

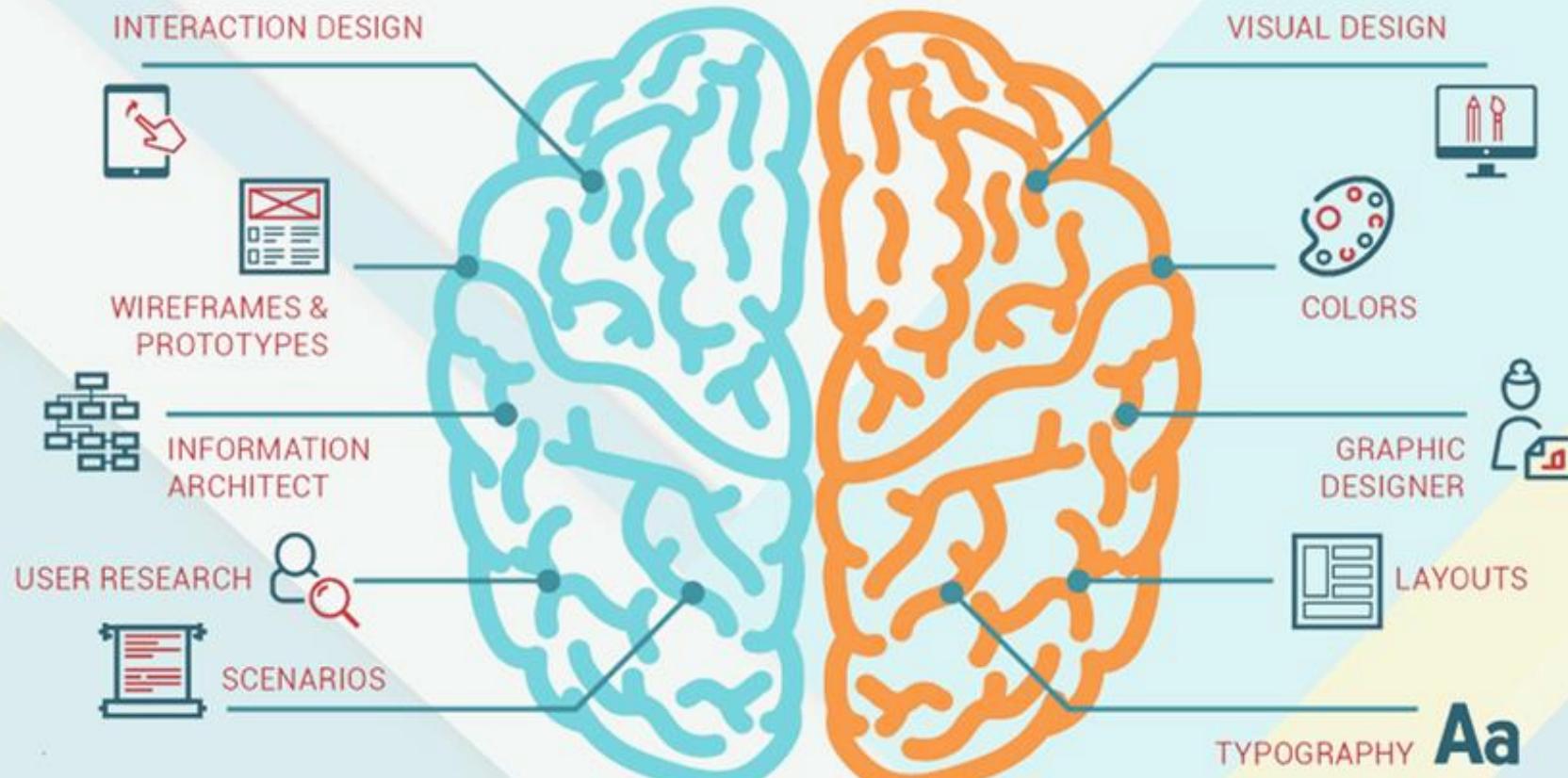
User Interface (UI) & UI Tools

By Sarah Jenkins

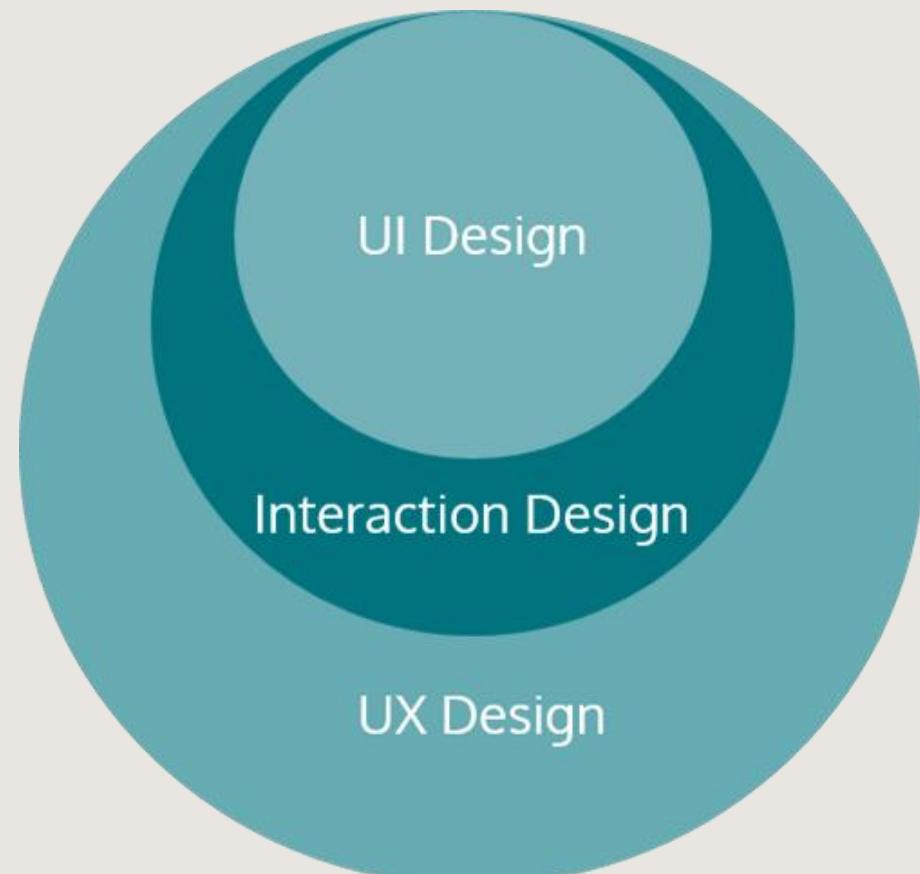
Outline

- ▶ What is UI
- ▶ Nielsen 10 UI Design Heuristics
- ▶ Heuristic Evaluation
- ▶ Adobe Xd Demonstration

UX & UI DESIGN



Interaction Design (IxD)



What is UI design?

“The process of making interfaces in software or computerized devices with a focus on looks or style.”

- [Interaction Design Foundation](#)

UX Toolkit

- ▶ Contextual Inquiry
- ▶ Personas
- ▶ User Journeys
- ▶ Information Architecture
- ▶ Wireframes
- ▶ Prototypes
- ▶ User testing



UI

Nielsen and Molich's 10 UI Design Heuristics

Visibility

Show system status, tell what's happening

Consistency

Use same interface and language throughout

Flexibility

Make advanced tasks fluid and efficient

Mapping

Use familiar metaphors & language

Error Prevention

Help users avoid making mistakes

Minimalism

Provide only necessary information in an elegant way

Help

Use proactive and in-place hints to guide users

Freedom

Provide good defaults & undo

Recognition

Make information easy to discover

Error Recovery

Help users recognize, diagnose and recover from errors

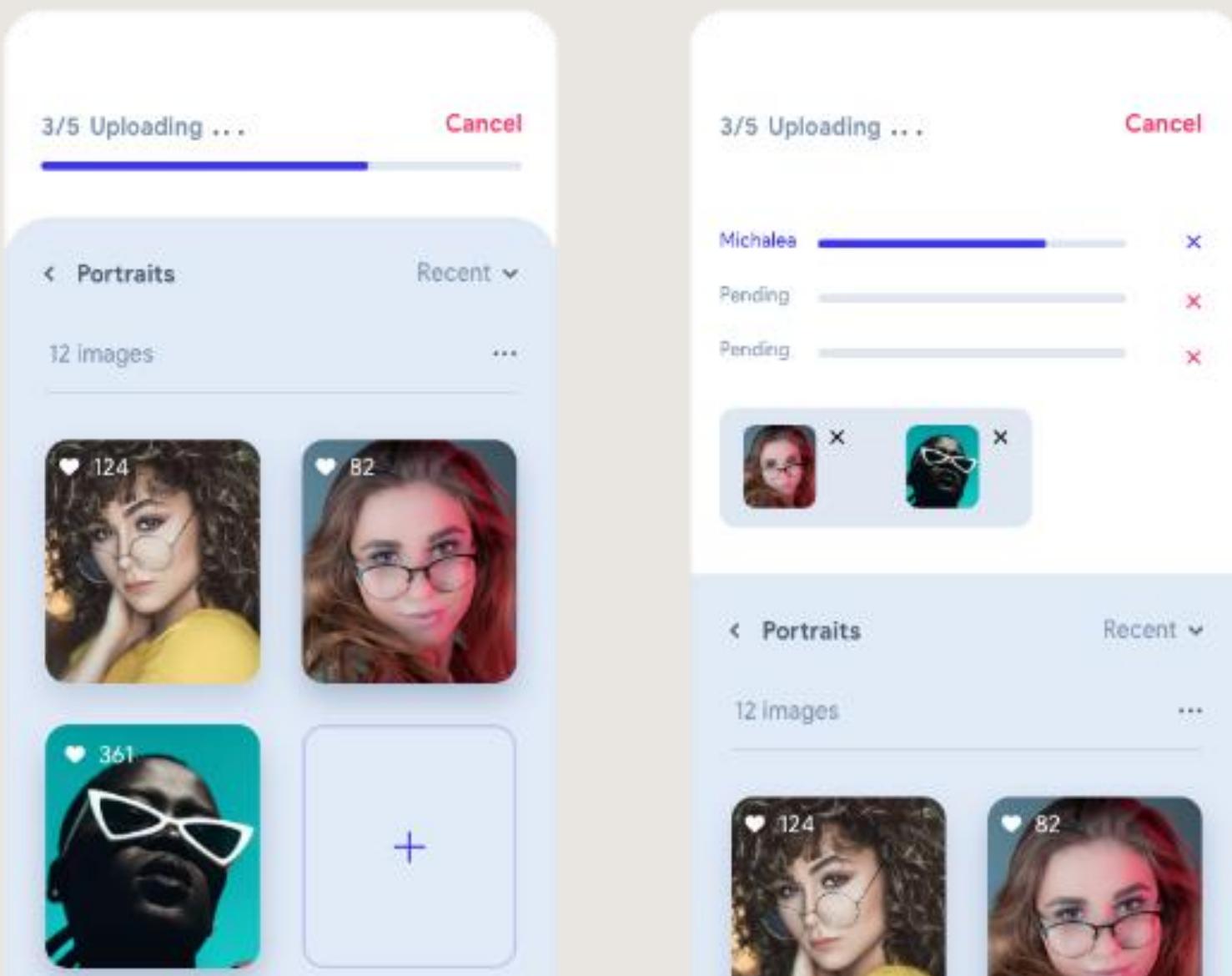
1.

Visibility of System Status

Understanding that there is progress.

Questions to Ask

1. Does every display begin with a title or header that **describes** screen contents?
2. Is there some form of system **feedback** for every operator action?
3. Is the user kept **informed** of the system's progress?



1. Visibility of System Status

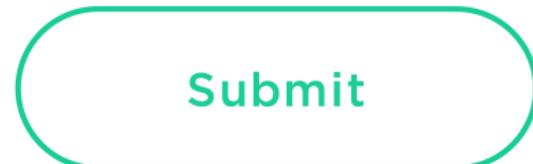
What is Feedback?

“Always keeping the user informed by providing them with the right feedback, at the right time.”

- [UX Collective](#)



Busy States / Progress



Submit

1. Visibility of System Status

1 Select campaign settings → 2 Create an ad group → 3 Create an ad

✓ Select campaign settings → 2 Create an ad group → ✓ Create an ad

✓ Select campaign settings → ✓ Create an ad group → ✓ Create an ad

determinate

indeterminate

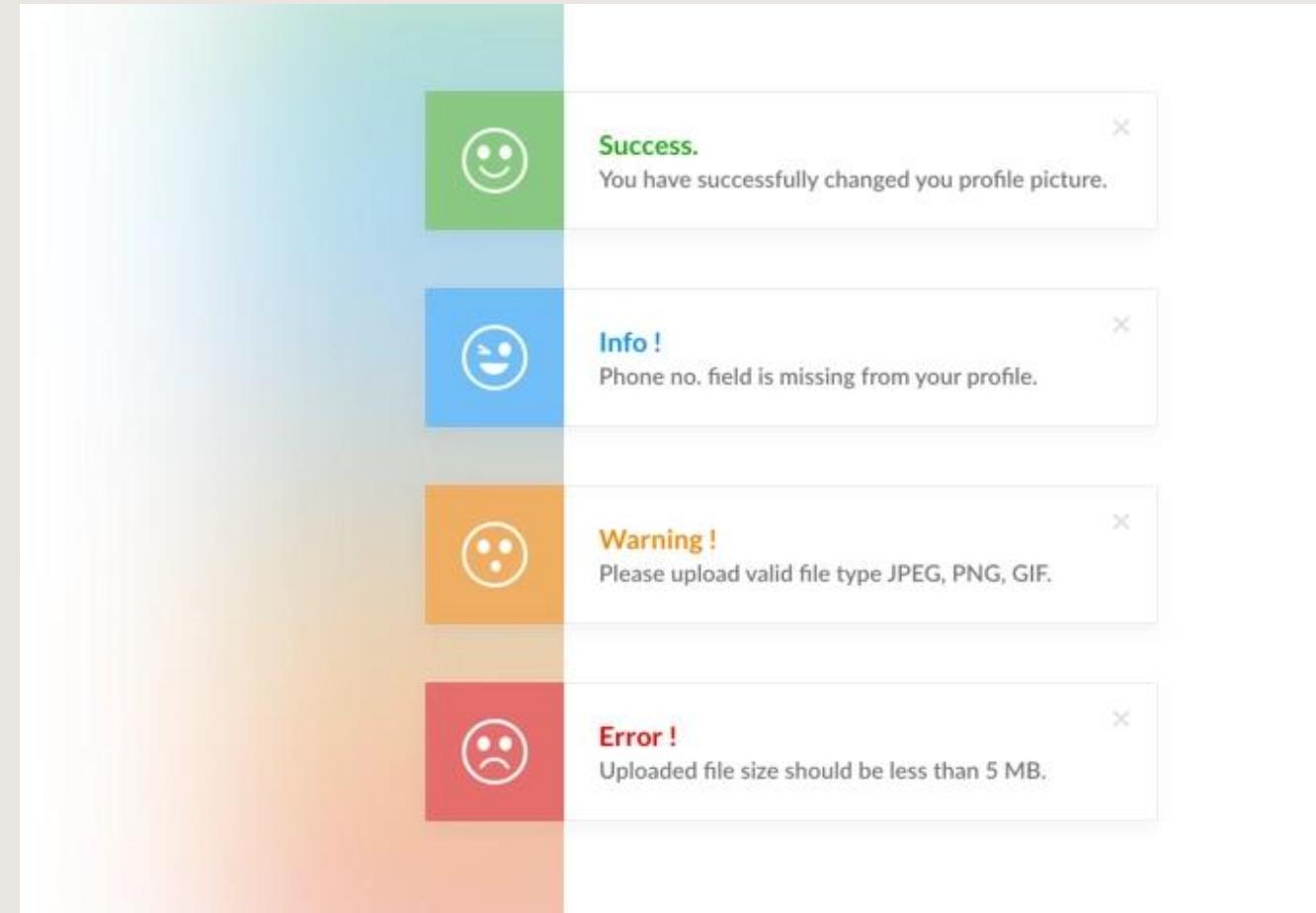
buffered

indeterminate and determinate



1. Visibility of System Status

Feedback



1. Visibility of System Status

Using Icons and Colour



..... 

Your password must have:

-  8 or more characters
-  Upper & lowercase letters
-  At least one number

Strength: strong



Avoid passwords that are easy to guess or used with other websites.



First Name	John	
Last Name	Doe	
Email	john@email	
please enter a valid email		
Password	*****	
Submit		

2.

Match Between System and the Real World

Presenting information in logical order, derived from their real-world experience is an expectation.

Questions to Ask

1. Are icons **concrete** and **familiar**?
2. Do the selected colours correspond to common **expectations** about colour codes?
3. Is information described in terminology **familiar** to the user?

◀ Enter Card Details



Card Number

Expires on

CVV

◀ Enter Card Details



Card Number

4681 7802 5891 1946

Expires on

CVV

2. Match Between System and the Real World

Real-world in Designs

1. Iconography
 2. Colour
 3. Illustrations
- 

Iconography

“The visual **images** and symbols used in a work of art or the study or **interpretation** of these”

- [Oxford English Dictionary](#)

Iconography

- ▶ Pre-Made icons
 - ▶ [Material Design](#)
 - ▶ [Font Awesome](#)
- ▶ Custom icons
 - ▶ Icon as font pack - [Icomoon](#)
 - ▶ Maintain “i-consistency”

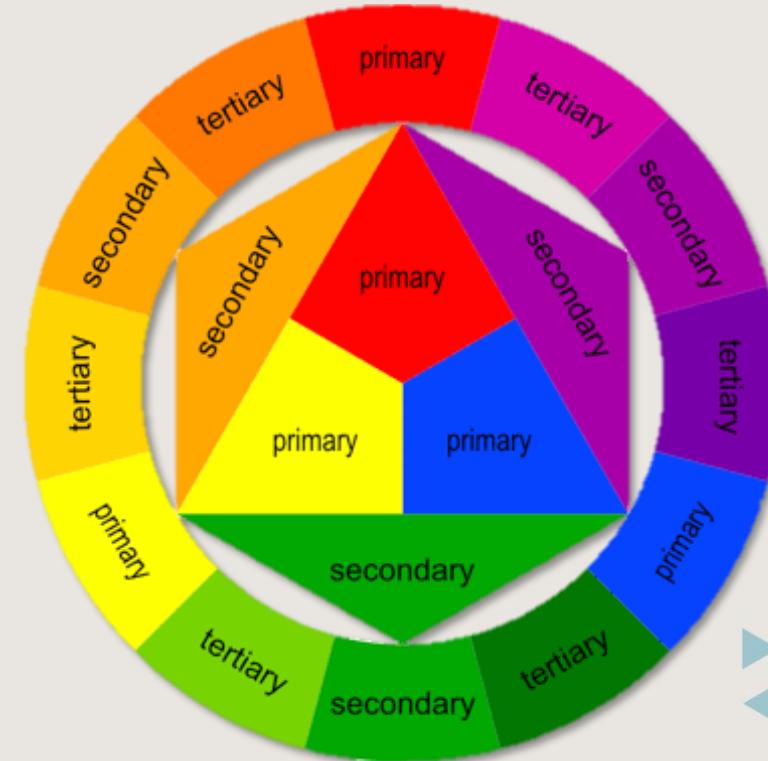
Real-world vs Icon



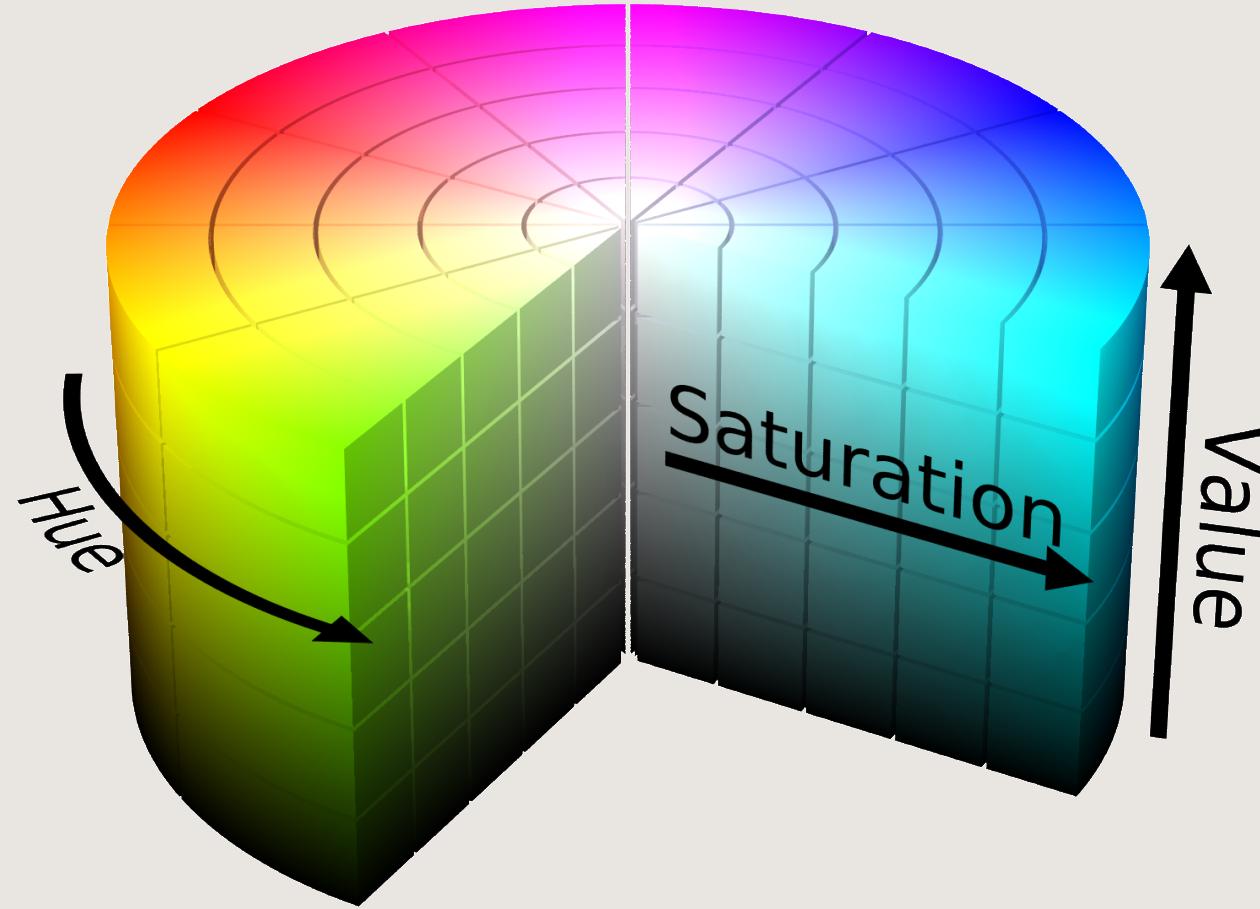
2. Match Between System and the Real World

Colour Theory

1. Primary Colours
2. Secondary Colours
3. Tertiary colours



Colour Theory



2. Match Between System and the Real World

Colour Psychology

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 Sophstication Sweet	Purple Royalty Luxury Spirituality Ambition	Brown Dependable Rugged Trustworthy Simple	Black Formality Dramatic Sophistication Security	White Clean Simplicity Innocence Honest

COLOR EMOTION GUIDE

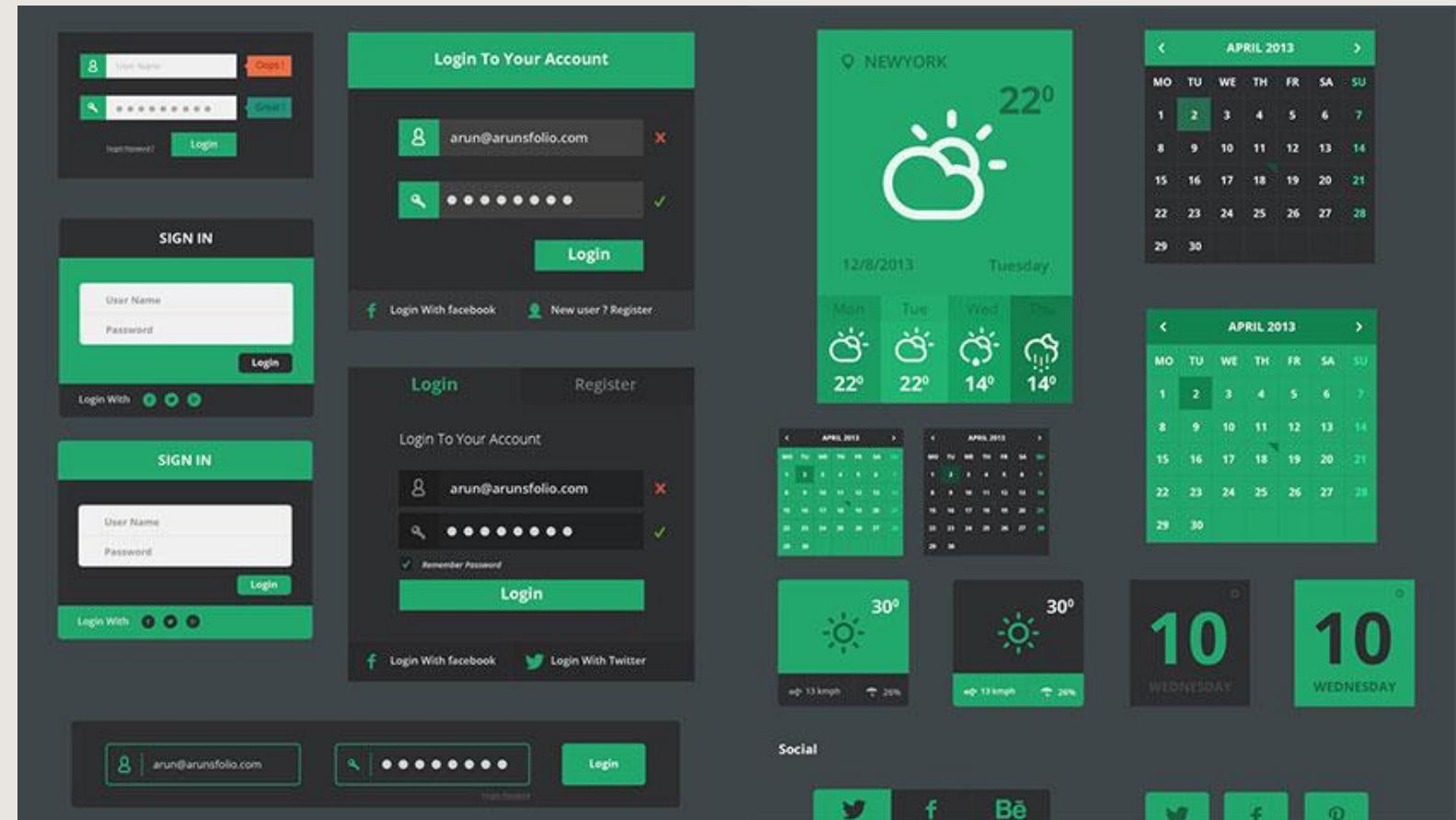


2. Match Between System and the Real World

Colour Schemes

1. Monochromatic
2. Analogous
3. Complementary
4. Split-complementary
5. Triadic
6. Rectangle Tetradic
7. Square Tetradic

Monochromatic



The image displays a collection of user interface (UI) elements and weather forecast cards, all utilizing a monochromatic color palette consisting of dark grey, white, and light green. The UI elements include:

- A sign-in form with fields for User Name and Password, and options for Login, Login With Facebook, and New user? Register.
- A login form for an account, showing a user name (arun@arunsfolio.com), a password field with masked input, and a Remember Password checkbox.
- A weather forecast card for New York, showing a sun icon, a temperature of 22°, and a date of 12/8/2013.
- A weekly weather forecast for April 2013, displaying temperatures (22°, 22°, 14°, 14°) and icons for each day from Monday to Thursday.
- Two separate calendar grids for April 2013, showing the days of the week and specific dates.
- Two weather forecast cards for Wednesday, both showing a sun icon and a temperature of 30°.
- Social media sharing icons for Twitter, Facebook, LinkedIn, and Be.

2. Match Between System and the Real World

Analogous

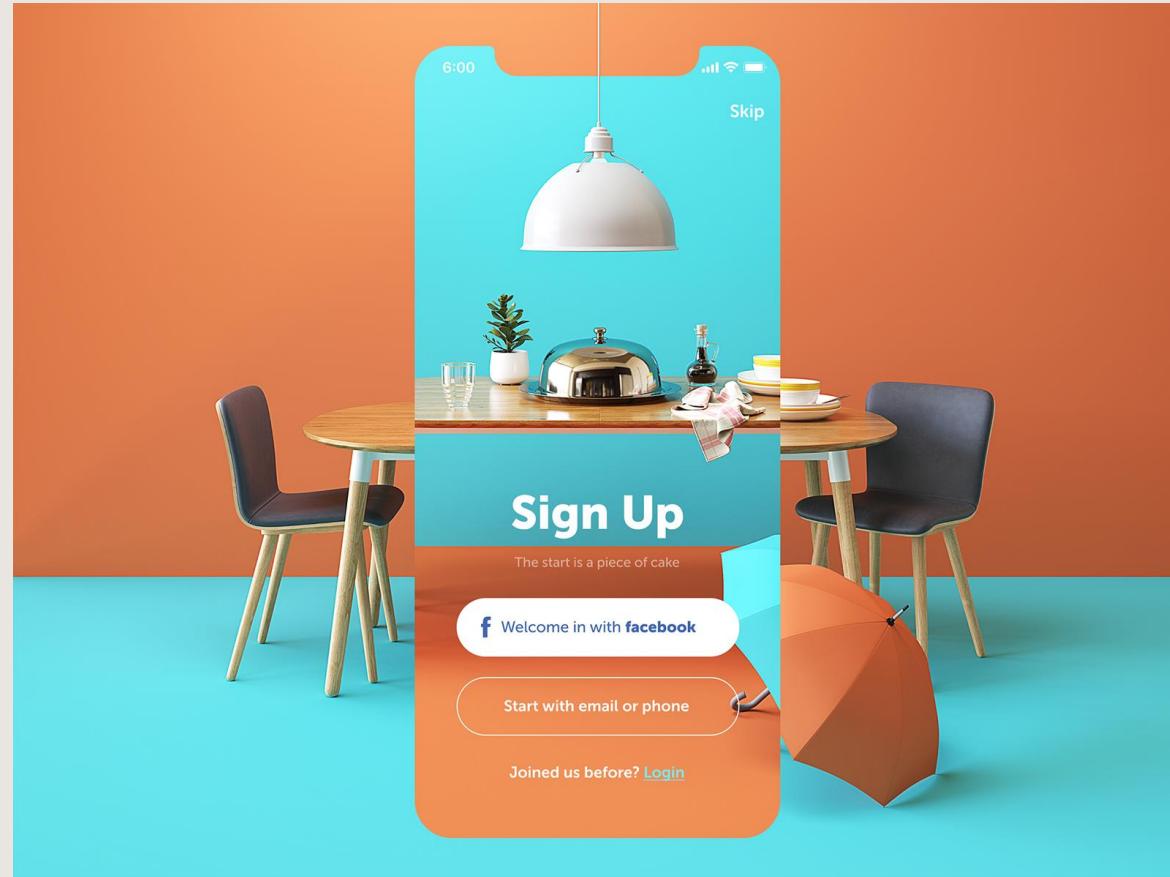
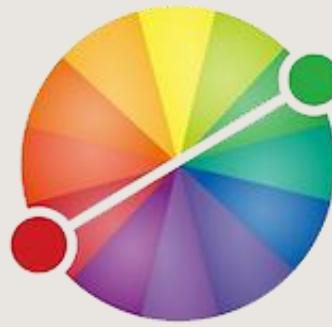


The image shows two screenshots of a mobile application menu. The left screenshot shows a menu with 0 items, featuring four categories: Coffee, Sweet, Food, and Drink. The right screenshot shows a menu with 1 item selected, labeled 'DONE'. The selected item is 'Coffee', which has three sub-options: ESPRESSO (\$3), CAPPUCCINO (\$4), and LATO (\$4). The background of the menu is divided into horizontal bands of different colors: teal (top), light blue, dark blue, purple, and dark purple (bottom).

Category	Item	Description	Price
Coffee	ESPRESSO		\$3
	CAPPUCCINO		\$4
	LATO		\$4
Sweet	Consectetur adipiscing elit		
Food	Nullam eu auctor enim		
Drink	Fusce auctor est in ultricies		

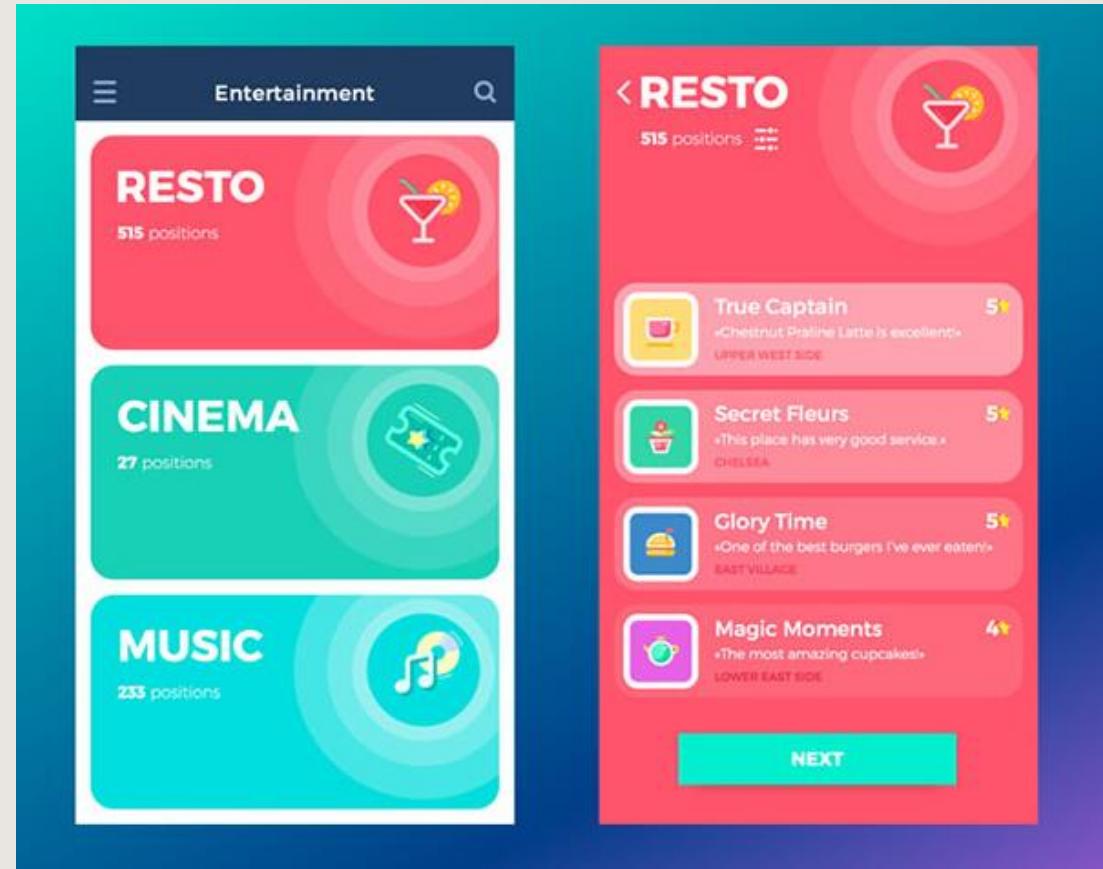
2. Match Between System and the Real World

Complementary



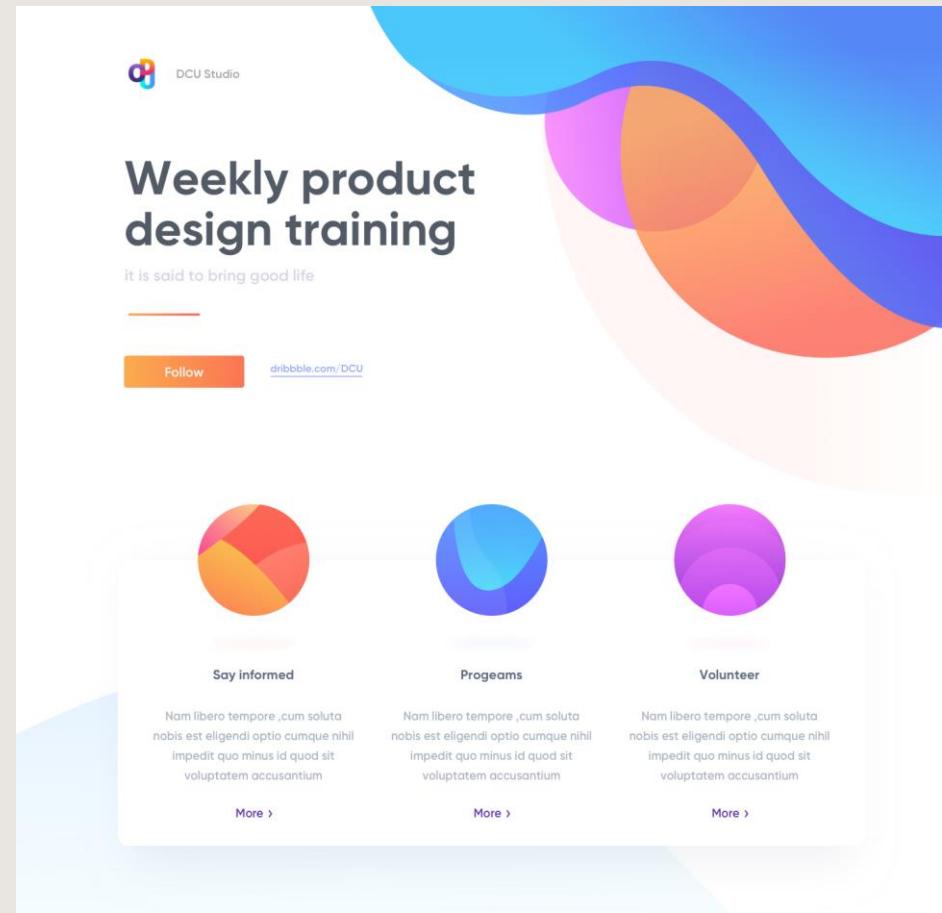
2. Match Between System and the Real World

Split-complementary



2. Match Between System and the Real World

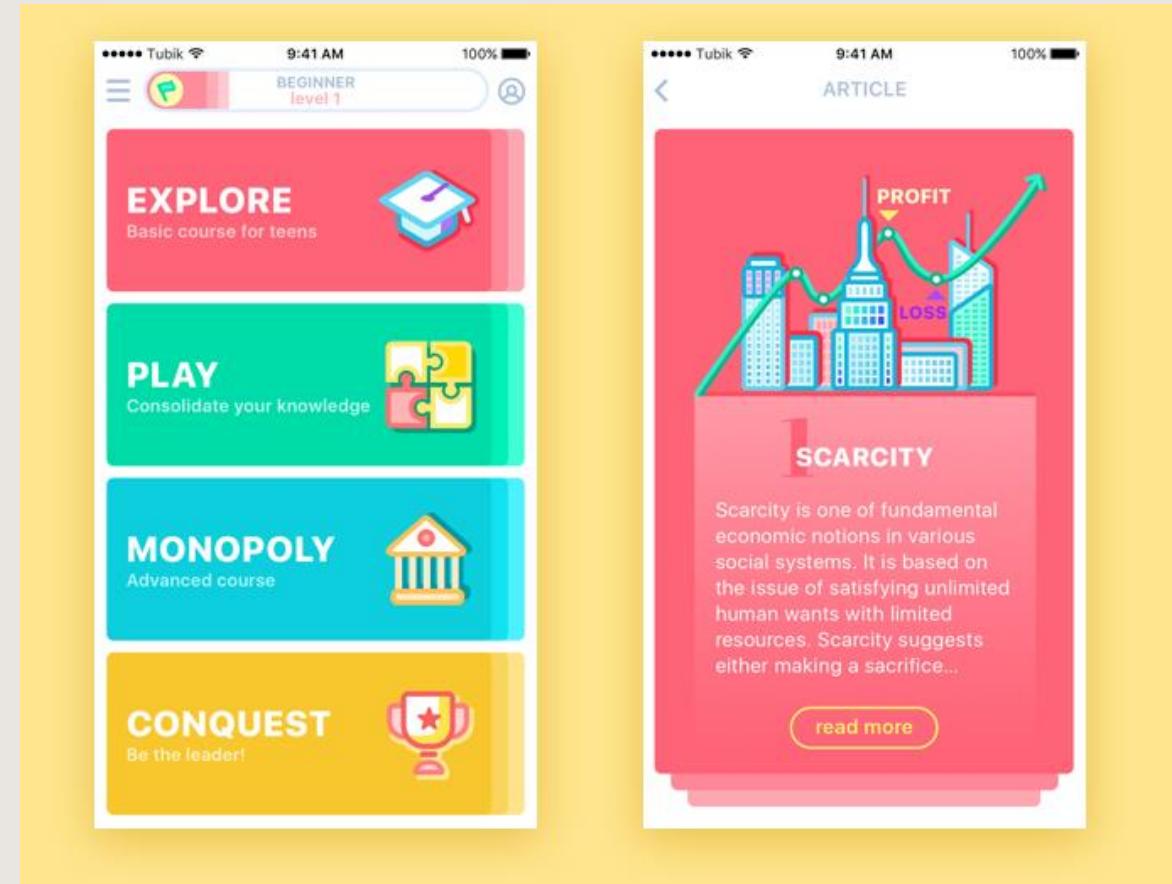
Triadic



The image shows a website landing page for 'Weekly product design training' by DCU Studio. The header features the DCU Studio logo and the text 'Weekly product design training'. Below the header is a subtext 'it is said to bring good life'. There are two calls-to-action: a red 'Follow' button and a blue link 'dribbble.com/DCU'. The main content area displays three circular icons representing different activities: 'Say informed' (orange/red), 'Progeams' (blue), and 'Volunteer' (purple). Each icon has a brief description in Latin placeholder text: 'Nam libero tempore ,cum soluta nobis est eligendi optio cumque nihil impedit quo minus id quod sit voluptatem accusantium' followed by a 'More >' link.

2. Match Between System and the Real World

Rectangle Tetradic



2. Match Between System and the Real World

Square Tetradic



2. Match Between System and the Real World

Useful Online Tools

- ▶ Adobe Color
- ▶ Colormind
- ▶ BrandColor
- ▶ ColorHexa
- ▶ TintUI
- ▶ ColorHunt
- ▶ ColorLisa
- ▶ Webcolourdata



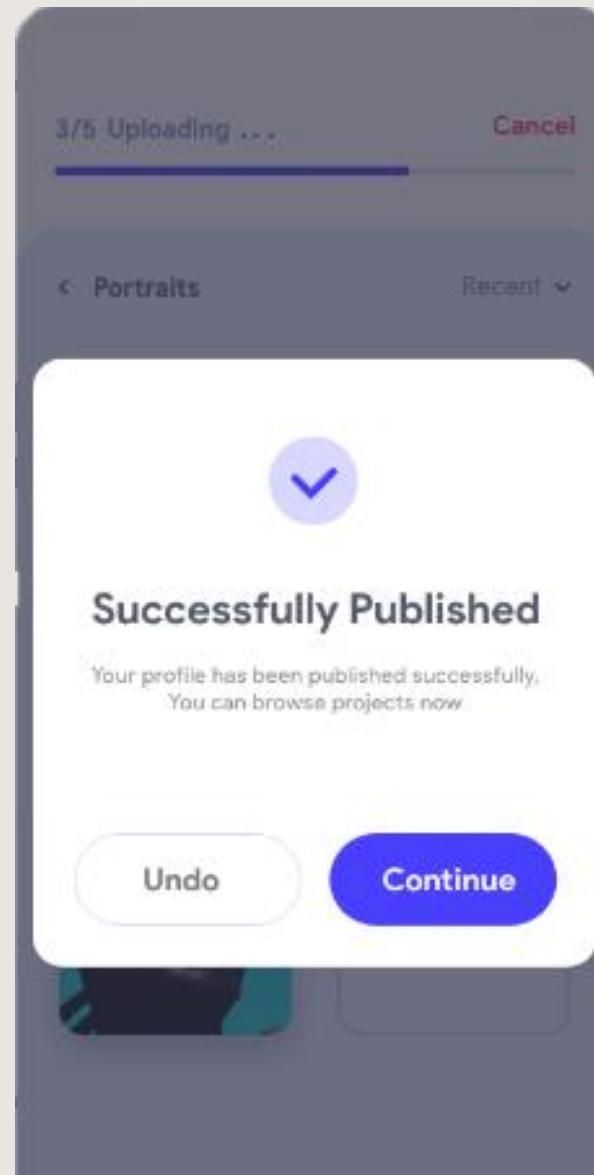
3.

User Control & Freedom

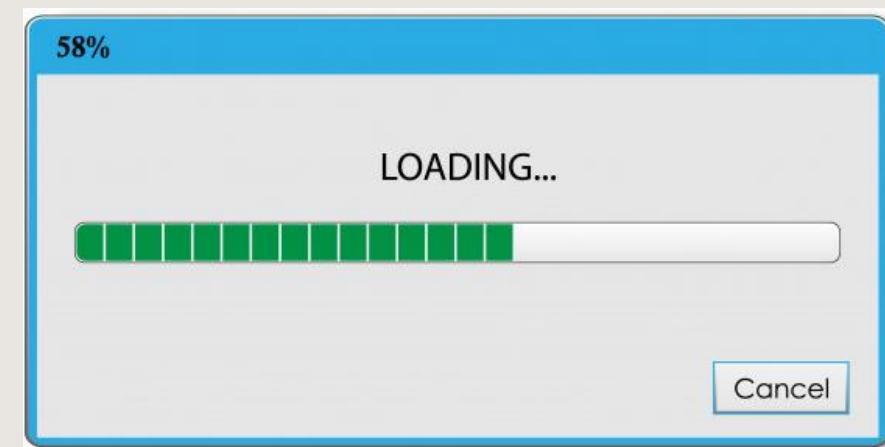
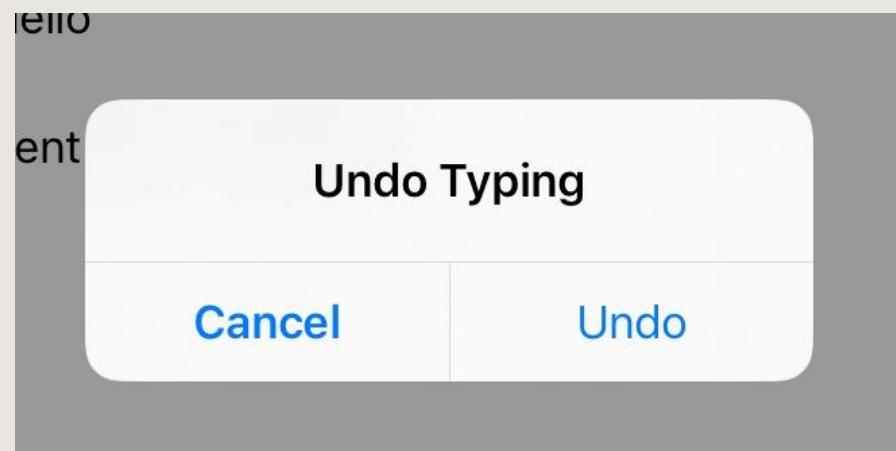
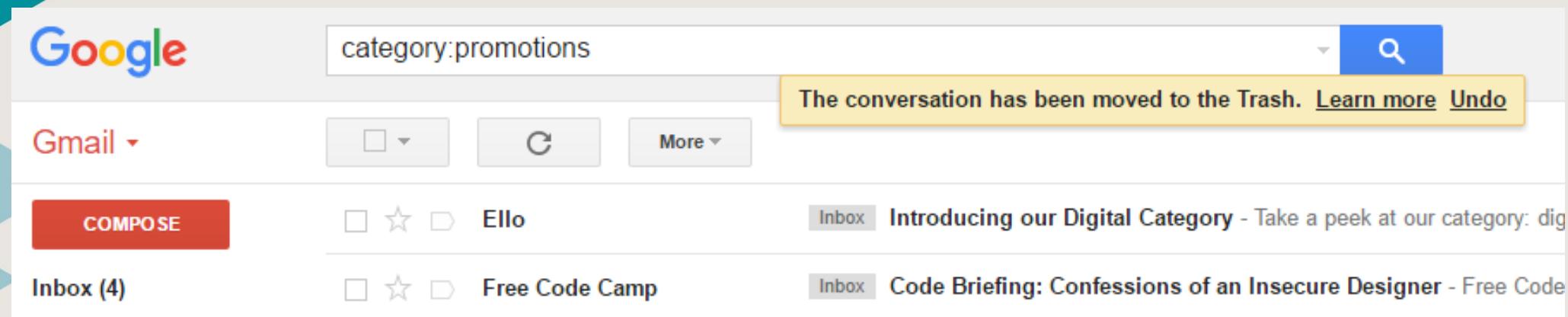
User needs complete control and freedom over the entire system.

Questions to Ask

1. When a user's task is complete, does the system **wait** for a signal from the user before processing?
2. Are users prompted to **confirm** commands that have drastic, destructive consequences?
3. Can the user "undo" a function?
4. Can users **cancel** out of operations in progress?
^{3. User Control & Freedom}



3. User Control & Freedom



Dark Patterns

My Shopping Bag

[<< CONTINUE SHOPPING](#) [**SECURE CHECKOUT** !\[\]\(a04c5602c87b51151a5d2267e8426a6d_img.jpg\)](#)

Product Details	Quantity	Unit Price	Total
 Asolo Ascender Mens Walking Boots Colour Graphite Size 12	<input type="button" value="-"/> <input type="text" value="1"/> <input type="button" value="+"/>	Remove	£184.99
 Forever Sports Sports Fantastic Value Magazine and Free Giant Mug (Go to your Bag to remove) Colour - Size N	<input type="button" value="-"/> <input type="text" value="1"/> <input type="button" value="+"/>	Remove	£1.00
<u>Clear All</u> UPDATE BAG			
Sub Total £185.99			
<u><< CONTINUE SHOPPING</u>		SECURE CHECKOUT 	

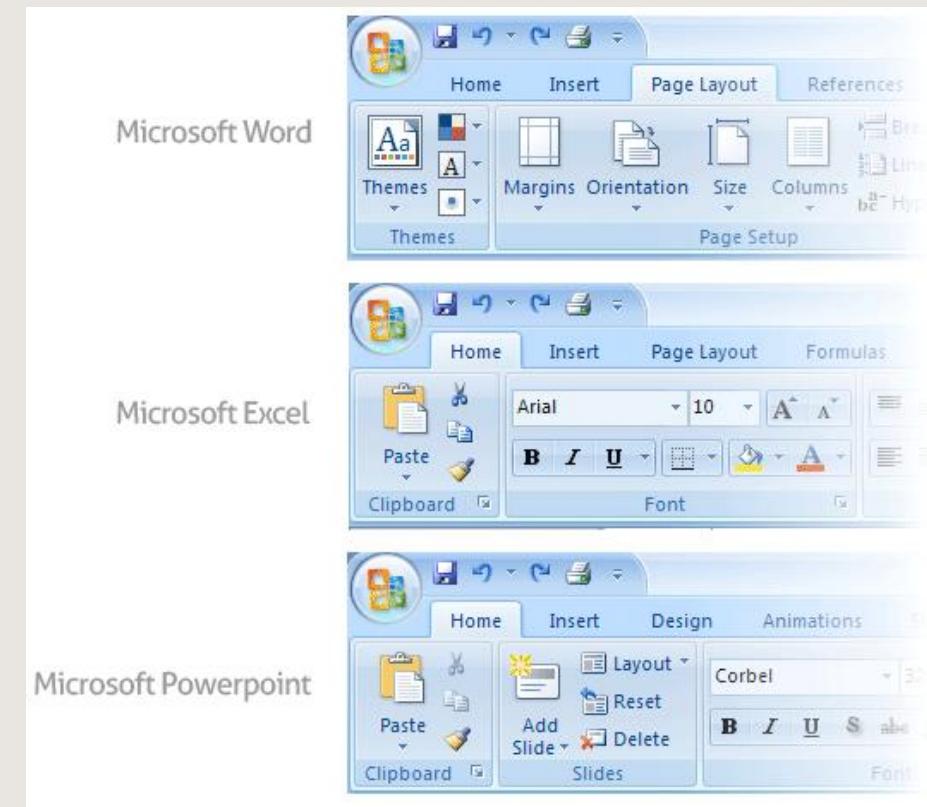
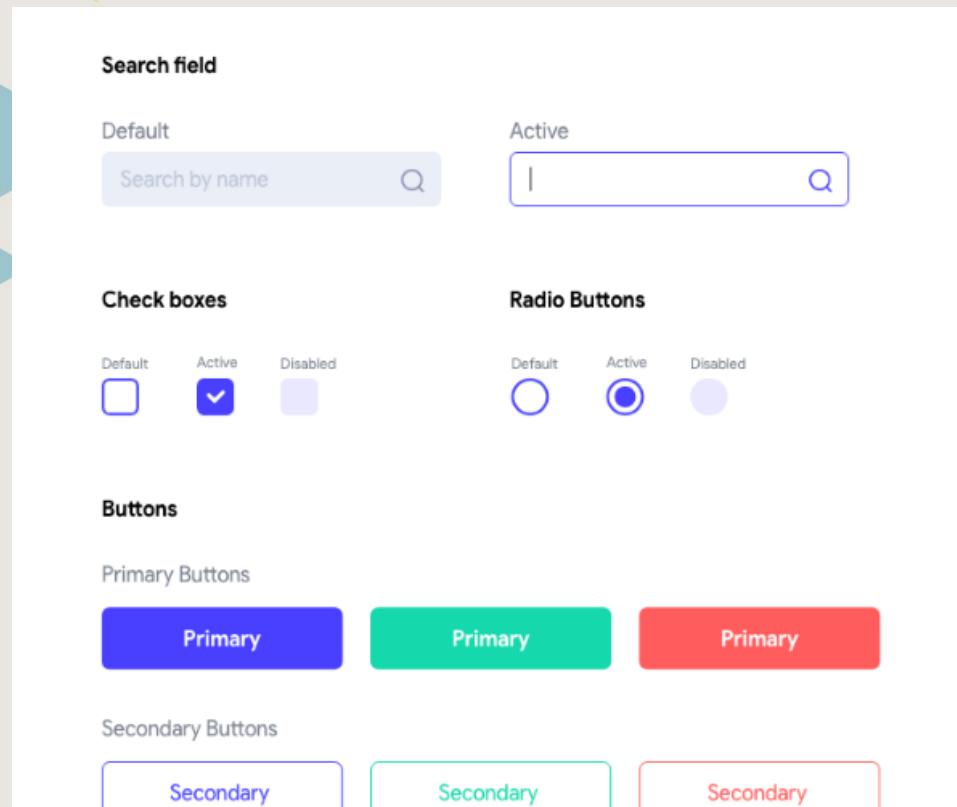
4.

Consistency & Standards

Interface design should ensure that both the graphic elements and terminology are maintained across similar platforms.

Questions to Ask

1. Have company formatting **standards** been followed consistently in all screens within the system?
 2. Colour: up to **four** (additional colours used for occasional use only)?
 3. Voice: soft **tones** for regular positive feedback, slightly harsher for rare critical conditions?
- 



4. Consistency & Standards

“Usability and learnability improve when similar elements have **consistent** look and function in similar way”

- [UX Collective](#)



Types of Consistency

1. Visual (↑ Product learnability)
2. Functional (↑ Product predictability)
3. Internal (↑ Product usability & learnability)
4. External

How to be Consistent

- ▶ Visuals
- ▶ Voice and Tone
- ▶ Use Familiar Patterns
- ▶ Bend Consistency, Don't Break It

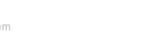
Style Guide

Website Style Guide

Color Palette

	Highlight Teal HEX #4DD4C4		Error Red HEX #E76E63
	Bright Blue HEX #4A90E2		Warning Yellow HEX #FFC65D
	Primary Text Gray HEX #5C5C5C		
	Secondary Text HEX #ABA8AC		

Button Styles

Menu Style

HOME	ABOUT	PRODUCTS	CONTACT
HOME	ABOUT	PRODUCTS	CONTACT

Text Styles

Font Family: Futura/Futura PT

H1	Font Weight: Medium Font Size: 36	#5C5C5C
H2	Font Weight: Book Font Size: 24	#5C5C5C
H3	Font Weight: Book Font Size: 14	#5C5C5C
NAVIGATION	Font Weight: Medium Font Size: 14	#5C5C5C
Label	Font Weight: Medium Font Size: 12	#A8A8A8
This is paragraph text which is used to present your every written thought to the world.	Font Weight: Medium Font Size: 12	#5C5C5C

Alerts

Error
This is an error message that you should look at.

Warning
This is an warning message that you should look at.

General Alert
This is an general message that will help you navigate the site.

Icons

Date/Time Controls

Today, October 8, 2015  

S	M	T	W	Th	F	S
27	28	29	30	1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

4. Consistency & Standards

5.

Error Prevention

Errors can be prevented.

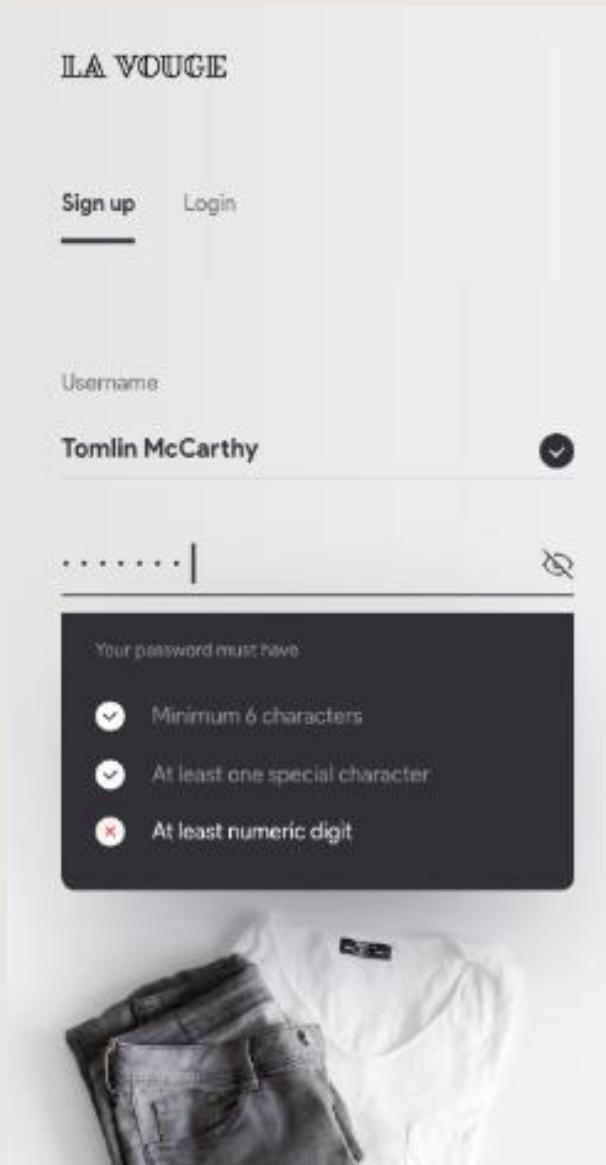
Questions to Ask

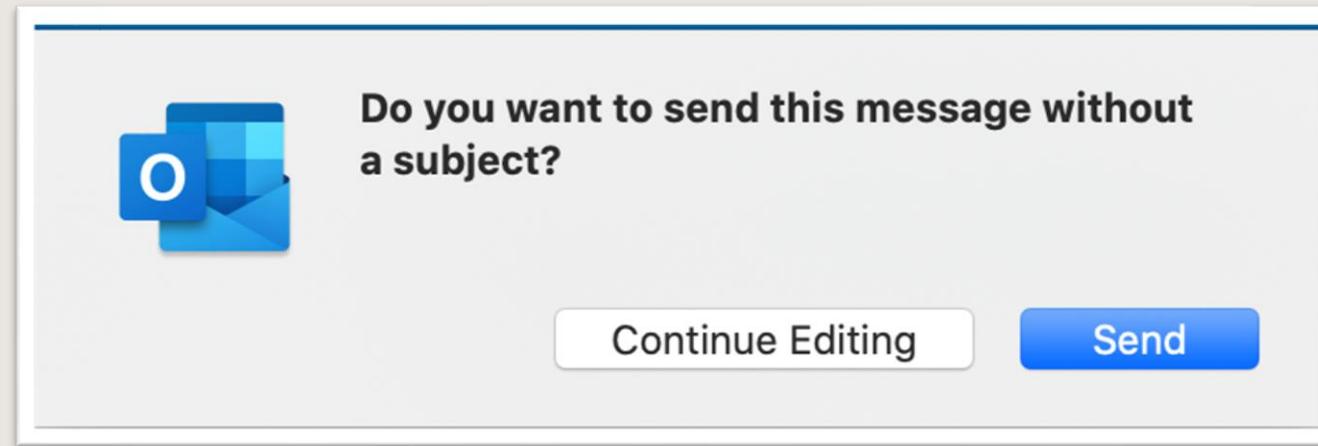
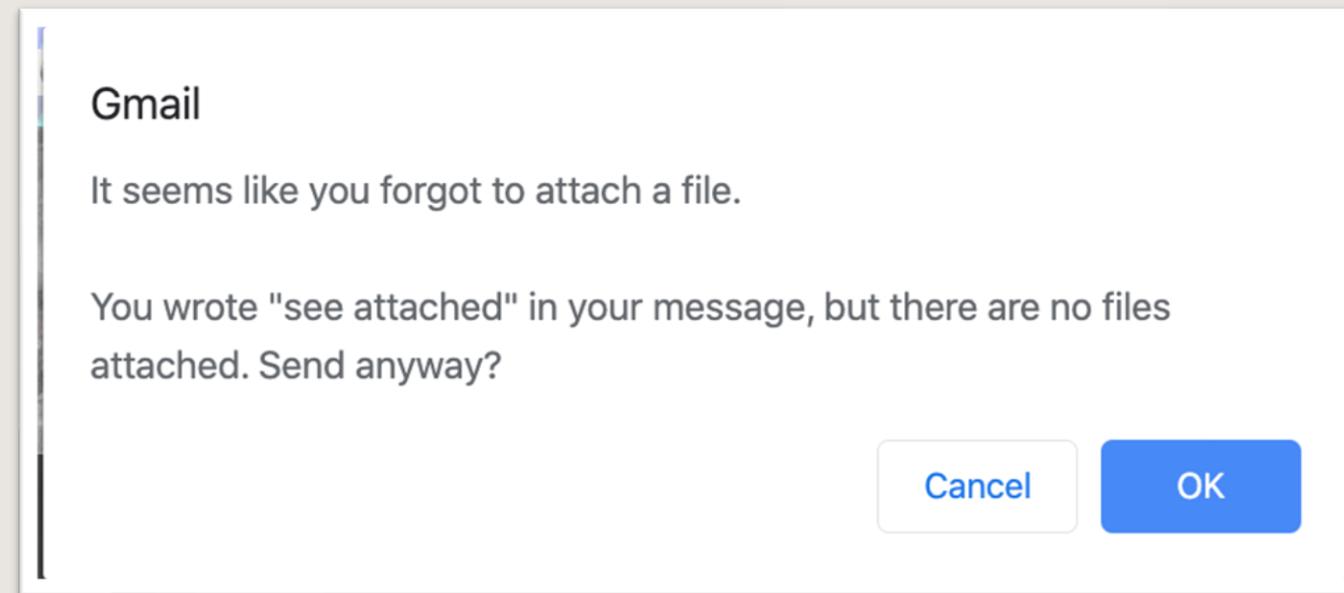
1. Does the system **warn** users if they are about to make a potentially serious error?
2. Are the function keys that can cause the most serious **consequences** located far away from low-consequence and high-use keys?
3. Are **required** input validations stated to the user upfront?

Users Find Unexpected Ways to do Things...

Here is a glass,
drink some
water!







6.

Recognition Over Recall

Minimize cognitive load by maintaining task-relevant information within the display while users explore the interface.

Questions to Ask

1. Is all data a user **needs** on display at each step?
2. Are elements, prompts, cues and messages placed where users **expect** them ?
3. Do elements offer **affordances**, that is, make it obvious where selection is possible?
6. Recognition Over Recall



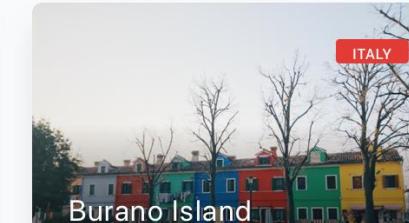
Spain

Toledo, Spain
Also known as The Imperial City.



Italy

Boboli Gardens
Florence, Italy



Italy

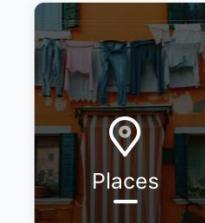
Burano Island
Burano, Venice, Italy
★★★★★ 420 reviews

Upload a new trip
Drag a file to attach or [browse](#)



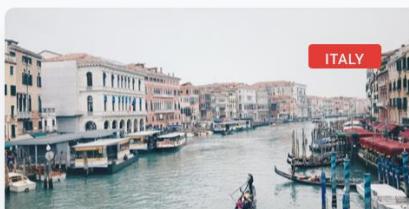
ITALY
BURANO ISLAND
November 2017

[View Trip](#)



Places

[Know more](#)



ITALY

Venice Islands

Venice is a city in northeastern Italy and the capital of the Veneto region. It is situated across a group of 118 small islands that are linked by canals and linked to the mainland by bridges.

[View more](#)

Cards

Learn more

Pictures



ITALY

The Colosseum
Rome, Italy

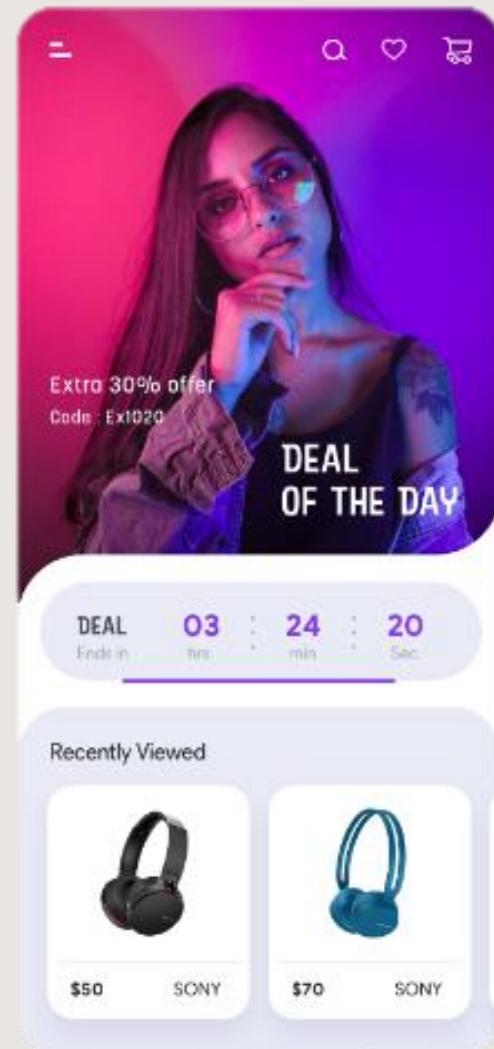
NOVEMBER 2017
EURO TRIP



VATICAN

Vatican City
Vatican

[View Trip →](#)

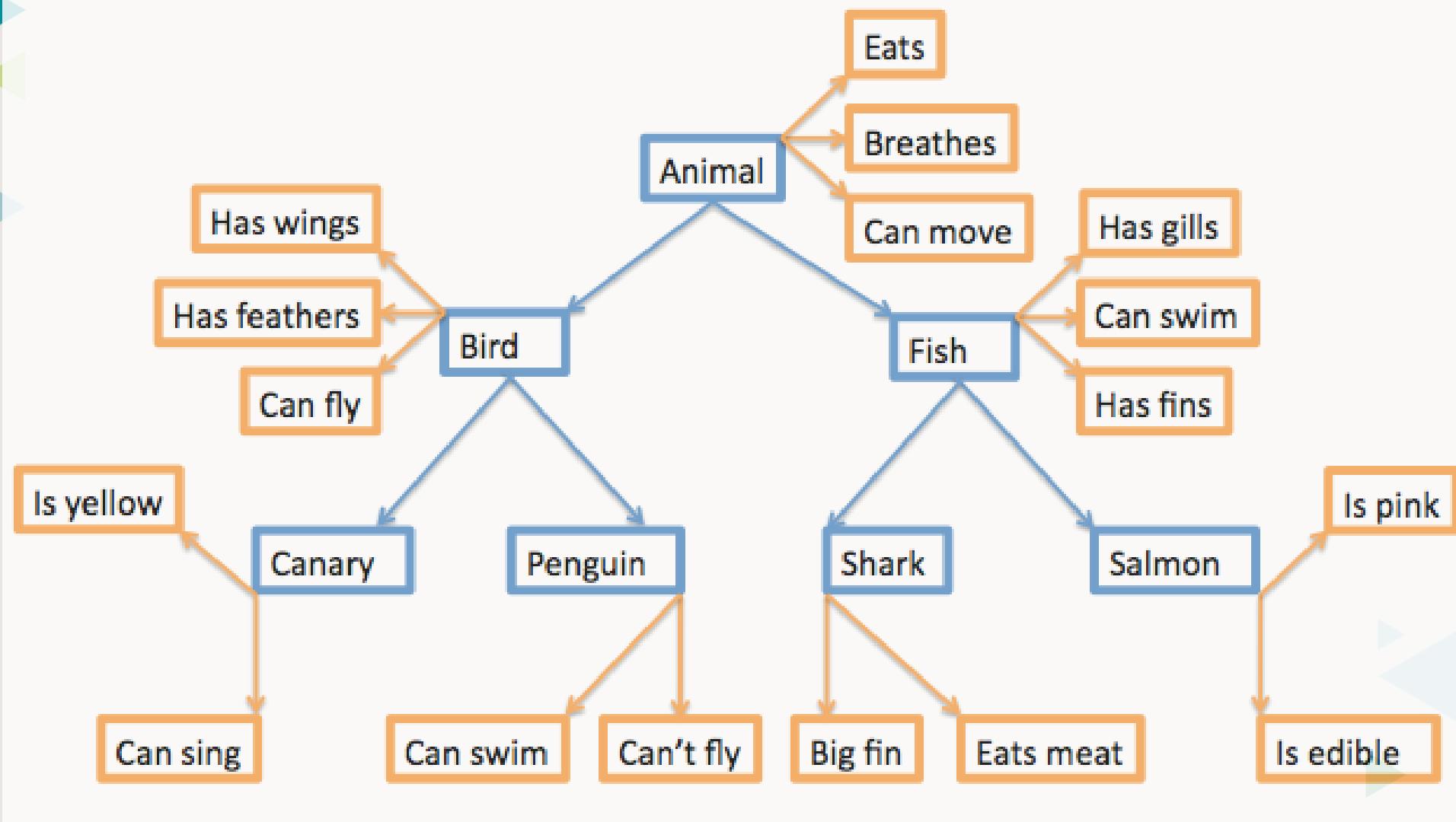


6. Recognition Over Recall

Mental Models

“Relate to the way that a user **perceives** the world around them and are based in belief as opposed to being a factual concept”

- [Interaction Design Foundation](#)



Design That Utilises Mental Models

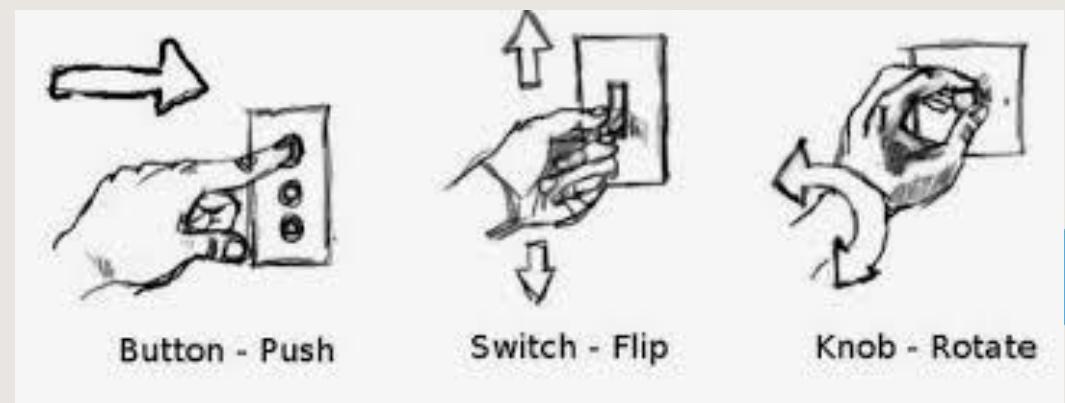
- ▶ Users have a natural tendency to resist change
- ▶ Ideal situation
 - ▶ Synchronization of design and the user's mental model
- ▶ Realistic situation
 - ▶ Clash between design and the user's mental model

Affordances

“Are an object’s properties that show the **possible actions** users can take with it, thereby suggesting how they may interact with that object.”

- [Interaction Design Foundation](#)
- 

Norman Door



How Would You Use This?



Affordance

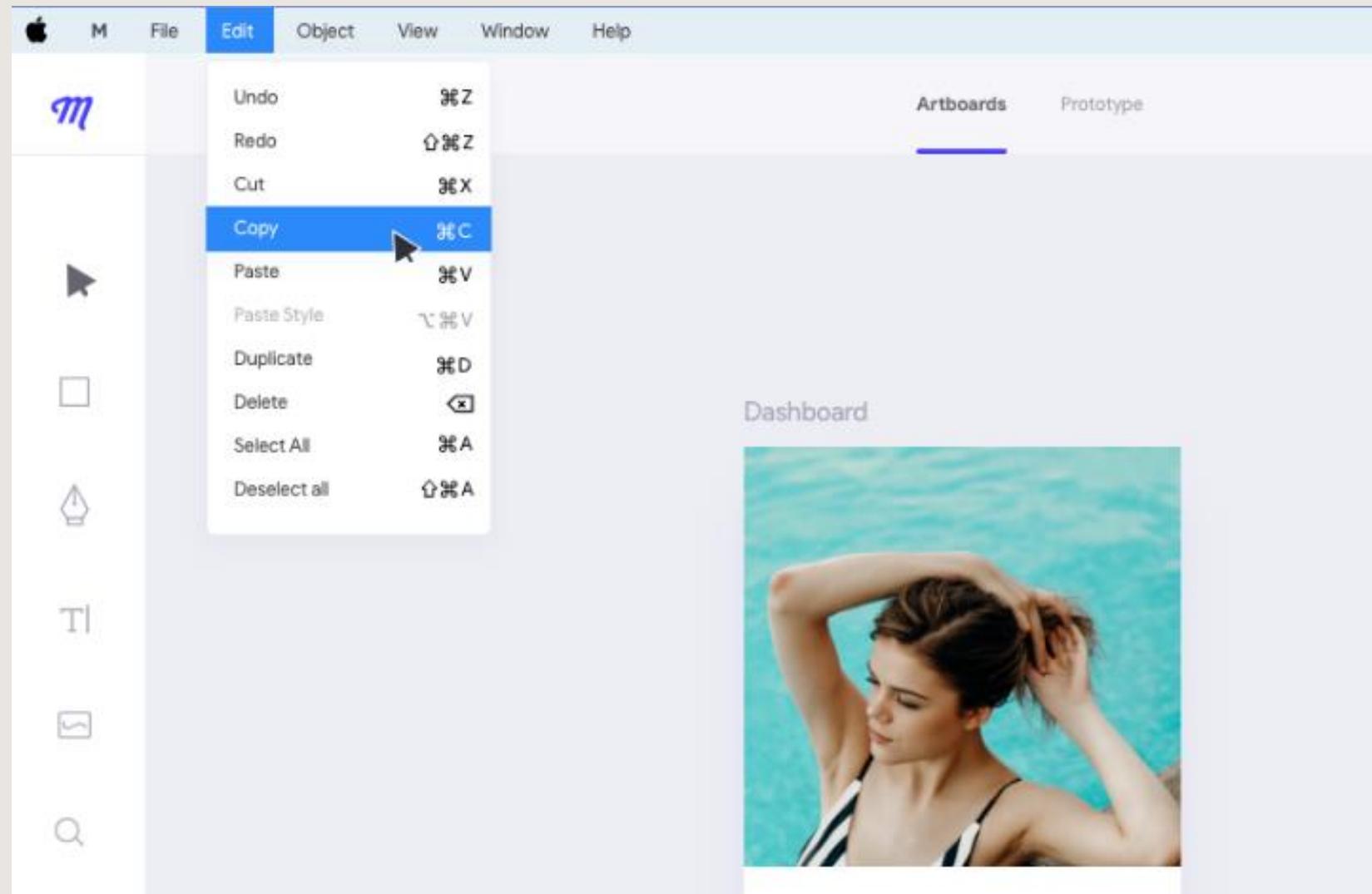
7.

Flexibility & Efficiency

The interface should be flexible enough to allow various users to perform frequent actions with ease and efficiency.

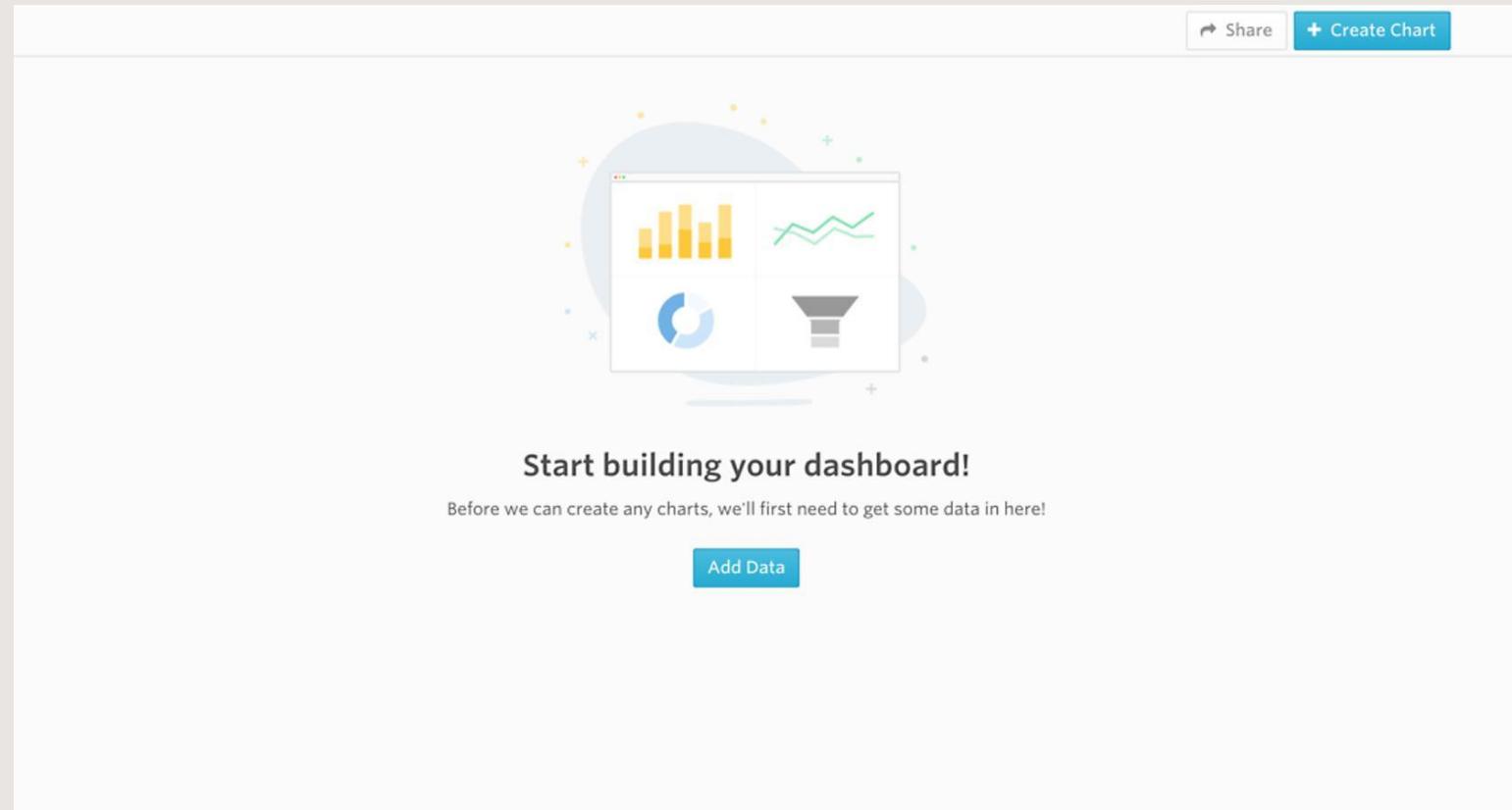
Questions to Ask

1. Does the system support both **novice** and **expert** users?
 2. Do users have the option of using a keyboard **shortcuts**?
 3. Does the system have a **zero-data** state?
- 



7. Flexibility & Efficiency

Empty / Zero-data States



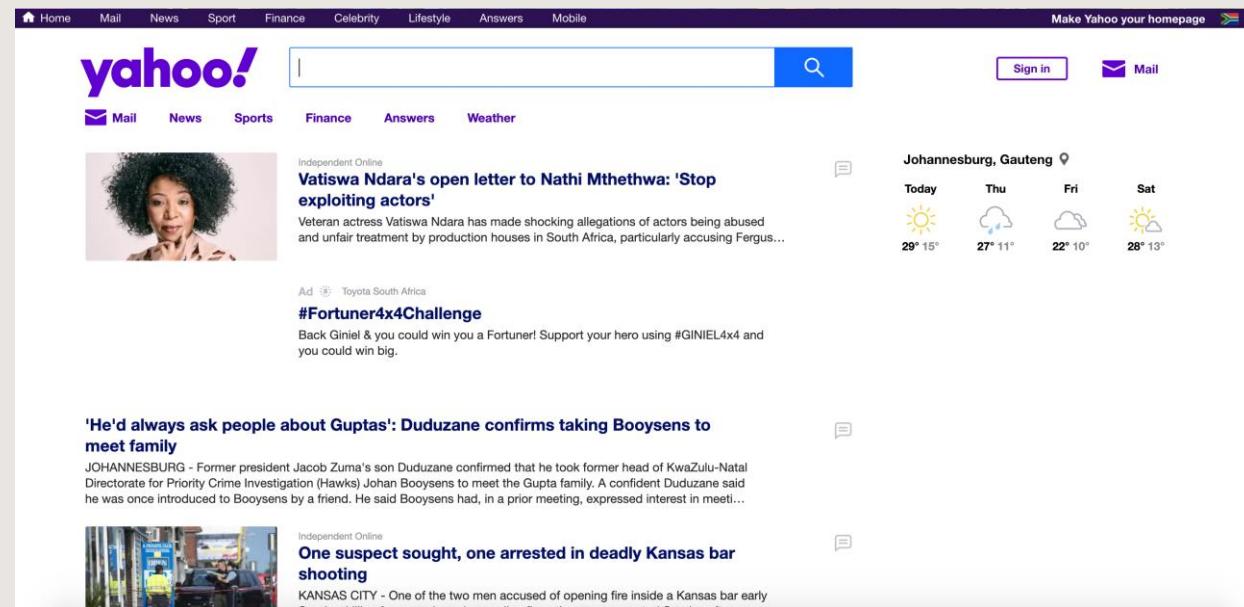
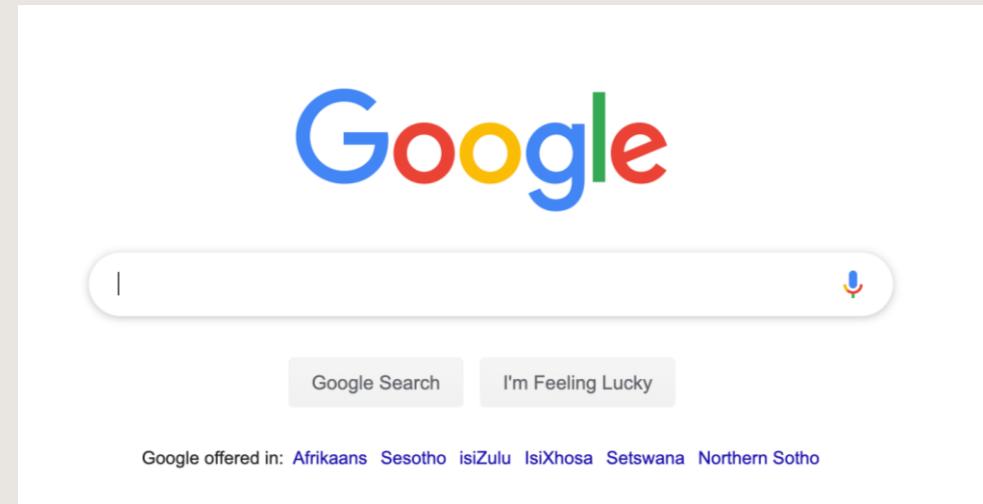
8.

Aesthetics & Minimalism

Giving only relevant data by removing all unwanted items.

Questions to Ask

1. Is only (and all) information essential to **decision making** displayed on the screen?
 2. Are meaningful **groups** of items separated by white space?
 3. Does each data entry screen have a short, simple, clear, distinctive **title**?
- 



8. Aesthetics & Minimalism

Gestalt Design Psychology

1. The Law of Closure
2. The Law of Proximity
3. The Law of Continuance
4. The Law of Figure/Ground
5. The Law of Similarity



closure



proximity



continuation

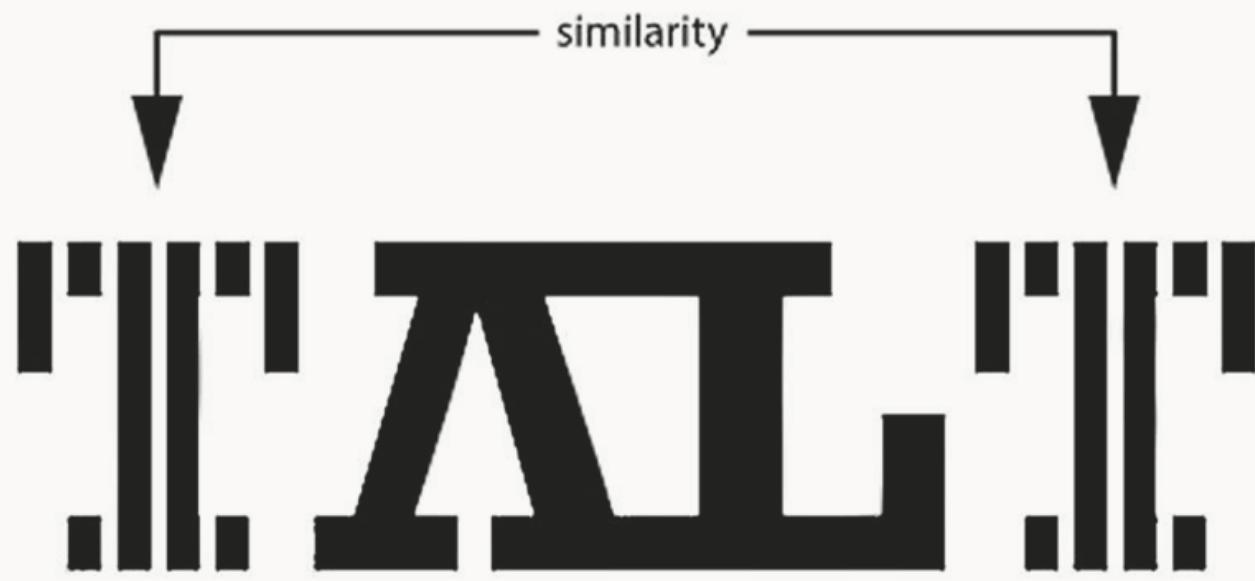


figure and ground
(tree within the letter "A")



Benefits of Gestalt

- ▶ Designed using theory and not personal preference
- ▶ Helps with evaluating other designs
- ▶ Design in a way that accounts for visual perception
- ▶ The design will improve user experience

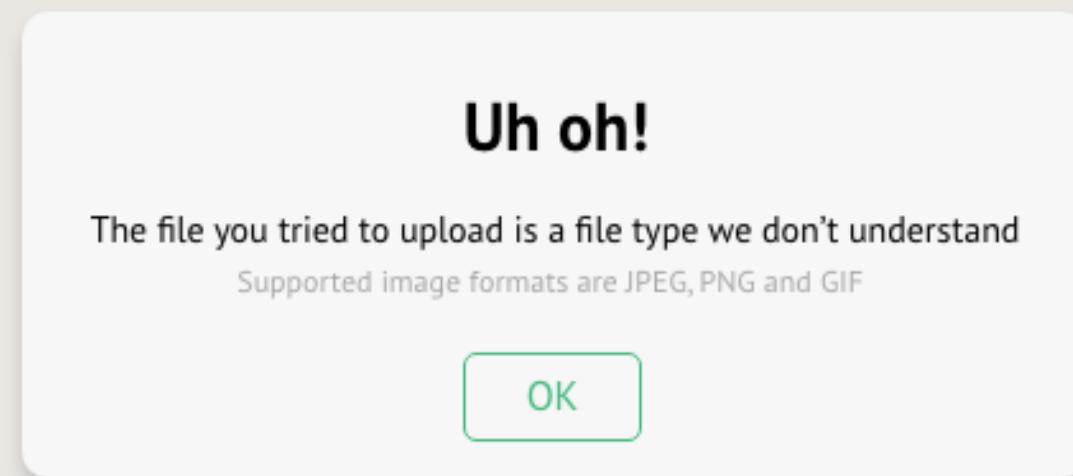
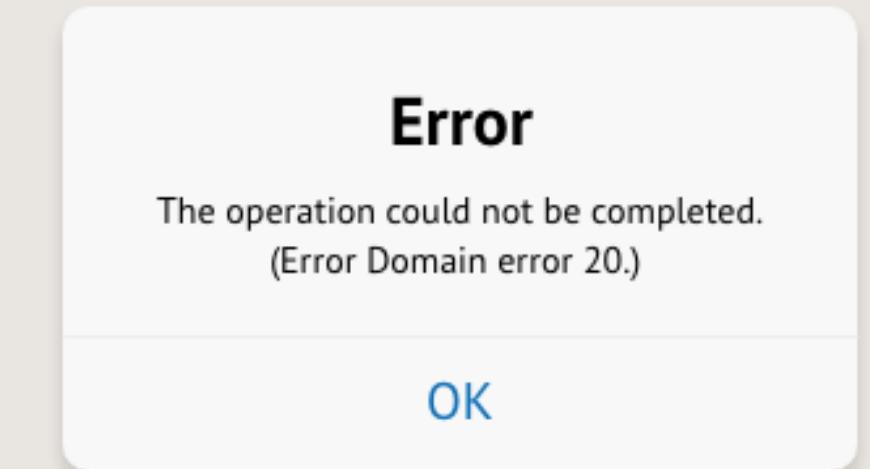
9.

Error Recognition

Help users recognize, diagnose and recover from errors.

Questions to Ask

1. Are prompts stated **constructively**, without overt or implied criticism of the user?
2. Do prompts imply that the user is in **control**?
3. Do error messages suggest the **cause** of the problem?
4. Do error messages indicate what **action** the user needs to take to correct the error?



Assist the User With Errors

- ▶ Help the user **recognize** errors
- ▶ Help the user **diagnose** errors
- ▶ Help the user **recover** from errors

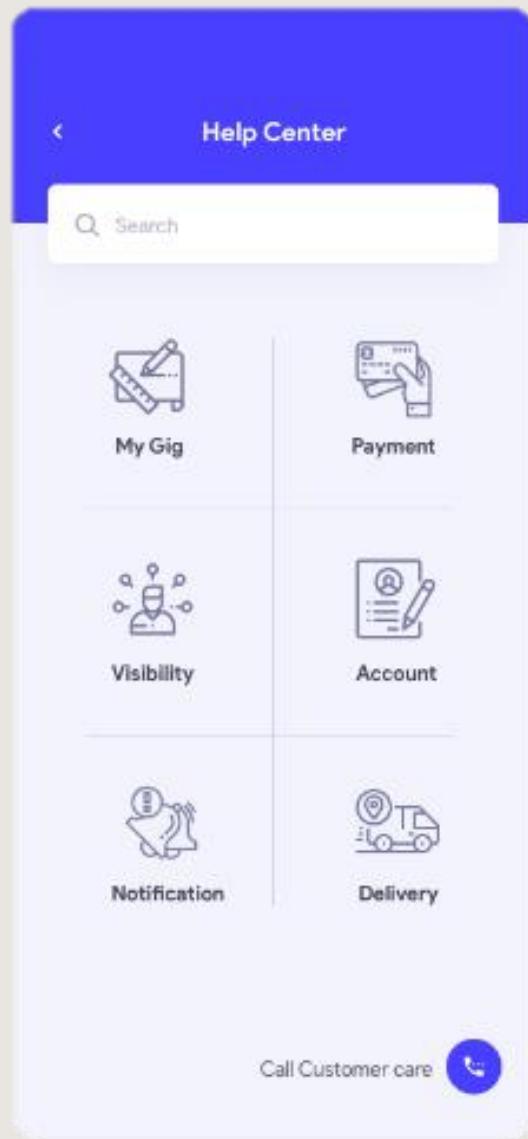
10.

Help & Documentation

Assist novice users, and don't frustrate expert users.

Questions to Ask

1. Is a help menu **visible** and easy to find?
2. Is there **context-sensitive** help?
3. If choices are ambiguous, does the system provide additional explanatory **information** when an item is selected?



10. Help & Documentation

takealot.com Help

When will I get my order?

Find tracking information and order details in **My Account**, under **Orders**.

[View Orders →](#)

What can we help you with?

Delivery

Collection

Returns

Refunds

Order Issues

Payments, Promos and Gift Vouchers

Product and Stock

Technical



Heuristic Evaluation

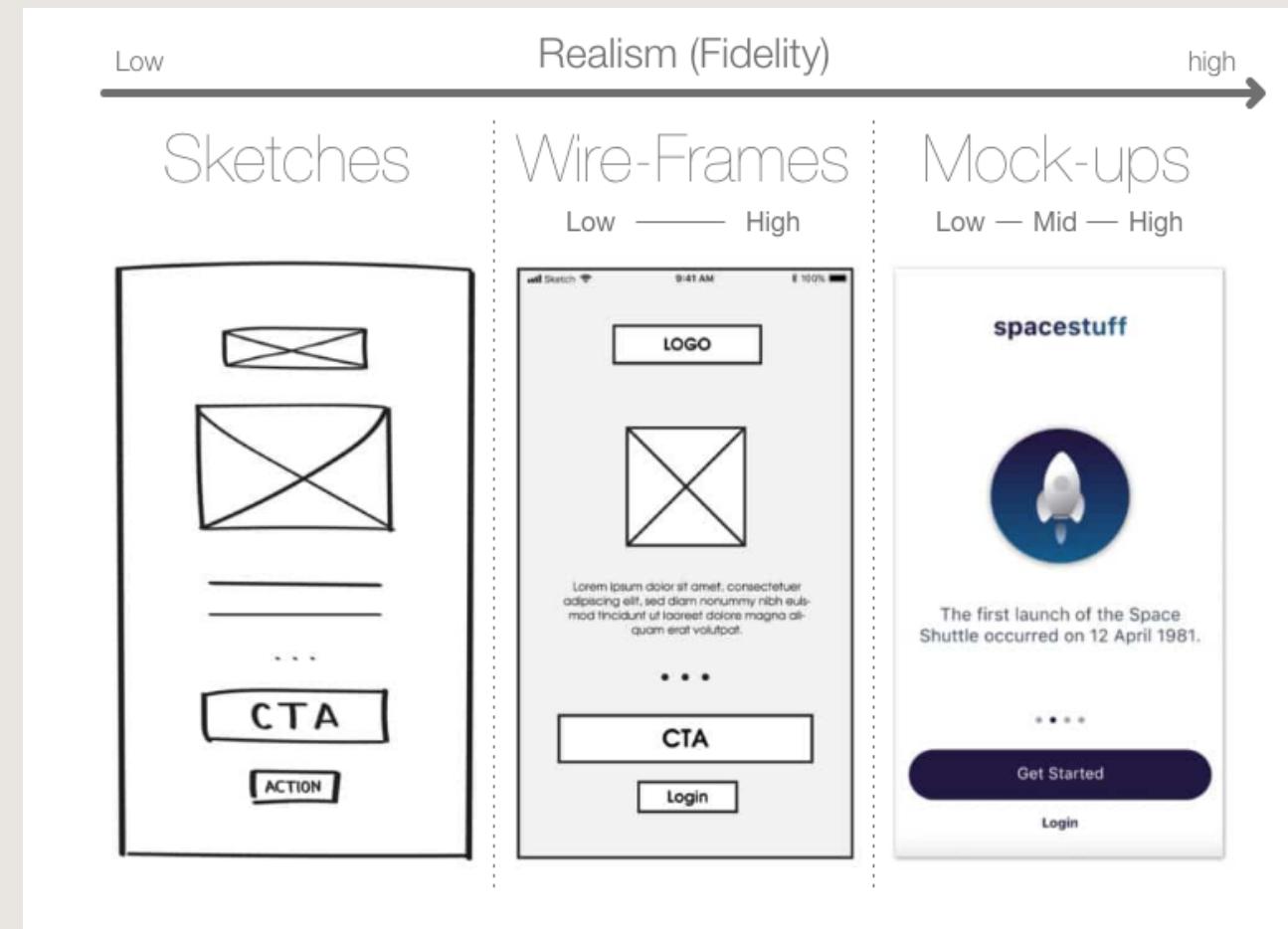
Take these questions and evaluate any system or app.

Time: 10 minutes

Making a UI

How do you actually make mock-ups?

Many Ways To Visualize A Concept



One Way to Do it

Paper Sketches

- Min Effort
- Max Feedback

Wire-Frames

- Barebones Blueprint

Mock-ups

- Finalise Design

Why Use These Visual Representations?

- ▶ Improves communication between teams
 - ▶ Early detection of errors
 - ▶ Stakeholder trust
 - ▶ Seeing is believing
 - ▶ The user's perspective
 - ▶ Mistakes are only skin deep
 - ▶ Reduced rework
- 

Mock-Tools

- ▶ Adobe Xd
- ▶ Sketch
- ▶ Figma
- ▶ Many others!

Why Adobe Xd?

- ▶ Free
 - ▶ Integrates with Adobe products
 - ▶ Simple
 - ▶ Useful plugins
 - ▶ Tools designed for mockup efficiency
- 

How To Make Powerful Mock-ups Quickly

- ▶ Mock-up specific tools
- ▶ Adobe XD UI kits and UI resources
- ▶ Global changes
- ▶ Assets (symbols)
- ▶ Use Xd ;)



Adobe Xd Demonstration

We are going to build something together!

Thank you! Any Questions?

You can find me at sarah.jenkins@entelect.co.za

References:

- ▶ Information & Examples are from [UX Collective](#)
 - ▶ Heuristic checklist is altered from [Xerox Corporation](#)
- 