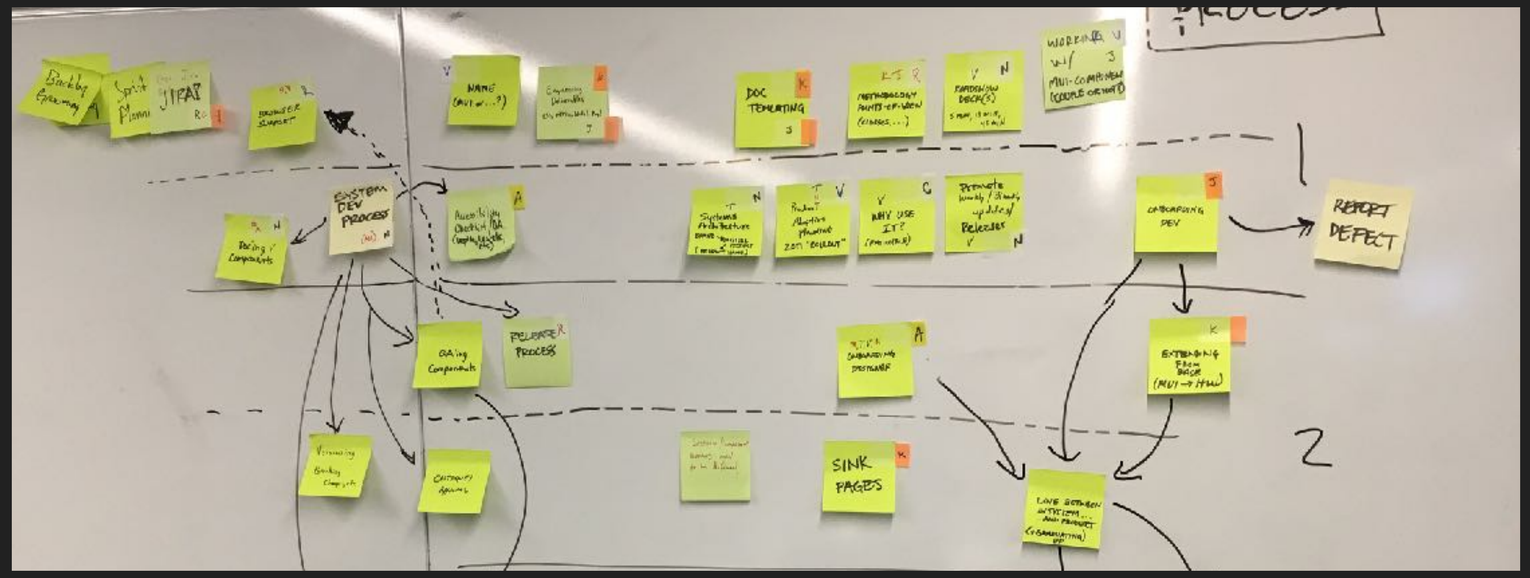
2016 2017 2018

Workshops, Interviews & Planning





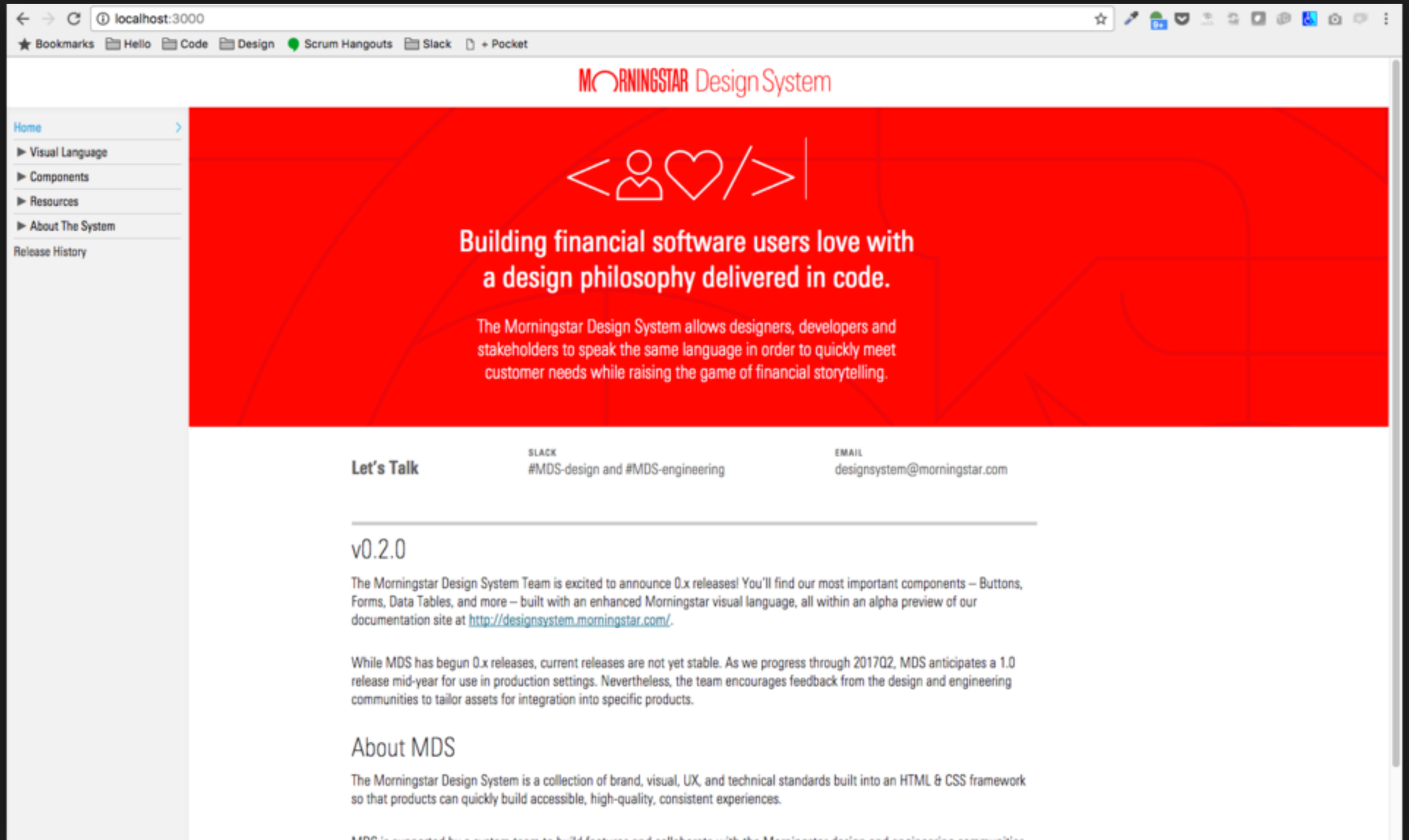




Morningstar Design System Objectives

1. Strengthen visual style and UI component to cover more products more flexibly.
2. Document a system — using the system — at a URL accessible & valuable to everyone.
3. Thread system into products incrementally.
4. Amplify sharing across products with a system team as connectors & scribes.

designsystem.morningstar.com



Strengthen visual style and UI component: V1 Release

Visual Language Sections

6

- Color
- Typography
- Iconography
- Space
- Layering
- Constants

UI Components

18

- Buttons
- Button Groups
- Combo Boxes
- Data Tables
- Dialogs
- Forms
- Links
- List Groups
- Loaders
- Menus
- Modals
- Notifications
- Pagination
- Popovers
- Range Sliders
- Search Fields
- Switches
- Tooltips

UX Patterns

1

- Errors

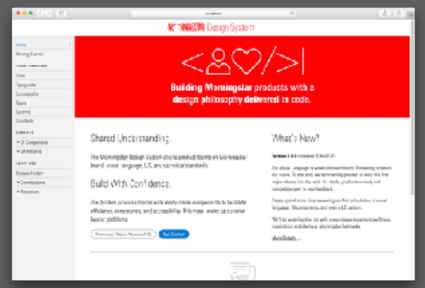
System Doc Pages

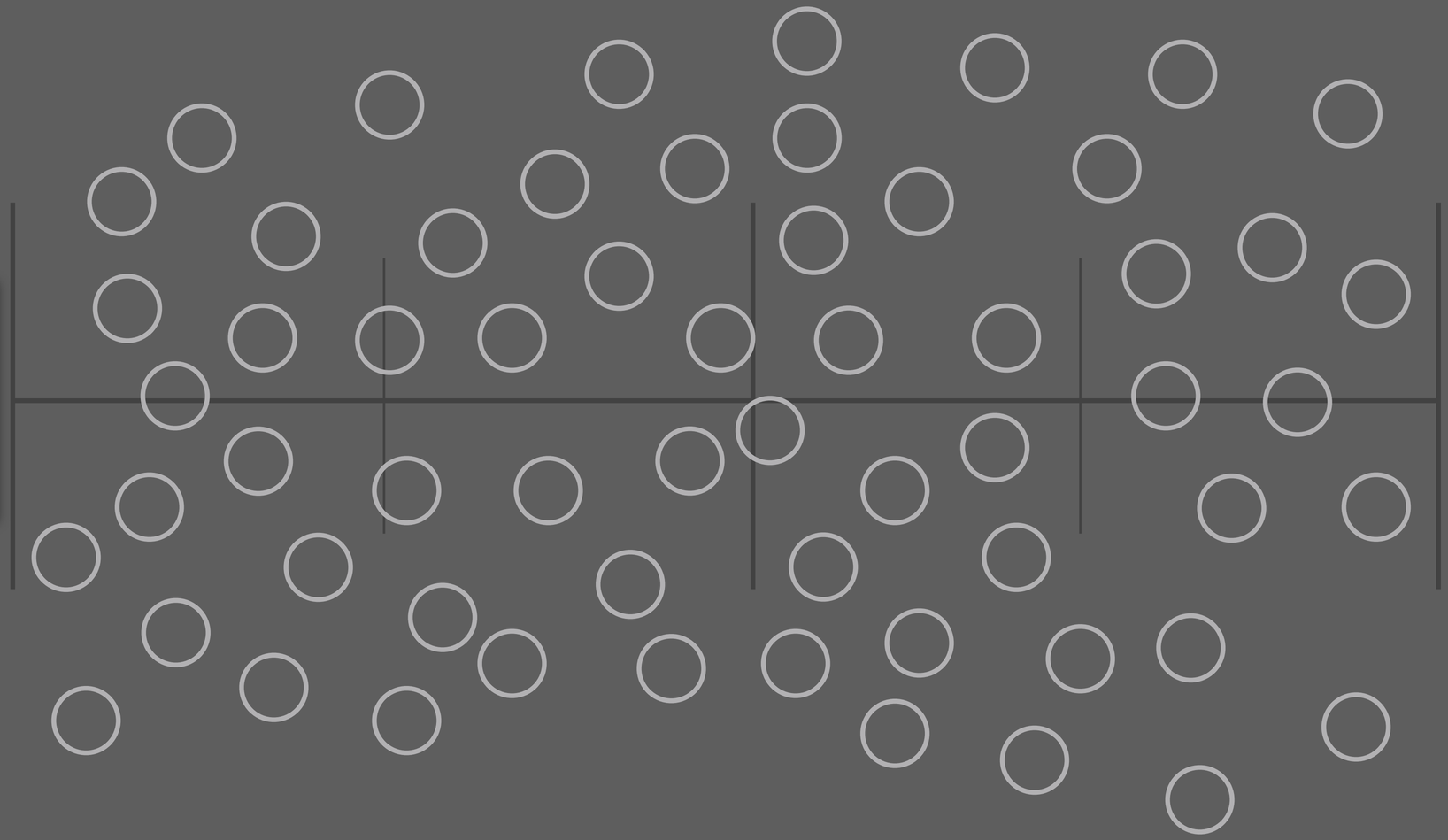
13

- Getting Started
- About MDS
- Contributions
- Development Process
- Publishing Documentation
- Coding Standards
- Accessibility
- Browser Support
- Report a Bug
- Request a New Part
- Segments
- Theming

60+ Adopting Product Squads

MDS





How to Adopt? “You choose…”

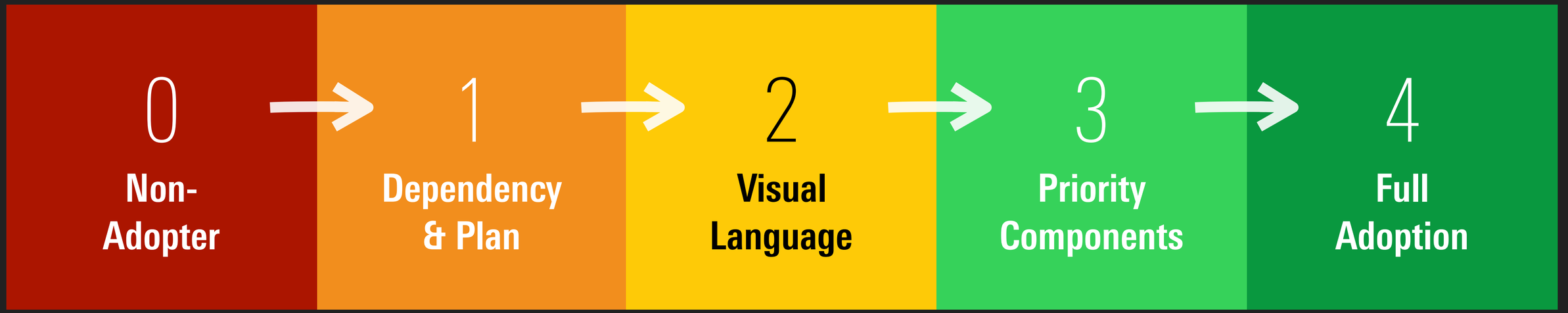
Big Bang

(All at once)

Incremental

(One story at a time)

Step-by-Step Adoption Model



- ✗ Branding / visual identity is out of date
- ✗ Product is obviously not complying with system
- ✗ Interface is dated and inconsistent with latest conventions

- ✓ Codebase has system npm dependency
- ✓ Team has compiled, tuned, & organized systems assets for integration & extension
- ✓ Team can demonstrate adoption commitment via roadmap & backlog

- ✓ Color
- ✓ Typography
- ✓ Icons
- ✓ Replaced variables and rules via constants

AND

No more than 9 months behind latest release

- ✓ Buttons
- ✓ Forms: Checkboxes, Radios, Text, Select
- ✓ Switches
- ✓ Headings, Article Text
- ✓ Data Tables (Basic)
- ✓ List Groups

AND

No more than 6 months behind latest release

- ✓ Data Tables
- ✓ Modals
- ✓ Dialogs
- ✓ Pills
- ✓ Adopted every relevant component offered

AND

No more than **3 months** behind latest release

Monitor Adoption Commitment & Timing, by Product

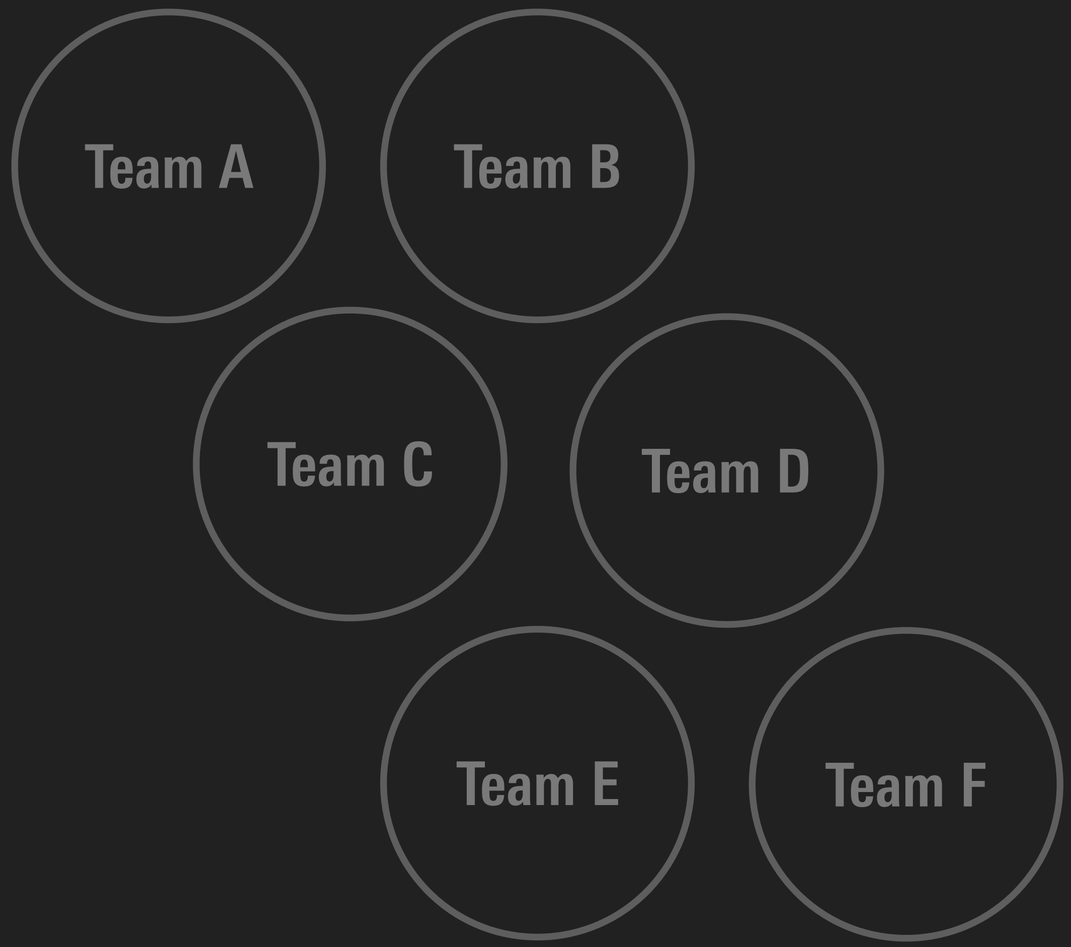
1	Product/Squad	By end of 2017Q3	By end of 2017Q4	By end of 2018Q2	Product Manager	Product Owner	Design Lead	Tech Lead / POC	Group
17	[redacted]	1	1	2	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
18	[redacted]	1	1	2	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
19	[redacted]	0	0	0	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
20	[redacted]	0	0	0	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
21	[redacted]	Unknown	Unknown	Unknown	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
22	[redacted]	Never	Never	Never	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
23	[redacted]	4	4	4	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
24	[redacted]	Unknown	Unknown	Unknown	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
25	[redacted]	1	2	4	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
26	[redacted]	1	2	4	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
27	[redacted]	Unknown	Unknown	Unknown	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
28	[redacted]	Unknown	Unknown	Unknown	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
29	[redacted]	0	1	1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
30	[redacted]	Unknown	Unknown	Unknown	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
31	[redacted]	1	2	3	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
32	[redacted]	4	4	4	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
33	[redacted]	0	1	3	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
34	[redacted]	0	3	4	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
35	[redacted]	1	2	4	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
36	[redacted]	0	1	4	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
37	[redacted]	Unknown	Unknown	Unknown	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
38	[redacted]	Never	Never	Never	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
39	[redacted]	Never	Never	Never	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
40	[redacted]	4	4	4	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
41	[redacted]	4	4	4	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	4	4	4	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	3	4	4	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	Never	Never	Never	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
45	[redacted]	2 - 4?	4?	4?	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
46	[redacted]	12	22	22	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

60+ rows!

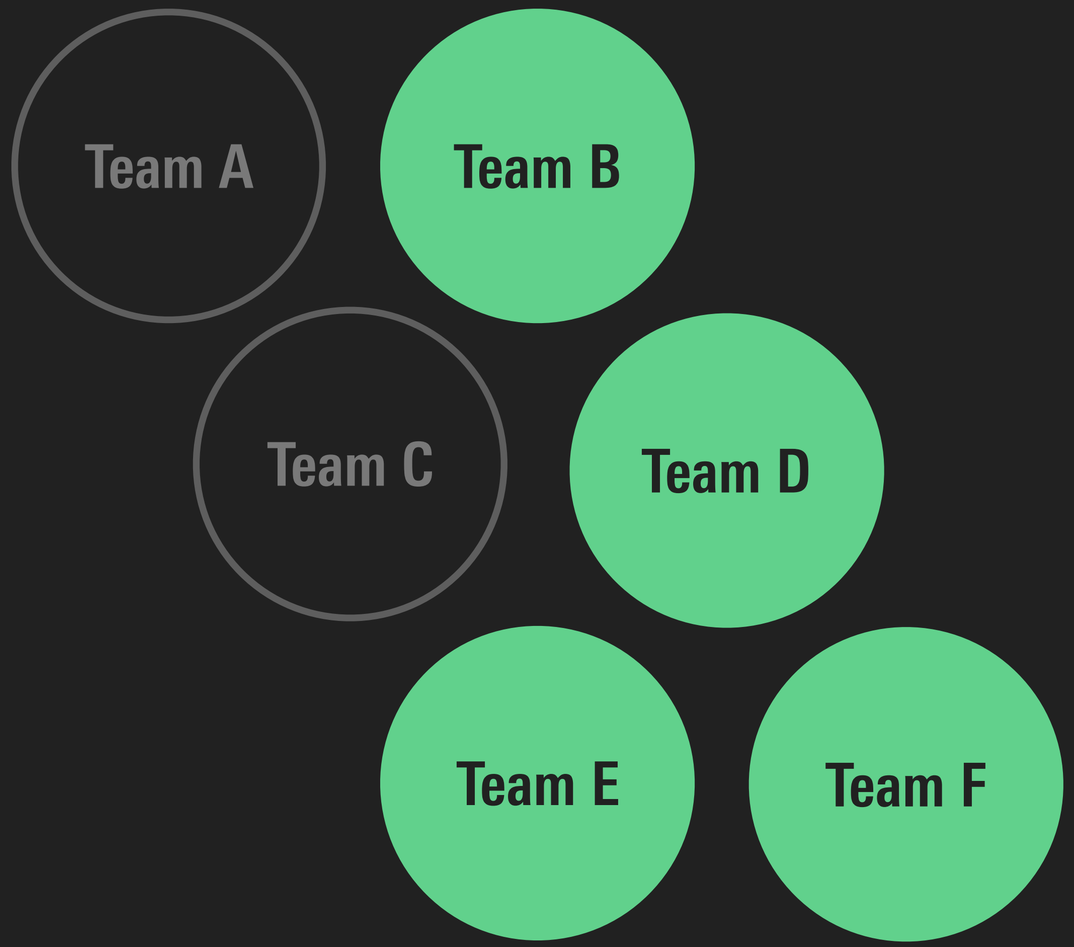
What is included?

“Include what’s shared, omit what’s not.”

Adding new components to the MDS library

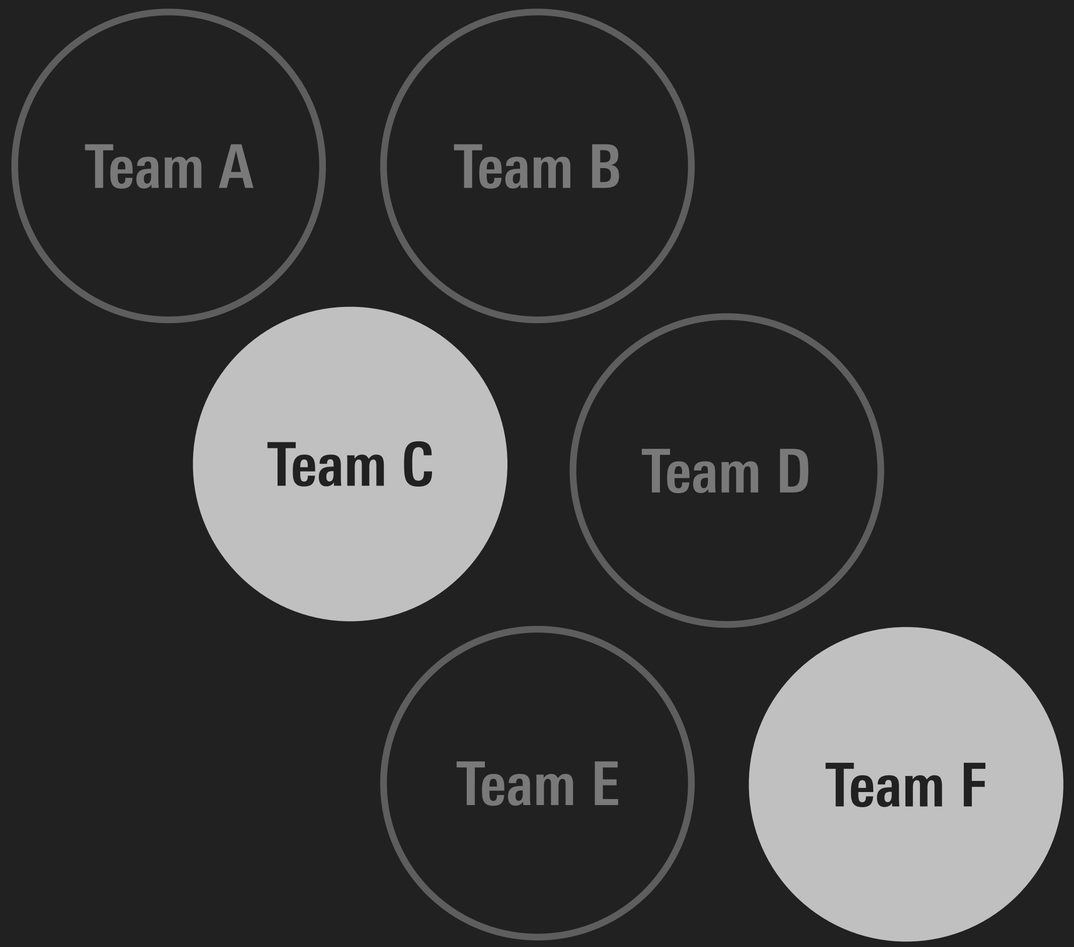


Adding new components to the MDS library



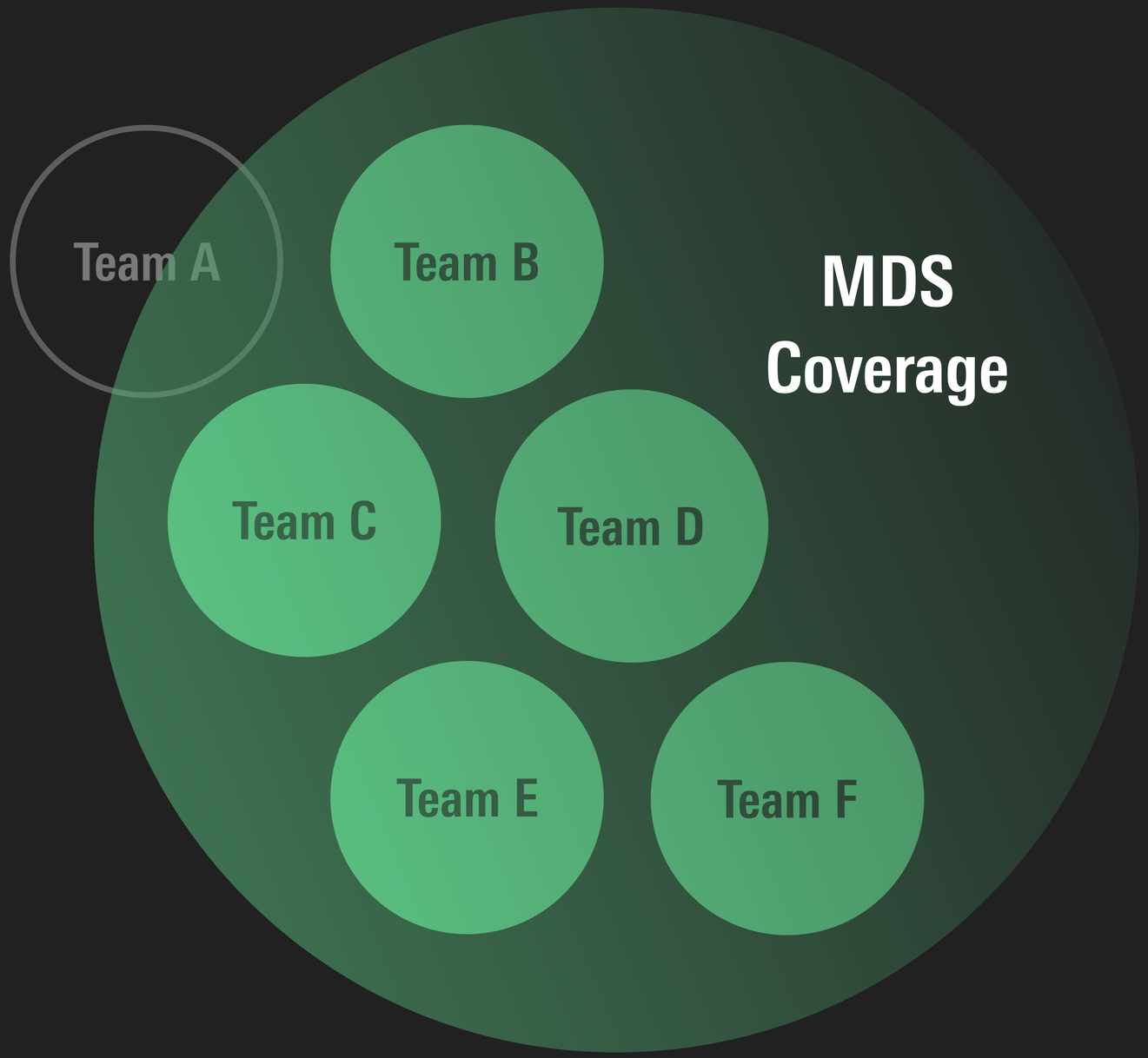
✔ Consider adding a new component

Adding new components to the MDS library



✗ Don’t add, but reconsider if more need emerges

Adding new components to the MDS library

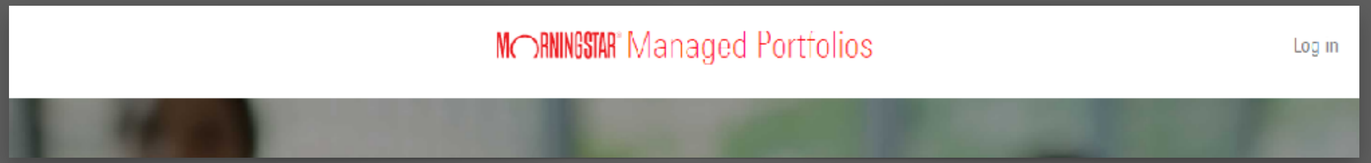


MDS provides the highest shared value

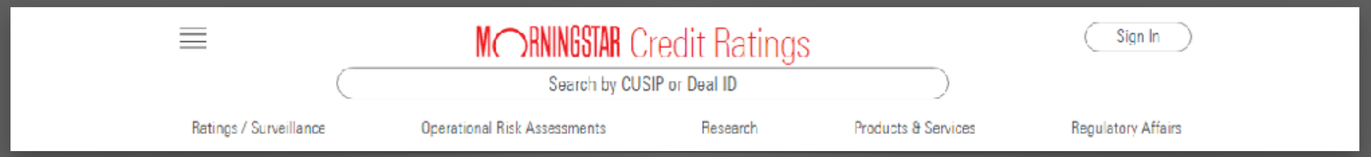
How do we ensure quality in components?

Process!

Menu
MORNINGSTAR®
Register
Sign In
Stock, Fund, ETF Quotes, Reports, Articles, Videos

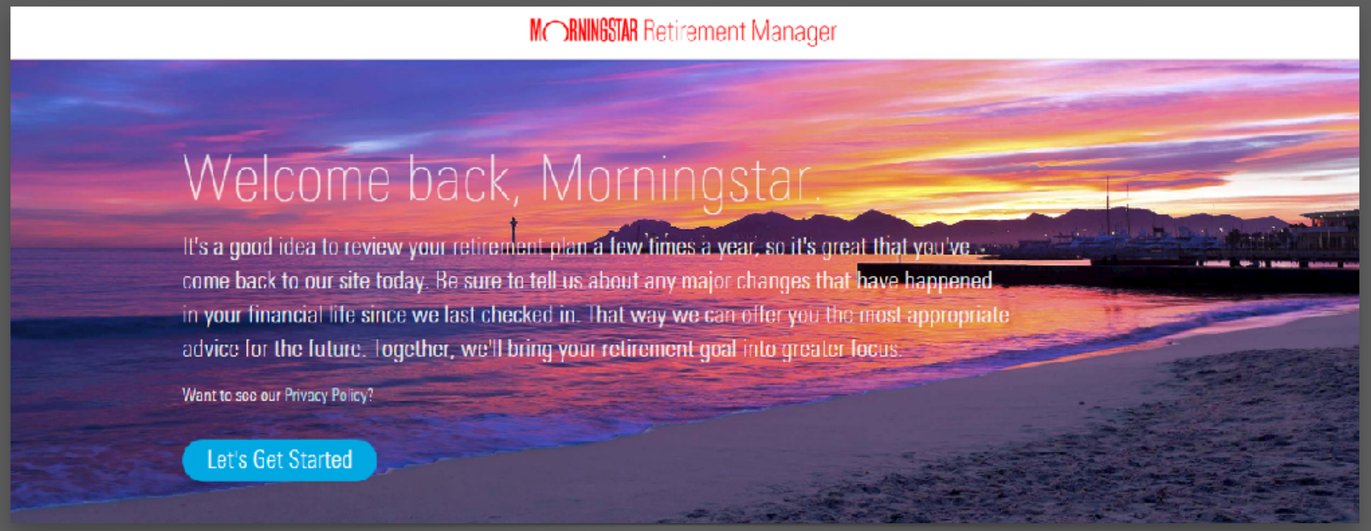



```
<link href="/css/vendor.css" rel="stylesheet">
<link href="/css/app.min.css" rel="stylesheet">
<link href="/css/print.min.css" media="print" rel="stylesheet">
```




```
<link href="/MCR/Content/css/mstarcr/mstarcr.css?v=06152016" rel="styleshee
<link href="/MCR/Content/css/mstarcr/mstar_override.css?v=06152016" rel="st
```

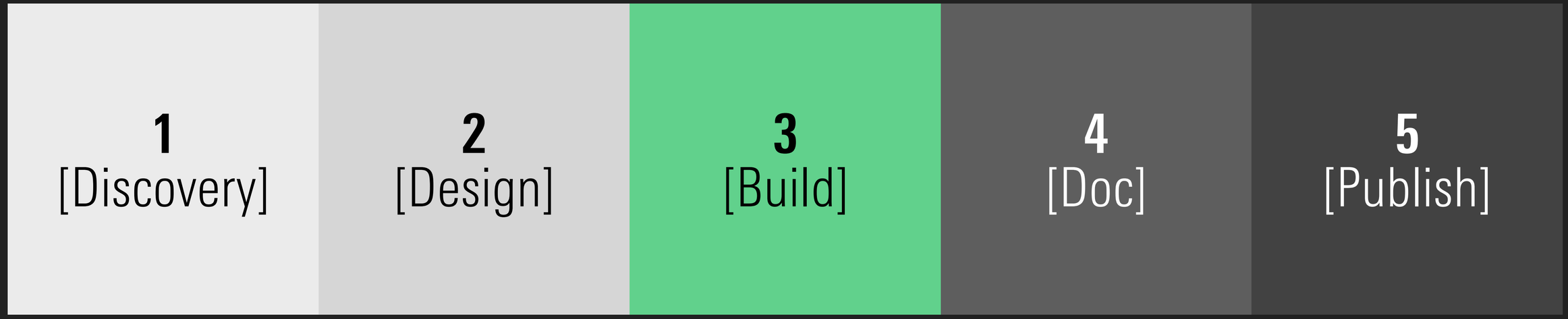
```
<link rel="stylesheet" href="/etc/designs/morningstar/v2/msiip/global-1.0.0.m
```




```
<link href="/css/vendor.css" rel="stylesheet">
<link href="/css/app.min.css" rel="stylesheet">
<link href="/css/print.min.css" media="print" rel="stylesheet">
```

So, that process?

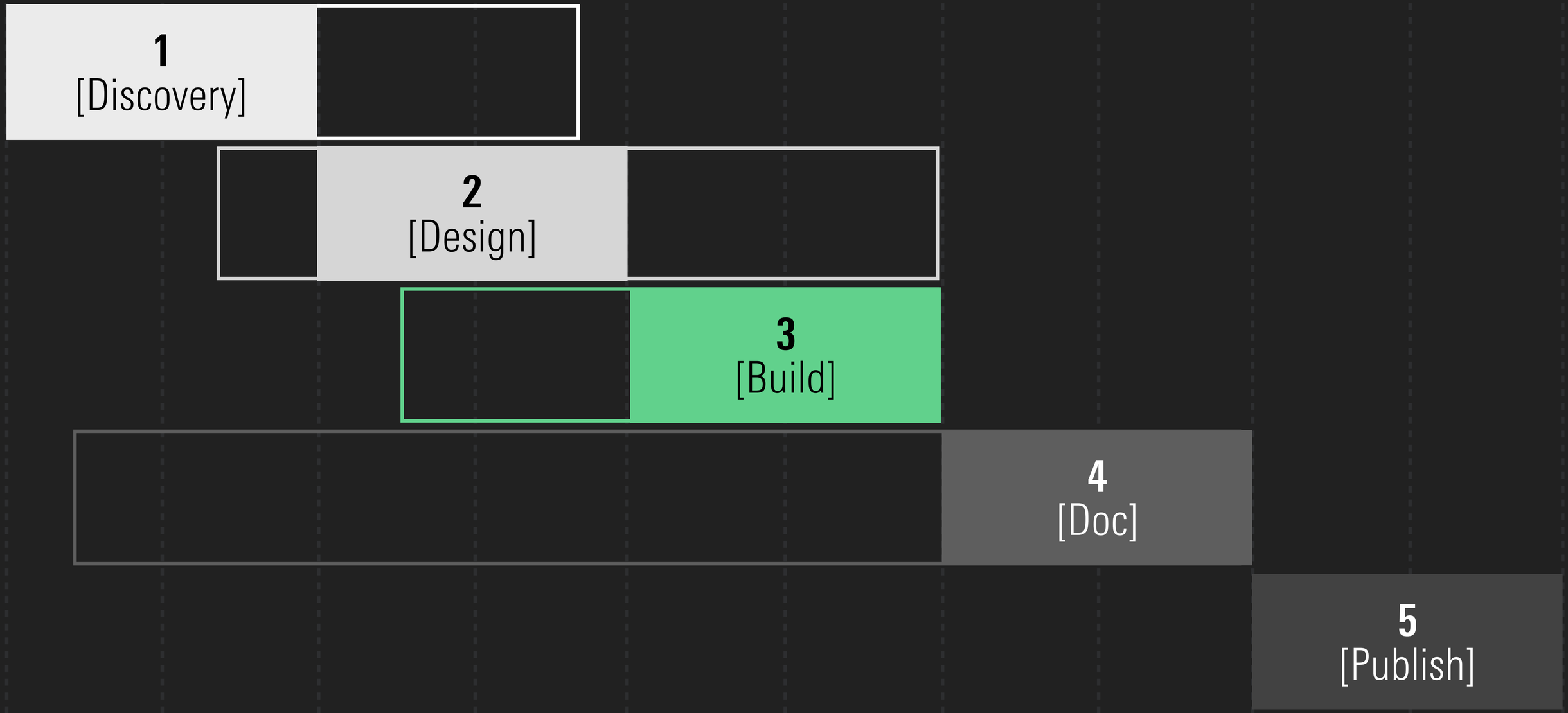
5 Phase Process



1 [Discovery]	2 [Design]	3 [Build]	4 [Doc]	5 [Publish]
BY Any Team Member	BY Designer	BY Any Team Member (Usually an Engineer)	BY Designer, Engineer, Content Strategist	BY Any Team Member
USING Doc, Interviews, Surveys, Audits	USING Sketch, Invision, etc.	USING HTML, CSS	USING Word Online	USING Publishing tools and system templates

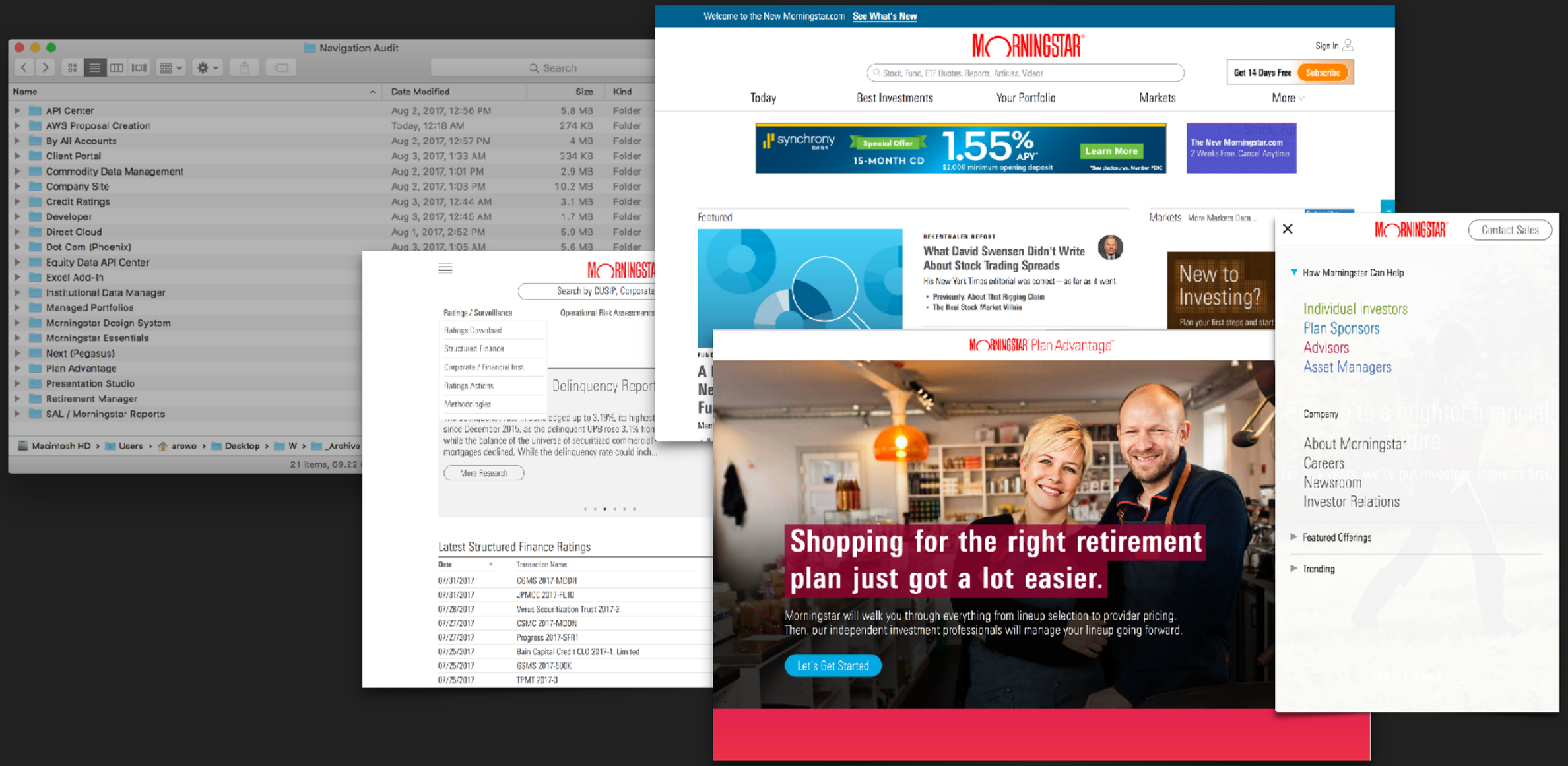
5 Phase Process

5 Phase Process

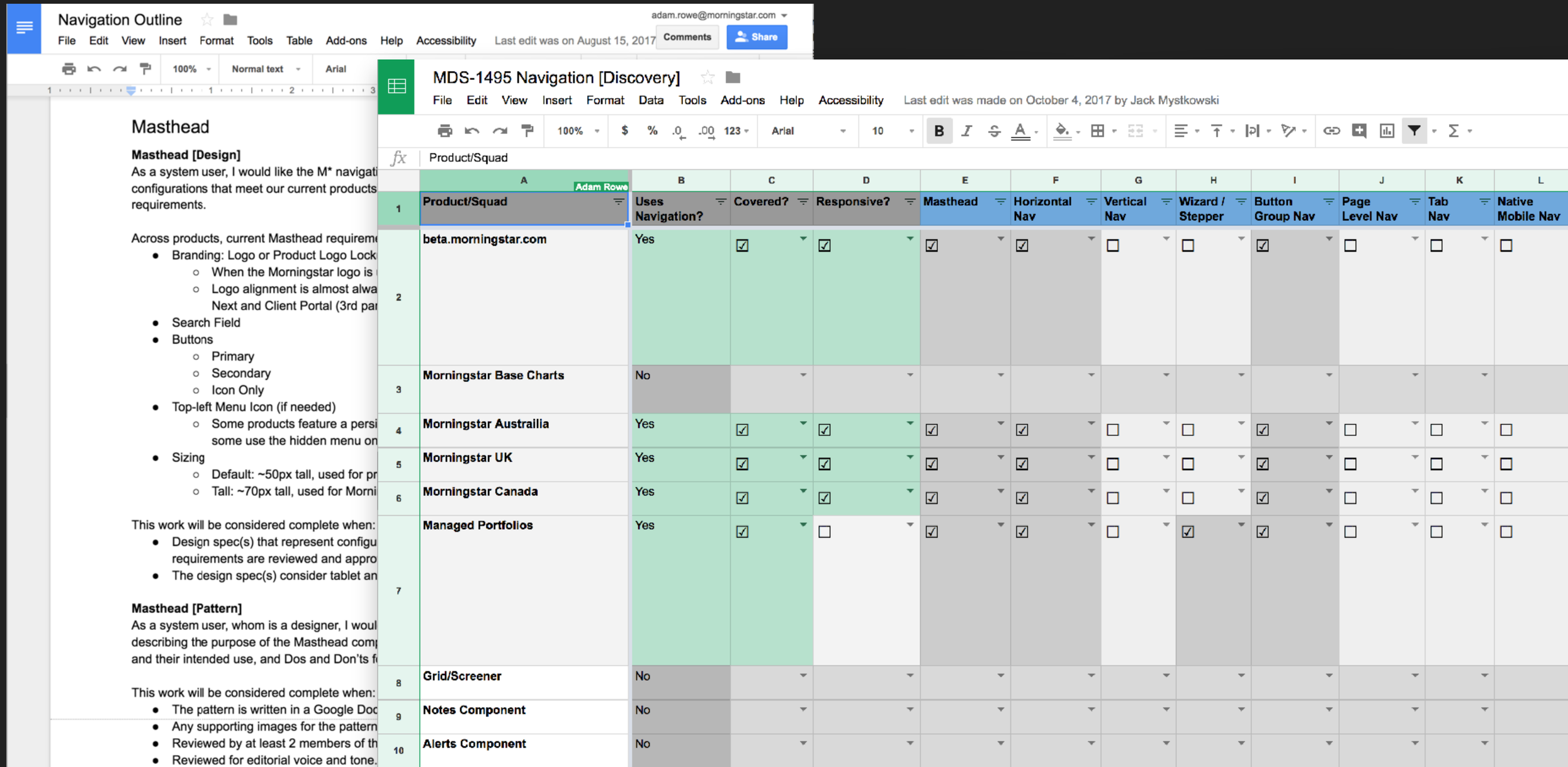


[Discovery]

Product Audit



Surveys and Interviews to Gather Requirements



Navigation Outline

File Edit View Insert Format Tools Table Add-ons Help Accessibility Last edit was on August 15, 2017

adam.rowe@morningstar.com

Comments Share

100% Normal text Arial

Masthead

Masthead [Design]

As a system user, I would like the M* navigati
configurations that meet our current products
requirements.

Across products, current Masthead requirem

- Branding: Logo or Product Logo Lock
  - When the Morningstar logo is
  - Logo alignment is almost alwa
    Next and Client Portal (3rd par
- Search Field
- Buttons
  - Primary
  - Secondary
  - Icon Only
- Top-left Menu Icon (if needed)
  - Some products feature a persi
    some use the hidden menu on
- Sizing
  - Default: ~50px tall, used for pr
  - Tall: ~70px tall, used for Morni

This work will be considered complete when:

- Design spec(s) that represent configu
  requirements are reviewed and appro
- The design spec(s) consider tablet an

Masthead [Pattern]

As a system user, whom is a designer, I woul
describing the purpose of the Masthead comp
and their intended use, and Dos and Don'ts f

This work will be considered complete when:

- The pattern is written in a Google Doc
- Any supporting images for the pattern
- Reviewed by at least 2 members of th
- Reviewed for editorial voice and tone.

MDS-1495 Navigation [Discovery]

File Edit View Insert Format Data Tools Add-ons Help Accessibility Last edit was made on October 4, 2017 by Jack Mystkowski

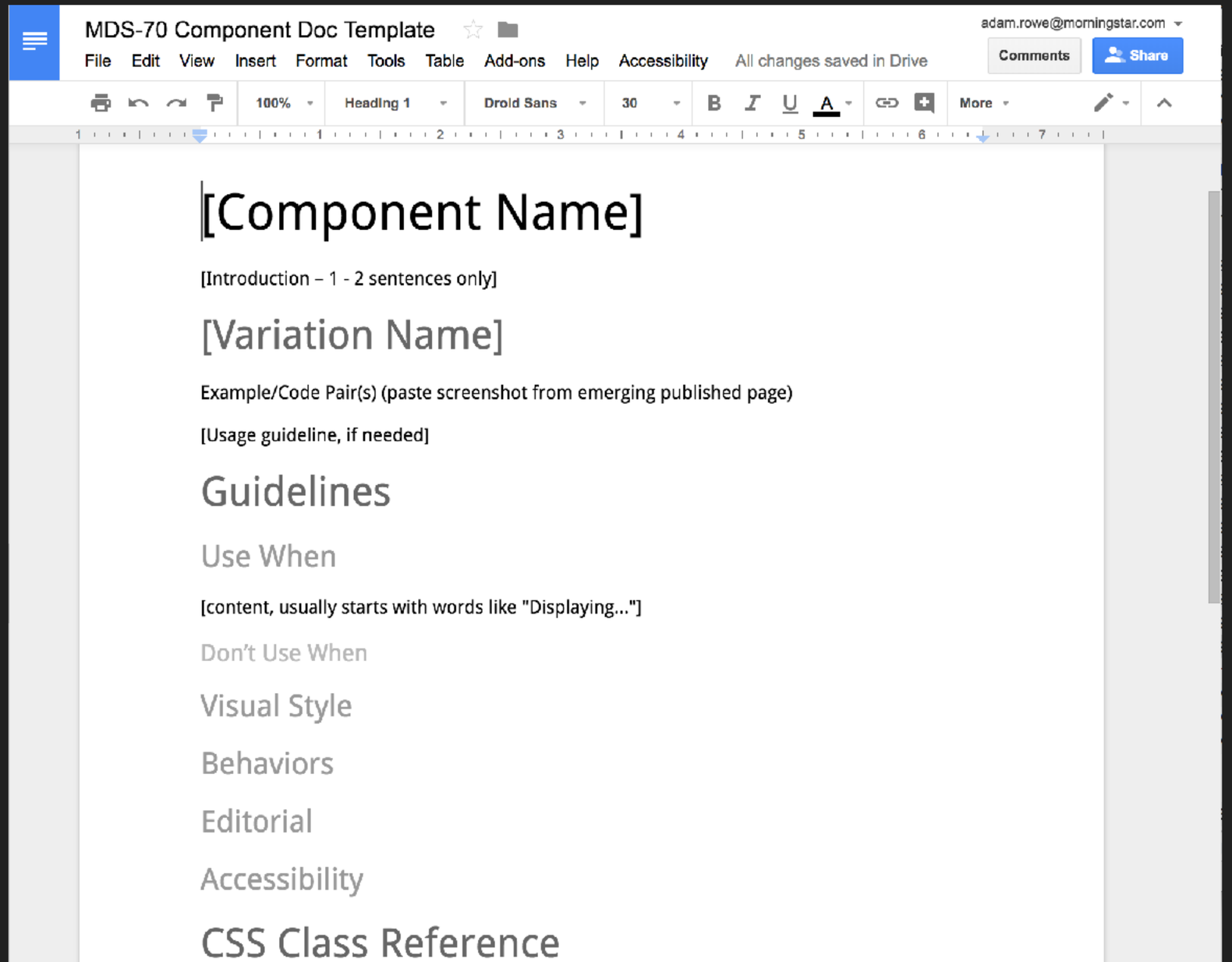
100% $ % .0 .00 123 Arial 10

fx Product/Squad

Adam Rowe

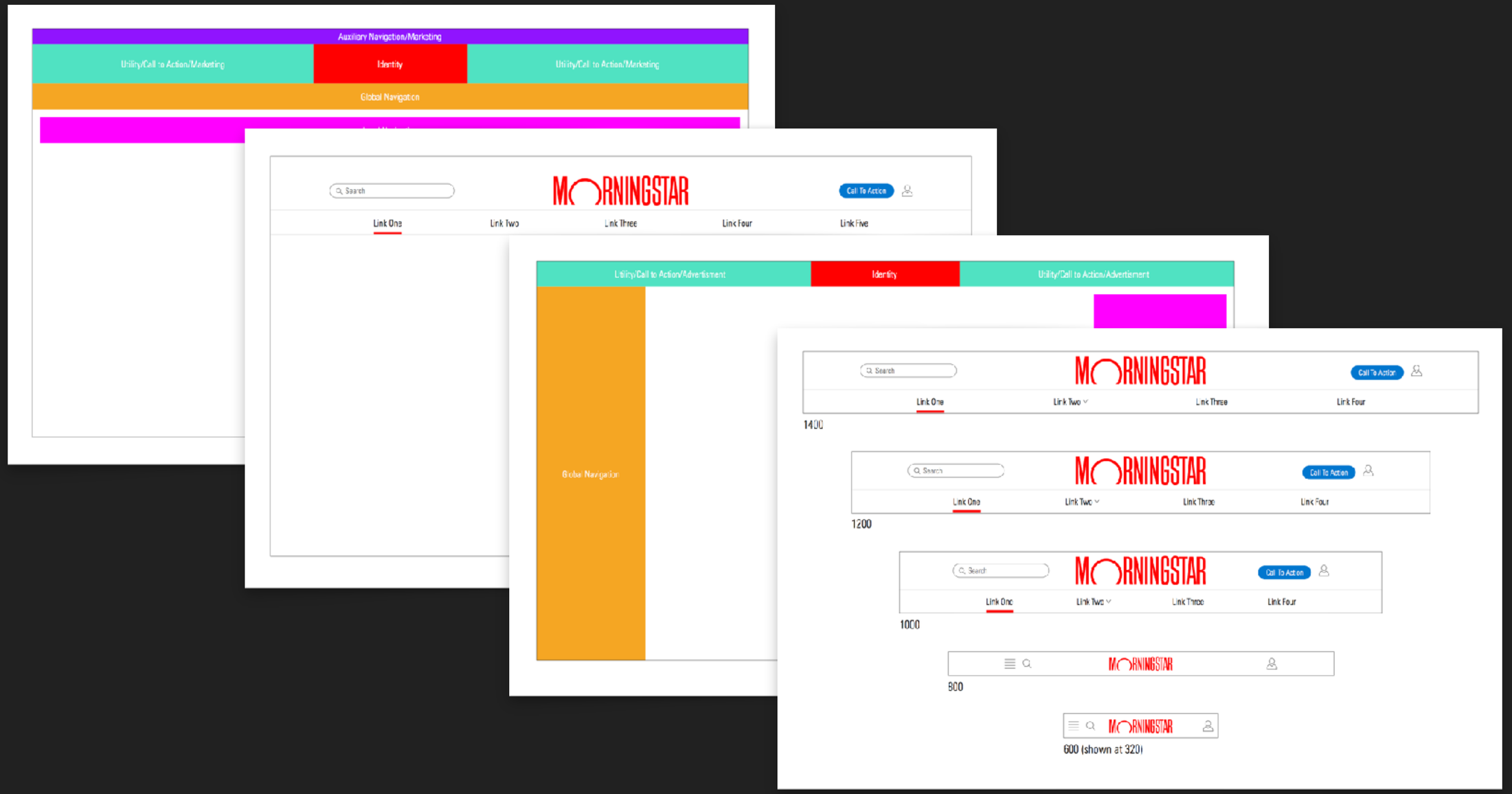
	A	B	C	D	E	F	G	H	I	J	K	L
1	Product/Squad	Uses Navigation?	Covered?	Responsive?	Masthead	Horizontal Nav	Vertical Nav	Wizard / Stepper	Button Group Nav	Page Level Nav	Tab Nav	Native Mobile Nav
2	beta.morningstar.com	Yes	☑	☑	☑	☑	☐	☐	☑	☐	☐	☐
3	Morningstar Base Charts	No										
4	Morningstar Australia	Yes	☑	☑	☑	☑	☐	☐	☑	☐	☐	☐
5	Morningstar UK	Yes	☑	☑	☑	☑	☐	☐	☑	☐	☐	☐
6	Morningstar Canada	Yes	☑	☑	☑	☑	☐	☐	☑	☐	☐	☐
7	Managed Portfolios	Yes	☑	☐	☑	☑	☐	☑	☑	☐	☐	☐
8	Grid/Screener	No										
9	Notes Component	No										
10	Alerts Component	No										

Create a Template and Start Documentation Early

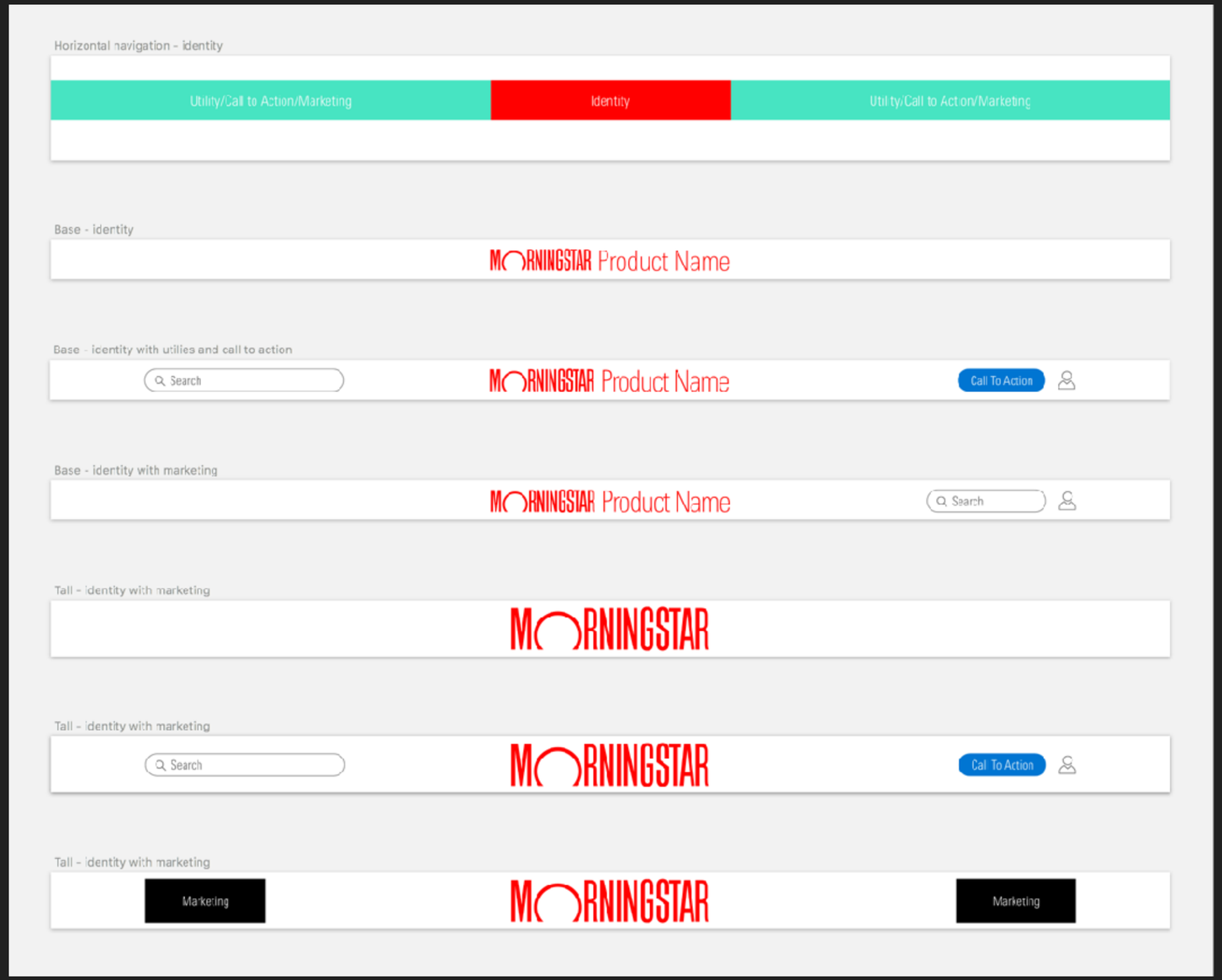


[Design]

Building on Emerging Standards



Design Iteration

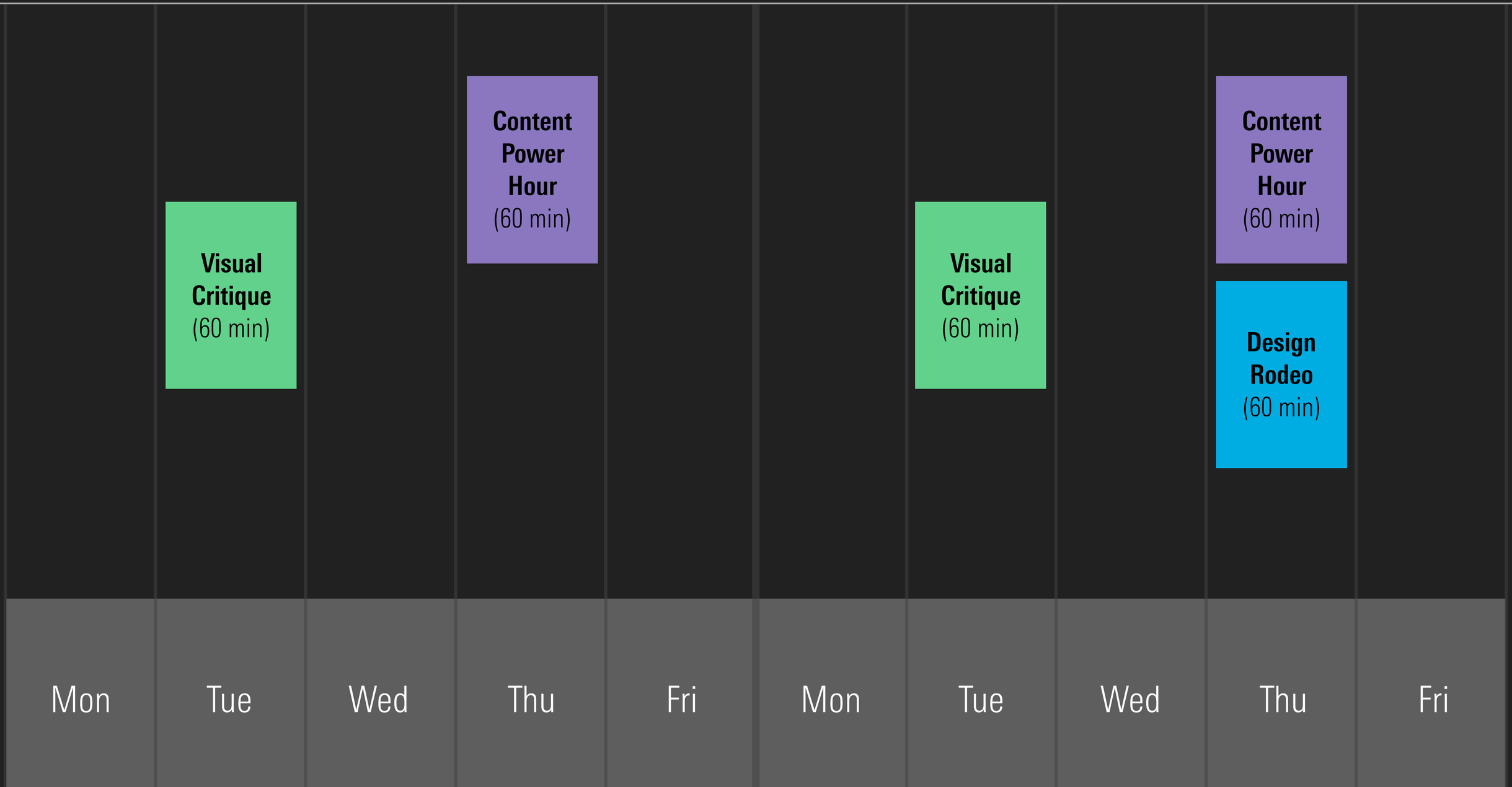


Simple Spec

Masthead Spec
Icon-Only Buttons
Search Field
Buttons
Mastheads/Masthead Element Spacing Example 1
$mds-space-inline-left-xl
MORNINGSTAR Retirement Manager
$mds-space-inline-right-xl
$mds-space-inline-right-m
Mastheads/Masthead Element Spacing Example 1 Copy
$mds-space-inline-left-xl
MORNINGSTAR Retirement Manager
$mds-space-inline-right-xl

👋 Morningstar Designers!

Recurring Open Design and Content Review Meetings



Design review with engineers, too!

[Build] & [Publish]

What about scaling data visualizations?

Charts at Morningstar

Fidelity Disciplined Equity

Ticker	Load	NAV	Yield	SEC Yield	Total Assets	Category
FDEQX	None	$28.18	0.8%	—	$2,430.5 mil	Large Blend

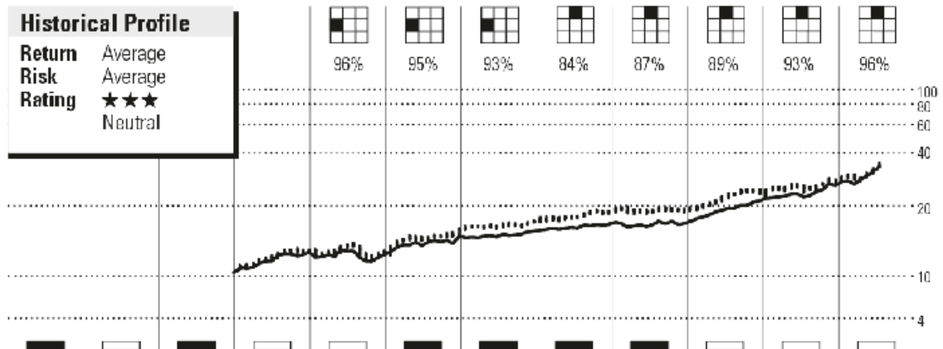
Prospectus Objective: Growth

Fidelity Disciplined Equity Fund seeks capital growth.

The fund normally invests at least 65% of assets in domestic common stocks issued by companies with market capitalizations exceeding $100 million. It may invest the balance of assets in all types of domestic and foreign securities. Management hopes to generate more capital growth than that of the S&P 500 while maintaining similar industry diversification. It selects securities that it considers to be undervalued compared to industry norms. The disciplined approach involves computer-aided analysis supported by fundamental research.

Historical Profile

Return Average
Risk Average
Rating ★★★ Neutral



Investment Style
Equity
Average Stock %

Growth of $10,000
Investment Value $000 of Fund
Investment Value $000 S&P 500
Manager Change
Prtl Manager Change
Mgr Unknown After
Mgr Unknown Before

Performance Quartile (within category)

1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	07-97	History
—	—	10.11	13.52	13.11	16.14	17.07	18.18	17.94	20.64	22.04	28.18	NAV
—	—	–1.10*	36.34	–0.78	36.02	13.23	13.94	3.01	29.01	15.11	27.86	Total Return %
—	—	–0.59*	4.66	2.34	5.54	5.61	3.88	1.69	–8.52	–7.83	–2.33	+/- S&P 500
—	—	—	4.92	3.30	3.55	5.03	4.20	5.36	–8.65	–6.44	–1.17	+/- Wilshire Top 750
—	—	0.00	1.14	2.25	1.61	1.15	1.19	1.42	1.46	1.05	0.00	Income Return %
—	—	1.10	35.20	–3.03	34.41	12.08	12.75	1.59	27.55	14.06	27.86	Capital Return %
—	—	—	4	32	22	9	22	8	76	93	36	Total Rtn % Rank Cat
—	—	0.00	0.13	0.30	0.23	0.19	0.21	0.25	0.30	0.23	0.00	Income $
—	—	0.00	0.13	0.00	1.32	0.99	1.04	0.52	2.23	1.49	0.00	Capital Gains $
—	—	—	1.94	1.24	1.19	1.16	1.09	1.05	0.93	0.75	—	Expense Ratio %
—	—	—	2.04	2.29	2.05	1.79	1.39	1.43	1.81	1.22	—	Income Ratio %
—	—	—	118	171	210	255	279	139	221	297	—	Turnover Rate %
—	—	—	112.2	106.8	175.0	448.4	795.8	1,160.1	2,145.6	2,099.0	2,430.5	Net Assets $mil

Portfolio Manager(s)

Brad Lewis, CFA. Since 12-88. BS'77 Naval Academy; MBA'85 Wharton. Lewis joined Fidelity Investments in 1985 as an analyst and became the first manager of the Select Air Transportation and Select Medical Delivery funds. Currently, he is head of the company's quantitative group. He also manages Fidelity Stock Selector. He spent one year as an analyst with Wilmington Trust.

Performance 12-31-92

	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total
1993	4.39	1.46	7.30	0.25	13.94
1994	–1.54	–0.56	4.61	0.57	3.01
1995	5.85	10.48	10.77	–0.41	29.01
1996	3.34	3.19	0.91	6.98	15.11
1997	1.23	15.24	—	—	—

Trailing	Total Return%	+/– S&P500	+/–Wil Top 750	% Rank All	% Rank Cat	Growth of $10,000
3 Mo	21.83	2.19	1.86	13	12	12,183
6 Mo	20.89	–1.65	–0.69	10	42	12,089
1 Yr	46.19	–5.92	–4.31	11	50	14,619
3 Yr Avg	24.92	–5.83	–4.93	16	71	19,495
5 Yr Avg	18.36	–2.27	–1.14	18	51	23,231

Risk Analysis

Time Period	Load-Adj Return %	Risk % All	Risk % Cat	Morningstar Return	Morningstar Risk	Morningstar Risk-Adj Rating
1 Yr	46.19					
3 Yr	24.92	76	88	1.16	0.94	★★★
5 Yr	18.36	77	87	1.13	0.98	★★★
Incept	19.71	—	—	—	—	

Average Historical Rating (68 months): 4.1★s
1!=low, 100=high

Portfolio Analysis 04-30-97

Share Chg (10-96) 000	Amount 000	Total Stocks 184 / Total Fixed-Income 0	Value $000	% Net Assets
⊕ 405	605	Intel	92,641	4.55
⊖ –50	648	General Electric	71,847	3.53
906	906	Bristol-Myers Squibb	59,342	2.91
⊖ –386	1,066	Travelers Group	59,029	2.90
⊖ –260	467	Procter & Gamble	58,725	2.88
⊕ 221	403	BankAmerica	47,100	2.31
⊖ –200	507	Merck	45,884	2.25

Chart Taxonomy

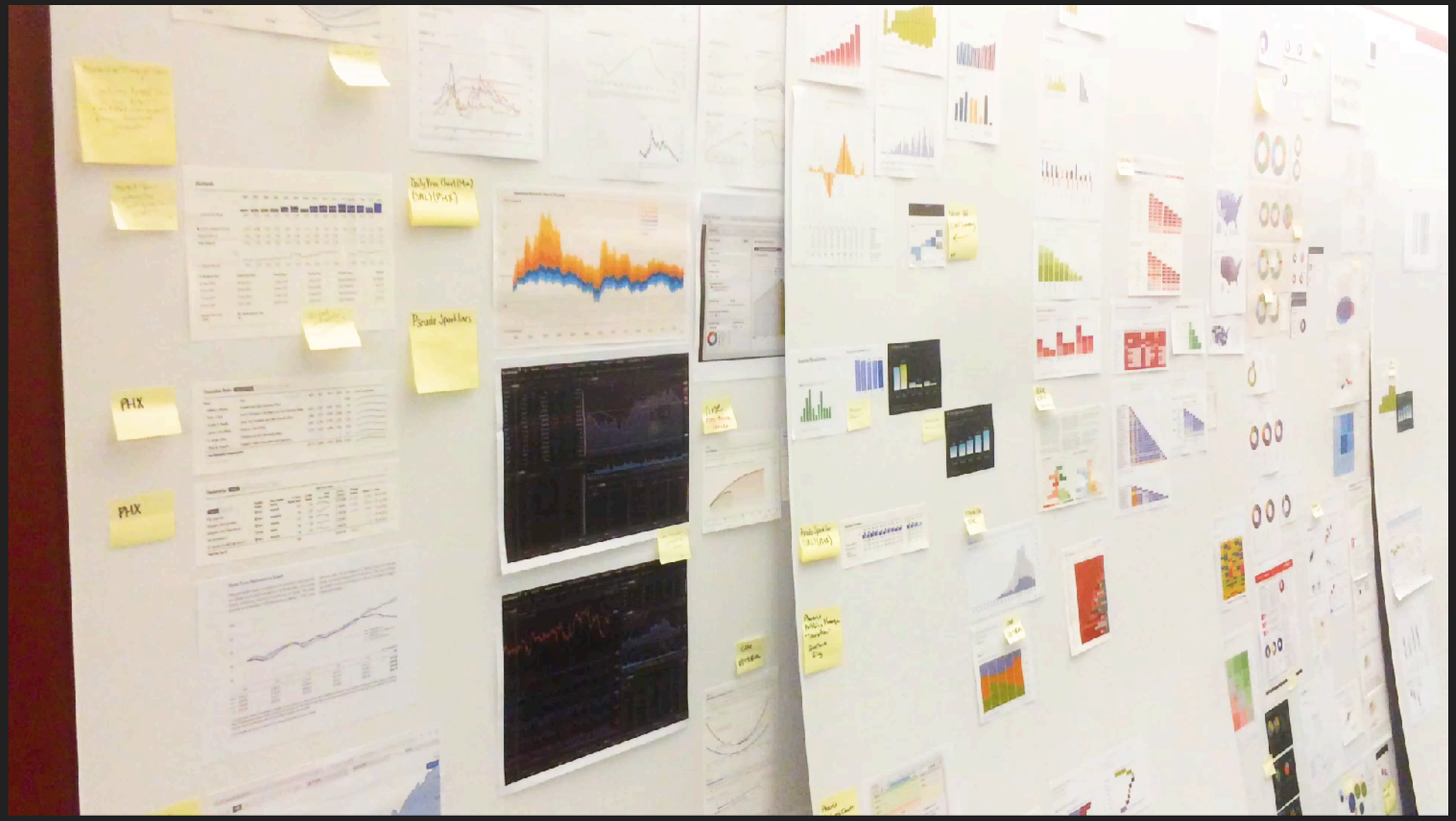


Chart Structure

Chart Standards

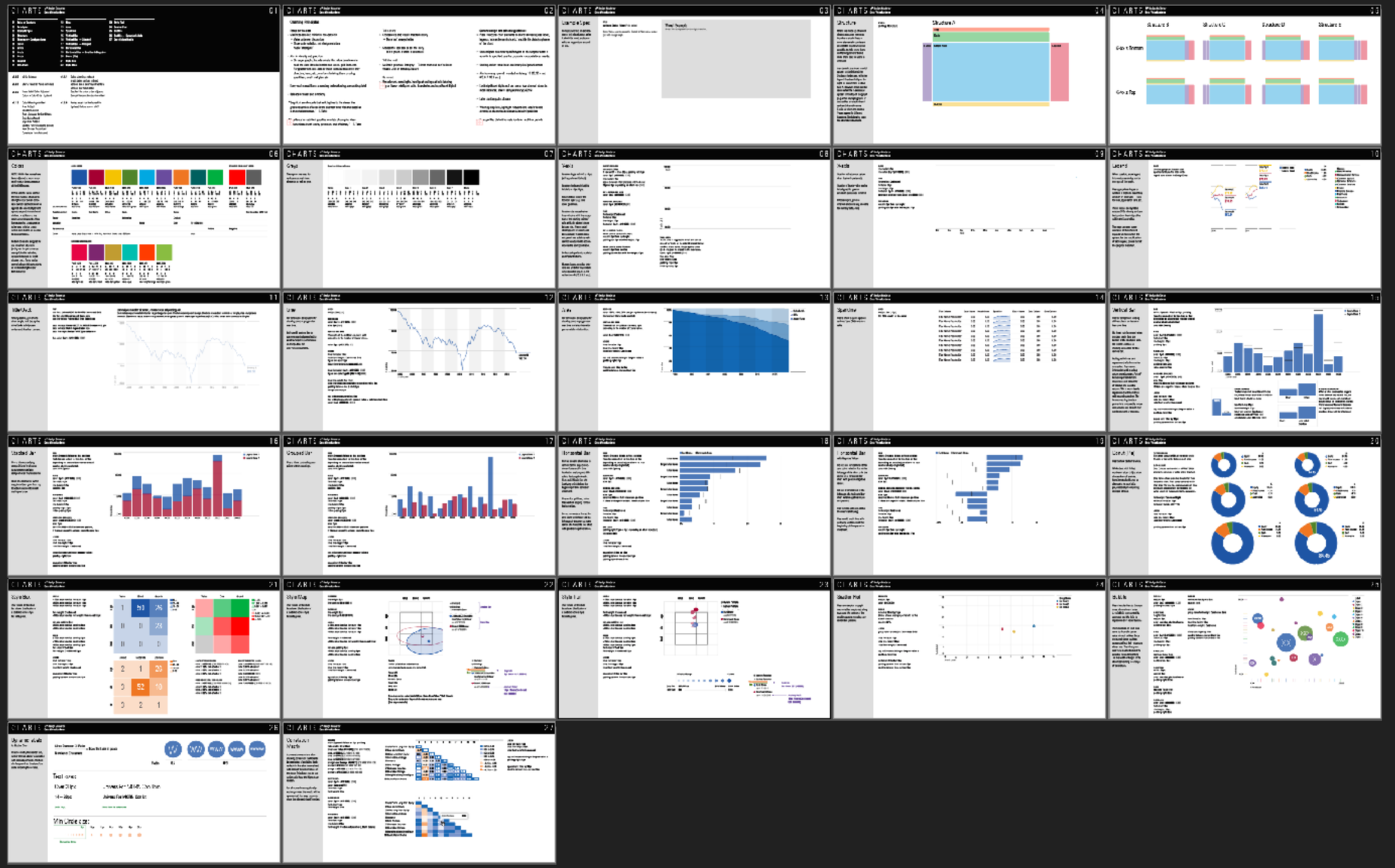


Chart Standards

Line

For continuous data; useful for showing trend or progression over time.

Only use fill under a line to convey meaning (green/red for positive/negative performance or orange/blue for over-/undervaluation).

LINES
weight: **2px** [1pt]

BENCHMARK
color: **$gs14 (#151515)** [K90]
size: **2px** [1pt]

VERTICAL GRID BARS
The width of the grid bars is evenly split according to the number of X-axis values.

color: **$gs2 (#F2F2F2)** [K4]

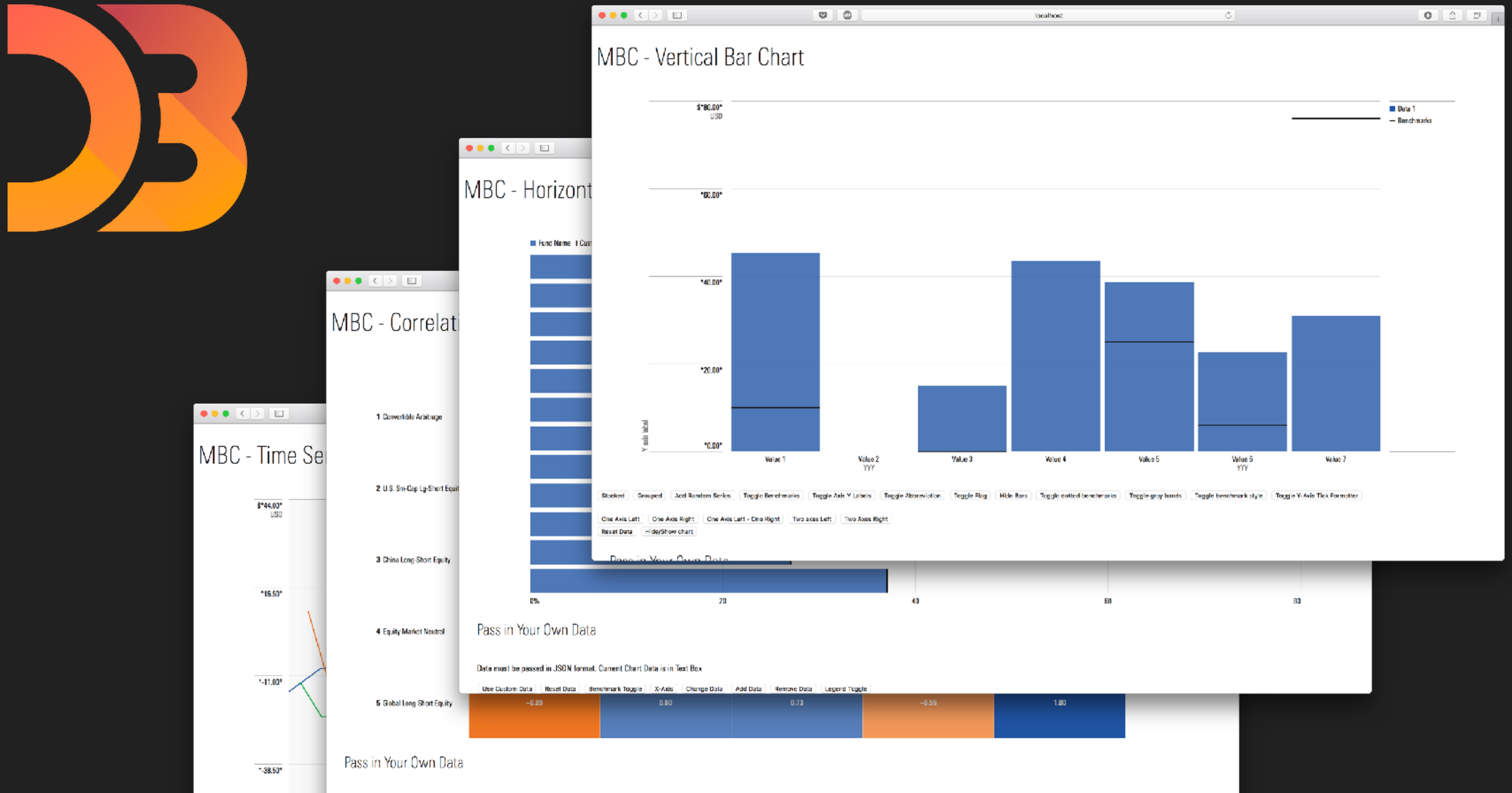
LEGEND
label font-size: **14px**
label font-weight: **Condensed Bold**
figure font-size: **18px**
figure font-weight: **Condensed Light**

label font-color: **$gs14 (#151515)** [K90]
figure font-color: **$gs14 (#151515)** [K90]

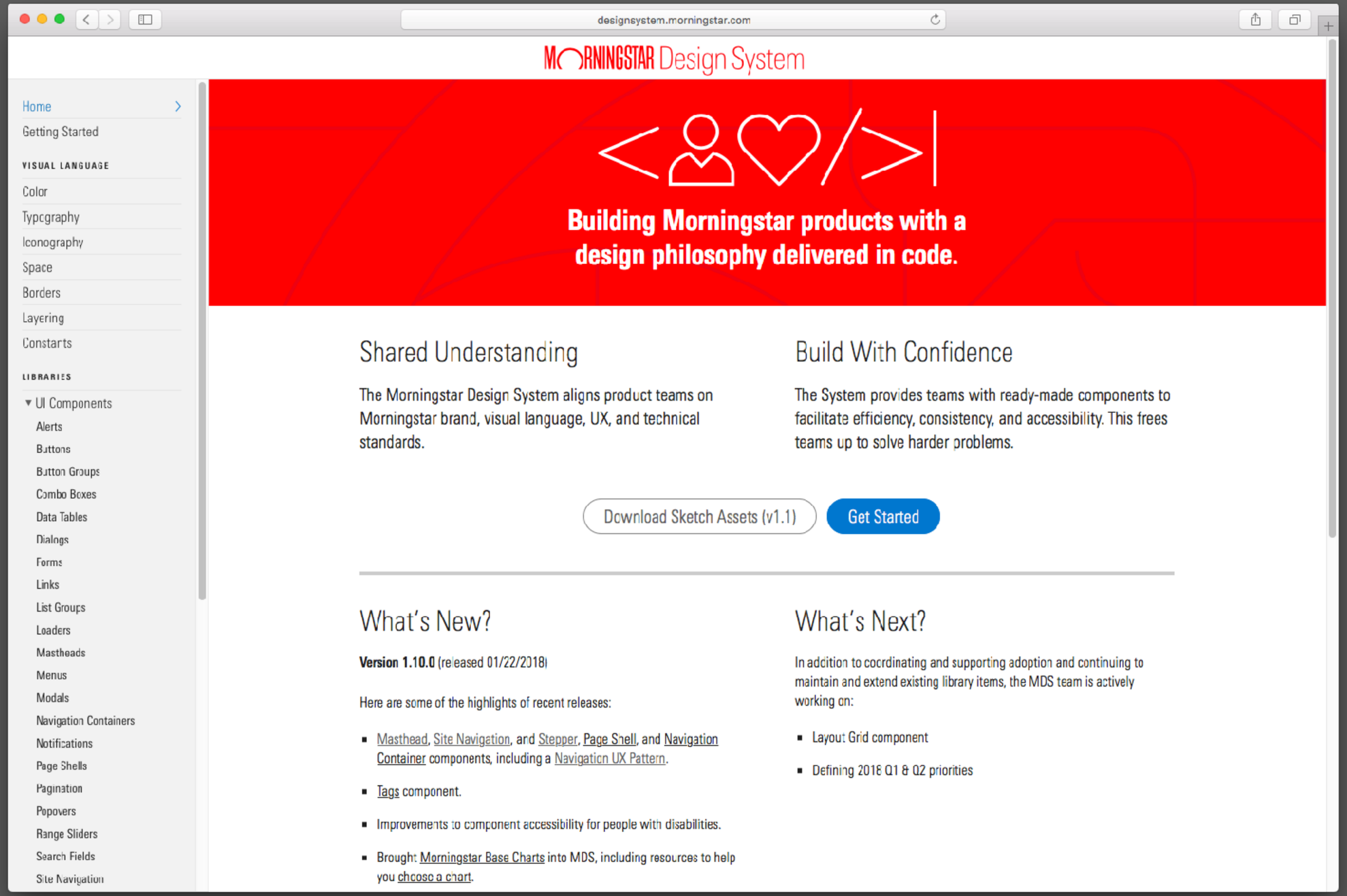
label line weight: **2px** [1pt]
label line length: **longest value + padding-right: 6px**
padding between line & label: **3px**
margin-bottom: **6px**

top and bottom rule weight: **1px**
top and bottom rule length: **longest value + padding-right: 6px**
color: **$gs7 (#999999)** [K35]

Morningstar Base Charts



System Demonstration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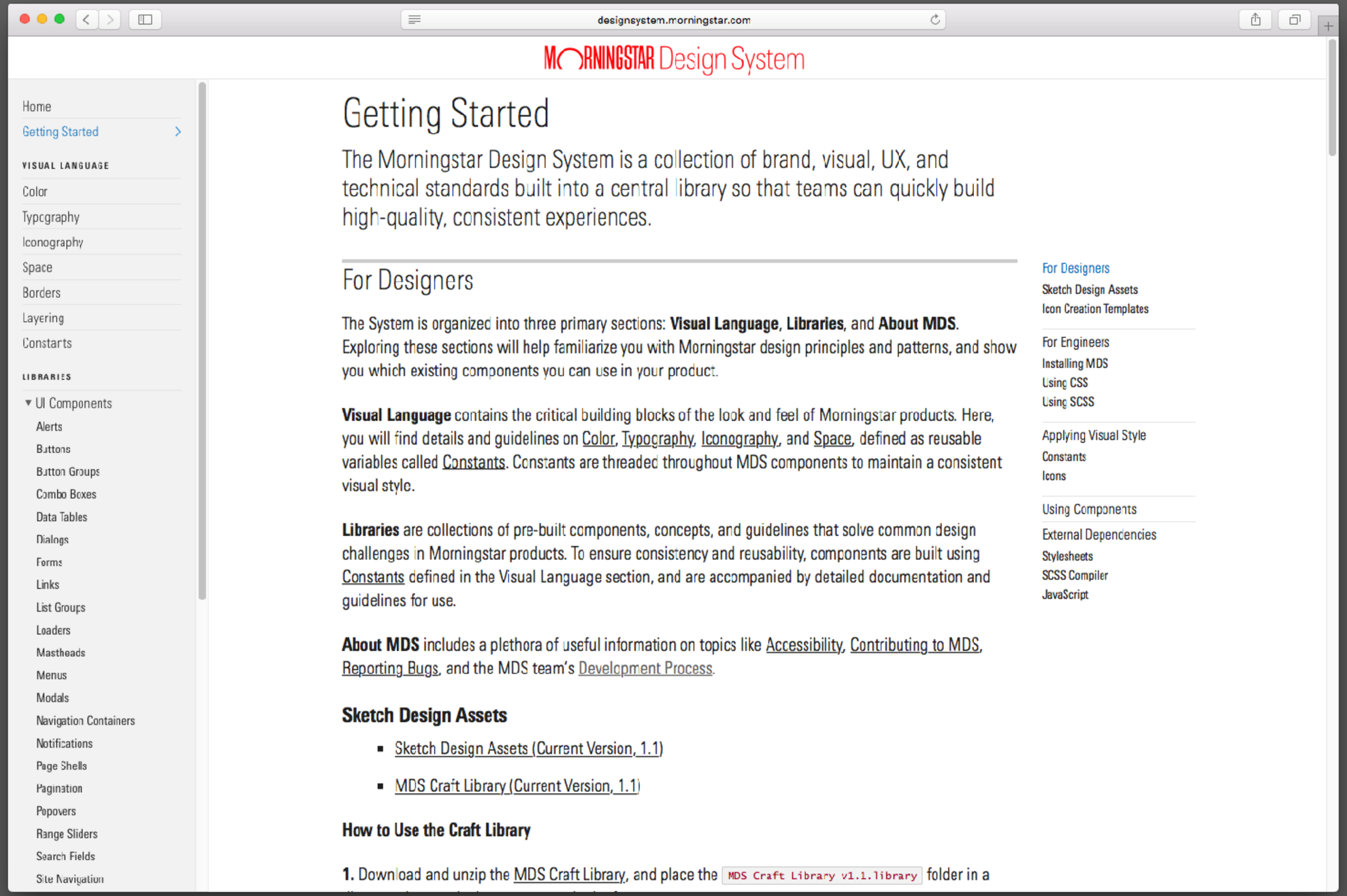
Building Morningstar products with a design philosophy delivered in code.
Shared Understanding
The Morningstar Design System aligns product teams on Morningstar brand, visual language, UX, and technical standards.
Build With Confidence
The System provides teams with ready-made components to facilitate efficiency, consistency, and accessibility. This frees teams up to solve harder problems.
Download Sketch Assets (v1.1)
Get Started
What's New?
Version 1.10.0 (released 01/22/2018)
Here are some of the highlights of recent releases:
Masthead, Site Navigation, and Stepper, Page Shell, and Navigation Container components, including a Navigation UX Pattern.
Tags component.
Improvements to component accessibility for people with disabilities.
Brought Morningstar Base Charts into MDS, including resources to help you choose a chart.
What's Next?
In addition to coordinating and supporting adoption and continuing to maintain and extend existing library items, the MDS team is actively working on:
Layout Grid component
Defining 2018 Q1 & Q2 priorities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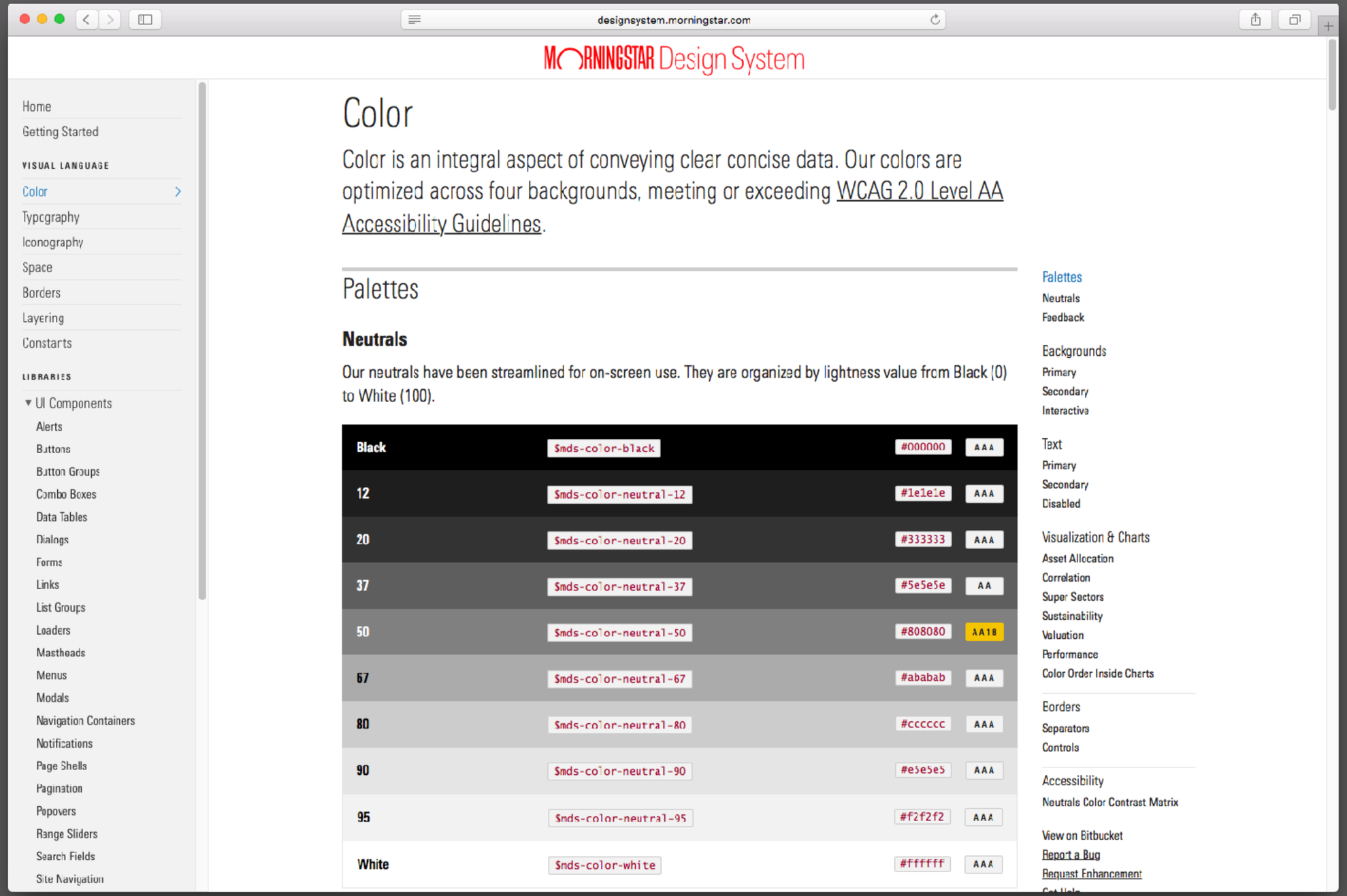
The Morningstar Design System is a collection of brand, visual, UX, and technical standards built into a central library so that teams can quickly build high-quality, consistent experiences.
For Designers
The System is organized into three primary sections: Visual Language, Libraries, and About MDS. Exploring these sections will help familiarize you with Morningstar design principles and patterns, and show you which existing components you can use in your product.
Visual Language contains the critical building blocks of the look and feel of Morningstar products. Here, you will find details and guidelines on Color, Typography, Iconography, and Space, defined as reusable variables called Constants. Constants are threaded throughout MDS components to maintain a consistent visual style.
Libraries are collections of pre-built components, concepts, and guidelines that solve common design challenges in Morningstar products. To ensure consistency and reusability, components are built using Constants defined in the Visual Language section, and are accompanied by detailed documentation and guidelines for use.
About MDS includes a plethora of useful information on topics like Accessibility, Contributing to MDS, Reporting Bugs, and the MDS team's Development Process.
Sketch Design Assets
Sketch Design Assets (Current Version, 1.1)
MDS Craft Library (Current Version, 1.1)
How to Use the Craft Library
1. Download and unzip the MDS Craft Library, and place the MDS Craft Library v1.1.library folder in a
For Designers
Sketch Design Assets
Icon Creation Templates
For Engineers
Installing MDS
Using CSS
Using SCSS
Applying Visual Style
Constants
Icons
Using Components
External Dependencies
Stylesheets
SCSS Compiler
JavaScript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Color
Color is an integral aspect of conveying clear concise data. Our colors are optimized across four backgrounds, meeting or exceeding WCAG 2.0 Level AA Accessibility Guidelines.
Palettes
Neutrals
Our neutrals have been streamlined for on-screen use. They are organized by lightness value from Black (0) to White (100).
Black $mds-color-black #000000 AAA
12 $mds-color-neutral-12 #1e1e1e AAA
20 $mds-color-neutral-20 #333333 AAA
37 $mds-color-neutral-37 #5e5e5e AA
50 $mds-color-neutral-50 #808080 AA18
67 $mds-color-neutral-67 #ababab AAA
80 $mds-color-neutral-80 #cccccc AAA
90 $mds-color-neutral-90 #e5e5e5 AAA
95 $mds-color-neutral-95 #f2f2f2 AAA
White $mds-color-white #ffffff AAA
Palettes
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Feedback
Backgrounds
Primary
Secondary
Interactive
Text
Primary
Secondary
Disabled
Visualization & Charts
Asset Allocation
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$mds-text-color-secondary-default	#5e5e5e
$mds-text-color-secondary-on-light	#5e5e5e
$mds-text-color-secondary-on-dark	#ababab
$mds-text-color-link-default	#006fba
$mds-text-color-link-on-light	#006fba
$mds-text-color-link-on-dark	#008dde
$mds-text-color-error-default	#ff0000
$mds-text-color-error-on-light	#ff0000
$mds-text-color-error-on-dark	#ff0000

Interactive

Variable Name	Value
$mds-interactive-color-primary-default	#0077cf
$mds-interactive-color-primary-hover	#005ba1
$mds-interactive-color-primary-focus	#005ba1
$mds-interactive-color-primary-active	#004376
$mds-interactive-color-secondary-primary	transparent
$mds-interactive-color-secondary-hover	#5e5e5e
$mds-interactive-color-secondary-focus	#5e5e5e
$mds-interactive-color-secondary-active-on-light	#333333
$mds-interactive-color-secondary-active-on-dark	#e5e5e5
$mds-interactive-color-disabled-on-light	#808080
$mds-interactive-color-disabled-on-dark	#ababab

Visualization

Variable Name	Value
$mds-visualization-color-asset-allocation-local-stocks	#1f55a5
$mds-visualization-color-asset-allocation-non-local-stocks	#8faad2
$mds-visualization-color-asset-allocation-real-estate	#a50032
$mds-visualization-color-asset-allocation-other	#f5c400

About Constants
Constants as Data and Variables
Constants in MDS Components
Styling Custom Components With Constants
Editing and Proposing Constants

Current Constants
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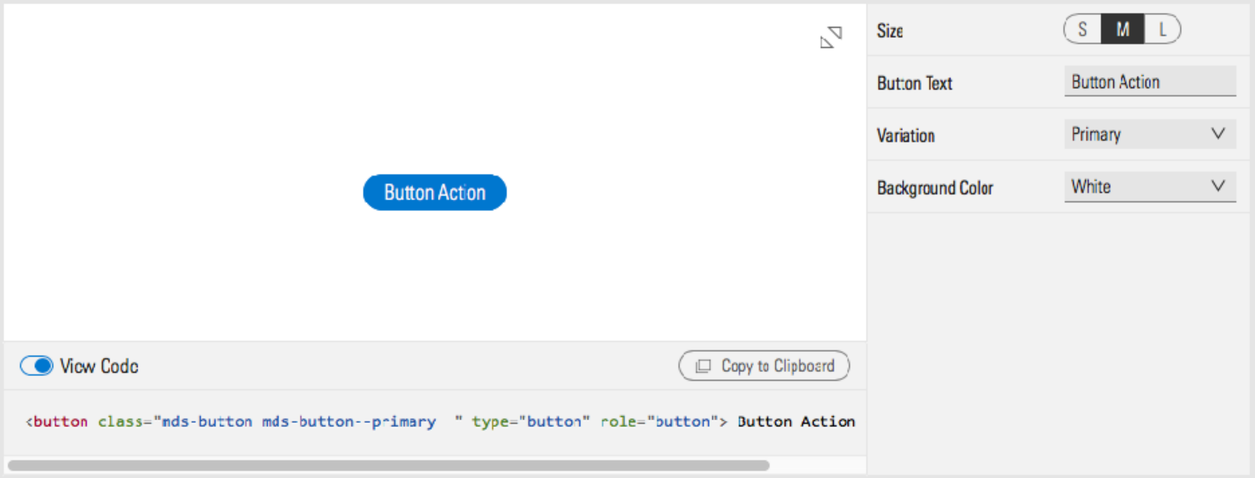
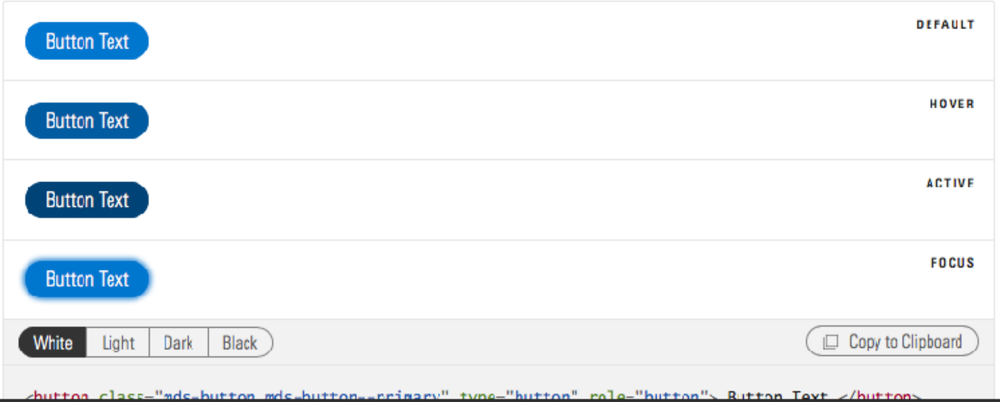
Buttons

Buttons trigger interactions throughout the experience.



Primary

Use for highest-priority actions that are required to complete the user's task.



Variations
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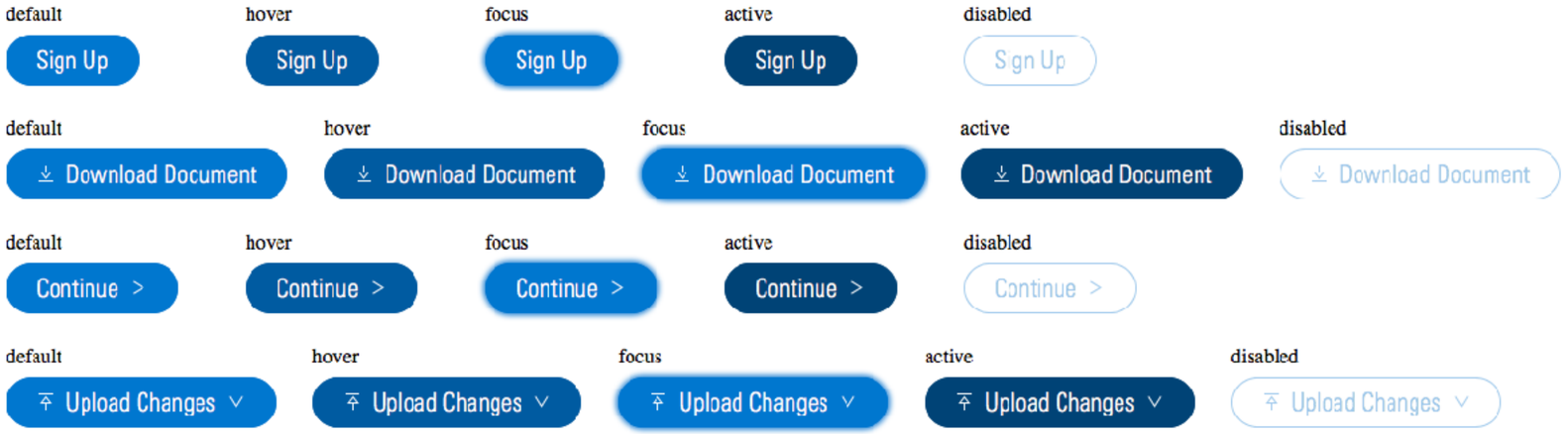
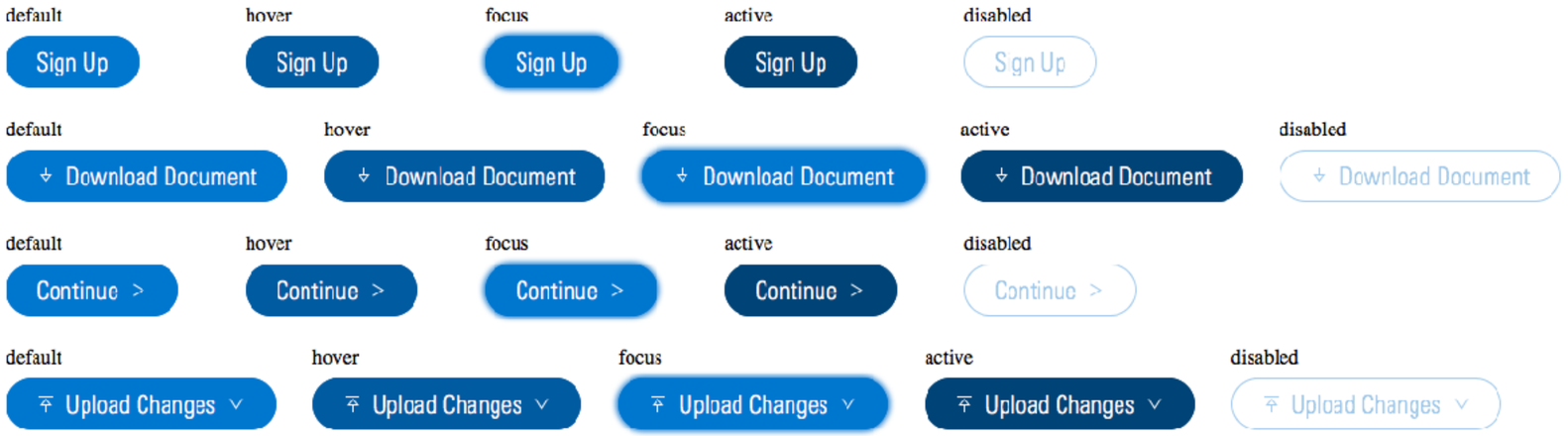
Element= "input-button"

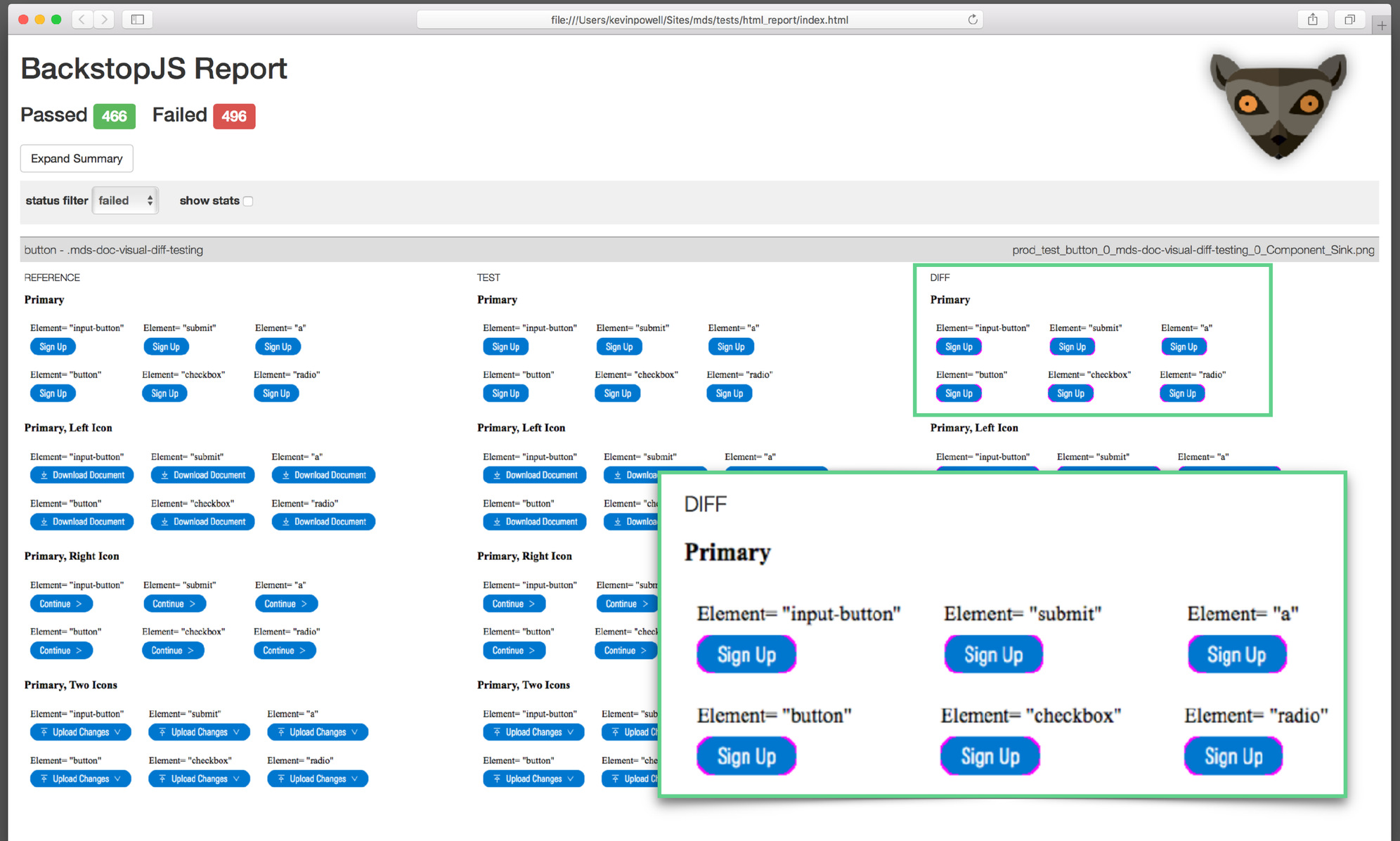


Element= "submit"



Element= "a"

Visual Diffing with BackstopJS 3



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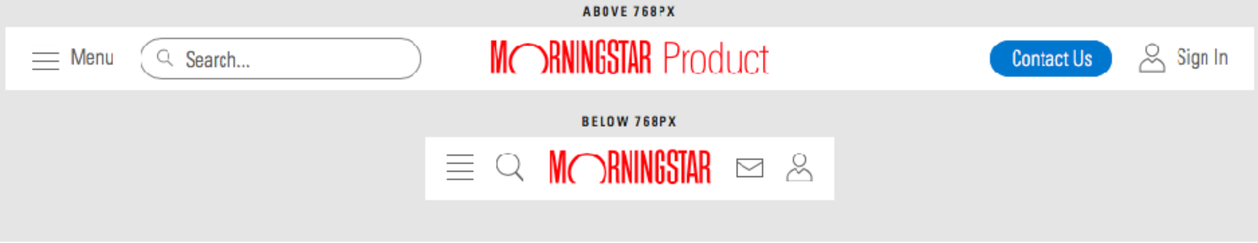
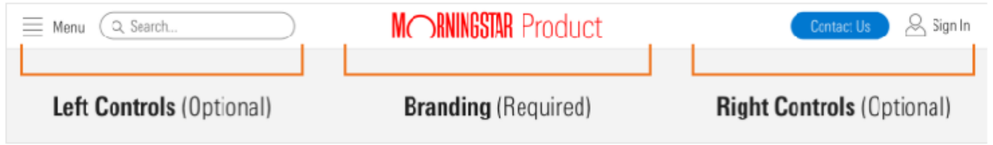
Mastheads

Mastheads provide a shared foundation for Morningstar web properties by presenting branding and key functionality in a set of standard responsive configurations.



Mastheads consist of one required and two optional elements:



1. Branding (required).
2. Left controls (optional), which contain a Button to trigger a hidden menu and a Search Field.
3. Right controls (optional), which contain calls to action and sign in/user account menu access.

Default

Use to establish the foundation of a product masthead.

DEFAULT

Variations
Default
Left Controls
Right Controls
Tall

Responsiveness
Default & Tall
Controls

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Default With Controls
Tall With Controls

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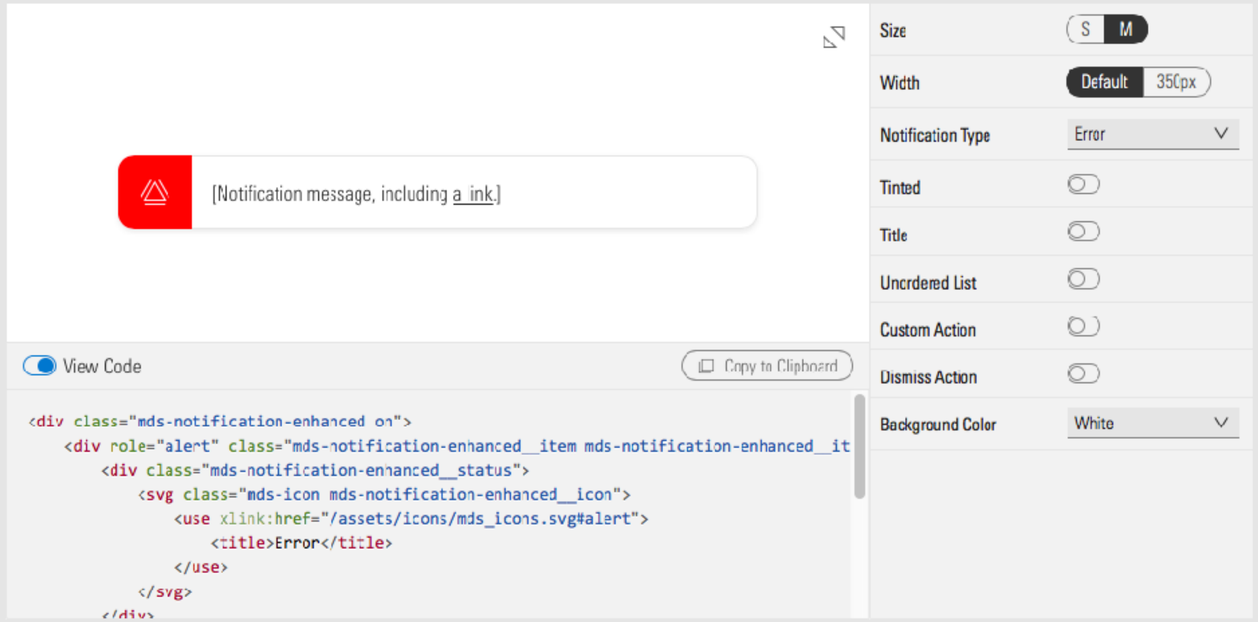
Notifications

Notifications float in front of page content and provide information about page-level or out-of-view events. There are four types: error, warning, success, or informational.

(Note: Notifications have been enhanced. The legacy Notifications are still supported, but are deprecated and will be removed in v2.0.)



Anatomy

Anatomy
Variations
Error

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Style Map
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Vertical Bar

Release History

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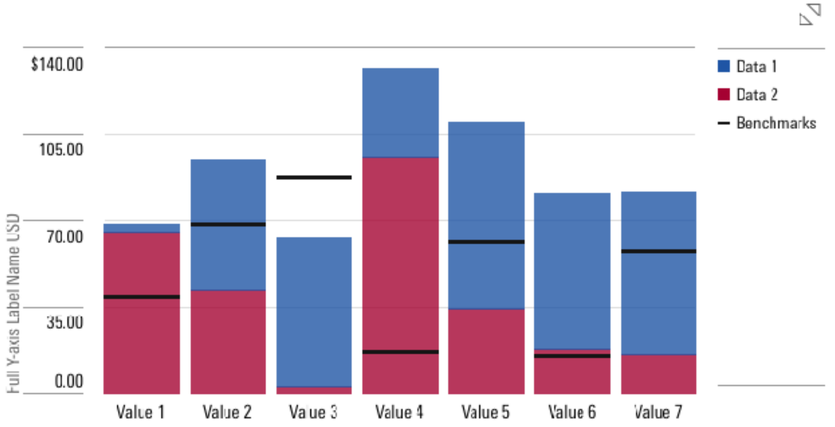
▼ UX Patterns
Errors
Navigation

ABOUT NDS

Vertical Bar

Vertical Bar charts compare different items or the same item over time.



Number of Bars: 7
Bar Style: Stacked
Show Negatives
Y-Axis Placement: 1 Axis, Left
Y-Axis Label
Label Style: Full | Abbreviated
Benchmark
Style: Solid | Connected
Grey Bands
Tooltips

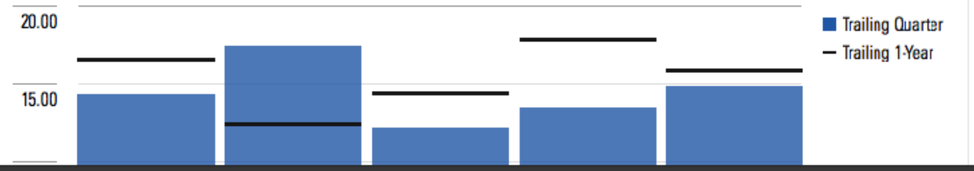
View Code

Copy to Clipboard

Guidelines

Use When

- Representing information compared against other information, such as with a point-in-time Return Chart.



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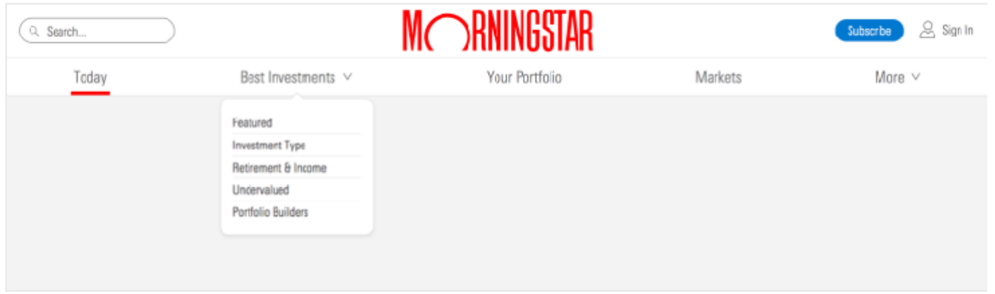
ABOUT NDS

Navigation

Navigation presents familiar UI components in a set of common configurations, helping users intuitively navigate within and interact with products across the Morningstar ecosystem.



Problem Statement
Principles
Types
Hierarchal
Sequenced
Faceted
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Related Resources

Problem Statement

Users want to intuitively move about Morningstar products, easily accessing information and functionality with the help of concise, efficient navigation. Users want to recognize familiar, consistent navigation patterns as products scale and evolve and are viewed across multiple viewports.

Principles

Navigation should:

- Offer a user a consistent entry point to application features or website content.
- Group features or content into high-level main topics, from which a user can dig progressively deeper in to subsections.
- Visually indicate a user's current location or progress through a workflow.

Switches
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Contributions

The Morningstar Design System welcomes contributions from designers and engineers.

Why Contribute?
Time Commitments
Common Commitment Examples
Process
Meeting Attendance
For Contributors
For Segment Owners

Why Contribute?

A product designer or engineer may contribute to a design system because:

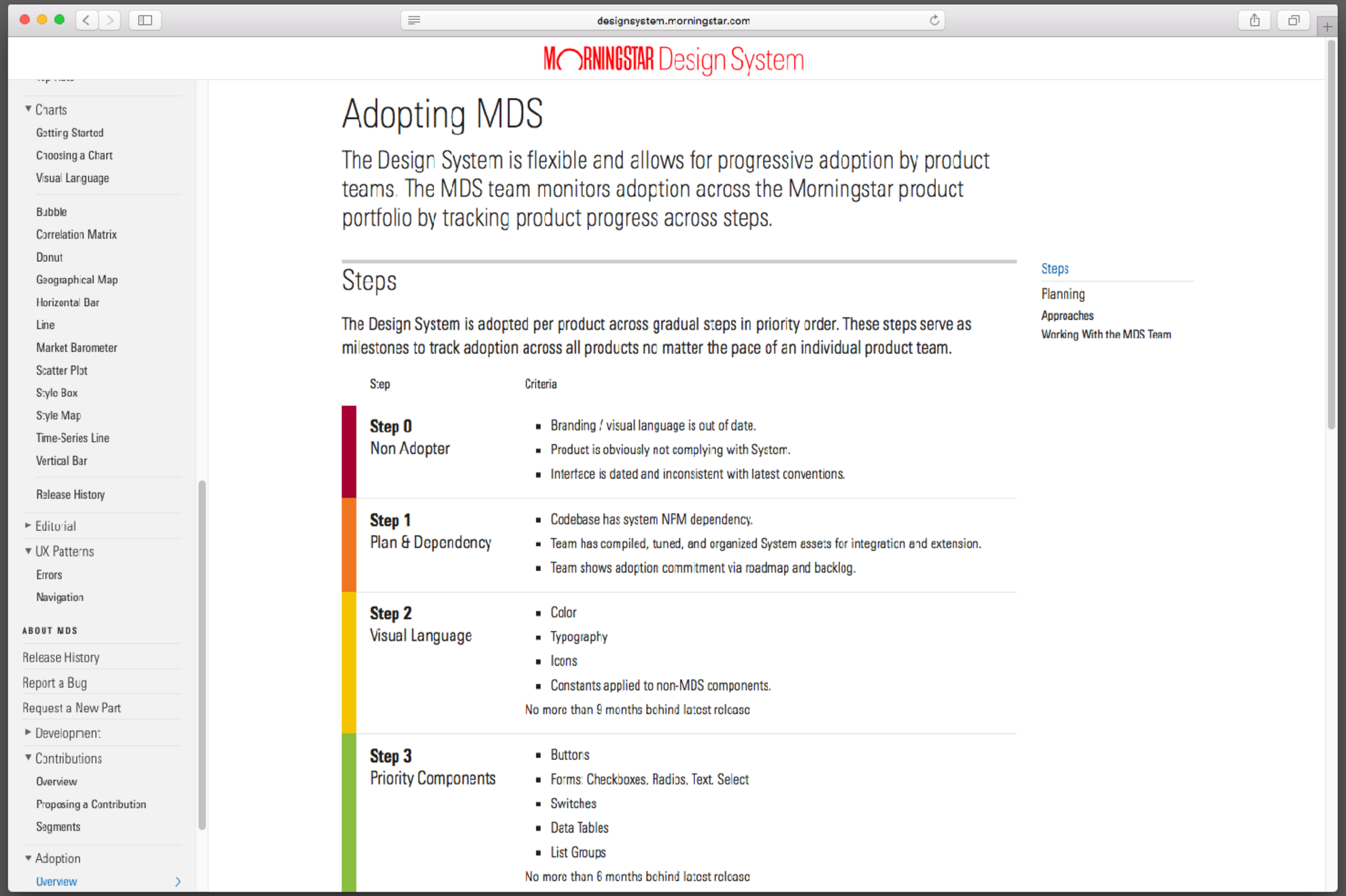
Rationale	Relevance
Current product work (such as a new component) is relevant to other products	High
Influence to shape the system's outcomes, quality and priority towards product squad needs	High
Contributing deeply familiarizes product team member with system architecture	Medium
Participation over time merits influence on system direction and priorities	Medium
Extensions to the contribution may be supported by the MDS team (instead of remaining a burden of a product team)	Medium
Product team is recognized as a key contributor, highlighted in communications	Medium
Expertise is useful to other product teams	Low
Develop reputation as an expert	Low
Passions are stirred!	Low

Time Commitments

Designers and engineers contribute design and code to MDS using time balanced against commitments to their squad, as confirmed by that squad's leader and the MDS team.

Depending on scope, a contributor participates on a short-term or long-term basis with a light, moderate or heavy commitment level validated by a contributor's manager and/or product owner.

Commitment level	Short term contributor	Long term contributor	System team member	Segment owner
Heavy	32 hr/week	16 hr/week	20 to 40 hr/week	N/A
Moderate	16 hr/week	8 hr/week	N/A	N/A
Light	≤ 4 hr/week	~4 hr/week	N/A	4 hr/week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Adopting MDS
The Design System is flexible and allows for progressive adoption by product teams. The MDS team monitors adoption across the Morningstar product portfolio by tracking product progress across steps.
Steps
The Design System is adopted per product across gradual steps in priority order. These steps serve as milestones to track adoption across all products no matter the pace of an individual product team.
Step
Criteria
Step 0
Non Adopter
Branding / visual language is out of date.
Product is obviously not complying with System.
Interface is dated and inconsistent with latest conventions.
Step 1
Plan & Dependency
Codebase has system NPM dependency.
Team has compiled, tuned, and organized System assets for integration and extension.
Team shows adoption commitment via roadmap and backlog.
Step 2
Visual Language
Color
Typography
Icons
Constants applied to non-MDS components.
No more than 9 months behind latest release
Step 3
Priority Components
Buttons
Forms: Checkboxes, Radios, Text, Select
Switches
Data Tables
List Groups
No more than 6 months behind latest release
Steps
Planning
Approaches
Working With the MDS Team

Thanks!