UX Fundamentals
Hands-on workshop

By Vijay Shivakumar

UX Fundamentals

Welcome to the program

Please mute your microphone

Enable it when you wish to be heard

Have a notepad and a pen/pencil handy

Please schedule phone calls, email & message during breaks
unless they are an emergency

By Vijay Shivakumar

**UX Fundamentals
Hands-on workshop**

Agenda

Introduction

Purpose

History

What is it ?

How to apply ?

Assignment

By Vijay Shivakumar

UX Fundamentals
Hands-on workshop

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About You

Designer

Developer

Architect

Business Analyst

Technology Enthusiast

Curious

UX Fundamentals
Hands-on workshop

What is User Experience ?

By Vijay Shivakumar

Varies from person to person according to their domain.

"UI is the saddle, the stirrups, & the reins.
UX is the feeling you get, being able to ride the horse."
Dain Miller, Web Developer

"How do I explain what I do at a party? The short version is that I say I humanize technology."
Fred Beecher, Director of UX, The Nerdery

"Design isn't finished until somebody is using it."
Brenda Laurel, PhD, Independent Scholar

"The next big thing is the one that makes the last big thing usable."
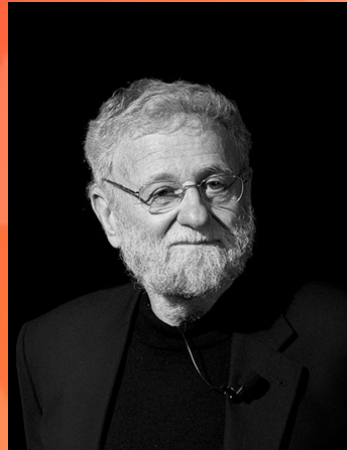*Blake Ross, Co-creator of Mozilla Firefox*

"When UX doesn't consider ALL users, shouldn't it be known as "SOME User Experience" or… SUX?"
Billy Gregory, Senior Accessibility Engineer

UX Fundamentals
Hands-on workshop

What is User Experience ?

https://jnd.org/

"I invented the term because I thought Human Interface and usability were too narrow: I wanted to cover all aspects of the person's experience with a system, including industrial design, graphics, the interface, the physical interaction, and the manual."

- Don Norman

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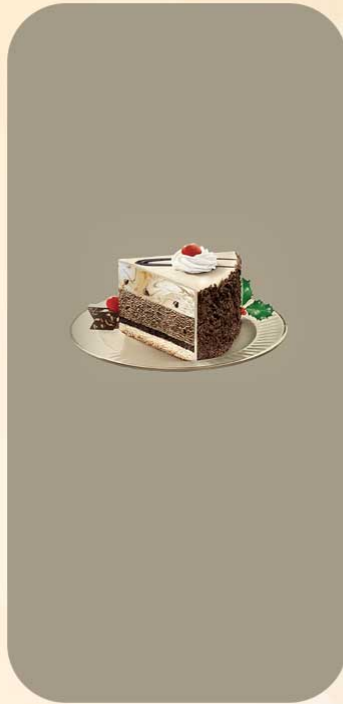
The Product

The Product

UX | Fundamentals

The Product

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The Product

Product Details

Chocolate Cake

This cake is moist and has the perfect crumb. I cannot imagine making a chocolate cake using any other recipe. It is so easy to make and puts doctored cake mix recipes to shame.

$12.08 **$10.99**

Add to cart

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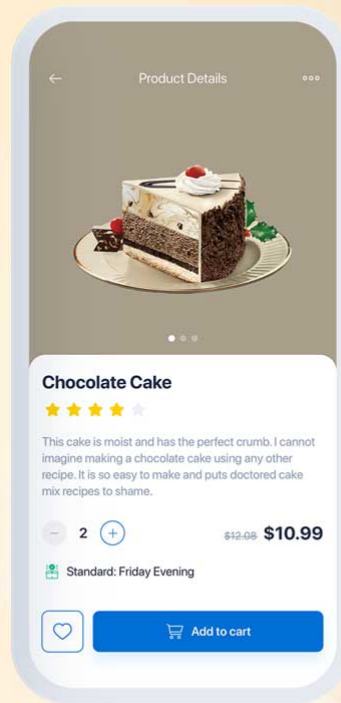
UX | Fundamentals

The Product
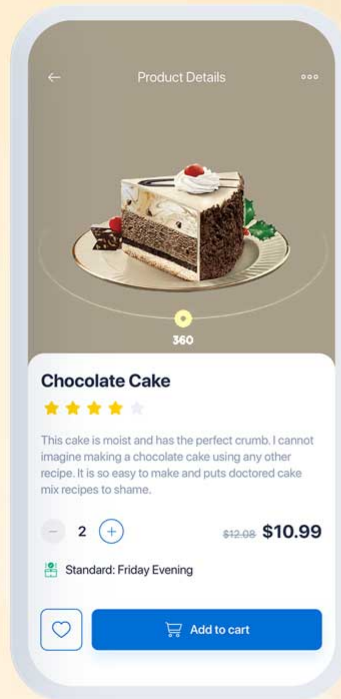
UI and UX Differences

Visual Design

Interface Design

Navigation Design

Information Design

User Interface

User Experience

Interaction Design

Information Architecture

Functional Specifications

Content Requirements

User Needs

Site Objectives

UX

UX

CLIENT & INDUSTRY RESEARCH

WHAT IS THEIR...

- COMPANY CULTURE?
- REPUTATION?
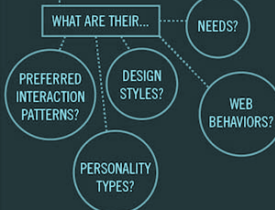- BRAND PERSONALITY?
- WHAT IS THE LATEST NEWS IN THEIR INDUSTRY?
- HOW DO THEY RUN THEIR BUSINESS?
- WHAT PROBLEMS DO THEY SOLVE FOR THEIR CUSTOMERS? HOW?
- WHO ARE THEIR COMPETITORS?

USER RESEARCH

WHO ARE THE CLIENT'S PRIMARY TARGET AUDIENCES?

WHAT ARE THEIR...

- PREFERRED INTERACTION PATTERNS?
- DESIGN STYLES?
- NEEDS?
- WEB BEHAVIORS?
- PERSONALITY TYPES?

RUN USABILITY TESTS
on the current site or app based on existing pain points.

DEVELOP PERSONAS
based on research & testing.

DEVELOP USER JOURNEY MAPS
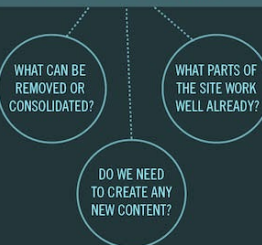to identify ideal scenarios for completing critical tasks.

INFORMATION ARCHITECTURE

INVENTORY ALL EXISTING CONTENT.

EXECUTE A CONTENT AUDIT.
Analyze all existing content with your user research as a guide.

- WHAT CAN BE REMOVED OR CONSOLIDATED?
- WHAT PARTS OF THE SITE WORK WELL ALREADY?
- DO WE NEED TO CREATE ANY NEW CONTENT?

DESIGN NEW SITE ARCHITECTURE.

TEST THE ARCHITECTURE
with users using card sorting techniques or interactive prototypes.

ITERATE
based on user feedback.

PAGE TEMPLATE DESIGN (WIREFRAMING)

COLLABORATE WITH CONTENT STRATEGISTS
to determine what content should be available on each page.

DESIGN THE CONTENT STRUCTURE, LAYOUT & INTERACTION PATTERNS
for each page type within the site architecture.

TEST DESIGNS
by sharing prototypes with users and asking for feedback on any assumptions you've made

SHARE & EXPLAIN DESIGNS
early and often with the entire team, so they understand every layout or interaction pattern decision that's made.

VISUAL DESIGN

COLLABORATE WITH VISUAL DESIGNERS.
They have a good eye for beauty and functionality that can only help the user.

SHARE THE VISUAL DESIGN
with users as early as possible to get feedback on any assumptions made and general opinions.

SITE ANALYTICS & USABILITY TESTING

WORK CLOSELY WITH YOUR ANALYTICS TEAM
to help them understand which areas of the experience you'll need the richest analytic information about.

RUN USABILITY TESTS
based on any revelations from site analytics over time, previous design assumptions, or user complaints.

- DO ANY TWEAKS NEED TO BE MADE?
- DOES ANYTHING NEED TO BE ADDED? REMOVED?

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Fundamental components of UX

Information Architecture (IA)

Interaction Design

Usability

Prototyping

Visual Design

Information Architecture

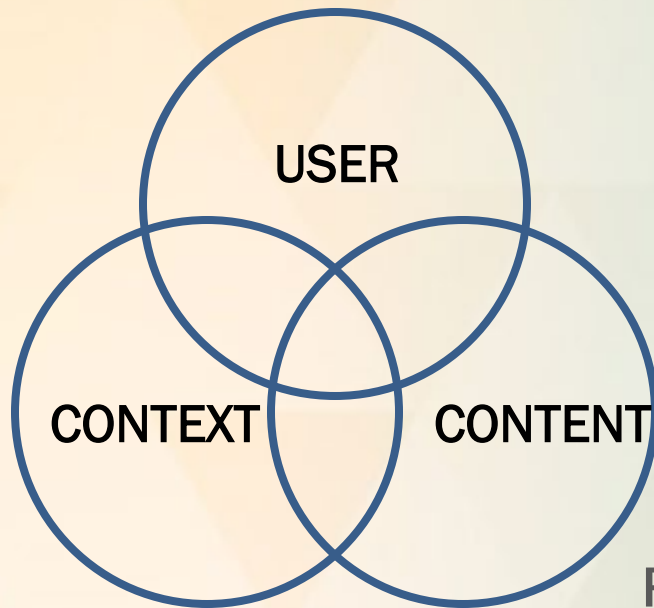By Vijay Shivakumar

UX Information Architecture

Information architecture (IA) focuses on <u>organizing</u>, <u>structuring</u>, and <u>labeling content</u> in an effective and sustainable way. The goal is to help users find information and complete tasks.

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UX Interaction Design

Interaction design is specifically a discipline which examines the interaction (using an interface) between a system and its user.

UX

Disciplines of Interaction Design

The Disciplines of **Interaction Design**

link

UX Usability

Usability refers to the quality of a user's experience when interacting with products or systems, including websites, software, devices, or applications.
Usability is about effectiveness, efficiency and the overall satisfaction of the user.

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UX Prototyping

Types of prototype

Review

Refine
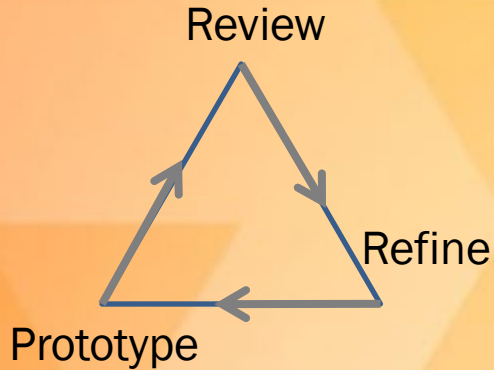
Prototype

Sketching

Block Wires

Paper prototypes

Low-fidelity wireframe

HTML prototypes

Interactive prototypes

speed

accuracy

"If a picture is worth a thousand words, a prototype is worth 1000 meetings."
– IDEO

Visual Design

Visual design focuses on the aesthetics of a site and its related materials by strategically implementing images, colors, fonts, and other elements.

UX Visual Design

The basic elements

Lines

Shapes

Colors

Texture

Typography

Forms

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UX | UX Visual Design

Principles of Visual Design

Unity	Contrast
Gestalt	Scale
Space	Dominance
Hierarchy	Similarity
Balance	

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Visual Design - Basic Elements - Lines

Regular lines

Double lines

Dashed lines

Straight lines

Curvy lines

Straight lines are formal Precise

Organic / Curvy lines are casual, Not certain

Visual Design - Basic Elements - Shape

Conscious use of shapes can help send the right message about your brand and keep your visual marketing strategy consistent.

Different shapes convey hidden meanings and feelings so that you can choose the best shape combinations for your designs.

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UX | Fundamentals

Geometric

These are the most
commonly used shapes.

Organic

They represent things from
the natural world.

Abstract

They represent everyday
objects for people

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UX | Fundamentals

Squares — Reliable, give stability and suggest order

Circles — Represent completion, wholeness and harmony

Triangles — Represent direction and power

Pentagons — Portray familiar usage already known use of the shape

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Visual Design - Basic Elements - Color

Color is one of the most powerful tools in the designer's toolkit. You can use color to impact users' emotions, draw their attention, and put them in the right frame of mind to make a purchase.

UX | Fundamentals

Red
Excitement
Strength
Love
Energy

Orange
Confidence
Success
Bravery
Sociability

Yellow
Creativity
Happiness
Warmth
Cheer

Green
Nature
Healing
Freshness
Quality

Blue
Trust
Peace
Loyalty
Competence

Pink
Compassion
Sincerity
Sophsitcation
Sweet

Purple
Royalty
Luxury
Spirituality
Ambition

Brown
Dependable
Rugged
Trustworthy
Simple

Black
Formality
Dramatic
Sophistication
Security

White
Clean
Simplicity
Innocence
Honest
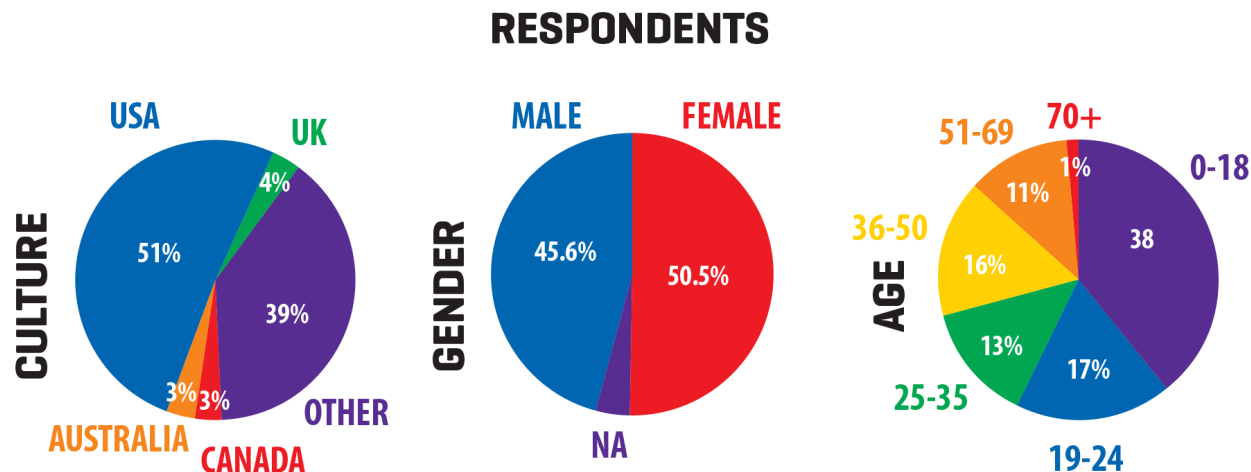
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UX

Fundamentals - Colors

Colors of
Culture,
Age
Gender

Facebook users preferred color by country

wisemetrics Labs

By Vijay Shivakumar

UX | Fundamentals - Colors

Colors of Culture, Age, Gender

Maraschino — Red
Cayenne
Maroon
Plum
Eggplant — Purple
Grape
Orchid
Lavender
Carnation
Strawberry
Bubblegum — Pink
Magenta
Salmon
Tangerine — Orange
Cantaloupe
Banana — Yellow
Lemon
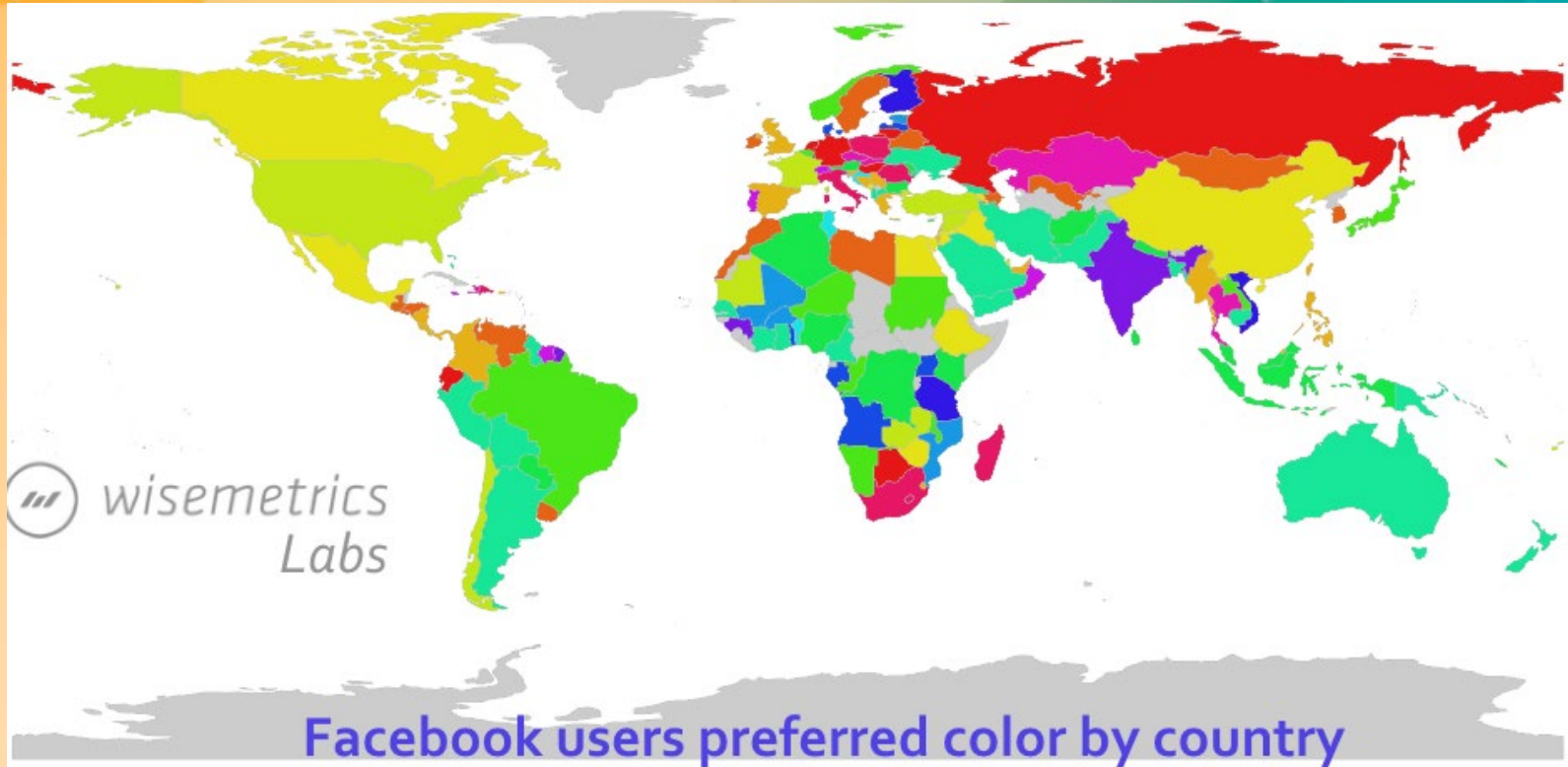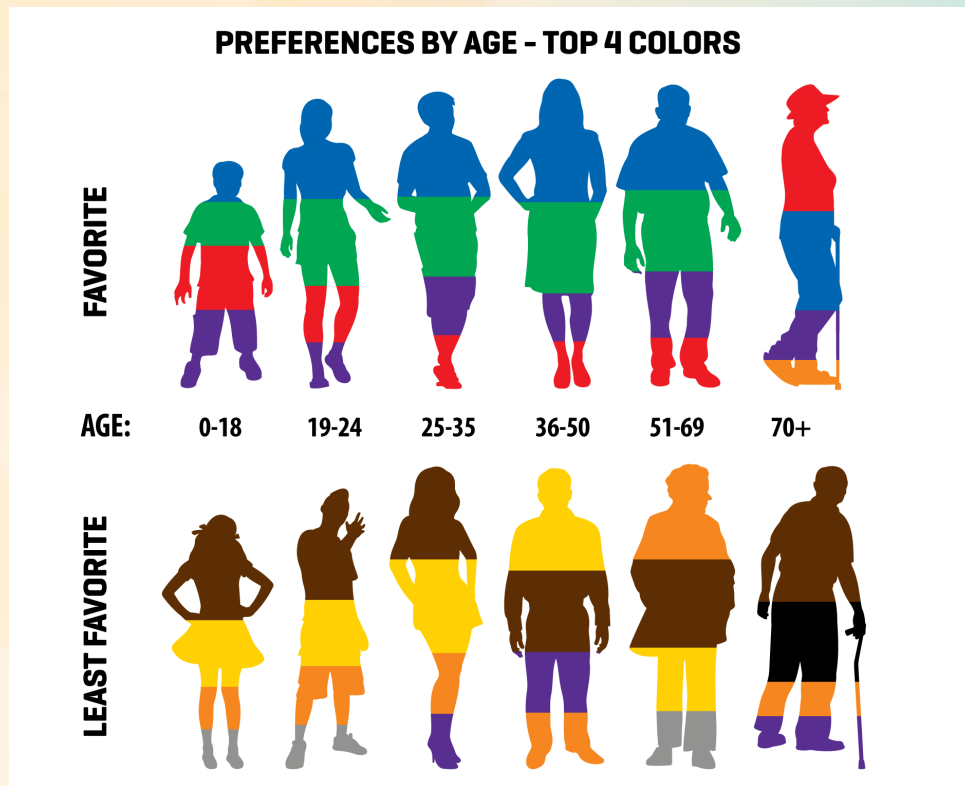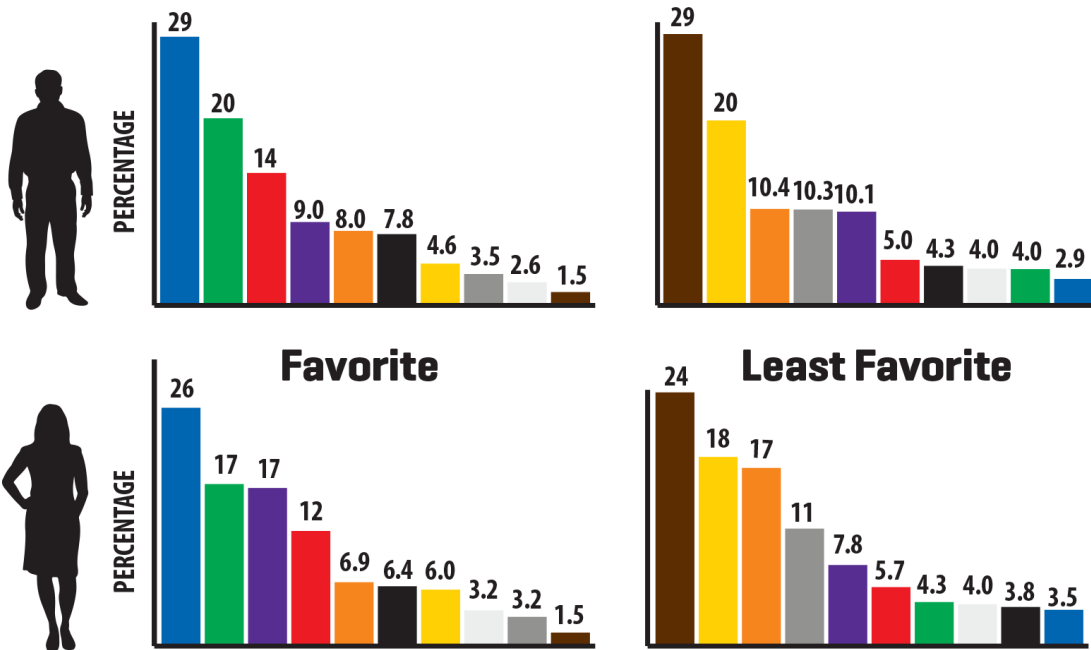
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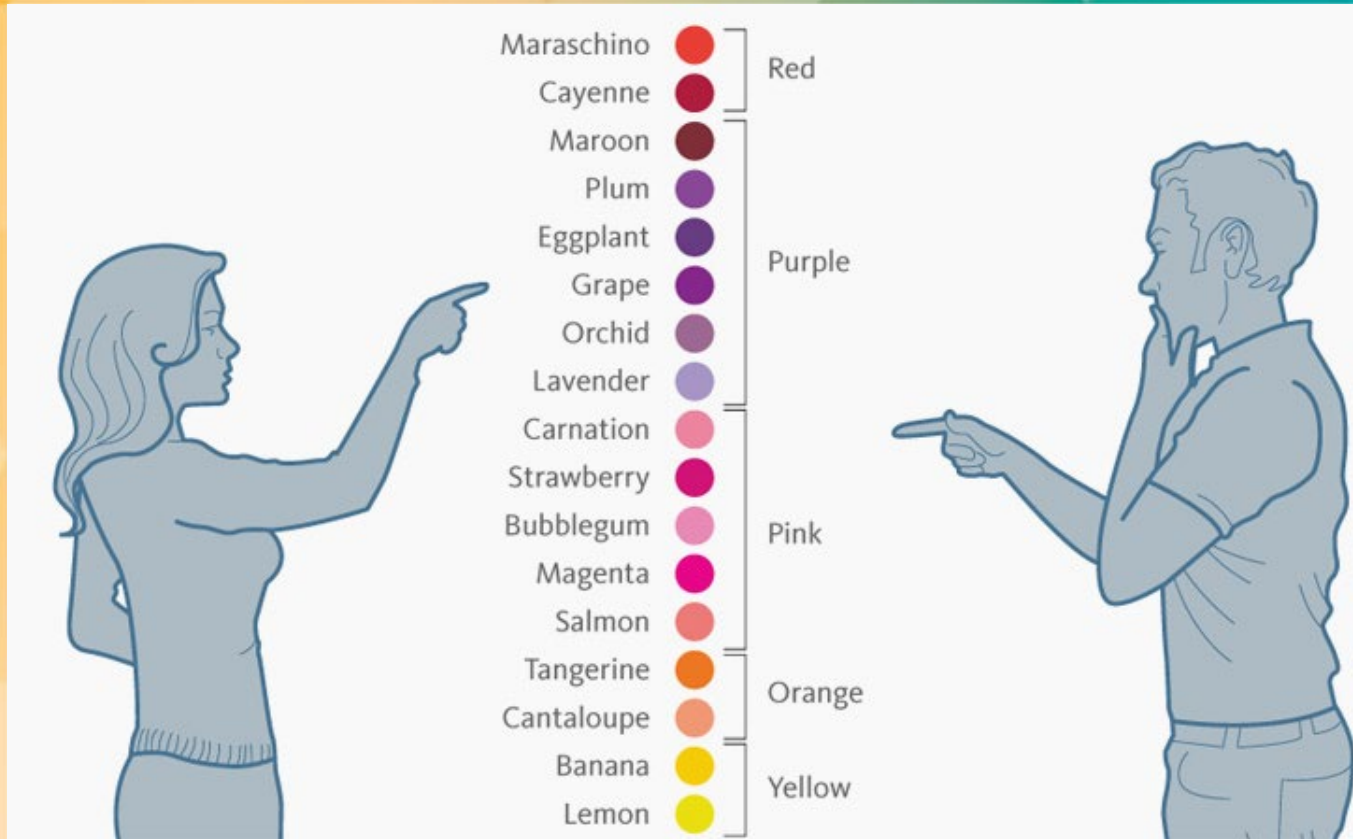
UX

Colors of Culture, Age, Gender

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Color	Group
Maraschino	Red
Cayenne	Red
Maroon	Purple
Plum	Purple
Eggplant	Purple
Grape	Purple
Orchid	Purple
Lavender	Purple
Carnation	Pink
Strawberry	Pink
Bubblegum	Pink
Magenta	Pink
Salmon	Pink
Tangerine	Orange
Cantaloupe	Orange
Banana	Yellow
Lemon	Yellow
Honeydew	Green
Lime	Green
Spring	Green
Clover	Green
Fern	Green
Moss	Green
Flora	Green
Sea Foam	Green
Spindrift	Blue
Teal	Blue
Sky	Blue
Turquoise	Blue

Brands that use colors to target their service and audience

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Visual Design - Basic Elements - Texture

Texture is the surface quality of an object

Textures are created with lines, patterns, gradients etc.

UX | Fundamentals

Photoshop demo

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UX | Fundamentals

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Visual Design - Basic Elements - Typography

Typography plays a huge role in developing a strong brand identity and a solid first impression.

Different fonts convey different messages

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UX | Fundamentals

5 major font categories

Each signifies an identity when used by product or service

Serif
Authority, tradition, respect, and grandeur
Times New Roman, Bodini, Georgia, Garamond and Baskerville.

Sans Serif
Clean, modern, objective, stable, universal
Helvetica, Verdana, Arial, Century Gothic, and Calibri

Slab Serif
Bold, Strong, Modern, Solid, Funky
Rockwell, Courier, Museo, Clarendon and Bevan

Script
Feminine, elegant, friendly, creative
Lobster, Zapfino, Pacifico, Lucida and Brush Script

Modern
Exclusivity, fashionable, stylish, sharp, intelligent
Inifinity, Eurostyle, Majoram, Matchbook, Politica

UX | Fundamentals

Font usage by brands

BALANCED / CALM

PEACEFUL / HEALTHY

TRUSTFUL / STRONG

CREATIVE / WISE

EXCITED / YOUTHFUL / BOLD

FRIENDLY / CHEERFUL / CONFIDENT

OPTIMISTIC / CLEAR / WARM

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UX Fundamentals

Visual Design - Basic Elements - Form

Visual design focuses on the aesthetics of a site and its related materials by strategically implementing images, colors, fonts, and other elements.

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Fundamentals - Forms

2D and 3D forms usually adds value to data and visual display of numbers

Visual Design - Principle - Balance

Balance is usually considered a very good thing.

In the most of cases, nobody wants to lack balance in anything.

The same is true in design. Achieve alance is our goal.

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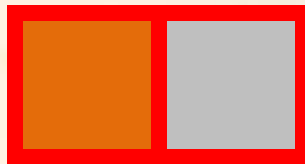
UX Fundamentals

Visual Design - Principle - Alignment

Alignment helps us to create a sense of unity by providing structure and connecting elements.

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UX | Fundamentals - Alignment

Vertical

Main Body Text

Lorem ipsum dolor sit amet, duo an

Sidebar

Lorem ipsum
Sit amet duo an

Horizontal

Media

Axe Icon
Lorem ipsum dolor sit amet, duo an iusto minimum tacimates, elit omnium pro ei.

No Icon
Lorem ipsum dolor sit amet, duo an iusto minimum tacimates, elit omnium pro ei.

Queen's Crown Icon
Lorem ipsum dolor sit amet, duo an iusto minimum tacimates, elit omnium pro ei.

Center Alignment   Optical Alignment

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Visual Design - Principle - Hierarchy

Hierarchy provides the user with a road map to navigate

throughout your design.

In general there are two types of hierarchies

Heavy text content, Visual content

UX | Fundamentals - Hierarchy

Heavy text content

We are conditioned to read from left to right, top to bottom and "skim" content.
Its observed that we follow the "F" pattern when we see heavy text content

Arabic, Aramaic, Azeri, Maldivian, Hebrew, Kurdish, Persian, Urdu, Hanuno'o, Batak, Tagbanwa

Visual content

Instead, our tendency to move from left to right and top to bottom can be disrupted by **contrast.** The elements with the most contrast win our attention.

UX | Fundamentals - Hierarchy

Heavy text content we are conditioned to read from **left to right, top to bottom** and "**skim**" content. Its observed that we follow the "F" Pattern when we see heavy text content

LINK
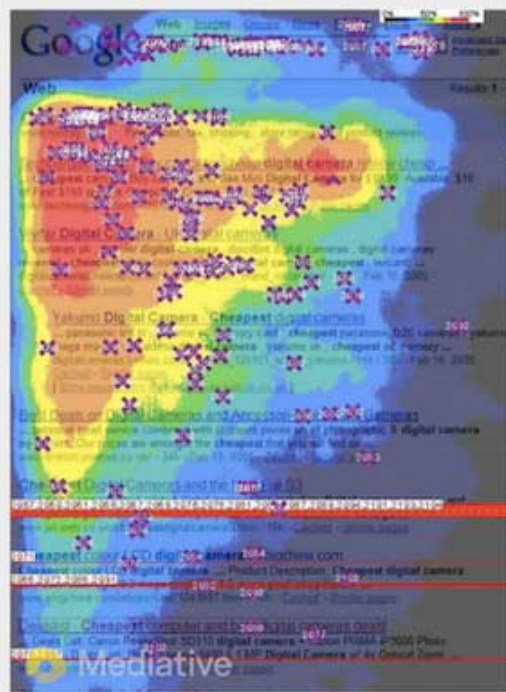
2005

2014

Source: The Evolution of Google Search Results Pages, Mediative, 2014

Arabic, Aramaic, Azeri, Maldivian, Hebrew, Kurdish, Persian, Urdu, Hanuno'o, Batak, Tagbanwa

Visual Design - Principle - Emphasis

Emphasis is used to indicate importance or dominance. Elements can be emphasized by taking advantage of other design principles, including **proportion**, **white space**, **movement**, and **contrast**.

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Fundamentals - Emphasis
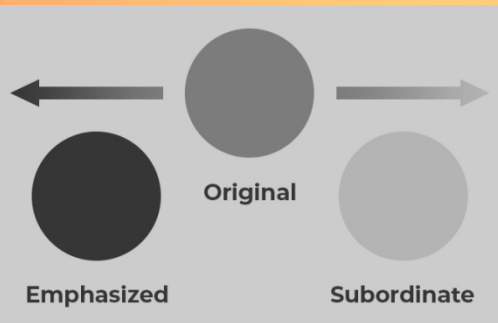
Proportion describes the size of an element, compared to those around it. Larger elements will have more emphasis and smaller elements will appear subordinate.

White Space describes the distance between elements to create grouping or isolation. Elements that are grouped can appear subordinate to elements that stand in isolation.

Movement describes the use of elements to insinuate direction.
This can be use to "move" your user to the focal point or by movement of controls to show error or success

Contrast describes the distinction between one element and those around it by means of color, size, shape, or alignment.

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Visual Design - Principle - Proportion

Proportion has a long history of defining beauty in art and design.

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UX | Fundamentals - Proportion

In order to take advantage of proportion in UI design, we must first understand the differences between size, scale, and proportion. All three of these terms are related, but there are some clear distinctions to consider.

Size is the actual dimensions of an element, often measured in px, pt, em, rem etc.

Scale is the relative dimensions of an element, often measured by percentages or multiples.

Proportion is the harmonious relationship between two or more elements of scale.

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Fundamentals - Proportion

Static elements remain the same size, regardless of how how big or small the screen is.

Fluid elements scale to a specified percentage of it's container.

UX
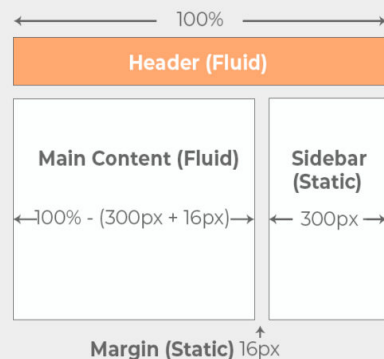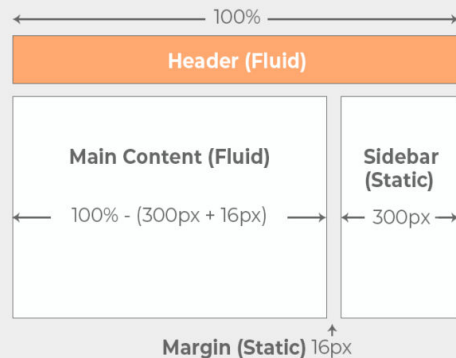
Fundamentals - Proportion

The Golden Ratio

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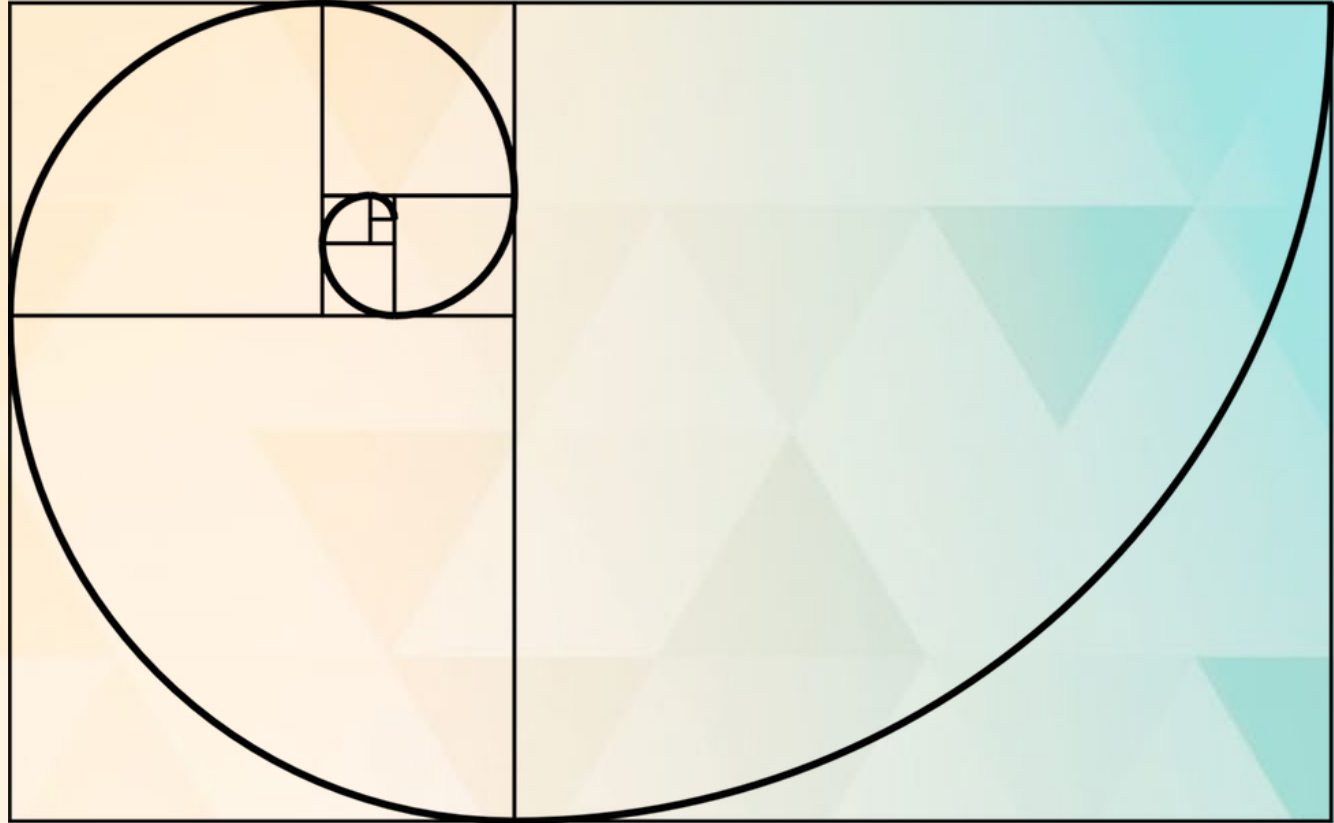
Fundamentals - Proportion

Using the Golden Ration in UI Design
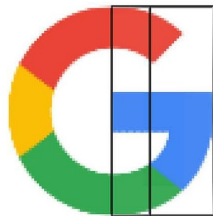
Google
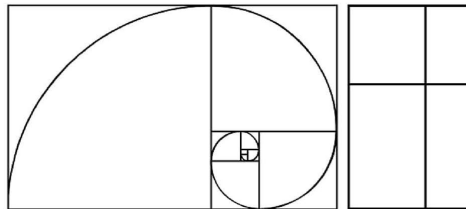
The Golden Ratio
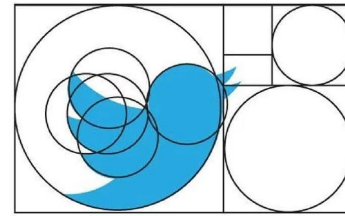
Twitter
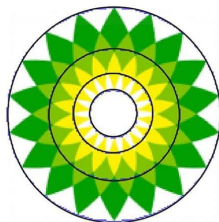
BP
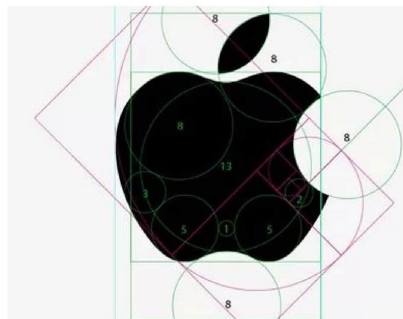
Apple
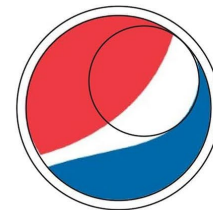
Pepsi

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UX | Fundamentals - Proportion

Using the Golden Ration in UI Design

GOLDEN RATIO IN MOBILE UI

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UX Fundamentals

Visual Design - Principle – GESTALT

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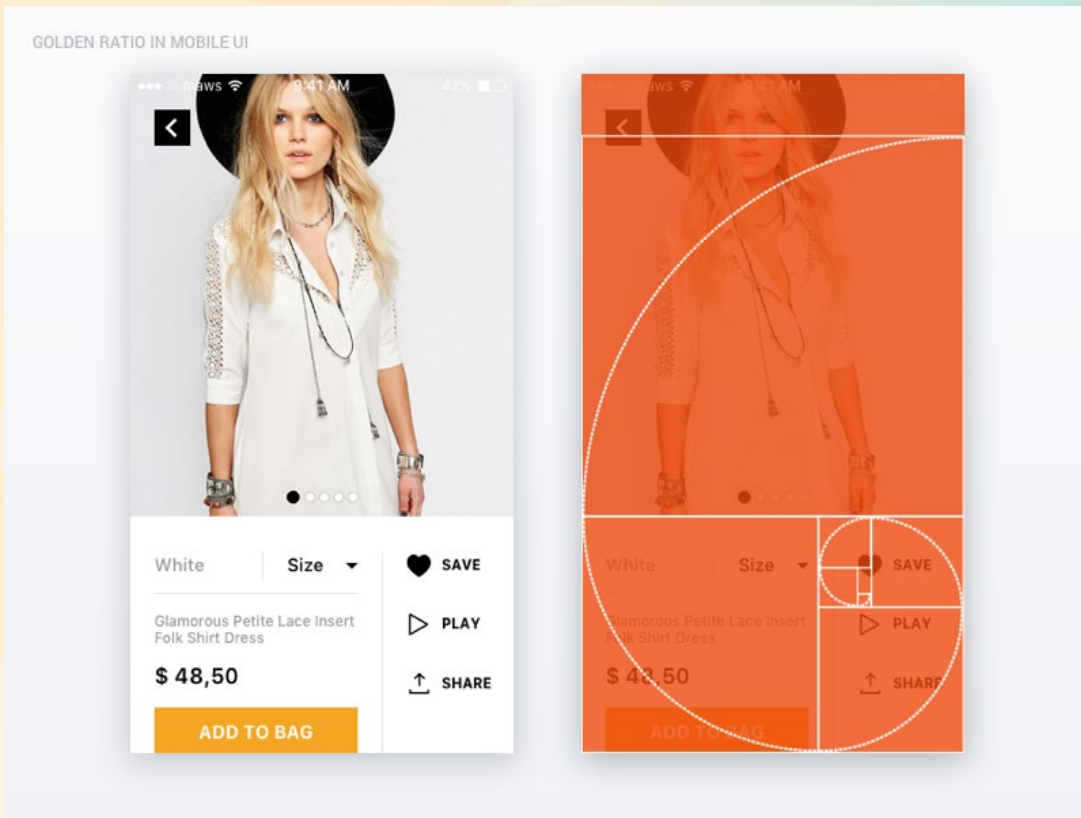
Visual Design - Principle - GESTALT

Gestalt theory implies that the mind understands the whole is greater than the sum of its parts. Simply put, our mind will always try to make order out of chaos.

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Fundamentals - GESTALT

Proximity

When an individual perceives an assortment of objects they perceive objects that are close to each other as related.

Similarity

Elements can visually be grouped together if they have visual similarities. This can be applied in the form of color, shape, or iconography.

Continuation

Continuity happens when the eye is guided to move from one object to another.

UX | Process

VISUAL DESIGN

INTERACTION DESIGN

INFORMATION ARCHITECTURE

UX

CONTENT STRATEGY

BUSINESS OBJECTIVES

USER RESEARCH

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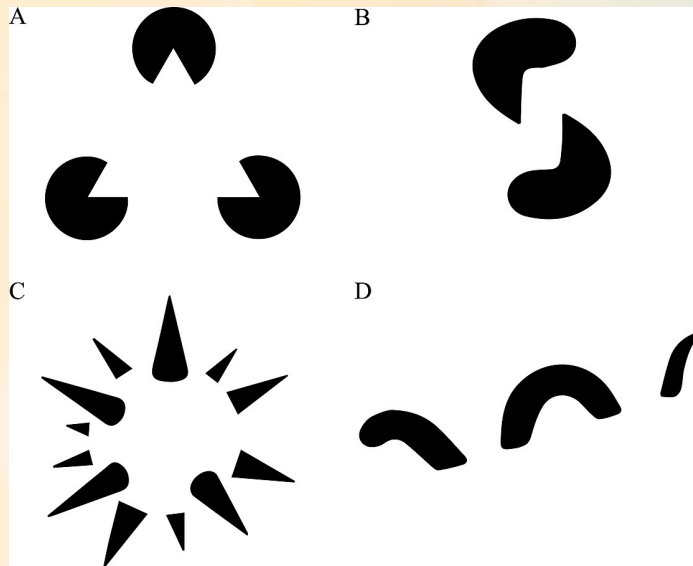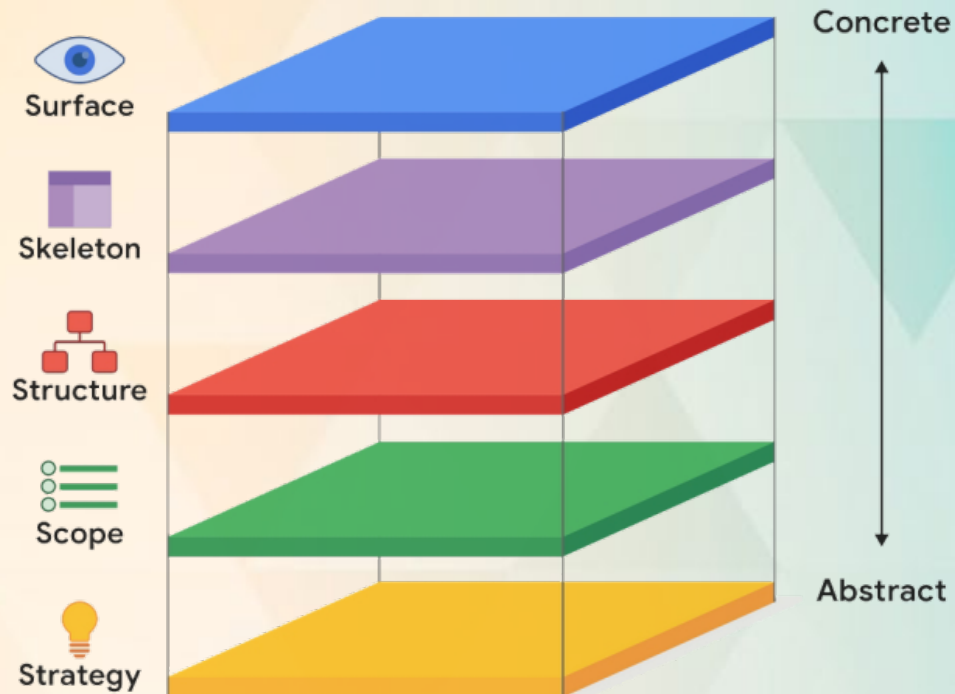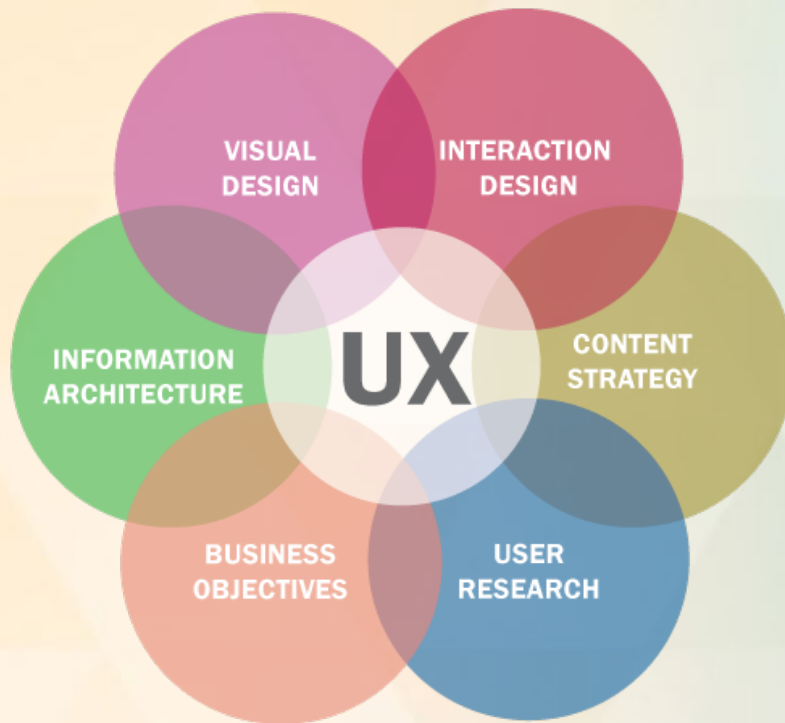
Aspects of a great User Experience

UX

Satisfy user needs

Easy of use and Enjoyable

Simple to approach and operate

Elegant (minimal design)

Example google homepage, apple phone

Then and now web archive [link](#)

UX | Empathy Map

What does he/she THINK and FEEL? what really counts major preoccupations worries & aspirations

What does he/she HEAR? what friends say what boss says what influences say

What does he/she SEE? environment friends what the market offers

What does he/she SAY and DO? attitude in public appearance behavior towards others

PAIN
Fears
frustrations
obstacles

GAIN
wants/needs
measures of success
obstacles

By Vijay Shivakumar

Latest Empathy Map

UX

By Vijay Shivakumar

Empathy Map Canvas

Designed for:

Designed by:

Date:

Version:

① WHO are we empathizing with?
Who is the person we want to understand?
What is the situation they are in?
What is their role in the situation?

GOAL

② What do they need to DO?
What do they need to do differently?
What job(s) do they want or need to get done?
What decision(s) do they need to make?
How will we know they were successful?

⑦ What do they THINK and FEEL?

PAINS
What are their fears, frustrations, and anxieties?

GAINS
What are their wants, needs, hopes and dreams?

③ What do they SEE?
What do they see in the marketplace?
What do they see in their immediate environment?
What do they see others saying and doing?
What are they watching and reading?

⑥ What do they HEAR?
What are they hearing others say?
What are they hearing from friends?
What are they hearing from colleagues?
What are they hearing second-hand?

What other thoughts and feelings might motivate their behavior?

④ What do they SAY?
What have we heard them say?
What can we imagine them saying?

⑤ What do they DO?
What do they do today?
What behavior have we observed?
What can we imagine them doing?

Last updated on 16 July 2017. Download a copy of this canvas at http://gamestorming.com/empathy-map/

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Rail Europe Experience Map

Guiding Principles

People choose rail travel because it is convenient, easy, and flexible.	Rail booking is only one part of people's larger travel process.	People build their travel plans over time.	People value service that is respectful, effective and personable.

Customer Journey

STAGES	Research & Planning	Shopping	Booking	Post-Booking, Pre-Travel	Travel	Post Travel

| RAIL EUROPE | Research destinations, routes and products | Enter trips / Review fares / Select Pass(es) | Confirm itinerary / Delivery options / Payment options / Review & Confirm | Wait for paper tickets to arrive | Activities, unexpected changes | Share experience / Follow-up on refunds for booking changes |

DOING

Destination pages · raileurope.com · Look up time tables · Plan with interactive map · Map itinerary (finding pass) · Live chat for questions · Blogs & Travel sites · Kayak, compare airfare · Talk with friends · Google searches · Research hotels · Web

May call if difficulties occur · Print e-tickets at home · Paper tickets arrive in mail

Change plans · Check ticket status

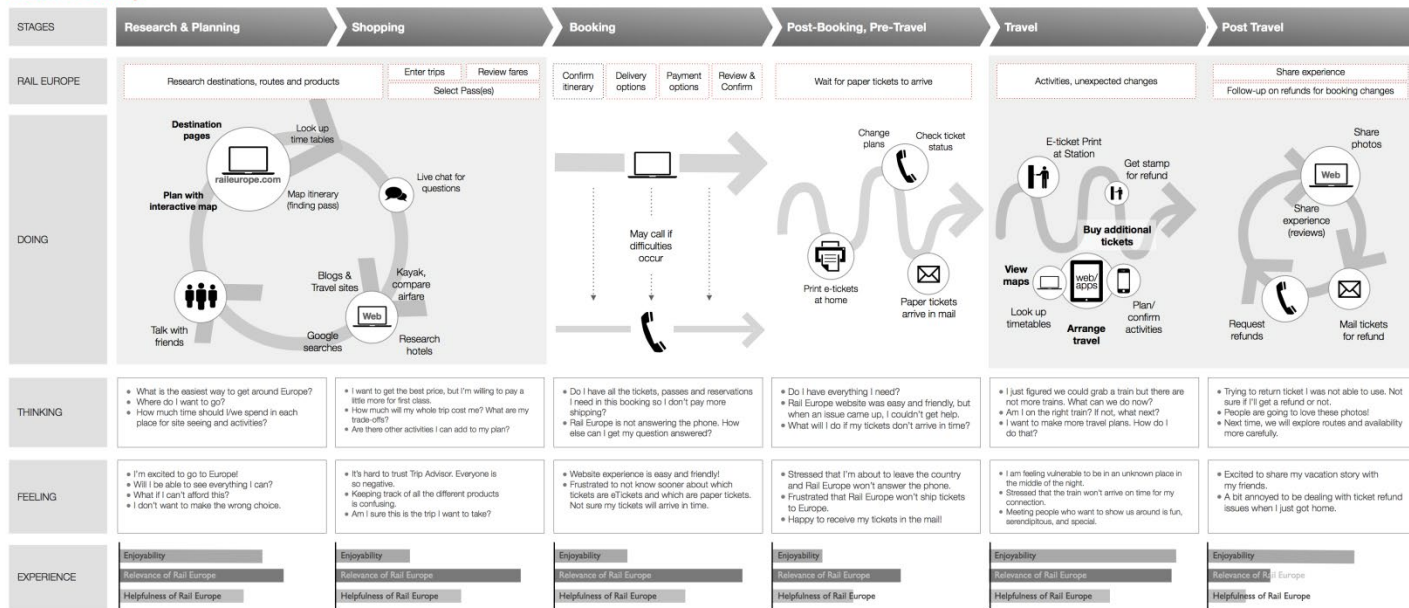E-ticket Print at Station · Get stamp for refund · Buy additional tickets · View maps · Look up timetables · web/apps · Arrange travel · Plan/confirm activities

Share photos · Web · Share experience (reviews) · Request refunds · Mail tickets for refund

THINKING

• What is the easiest way to get around Europe? • Where do I want to go? • How much time should I/we spend in each place for site seeing and activities?	• I want to get the best price, but I'm willing to pay a little more for first class. • How much will my whole trip cost me? What are my trade-offs? • Are there other activities I can add to my plan?	• Do I have all the tickets, passes and reservations I need in this booking so I don't pay more shipping? • Rail Europe is not answering the phone. How else can I get my question answered?	• Do I have everything I need? • Rail Europe website was easy and friendly, but when an issue came up, I couldn't get help. • What will I do if my tickets don't arrive in time?	• I just figured we could grab a train but there are not more trains. What can we do now? • Am I on the right train? If not, what next? • I want to make more travel plans. How do I do that?	• Trying to return ticket I was not able to use. Not sure if I'll get a refund or not. • People are going to love these photos! • Next time, we will explore routes and availability more carefully.

FEELING

• I'm excited to go to Europe! • Will I be able to see everything I can? • What if I can't afford this? • I don't want to make the wrong choice.	• It's hard to trust Trip Advisor. Everyone is so negative. • Keeping track of all the different products is confusing. • Am I sure this is the trip I want to take?	• Website experience is easy and friendly! • Frustrated to not know sooner about which tickets are eTickets and which are paper tickets. Not sure my tickets will arrive in time.	• Stressed that I'm about to leave the country and Rail Europe won't answer the phone. • Frustrated that Rail Europe won't ship tickets to Europe. • Happy to receive my tickets in the mail!	• I am feeling vulnerable to be in an unknown place in the middle of the night. • Stressed that the train won't arrive on time for my connection. • Meeting people who want to show us around is fun, serendipitous, and special.	• Excited to share my vacation story with my friends. • A bit annoyed to be dealing with ticket refund issues when I just got home.

EXPERIENCE

Enjoyability / Relevance of Rail Europe / Helpfulness of Rail Europe	Enjoyability / Relevance of Rail Europe / Helpfulness of Rail Europe	Enjoyability / Relevance of Rail Europe / Helpfulness of Rail Europe	Enjoyability / Relevance of Rail Europe / Helpfulness of Rail Europe	Enjoyability / Relevance of Rail Europe / Helpfulness of Rail Europe	Enjoyability / Relevance of Rail Europe / Helpfulness of Rail Europe

Opportunities

GLOBAL

Communicate a clear value proposition. STAGE: Initial visit	Help people get the help they need. STAGE: Global	Support people in creating their own solutions. STAGES: Global
Make your customers into better, more savvy travelers. STAGES: Global	Engage in social media with explicit purposes. STAGES: Global	

PLANNING, SHOPPING, BOOKING

Enable people to plan over time. STAGES: Planning, Shopping	Visualize the trip for planning and booking. STAGES: Planning, Shopping	Arm customers with information for making decisions. STAGES: Shopping, Booking
Connect planning, shopping and booking on the web. STAGES: Planning, Shopping, Booking	Aggregate shipping with a reasonable timeline. STAGE: Booking	

POST-BOOK, TRAVEL, POST-TRAVEL

Improve the paper ticket experience. STAGES: Post-Booking, Travel, Post-Travel	Accommodate planning and booking in Europe too. STAGE: Traveling
Proactively help people deal with change. STAGES: Post-Booking, Traveling	Communicate status clearly at all times. STAGES: Post-Booking, Post Travel

Information sources: Stakeholder interviews / Cognitive walkthroughs / Customer Experience Survey / Existing Rail Europe Documentation

Ongoing, non-linear · Linear process · Non-linear, but time based

adaptive path

Experience Map for Rail Europe | August 2011

UX Fundar

UX Fundamentals
Hands-on workshop

7 Principles that improve UX

Alignment

Proximity

Consistency / Repetition

    Color

    Typography

    Visibility

Contrast

    Color, Shape, Size, Position and Orientation

Understandability

Simplicity

Keeping users informed
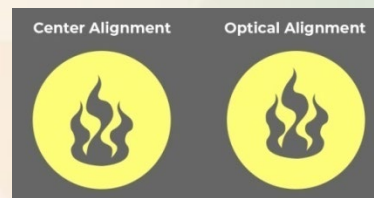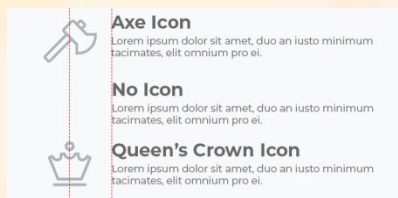
By Vijay Shivakumar

UX

Fundamental Principle - Alignment

Vertical

Main Body Text

Lorem ipsum dolor sit amet, duo an

Sidebar

Lorem ipsum
Sit amet duo an

Horizontal

Media

Axe Icon
Lorem ipsum dolor sit amet, duo an iusto minimum tacimates, elit omnium pro ei.

No Icon
Lorem ipsum dolor sit amet, duo an iusto minimum tacimates, elit omnium pro ei.

Queen's Crown Icon
Lorem ipsum dolor sit amet, duo an iusto minimum tacimates, elit omnium pro ei.

Center Alignment   **Optical Alignment**

Gestalt Principle - Proximity
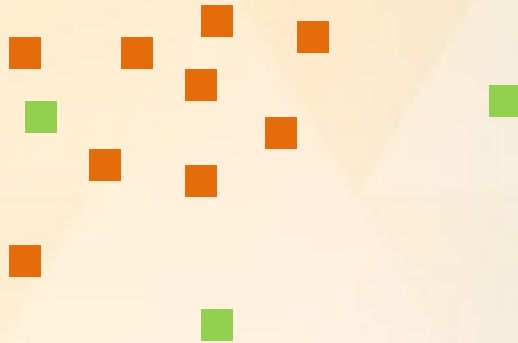
Example

UX | Gestalt Principle - Proximity
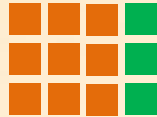
Example

UX Fundamentals

Proximity purpose is to organize, group related items limit the number of objects

By Vijay Shivakumar

UX Fundamentals

Consistency / Repetition

By Vijay Shivakumar

Gestalt Principle - Repetition

Example
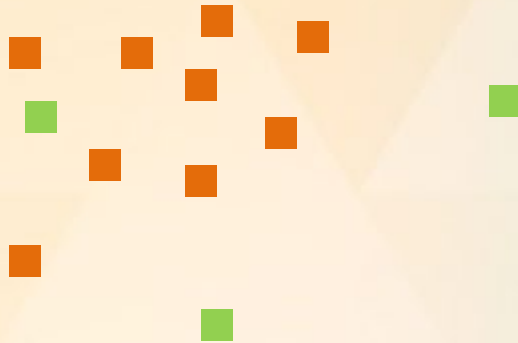
UX Fundamentals

Contrast : noticing contrast is equal to staying alive
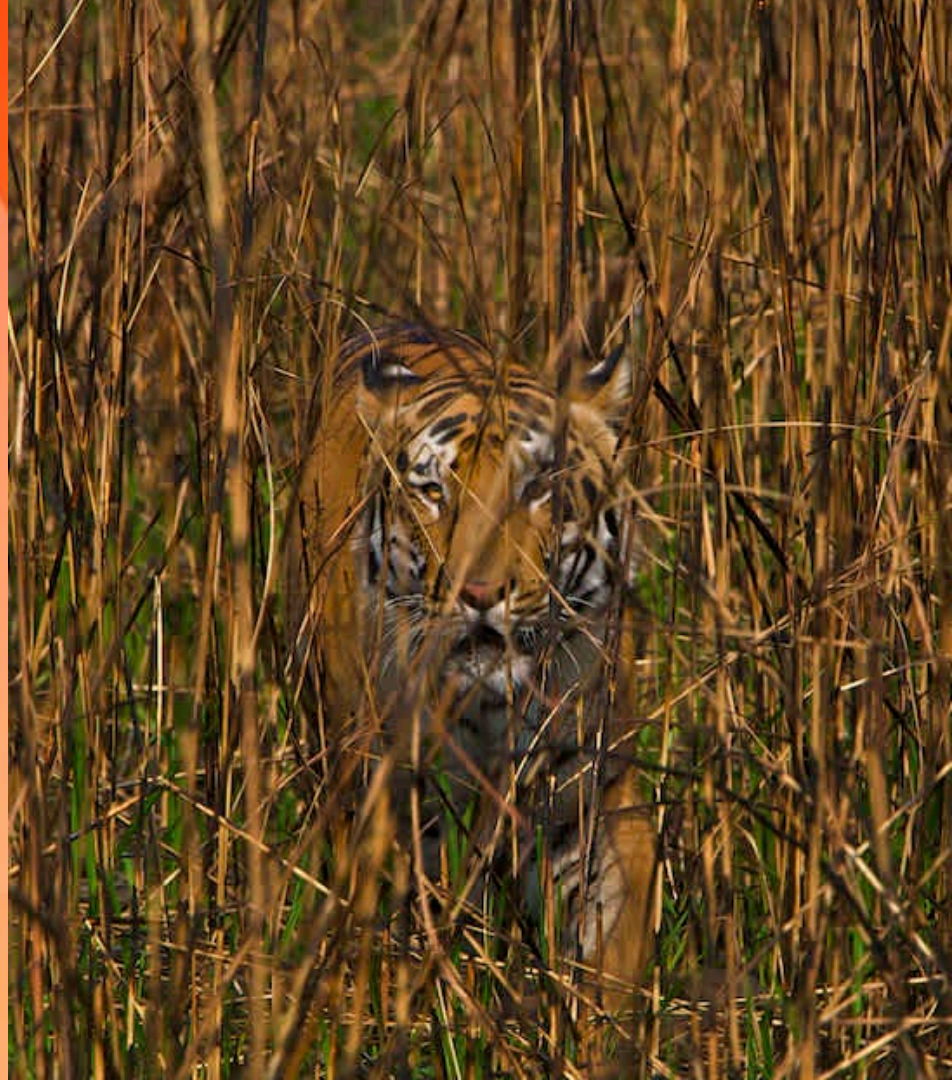
By Vijay Shivakumar

Contrast

Contrast

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Responsive and Adaptive Web designing

User interface designers need to think about
how users are going to access their website.
Would the site be accessed from desktops, tablets, smart
phones or multiple devices?

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Responsive Web Design

Responsive design or websites are based on the principle of flexibility. It has a flexible, fluid grid that uses CSS3 media queries to respond to any screen sizes.

Fluid grids
CSS3
Media queries

Dynamic resizing of layout, images, and text

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Adaptive Web Design

Adaptive design detects the device and then provides appropriate layout based on a predefined viewport sizes and other characteristics.

Page content : HTML
Presentation : CSS and styling
Browser detection : JavaScript

Dynamic resizing of layout, images, and text

By Vijay Shivakumar

RWD advantages and disadvantages

Pros

Single codebase for desktop and mobile .

Images and content can adjust to browser viewport.

No server-side redirection to desktop and mobile users.

Cons

Increased page load time as all elements are downloaded, whether used or not.

Incompatible with older devices/browsers

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AWD advantages and disadvantages

Pros

Fast because only necessary elements are downloaded.

UX Design can be tailored to the device it is viewed upon.

Easy to renders on older devices and browsers.

Cons

Expensive and resource intensive.

Browser detection consumes time to detect display and other traits to customize.

Complex, it requires understanding of JS and CSS.