



Vietnam National University of HCMC  
International University  
School of Computer Science and Engineering



# UI/UX Design & Evaluation

## ★ Visual Design and Fluid Navigation ★

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<https://vichithanh.github.io>



SCAN ME

# Course Overview

1. Introduction to HCI
2. Needfinding
3. Defining needs and tasks
4. Prototyping
5. **Design guidelines, principles, and heuristics**
6. Human abilities and theoretical models
7. Visual design and design patterns
8. Heuristic evaluation
9. Usability testing
10. Advanced interactions

# Hall of Fame or Shame?



# Visual Design

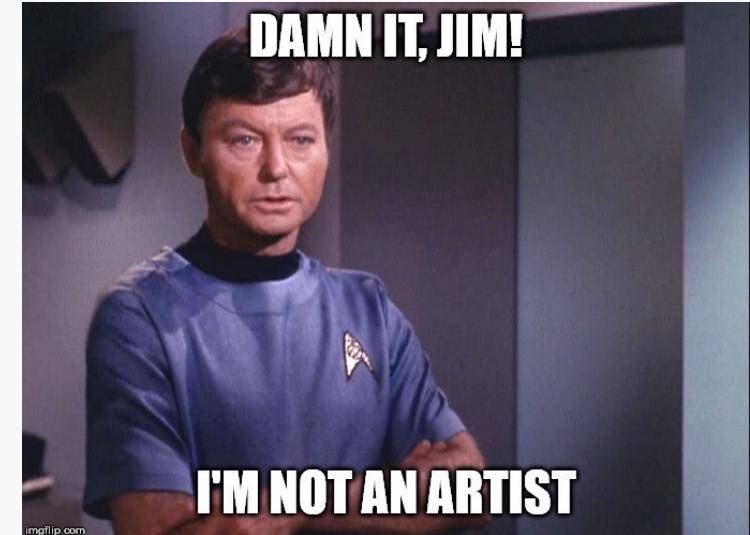
Aesthetics for helping users in understanding and navigating the UI

# Visual Design

- **Guiding:** conveying structure, relative importance, relationships
- **Pacing:** people into your app, orienting them, and showing where to go, drawing providing hooks to dive deeper
- **Messaging:** expressing meaning and style, breathing life into your content
- Both at the conscious and sub-conscious levels
- And also...
  - Making everything look aesthetically beautiful (but this is not the goal)

# Visual Design vs. Art and Artistic Skills

- A.k.a. «Help, I'm not an artist!»
- Artistic skills help a bit but are neither necessary nor sufficient
- Art does not need to be practical; design does
- Real design skills take years to master
- Widely-accepted heuristics are a good and easy start



# The Basics of Visual Design

Basic visual design involves text, layout, and colors. First let's start with text. Gracefully using whitespace helps separate out logical chunks of content. Next, font size and style differences convey hierarchy. Finally, alignment is crucial for helping readers scan quickly.

# Whitespace

Basic visual design involves text, layout, and colors. First let's start with text.

Gracefully using whitespace helps separate out logical chunks of content.

Next, font size and style differences convey hierarchy.

Finally, alignment is crucial for helping readers scan quickly.

# Hierarchy

Basic visual design involves ...

## **Text**

Gracefully using whitespace helps separate out logical chunks of content.

Next, font size and style differences convey hierarchy.

Finally, alignment is crucial for helping readers scan quickly.

## **Layout**

## **Colors**

# Alignment

BASIC VISUAL DESIGN

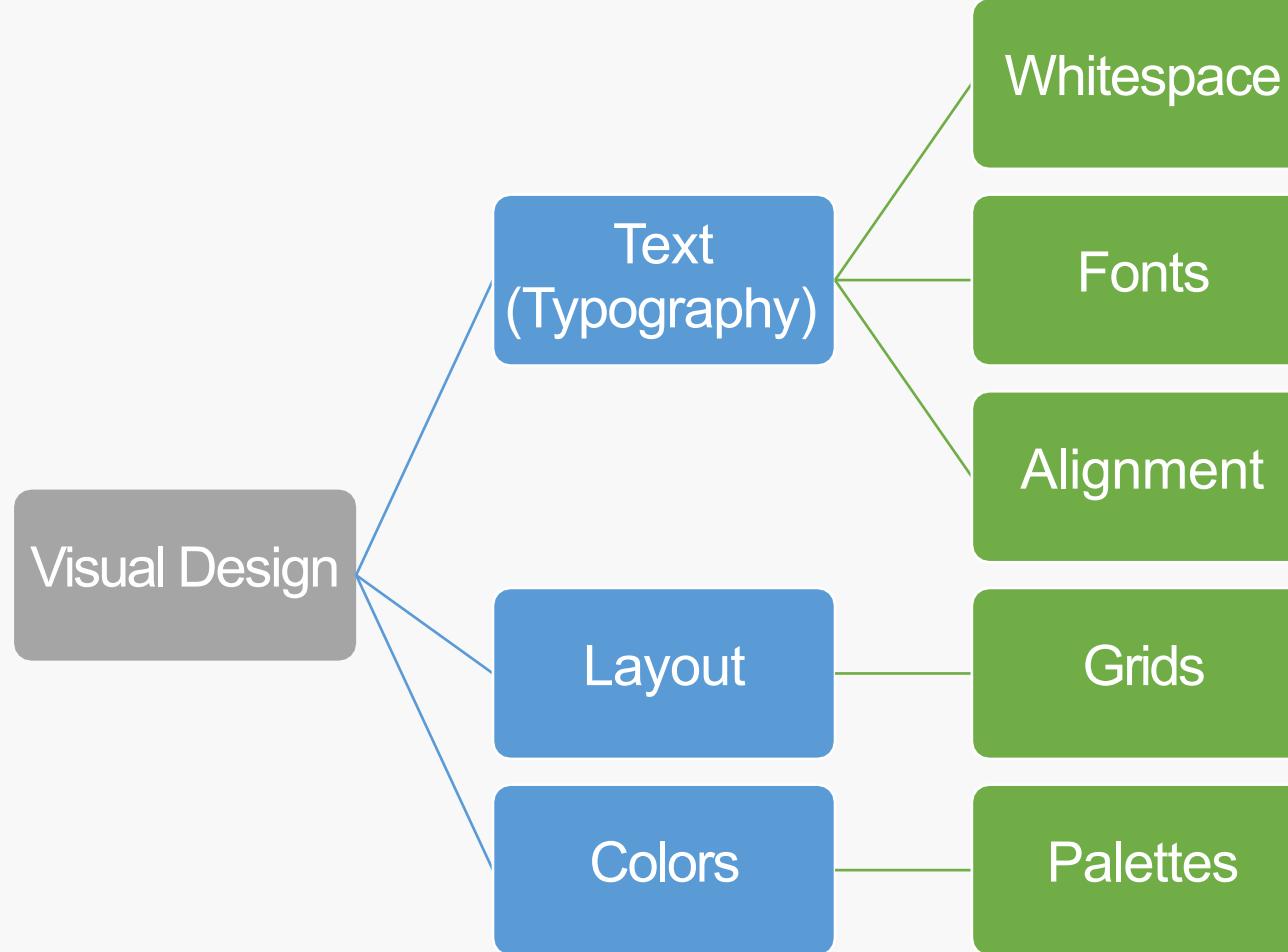
## Text

- **Whitespace**: helps separate out logical chunks of content
- **Font**: size and style differences convey hierarchy
- **Alignment**: crucial for helping readers scan quickly

## Layout

## Colors

# Key Ingredients



# Recognizable Page Structure



# Recognizable Page Structure

CNN World US Politics Business Health Entertainment Style Travel Sports Videos Edition 🔍

NEW PODCAST: Tug of war | COVID-19: Vaccination tracker | TRENDING: Elon Musk | Oldest surviving Miss America dies | SpaceX toilet problem | Queen |

## Brazil has big green plans. But its track record is dismal



The Brazilian government is bringing ambitious promises to the UN climate summit, but can it be believed?

Queen Elizabeth II tells world leaders at COP26 there's 'room for hope' on climate

Biden apologizes to world leaders for Trump's climate actions

How the 'Venice of Africa' is impacted by climate change

**DEVELOPING STORY**

### 22-story building collapses in Lagos, Nigeria



Manchin issues warning to Democrats on Biden's economic package

Analysis: Tim Scott confirms he's on the Trump 2024 train

**ANALYSIS**

### 'Let's go Brandon,' explained

Two conservative justices seem open to arguments from abortion providers

Barclays CEO quits after investigation into links with Jeffrey Epstein

Missile attack on mosque and religious school kills and injures 29 Yemeni civilians

At least 12 people killed and 52 injured in Halloween weekend mass shootings in US

Reporter reveals what Lindsey Graham said during January 6 riot

Analysis: Trump escalates Jan. 6 cover-up

Tigrayan forces accused of killing 100 youths

**News and buzz**

### Elon Musk offers to sell Tesla stock 'right now' if UN can show how \$6 billion would



**Featured**

**Spotlight**

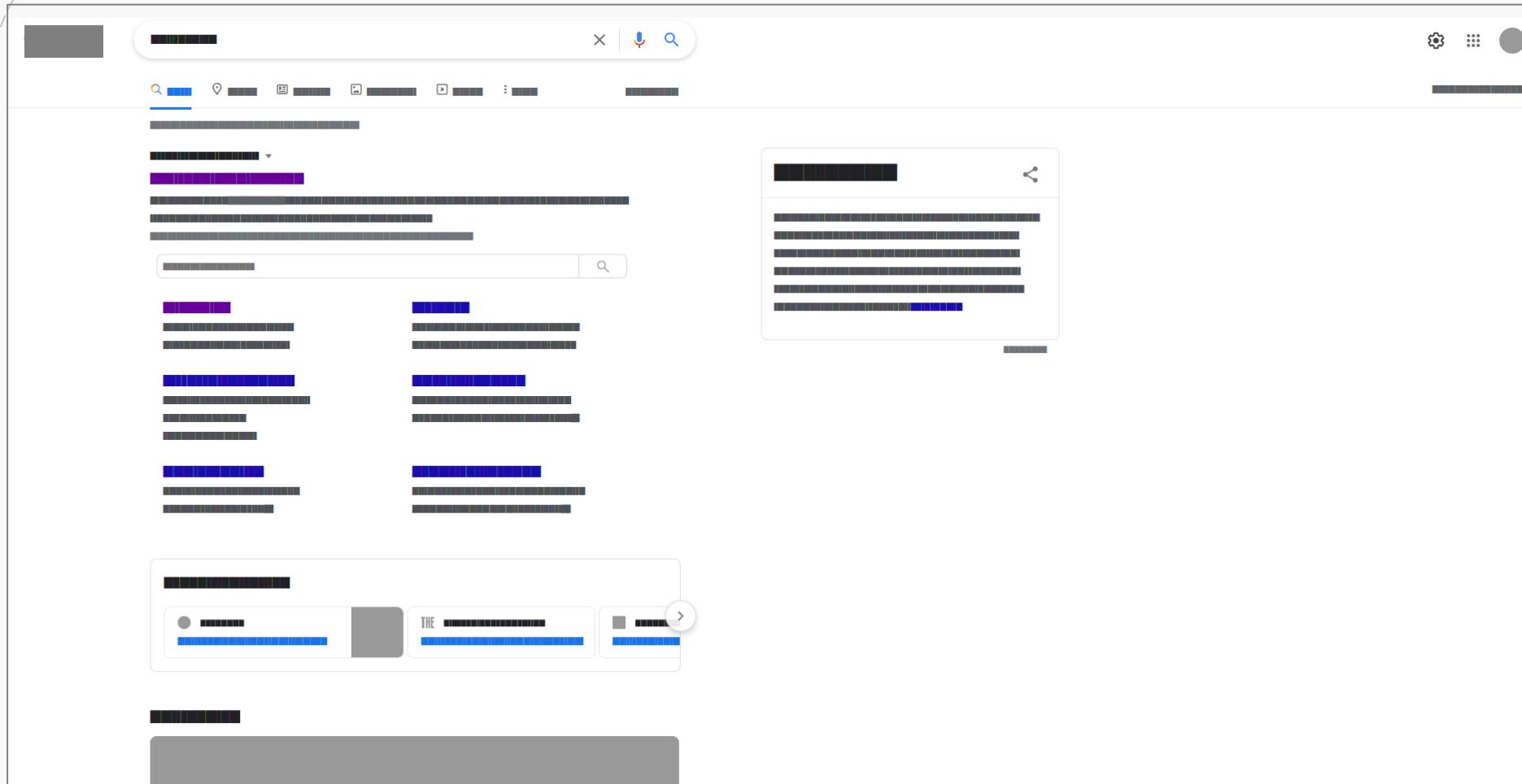


Man scheduled to be executed for murder he says he didn't commit seeks clemency

Could Covid-19 vaccines impair a child's future fertility? Officials say no.

Kal Penn, 'Harold and Kumar' and 'House' star, comes out as gay

# Recognizable Page Structure



# Recognizable Page Structure

The screenshot shows a Google search results page for the query "politecnico". The top result is the official website of Politecnico di Torino, which has over 33 million results. The page includes a sidebar with links to Didattica, Offerta formativa, Apply@polito, and Scoprire l'Ateneo. A detailed snippet for "Politecnico" defines it as a term for a public university in Italy. Below the main content is a "Trova risultati su" section with links to social media and other websites. At the bottom, there is a map of the Milan area.

Google

politecnico

Tutti Maps Notizie Immagini Video Altro Strumenti

Circa 33.000.000 risultati (0,71 secondi)

<https://www.polito.it> ▾

**Politecnico di Torino**

Da 160 anni, il **Politecnico** di Torino è una delle istituzioni pubbliche più prestigiose a livello italiano ed internazionale nella formazione, ricerca, ...  
Hai visitato questa pagina molte volte. Ultima visita: 16/09/21

Risultati di polito.it

**Didattica**  
C.L.A.. Centro Linguistico  
d'Ateneo. [Apply@polito](#).

**Orienta**  
Iscrizione al primo anno - Come  
orientarsi al Polito - Open Days

**Offerta formativa**  
Corsi di Laurea - Piano degli studi -  
Percorso INTRAPRENDENTI

**Corsi di Laurea**  
Computer Engineering - Video  
presentazione - Architettura - ...

**Apply@polito**  
Login - Lauree magistrali - Studenti  
stranieri - ...

**Scoprire l'Ateneo**  
La nostra organizzazione - Sedi e  
mappe - Mappa dei Servizi - ...

**Politecnico**

Politecnico è un termine utilizzato in Italia e in altri paesi per definire un istituto di studi superiori, come ad esempio un'università, autonomo dal punto di vista amministrativo e didattico, le cui facoltà sono di ambito tecnologico, tipicamente ingegneria e architettura. [Wikipedia](#)

Feedback

Trova risultati su

[Facebook](#) Politecnico di Torino - Home [Timeshighereducation](#) Politecnico di Milano | World... [Topuniv](#) Politecnico di

Politecnico

Albertville Bourg-Saint-Maurice Biella Novara Milano Monza E62 A9 A26 A43 A36 Parc national

# Recognizable Page Structure



# Recognizable Page Structure

The screenshot shows the homepage of Stack Overflow. The left sidebar includes links for Home, PUBLIC Questions (selected), Tags, Users, COLLECTIVES, Explore Collectives, FIND A JOB, Jobs, Companies, and TEAMS. The main content area displays a list of questions under 'All Questions' with a total count of 21,855,928. The first question is about 'tasks.json In VS Code'. The right sidebar features 'The Overflow Blog' with posts like 'Podcast 388: Software for your second brain' and 'Why SOLID principles are still the foundation for modern software architecture'. It also includes 'Featured on Meta' posts, 'Collectives' (with Go Language, Google Cloud, and GitLab), and 'Related Tags' (javascript, python, java).

Home

PUBLIC

Questions

Tags

Users

COLLECTIVES

Explore Collectives

FIND A JOB

Jobs

Companies

TEAMS

Stack Overflow for Teams – Collaborate and share knowledge with a private group.

Create a free Team

What is Teams?

All Questions

21,855,928 questions

Newest Active Bountied 326 Unanswered More Filter

Ask Question

task.json In VS Code

I am trying to debug a C program in VS Code. When I run my program from the command line it works because I can add pthread to the args by typing: gcc -pthread -o Draft1 Draft1.c. However, when I try ...

0 votes 0 answers asked 57 secs ago RAINGUARD 1

Android: Push notification and ServerKey

So I was watching few tutorials on whatsapp or chatting apps clone, and all of them are using ServerKey to implement Push notification Serverkey is used inside the app code itself. So I wanted to know ...

0 votes 0 answers asked 1 min ago Mini 15 • 6

2 views

Max profit of Woodcutters

I've got the following problem and couldn't solve it. Maybe someone could help me to find a solution. Daily woodcutters cut trees in the mountains. Every tree trunk is precise 1, 2, 3, etc blocks in ...

0 votes 0 answers asked 1 min ago John Jonathan 41 • 3

2 views

Remove "randomized" and "input" values from a procedural list

first of all sorry if I make mistakes, English is not my mother tongue. I recently played the Werewolf game with some friends, in order to ease the Game Master work I wanted to create a simple Python ...

0 votes 0 answers asked 1 min ago Kuai 1

3 views

How to merge data into azure sql database from delta lake (delta tables in data lake)?

I have a delta table in Azure Data Lake. The table has a business key. I want to write data from this delta table to an external SQL server (that is not hosted in a Synapse SQL dedicated pool). What ...

0 votes 0 answers asked 1 min ago Crow59 188 • 13

3 views

javascript × 2290823

python × 1824472

java × 1808306

17

# Recognizable Page Structure



# Recognizable Page Structure

The screenshot shows the Tripadvisor website interface for searching hotels in New York City. At the top, there's a navigation bar with links for New York City, Hotel, Cose da fare, Ristoranti, Voli, Case vacanza, Pacchetti vacanza, Crociere, Autonoleggio, and a user profile. Below the navigation is a map of New York City with a button to "Guarda la mappa". The main title is "Hotel New York City e alloggi". There are input fields for "Arrivo" (Arrival) and "Partenza" (Departure), and a guest count of "Ospiti" (1 camera, 2 adulti, 0 bambini). On the left, there are filters for COVID-19 (checkbox for structures with safety measures), Offers (checkboxes for cancellation free, pay later, and special offers), Price (range from 0 € to 623 €), and Requests (checkboxes for 4 stars, breakfast included, and 5 stars). The main content area shows a list of 911 structures, with a section for recent views featuring the Fairfield Inn & Suites. A detailed view of the Fairfield Inn & Suites New York Midtown Manhattan/Penn Station is shown, including a photo of the building, a price of 161 €, and a yellow "Vedi l'offerta" (See offer) button. To the right, there's information about the hotel, including a link to its website, phone number (00 1212-563-0900), and a note about a special offer. The page also mentions Wi-Fi, a lounge, a fitness center, and safety measures.

# Recognizable Page Structure

TBS **Newsi**  
Tokyo Broadcasting System, News Portal Site

リアルタイム経営こそ、IT戦略  
経営とITをデザインする、フューチャーアーキテクト。  
**FUTURE** Architect

News10 アラ法元船長の骨からゴリニウム検出。暗殺の可能性高まる 11/07 04:20  
RSS/RDF配信 文字サイズ 中 大  
社会 政治 経済 國際 スポーツ 列島 天気 連続動画 報道コラム ニュース検索 メール登録 検索

注目キーワード：[メニュー表示問題] [みやこ暴力団説立] [原発] [米证监戒令]

最終更新：2013年11月7日(木) 04時34分

NEW「三越伊勢丹」も不適切表示、他の百貨店にも拡大



大手百貨店の三越伊勢丹ホールディングスは、グループの百貨店などにあるレストラン14店で、メニューと一緒に食材を使った料理を提供していたことを明らかにしました。不適切な表示は、小田急、そごうなどの百貨店にも広がっています。

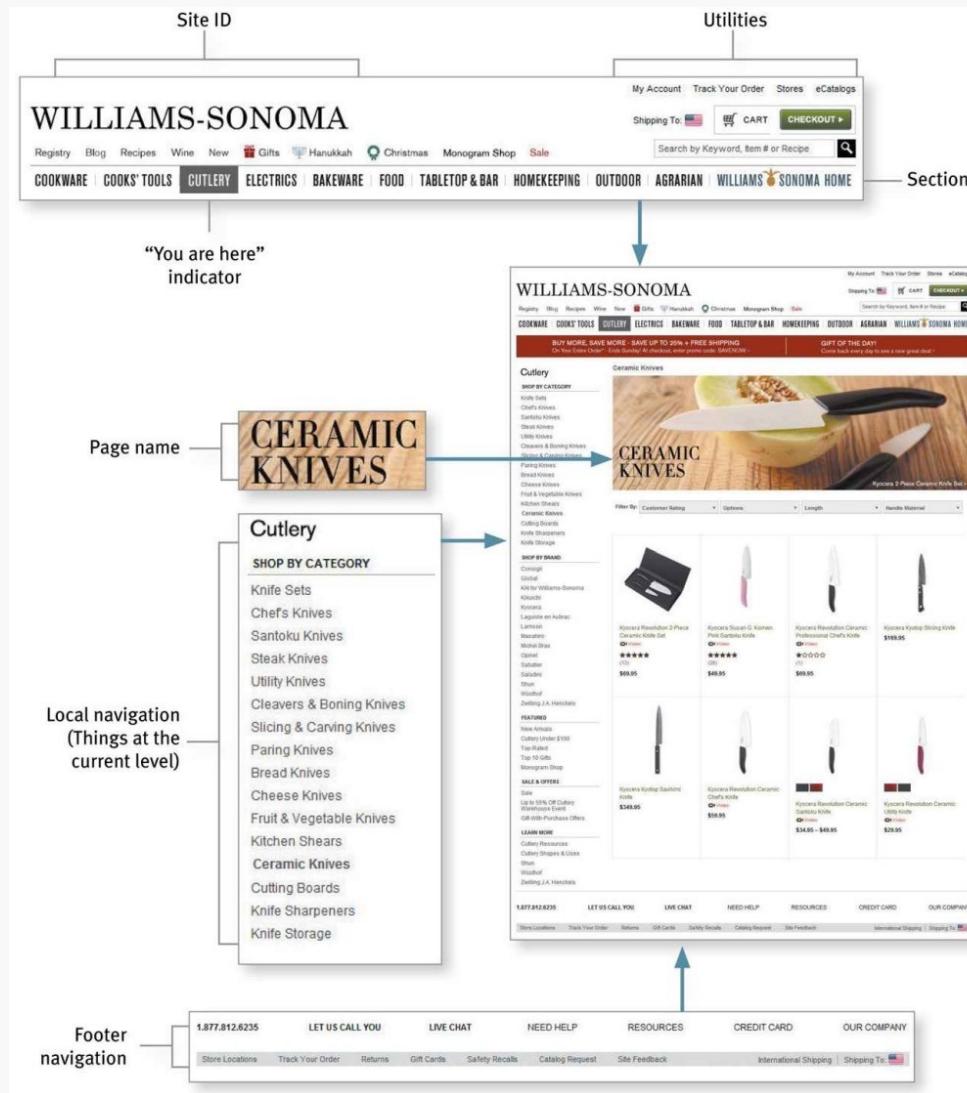
続きを読む

NEW 日本人初の船長・若田さん、きょう宇宙へ  
日本人で初めて国際宇宙ステーションの船長を務める若田光一さんが、日本時間11日午後の...  
NEW 豚木議員、金正恩氏の従兄人・張成沢氏と会談  
北朝鮮在訪問中のアントニオ豚木衆議院議員らが、金正恩(キム・ジョンウン)第一書記の...  
NEW 「特定秘密保護法案」きょうから国会審議  
政府が指定する特定秘密を漏洩した公務員らへの罰則を強化する特定秘密保護法案は、きょ...  
NEW 山西省連続爆発事件、共産党本部狙った計画的犯行か  
6日、中国・山西省の共産党本部ビルで起きた連続爆発事件です。爆弾カビル周辺の数か所...  
台風情報  
Smart News  
地震情報  
JNN LIVE  
福島第一原発情報カメラ

社会 政治 経済

関連リンク | ニュース | NEWS25 | 電通新報 | ウィキペディア | 特集新報 | 新連携 | ニュースカード | グローバルナビ | フロント | ミンionsクリック | TBS TOPページ | TBS報道番組一覧 | 方言各島

# Conventions Help Recognizing Structure



# ‘Gestalt’ principles

Hints from the psychology of Shapes and of Representation

# Gestalt principles

- Laws from 1920s' psychology: how humans typically see objects by grouping similar elements, recognizing patterns and simplifying complex images
- Designers use these to engage users via powerful -yet natural- "tricks" of perspective and best practice design standards
- *"The whole is other than the sum of the parts"* - Kurt Koffka



<https://www.interaction-design.org/literature/topics/gestalt-principles>

<https://www.usertesting.com/blog/gestalt-principles/>

# Some Gestalt Principles

- **Figure/Ground:** Disliking uncertainty, we look for solid, stable items. Foreground catches the eye first
- **Closure:** Preferring complete shapes, we automatically fill in gaps to perceive a complete image; we see the whole first
- **Common Region:** We group elements that are in the same closed region
- **Element Connectedness:** We group elements linked by other elements
- **Continuation:** We follow and “flow with” lines
- **Proximity (Emergence):** We group closer-together elements, separating them from those farther apart.
- **Good Form:** We differentiate elements that are similar in color, form, pattern, etc. and cluster them together
- **Focal Point:** The focal point principle states that whatever stands out visually will capture and hold the viewer’s attention first.

# Some Gestalt Principles

- **Meaningfulness (Familiarity)**: We group elements if they form a meaningful or personally relevant image.
- **Prägnanz**: We perceive complex images as simple ones.
- **Convexity**: We perceive convex shapes ahead of concave ones
- **Regularity**: Sorting items, we tend to group some into larger shapes, and connect elements that form a pattern.
- **Similarity (Invariance)**: We seek differences and similarities in an image and link similar elements.
- **Symmetry**: We seek balance and order in designs, struggling to do so if they aren't readily apparent.
- **Common Fate**: We group elements that move in the same direction
- **Synchrony**: We group static visual elements that appear at the same time.

# Examples: Figure-ground



**Figure/Ground:** Disliking uncertainty, we look for solid, stable items. Foreground catches the eye first

The Basecamp 3 landing page features a central cartoon illustration of a person overwhelmed by multiple tasks, with speech bubbles containing text like "DID WE GET THAT DONE YET?", "WAIT, WHO MADE THAT DECISION?", "WHERE DO I PUT THAT?", and "WHO SENT THIS TO THE CLIENT?". Above the illustration, a banner reads "Working with other people? Struggling to keep everyone on the same page?". To the right of the illustration is a sign-up form with a button labeled "Sign up now for free below". A callout bubble above the form says "Just last week, 10,772 companies got started with Basecamp 3!".

Basecamp 3

Version 3 is all new for 2016!

Working with other people? Struggling to keep everyone on the same page?

DID WE GET THAT DONE YET?  
WAIT, WHO MADE THAT DECISION?  
WHERE DO I PUT THAT?  
WHO SENT THIS TO THE CLIENT?  
WHEN IS THIS DUE?  
NO ONE TOLD ME THAT!  
THIS IS EXHAUSTING!

Sign up now for free below

Just last week, 10,772 companies got started with Basecamp 3!

Sign up using Google

Or, sign up with your email

Your Name: Julie Appleseed

Your Email: julie@widgetco.com

Company/Organization: Widget, Co.

The AngelList homepage features a large image of Earth from space in the background. The main heading is "AngelList" with a small icon to the left. Below the heading is the tagline "Where the world meets startups". At the top, there is a navigation bar with links for SYNDICATES, STARTUPS, FUNDS, STARTUP JOBS, RECRUITING, and MORE. On the right side, there is a sidebar with links for "Find a Startup Job", "Post a Job", "Raise Money Online", and "Invest in Startups".

SYNDICATES STARTUPS FUNDS STARTUP JOBS RECRUITING MORE

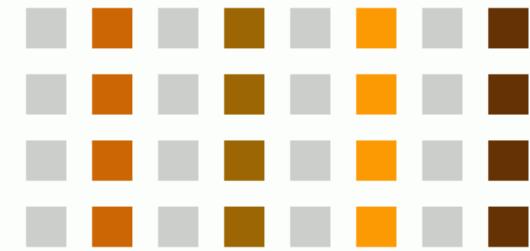
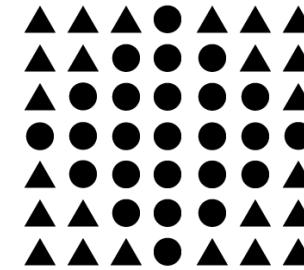
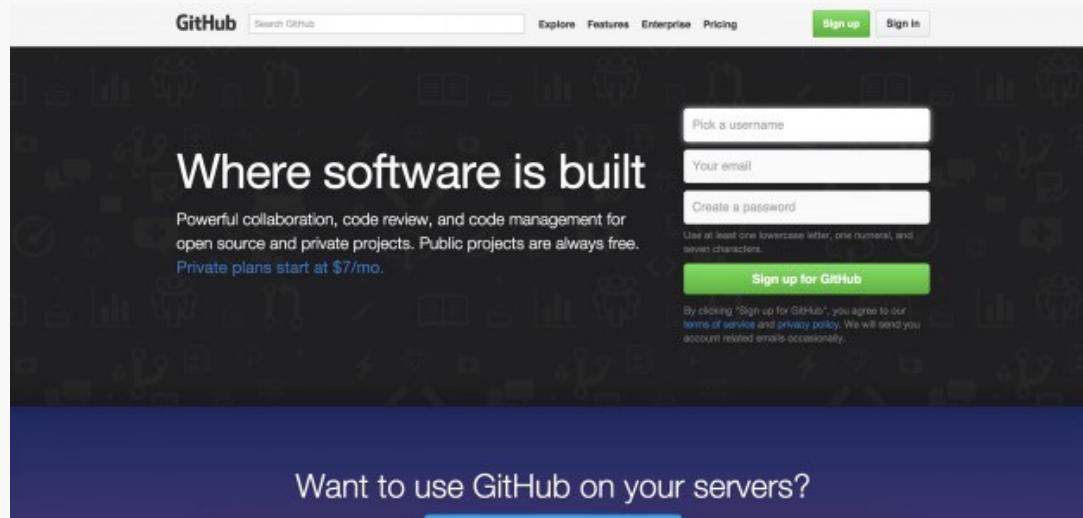
Find a Startup Job

Post a Job

Raise Money Online

Invest in Startups

# Examples: Similarity



A screenshot of the La Stampa news website. The header includes "GNN", "NEWSLETTER", social media links, and "ABBONATI ACCEDI". The main title "LA STAMPA" is prominently displayed. Below the header, there are several news articles with images and titles. One article on the left shows a man speaking at a podium with an ArcelorMittal logo. Another article on the right shows a portrait of Abu Simbel. The layout is clean with a white background and clear typography.

**Similarity (Invariance):** We seek differences and similarities in an image and link similar elements.

# Examples: Proximity



**Proximity (Emergence):** We group closer-together elements, separating them from those farther apart.

The Walmart homepage features a grid of product thumbnails arranged in a 4x6 grid. The categories are labeled as follows:

- Row 1: Electronics, Home, Exercise & Fitness, Health, Clothing & Jewelry, Furniture
- Row 2: Cold Weather Prep, TurboTax, H&R Block, Jackson Hewitt, Auto & Tires, Office Supplies
- Row 3: Home Improvement, Home, Electronics, Baby, Office Supplies, Tostitos
- Row 4: Call of Duty, Baby, Electronics, Baby, Office Supplies, Tostitos

The VICE homepage features a grid of news articles arranged in a 4x3 grid. The articles are as follows:

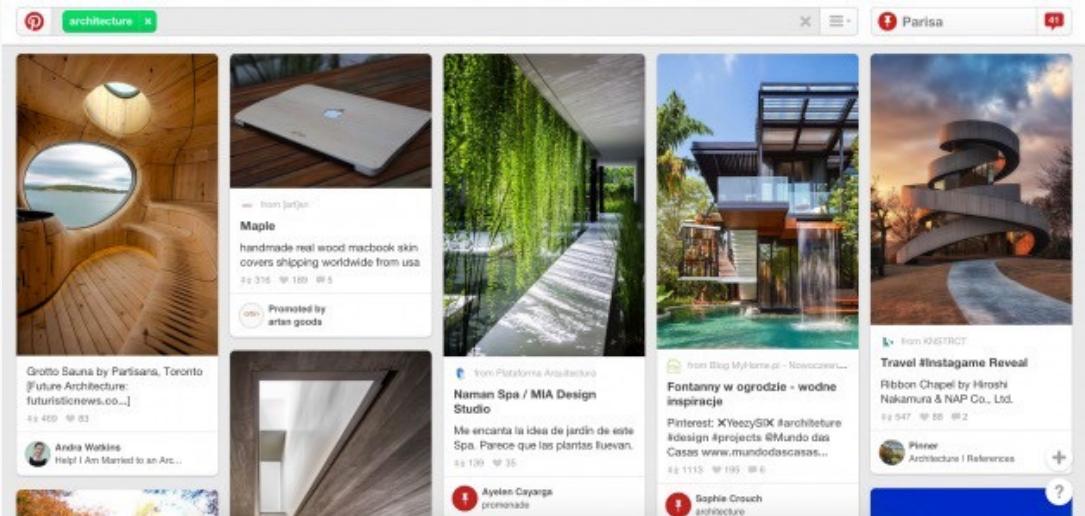
- Column 1: Medical Marijuana Users in Canada Can Legally Grow Their Own Weed Now (NEWS), There's one place Ted Cruz doesn't finish third: in these ladies' hearts. (STUFF)
- Column 2: The Women Who Love Ted Cruz (NEWS), If Ted Cruz can't win Bunkerville, where can he win? (STUFF)
- Column 3: How Donald Trump Won Nevada's Cliven Bundy Vote (NEWS), MOTHERBOARD



<https://www.usertesting.com/blog/gestalt-principles/>

# Examples: Common Region

**Common Region:** We group elements that are in the same closed region



Houzz Yesterday at 5:30am ·

11 Things You Didn't Think You Could Fit Into a Small Bedroom  
<http://bit.ly/21k8Nvl>

11 Things You Didn't Think You Could Fit Into a Small Bedroom

Clever designers have found ways to fit storage, murals and even chandeliers into these tight sleeping spaces

WWW.HOUZZ.COM

Like Comment Share

157

Top Comments ▾

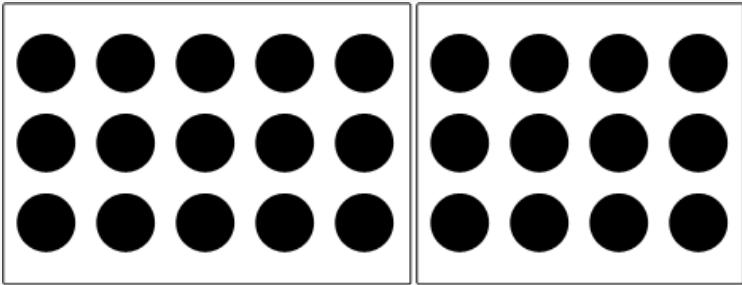
33 shares

Write a comment...

Frankie Sez Really great ideas for the 'minimalist' in some of us...  
Like · Reply · 1 Like · Yesterday at 5:42am

Country Mountain Homes Space for books is a must!  
Like · Reply · Yesterday at 10:07am

View 2 more comments



# Examples: Continuity



**Continuation:** We follow and “flow with” lines

Customers Who Bought This Item Also Bought

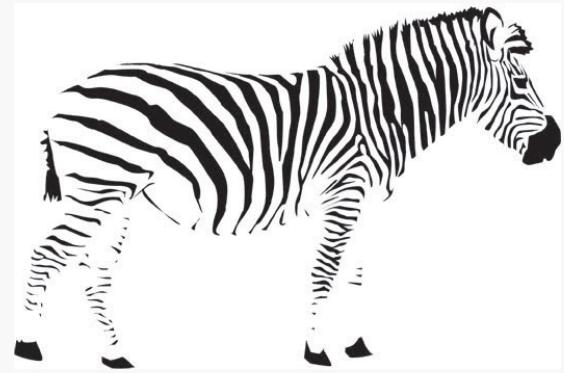
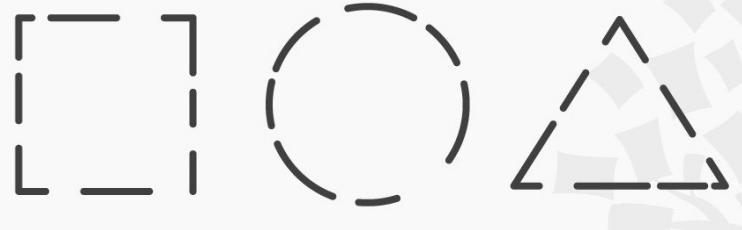
The screenshot shows a grid of five book covers with their titles, authors, and brief descriptions. The books are: 'CROSSING THE CHASM' by Geoffrey A. Moore, 'THE LEAN STARTUP' by Eric Ries, 'The Innovator's Dilemma' by Eric Ries, 'THE INNOVATOR'S SOLUTION' by Clayton M. Christensen, and 'How Will You Measure Your Life?' by Clayton M. Christensen. Each book entry includes a star rating, number of reviews, price, and a 'Prime' badge.

Book Title	Author	Description	Rating	Reviews	Price
CROSSING THE CHASM	Geoffrey A. Moore	Marketing and Selling Disruptive Products	★★★★★	72	\$12.35 ✓Prime
THE LEAN STARTUP	Eric Ries	How Today's Entrepreneurs Use Continuous Innovation to	★★★★★	1,062	\$16.66 ✓Prime
The Innovator's Dilemma	Eric Ries	The Revolutionary Book That Will Change the Way	★★★★★	209	\$10.06 ✓Prime
THE INNOVATOR'S SOLUTION	Clayton M. Christensen	Creating and Sustaining Successful Growth	★★★★★	22	\$18.33 ✓Prime
How Will You Measure Your Life?	Clayton M. Christensen	How Will You Measure Your Life?	★★★★★	583	\$15.86 ✓Prime

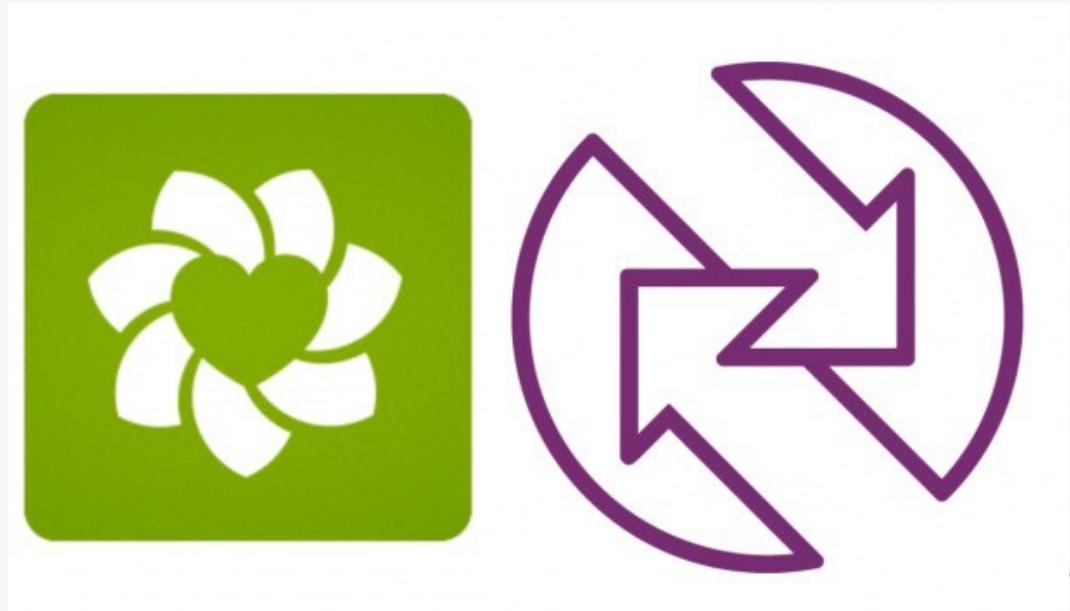
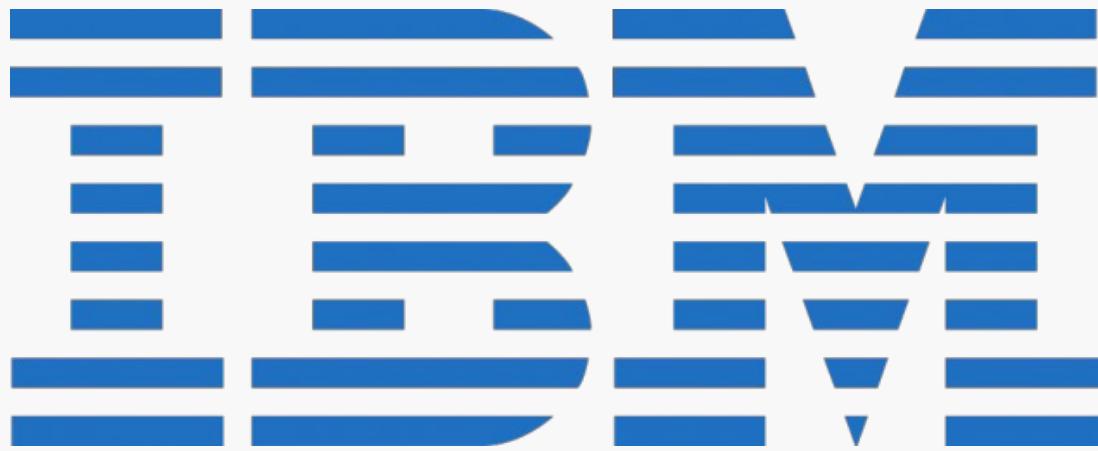
The image shows three circular icons representing steps in a process:

- Step 1:** Choose your meals, drinks and treats from our daily rotating menu.
- Step 2:** Our friendly servers organize your food for delivery - hot and ready to eat!
- Step 3:** Your meal arrives in around 20 minutes - like a home-cooked meal without the effort!

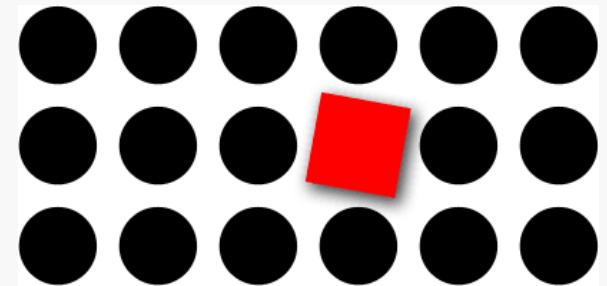
# Examples: Closure



**Closure:** Preferring complete shapes, we automatically fill in gaps to perceive a complete image; we see the whole first



# Examples: Focal Point



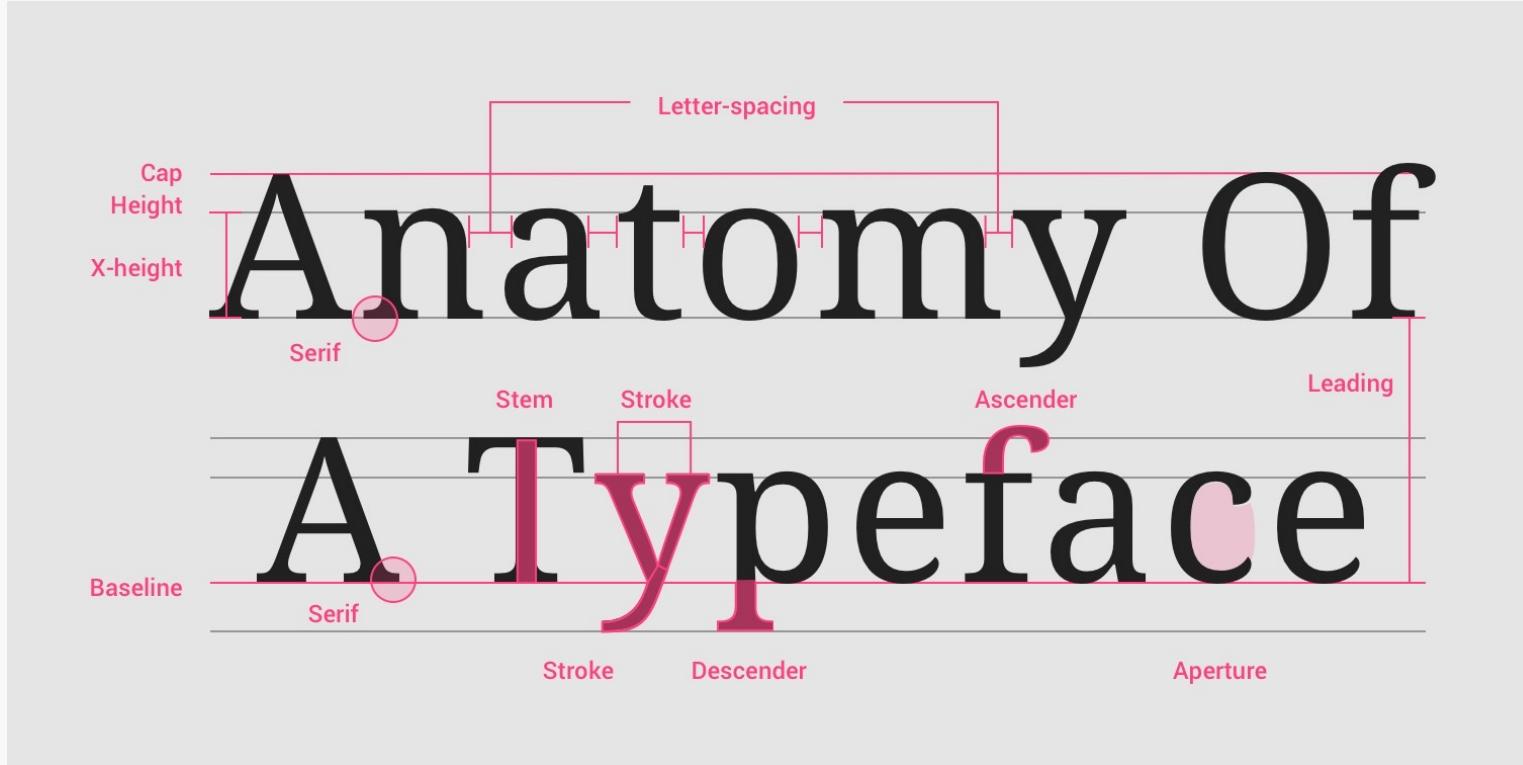
**Focal Point:** The focal point principle states that whatever stands out visually will capture and hold the viewer's attention first.

# Typography

Property of text

# Characteristics of Text

- Point Size
- Leading
- Cap Height, x-height
- Ascenders, Descenders
- Weight
- Serifs



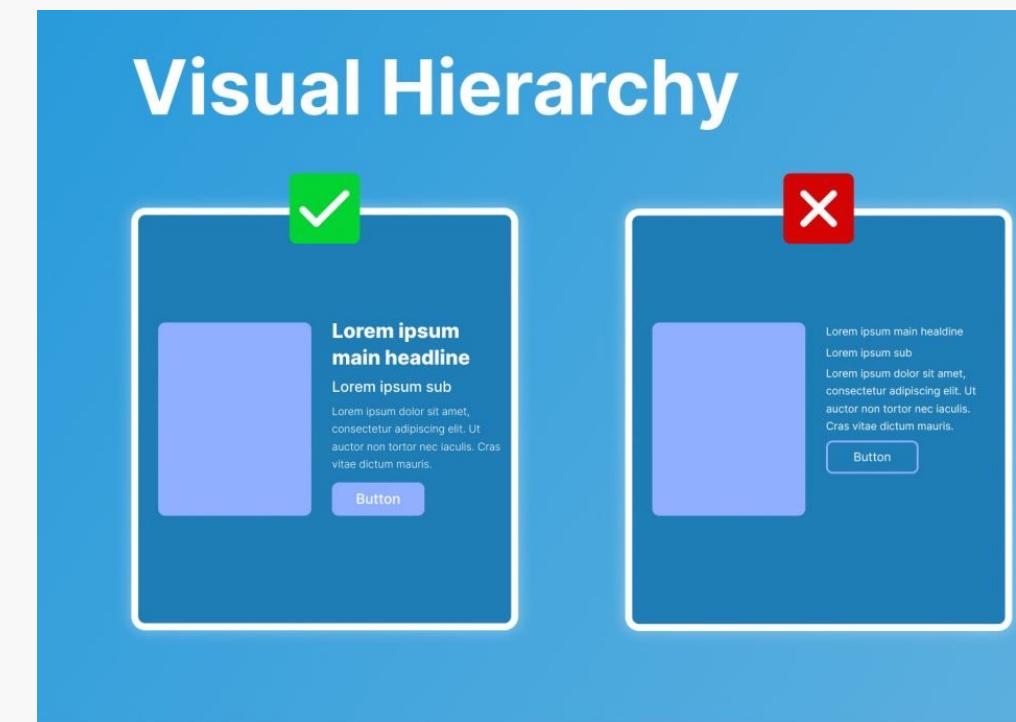
# Example: Material Design Type Scale

- A combination of 13 styles that are supported by the type system
- Reusable categories of text, each with an intended application and meaning

Scale Category	Typeface	Font	Size	Case	Letter spacing
H1	Roboto	Light	96	Sentence	-1.5
H2	Roboto	Light	60	Sentence	-0.5
H3	Roboto	Regular	48	Sentence	0
H4	Roboto	Regular	34	Sentence	0.25
H5	Roboto	Regular	24	Sentence	0
H6	Roboto	Medium	20	Sentence	0.15
Subtitle 1	Roboto	Regular	16	Sentence	0.15
Subtitle 2	Roboto	Medium	14	Sentence	0.1
Body 1	Roboto	Regular	16	Sentence	0.5
Body 2	Roboto	Regular	14	Sentence	0.25
BUTTON	Roboto	Medium	14	All caps	1.25
Caption	Roboto	Regular	12	Sentence	0.4
OVERLINE	Roboto	Regular	10	All caps	1.5

# Text

- Font size, color and spacing define a hierarchy of visibility and attention
- The visual hierarchy should match the relative importance of the information content



<https://developer.apple.com/design/human-interface-guidelines/typography/>

# Text and Layout Convey Meaning



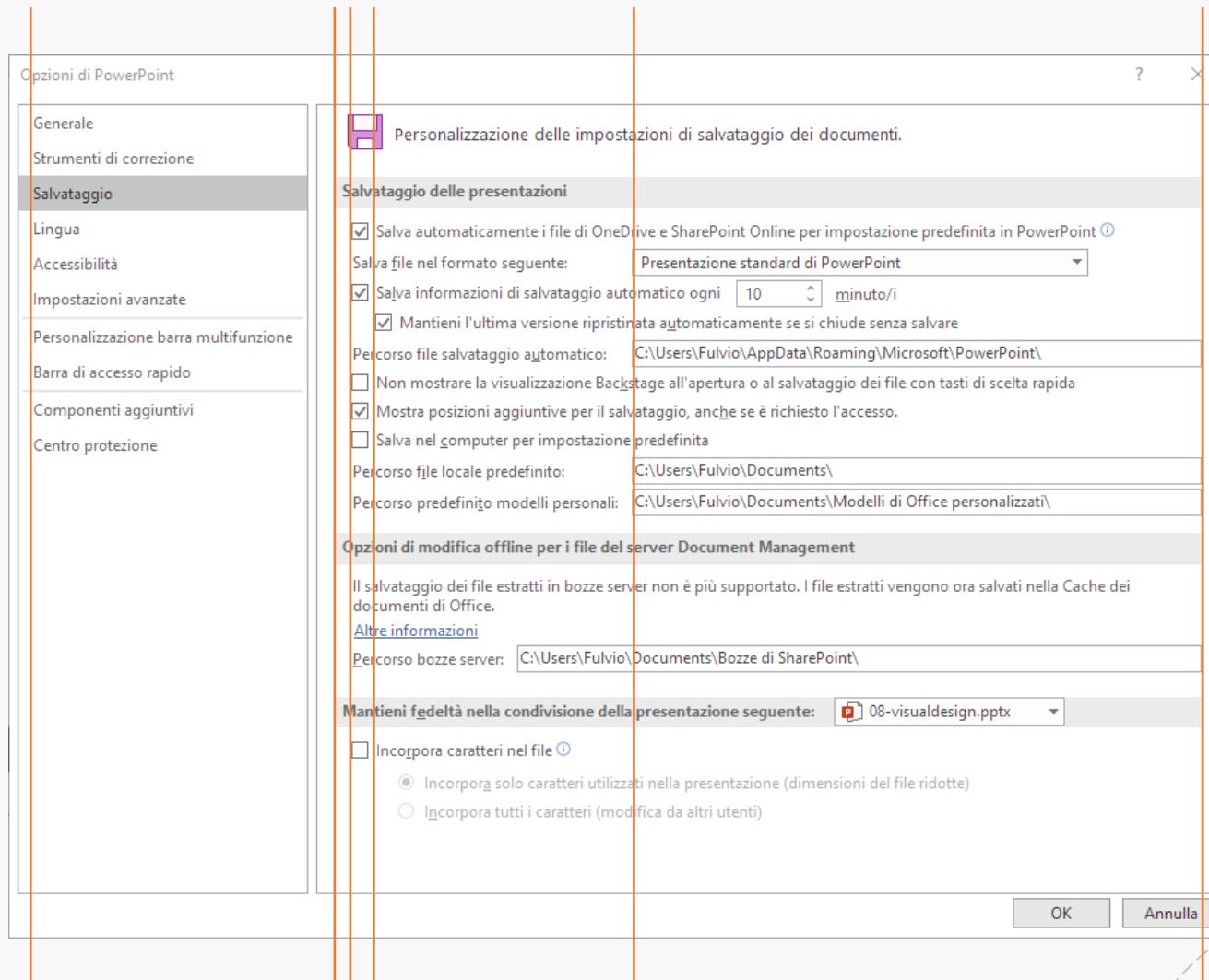
# Grids and Alignment

Exploiting grouping and alignment to convey content, at different levels

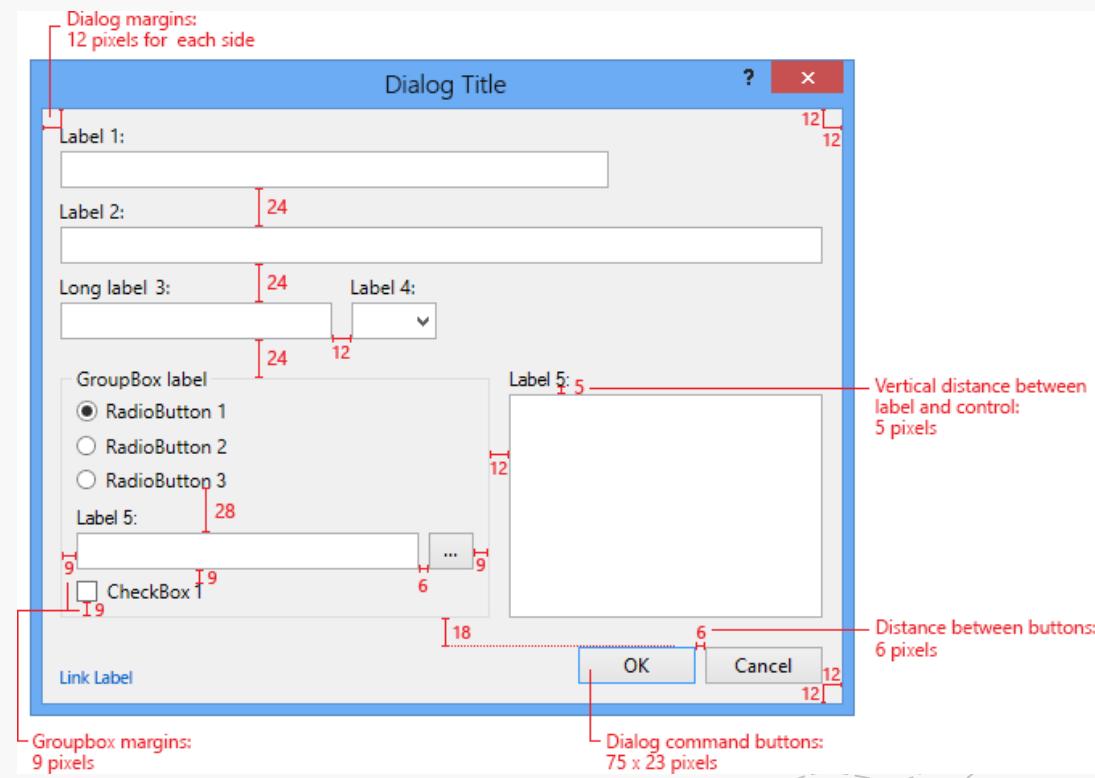
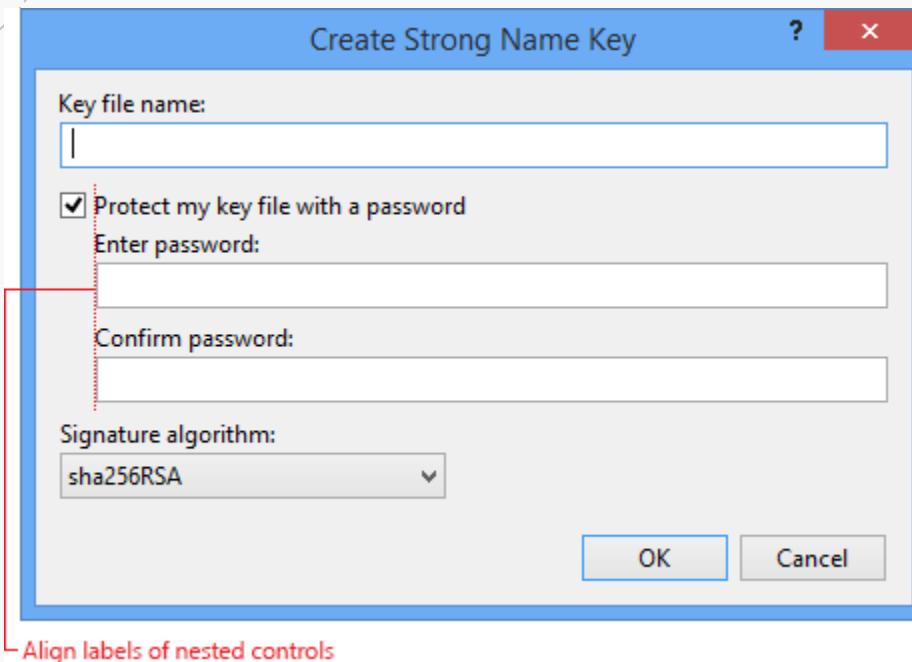
# Alignment

- Invisible lines that run through the interface and “attract” the left- or right- edge of a widget control
  - Vertical
  - Horizontal

# Example

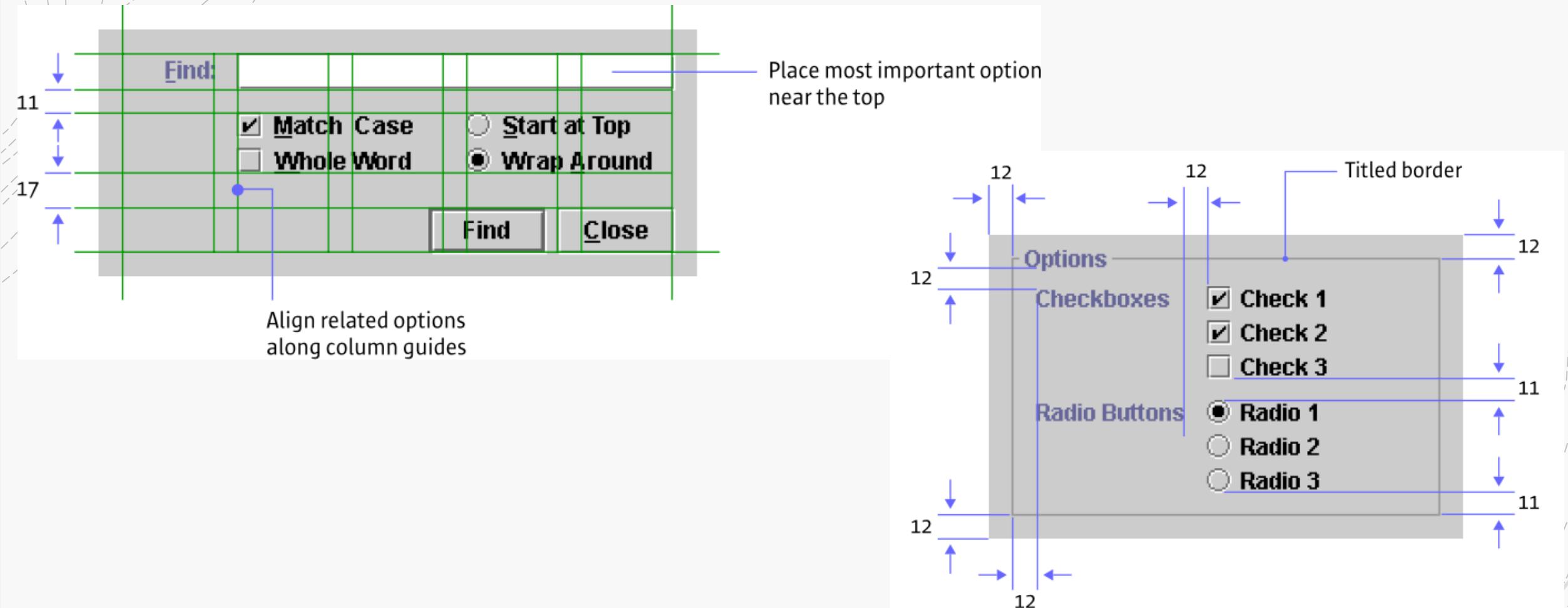


# Examples



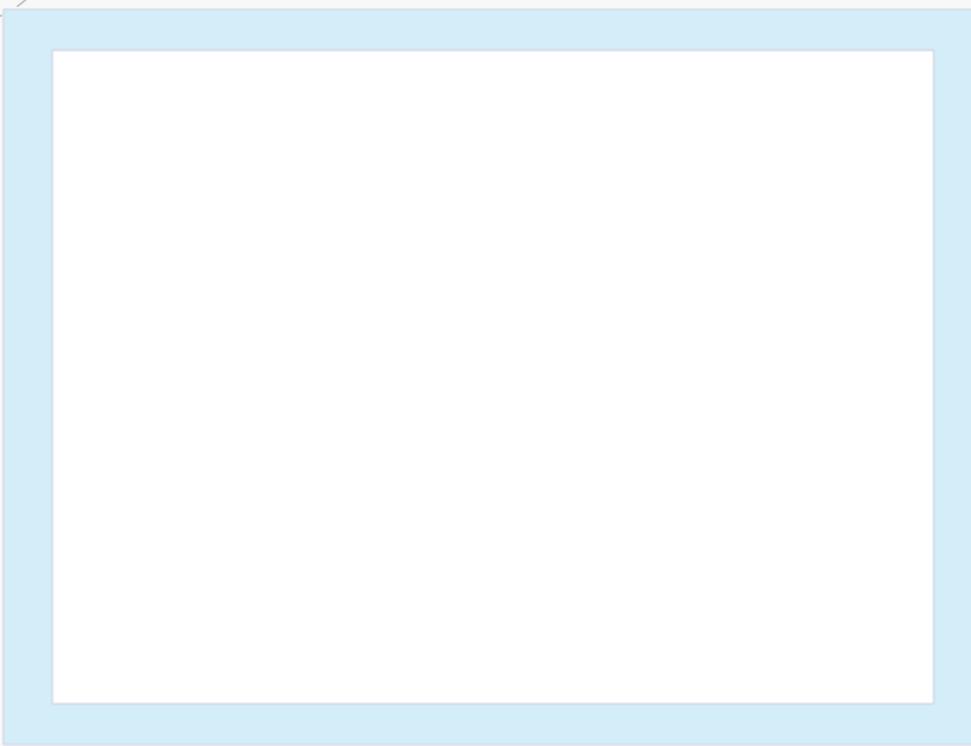
<https://docs.microsoft.com/en-us/visualstudio/extensibility/ux-guidelines/layout-for-visual-studio?view=vs-2019>

# Examples

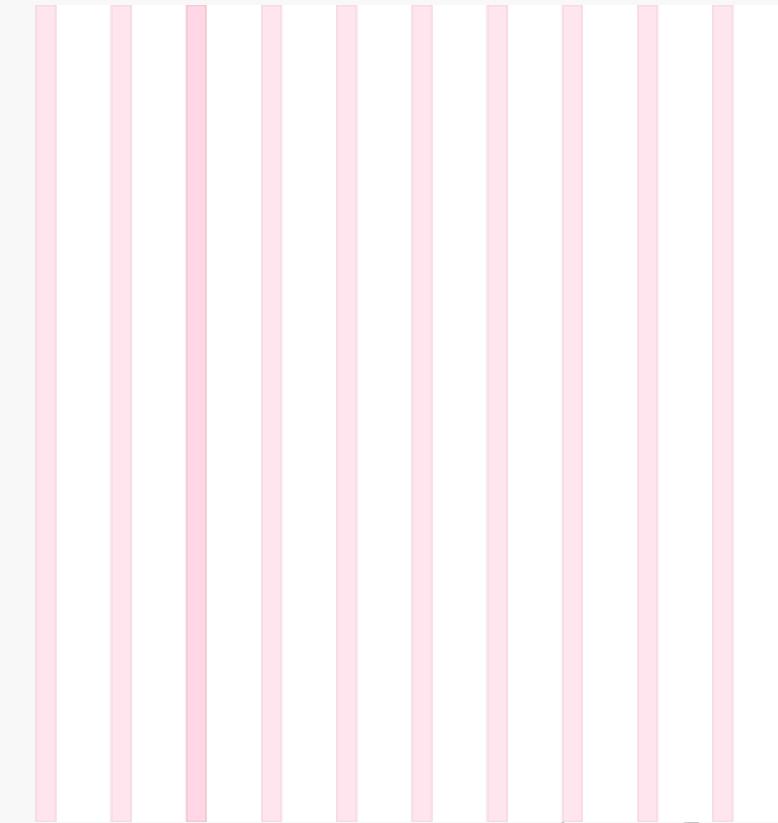


# Grid Layout Ingredients

Margins

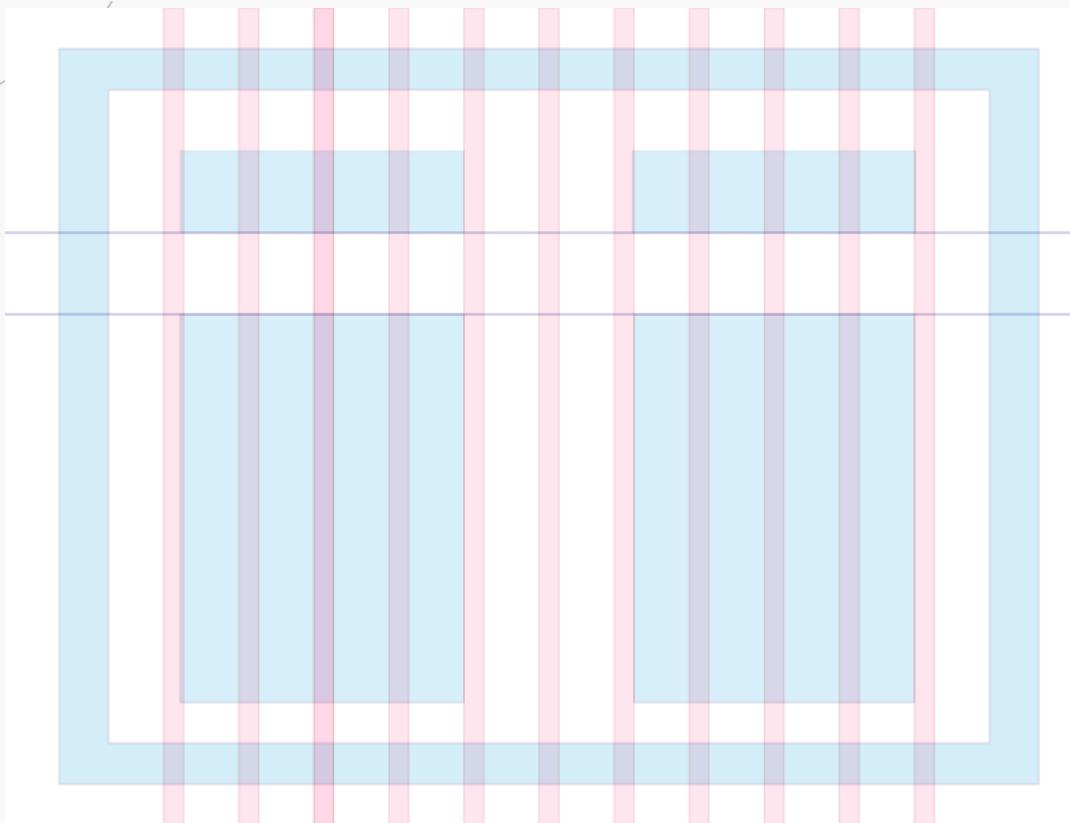


Columns & Gutters



# Grid Layout Ingredients

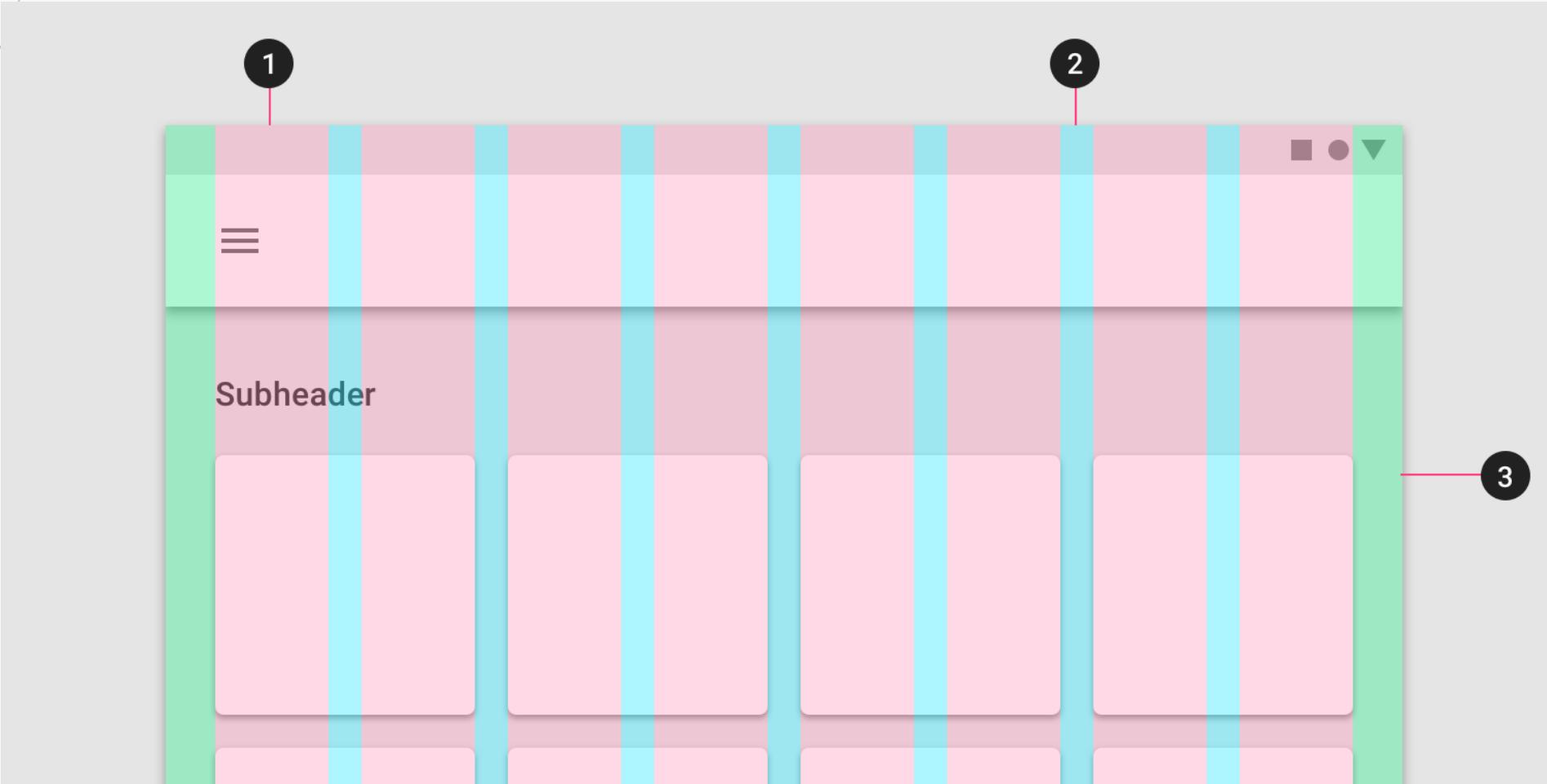
## Hanglines and Baselines



## Baseline Grids

# Example Grid-based layout

1. Columns
2. Gutters
3. Margins



# Example: Bootstrap grid

Always 12 columns in total

May choose to span a group of columns

Each column is tagged according to the screen size:

- xs (phones - <768px)
- sm (tablets - >=768px)
- md (small laptops - >=992px)
- lg (laptops and desktops - >1200px)

span 1	span 1	span 1	span 1	span 1	span 1	span 1	span 1	span 1	span 1	span 1	span 1				
span 4				span 4				span 4							
span 4				span 8				span 8							
span 6						span 6									
span 12															

# Responsive Grid Layout

The image shows a responsive grid layout example from Tutorial Republic. It features four mobile devices side-by-side, each displaying the same website layout at different screen widths. The website content includes a main header, a hero section with a 'Get started today' button, and a grid of language sections (HTML, CSS, JavaScript, Bootstrap, PHP, SQL, References, FAQ). A large yellow box highlights the HTML section's code.

```
<div class="row">
  <div class="col-md-6 col-lg-4 col-xl-3">
    <h2>HTML</h2>
    <p>...</p>
    <p><a href="#" class="btn btn-success">...</a></p>
  </div>
```

<https://www.tutorialrepublic.com/twitter-bootstrap-tutorial/bootstrap-responsive-layout.php>

# Other Grid Systems

# **960 grid (fixed width, 12 or 16 col)**



# Unsemantic (responsive, based on %)

# unsemantic

Home | About | Demo | CSS Documentation | Sass Documentation

Download Here | GitHub Repo

## What is it?

Un•se•man•tic ['ənse'mantik]

*adjective*

1. A nonexistent word that [developers use](#) to critique the work of their peers.

*noun*

2. Now, it's also a CSS framework. I mean hey... "If the shoe fits, wear it." ☺

## Example Usage

```
<div class="grid-container">
  <div class="grid-25">
    I am 25% wide.
  </div>
  <div class="grid-50">
    I am 50% wide.
  </div>
  <div class="grid-25">
    I am 25% wide.
  </div>
</div>
```

## Successor to 960.gs

Unsemantic is a fluid grid system that is the successor to the [960 Grid System](#). It works in a similar way, but instead of being a set number of columns, it's entirely based on percentages.

For instance, if you want a 50% wide column, simply use `class="grid-50"`. There are grid classes for multiples of five: 5, 10, 15, 25, 50, 100. There are also grid classes for dividing a page into thirds: `grid-33` and `grid-66`.

## Responsive Demo

These demos use @media queries.

- [Responsive Demo](#)
- [Responsive Demo – RTL text](#)

## SE-Oh?

By using `push-x` and `pull-x` classes, you can rearrange the visual layout of page, without affecting its source order. While `SE` is a bit of a "moving target," this has been known to help search engines determine the most relevant content on a page.

Typically, code at the top of a page is what search engines tend to focus on the most, and Unsemantic can help to ensure your source code is geared towards that goal.

## Adapt.js Demo

These demos use [Adapt.js](#).

- [Adapt.js Demo](#)
- [Adapt.js Demo – RTL text](#)

## Built with Sass

Unsemantic was built with extensibility in mind, using [Sass](#). While you can use the CSS as is, some developers prefer to use their own class names, and want only the bare minimum CSS required for a particular page.

To that end, you can use a "silent" Sass approach, and write your own Sass code to use Unsemantic's base styles. For instance, there's a placeholder named `@grid-container`.

## Browser Support

Unsemantic supports all major browsers: Chrome, Firefox, Internet Explorer (7+), Opera, and Safari.

If you think you've found a bug, and can verify that it is reproducible, file a ticket on [GitHub](#).

Note: If you reached this site by mistake, perhaps you are seeking Unsemantic's arch nemesis... [Semantic.com](#)

Licensed under [GPL](#) and [MIT](#)

Created by [Nathan Smith](#)

Built with [Serve](#)

Hosted by [DreamHost](#)

# Grid Structure

Main body:  
Mix of 2x and 3x  
columns

Alternating row  
types



Title area outside the grid

Right column for other types of articles

# Grid Structure

Navigation  
(left, smaller)

Main content  
(center, wide)

The screenshot shows the Stack Overflow homepage with a clear grid structure. On the far left is a narrow sidebar for navigation, labeled "Navigation (left, smaller)". The central area, labeled "Main content (center, wide)", contains the "Top Questions" feed, which lists several programming-related questions with their details like votes, answers, views, and tags. To the right of the main content, there is a wider column for "Related content (right, smaller)", which includes sections for "Blog" (with links to newsletter articles), "Custom Filters" (with a link to "Create a custom filter"), "Watched Tags" (listing tags like ajax, flask, git, java, javascript, jquery, json, mysql, python, and rest), and "Ignored Tags" (with a link to "Add an ignored tag"). At the bottom of this sidebar, there's a section titled "Hot Network Questions" featuring a list of questions from other Stack Exchange sites.

Related content  
(right, smaller)

# Example (2019)

Software

Top

1° anno		Periodo	Codice	Lingua	Insegnamento	Crediti	Docente	Note	Vincoli
1	01PDW0V	IT	Information systems	ING-INF/05 (6)		6	M. Morisio	✓	
1	02GOLOV	IT	Architetture dei sistemi di elaborazione	ING-INF/05 (10) Oppure	Computer architectures	10	P. Bernardi E. Sanchez Sanchez	✓	
1	02LSEOV	IT	Computer architectures	ING-INF/05 (10)		10	P. Montuschi	✓	
1	01SQJOV	IT	Data Science and Database Technology	ING-INF/05 (8) Oppure	Data Science and Database Technology	8	S. Chiusano	✓	
1	01SQMOV	IT	Data Science e Tecnologie per le Basi di Dati	ING-INF/05 (8)		8	E. Baralis	✓	
1	01OTW0V	IT	Computer network technologies and services	ING-INF/05 (6) Oppure	Computer network technologies and services	6	M. Baldi	✓	
1	02KPN0V	IT	Tecnologie e servizi di rete	ING-INF/05 (6)		6	G. Marchetto	✓	
2	02JEUOV	IT	Formal languages and compilers	ING-INF/05 (6)		6	R. Sisto	✓	
2	05BIDOV	IT	Ingegneria del software	ING-INF/05 (8) Oppure	Ingegneria del software	8	G. Bruno	✓	
2	04GSP0V	IT	Software engineering	ING-INF/05 (8)		8	M. Morisio	✓	
2	01UDFOV	IT	Applicazioni Web I	ING-INF/05 (6) Oppure	Applicazioni Web I	6	E. Masala	✓	
2	01TXY0V	IT	Web Applications I	ING-INF/05 (6)		6	F. Corno	✓	
2	02GR50V	IT	Programmazione di sistemi	ING-INF/05 (10) Oppure	Programmazione di sistemi	10	G. Cabodi	✓	
2	01NYH0V	IT	System and device programming	ING-INF/05 (10)		10	S. Quer	✓	

2° anno		Periodo	Codice	Lingua	Insegnamento	Crediti	Docente	Note	Vincoli
1	01TYMOV	IT	Insegnamento a scelta 1	Information systems security		6			
1	01TYMOV	IT	Information systems security	ING-INF/05 (6) Oppure		6		✓	
1	01UDUOV	IT	Sicurezza dei sistemi informativi	ING-INF/05 (6)		6		✓	
1	01SQNOV	IT	Software Engineering II	ING-INF/05 (6)		6		✓	
1,2	29EBHOV	IT	Crediti liberi			6			
2	29EBHOV	IT	Tesi			30			
				Insegnamento a scelta 2		6			

## Insegnamento a scelta 1

Periodo	Codice	Lingua	Insegnamento	Crediti	Docente	Note	Vincoli	
1	01TYDOV	IT	Cloud Computing	ING-INF/05 (6)		6	✓	
1	01PDC0V	IT	Digital control technologies and architectures	ING-INF/04 (6)		6	✓	
1	01TXZ0V	IT	Distributed systems programming	ING-INF/05 (6)		6	✓	Si
1	01NWPOV	IT	Elaborazione dell'audio digitale	ING-INF/05 (6)		6	✓	
1	01UDGOV	IT	Energy management for IoT	ING-INF/05 (6)		6	✓	Si
1	02JSK0V	IT	Human Computer Interaction	ING-INF/05 (6)		6	★ ✓	
1	01SQIOV	IT	Machine Learning and Artificial Intelligence	ING-INF/05 (6)		6	✓	
1	01PDX0V	IT	Modern design of control systems	ING-INF/04 (6)		6	✓	
1	01OUUV0V	IT	Optimization methods and algorithms	MAT/09 (6)		6	✓	

# Example (same page in 2020)

Software

▼ 1° anno 2020/2021

Periodo	Codice	SSD	Insegnamento	Lingua	Crediti	Docente	Note	Orario
1	01PDW0V	ING-INF/05 (6)	Information systems	☒	6	M. Morisio (118 iscr.)	☒	🕒
1	02GOLOV	ING-INF/05 (10)	Architetture dei sistemi di elaborazione	🇮🇹	10	P. Bernardi (150 iscr.) E. Sanchez Sanchez (159 iscr.)	☒	🕒
oppure								
1	02LSEOV	ING-INF/05 (10)	Computer architectures	☒	10	P. Montuschi (207 iscr.)	☒	🕒
1	01SQJOV	ING-INF/05 (8)	Data Science and Database Technology	☒	8	S. Chiusano (172 iscr.)	☒	🕒
oppure								
1	01SQMOV	ING-INF/05 (8)	Data Science e Tecnologie per le Basi di Dati	🇮🇹	8	E. Baralis (254 iscr.)	☒	🕒
1	01OTW0V	ING-INF/05 (6)	Computer network technologies and services	☒	6	G. Marchetto (161 iscr.)	☒	🕒
oppure								
1	02KPN0V	ING-INF/05 (6)	Tecnologie e servizi di rete	🇮🇹	6	G. Marchetto (253 iscr.)	☒	🕒
2	02JEU0V	ING-INF/05 (6)	Formal languages and compilers	☒	6	R. Sisto (60 iscr.)	☒	🕒
2	05BID0V	ING-INF/05 (8)	Ingegneria del software	🇮🇹	8	G. Bruno (132 iscr.)	☒	🕒
oppure								
2	04GSPOV	ING-INF/05 (8)	Software engineering	☒	8	M. Morisio (202 iscr.)	☒	🕒
2	01UDFOV	ING-INF/05 (6)	Applicazioni Web I	🇮🇹	6	E. Masala (91 iscr.) L. De Russis (57 iscr.)	☒	🕒
oppure								
2	01TXY0V	ING-INF/05 (6)	Web Applications I	☒	6	F. Corno (185 iscr.)	☒	🕒
2	02GRSOV	ING-INF/05 (10)	Programmazione di sistema	🇮🇹	10	G. Cabodi (100 iscr.) A. Savino (112 iscr.)	☒	🕒
oppure								
2	01NYH0V	ING-INF/05 (10)	System and device programming	☒	10	S. Quer (108 iscr.)	☒	🕒
▼ 2° anno 2021/2022								
Periodo	Codice	SSD	Insegnamento	Lingua	Crediti	Docente	Note	Orario
1			Insegnamento a scelta 1		6			
1	01TYM0V	ING-INF/05 (6)	Information systems security	☒	6		☒	🕒
oppure								
1	01UDU0V	ING-INF/05 (6)	Sicurezza dei sistemi informativi	🇮🇹	6		☒	🕒
1	01SQNOV	ING-INF/05 (6)	Software Engineering II	☒	6		☒	🕒
1,2			Crediti liberi		6		☒	
1,2	29EBHOV		Tesi		30		☒	
2			Insegnamento a scelta 2		6		☒	

# Example (2015 vs. 2019)

## Add an address

**Full Name:**

**Address Line 1:**   
Street address, P.O. box, company name, c/o

**Address line 2:**   
Apartment, suite, unit, building, floor, etc.

**City:**

**State/Province/Region:**

**ZIP:**

**Country:**  ▾

**Phone Number:**  [Learn more](#)

**Optional Delivery Preferences** ([What's this?](#))

**Weekend Delivery:**  ▾

**Security Access Code:**   
For buildings or gated communities

**Save & Add Payment Method** **Save & Continue**

Il tuo account > I tuoi indirizzi > [Nuovo indirizzo](#)

## Aggiungi un nuovo indirizzo

Oppure ritira i tuoi colli quando desideri, presso i nostri punti self-service. Per aggiungere un punto di ritiro o un Amazon Locker, clicca [qui](#).

Paese/Regione

▾

Nome e cognome

Indirizzo

Via e numero civico

Scala, piano, interno ecc. (Opzionale)

Città

Provincia

Codice postale

Numero di telefono

Può essere utilizzato per aiutare consegna

## Aggiungi istruzioni di consegna

Consegna nel fine settimana

▾

**Aggiungi indirizzo**

# Some Best Practices

- When designing a template, start from the longest block of text
- Left-aligned text is (usually) faster to skim
- Alignment guides the eye and reduces clutter
  - Avoid slight misalignments
  - Patterns and deviations are “automatically” detected
    - Deviate from a pattern for strategic reasons
    - Use visual proximity and scale to convey semantic information

# Colors

The most dangerous weapon in your toolset

*I live inside my car leasing website all day Monday to Friday 9am-6pm. I lease the cheapest PCP and contract hire cars in the UK! - I am Ling, accept no substitutes*

# LINGS CARS .com

Leader of the Pack - The UK's favorite car leasing website!

Contract hire cars from Ling Valentine. LINGS CARS is the UK's favourite car leasing website - On 2016 I leased over £85 million in cars!

**Stop**

**Believe it or not, this Gateshead-based website, featuring Mrs Ling jigging on her motorbike, is one of the biggest online drivers of car sales in Great Britain" 25th July 2017**

**Leader of the Pack**

"[Ling Valentine is] Britain's **BIGGEST** individual seller of new cars."

**BREXIT RISK FREE!** February 2017 **theguardian**

**LING'S BREXIT BORIS PROMISE:** If the UK leaves the EU with "no deal", tariffs may apply to EU built cars landing in the UK after Brexit day (31st Jan?). If this is the case with YOUR car, and if the price increases due to tariffs, YOU will be able to cancel the car order at **NO COST** to you. **YOU can order a new car from me, with NO BREXIT RISK.** - Ling

**CARS A-Z**

- Home
- Cars
- Vans
- Customers
- About Ling
- Fun stuff
- Free stuff
- Live staff

**ABARTH**

124 Spider Convertible  
595 Convertible  
595 Hatchback  
695 Convertible

**ALFA ROMEO**

Giulia Saloon  
Giulietta  
Stelvio Estate

**AUDI**

**500 IDEAS!**

**NICOLE...PAPA!**

**MEGA-HATCH!**

**Car Leasing Online Service Response Times**

**75 CUSTOMERS IN 'PROPOSAL'**

**129 CUSTOMERS IN 'ORDER'**

**0:03 07**

**1.2 Pop 8v (69bhp) (4 seats) Hatchback 3dr 124cc Petrol Manual (5 Speed)**

**Fiat 500**

**Rent New £127/mth including VAT**

**3 year cheap car leasing**

**9:35**

**0.9 TCE Iconic 12v (90bhp) Hatchback 5dr 898cc Petrol Manual (5 Speed)**

**Renault Clio**

**Rent New £152/mth including VAT**

**3 year cheap car leasing**

**6:35**

**1.2 PureTech 12v (83bhp) Flair Hatchback 5dr Manual 1199cc**

**Citroen C3**

**Rent New £157/mth including VAT**

**2 year cheap car leasing**

**6+23**

**Seat Leon**

**10 Arthur ATTLEBOROUGH, NR17**

**1 DELIVERY TODAY**

**Ford Ka+ 10 Arthur ATTLEBOROUGH, NR17**

**21 DELIVERIES IN LAST WEEK**

- Renault Captur 10 Cath PONTEFRACT, WF81**
- Mercedes GLC Coupe 10 Bill BEDLINGTON, NE22**
- BMW 2 Series Convert... 10 Pingu DERBY, DE56**
- Nissan Qashqai 10 Arlene GLASGOW, G11**
- Volvo XC60 Estate 10 Saif MILTON KEYNES, MK8**
- Seat Leon 10 Ben BARNSLEY, S70**
- Skoda Kodiaq Estate 10 Hannah HAY-ON-WYE, HR3**
- Renault Clio 10 Paul MIDDLEBROUGH, TS7**
- Renault Clio 10 Paul MIDDLEBROUGH, TS7**
- Seat Arona 10 Steve LONDON, SE18**
- Seat Leon 10 Adam HATFIELD, AL10**
- Audi A3 Sportback 10 Chris WYHONDHAM, NR18**

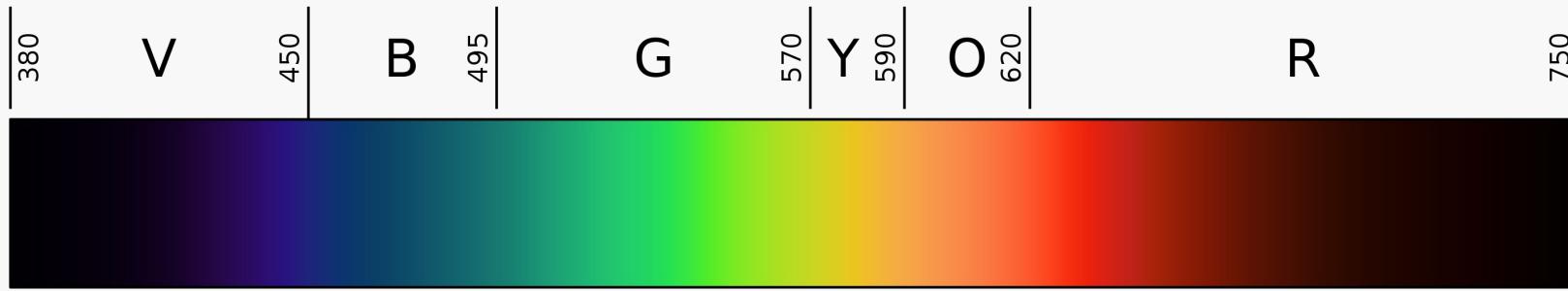
# Colors

- A powerful tool to improve interfaces by communicating **key information**
- Inappropriate use of colors can severely **reduce the performance** of an interactive system

# Colors: Suggestions

- Be careful, do not exaggerate
- Design in grayscale, first
  - Ensure information is conveyed by text and layout
- When adding colors, try to conserve the same luminance of the grayscale design
- Assign meaning to color
- Use a limited and consistent palette and use slight variations
- Avoid simultaneous display of pure (highly-saturated), spectrally extreme colors
  - e.g., no blue at the same time as red
  - desaturated combinations (pastels) are better

# Visible Spectrum



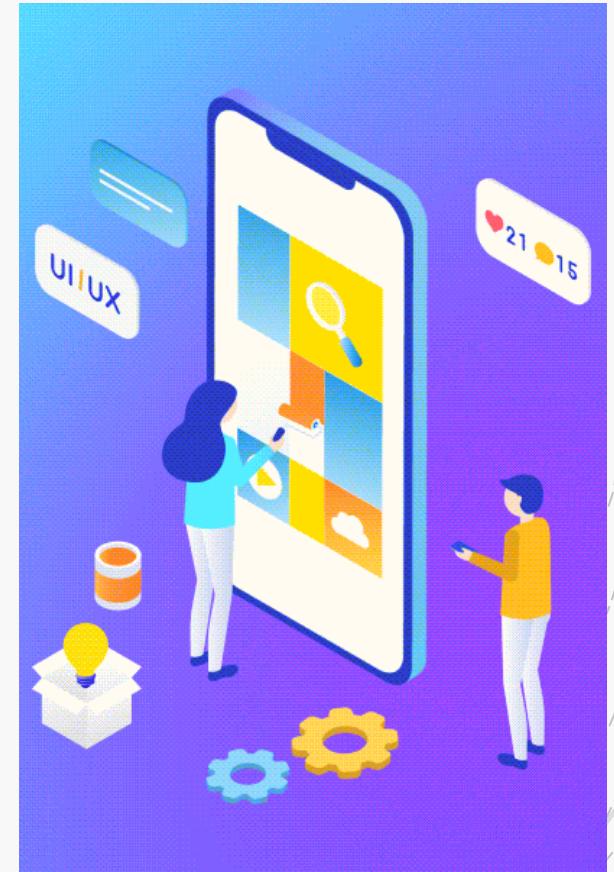
- UV spectrum ends on the left, IR starts on the right
- Wavelengths are in nm
- Source: [https://commons.wikimedia.org/wiki/File:Linear\\_visible\\_spectrum.svg](https://commons.wikimedia.org/wiki/File:Linear_visible_spectrum.svg)

# Human Vision

- Human vision: a highly complex activity, often the main source of information about the world
- The eye: a mechanism for receiving light and transforming it into electrical energy
  - Light reflected from objects in the world and their image is focused upside down on the back of the eye
  - Then, the receptors in the eye transform it into electrical signal which are passed to the brain
  - The brain detects, finally, pattern and movements

# What is Visual Design?

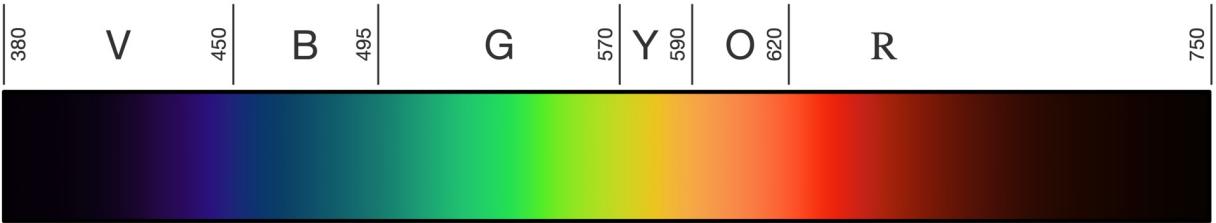
- The way products look affects how users experience them.
- Visual design is about implementing text, colours, and images in a way that enhances a design or interaction.
- The first and foremost goal of product design is to make interfaces usable: the user's eye should be drawn to the correct information and functionality. To make it happen, visual designers prioritise content on a page through **size**, **colour**, and the use of **negative space**.



# What is Visual Design?

- We've made a point (earlier) that this course is focused on usability, but this lecture is more about aesthetics than pure usability.
- Serious mistakes in graphic design certainly affect usability, however, so we're trying to help you avoid those pitfalls.
- There's also a phenomenon, sometimes called the *Aesthetic Usability Effect*, that attractive user interfaces (like attractive people) are perceived as more usable, whether they are or not.
- Design is not about decoration or about ornamentation. Design is about making communication as easy and clear for the viewer as possible.

# Colour



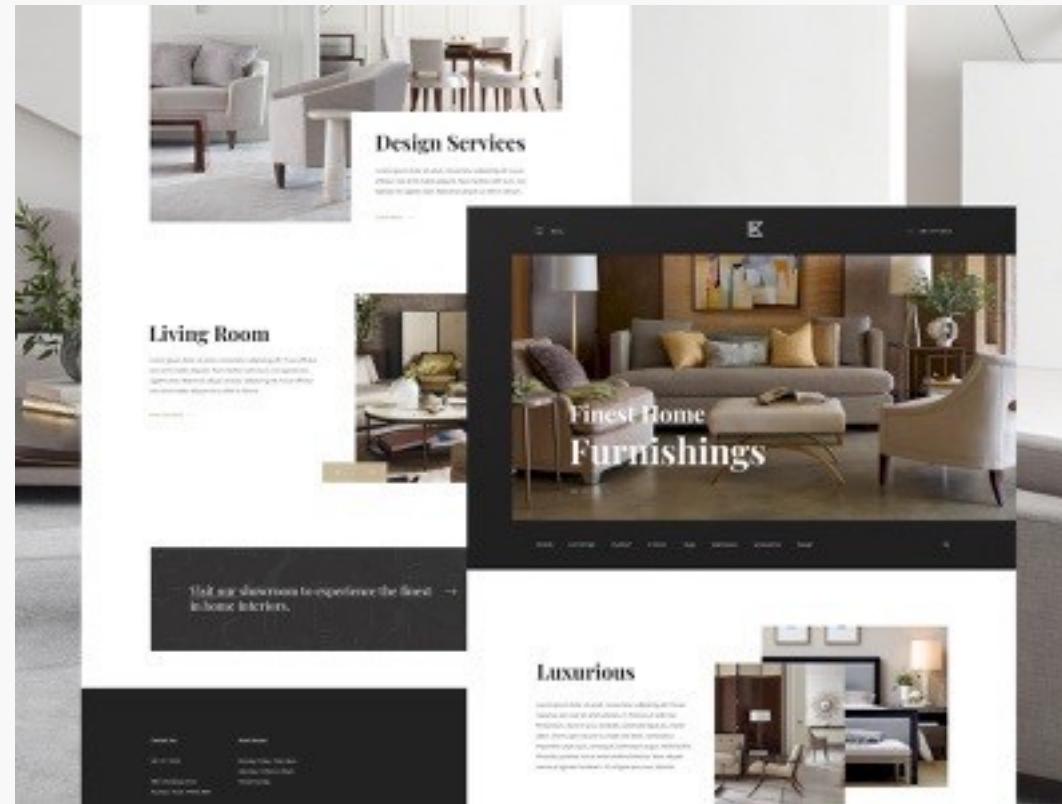
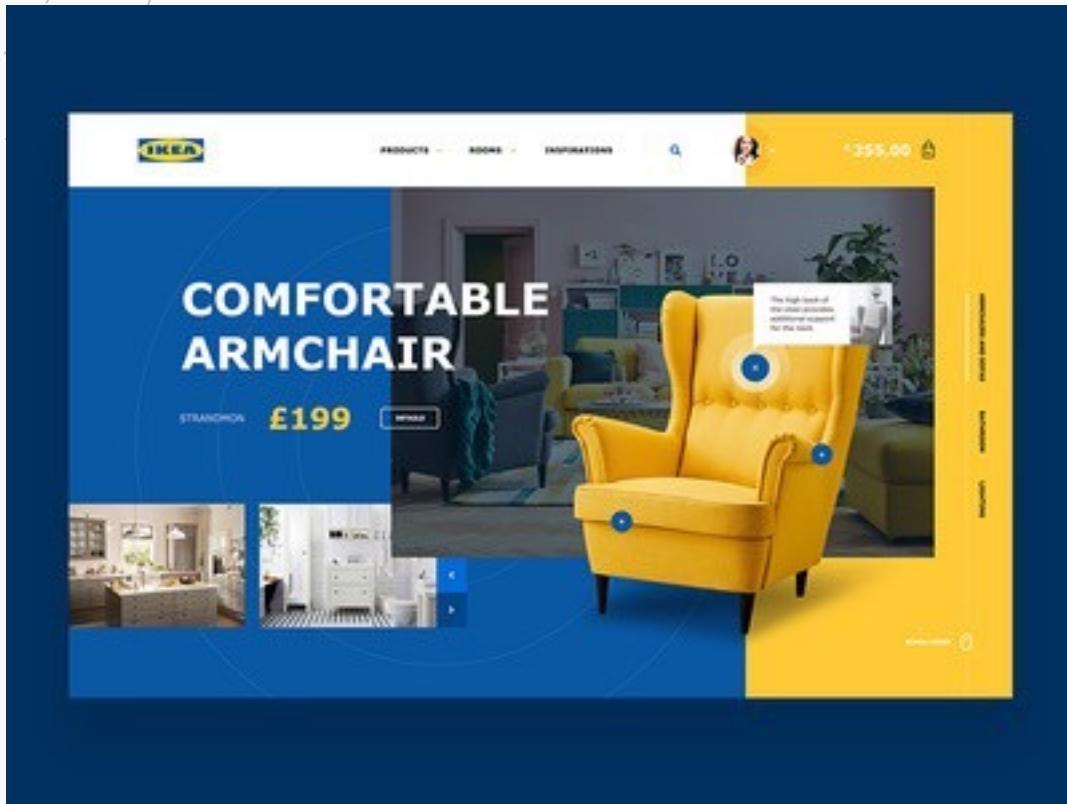
- Color is a property of the human visual system and how it responds to visible light of different wavelengths. (Other animals see different ranges of wavelengths).
- So, color is a subjective sensation. None the less, the human visual system has been extensively studied, so colors can be objectively measured, and accurate numerical predictions made about color mixtures and color contrast.

# Colour

- Colour is another powerful element of design. It can stand alone, act as a background, or highlight other elements in your design.
- Colour is also useful for creating and establishing a mood for your product.



# Colour



# 60-30-10 colour rule

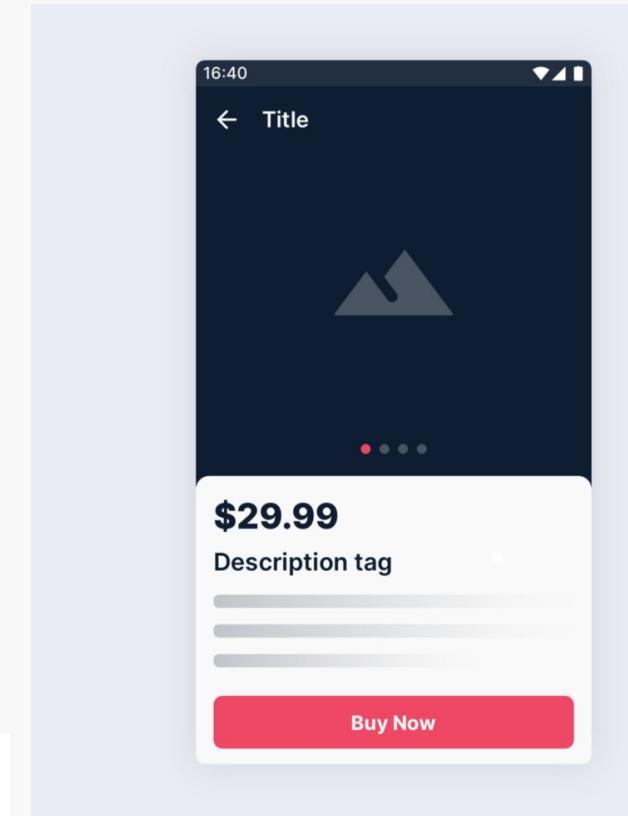
- It says that to create a visually stable composition, you need to use:
- 60% for your dominant hue
  - The overall colour
  - It forms the foundation of the colour scheme: "*It's a grey UI*"
- 30% for your secondary colour
  - Supports the primary colour
  - Different enough to set them apart
- 10% for an accent colour
  - Used to create focal points
  - Used to highlight the key message or functional element (such as a call-to-action button).

# 60-30-10 colour rule



- The Primary Colour:
  - Typically, a neutral colour and is often used as the background of the design.
  - Colours like white, blue, beige, and so on can be used as primary colours.
- The Secondary Colour:
  - Can be used for typography, icons, and subheadings/subtitles in a design.
  - Colours like teal, black, dark blue, and others can be used as secondary colours.
- The Accent Colour:
  - Helps highlights specific sections of the design like buttons, call-to-action elements, or any element that needs emphasis in a design.
  - Usually have high contrast.
  - Colours like yellow, orange, light green, and others make good accent colours.

# 60-30-10 colour rule



# 60-30-10 colour rule

i-INSURE

Insurance Plans Contact Us Request a Demo

**Insure with confidence; where your health is our priority**

i-Insure helps you manage insurance taken out to cover the cost of medical care. We champion your wellness and empower you with the finest health insurance options available.

GET IT ON Google Play Download on the App Store

Affordable Plans  
We have different affordable plans available just for you.

i-INSURE

Select an Insurance Plan

i-Insure has different kinds of insurance plans. Choose the policy that best suits your needs.

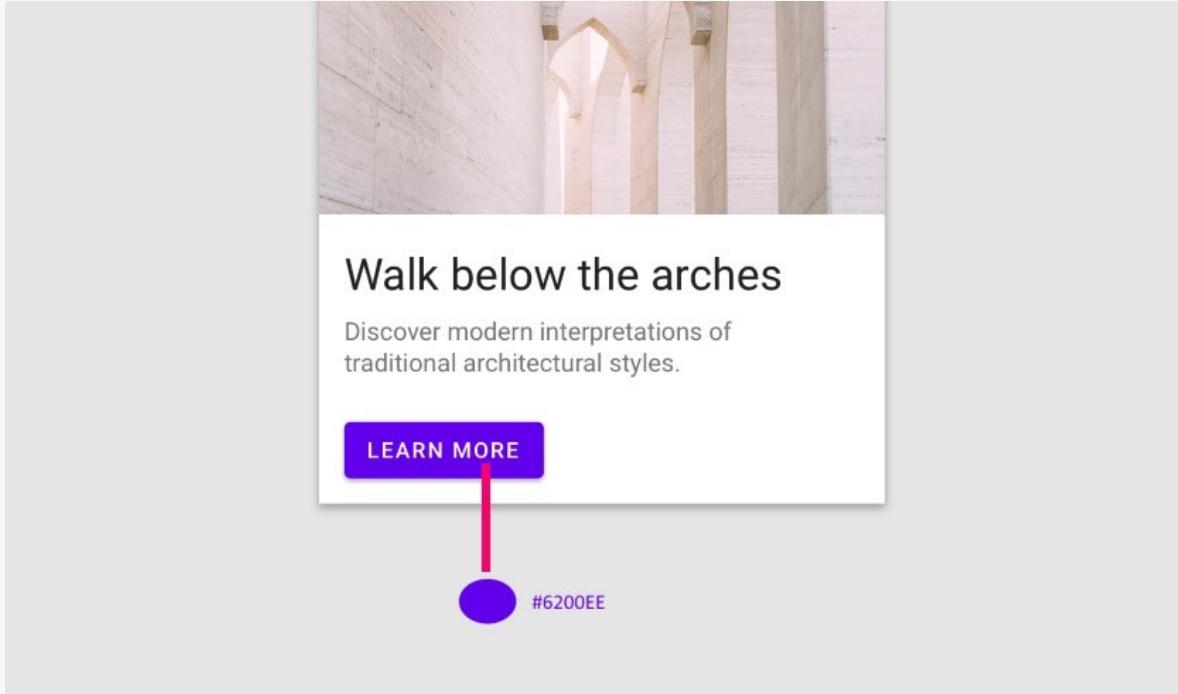
Basic Plan

The basic healthcare plan with provisions for tests, dentals, vaccines and screenings for a single individual.

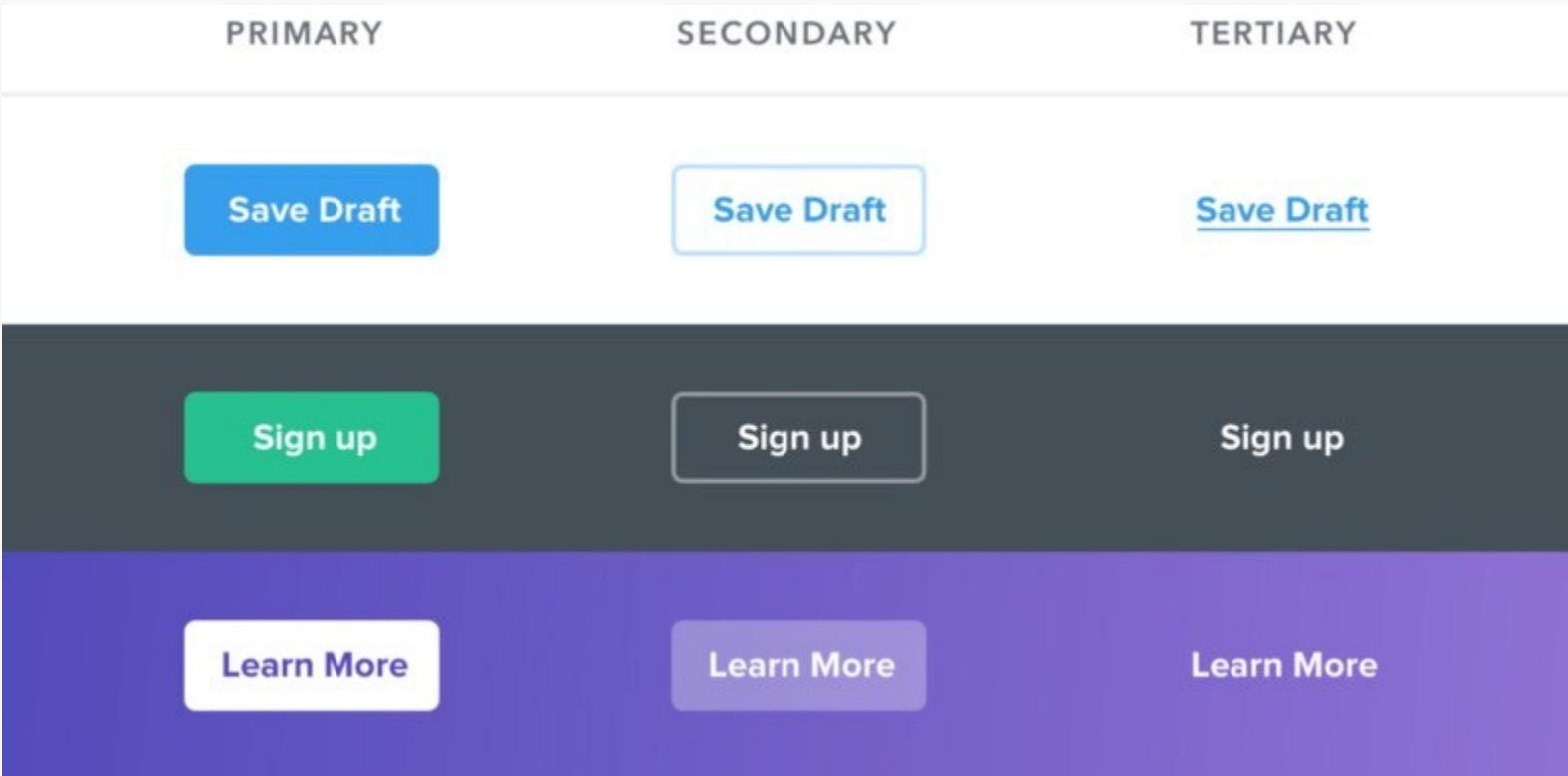
\$75/ month Learn More

# When to use colour in UI design

- To distinguish interactive and static objects.
- To describe the current state of the object (i.e., active/disable element).
- To focus user attention on an important message.

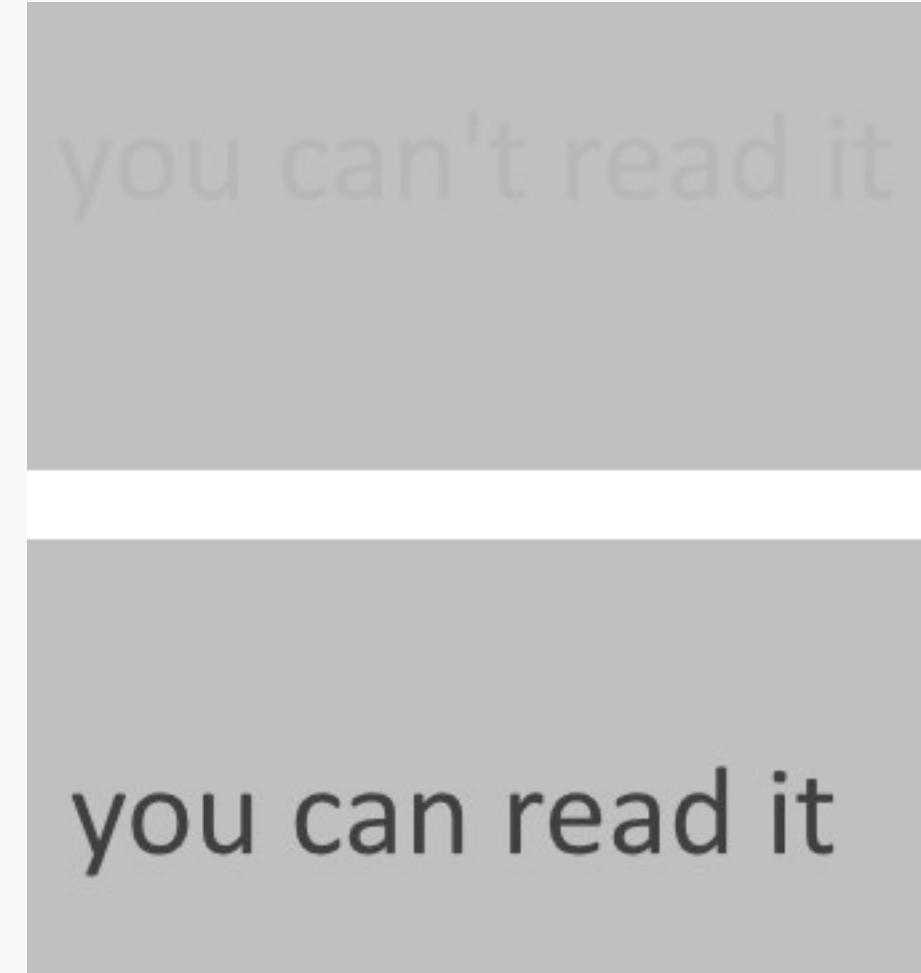


# When to use colour in UI design



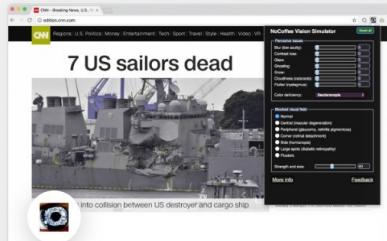
# Colour-contrast ratio

- The right contrast between text and background is an essential part of the user experience.
- The problem becomes even more critical for mobile design. Mobile users can be outdoors or in bright places that cause screen glare, and it'll make your text unreadable.



# Color Contrast Tools

14 tools



## NoCoffee Vision Simulator

NoCoffee can be helpful for understanding the problems faced by people with slight to extreme visio...

**Color Contrast Checker**

Home > Resources > Color Contrast Checker

Foreground color: #eccc00 Lighten | darken

Background color: #f0f0f0 Lighten | darken

Contrast Ratio: 8.59:1

**Normal Text**

WCAG AA: Pass  
WCAG AAA: Pass  
Sample: I am normal text

**Large Text**

WCAG AA: Pass  
WCAG AAA: Pass

## WebAIM Color Contrast Checker

Online color contrast checker

**contrast ratio**

background: white 8.55 hsla(200, 0%, 0%, .7)

text color: black

Analyze colors: All you have to do is click on the colors you want to analyze. Hover over the circle to get more details.

When semi-transparent colors are involved in the analysis, the results will have an tiny margin.

To access the different analysis modes, click on the tabs above.

This sample test attempts to visually demonstrate how unusable this color combination is, for normal or bold text of various sizes and font styles.

**Normal Text**

**Large Text**

## Contrast Ratio

Simple tool to check your contrast ratio online

**tanaguru contrast finder**

Find me the good contrasts, for web accessibility, between these two colors:

Foreground Color: Red (255, 0, 0) Red: 255 Green: 0 Blue: 0

Background Color: Green (0, 255, 0) Red: 0 Green: 255 Blue: 0

Minimum ratio: 4.5

Component to edit: Edit the foreground color  
Edit the background color

## Tanaguru Contrast Finder

Find me the good contrasts, for web accessibility, between two selected colors.



<https://uxpro.cc>



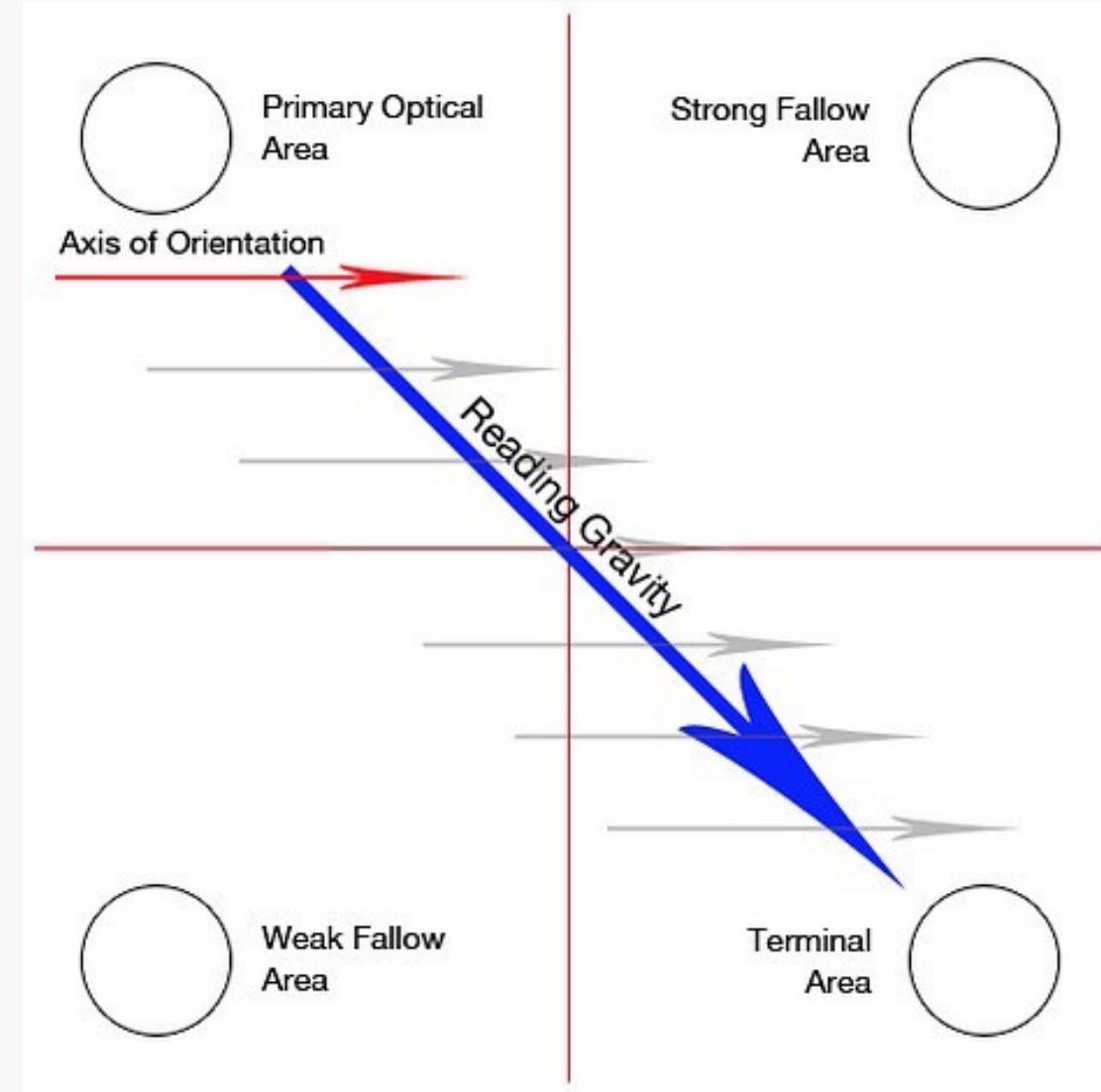
<https://uxpro.cc/toolbox/accessibility/color-accessibility/>

# Reading and Navigating

«Informavores» must quickly find the information they need

# The Gutenberg Diagram

- The Gutenberg Rule is used to show a user behaviour known as **reading gravity**, the western habit of reading left-to-right, top-to-bottom.



# The Gutenberg Diagram

- **The primary optical area:**

- This is where the visitors' eyes naturally go when landing on a web page.
- Born from the learned habit of reading a book from top left to bottom right, our minds are preconditioned to start here.
- Brand's logo and hero message will most frequently be positioned in the top left.

- **The strong fallow area:**

- As the visitor skims a page, they are next drawn to the top right of the page content.
- It's used as a great place for pull out supporting messages, secondary level offers, or cross-links to supporting content.

The Gutenberg Diagram in Web Design



DOWN  
THE  
LINE

# The Gutenberg Diagram

- **The weak fallow area:**

- The place on a web page that the visitor initially spends least time and gives least attention.
- That's why it's often used for the start of body content within a page.
- It's considered, within the Gutenberg Diagram to be the most invisible spot on the page.

- **The terminal area:**

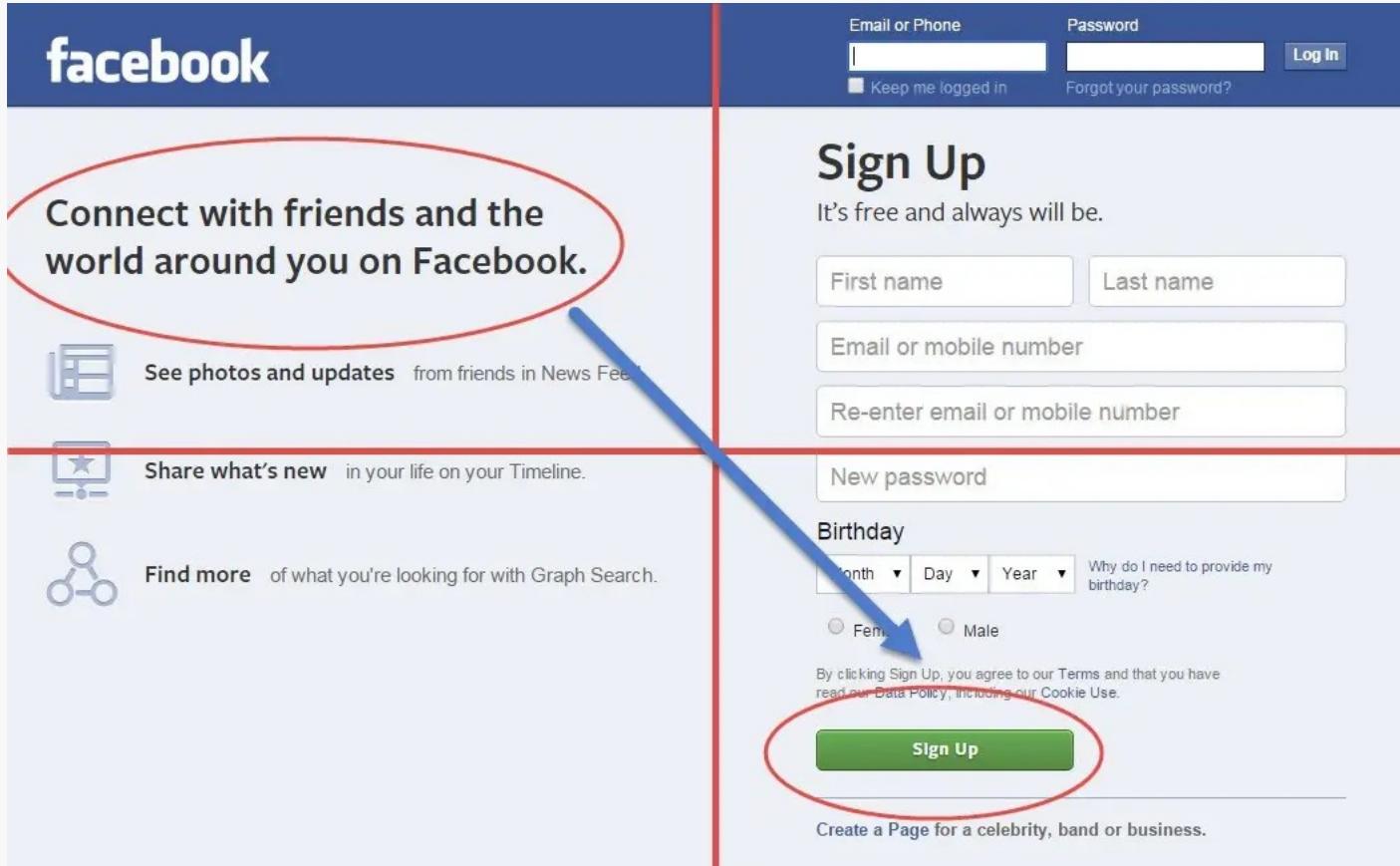
- As the visitor reaches the bottom right, there is a natural break in their skimming of the page.
- As it forms a natural pause, the terminal area is frequently used as a primary position for calls to action.

The Gutenberg Diagram in Web Design



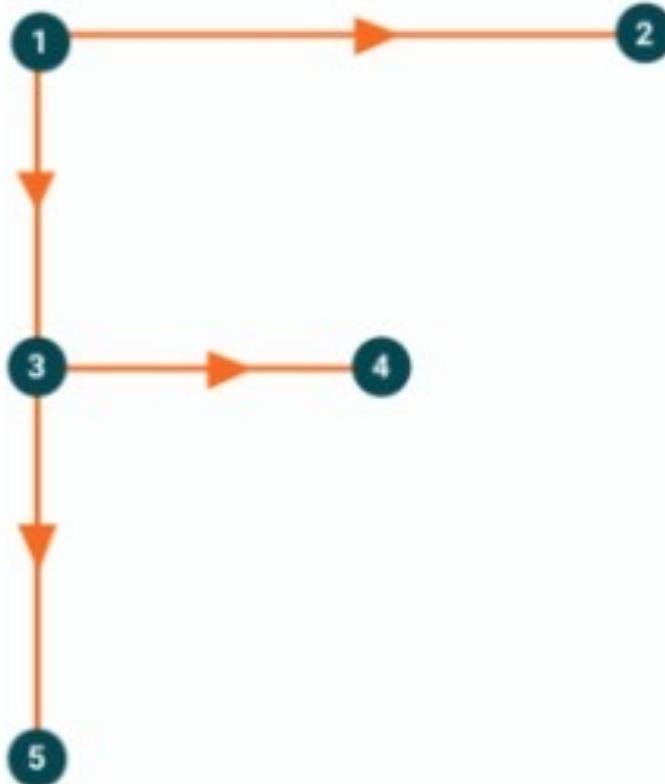
DOWN  
THE  
LINE

# The Gutenberg Diagram



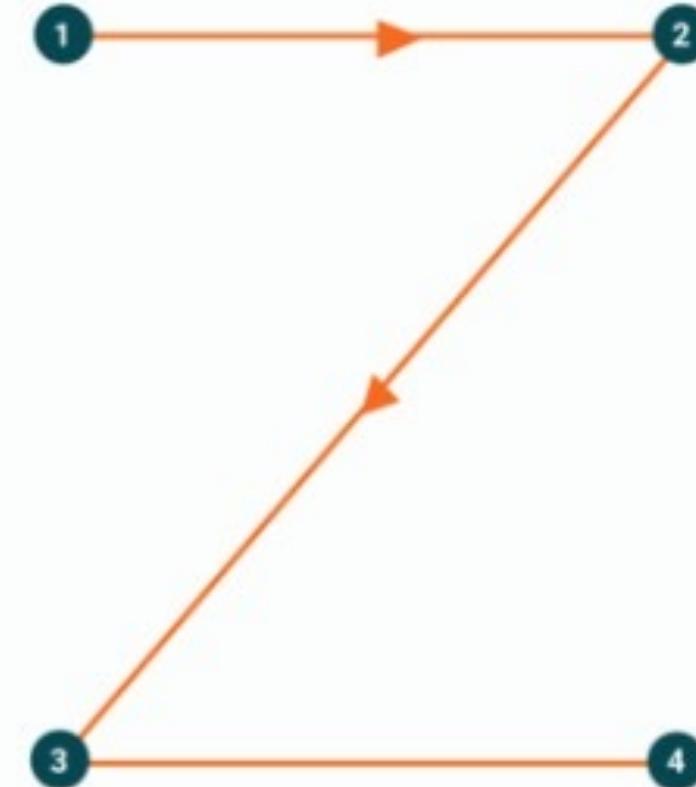
## LAYOUT SCANNING PATTERNS

*The predictable human eye*



F-pattern

VS



Z-pattern



LINK

LINK

LINK

LINK



Image Placeholder



#### SOME INFORMATION

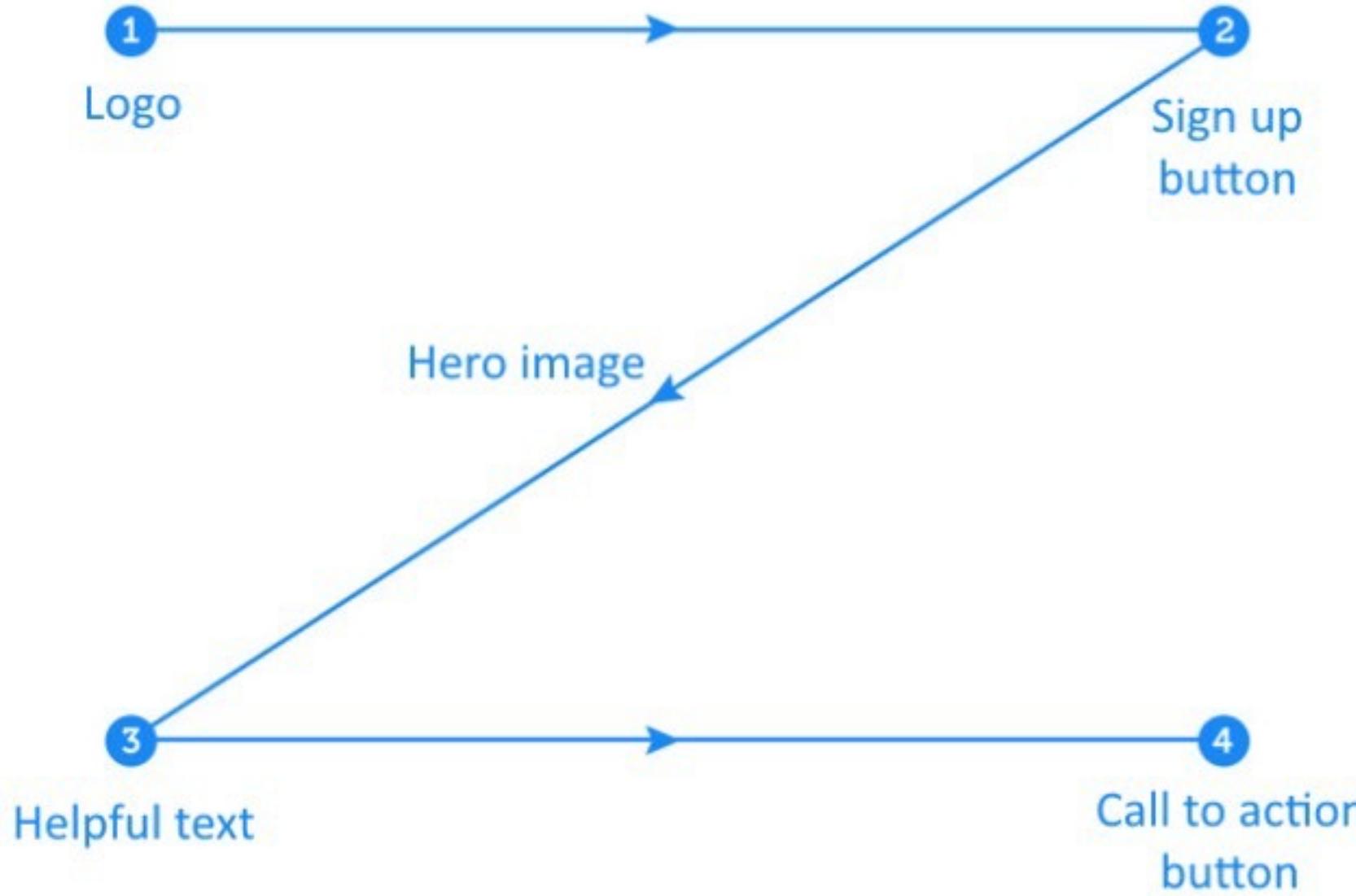
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**SIGN UP NOW!**





# The F Layout

LINK LINK LINK LINK START 2

This is a headline or mission statement for the website.

3

## Use Catchy Words

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Pellentesque justo erat, consequat in venenatis sit amet, convallis et mauris.

4

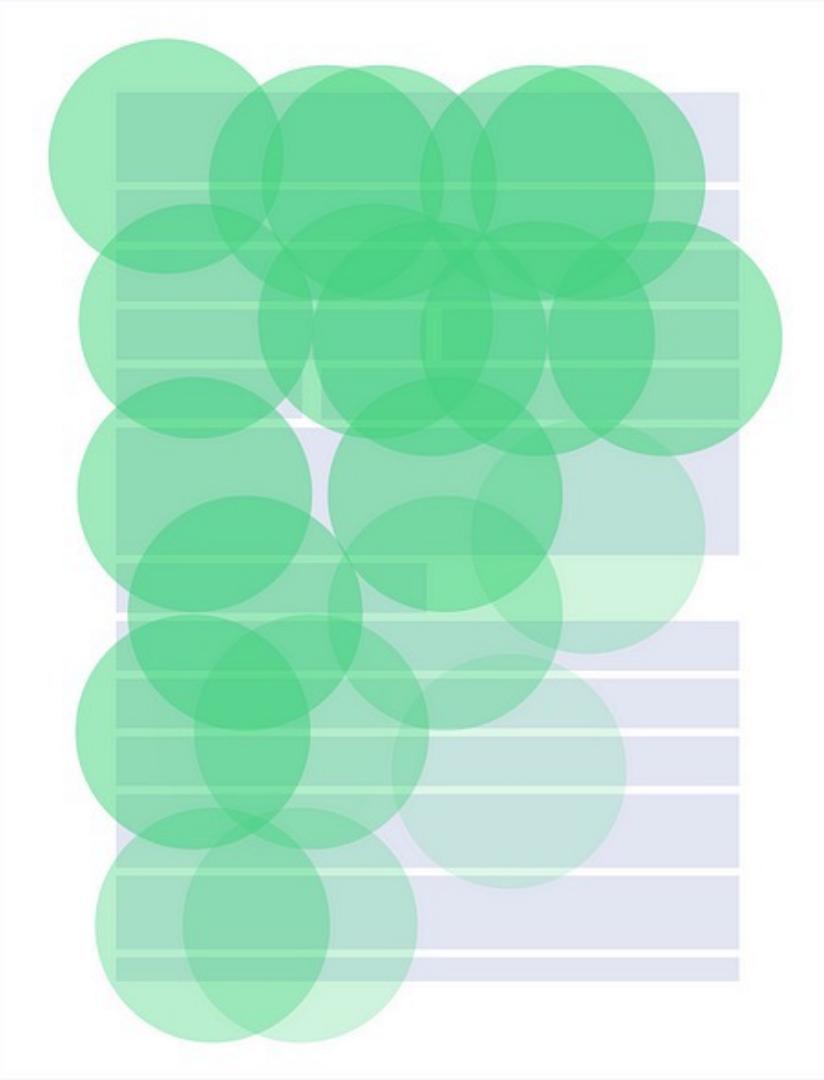
New  
eBook  
Out Now!

## Headlines Should Be Sexy!

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Pellentesque justo erat, consequat in venenatis sit amet, convallis et mauris.

### Categories

Photoshop	Tutorials
WordPress	Site Elements
Web Design	Freebies





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<https://vichithanh.github.io>



SCAN ME