Komponentbaserad design

BEM, Sass och designsystem

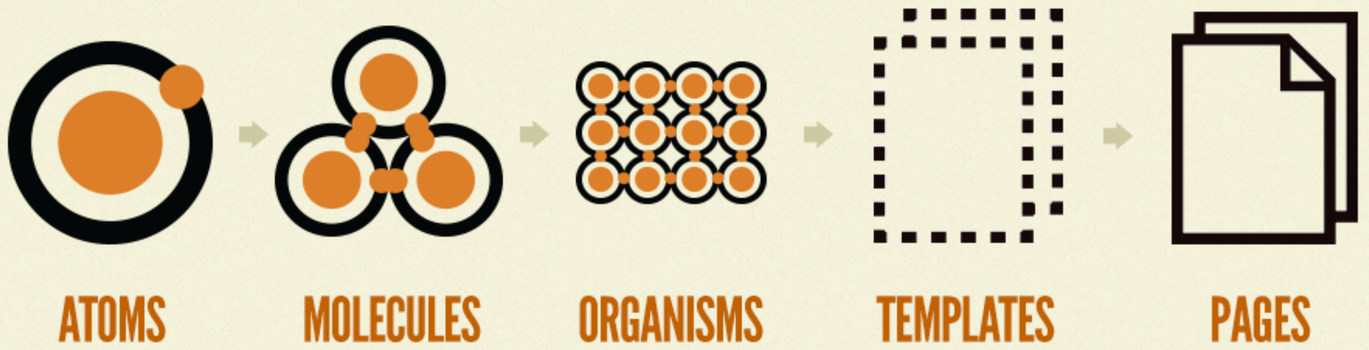
En komponent?

“It’s contradictory to design a component with the intention of reusing it globally, then modify that component in just one specific part of the product. This defeats the purpose of creating a global component library in the first place. Whenever I see styles that override other styles, it’s usually either a case of hacking away at a component in order to make it fit in a tight space or tacking on a variation of a component because not enough planning went in during the earlier design stages.”

– Colm Tuite
(https://medium.freecodecamp.com/how-to-construct-a-design-system)

Atomic design

- Skapat av Brad Frost
- Ett system för att förstå saker i beståndsdelar
- Skapar en medveten hierarki
- Minimerar risk för oavsiktliga förändringar i andra delar

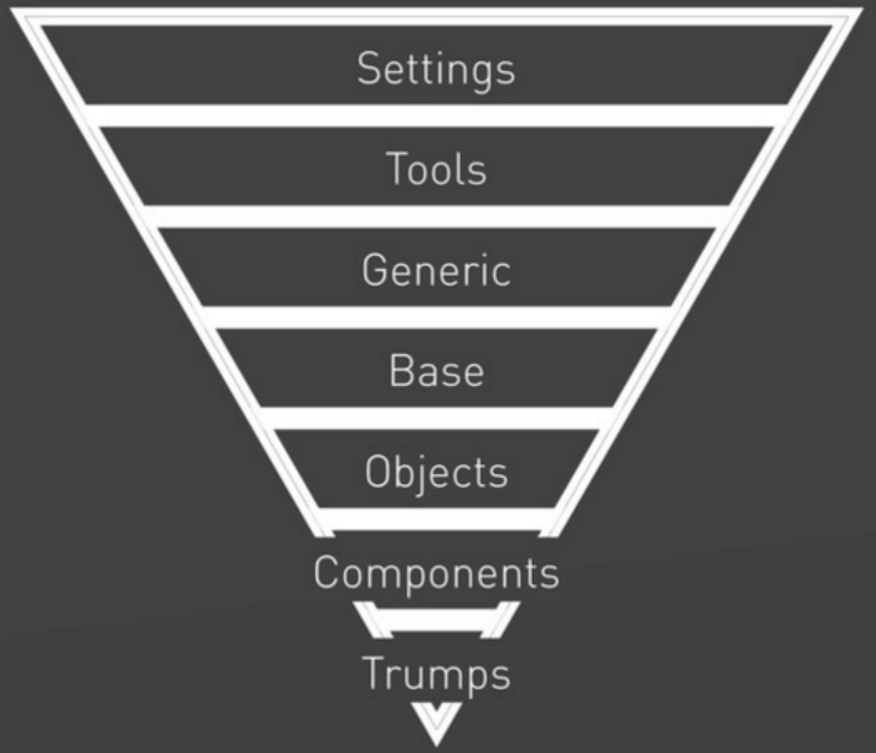

ATOMS
MOLECULES
ORGANISMS
TEMPLATES
PAGES

Kontext

- Arv, ägande
- Kontext
- Overrides (“trumps”)

ITCSS

- Skapat av Harry Roberts
- Inverse Triangle CSS
- Försöker lösa problemet med hög specificitet och svårigheter att utföra ändringar utan att förstöra på något annat ställe
- Skapar en medveten hierarki över vilka element som får bestämma över andra


Settings
Tools
Generic
Base
Objects
Components
Trumps

Demo: Specificity Calculator

Demo: Parker

Linting

- Tolkar och godkänner din kod enligt en uppsättning regler
- Kan ofta ange olika grader av “felaktighet”: varning, driftstopp...
- Kan kombineras med automatisk rättning
- Tar bort olikheter i kod trots att flera personer skrivit samma kod
- Säkerställer kvalitet och enhetlighet

Demo: Stylelint

Silent classes

```
%class {
    color: red;
    width: 50%;
}

.class { @extend %class; }
.class__variant { @ extend %class; color: green; }
```

- En “silent class” syns inte i CSS innan den används
- Bra sätt att tänka på baskomponenter (OOP: basklass)

PostCSS

- “A tool for transforming CSS with JavaScript”
- Gör att man kan lägga till funktionalitet som inte existerar i CSS
- Kan köras som preprocessor eller som “plugin” via ex. Gulp

Demo: http://postcss.parts

PhantomCSS

- Visuell regressionstestning av CSS
- Drivs av PhantomJS och Casper
- Kan automatiseras massor
- Vanligt use case är att diffa en enskild klass/komponent

Demo: PhantomCSS

Storlekskontroll

- Driv i princip alla storlekar från global nivå
- Rem-värden på media-queries på HTML-elementet
- Em-värden på saker inuti rem-värderade komponenter

BEM

- Block
- Element
- Modifier

```
.office {
  display: inline-block;
  margin-bottom: $margin * 4;
}
```

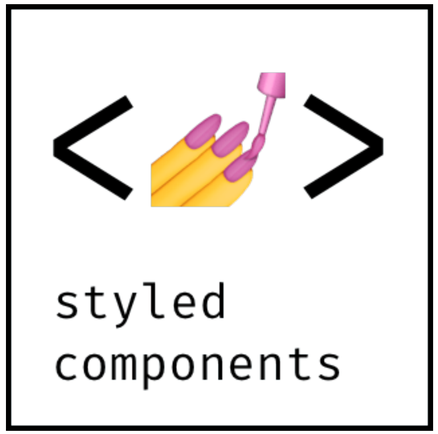
```
.office__salesperson {
  width: 100%;
  display: inline-block;
  margin-bottom: $margin * 2;

  @media screen and (max-width: $size-
mobilexl) {
    margin-bottom: $margin * 4;
  }
}
```

```
.office__salesperson--portrait {
  width: 75%;

  @media screen and (max-width: $size-
mobilexl) {
    width: 50%;
    margin-left: 25%;
  }
}
```

Olika initiativ



Designsystem

Tidigare motsvarigheter

- Brand manual
- Styleguide
- Branding guide lines
- Visual manual


National Aeronautics and
Space Administration
Graphics Standards Manual
NASA

2

Reproduction Art: Logotype

This page contains camera-ready reproduction artwork for the NASA logotype. This artwork may be reduced or enlarged photographically.

For additional supplies of reproduction art, contact the graphics coordinator at NASA Headquarters.

NASA Signs

General Principles

Simple, functional, contemporary signs are an integral and effective part of the NASA Unified Visual Communications System. The sign demonstrations shown on these pages should serve as models when signs are being developed for a particular site, building, or facility. They are intended to provide general guidelines when NASA sign systems are being planned.

Signs function on many different levels, but their basic purpose is to communicate to a specific audience. They identify facilities, guide to a desired location, warn, notify, or announce something to the sign user.

This signage section is divided into two fundamental parts, exterior (6.1) and interior (6.2), but certain principals apply to both categories. The following points should be reviewed and considered at the inception of signing activity.

Employ a systems approach to signing. Begin by developing an overall plan of signage based on a logical sequence of events which includes: arriving at a facility, going to a specific building, then seeking a floor and room number. Relating the specific sign to a larger context will yield the best results. Also, categorize signs by functional types as a method of simplifying the overall signing task.

A sign should be thought of as a large-scale headline; therefore, language should be clear and concise. Brevity is desirable in order to communicate quickly, especially to drivers of vehicles.

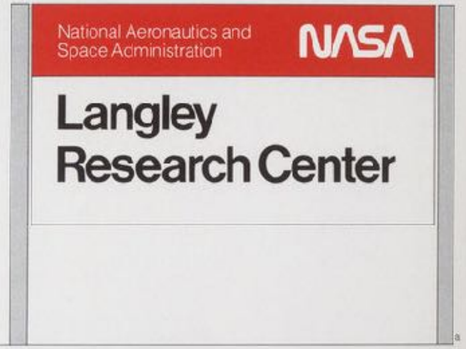
Placement of the sign is very important. The sign should be placed for optimum viewing distance. It is good to test these conditions by creating mockup signs out of photostats and inexpensive materials, and thus determine their effectiveness before fabricating the finished product.

Consider environmental factors when developing signage. Weather conditions should determine the material selected and the fabrication technique. Color should be chosen based on the type of surround conditions which prevail; i.e., a dark background with reversed (white) letters will be more legible against a bright desert sky.

Use consistent message formats to create a uniform look and coordinated sign program. NASA signs should employ the flush left, ragged right format as demonstrated on these pages.

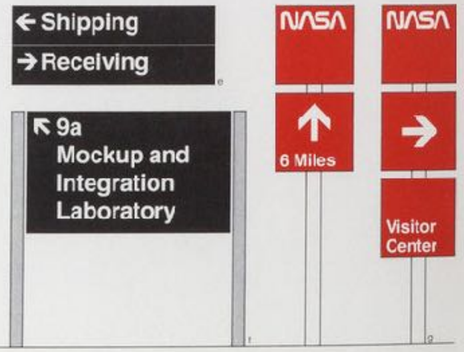
Exterior Identification

a. Site sign at major facility. Should be executed in a permanent material such as aluminum or molded reinforced fiberglass. Should include a reveal (shadow groove) between sign and posts.
b. Building mounted identification sign.
c. Contractor sign. Possibly modular so that the bottom portion can be replaced.
d. Wall mounted, free standing metal letters. May be appropriate for a main building or Visitor Center. Dimensional letters must be of highest quality and complementary to the architectural surface. Mockups should be tested for material, color, height and depth of letters, method of affixing to building.



Exterior Informational

e. Wall or ceiling mounted directional signs. May be metal or acrylic. Note: relationship of arrow to height of capital letter.
f. Facility directional sign constructed similarly to item a (above).
g. Trailblazer signs. Can be metal for permanent use, or painted wood for temporary use.
h. Informational sign uses abbreviated language style for speed of communication.
i. Map and location directory can be metal, reinforced fiberglass, or other permanent medium. Graphics must be simple and stylized to aid the user. May be back lighted if appropriate.
j. Parking sign with replaceable bottom portion. Letterform "P" is from D.O.T. Symbol Signs library.
k. Sign displays much information in a small space.
l. Modular sign serves to warn viewer of possible danger and restricts access.
m. Modular sign restricts entry or passage.




NASA
NASA
NASA
United States
NASA
947
NASA
947
NASA
947
NASA
NASA
Fire Department
NASA

Examples and combinations of the Arrow, directional information and color coded identification

1. Situation directing left to all trains.

2. Directional situation where the exit is to the left as well as to the right.

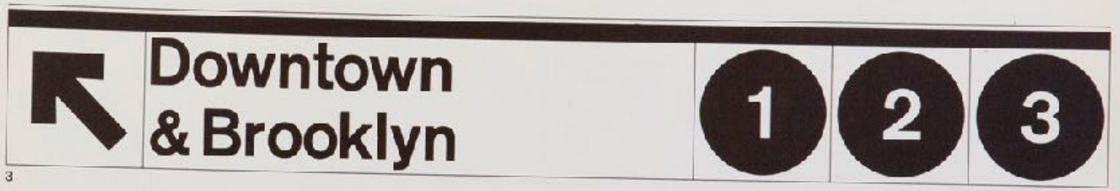
3. Situation preselecting the flow pattern to avoid traffic jam.

4. Situation at corridor intersection, e.g. straight ahead for lines EE, N, QB, RR. For line 2 branch to the right.

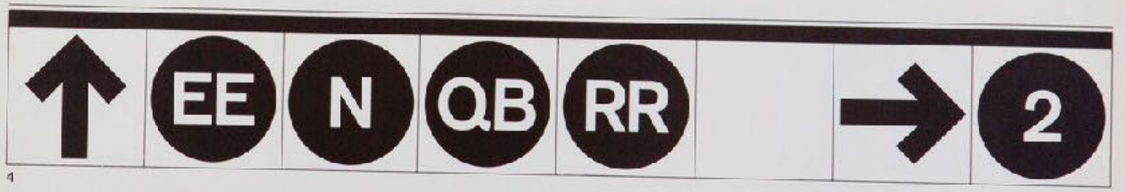
Note: When there is a change of direction indicated on the same sign to avoid confusion there should be a blank module 1 x 1' to separate the two directions. (see 4)

1

2



3



4

Fort Hamilton Pkwy
Grand Av-Newtown
Hewes St
High St
Jackson Hts Roosevelt Av
Houston St
Grand Central-42 St
Franklin Av
Flushing Av
Franklin Av
Eastchester-Dyre Av
Flushing Av
Franklin St
Flushing-Main St
Delancey St-Essex St
Eastern Pkwy Brooklyn Museum
Cortlandt St
Church Av
Cathedral Pkwy (110 St)
Church Av
Court Sq
City Hall
Central Av
Ditmas Av
Court Sq-23 St
Clark St
Freeman St
Fordham Rd
Elder Av
Dyckman St
Court St
Classon Av
Howard Beach JFK Airport
Grand St
Fresh Pond Rd
Fordham Rd
Elmhurst Av
Kings Hwy
Jamaica Center Parsons/Archer
Grand St
Fulton St
Forest Av
Euclid Av
Lexington Av-53 St
Grant Av
Fulton St
Forest Hills
Mets-Willets Point
Kings Hwy
Hoyt-Schermerhorn
Greenpoint Av
Fulton St
Lexington Av-59 St
Kings Hwy
Jamaica-Van Wyck
Gun Hill Rd
Kingsbridge Rd
Hoyt St

Nygamla sätt att jobba med design

- Pattern libraries
- Styleguides
- Design systems
- Design languages

Skillnader då och nu

- Är ofta statiska; vi har ofta dynamiska behov (interaktion etc.)
- Enheter är anpassade till statiska ytor; våra är sällan det (em etc.)
- “Gammaldags guider” har svårt att kommunicera helhetsupplevelsen
- Digitala guider har inte tidigare tagit på allvar ex. tone-of-voice och andra mjuka värden

BBC iWonder Brand Book | Primary Identifiers Colour

Colour

We use colour to promote our personality and lead users on a journey.

Our colour choice is bold and high impact. Intelligent and authoritative, the colours work with our unique content and imagery to provide a powerful visual assault.

Our palette combines bold, inquisitive tones with fascinating vibrant brights to grab the users attention and reflect our curious and captivating personality.

Resources

Full colour breakdowns are listed on the following pages.

Colour Palettes

Primary Palette

Charcoal | Petrol | Forest | Lime | Aqua

The Primary Palette should be used on all iWonder communications

The Primary Palette is used to create journeys across Interactive Guides. See page 36 for more information

Bitesize Palette

Goldfish

Only for use across all Bitesize content

It should not be used outside the product area except to promote Bitesize content

Base Palette

Black | Putty | White

Designed to work globally across the iWonder product

The neutral tones are relaxing and easy, encouraging user engagement and creating an environment for conversation and understanding.

Journeys

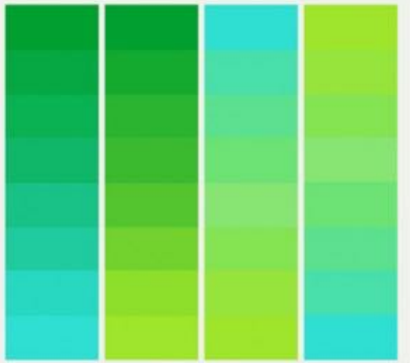
By following this system we can create eight Journey Palettes to guide the audience. Each uses colour from the Primary Palette, starting from the darker tone and ends on a brighter tone with a maximum of eight steps.

Resources

Please see the Appendix for linked Colour Journey Guidelines.

Usage

Only these colour journeys can be used.



Hook Images

Hook images are a core part of our brand – they deliver our 'Brilliantly Curious' personality through close crops, shallow depth of field and a shift in focus. These techniques intrigue, fascinate and hook the audience into content.

Our most curious images, Hook images should be used at the beginning of an audience journey, provoking the user to discover more.

Resources

Please see the Appendix for linked Image Guidelines.

Usage

Online

Intro step, Guide Preview, Genre Header, Promo Space, Page footers.

Offline / onscreen

Communications which need to engage, intrigue and provoke curiosity.

Hook images are the lead to iWonder content.

Size

Original images should be as large as possible to allow for close cropping.

Source: Getty Images

DO select fascinating and visually-rich images: Use realistic images. Show bold content. Close cropped.

DO select images with a shallow depth of field: Use the foreground and background for maximum impact.

DO think of the images as part of a sequence or story.

DON'T reveal too much at the Hook.

DON'T use white backgrounds.

Narrative Images

Narrative images continue the audience journey. They help to tell the story and provide visual context, allowing our users to pause for consideration.

Narrative images should follow Hook images in a Guide and feature images of medium focus. Wherever possible capture a moment in time. The protagonist should be clearer, whilst retaining an element of curiosity to hold the users attention.

Resources

Please see the Appendix for linked Image Guidelines.

Source: Getty Images

Usage

Online

Narrative step in a Guide.

Offline / onscreen

Can be used in a narrative/ explanatory context.

They should not be used as an introduction to the brand or content – Hook images should be used.

Size

Original images should be as large as possible to allow for close cropping.

DO use medium focus but still retain a sense of intrigue.

DO select fascinating and visually-rich images: Use realistic images. Show bold content. Close cropped.

DO think of the images as part of a sequence or story.

DO think of the images as a moment in action, adding to or explaining content.

Source: Getty Images

DON'T use images which confuse the

Type

Title 1 · 44/56

Title 2 · 32/36

Title 3 · 24/28

Large · 19/24

Regular · 17/22

Small · 14/18

MICRO 1 · 8/8

A11y Color

Rausch
#FF5A5F
3.05:1

A11y Babu
#00A699
3.03:1

A11y Arches
#FC642D
3.0:1

A11y Hof
#484848
9.14:1

A11y Foggy
#767676
4.54:1

Spacing

8 · tiny

16 · small

24 · base

48 · large

64 · x-large

DLS Content Components

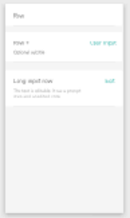
Content Components

Sect. Headers

Section Headers

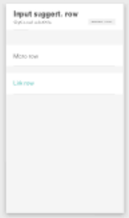
Rows

Standard Rows



Tween Rows

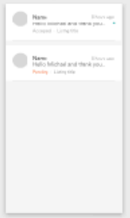
Specialty Rows



Text Rows

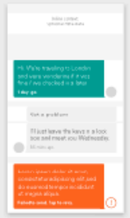
Messaging

Messag...w Rows



Input Bars

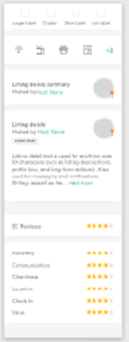
Message Thread



Specialty

Exotics

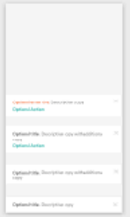
Listing Details



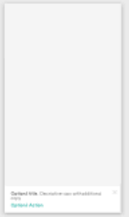
Listing...view Row

Toastifications

Toasts



Stacking Toasts

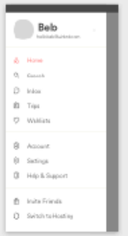


DLS Navigation

Navigation

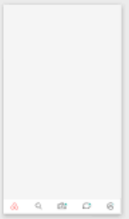
Android

Androi...ice Nav



iOS

iOS Tab Bar

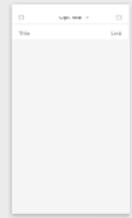


Pages

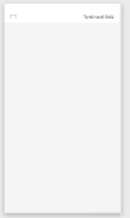
Nav for...arquees

Nav for...arquees

Nav for...er Pages



Collaps...arquees



Collaps...arquees

Digitala styleguides får inte stanna vid att bara visa en bunt knappar

Struktur

- Moduler snarare än sidor
- Komponenter är helt självständiga
- Komponenter har en totalrelation mellan sina teknologier (CSS, HTML, JS etc)
- Gemensamma konventioner driver guiden, ingen plats för tyckande
- Hård källkontroll: linting, iterativa arbete, ladda hellre modulärt (Fragment, Epi-block, React etc.) än att replikera samma kod

Demo: Only

Att underhålla en styleguide

- Suboptimalt att göra större manuella uppdateringar
- Gör uppdateringar långsamma och osäkra
- Mycket smartare att satsa på ett generativt, templatat system ex. Hologram eller SC5
- Bör visa åtminstone grundutförande, states, markup, JS och styling-möjligheter

Hologram

- En template-driven motor skriven i Ruby som skapar en levande styleguide från dina Sass-filer
- Det enda du behöver göra är att dokumentera i dina Sass-filer enligt ett enkelt mönster
- Styleguiden som självständigt objekt kan sedan poleras upp, snyggas till och anpassas för bredare användning

Demo: Hologram

Demo: Lightning Design System

Best practices

Devops för design

- Omedelbar möjlighet att se resultat
- Alla skall ha möjlighet att ha en god bild av hur designen gestaltar sig, bortanför mockup-skärmar
- Guiden byggs omedelbart vid projektstart, troligen av ett helt eget team eller av personer med detta som “byggmiljö”
- Bör vara konsekvent och strategiskt riktig enligt projekt/kund/produkt

Struktur

- Namnkonventioner
- Gemensam struktur (foldrar etc.)
- Gemensam tillgång (Git, Drive, Dropbox...)
- Kollaborativa system gör att en projektägare kan godkänna ändringar – detta förtydligar ägandeskap

Pipeline

- Jobba endast i 1X för true-to-scale (“retina" påverkar endast pixeltäthet)
- Grafik skall alltid levereras som sådan, lämpligen i SVG
- Interaktioner bör specas även i pseudokod för att vara maximalt återanvändbara – att fundera kring tillämpning är också designerns ansvar
- Blir allt vanligare med arbete kring (mikro-)animationer med verktyg som Principle
- Allt fler kunder väntar sig klick-prototyper vilket numera går att skapa på långt under en timme med ex. Adobe XD, InVision, Marvel

Handoff

En komponent genomgår minst fyra steg av test/handoff:

1. Koncept
2. Visuell styleguide (ex. Sketch)
3. Digital styleguide (ex. Hologram)
4. Interaktion (JS...)

Lessons learned

Kan ytterligare förbättra hur placeholder-extends fungerar

Fortfarande inte 100% isolerade

Använd em-värden i rem-värderade ytterkomponenter

Var mer finkornig än nuvarande “components”-mapp

Framtiden för komponenter

Fler designsystem kommer att lanseras

“Trivial” HTML och CSS kommer systematiseras och begära mer kompetens redan på ingångsnivå

Fler verksamheter drivs av en digital tjänst eller produkt – större efterfrågan

Nya titlar och kompetenser inom front-end: bredare upptagning från andra designverksamheter

Workshop

Skapa komponent med Sass/ BEM utifrån specifikation

Skapa varianter av komponenter med Sass/BEM

Skapa kontexter/kompositioner för komponenter

Ställ in Stylelint (och stylefmt)

Gör Parker-analys

Göra regressionstest i PhantomCSS

Dokumentera i Hologram