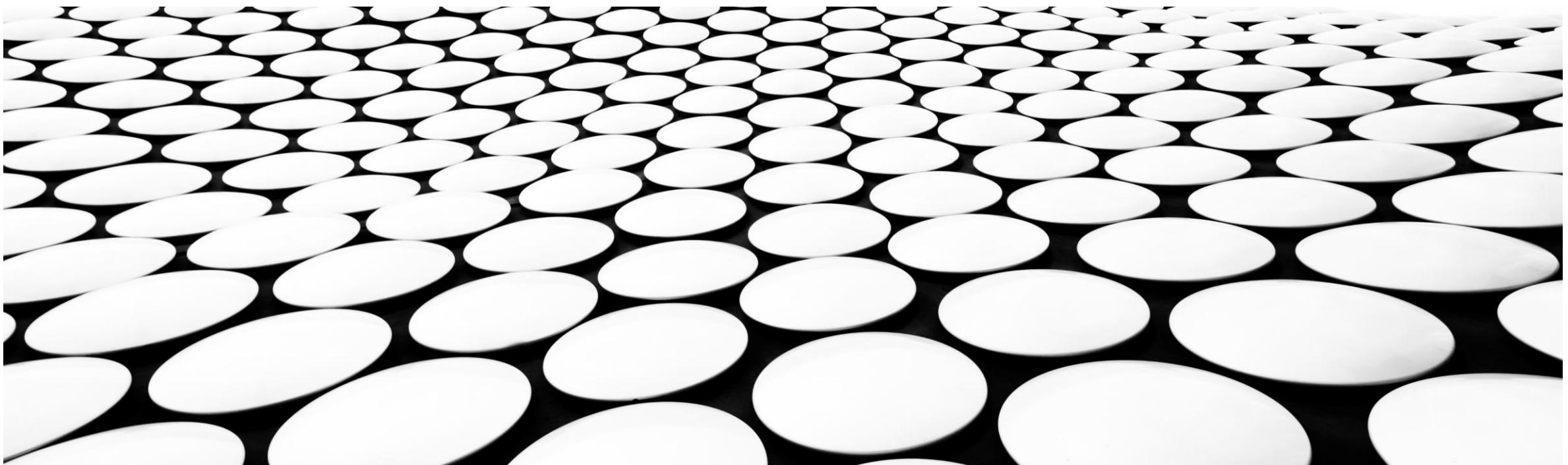


PROTOTYPING FOR HUMAN-COMPUTER INTERACTIONS

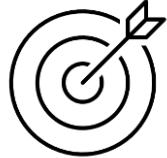




PROTOTYPING FOR HUMAN-COMPUTER INTERACTIONS

- Part 1 – Prototyping in UCD
- Part 2 – Sketches
- Part 3 – Mockups
- Part 4 – High-Fidelity Interactive Prototypes
- Part 5 – Storyboards

Part 1 Introduction



PART 1 – PROTOTYPING AND UCD

- Case study: car rental
- Importance of personas for:
 - definition of realistic usage scenarios
 - definition of alternatives

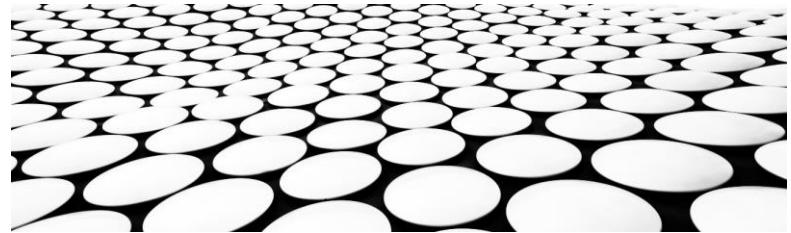


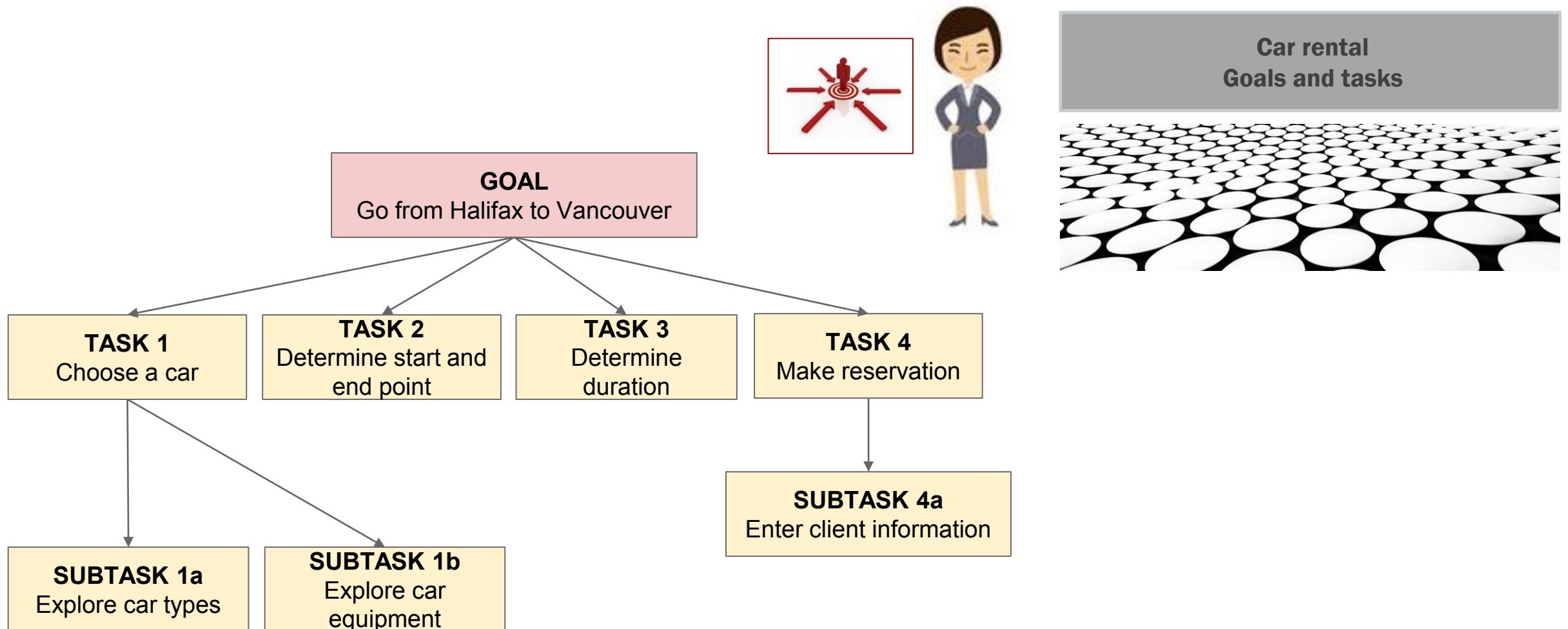
Aadi, 25 years old, very tall
Wants to go from Kingston to Ottawa every week for a university course. He is investigating if driving is a better option than taking the bus.

Zhenglin, 45 years old
Wants to drive from Halifax to Vancouver and fly back. She is afraid of getting lost, so wants a car that is equipped with a GPS.

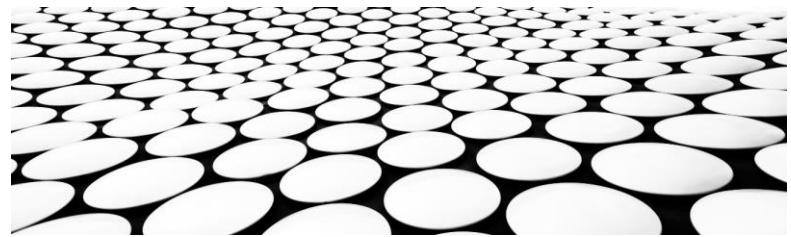
Erica, 35 years old, lives in Ottawa
Wants to bring her family camping, cares about the environment, and is on a tight budget but flexible about when to go

Car Rental





Car rental Task analysis



Choose a car

- How spacious (capacity)?
- Equipment (GPS)?
- Type of fuel or hybrid ?

Explore prices

- Weekly prices available?
- Access to various prices per summer season?

Indicate start and end location

- End location not always the same as start

Indicate dates

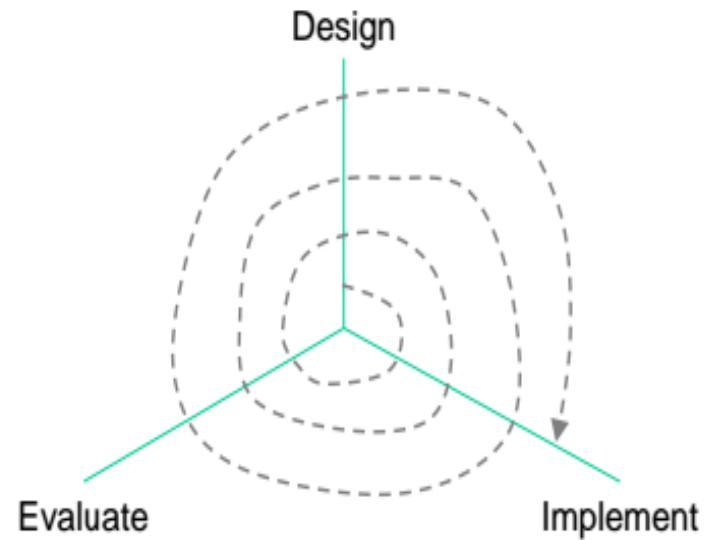
- Fixed or flexible

Indicate client information

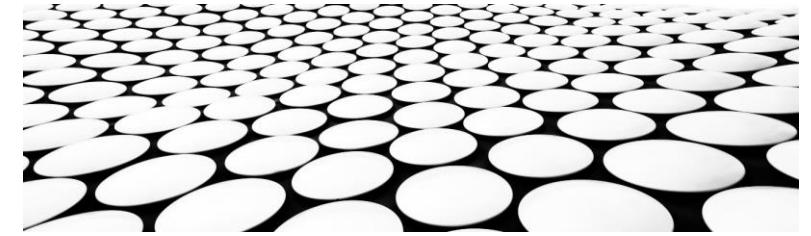
- Address, name, credit card

Let's start our design!

Spiral Model



Iterative approach



Choose a car

- How spacious (capacity)?
- Equipment (GPS)?
- Type of fuel or hybrid ?

Explore prices

- Weekly prices available?
- Access to various prices per summer season?

Indicate start and end location

- End location not always the same as start

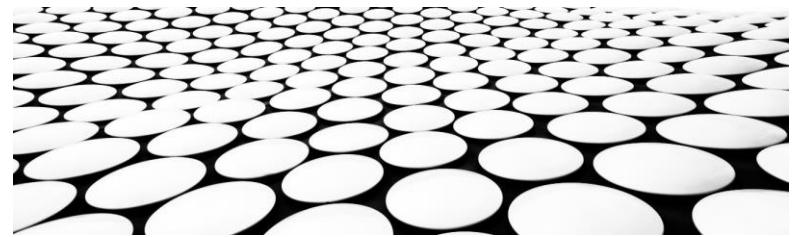
Indicate dates

- Fixed or flexible

Indicate client information

- Address, name, credit card

Car rental
Prototype starts with task analysis

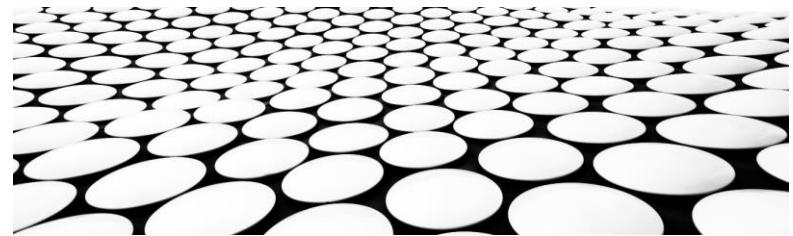


Different personas, different scenarios

Generate alternatives:

- Generating alternatives is not necessarily easy. It requires creativity and research. Humans tend to stick to what they know.
- Considering alternatives is important to "break out of the box"
- How to generate alternatives:
 - Flair and creativity: research and synthesis
 - Seek inspiration: look at similar or very different products for good ideas to adopt or bad ideas to reject.

Personas are all different



Budget® Canada

Sign In Register Business Rental Customer Care

Reservations Deals Locations Cars & Services Fastbreak

Rent a Moving Truck >

LIMITED TIME Super Spring SALE!

Save UP TO 35% OFF Base Rates with Pay Now

Enter your pick-up location or zip code

05/10/2022 noon

Please enter a **Pick-up Location**

Return to same location

05/11/2022 noon

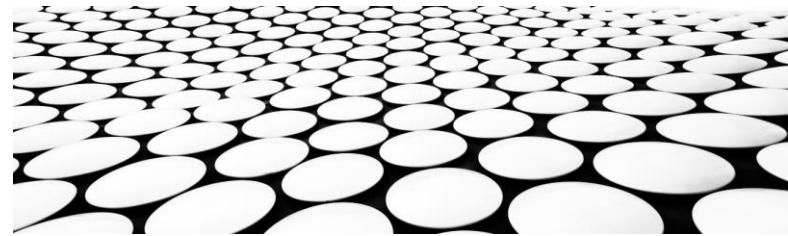
Age: 25+ I live in: Canada Add Customer ID * Offer Codes * Vehicle Type *

Select My Car

* Optional

Get up to 35% off base rates when you pay now. [Book Today!](#)

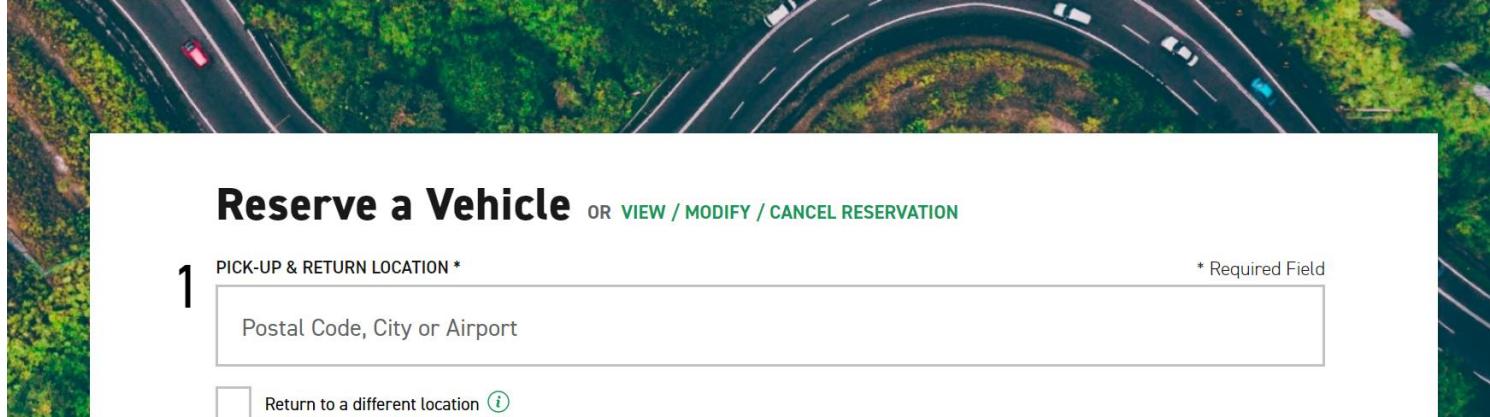
Car Rental 1



enterprise

Help CAN (English) Find A Location SIGN IN / JOIN

Rent Share Learn Inspiration Locations Business



Reserve a Vehicle OR [VIEW / MODIFY / CANCEL RESERVATION](#)

1 PICK-UP & RETURN LOCATION *

Postal Code, City or Airport * Required Field

Return to a different location [\(i\)](#)





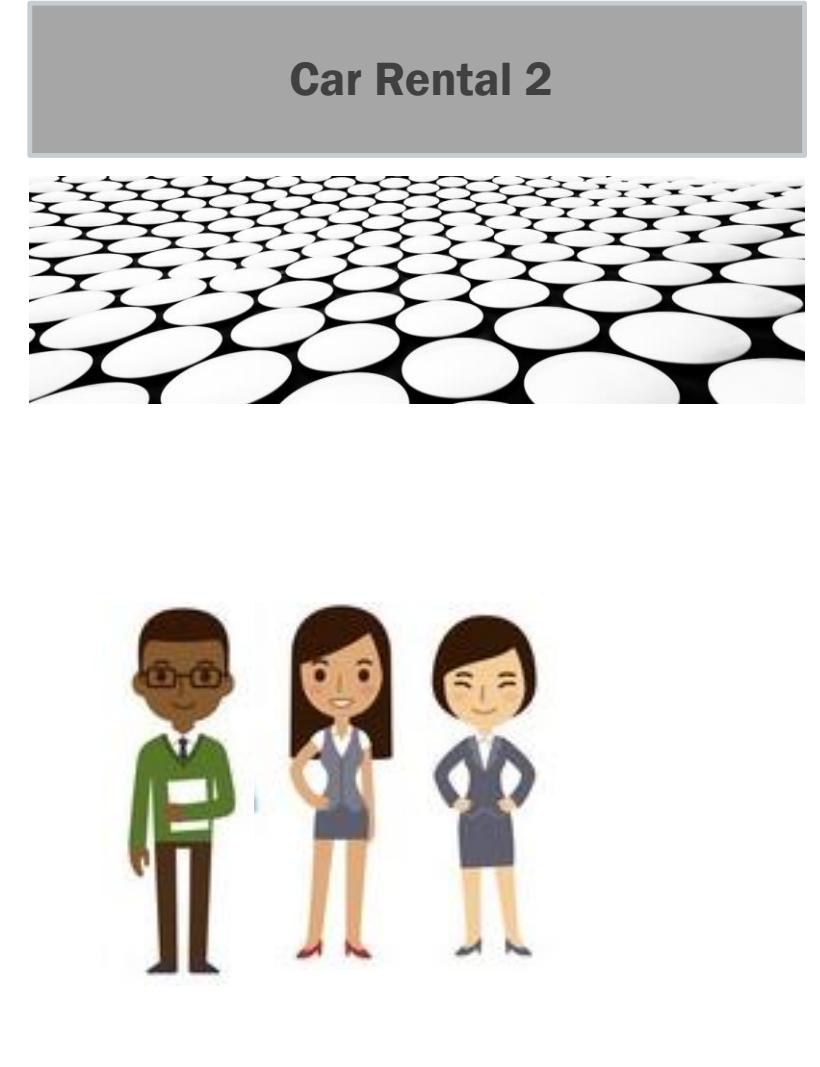
Complete Clean Pledge

Our Ongoing Commitment To Increase Safety Measures For Our Customers And Employees.

[VIEW](#)



CAA
Rewards
PREFERRED CAR RENTAL



Hertz®

RESERVATIONS LOCATIONS DEALS GOLD PLUS REWARDS VEHICLES

Book a Car View/Modify/Cancel a Reservation

1 Pick-up Location (City, State, Airport Code or US Zip Code)

[Help me find a location](#)

Return car to a different Hertz location [?](#)

2 Pick-up Date & Time:
 05:00 PM [▼](#)

Return Date & Time:
 05:00 PM [▼](#)

Rental Car Type: [?](#)

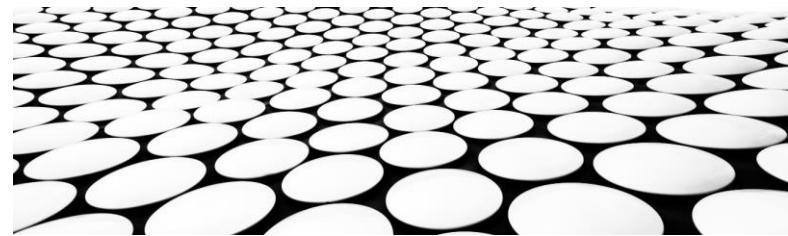
Use My Hertz Gold Plus Rewards Points [Learn More About Your Points](#) [?](#)

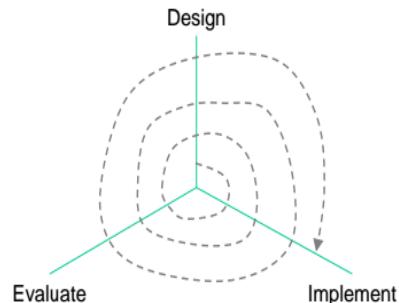
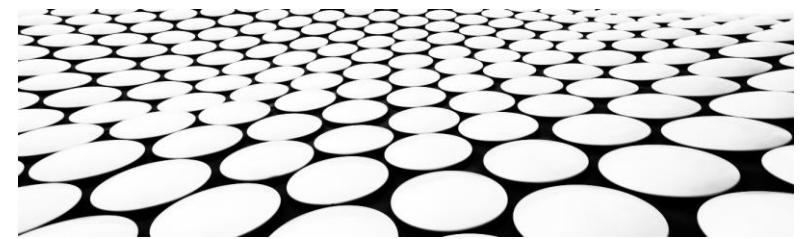
Enter a Discount or Promo Code [?](#)

Hertz Gold Plus Rewards®
 Members skip the counter.

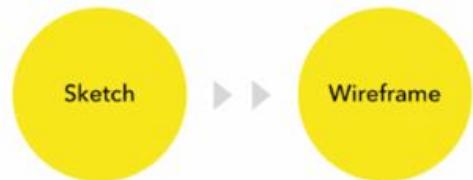


• •



Spiral Model**Iterative approach**

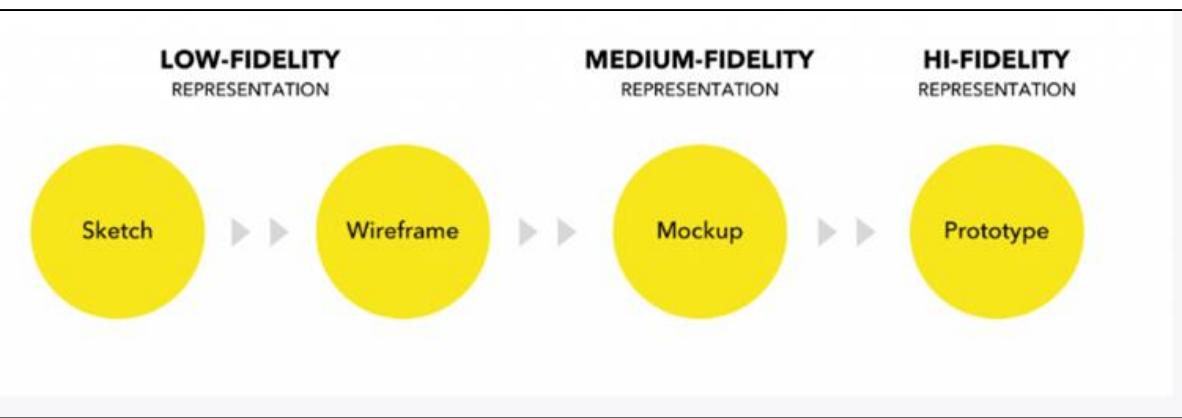
**LOW-FIDELITY
REPRESENTATION**



**MEDIUM-FIDELITY
REPRESENTATION**



**HI-FIDELITY
REPRESENTATION**

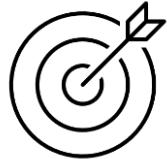




SUMMARY

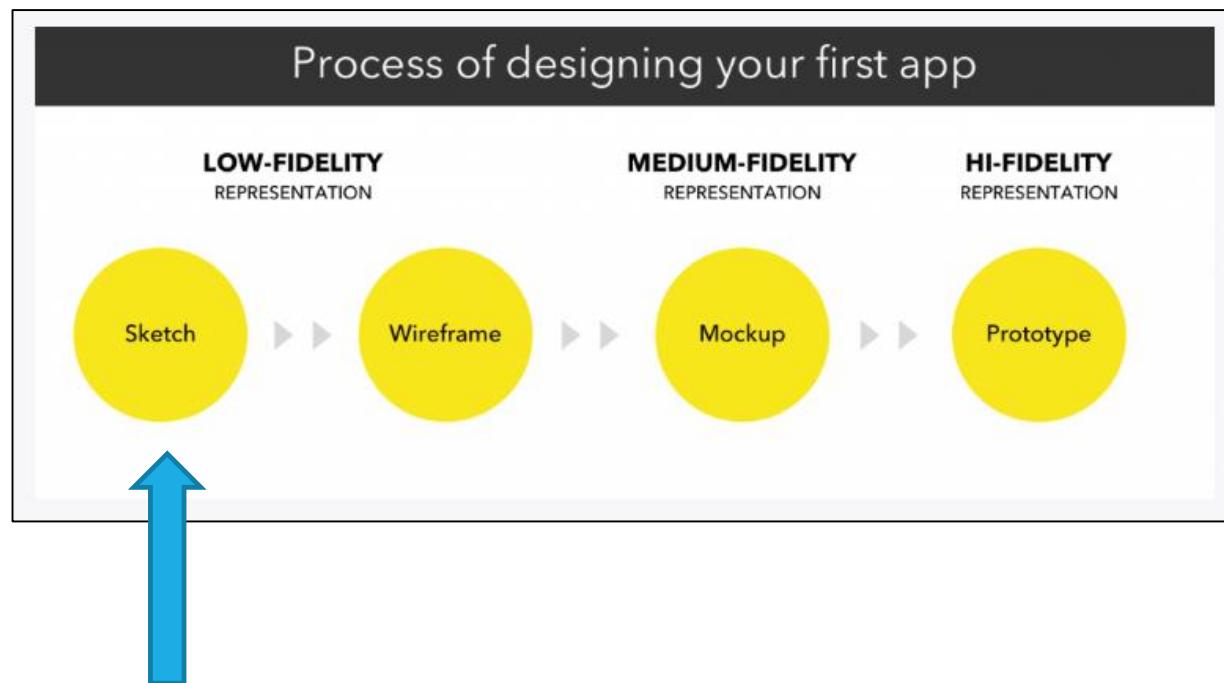
- Prototyping at the heart of User-Centered Design.
- The importance of alternatives to force yourself out of our pre-conceived ideas and make designs corresponding to the goals of various personas.

Part 2 Sketches



PART 2 – SKETCHES

- Present a first type of prototype: Sketches



A sketch is a quick prototype, made on paper, to illustrate the first design ideas.

Importance

Probably the most important design technique to quickly propose several alternative ideas.

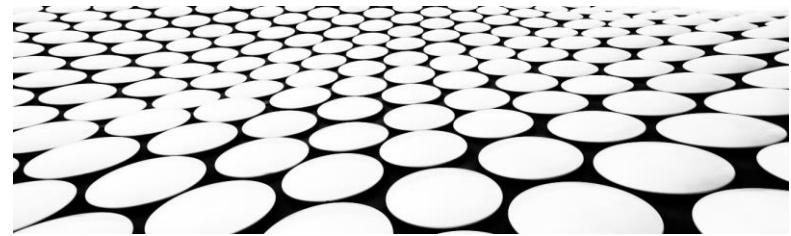
Medium

Use of media different from the final media (e.g. paper, cardboard)

Approach

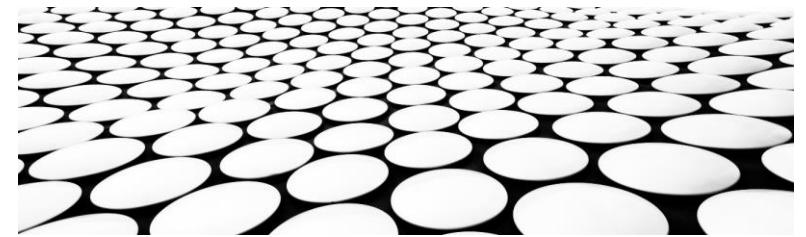
- Drawing ... doesn't require too much talent
- (if possible) do the group design:
 - Each for himself followed by exchanges
 - Exchanges from the start + common design

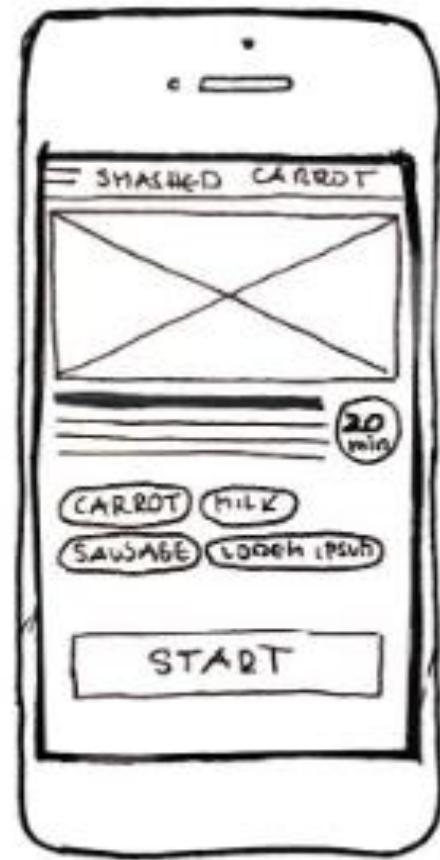
Sketches



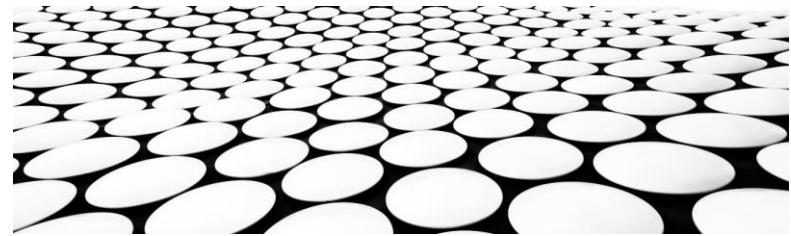


Example of a sketch





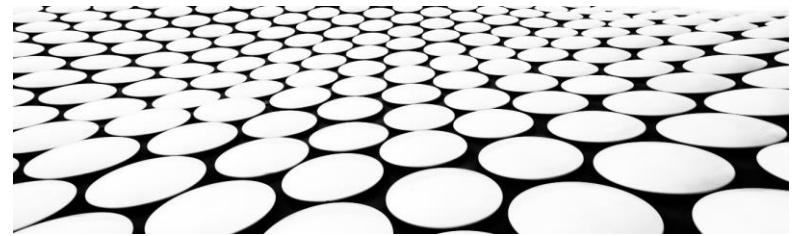
Example of a sketch



Avantages

- Quick to build
 - Sketching is much faster than programming
- Easier to change
 - Easy to make changes between user tests or even during a user test
 - No code investment
- Focuses the attention on the big picture
 - Designer doesn't waste time on details
 - Customer makes more creative suggestions, not nitpicking
- Non-programmers can help

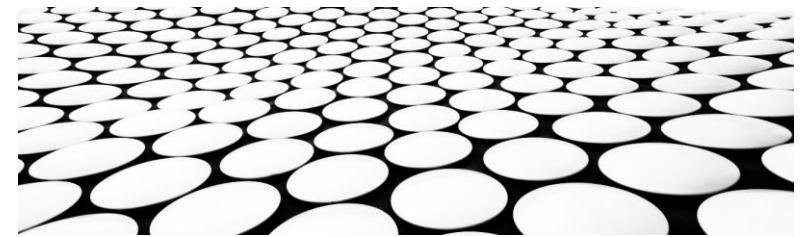
Sketches



SNEAKPEEKIT



Sketching tools





SUMMARY

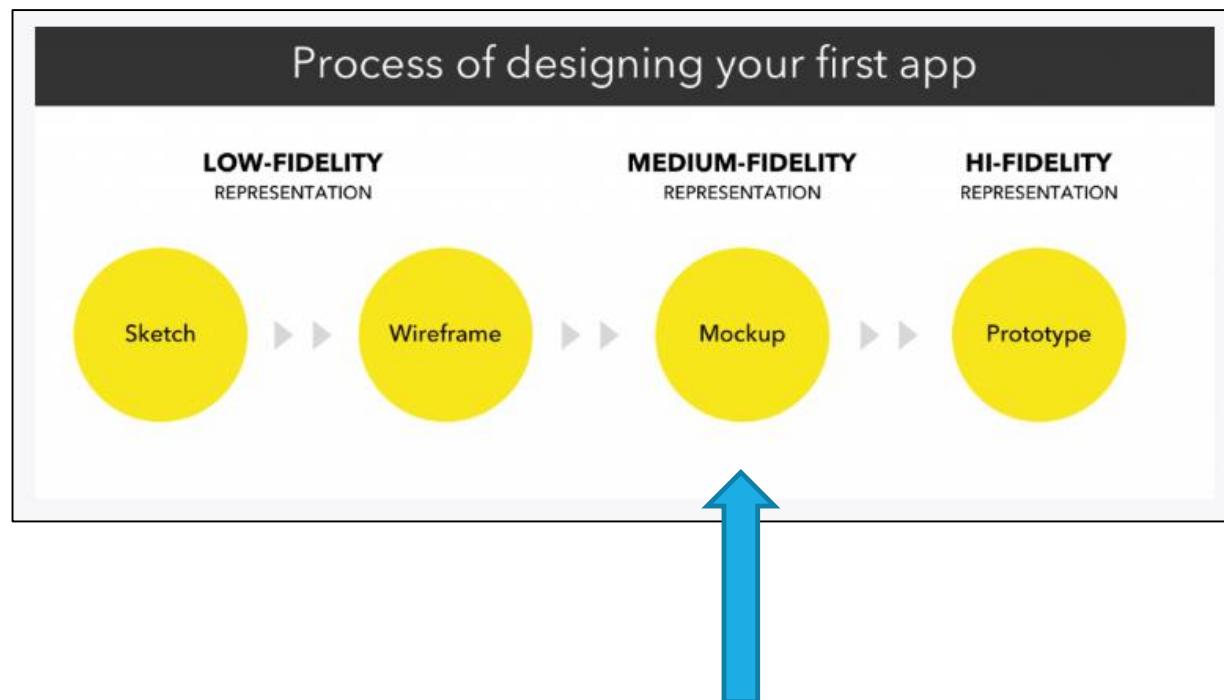
Characteristic	Prototype: Sketch
Coverage	Selected functionalities Approximate layout (display elements) User input (constraints) System output (structure) No data
Medium and Tools	Paper
Fidelity level	Low

Part 3 Mockups



PART 3 – MOCKUPS

- Present a second type of prototype: Mockups



A mockup is a refined version on computer media of a paper sketch.

Importance

- In the models, details not considered in the sketches are added (font, spacing, colors, ...) allowing a better appreciation of the rendering.

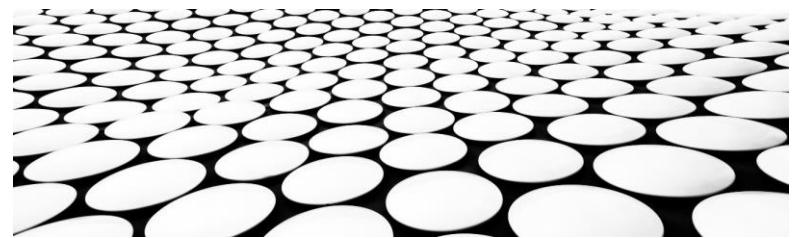
Medium

- On computer support

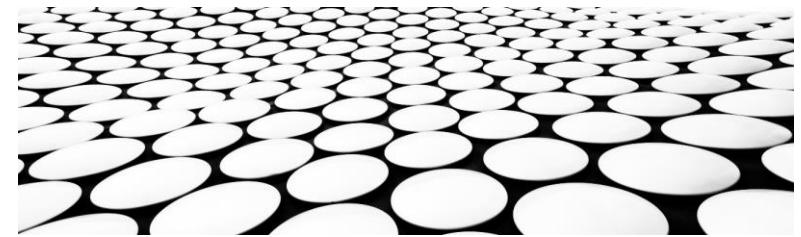
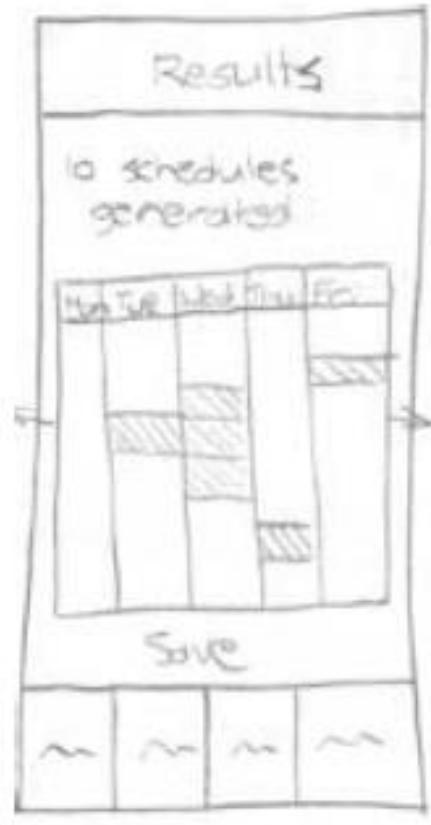
Approaches

- Use of drawing tools or specialized tools to make mockups

Mockup



Sketches vs Mockups



Build-your-own Pizza

Size: S M L XL Crust: Thin Thick Whole Wheat

Sauce: Regular Extra

Toppings:

<input type="checkbox"/> Broccoli	<input type="checkbox"/> Pepperoni
<input type="checkbox"/> Mushrooms	<input type="checkbox"/> Pineapple
<input type="checkbox"/> Olives (Black)	<input type="checkbox"/> Red Onions
<input type="checkbox"/> Olives (Green)	<input type="checkbox"/> Tomatoes

Pizza

Size: S M L XL Crust: Thin Thick Whole Wheat

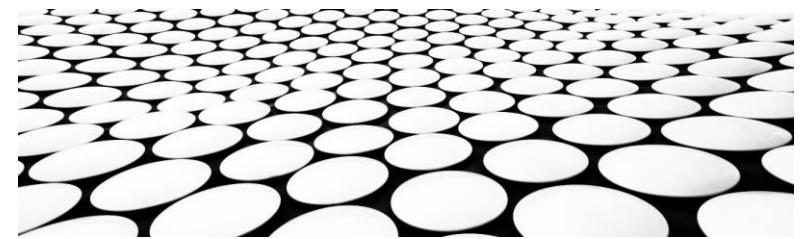
Sauce: Regular Extra

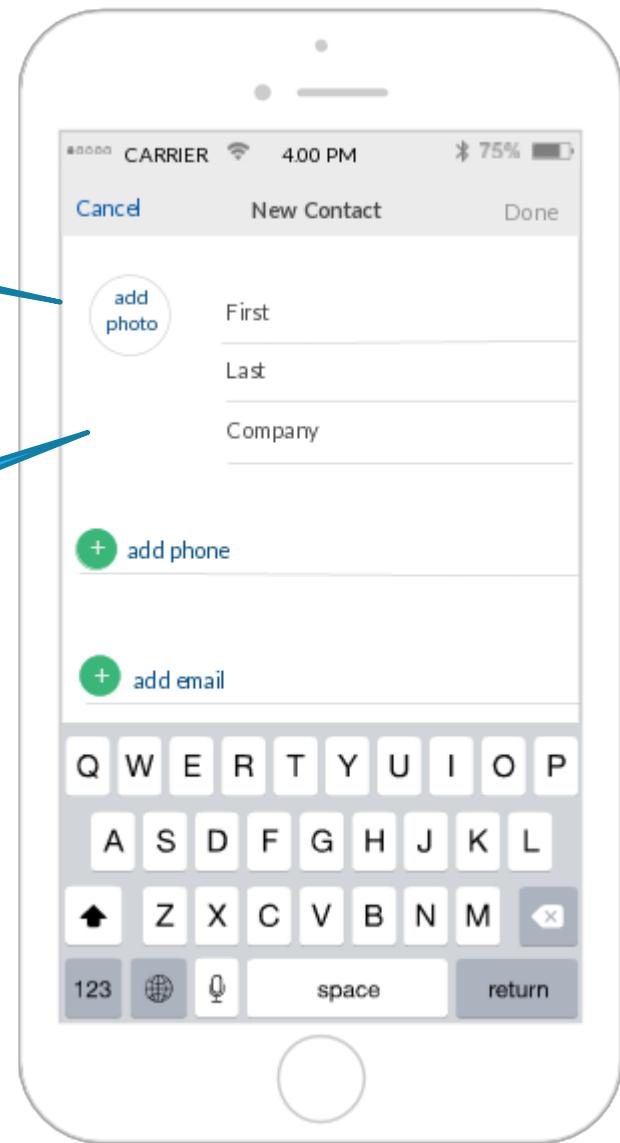
Toppings:

- Pepperoni
- ~
- ~
- ~

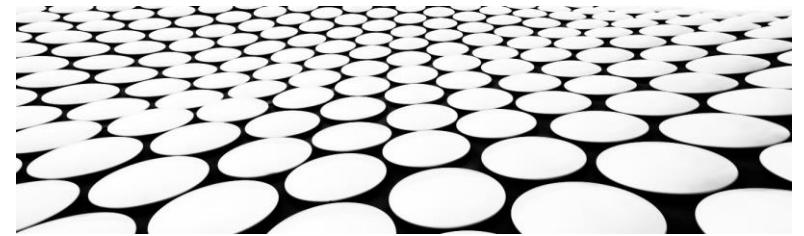
Add to Order

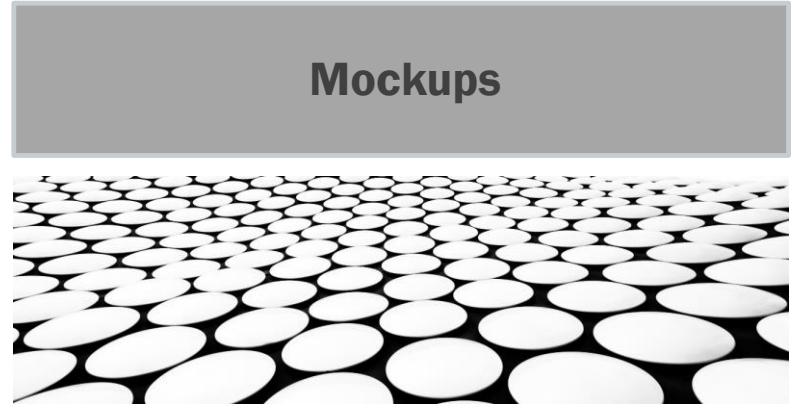
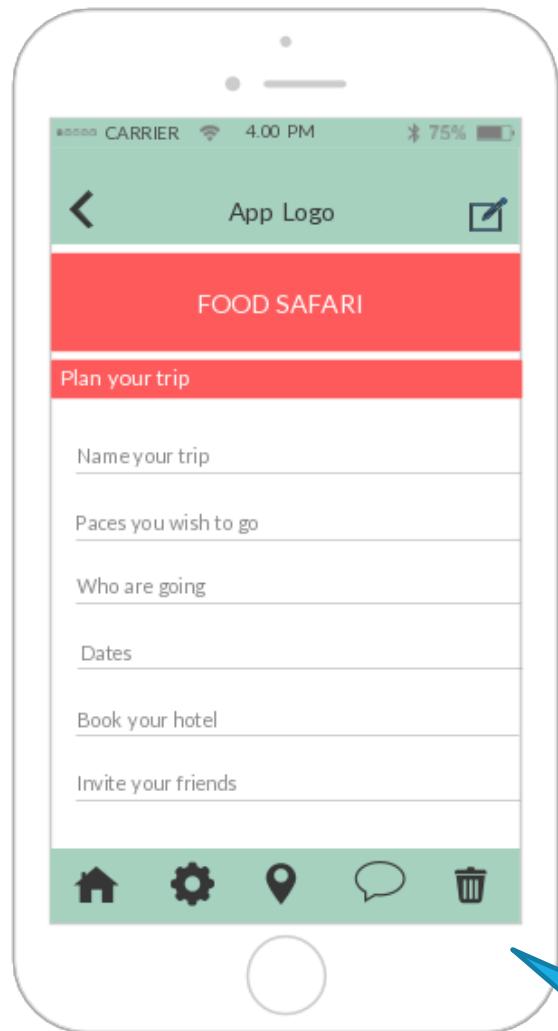
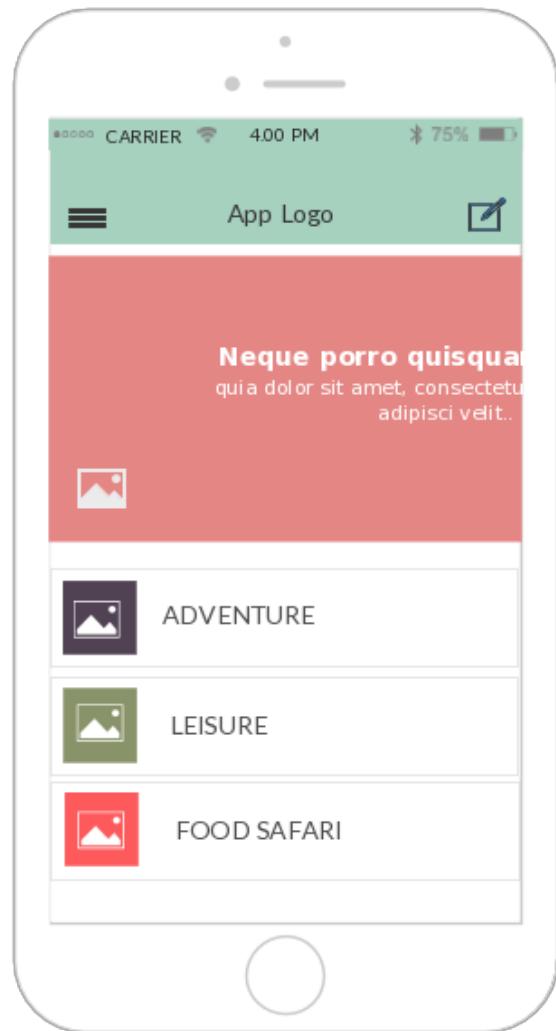
Sketches vs Mockups





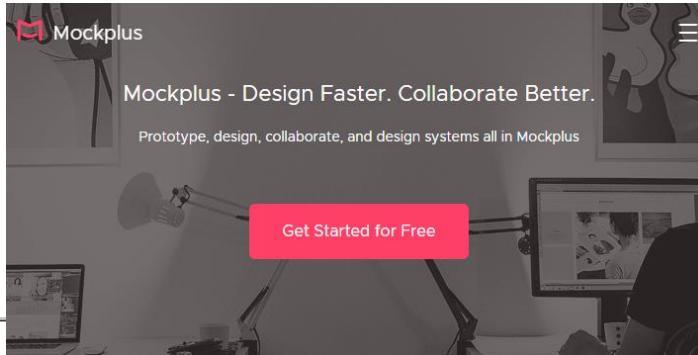
Mockups





Wireframes/Mockups

- [Balsamiq Wireframes](#)
- [Mockingbird](#)
- [Mockplus](#)



Balsamiq Wireframes is a rapid low-fidelity [UI wireframing tool](#) that reproduces the experience of sketching on a notepad or whiteboard, but using a computer.

It really forces you to **focus on structure and content**, avoiding lengthy discussions about colors and details that should come later in the process.

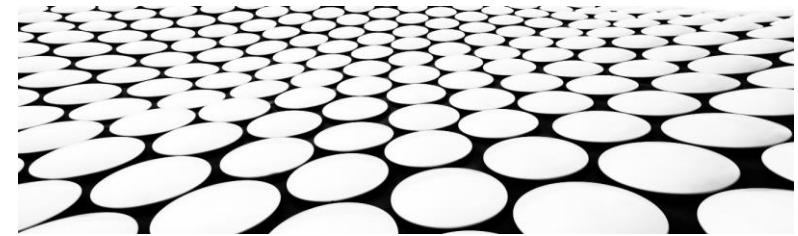
Mockingbird

Get your ideas
out of your head.

Try creating wireframes for free →



Mockup tools



PENCIL PROJECT

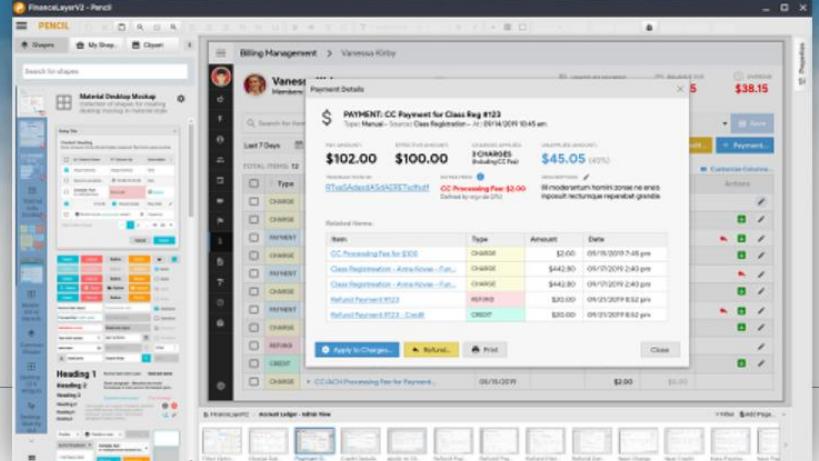
An open-source GUI prototyping tool that's available for ALL platforms.

Pencil is built for the purpose of providing a free and open-source GUI prototyping tool that people can easily install and use to create mockups in popular desktop platforms.

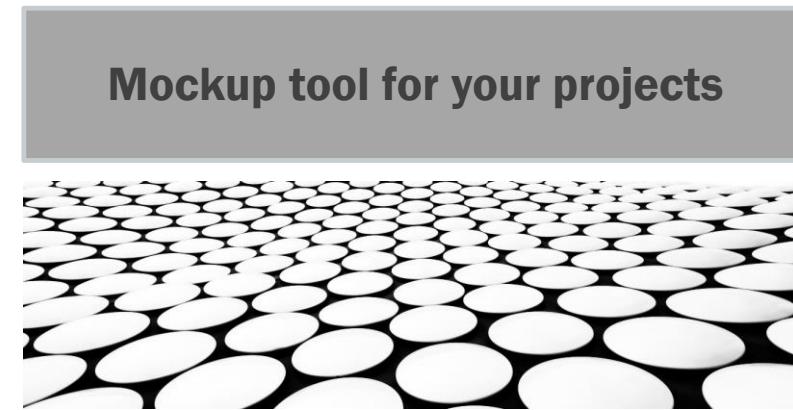
The latest stable version of Pencil is **3.1.0** which contains stability fixes and many new features. More details can be found in the [release notes](#).

[Download for Windows x64](#)
Version 3.1.0.ga, x64 .exe, ~83 MB

For other platforms?
[See all downloads »](#)



<https://pencil.evolus.vn/>





SUMMARY

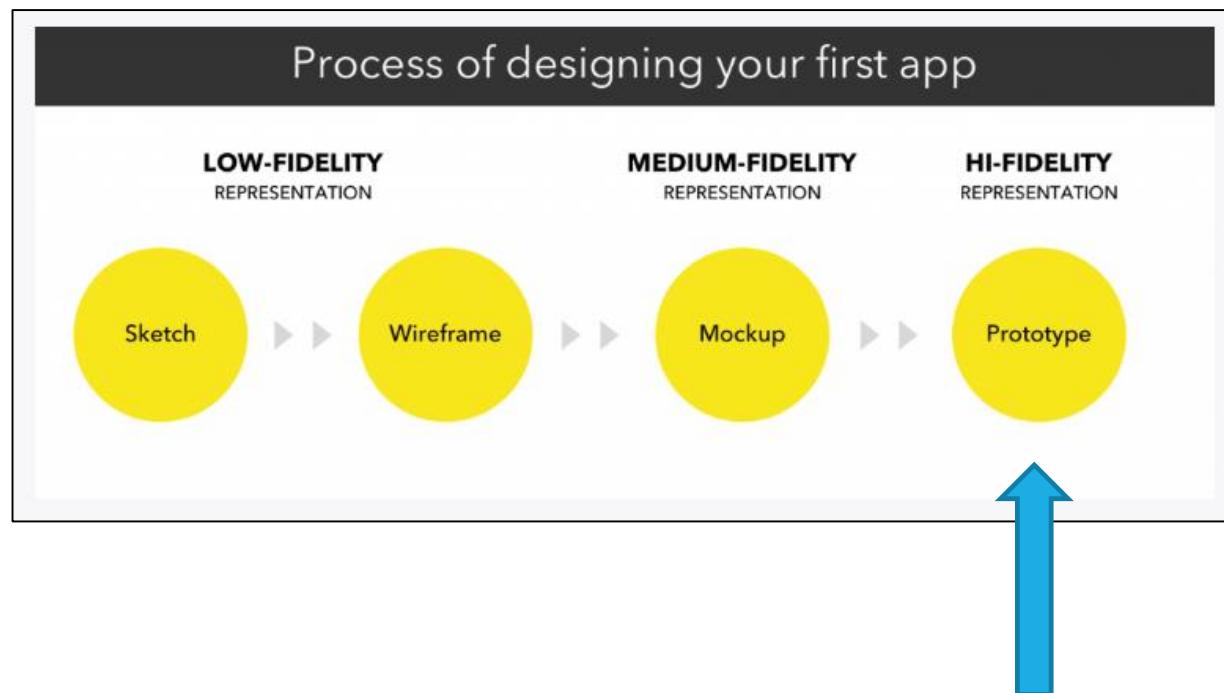
Characteristic	Prototype : Mockups
Coverage	Selected functionalities Realistic layout (display elements) User input (constraints) System output (structure) No data
Medium and Tools used	Computer drawing tool (or special wireframe tool)
Fidelity	Medium

Part 4 High Fidelity

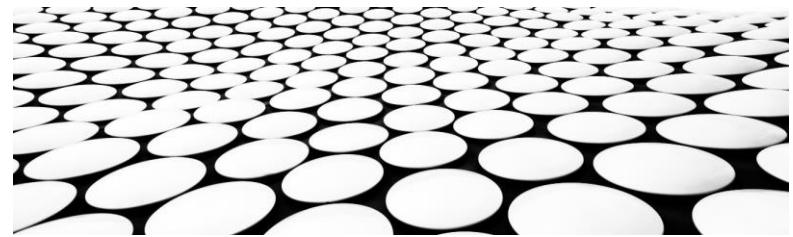


PART 4 – HIGH FIDELITY

- Present a second type of prototype: Mockups



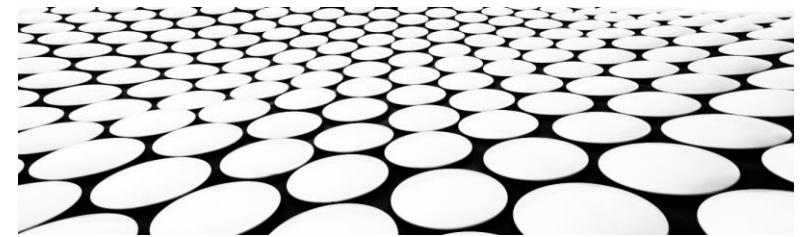
Interactive High-Fidelity Prototype



Very realistic prototype, allowing the user to interact with the system.

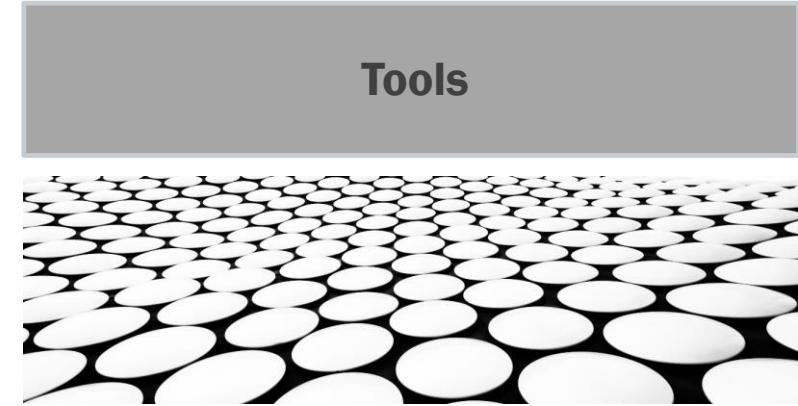
- Structure is present with a high resolution
 - Realistic "look and feel"
 - Screen layout is complete
 - Colors, fonts, icons present
- Navigation is present
 - Users can go through all planned tasks
- Error control/prevention
 - Clear messages or input constraints for error prevention
 - Users know what state they are in at all time

Interactive High-Fidelity Prototype



- Usability satisfaction
 - Definition of usability goals + tests
- Software simulation
 - With limited back-end (canned answers)
- Horizontal and vertical prototyping

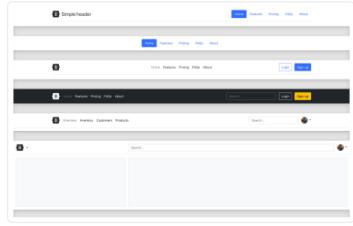
The screenshot shows the official Bootstrap website. At the top is a purple navigation bar with the Bootstrap logo (a white 'B' in a rounded square), followed by links for Home, Docs, Examples, Icons, Themes, and Blog. To the right of the navigation are social media icons for GitHub, Twitter, and others, along with a 'Download' button. The main content area features a large hero section with the heading 'Build fast, responsive sites with Bootstrap'. Below the heading is a descriptive paragraph about Bootstrap's features: 'Quickly design and customize responsive mobile-first sites with Bootstrap, the world's most popular front-end open source toolkit, featuring Sass variables and mixins, responsive grid system, extensive prebuilt components, and powerful JavaScript plugins.' At the bottom of the hero section are two buttons: 'Get started' (purple) and 'Download' (white). At the very bottom of the page, there is small text indicating the current version: 'Currently v5.1.3 · [v4.6.x docs](#) · [All releases](#)'.



<https://getbootstrap.com/>

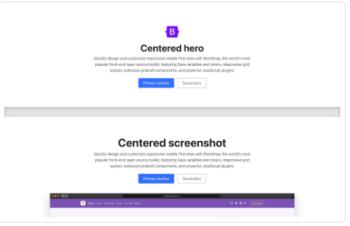
Snippets

Common patterns for building sites and apps that build on existing components and utilities with custom CSS and more.



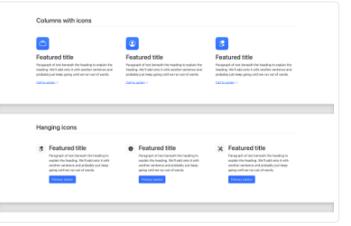
Headers

Display your branding, navigation, search, and more with these header components



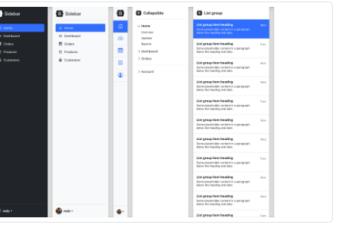
Heroes

Set the stage on your homepage with heroes that feature clear calls to action.



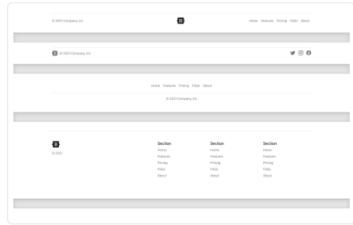
Features

Explain the features, benefits, or other details in your marketing content.



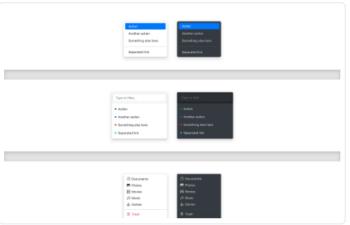
Sidebars

Common navigation patterns ideal for offcanvas or multi-column layouts.



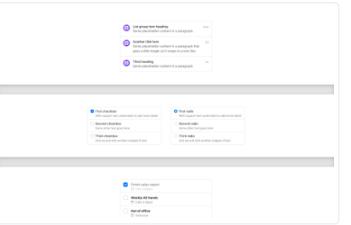
Footers

Finish every page strong with an awesome footer, big or small.



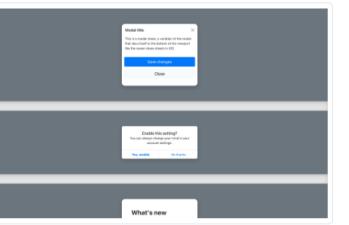
Dropdowns

Enhance your dropdowns with filters, icons, custom styles, and more.



List groups

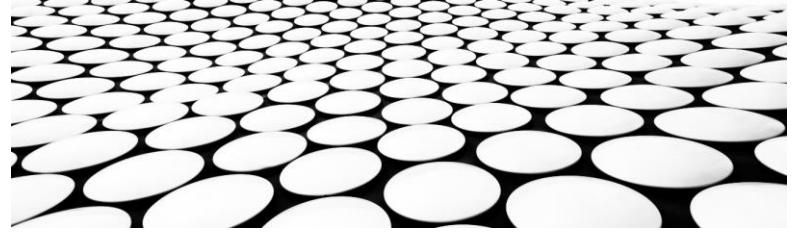
Extend list groups with utilities and custom styles for any content.



Modals

Transform modals to serve any purpose, from feature tours to dialogs.

Tools

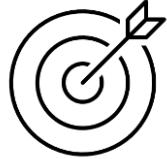




SUMMARY

Characteristic	Prototype: High-fidelity interactive
Coverage	All functionalities Exact layout (display elements) User input (constraints) System output (structure) Real data (or at least similar in scope) Help / Error capture
Medium and Tools used	Programming language
Fidelity	High

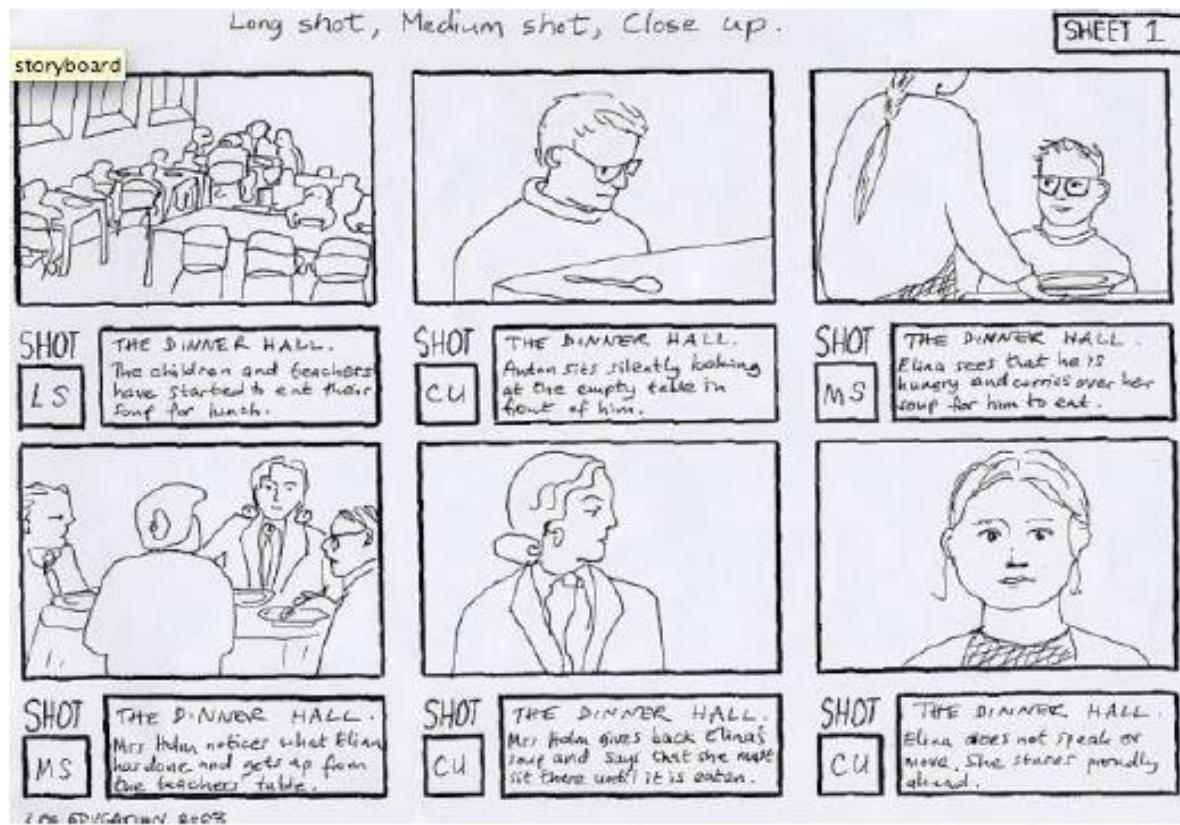
Part 5 Storyboards



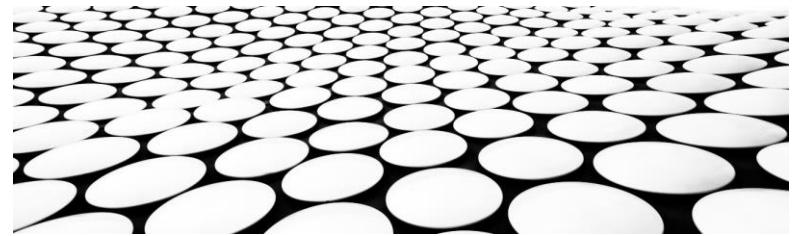
PART 5 – STORYBOARD

- Present storyboards and their limitations

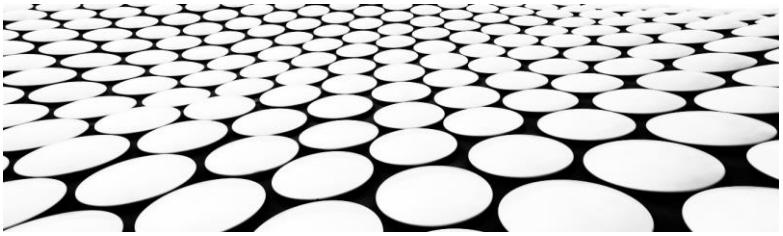
Inspiration from films.



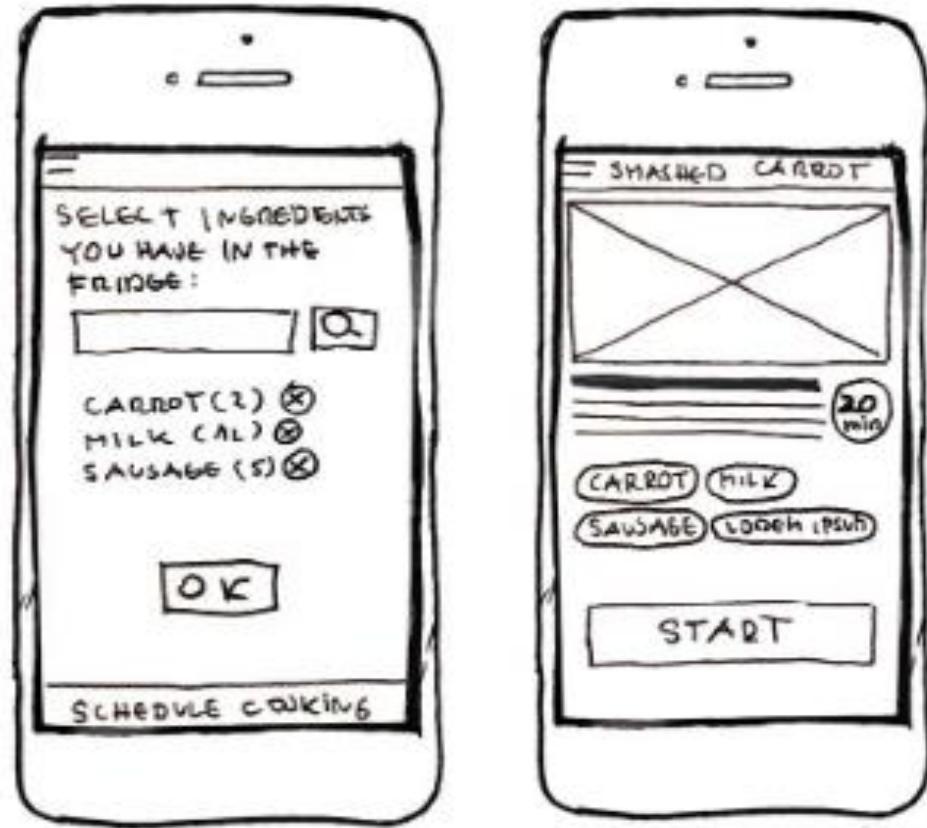
Storyboards



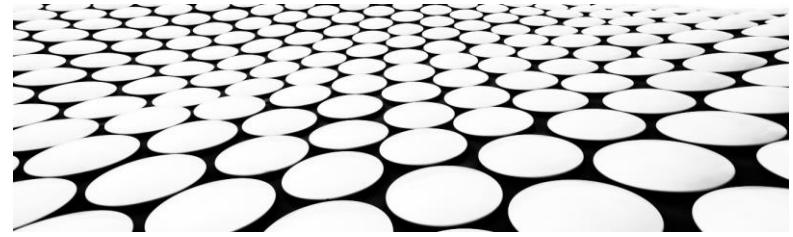
Personas on stage



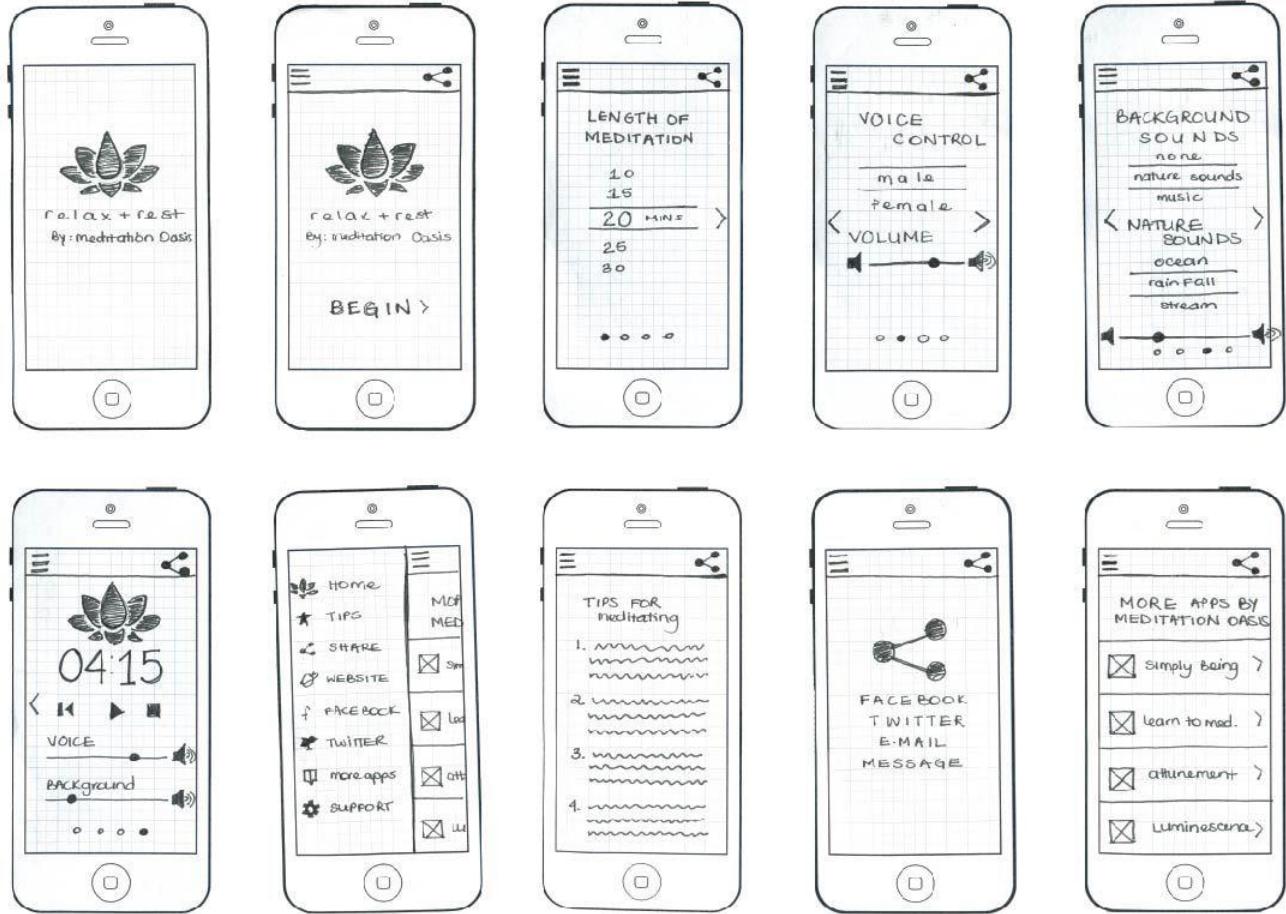
- A storyboard is a story about a user using the system
 - Inspired directly from task analysis
 - Must be concrete, realistic, but fictional
- Sets up a situation involving a user with a goal to achieve
 - Follows the user through the tasks and subtasks to satisfy the goal
- Using personas to simulate the goals/tasks is ideal



Simple story



Longer story



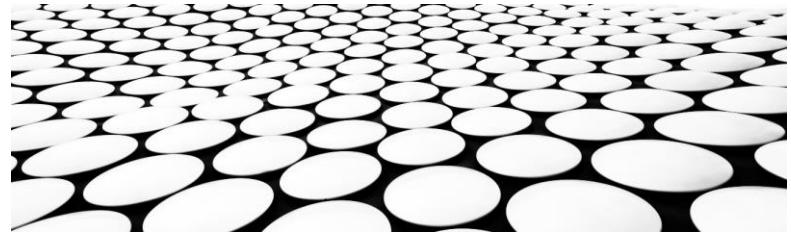


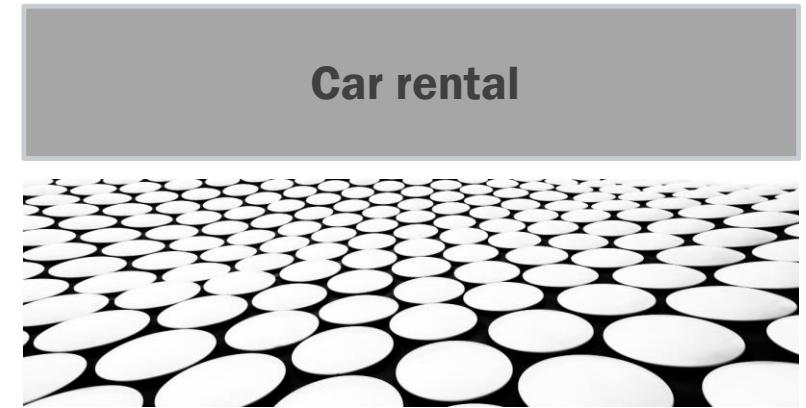
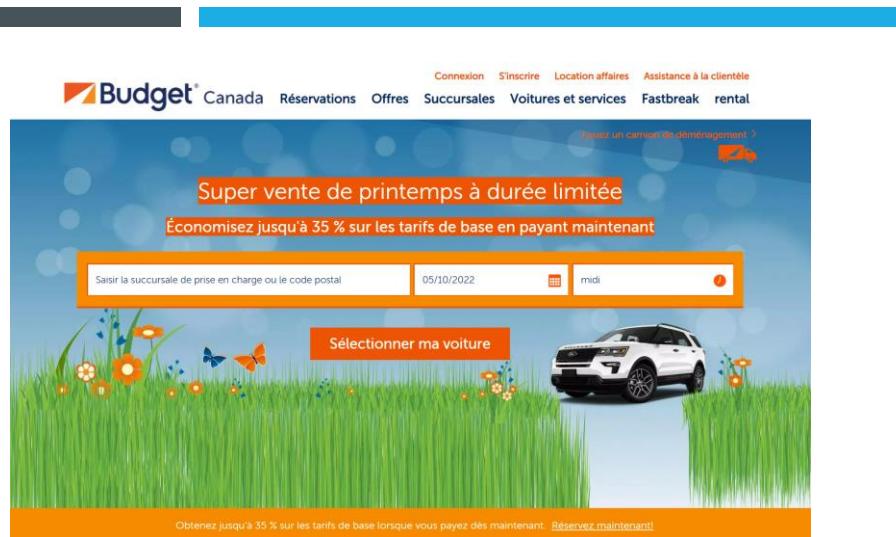
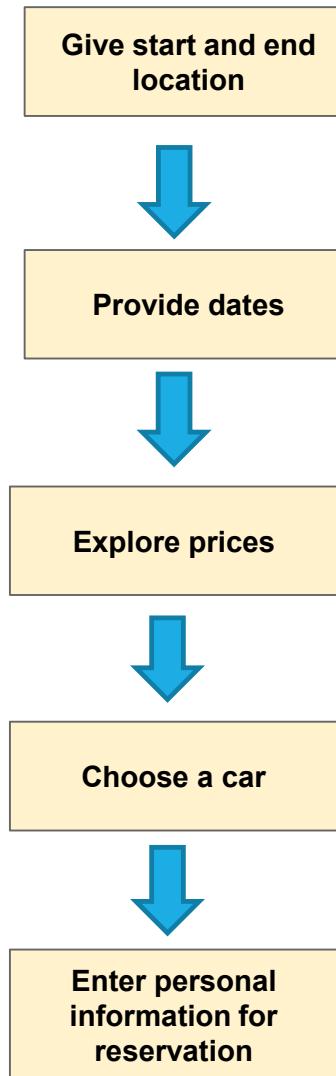
Aadi, 25 years old, very tall
Wants to go from Kingston to Ottawa every week for a university course. He is investigating if driving is a better option than taking the bus.

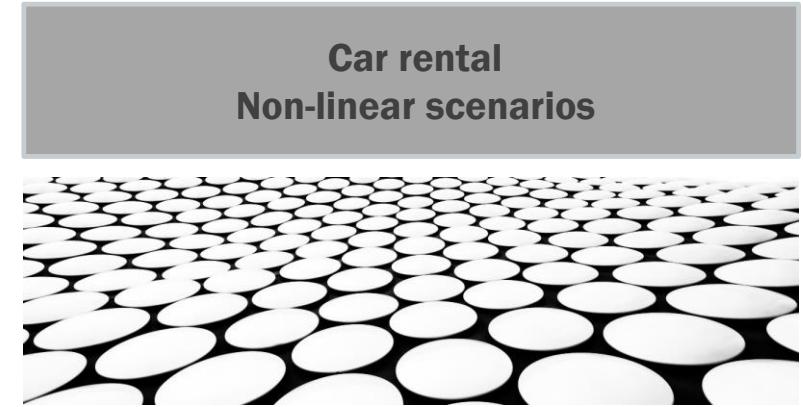
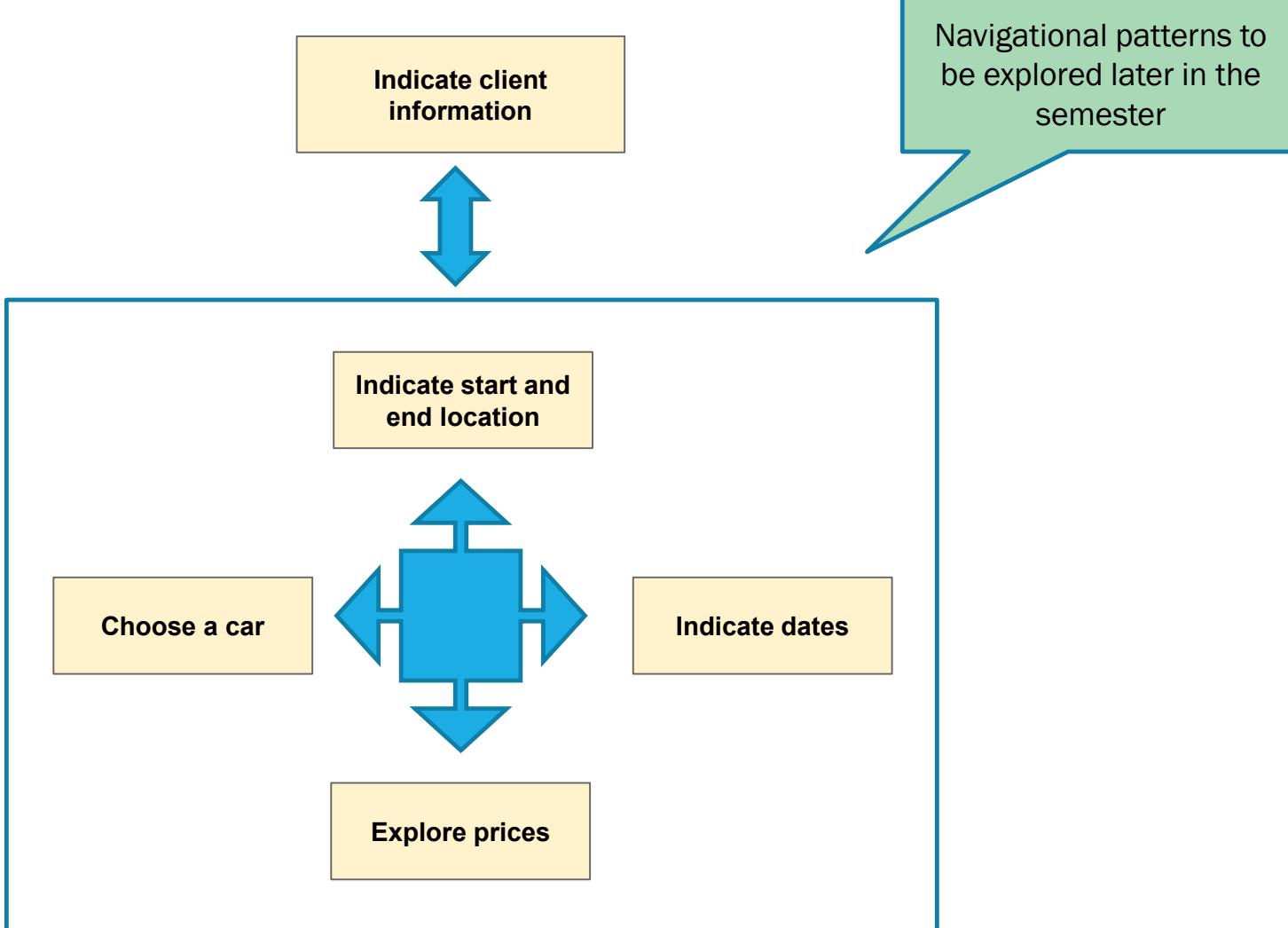
Zhenglin, 45 years old
Wants to drive from Halifax to Vancouver and fly back. She is afraid of getting lost, so wants a car that is equipped with a GPS.

Erica, 35 years old, lives in Ottawa
Wants to bring her family camping, cares about the environment, and is on a tight budget but flexible about when to go

Car Rental









SUMMARY

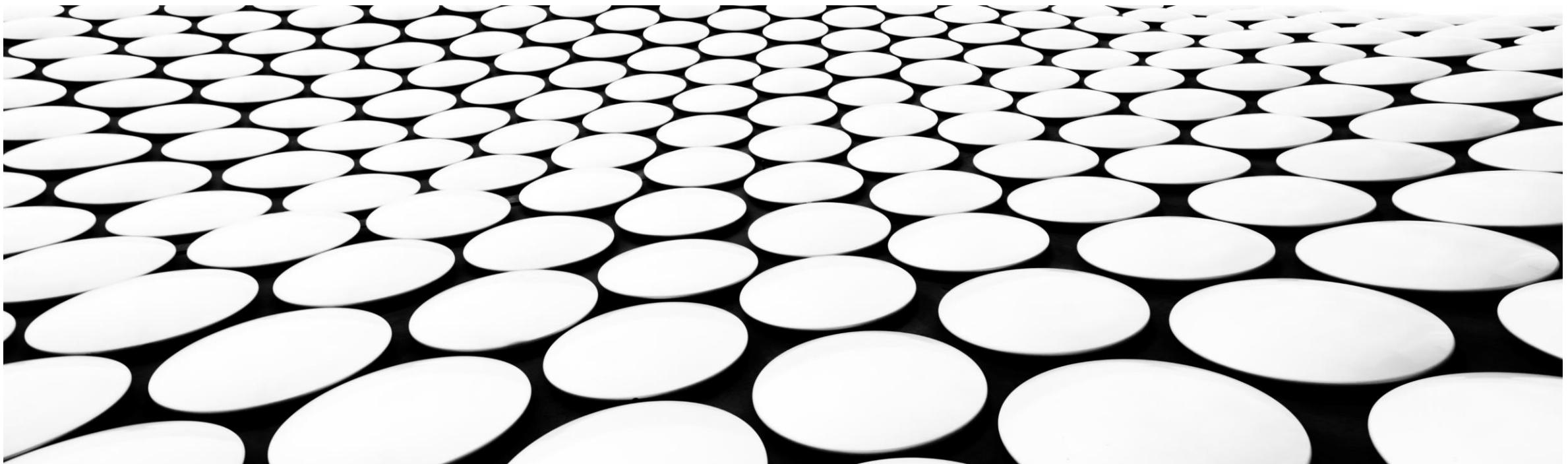
- Storyboards are inspired from films
- Storyboards provide a linear sequencing
- Most applications need to go beyond linear sequencing and will require navigational patterns to well address user needs



PROTOTYPING FOR HUMAN-COMPUTER INTERACTIONS

- Part 1 – Prototyping in UCD
- Part 2 – Sketches
- Part 3 – Mockups
- Part 4 – High-Fidelity Interactive Prototypes
- Part 5 – Storyboards

USER-CENTERED DESIGN

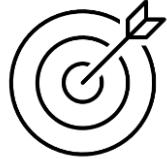




USER-CENTERED DESIGN

- Part 1 – Introduction
- Part 2 – Users
- Part 3 – Environments
- Part 4 – Goals and Tasks
- Part 5 – Implementation of UCD

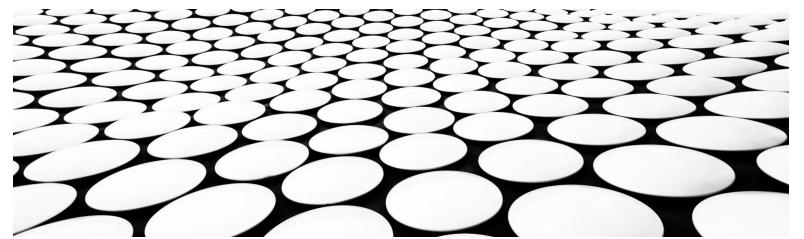
Part 1 Introduction



PART 1 - INTRODUCTION

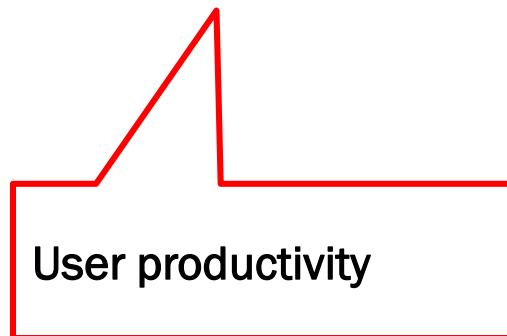
- Introduce User-Centered Design (UCD)
 - Motivation, Origin, Goals, Principles
- Introduce the components in UCD: users, environments, goals and tasks

MOTIVATION

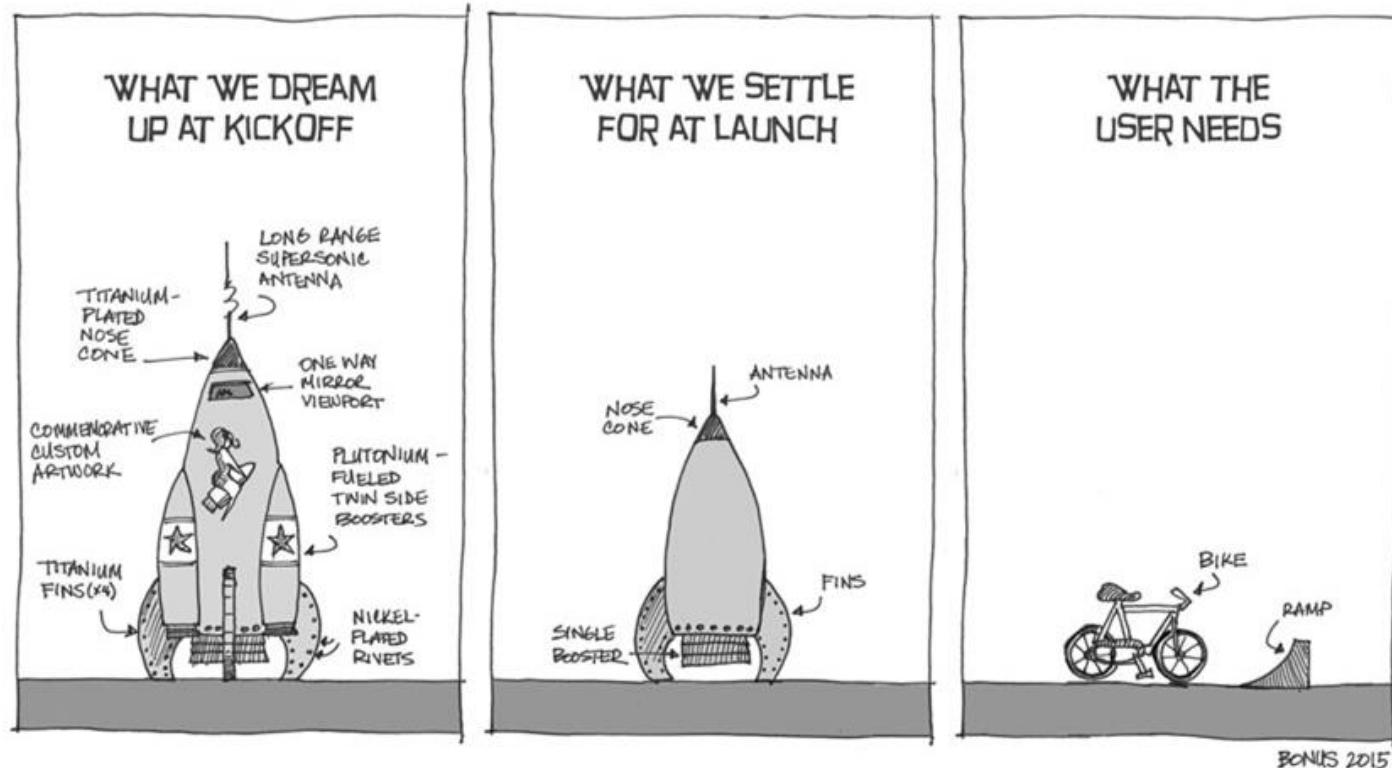


How to design user interfaces that:

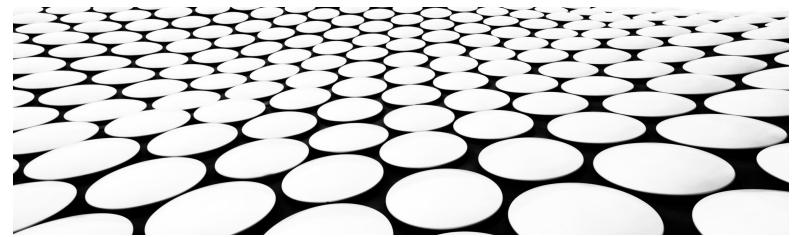
- Focus on users needs
- Allow users to efficiently accomplish their tasks



What are the **REAL NEEDS** of users?



MOTIVATION





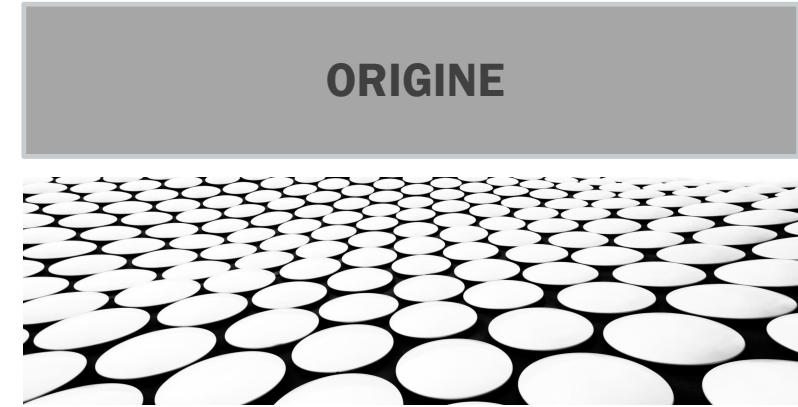
- Approach launched by Donald Norman's laboratory, UCSD
- The approach became widely popular following the publication of his book *User-Centered System Design: New Perspectives on Human-Computer Interaction* in 1986

Don Norman



Norman in 2005

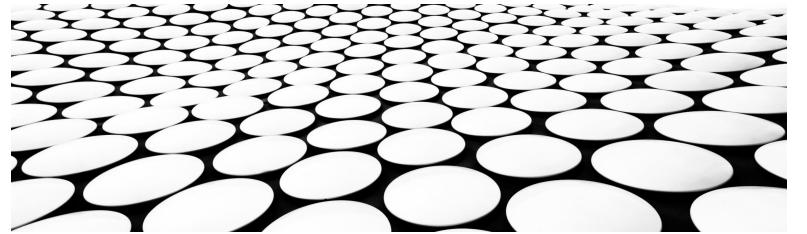
Born	Donald Arthur Norman
	December 25, 1935 (age 87)
Nationality	American
Alma mater	MIT University of Pennsylvania
Known for	<i>The Design of Everyday Things</i> Cognitive ergonomics User-centered design





Develop a design framework allowing interaction designers to build
more realistic systems that are easier to use and that better meet the
needs of users.

GOAL





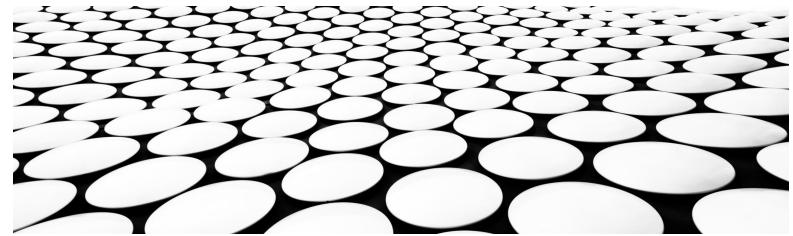
ISO

ICS > 13 > 13.180

ISO 9241-210:2019

Ergonomics of human-system interaction
— Part 210: Human-centred design for
interactive systems

ISO STANDARD



REVISIONS / CORRIGENDA

Previously

ISO 13407:1999

Now withdrawn

ISO 9241-210:2010

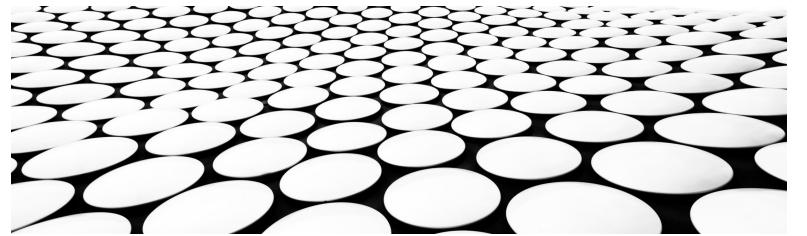
Revised by

ISO 9241-210:2019



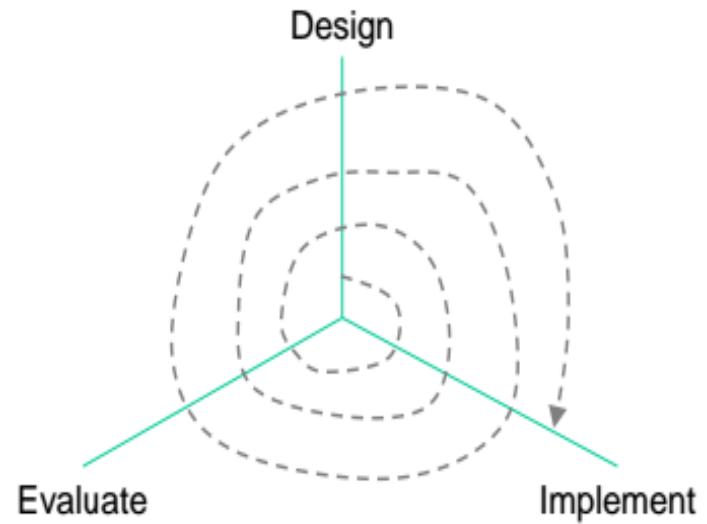
- **Iterative design:**
 - Design, prototype, evaluate, redesign
- **Focus on users:**
 - Study cognitive, behavioral and attitudinal characteristics
- **Focus on tasks:**
 - Define and understand user tasks

PRINCIPLES

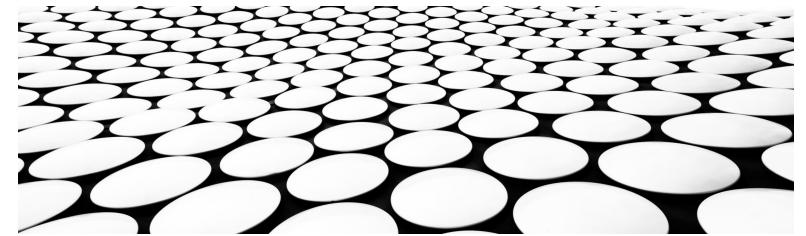




Spiral Model



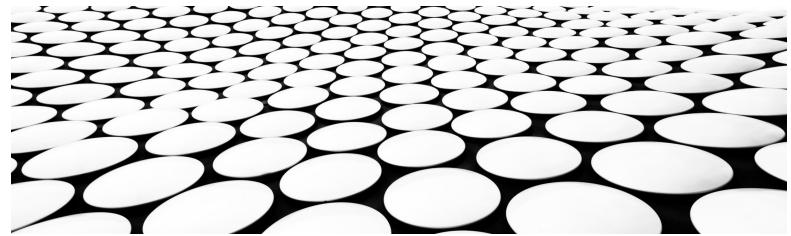
SPIRAL MODEL





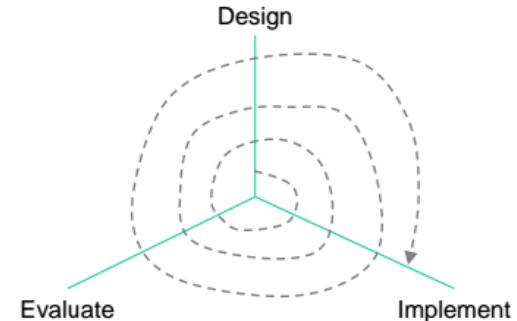
- Admit to ourselves that we will not get it right on the first try
- Make early iterations as cheap as possible
 - paper prototyping
- Results of the evaluation will inform our design (rather than preconceived opinions)
- Must ensure that designers do not get emotionally attached to a design

SPIRAL MODEL

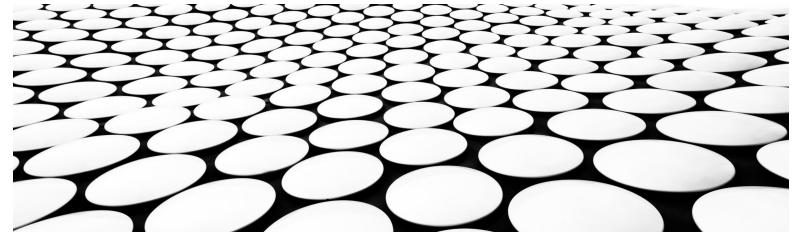




Spiral Model



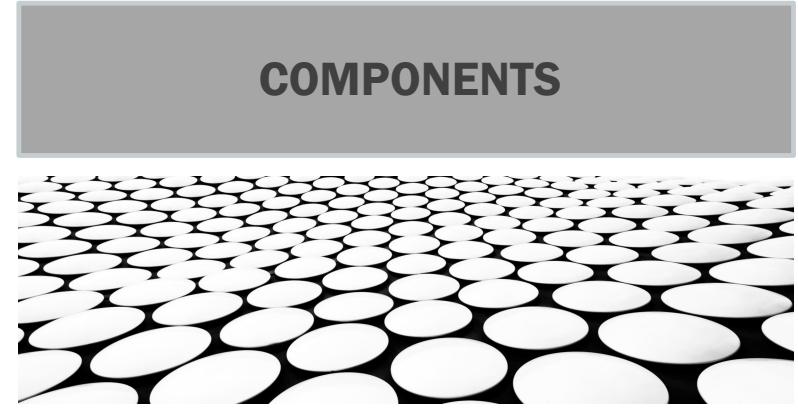
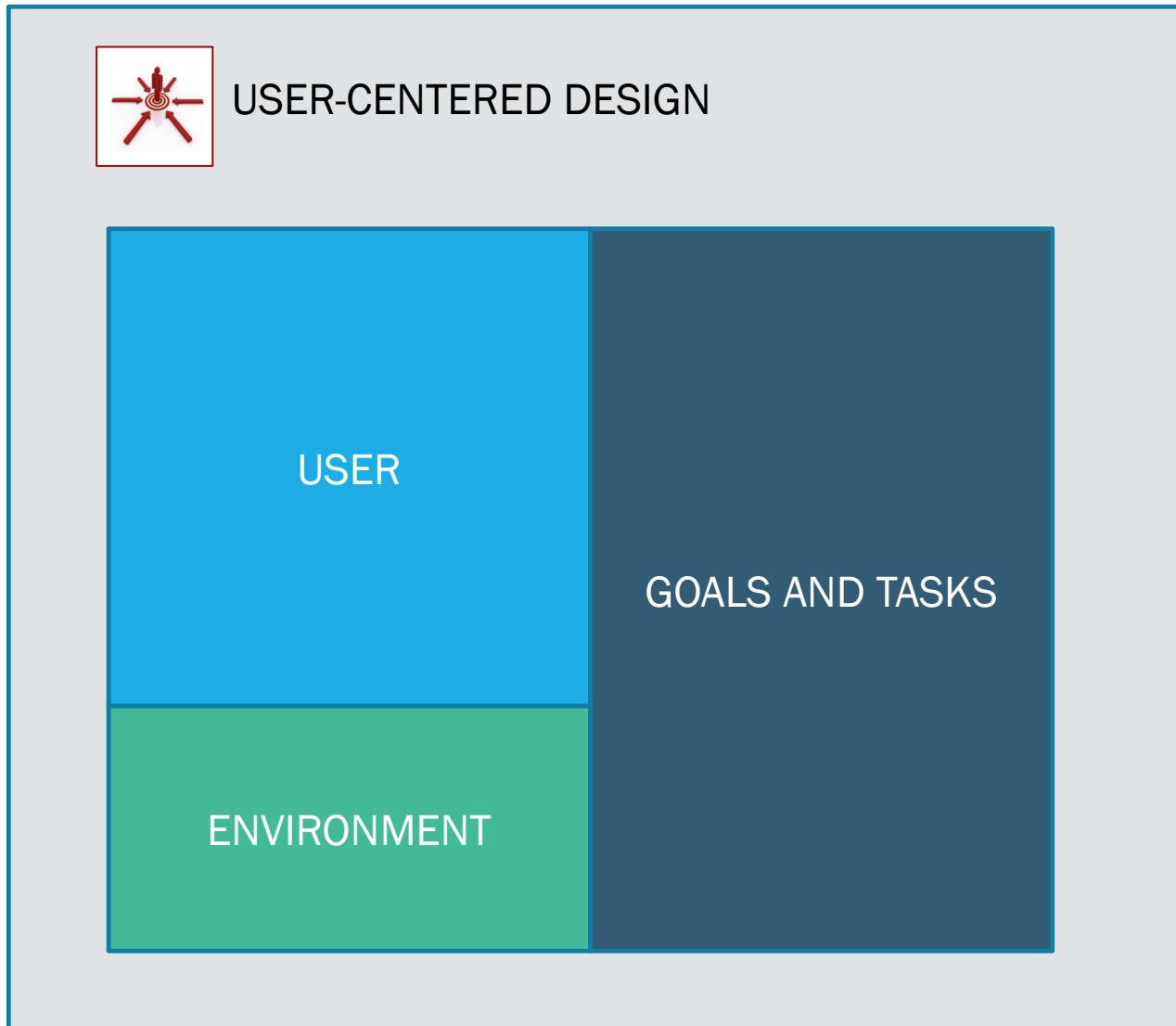
SPIRAL MODEL



When do we stop?

- When the obtained results are satisfying
- When the usability goals have been achieved
- Until you run out of money....

Learning some design guidelines should help reduce the number of iterations...

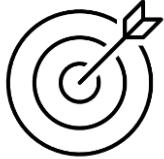




SUMMARY

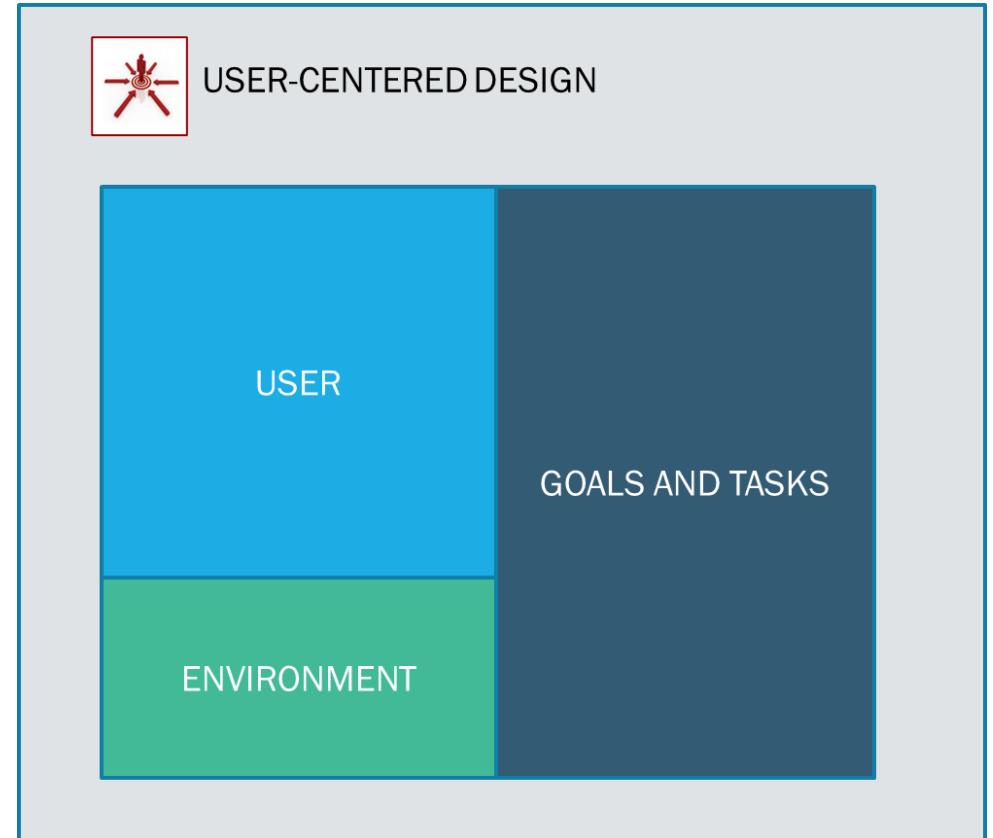
- User-Centered Design (UCD) was first proposed by Don Norman in the 1980s, and is still widely used today.
- UCD has been subject to ISO standards since 1999, the last revision being of 2019
- Spiral model at the heart of the UCD
- Three components in UCD (users, environments, goals and tasks)

Part 2 Users



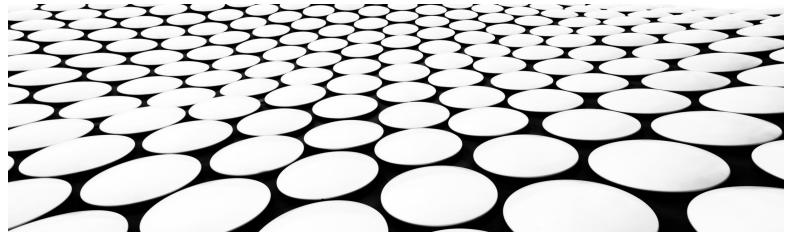
PART 2 – USERS

- Discuss how user characterization is important in industry
- Present different characterizations of users
- Introduce the concept of *Personas*



MOBILE PHONE INDUSTRY

The Seven Types Of iPhone Owners



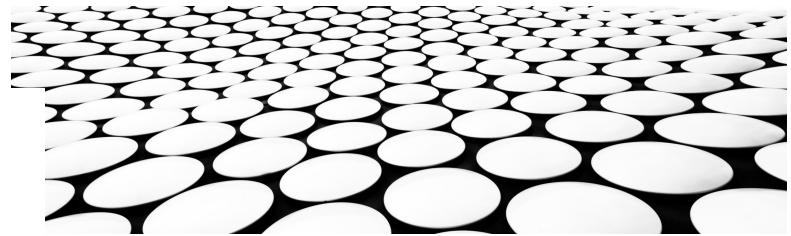


The Fanboy

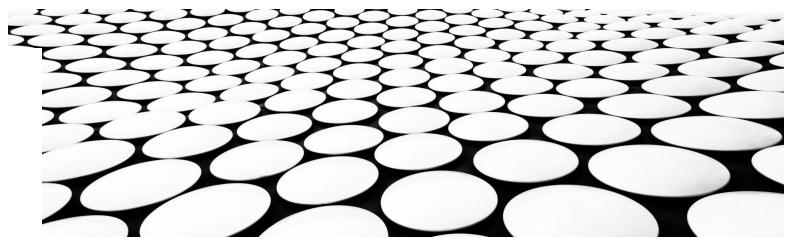
The Fanboy is excited about everything Apple. He owns every previous version of the iPhone, and he buys the latest iPhone on launch day - every year. He proudly wears an Apple t-shirt, bought off of eBay from a disgruntled former Genius Bar technician. So often you suspect he's not laundering it in order to prevent it from fading.

The Fanboy loves how his iPhone "just works" with his HomePod, Apple TV, iPad, iMac, Macbook Air, and his Apple Watch. He proudly wears his Apple Airpods everywhere he goes.

MOBILE PHONE INDUSTRY



MOBILE PHONE INDUSTRY



The Unappreciative

This particular iPhone owner got the phone because it was trendy and her parents were buying. She's not fully aware of the raw computing capability in her hand, and she probably wouldn't care anyway. She had to buy a car charger from a gas station because she got lost and never learned to read a map.

She has never bought an app, doesn't use a case, and complains about how fast the battery drains.



Different Types Of Social Media Users (CLAMRL)

by justadandak.com

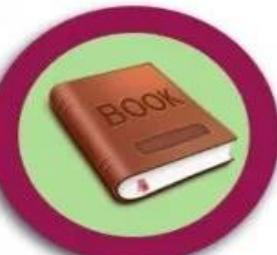
Conversationalists

Focussed on:
connecting and talking with like-minded souls whilst sharing all aspects of their lives / thoughts etc



Learners

Focussed on:
connecting & applying ideas: the bloggers, bookmarkers, developers of skills / understanding.



Aggregators

Focussed on:
scrapbooking the web: Tumbling / Pinning / posting / RTing the hell out of anything & everything.



Marketeers

Focussed on:
filling streams with mainly content designed to sell services / products: social is just a route to market.



Researchers

Focussed on:
scraping content / actions into spreadsheets to quantify / dissect: hunters of numbers / case studies.

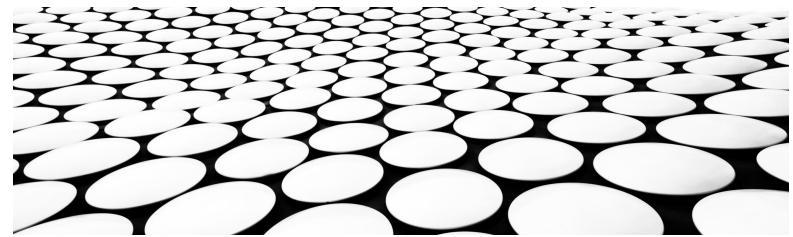


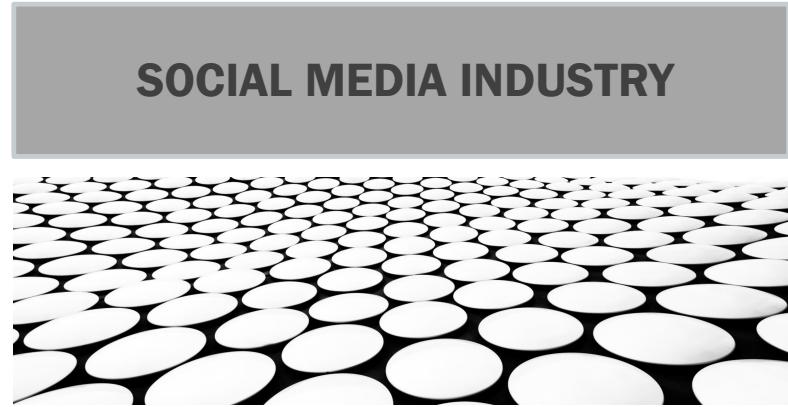
Lurkers

Focussed on:
visiting during lunch or bus rides: rarely contribute and when they do it's an afterthought.



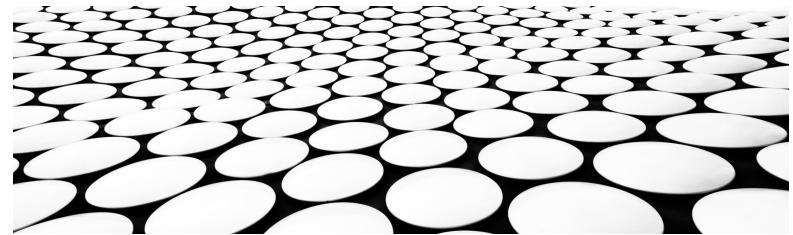
SOCIAL MEDIA INDUSTRY

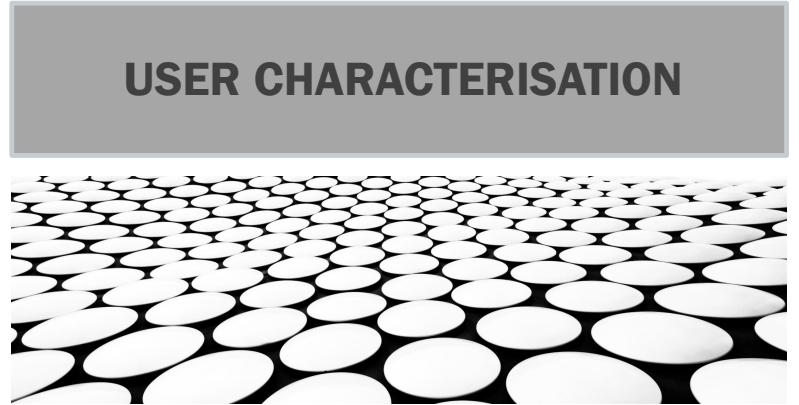
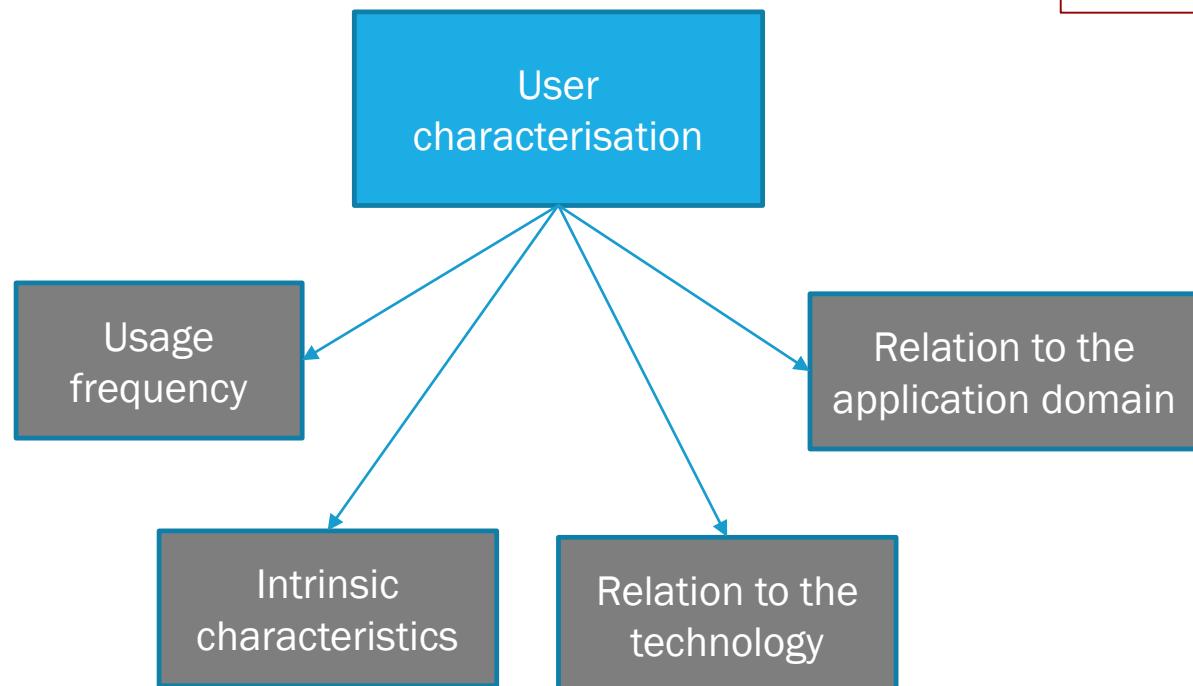






GAME INDUSTRY



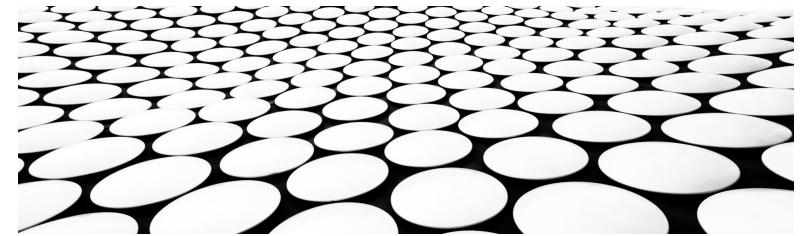


Three categories of users (Eason, 1987):

- primary: frequent hands-on
- secondary: occasional or via someone else
- tertiary: affected by its introduction, influence some decisions



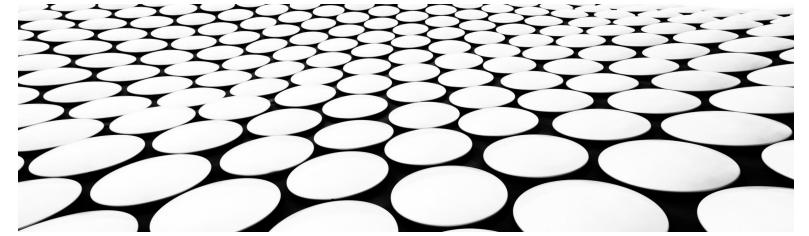
USAGE-BASED



- Age, gender
- Language, culture
- Education (reading and math skills)
- Physical limits or handicap

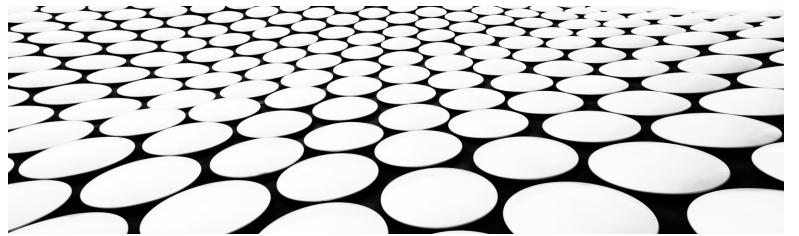


INTRINSIC QUALITY



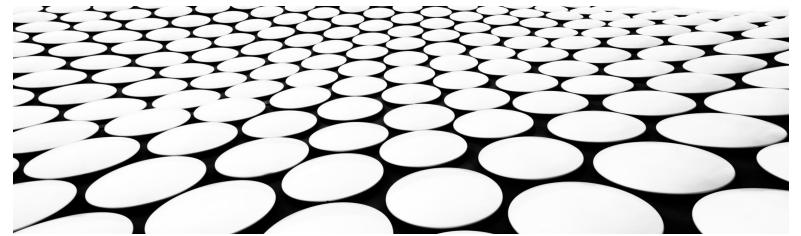
We will come back in a later lecture to this important topic of inclusion and accessibility.

- Computer experience (typing, pointing)
- Experience in the field
- Experience with the application
- Motivation, attitude
- Emotional reaction



RELATION TO DOMAIN AND TECHNOLOGY

PERSONAS



- Instead of population as a whole, refine into groups of users, eventually define different "typical" users
- A **persona** is a fictitious character used as a specific representative of a user class



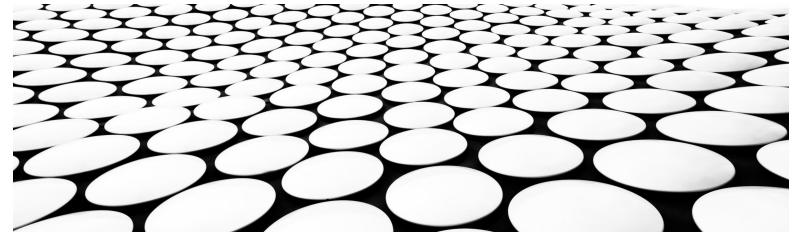


Bob

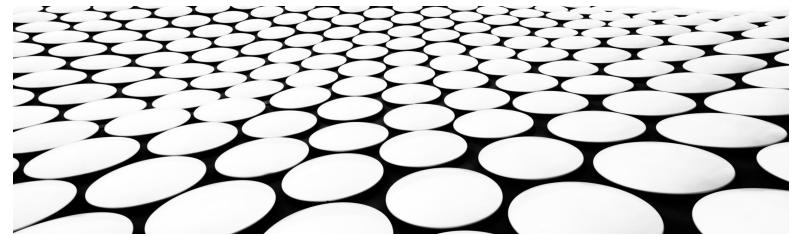
Name	Bob
Age	18 years old
Language	Anglophone
Occupation	Student
Physical Limitations	None
Education	Undergraduate
Computer experience	Not so much, uses phone apps
Experience with application	Yes
Emotional reaction	Stressed
Motivation	Quickly obtain cash to pay his lunches



PERSONAS



PERSONAS



- Advantages
 - Convenient handle for talking about user classes
 - Focuses on typical user, rather than extreme
 - Discourages the common design error of describing what your ideal users should be, rather than what they actually are
 - Encourages empathy
- Disadvantages
 - May be misleading
 - Stereotype trap

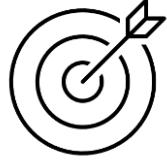




SUMMARY

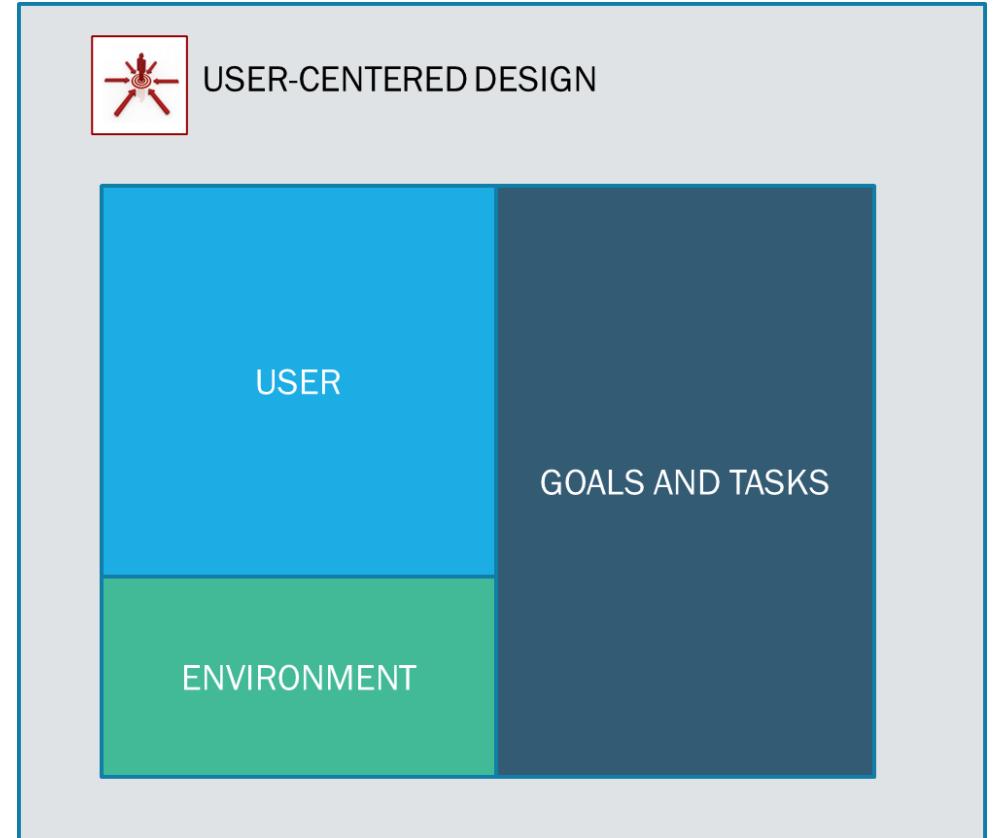
- Different possible characterizations of a user:
 - By use
 - By intrinsic characteristics
 - By relation to the domain
 - By relation to the technologies
- **personas** are an integral part of User-Centered Design

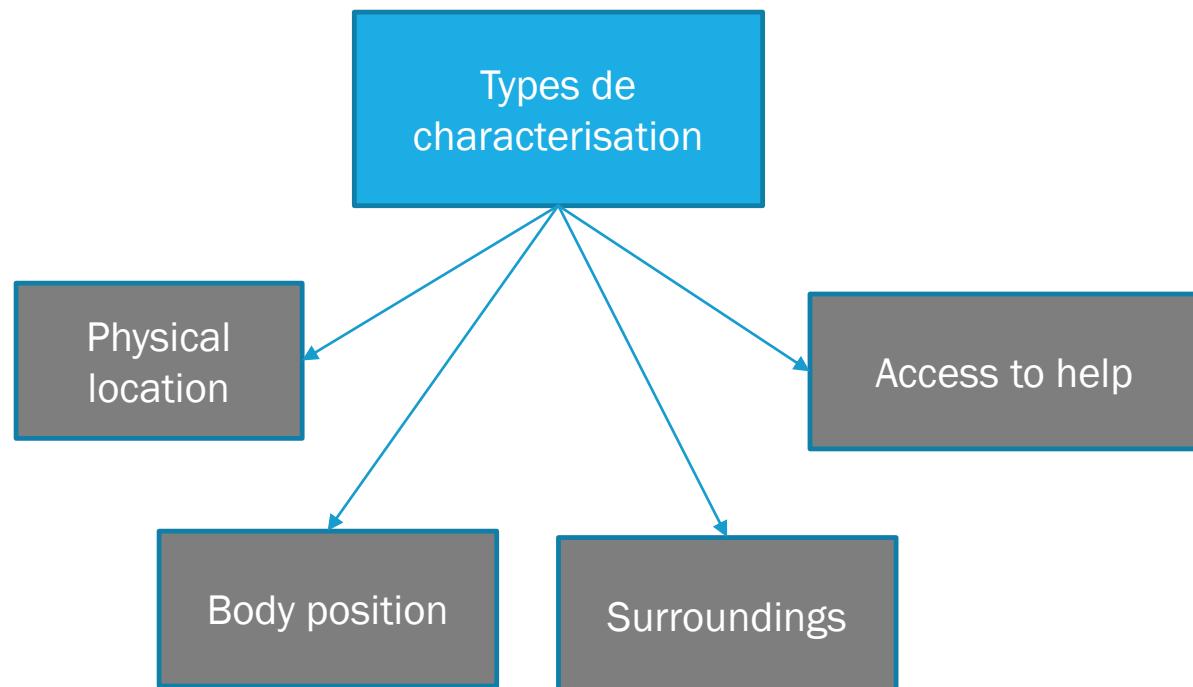
Part 3 Environment



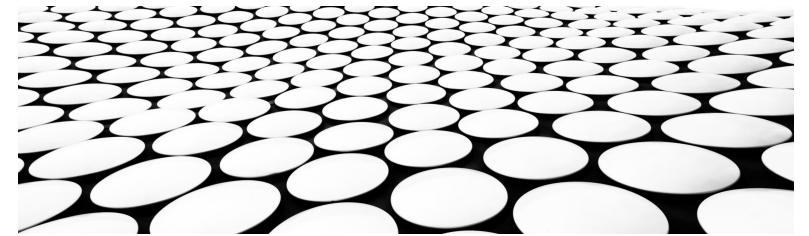
PART 3 - ENVIRONMENT

- Present different characterizations of environments





ENVIRONMENT CHARACTERISATION

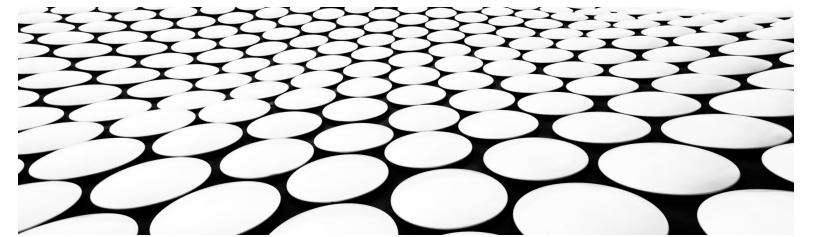


Where is the user located?

- At a kiosk
- On a building site
- In an operating room
- At home



PHYSICAL LOCATION

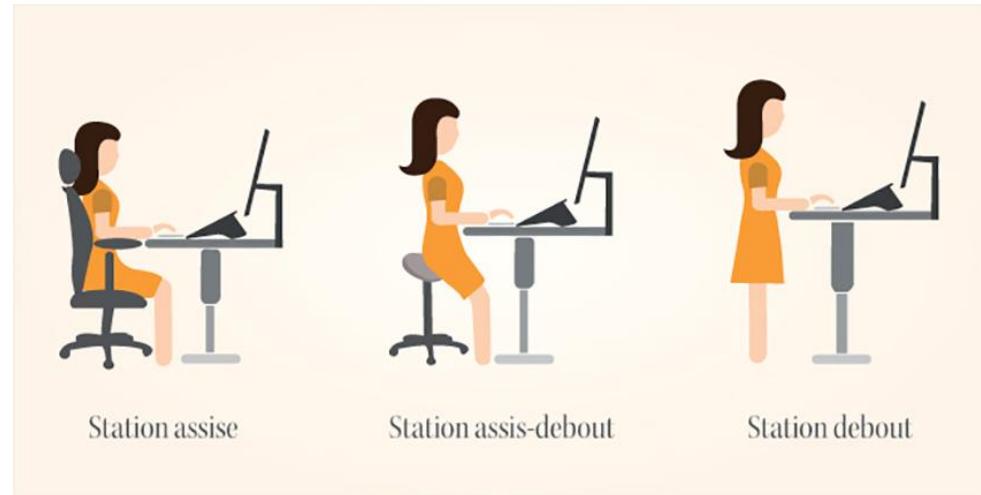
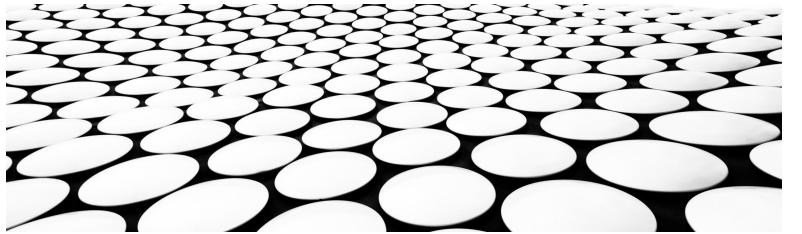


How is the user positioned?

- Standing
- Seated

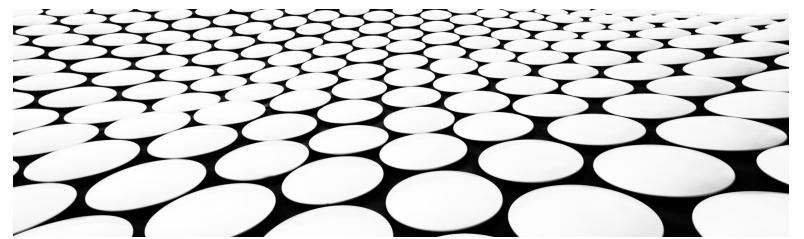


BODY POSITION





SURROUNDINGS



Elements describing the user's surroundings:

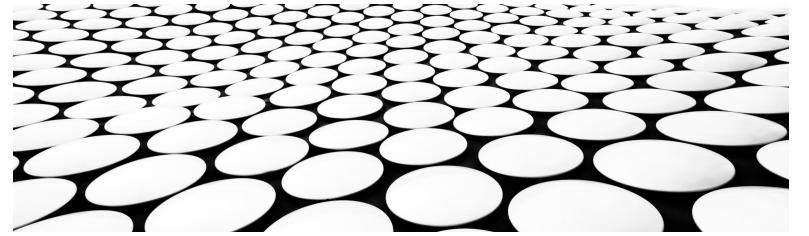
- Cleanliness level
- Danger level
- Privacy level
- Level of distraction
- Noise level

Is there anyone around to help?

- Access to family members
- Community
- Isolation



ACCES TO HELP



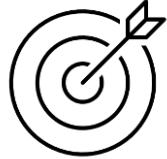


SUMMARY

- An overview of characterization of environments
- User Centered Design will take the environment into account as an aspect that could impact user productivity.

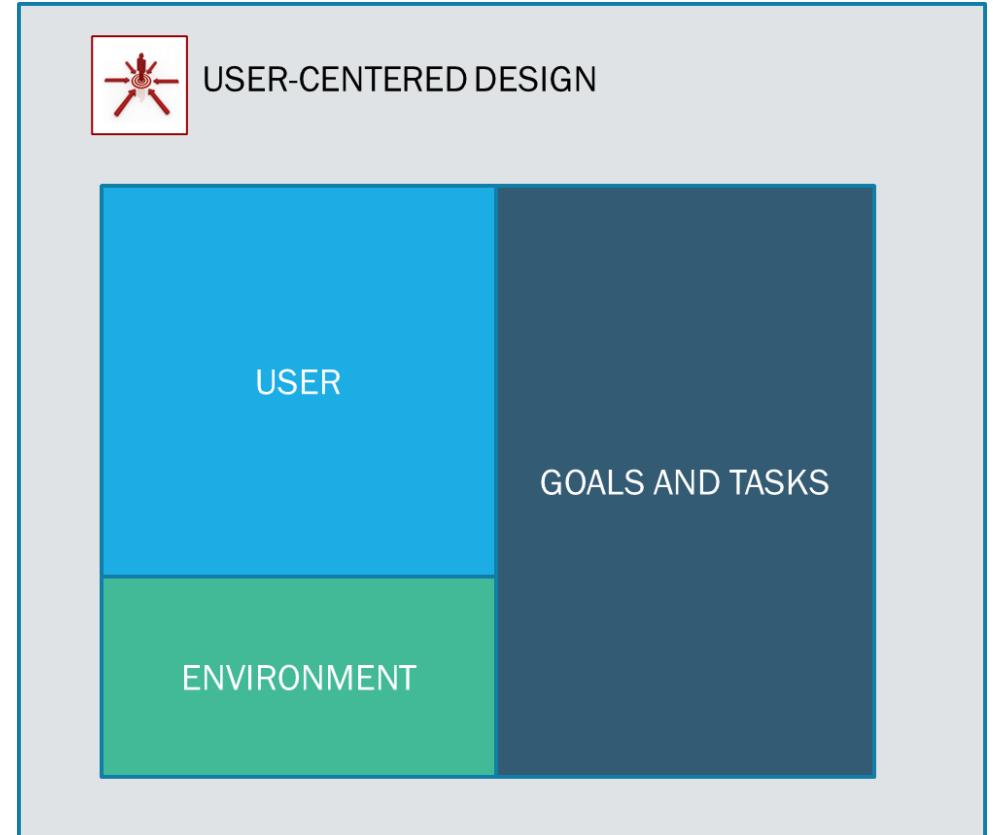
Part 4

Goals and Tasks



PART 4 – GOALS AND TASKS

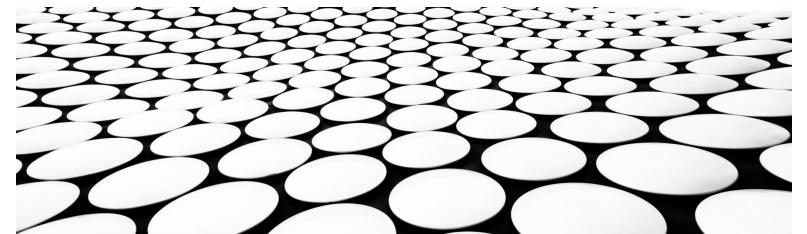
- Present the difference between goals and tasks
- Introduce the concept of hierarchical development of tasks



A goal is what we want to achieve or the state we want to reach, without it being in terms of operations linked to a computer tool.



GOALS

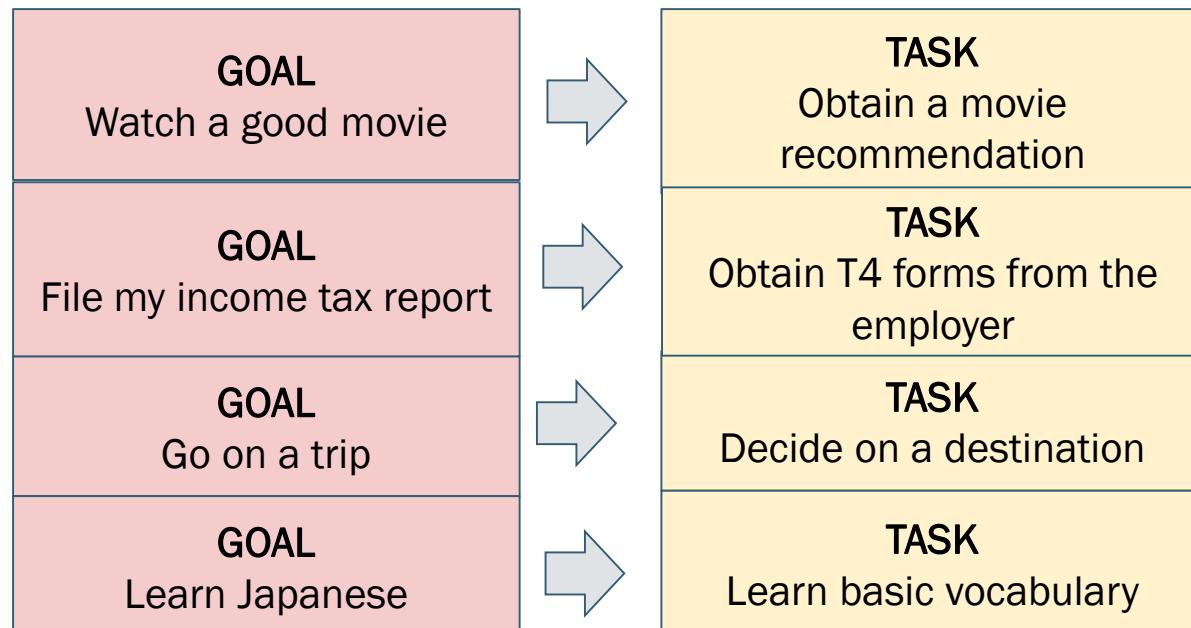
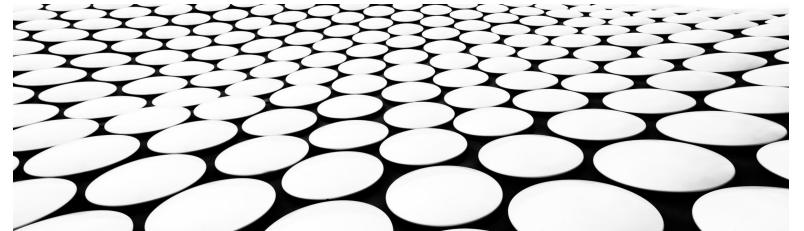


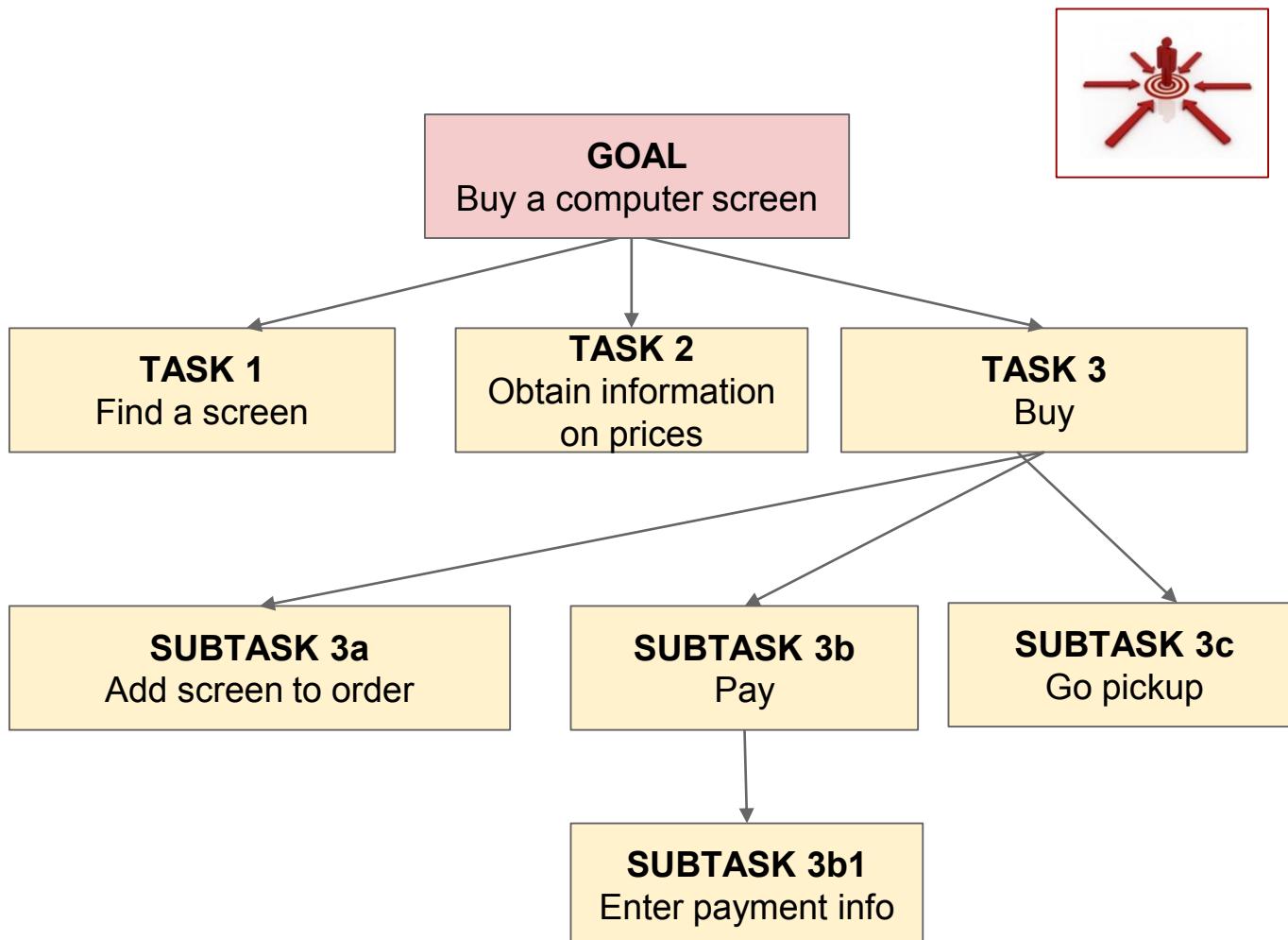
GOAL Watch a good movie
GOAL File my income tax report
GOAL Go on a trip
GOAL Learn Japanese

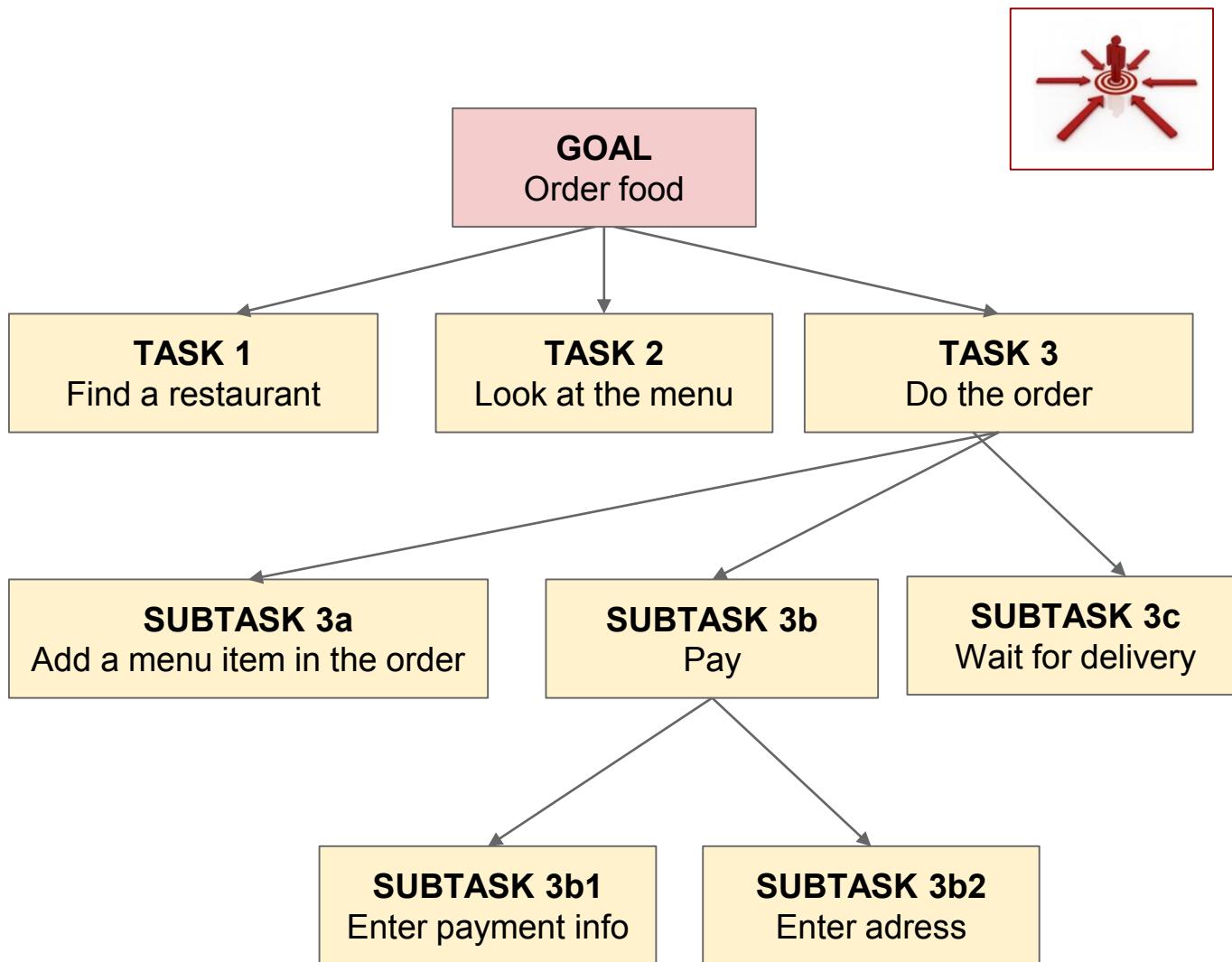
A task is a specific step in connection with achieving a goal.



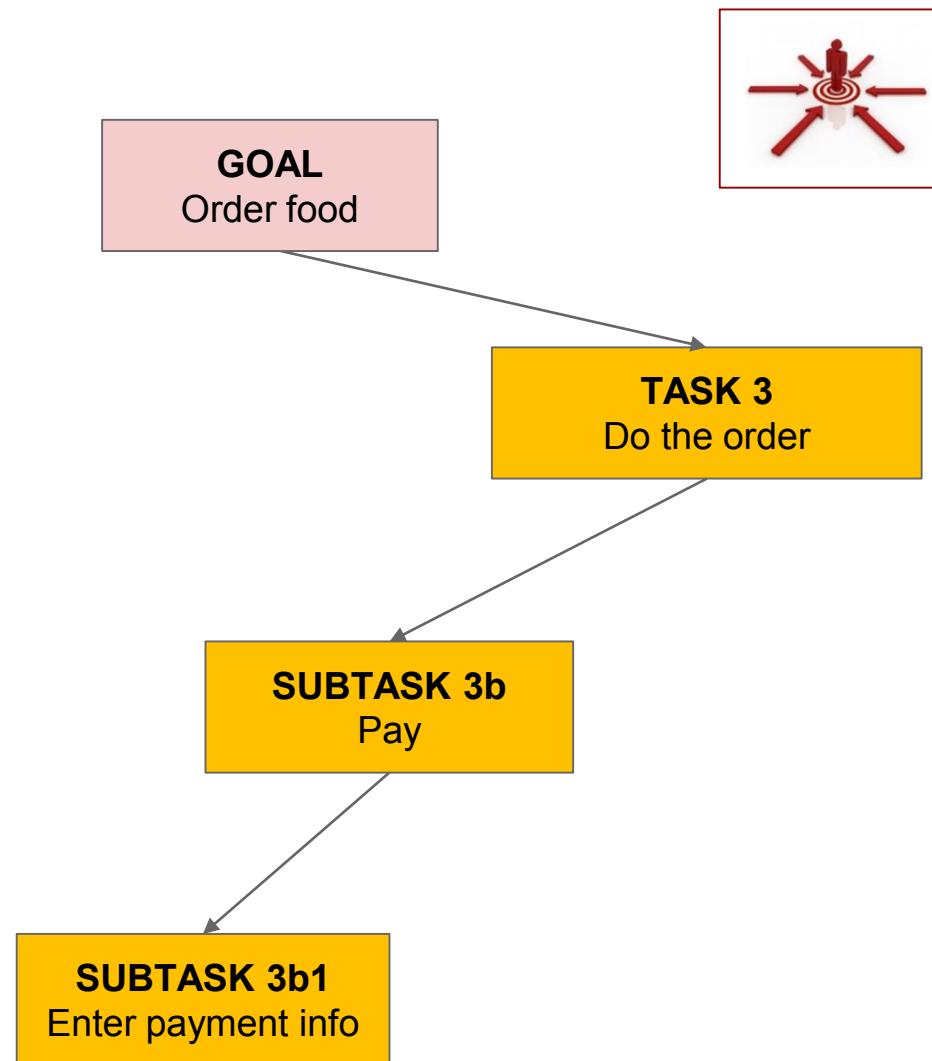
TASKS



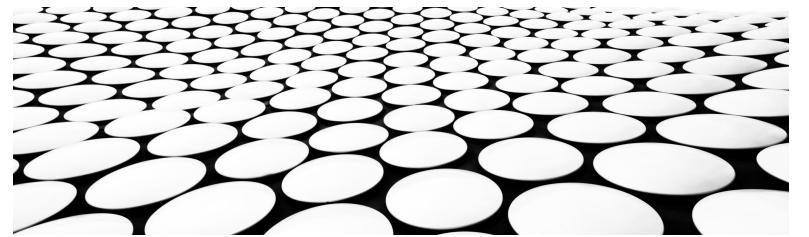




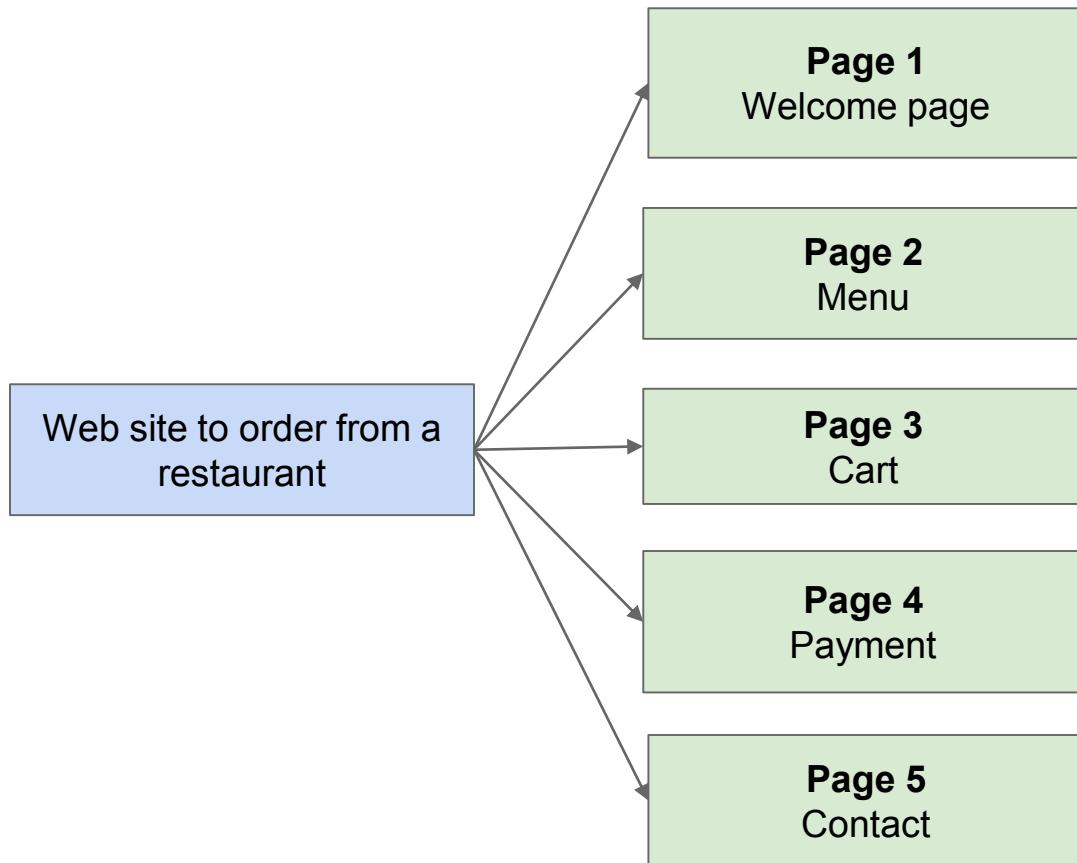
TASKS AND SUBTASKS



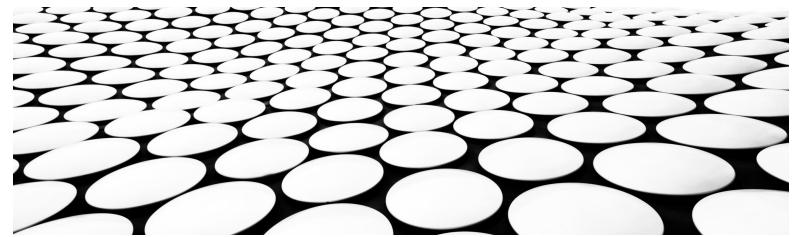
REUSABILITY OF SUBTASKS



Design NOT based on users and their tasks.



PAGE-BASED DESIGN

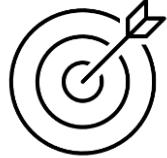




SUMMARY

- Goals represent target states and are technology independent
- Tasks are related to technology and are steps to reach a goal
- It is important to break down tasks into subtasks.
- A page-based design is not a user-centered design

Part 5 Implementation



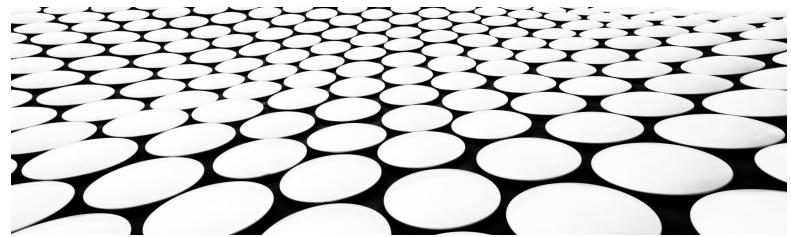
PART 5 – IMPLEMENTATION

- Put together all the steps to implement the User-Centered Design approach



1. Determine user groups or Personas
2. Create a set of goals for each persona, as well as a typical environment in which they would try to accomplish these goals
3. For each persona/goal:
 - Create a list of all tasks the users need to execute
4. Gather all tasks:
 - See if some tasks defined for different personas are actually the same
 - Merge/Reduce

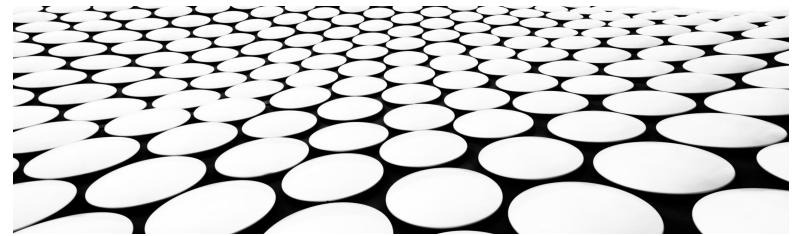
IMPLEMENTATION OF THE MODEL

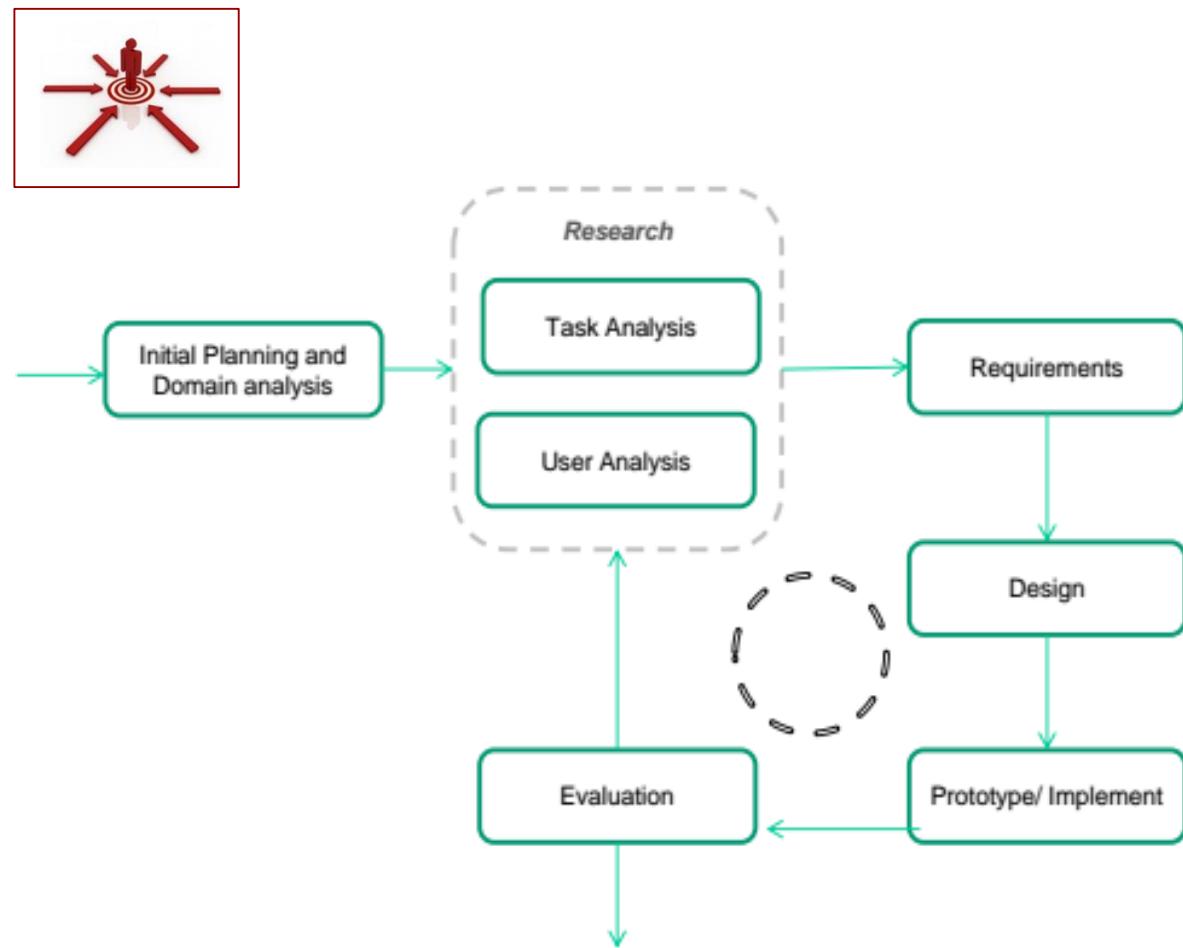


5. Characterize each task:
 - Frequency of the task ?
 - Weekly, monthly
 - What are the time constraints for the task?
 - People might be pressed for time
 - How is the task learned ?
 - Try/Error or asking staff
 - What can go wrong ?
 - What are the preconditions to performing the task

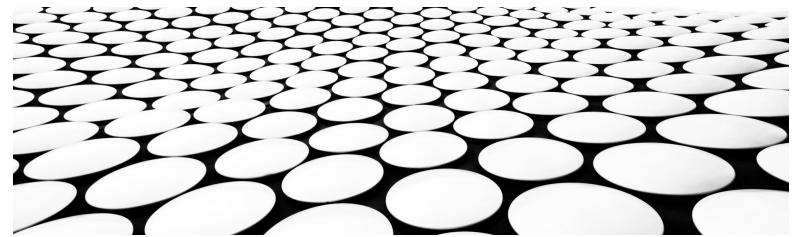


IMPLEMENTATION OF THE MODEL





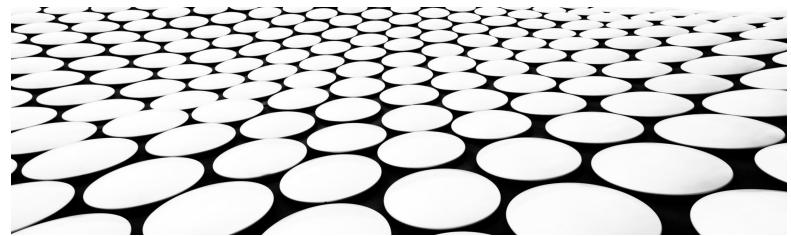
« USER RESEARCH »





- Wrong point of view: thinking from the system's point of view
 - System: Notify user about appointment
 - User: Get a notification about appointment
- Think too soon about feasibility:
 - Trade-offs between users goals and implementation feasibility may be inevitable, but we do not yet consider them...
- Thinking too early about a design vision
 - For example: system will display a reminder popup window one day ahead of an appointment (perhaps after persona analysis we realize this will not be useful)

COMMON ERRORS





SUMMARY

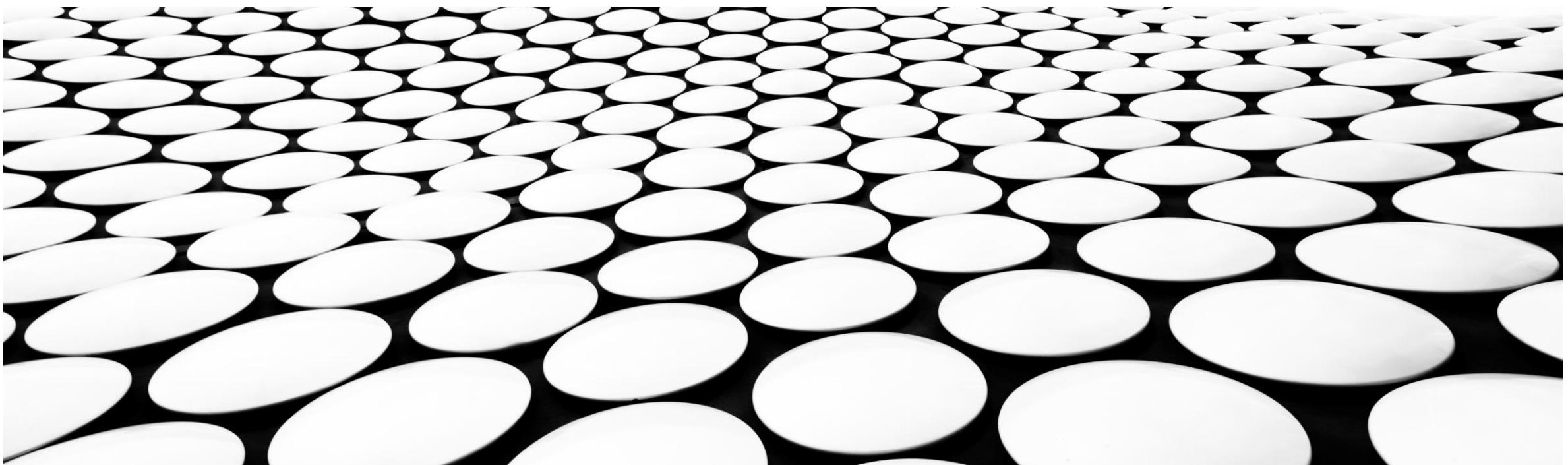
- When designing a system, the User Centered Design puts the user at its center, and tries to understand his/her characteristics, his/her environment, goals and tasks.
- User Centered Design has multiple steps to arrive at a definition of multiple simple tasks that will be incorporated in the software.



END OF SERIE: USER-CENTERED DESIGN

- Part 1 – Introduction
- Part 2 – Users
- Part 3 – Environments
- Part 4 – Goals and Tasks
- Part 5 – Implementation of UCD

VERBAL AND VISUAL COMMUNICATION

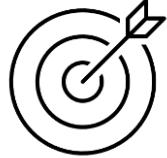




VERBAL AND VISUAL COMMUNICATION

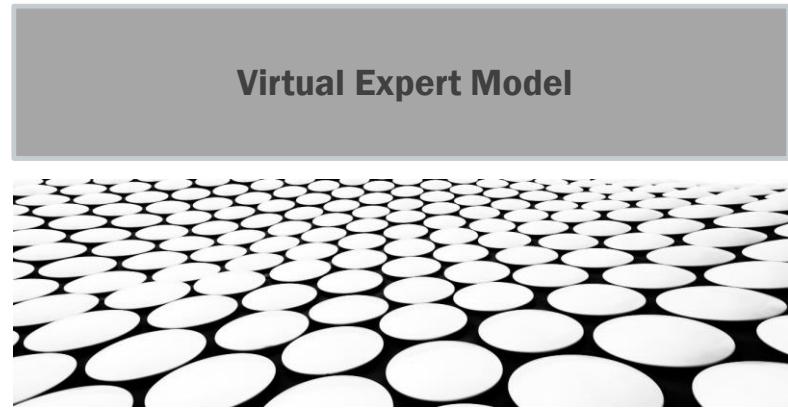
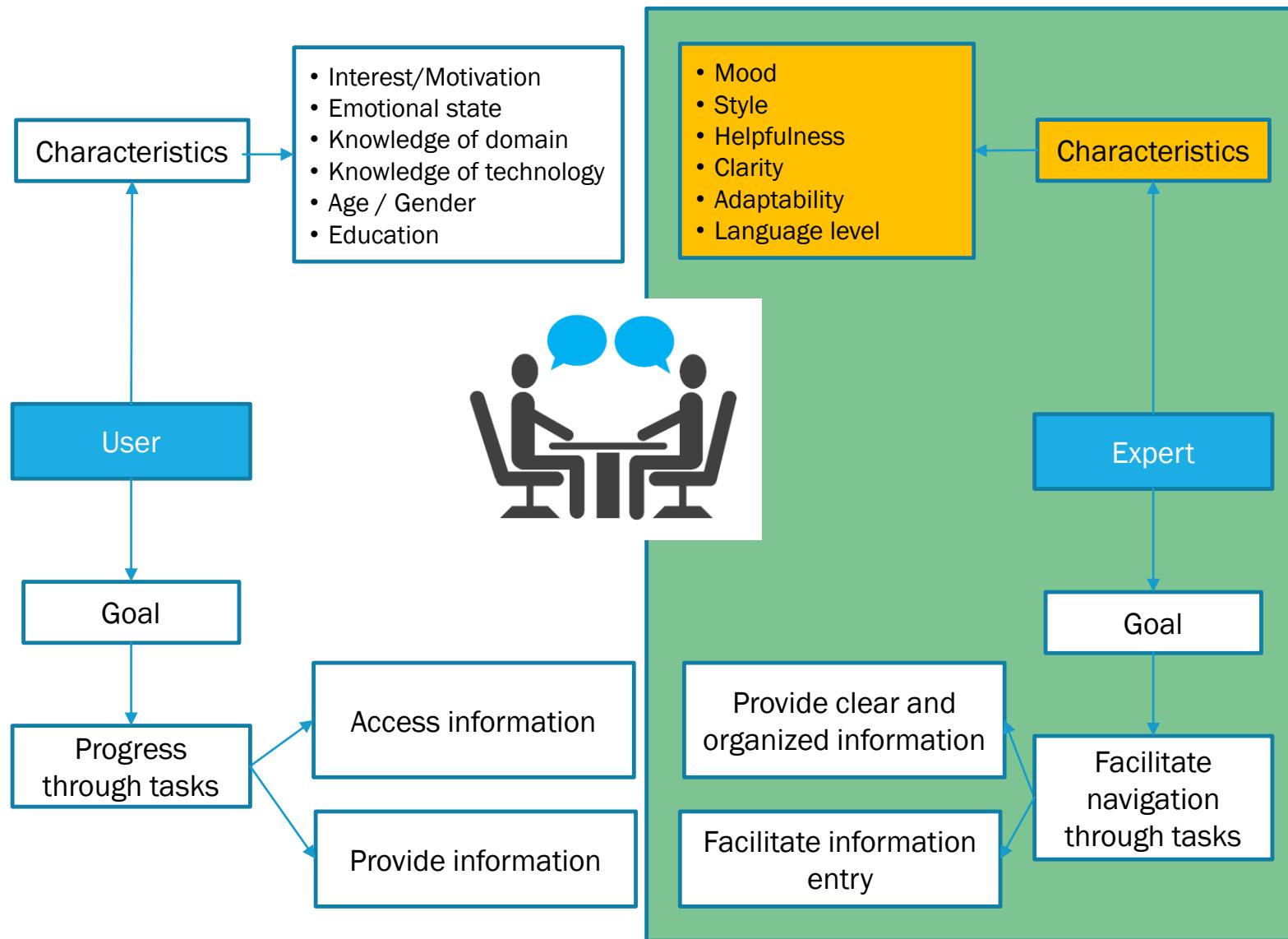
- Part 1 – Introduction
- Part 2 – Colors
- Part 3 – Typography
- Part 4 – Screen Layout
- Part 5 – Icons
- Part 6 – Language

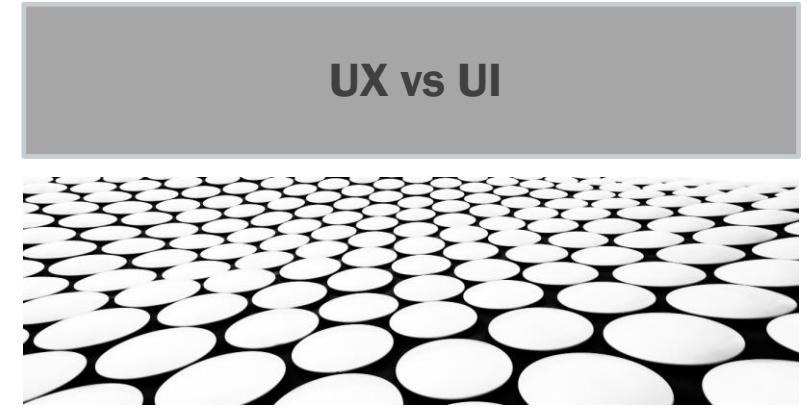
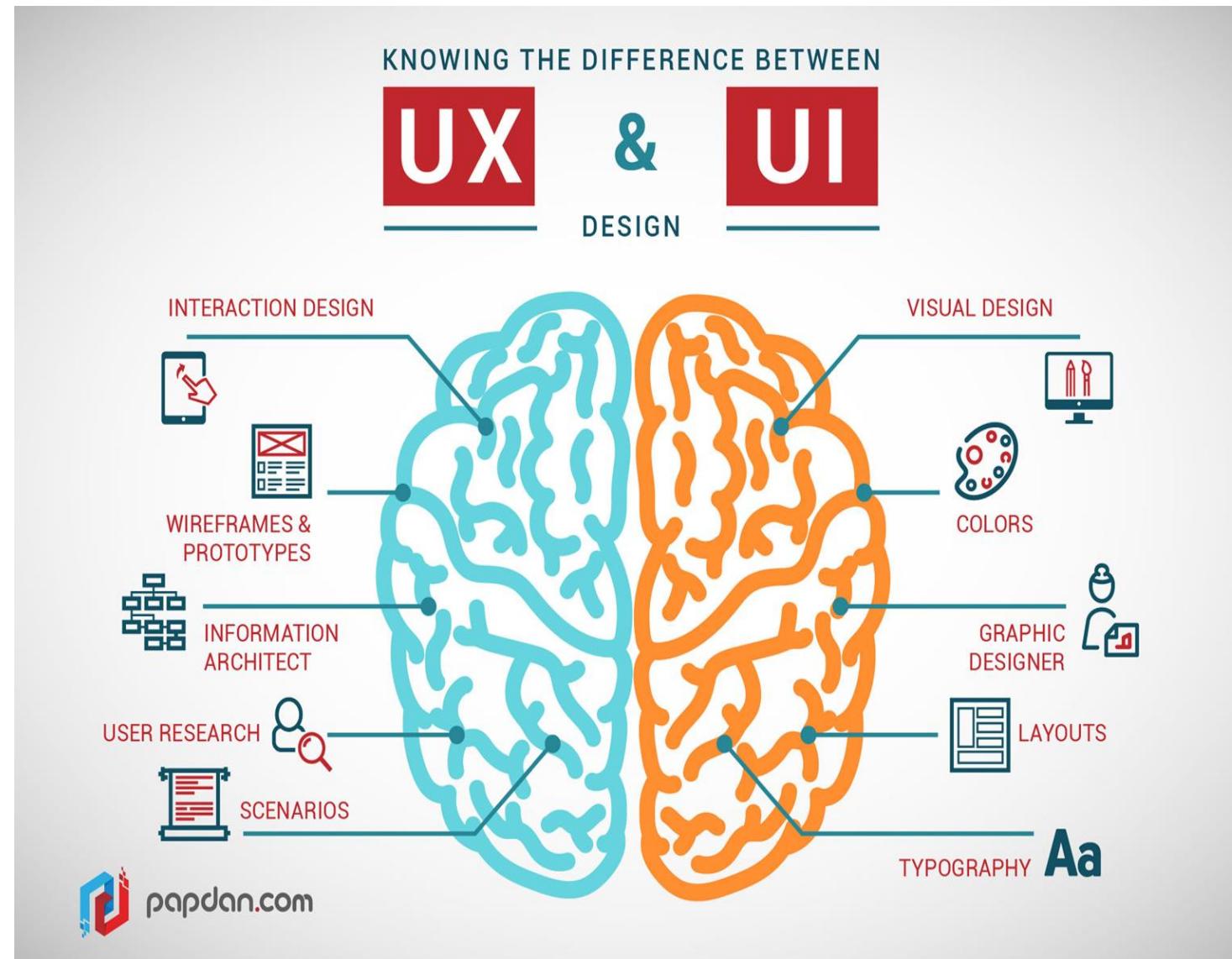
Part 1 Introduction

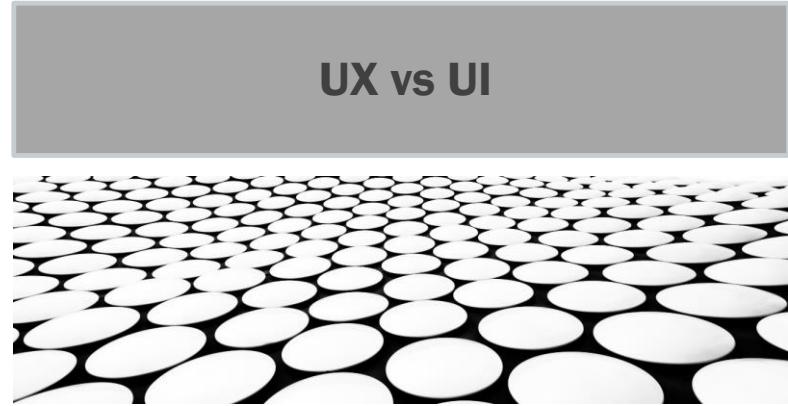
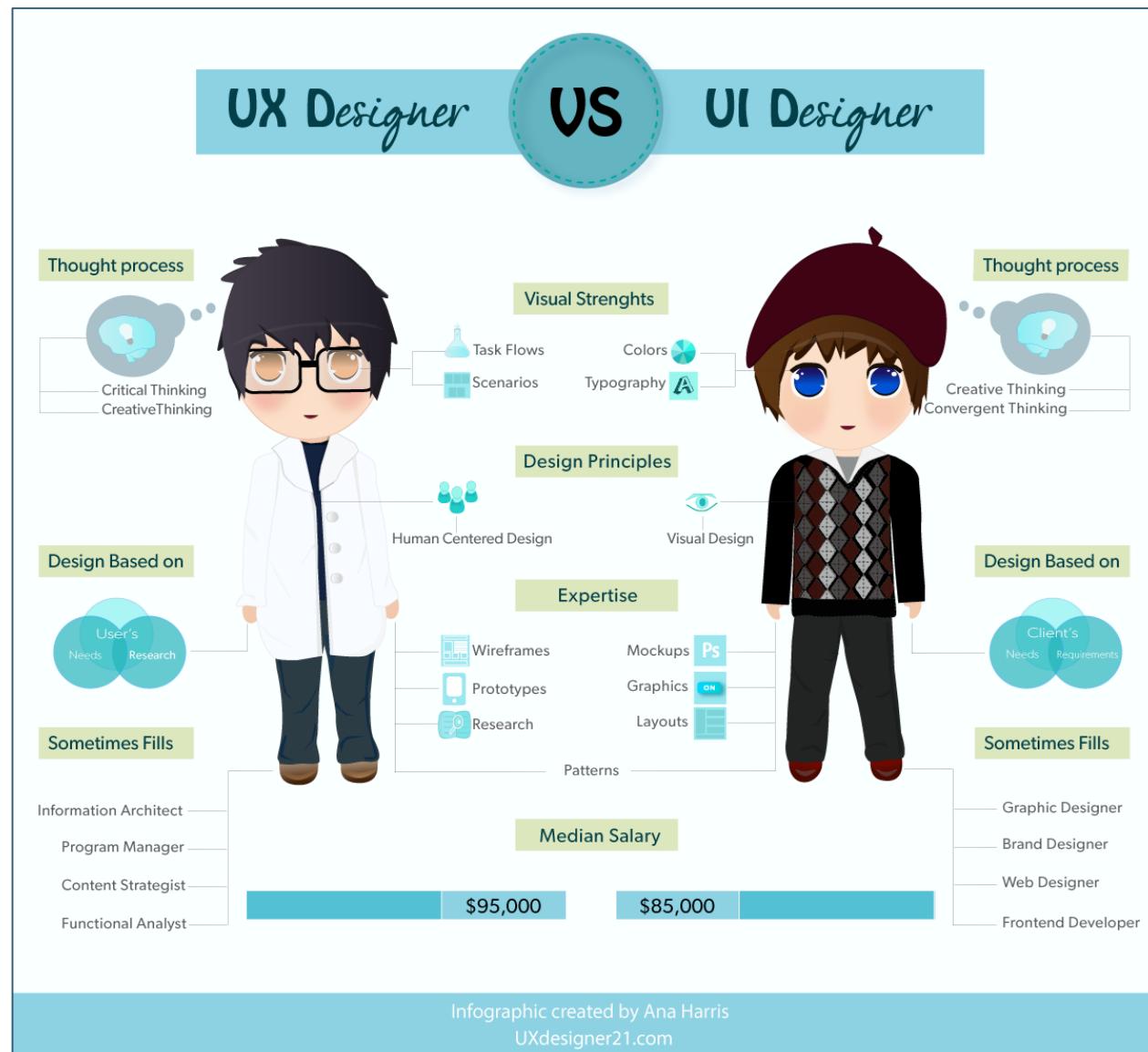


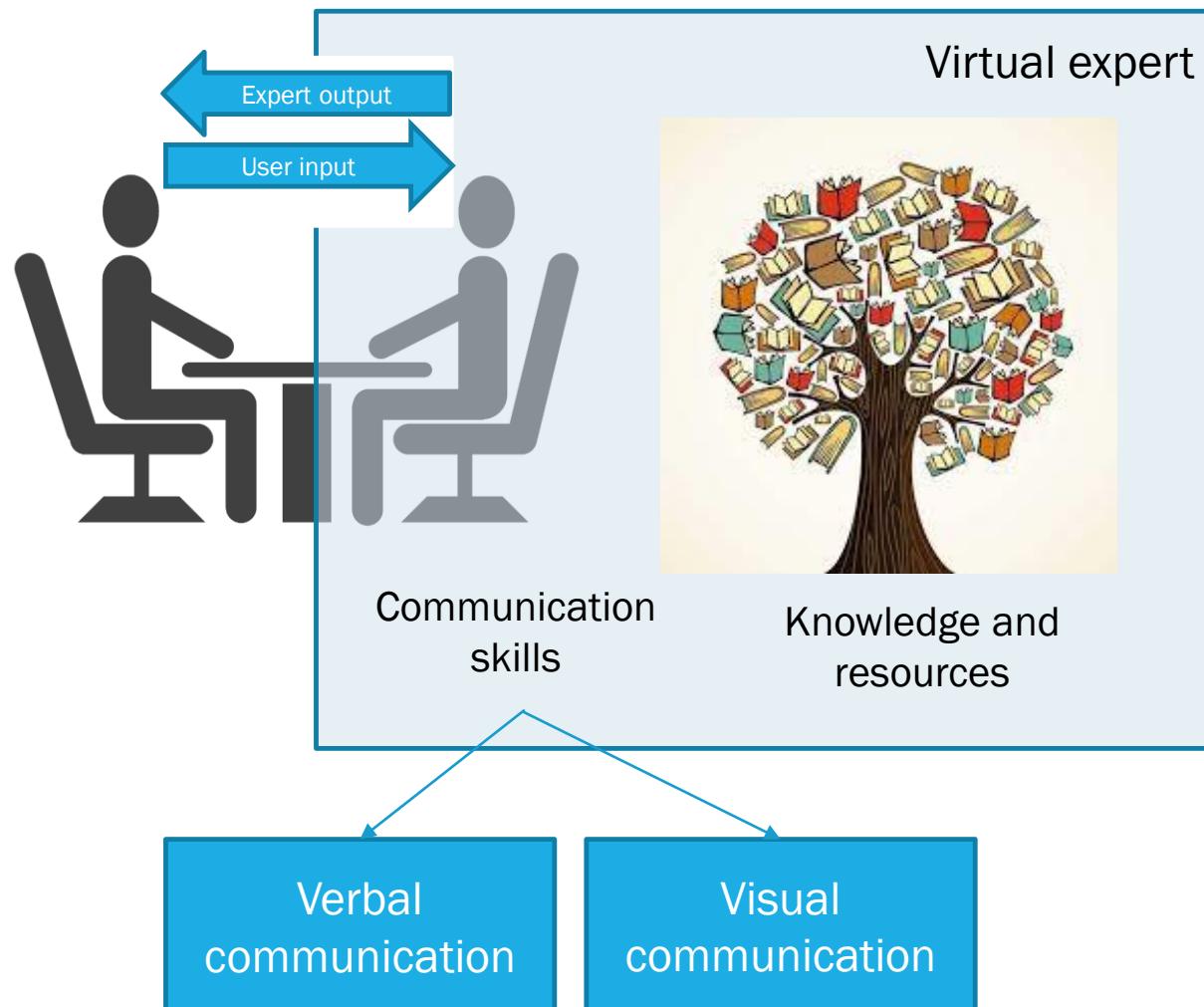
GOALS OF THE PRESENTATION

- Importance of verbal and visual communication
- Discuss the UX/UI difference









Communication skills and tips

Listening skills

There is no way to be a good communicator without listening!



But what is important is to listen carefully, with attention.

Use body language

The signs and signals of your body always send messages to your partner.



Be confident

If you are introvert and unsure, there are many tips and techniques that are helpful to learn.



When you are confident, it is easy for other people to trust you and to rely on you.



Be clear and concise

Do not use long sentences that are difficult to understand!

Stick to the main points.



Be positive and patient

The positive attitude has a huge power for successful relationships in business.

Remember that it is always a pleasure to speak with positive people.



Be respectful

People love to see that someone respect their efforts, opinions and abilities.

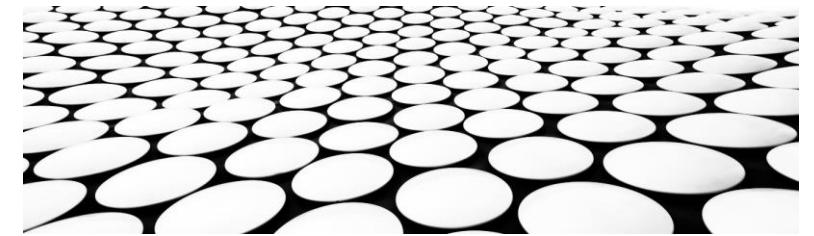
Remember to speak politely to everyone.

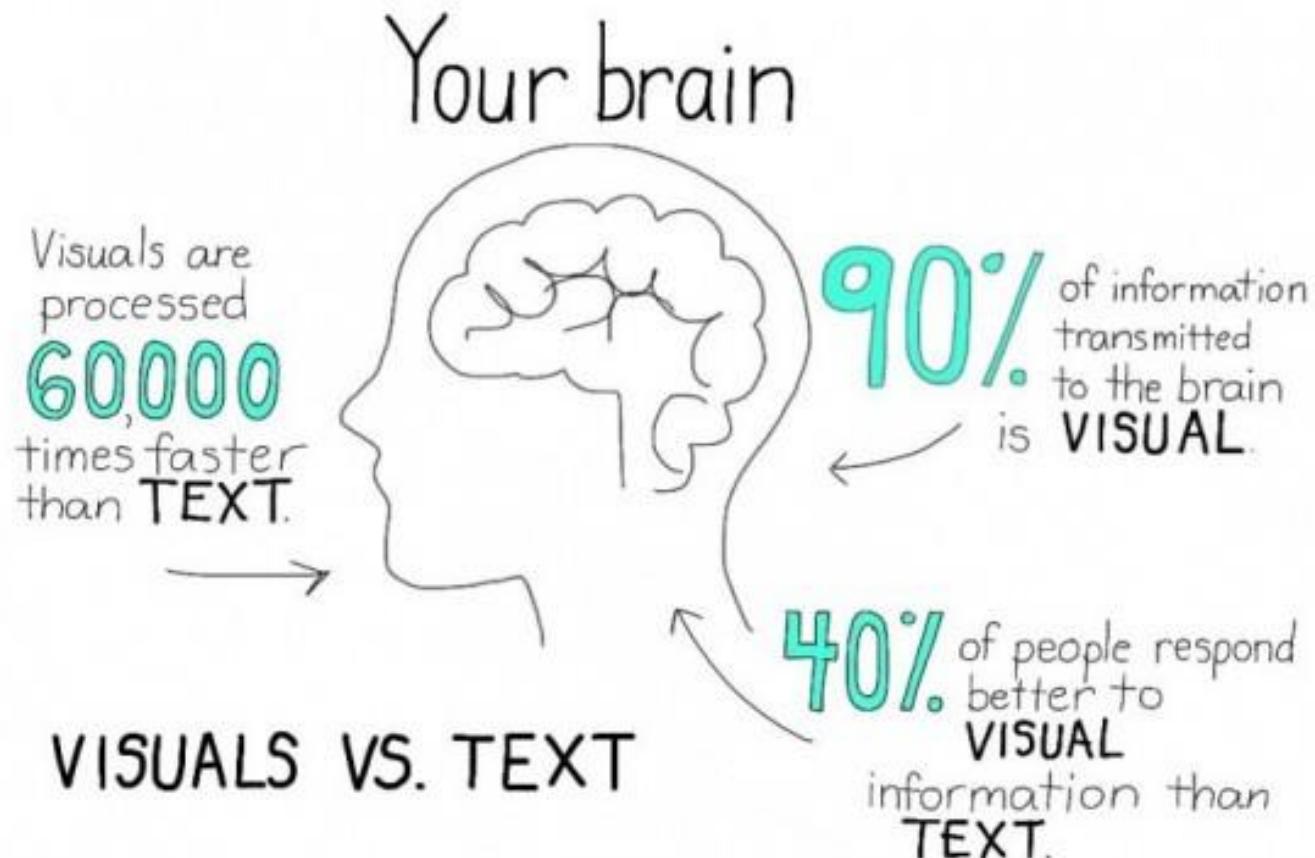


Feedback

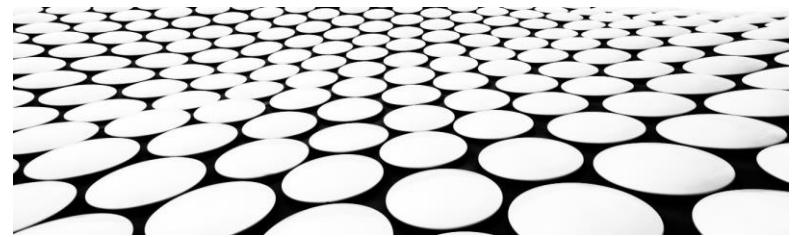
Giving feedback show that you are not just a passive listener.

Verbal communication skills





Importance of visual communication



**10 TIPS FOR
DESIGNING EFFECTIVE
VISUAL COMMUNICATION**

Without good design, even the best, most compelling story is lost. Follow these design best practices to ensure that your visual communication is both beautiful and effective.

1 COLOR

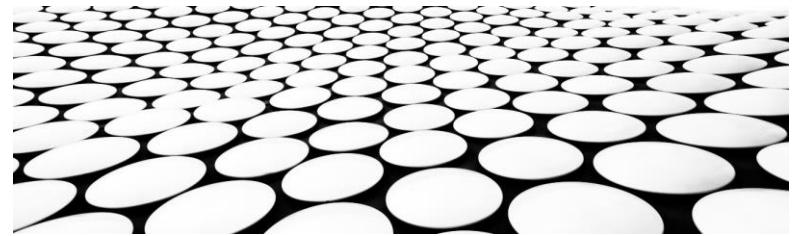
Use no more than five colors in a single layout. Color should be used sparingly to highlight important information.

2 TYPOGRAPHY

All fonts should be legible and appropriate for the communication style.



Visual communication in UIs

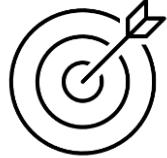




SUMMARY

- UI versus UX
- Verbal vs Visual communication
- Communication skills

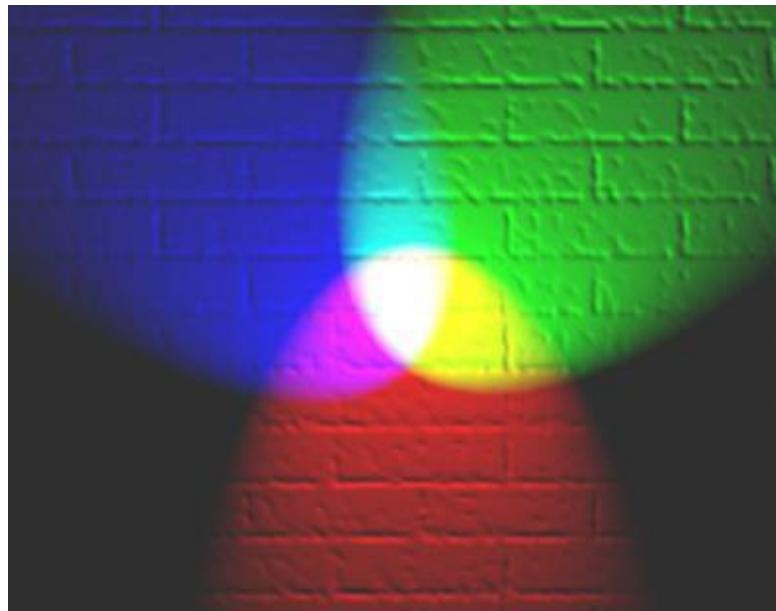
Part 2 Colors



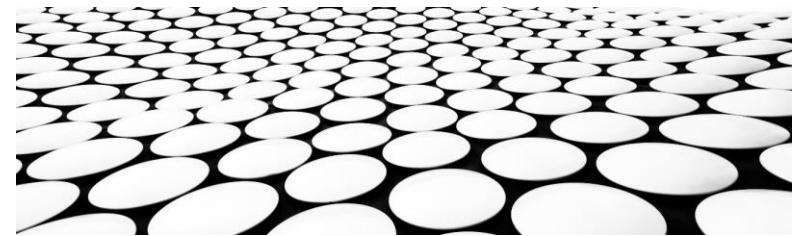
GOALS OF THE PRESENTATION

- Components of colors
- Color design guidelines
- Use of themes
- Case study – Car rental

Colours are produced from combining primary colors.
Our eye is fooled into thinking there is just one colour.



Introduction to colors



Hue

- Position of the colour in the spectrum: blue, violet, red, orange, yellow, green



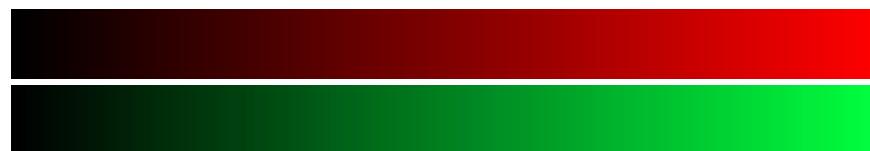
Saturation

- Purity of the colour - pastel shades are impure, they mix red, green and blue

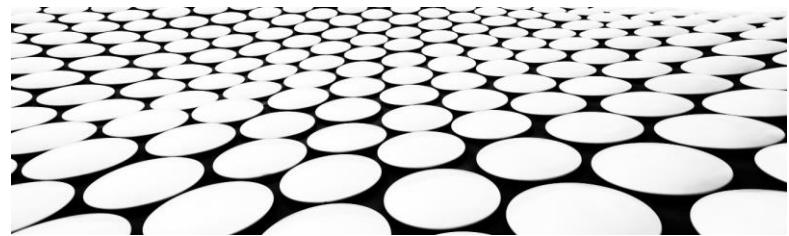


Value

- Amount of light: Intensity. It is a measure of how bright the color is

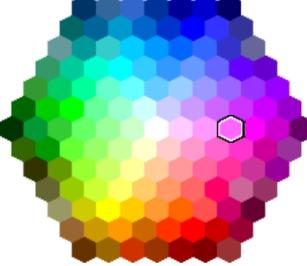


Color model



B

Pick a Color:



Selected Color:

Lighter / Darker:

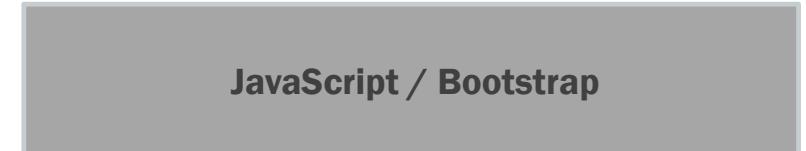
Color Type	Color Name	Hex Value
Text	Black Text	#ff0000
	White Text	#0000ff
Shadow	Shadow	#ff0000
	Shadow	#0000ff

Percentage	Hex Value
100%	#ffffff
95%	#ffe6ff
90%	#ffccff
85%	#ffb3ff
80%	#ff99ff
75%	#ff80ff
70%	#ff66ff
65%	#ff4dff
60%	#ff33ff
55%	#ff1aff
50%	#ff00ff
45%	#e600e6
40%	#cc00cc
35%	#b300b3
30%	#990099
25%	#800080
20%	#660066
15%	#4d004d
10%	#330033
5%	#1a001a
0%	#000000

Or Enter a Color:

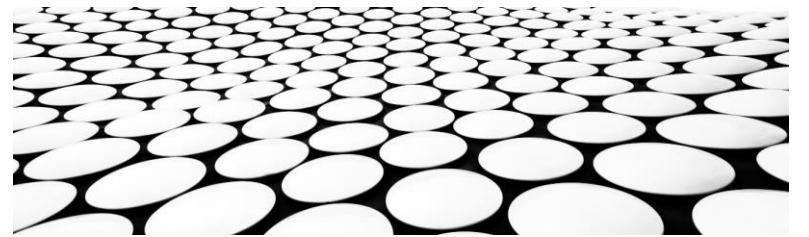
Color value OK

Or Use HTML5:



- Draw attention or highlight items
 - Helps in searching tasks
 - Helps in promoting elements for sale
- Communicate organization and relationship
 - Which items go together
- Indicate state
 - Which elements are ready

Why use colors?





Example

This text is muted.

This text is important.

This text indicates success.

This text represents some information.

This text represents a warning.

This text represents danger.

Secondary text.

Dark grey text.

Example

Body text.

Light grey background color.

This text is important.

This text indicates success.

This text represents some information.

This text represents a warning.

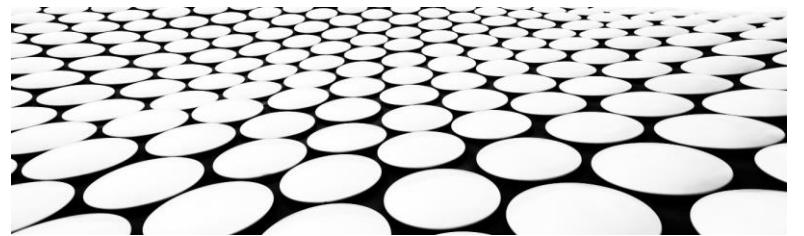
This text represents danger.

Secondary background color.

Dark grey background color.

Light grey background color.

JavaScript / Bootstrap

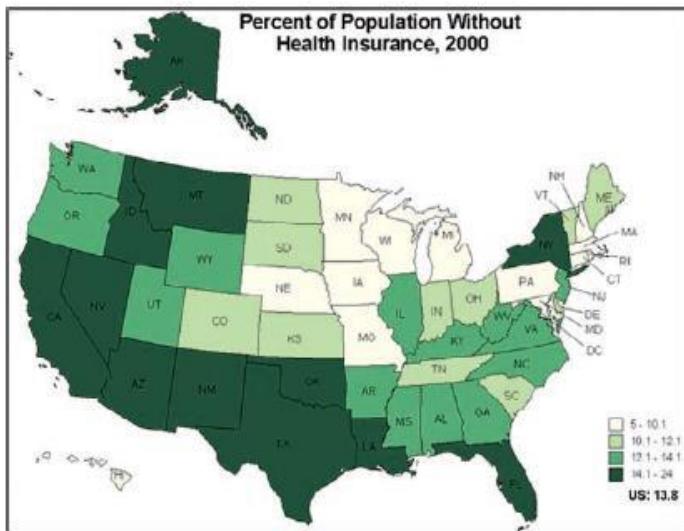


Use colors sparingly:

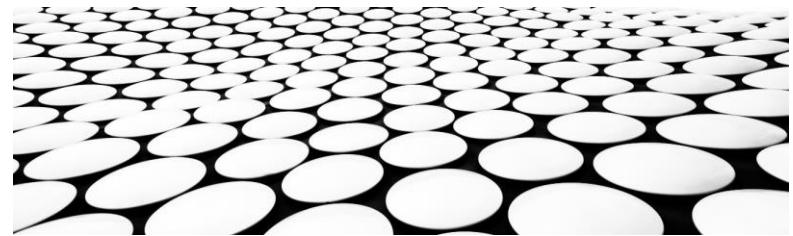
- Colors can be distracting if not used properly
- If used for information association (coding), then provide a legend

 As a Family of 4: 

	LINE ACCESS?	DATA ACCESS?	TOTAL ACCESS
4 Smartphones on MORE Everything	4 x \$40 \$160 <small>monthly line access</small>	10 GB \$100 <small>monthly account access</small>	\$260 <small>monthly access*</small>
4 Smartphones on MORE Everything with Edge	4 x \$15 \$60 <small>monthly line access</small>	10 GB \$100 <small>monthly account access</small>	Save \$100 \$160 <small>monthly access**</small>



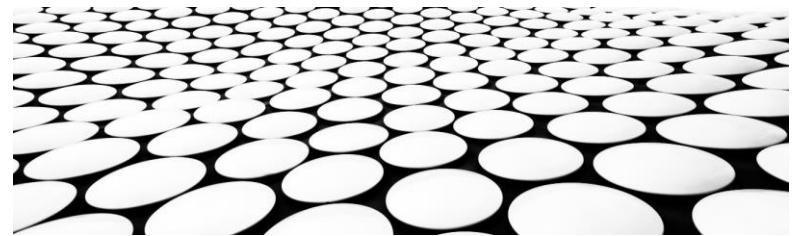
Color usability guidelines



Use colors sparingly:

- Use a limited number of colors
 - Use 2-4 colours for a normal application
 - Assign a color to a meaning (consistently)
 - Idea promoted by the use of themes

Color usability guidelines



Race Theme Setup

Color Scheme

MODIFY	PREVIEW								

Default Theme
 Green Theme
 Citrus Theme
 Nature Theme
 Neutral Theme
 Neon Theme

Color perception

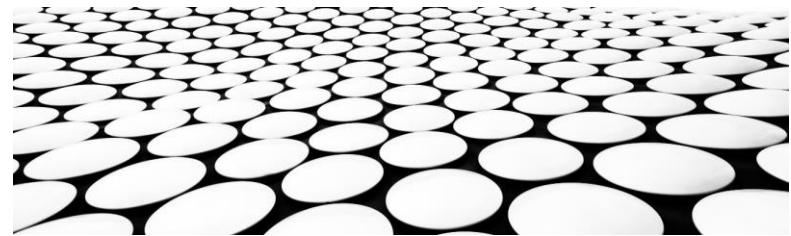
Consider background/foreground relationships

- Foreground and background should contrast in hue, saturation and brightness

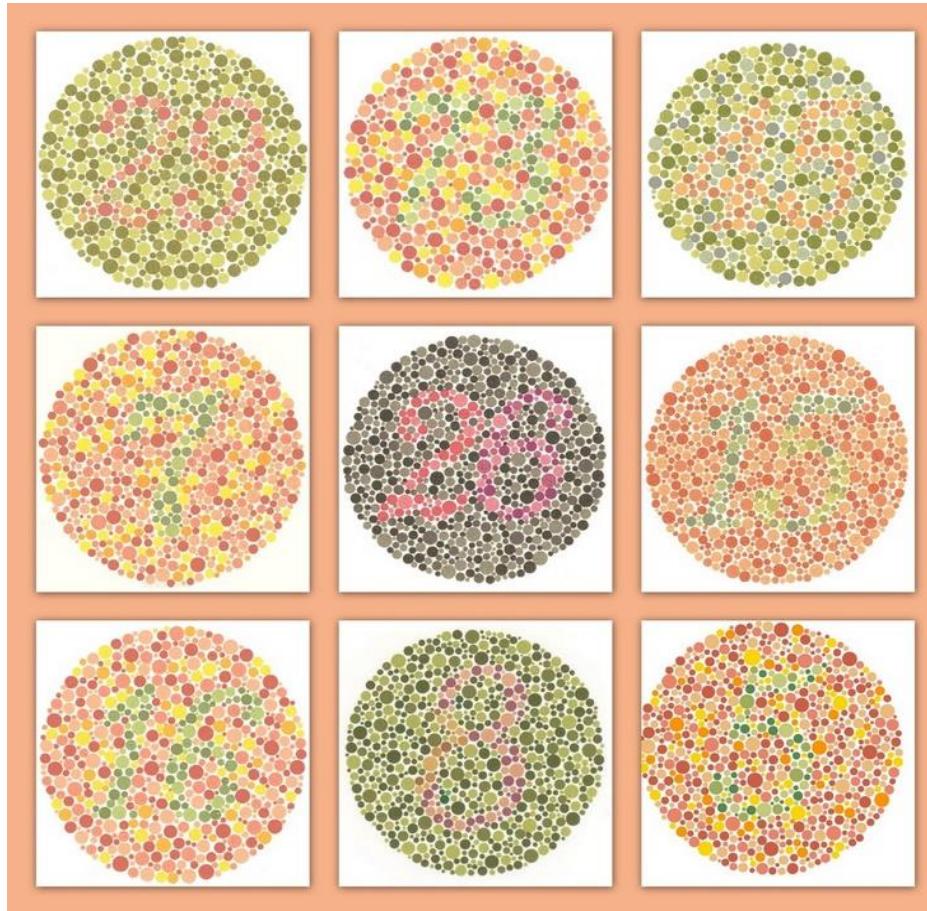
Yellow text on a
white background or

blue text on a black background, are difficult
to read due to the low level of contrast
between figure and ground

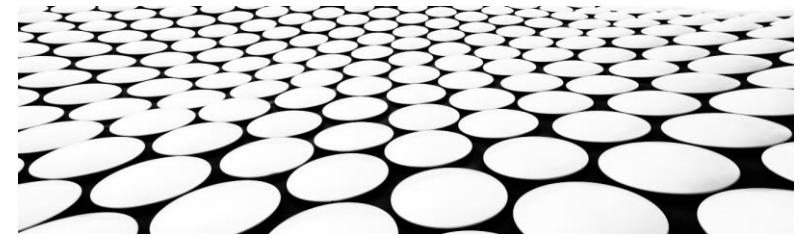
some colour combinations, such as blue and red,
cause illusions when positioned together



- Helps focus on clarity not based on colours
- Remember that some people are colour blind

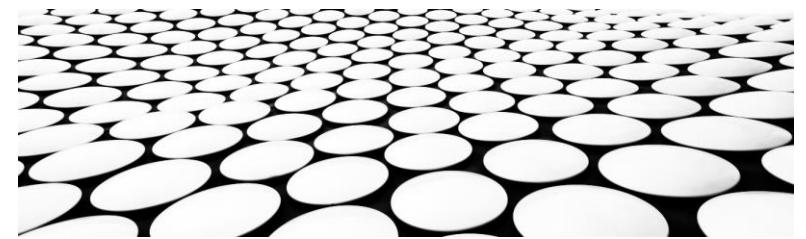


Design monochrome first



The image shows the homepage of Budget Canada's website. At the top, there is a navigation bar with links for Sign In, Register, Business Rental, Customer Care, Reservations, Deals, Locations, Cars & Services, and Fastbreak. A prominent orange banner in the center reads "LIMITED TIME Super Spring SALE!" and "Save UP TO 35% OFF Base Rates with Pay Now". Below the banner is a search bar with fields for location, date, and time. A "Select My Car" button is located next to a white Ford SUV. The background features a blue gradient with a pattern of white circles and a decorative illustration of flowers and butterflies at the bottom.

Case study – Car rental (1)



Budget® Canada

Sign In Register Business Rental Customer Care

Reservations Deals Locations Cars & Services Fastbreak

Rent a Moving Truck >

LIMITED TIME Super Sp

Save UP TO 35% OFF Base Rates w/

Enter your pick-up location or zip code 05/23/2022

Select My Car

Get a FREE UPGRADE

LIMITED TIME SPRING OFFER!

Travel Safely and Flexibly

Sign In Register Business Rental Customer Care

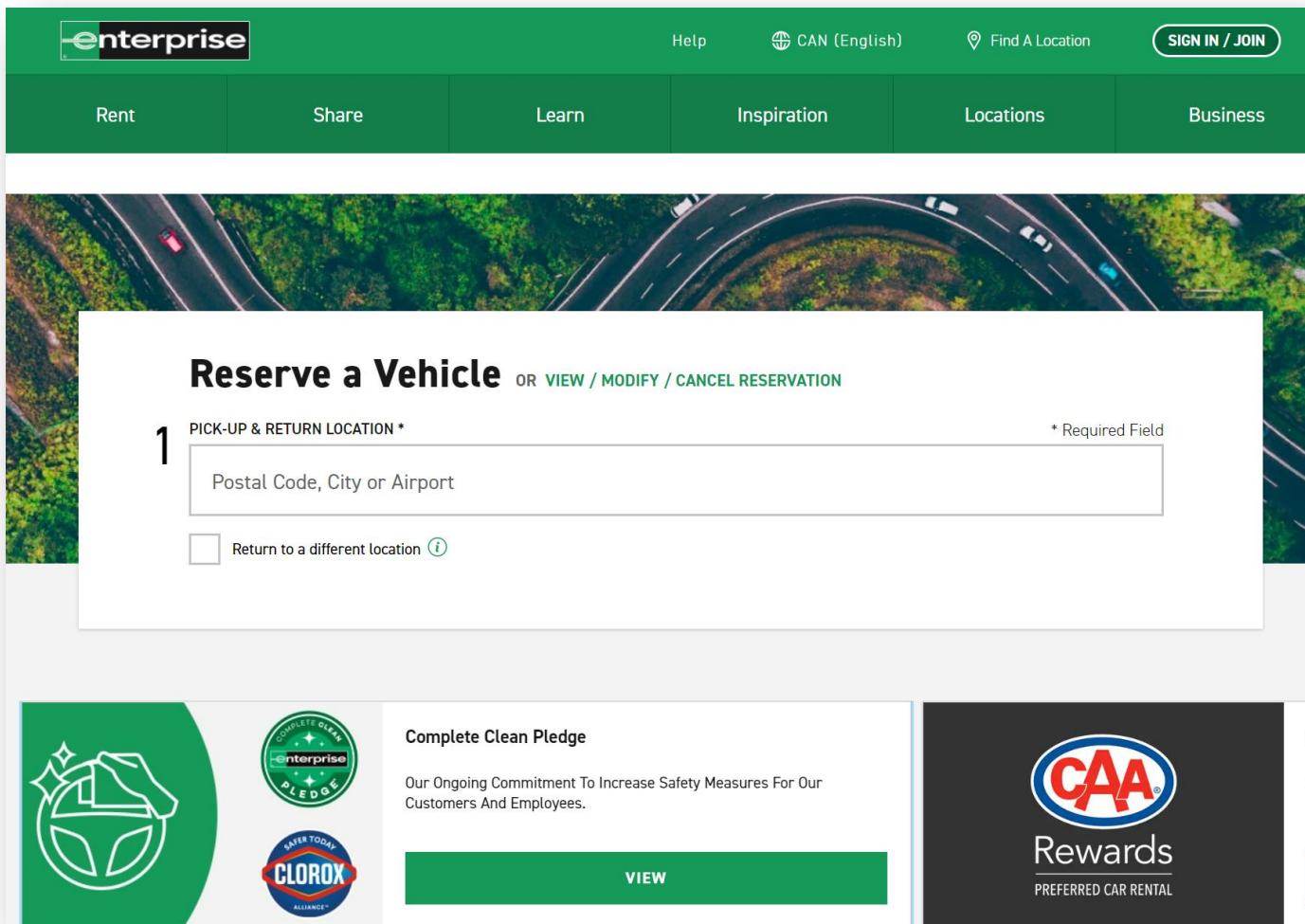
Reservations Deals Locations Cars & Services Fastbreak

Rent a Moving Truck >

Enter your pick-up location or zip code 05/21/2023 noon

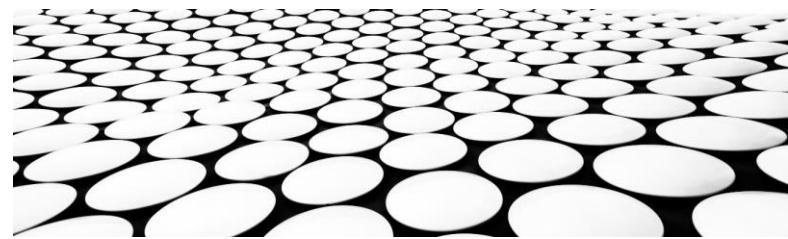
Select My Car

Get a FREE UPGRADE and SAVE even more when you pay now. Book Today!



The screenshot shows the Enterprise Rent-A-Car website. At the top, there's a green navigation bar with the Enterprise logo, Help, CAN (English), Find A Location, and a Sign In / Join button. Below the bar, there are six categories: Rent, Share, Learn, Inspiration, Locations, and Business. The main content area features an aerial view of a winding road through a forest. Below this, a large white box contains the heading "Reserve a Vehicle" in bold black font, followed by the text "OR [VIEW / MODIFY / CANCEL RESERVATION](#)". Step 1, labeled with a '1', is titled "PICK-UP & RETURN LOCATION *". It includes a text input field for "Postal Code, City or Airport" and a checkbox for "Return to a different location" with an informational link "(i)". To the right of the input field, it says "* Required Field". At the bottom of the page, there are three sections: "Complete Clean Pledge" featuring logos for Enterprise, Clorox, and a globe icon; "Our Ongoing Commitment To Increase Safety Measures For Our Customers And Employees"; and a "VIEW" button. On the right, there's a section for "CAA Rewards" with the text "PREFERRED CAR RENTAL".

Case study – Car rental (2)



enterprise

Help CAN (English) Find A Location SIGN IN / JOIN

Rent Share Learn Inspiration Locations Business

Reserve a Vehicle OR [VIEW / MODIFY / CANCEL RESERVATION](#)

1 PICK-UP & RETURN LOCATION*
 Postal Code, City or Airport
 Return to a different location [i](#)

Complete Clean Pledge
 Our Ongoing Commitment To Increase Safety Measures For Our Customers And Employees.

[VIEW](#)

enterprise

Careers Help CAN (English) Find a Location SIGN IN / JOIN

Rent Share Learn Inspiration Locations Business

Home / Car Rental

Reserve a Rental Car

or [View / Modify / Cancel Reservation](#)

1 Pick-up & Return Location (Postal Code, City or Airport)* * Required Field

Provide a Location
 Return to a different location [i](#)

Renting a Car with Enterprise

At Enterprise Rent-A-Car we make renting a car seamless so you can get right on your way. Find the nearest location from our network of 7,600 neighborhood and airport branches in over 85 countries. See how much it costs to rent a car for the day, a weekend or a full week by starting a reservation now.



Hertz.

RESERVATIONS LOCATIONS DEALS GOLD PLUS REWARDS VEHICLES

Book a Car View/Modify/Cancel a Reservation

1 Pick-up Location (City, State, Airport Code or US Zip Code)

[Help me find a location](#)
 Return car to a different Hertz location

2 Pick-up Date & Time:
 05:00 PM
 Return Date & Time:
 05:00 PM

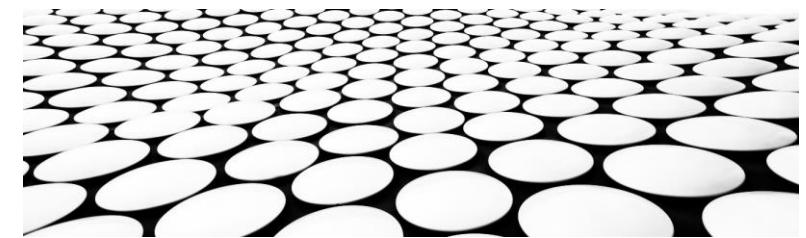
Rental Car Type: No Preference
 Use My Hertz Gold Plus Rewards Points [Learn More About Your Points](#)
 Enter a Discount or Promo Code

[Book as a Member](#) [Book as a Guest](#)


Hertz Gold Plus Rewards®
 Members skip the counter.
[ENROLL NOW](#)



Case study – Car rental (3)



The image displays three screenshots of the Hertz website illustrating the car rental booking process:

- Step 1: Initial Booking Form**
The first screenshot shows the initial booking form. It includes fields for "Pick-up Location" (with a placeholder "Help me find a location" and a "Return car to a different Hertz location" checkbox), "Pick-up Date & Time" (set to 05:00 PM), "Return Date & Time" (set to 05:00 PM), "Rental Car Type" (set to "No Preference"), and checkboxes for "Use My Hertz Gold Plus Rewards Points" and "Enter a Discount or Promo Code". Below the form are two buttons: "Book as a Member" (blue) and "Book as a Guest" (yellow).
- Step 2: Gold Plus Rewards Enrollment**
The second screenshot shows the "Hertz Gold Plus Rewards" enrollment page. It features a large image of a smiling girl and the text "Members skip the cost of joining". A yellow "ENROLL NOW" button is prominently displayed.
- Step 3: Confirmation and Next Steps**
The third screenshot shows a confirmation step titled "Hertz Rental Car. Let's Go!". It displays the booking details: "Same Drop-off Location", "Add a Discount Code", "Pick-up Location" (empty), "Pick-up Date" (empty), "Pick-up Time" (05:00 PM), "Drop-off Date" (empty), "Drop-off Time" (05:00 PM), and a "Continue" button. The background features a couple taking a selfie on a beach.

Explore products for the home, kitchen and more from trusted sellers. [Shop Marketplace](#)

Loblaws + marketplace more than in-store

Search for product 

PC OPTIMUM | FAQ | FR | OGILVIE ROAD

GROCERY ▾ HOME, BEAUTY & BABY ▾ JOE FRESH ▾ DISCOVER ▾ MY SHOP ▾ FLYERS & DEALS ▾ SERVICES ▾ PC EXPRESS PASS | SIGN IN | 0 \$0.00 | CHECKOUT

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Until June 30, get 1 month of FREE pickup and delivery when you spend \$100+ on your first PC Express order.* Use code IPCX100

\$0 pickup and delivery on eligible orders.*

Get a 1-month FREE trial when you sign up for an annual PC Express Pass – only \$99.99!*

Free trial only available on new subscriptions.

[SIGN UP](#)

Sign in, get rewarded 

Get exclusive deals, PC Optimum™ points, and more when you sign in.

[SIGN IN](#) [Create an account >](#)

Flyers & Deals 

Shop this week's flyers & deals

[View flyer >](#)

Shop your way

However you like to shop, we have it covered

[Pickup](#) [In-store](#) [Delivery](#)

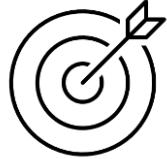


SUMMARY

- Colors / Color themes
- Design monochrome first
- Importance of the coherence in meaning of colors

Part 3

Typography



GOALS OF THE PRESENTATION

- Characterising fonts
- Case study – Car rental

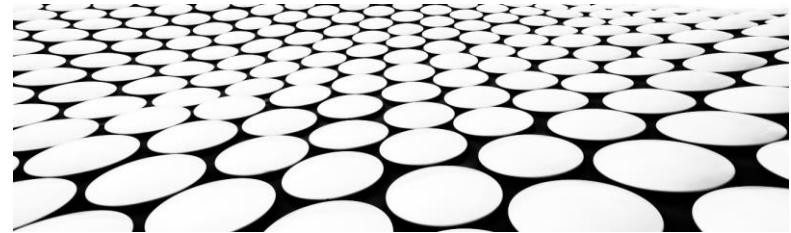
Typographie

La **typographie** (souvent abrégée en « **typo** ») désigne différents procédés de **composition** et d'**impression** utilisant des **caractères** et des **formes en relief**, ainsi que l'art d'utiliser les différents types de caractères dans un but esthétique et pratique.



WIKIPEDIA
The Free Encyclopedia

Definition



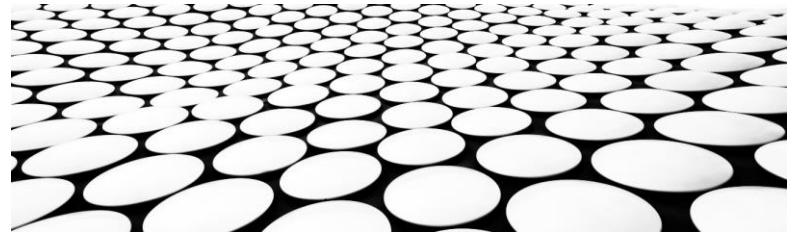
Typography refers to the different types of composition and printing process using various embossed characters and shapes, as well as *the art of using different types of characters for aesthetic and practical purposes*.

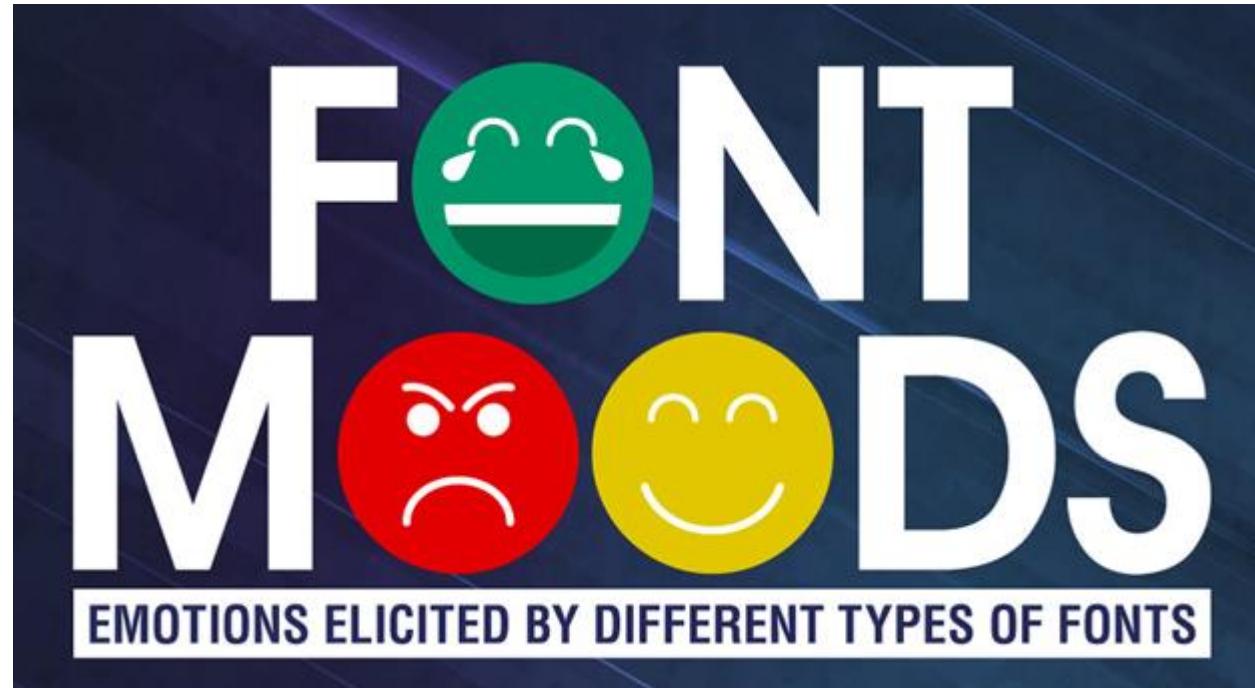


h1 Bootstrap heading (2.5rem = 40px)
h2 Bootstrap heading (2rem = 32px)
h3 Bootstrap heading (1.75rem = 28px)
h4 Bootstrap heading (1.5rem = 24px)
h5 Bootstrap heading (1.25rem = 20px)
h6 Bootstrap heading (1rem = 16px)

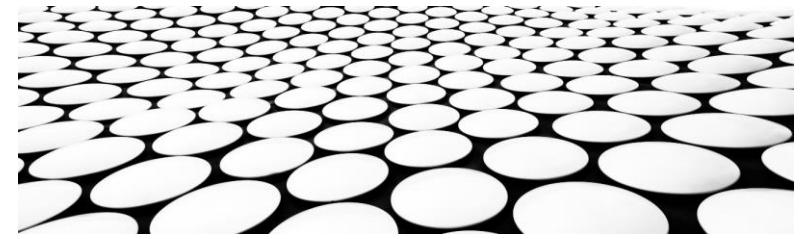
Display 1
Display 2
Display 3
Display 4

Typography



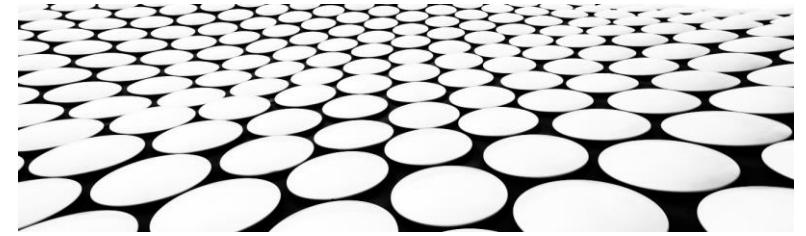


Fonts have moods



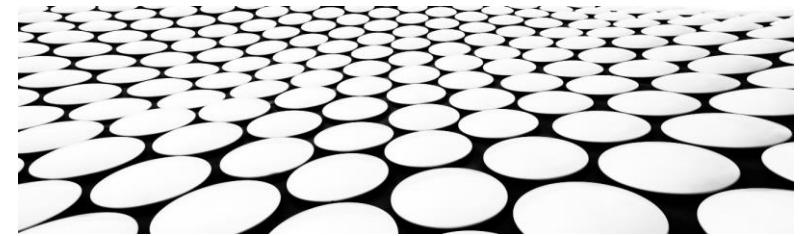


Font moods





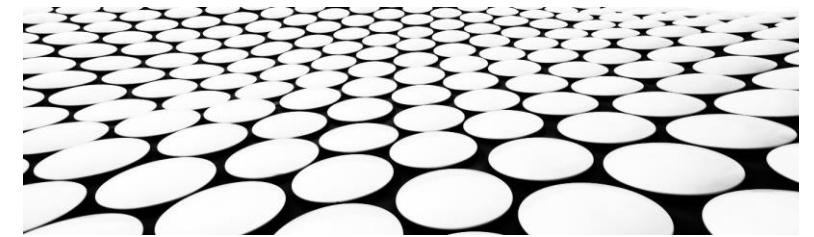
Font moods



Purpose of fonts

What we can express using different fonts:

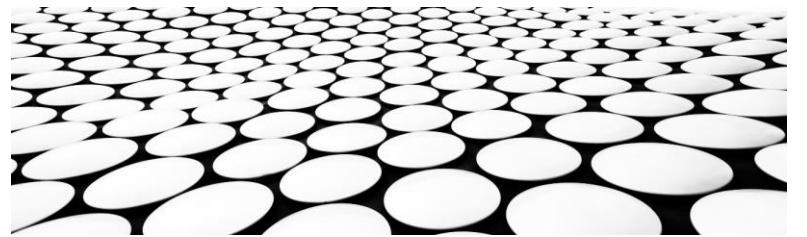
- mood (happy, serious, old-fashioned, etc)
- importance
- organization of material
 - typed input vs instructions vs headings



A B C D E F G H I J K L M
N O P Q R S T U V W X Y Z

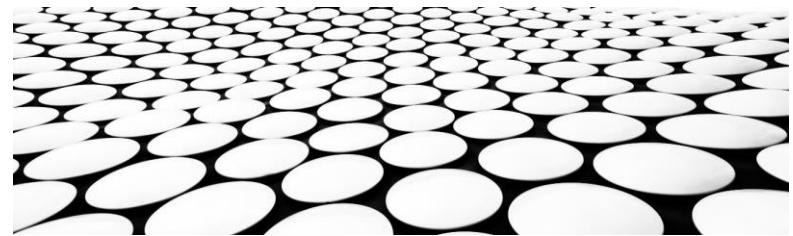
| Text that is centered is harder to read because
| the eye has to continuously search for the next
| line as it is not automatically in the same
| location (on the left). Smooth reading is
| difficult, and most people will not continue
| reading.

Text alignment



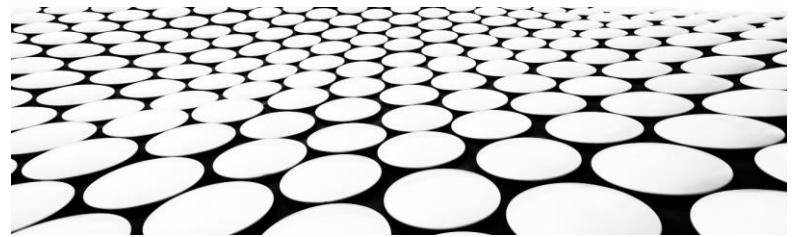


Text alignment



- Limit the number of fonts and styles in any screen to 2 or 3
- Give a consistent meaning to each font and size
- Avoid "fancy" fonts for informative content
- Avoid tiny fonts / Ensure proper text size is used
- Ensure text is legible across platforms

Guidelines for fonts



Budget Canada

Sign In Register Business Rental Customer Care

Reservations Deals Locations Cars & Services Fastbreak

Rent a Moving Truck >

LIMITED TIME Super Spring SALE!

Save UP TO 35% OFF Base Rates with Pay Now

Enter your pick-up location or zip code 05/23/2022 noon

Select My Car

Connexion S'inscrire Location affaires Assistance à la clientèle

Réservations Offres Succursales Voitures et services Fastbreak rental

Louez un camion de déménagement >

Super vente de printemps à durée limitée

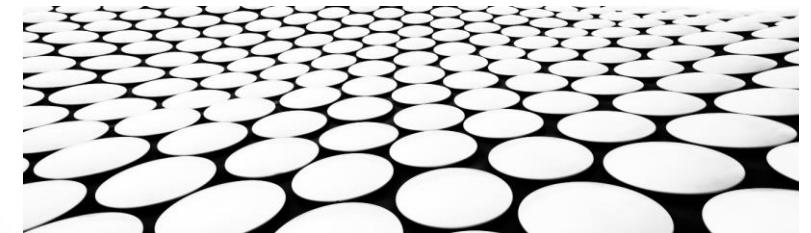
Économisez jusqu'à 35 % sur les tarifs de base en payant maintenant

Saisir la succursale de prise en charge ou le code postal 05/23/2022 midi

Sélectionner ma voiture

Obtenez jusqu'à 35 % sur les tarifs de base lorsque vous payez dès maintenant! Réservez maintenant!

Case study – Car rental (1)



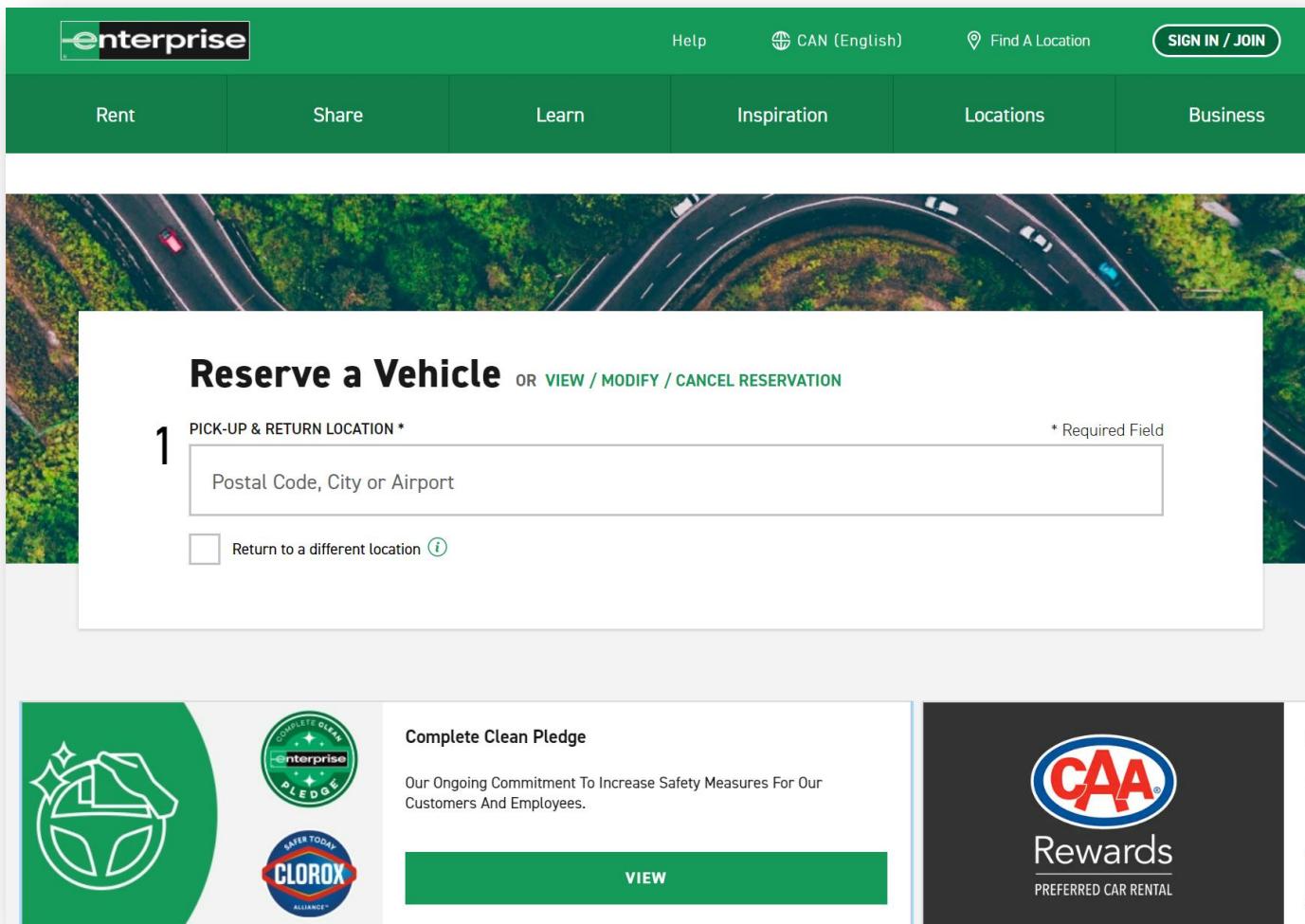
The image shows two side-by-side screenshots of the Budget Canada website, one in English and one in French, demonstrating theilingual interface.

English Version (Left):

- Header:** Travel Safely and Flexibly, Sign In, Register, Business Rental, Customer Care.
- Main Navigation:** Reservations, Deals, Locations, Cars & Services, Fastbreak.
- Offer:** LIMITED TIME SPRING OFFER! GET A FREE UPGRADE. Plus, save even more when you pay now.
- Search Bar:** Enter your pick-up location or zip code, Date: 05/21/2023, Time: noon, Select My Car.
- Call-to-Action:** Get a FREE UPGRADE and SAVE even more!
- Image:** A person wearing a straw hat and holding a camera.

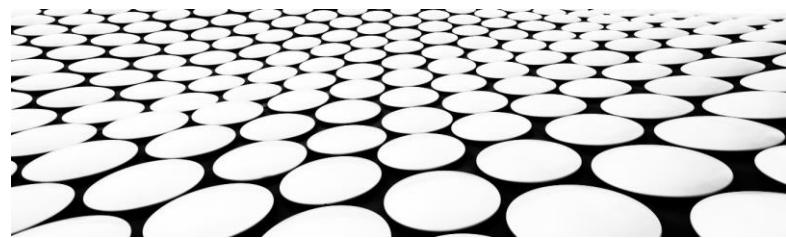
French Version (Right):

- Header:** Connexion, S'inscrire, Location affaires, Assistance à la clientèle.
- Main Navigation:** Réservations, Offres, Succursales, Voitures et services, Fastbreak rental.
- Offer:** Louez un camion de déménagement >
- Text:** Obtenez nos meilleurs tarifs en réservant sur Budget.ca.
- Text:** Obtenez une mise à niveau gratuite, EN PLUS, économisez encore plus en payant maintenant!
- Search Bar:** Saisir la succursale de prise en charge ou le code postal, Date: 05/21/2023, Time: midi, Sélectionner ma voiture.
- Text:** Obtenez une mise à niveau gratuite, ET, économisez encore plus en payant maintenant! Réservez maintenant!
- Image:** A yellow suitcase with sunglasses and a camera resting on top.



The screenshot shows the Enterprise Rent-A-Car website. At the top, there's a green navigation bar with the Enterprise logo, Help, CAN (English), Find A Location, and a Sign In / Join button. Below the bar are six menu items: Rent, Share, Learn, Inspiration, Locations, and Business. The main content area features a large aerial photograph of a winding road through a forest. Below the photo, the text "Reserve a Vehicle" is displayed in bold black font, followed by "OR VIEW / MODIFY / CANCEL RESERVATION". Step 1, "PICK-UP & RETURN LOCATION *", is highlighted with a red number "1". A text input field for "Postal Code, City or Airport" is shown, with a note "* Required Field" above it. There's also a checkbox for "Return to a different location" with an information icon. At the bottom of the page, there are three promotional banners: one for "Complete Clean Pledge" featuring logos for Enterprise, Clorox, and a hand icon; another for "CAA Rewards Preferred Car Rental"; and a third partially visible banner.

Case study – Car rental (2)



Reserve a Vehicle OR [VIEW / MODIFY / CANCEL RESERVATION](#)

1 PICK-UP & RETURN LOCATION*

Postal Code, City or Airport

Return to a different location [i](#)

Complete Clean Pledge

Our Ongoing Commitment To Increase Safety Measures For Our Customers And Employees.

[VIEW](#)

Reserve a Rental Car OR [View / Modify / Cancel Reservation](#)

1 Pick-up & Return Location (Postal Code, City or Airport)*

Provide a Location

Return to a different location [i](#)

* Required Field

Renting a Car with Enterprise

At Enterprise Rent-A-Car we make renting a car seamless so you can get right on your way. Find the nearest location from our network of 7,600 neighborhood and airport branches in over 85 countries. See how much it costs to rent a car for the day, a weekend or a full week by starting a reservation now.

Hertz.

RESERVATIONS LOCATIONS DEALS GOLD PLUS REWARDS VEHICLES

Book a Car View/Modify/Cancel a Reservation

1 Pick-up Location (City, State, Airport Code or US Zip Code)

[Help me find a location](#)
 Return car to a different Hertz location

2 Pick-up Date & Time:
 05:00 PM
 Return Date & Time:
 05:00 PM

Rental Car Type:

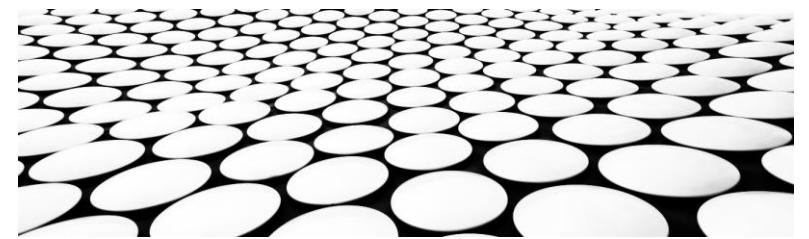
Use My Hertz Gold Plus Rewards Points [Learn More About Your Points](#)
 Enter a Discount or Promo Code

ENROLL NOW



Book as a Member Book as a Guest

Case study – Car rental (3)



Hertz

RESERVATIONS LOCATIONS DEALS GOLD PLUS REWARDS VEHICLES

Book a Car View/Modify/Cancel a Reservation

Pick-up Location (City, State, Airport Code or US Zip Code) Help me find a location Return car to a different Hertz location

Pick-up Date & Time: 05:00 PM Return Date & Time: 05:00 PM

Rental Car Type: No Preference Use My Hertz Gold Plus Rewards Points [Learn More About Your Points](#) Enter a Discount or Promo Code

[Book as a Member](#) [Book as a Guest](#)

Hertz Gold Plus Rewards

Members skip the count

ENROLL NOW

Hertz Rental Car. Let's Go!

Same Drop-off Location Add a Discount Code [View / Edit / Cancel](#)

Pick-up Location Pick-up Date 05:00 PM Pick-up Time 05:00 PM Drop-off Date Drop-off Time 05:00 PM Continue



SUMMARY

- Importance of the coherence in the meaning of the chosen fonts
- Importance of limiting variations

Part 4

Screen Layout



GOALS OF THE PRESENTATION

- Importance of screen “real estate”
- Importance of verbal and visual communication within the confined space
- Mobile versus Web

**10 TIPS FOR
DESIGNING EFFECTIVE
VISUAL COMMUNICATION**

Without good design, even the best, most compelling story is lost. Follow these design best practices to ensure that your visual communication is both beautiful and effective.

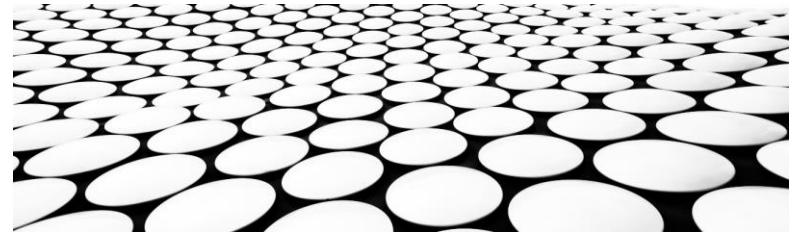
1 COLOR

Use no more than five colors in a single layout. Color should be used sparingly to highlight important information.

2 TYPOGRAPHY

All fonts should be legible and appropriate for the communication style.

Visual communication at the core of UI design



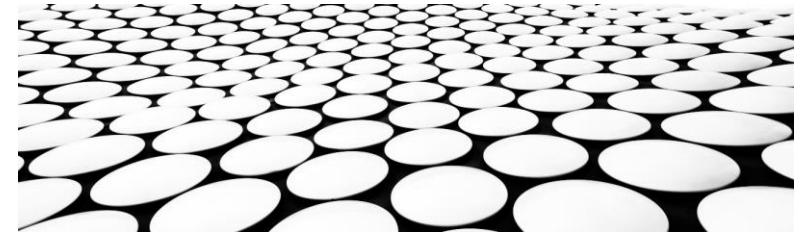
3

LAYOUT

Present content in a way that guides readers through in a logical hierarchy.

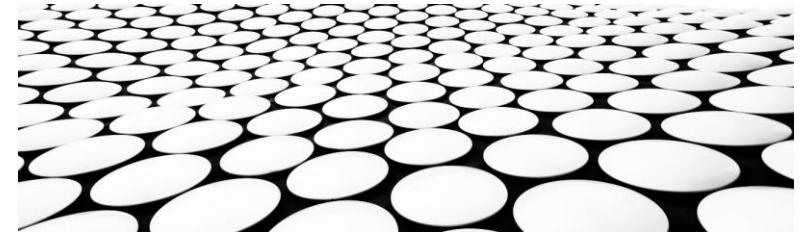
Aligning the elements in a layout with each other will help maintain consistency.

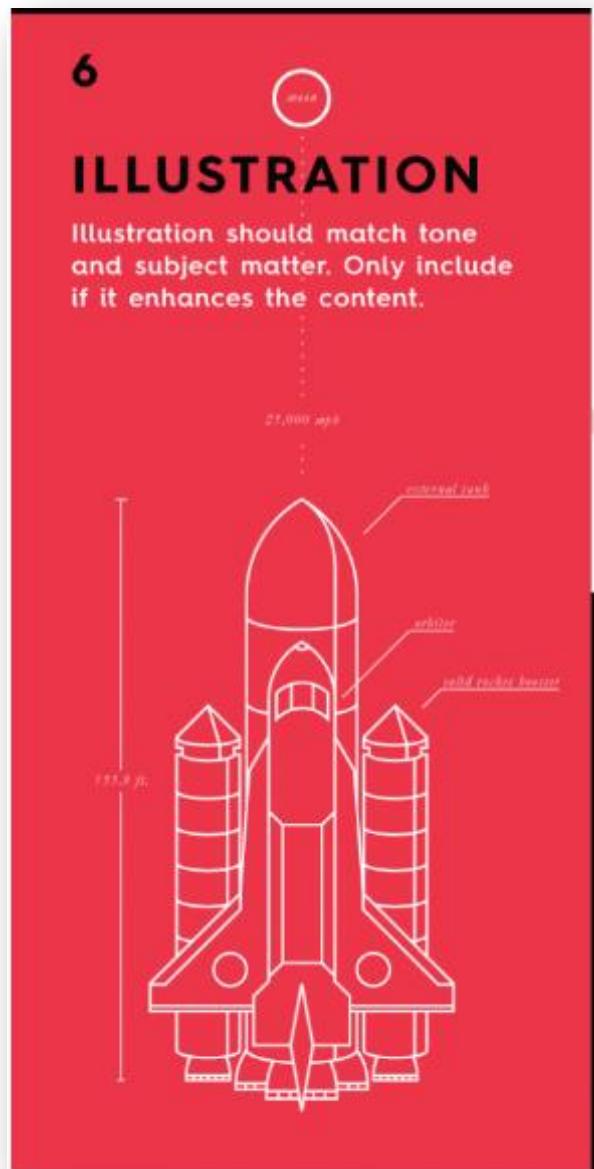
Visual communication at the core of UI design



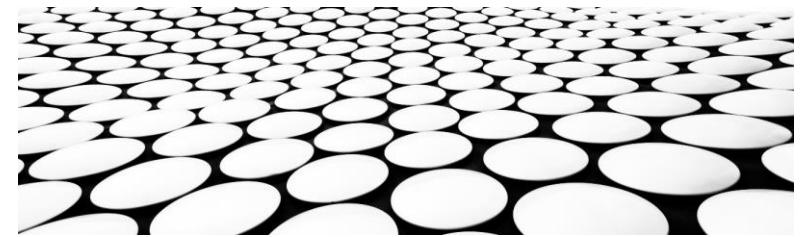


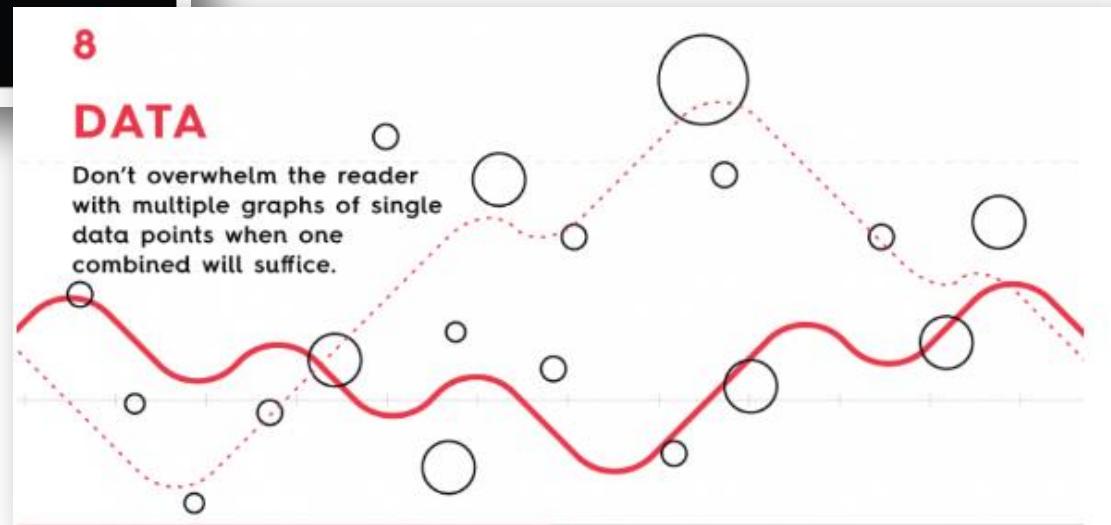
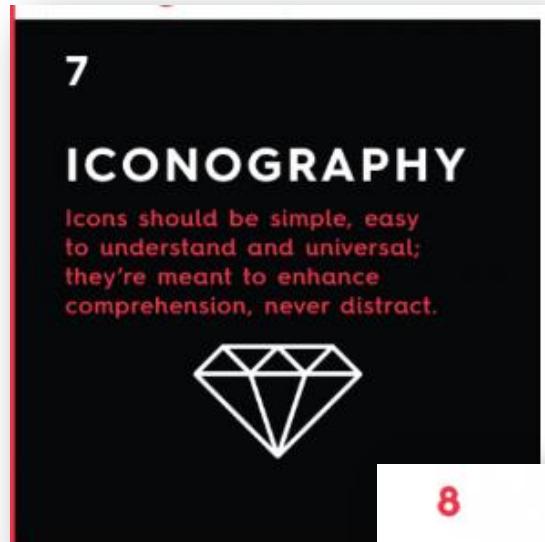
Visual communication at the core of UI design



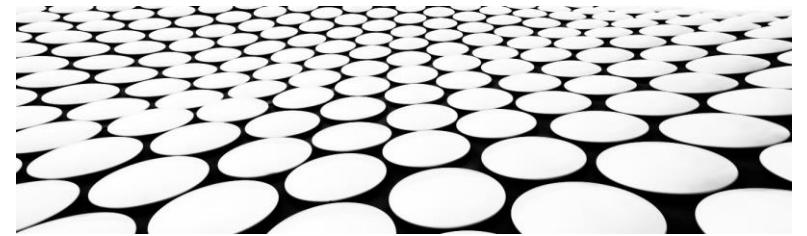


Visual communication at the core of UI design





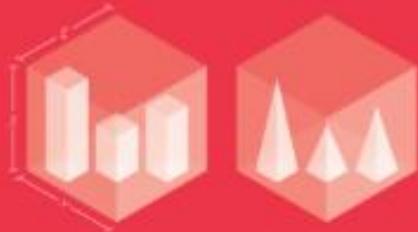
Visual communication at the core of UI design



9

PROPORTION

The eye can be deceiving; make sure items are appropriately sized in data visualizations so as not to skew data.

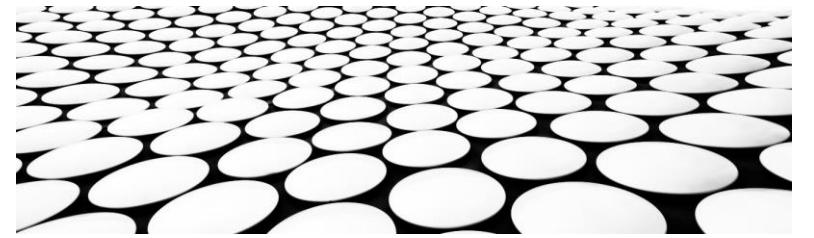
**10**

SIMPLICITY

Avoid unnecessary design, including 3D charts, ornamental illustration or extraneous elements.



Visual communication at the core of UI design

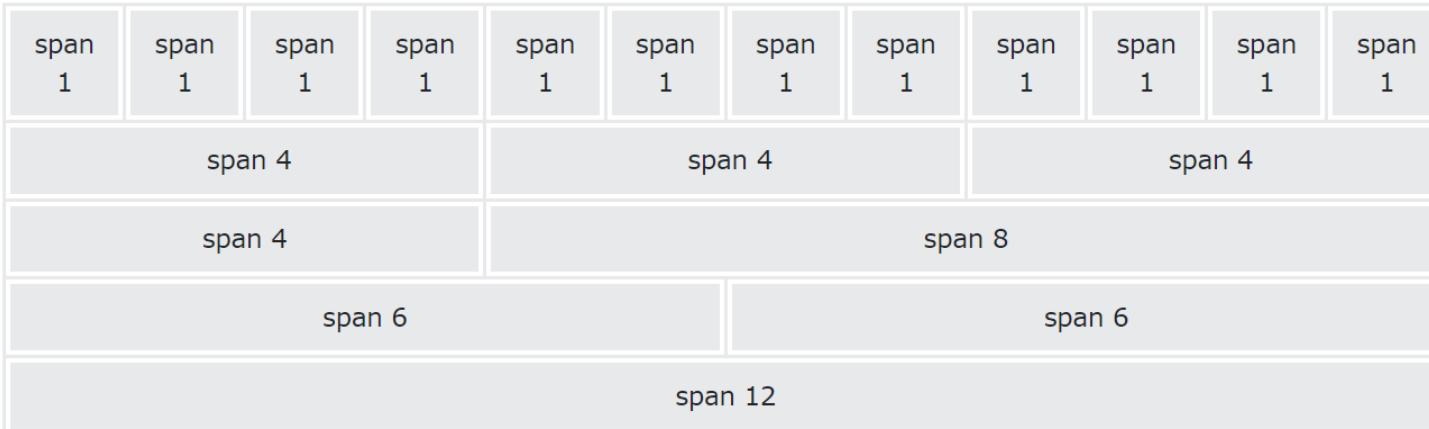




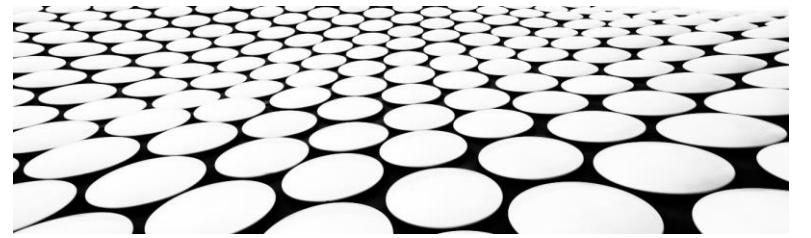
Bootstrap 5 Grid System

Bootstrap's grid system is built with flexbox and allows up to 12 columns across the page.

If you do not want to use all 12 columns individually, you can group the columns together to create wider columns:



JavaScript / Bootstrap 5





Container Border and Color

Other utilities, such as borders and colors, are also often used together with containers:

Example

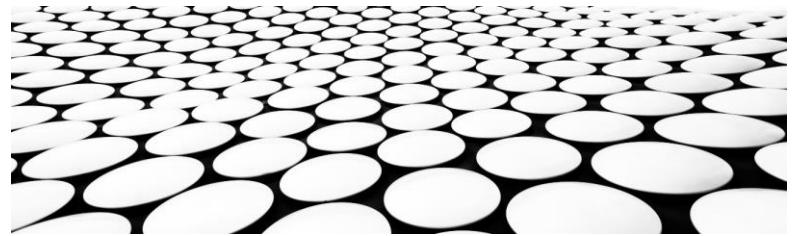
My First Bootstrap Page

This container has a dark background color and a white text, and some extra padding and margins.

My First Bootstrap Page

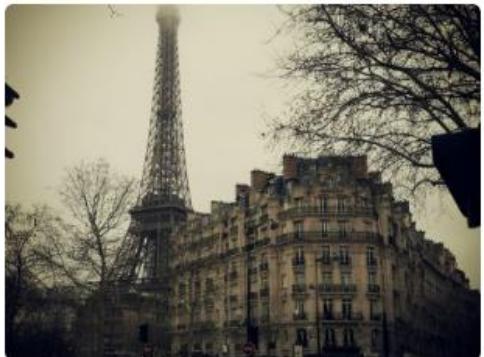
This container has a blue background color and a white text, and some extra padding and margins.

JavaScript / Bootstrap 5





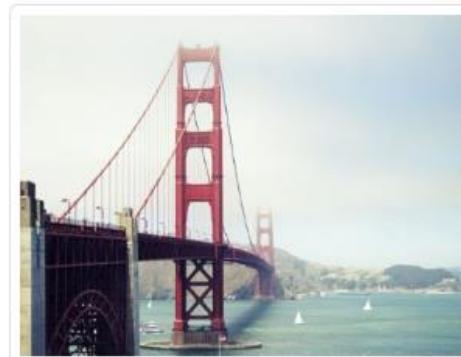
Rounded Corners:



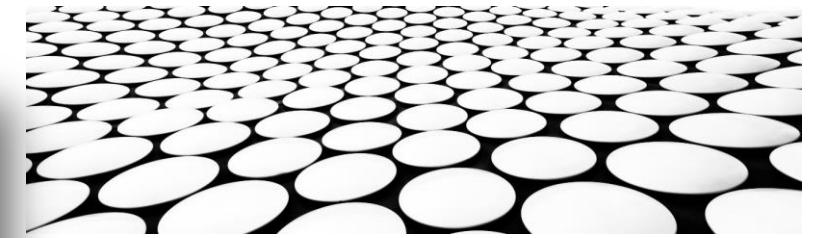
Circle:

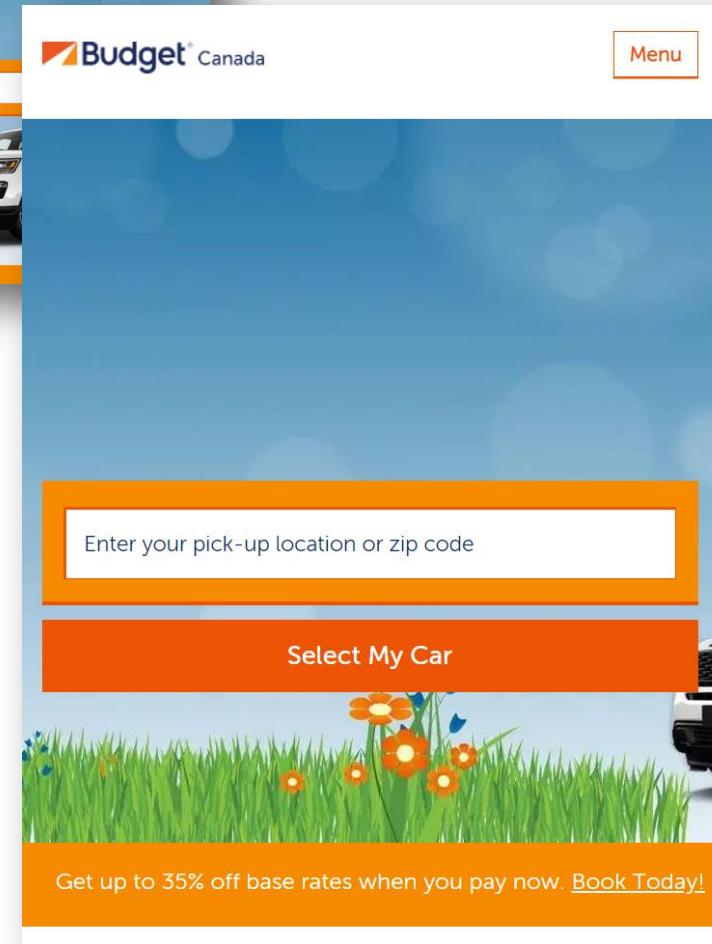
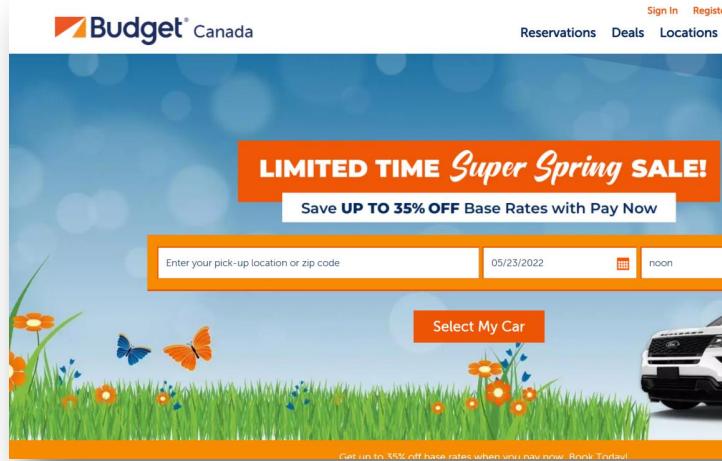


Thumbnail:

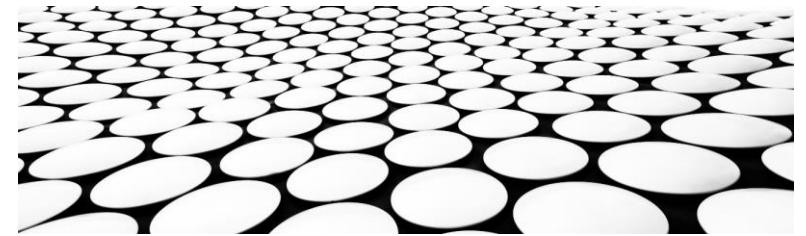


JavaScript / Bootstrap 5





Case study – Car rental (1)



Travel Safely and Flexibly

Budget® Canada

Sign In Register Business Rental Customer Care

Reservations Deals Locations Cars & Services Fastbreak

Rent a Moving Truck > 

LIMITED TIME SPRING OFFER!

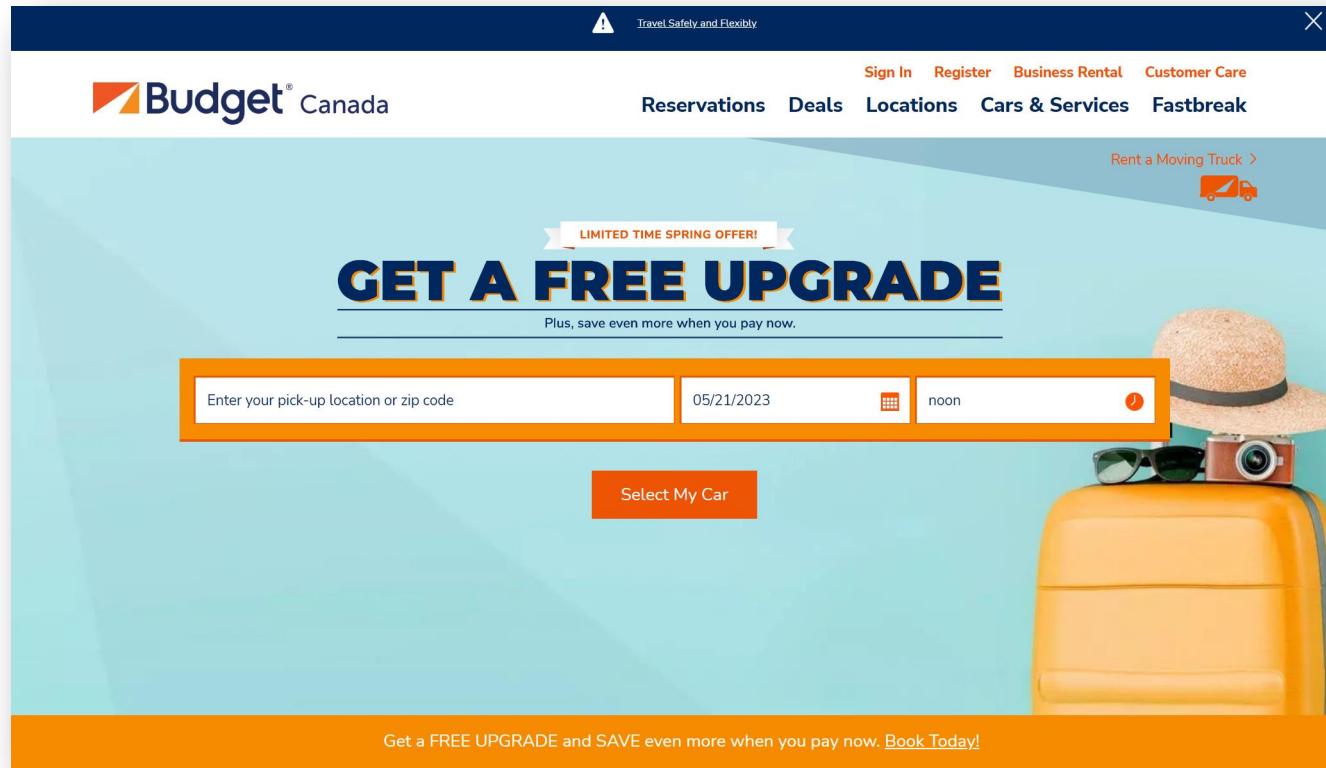
GET A FREE UPGRADE

Plus, save even more when you pay now.

Enter your pick-up location or zip code 05/21/2023  noon 

Select My Car 

Get a FREE UPGRADE and SAVE even more when you pay now. [Book Today!](#)



Travel Safely and Flexibly

Budget® Canada 

Enter your pick-up location or zip code

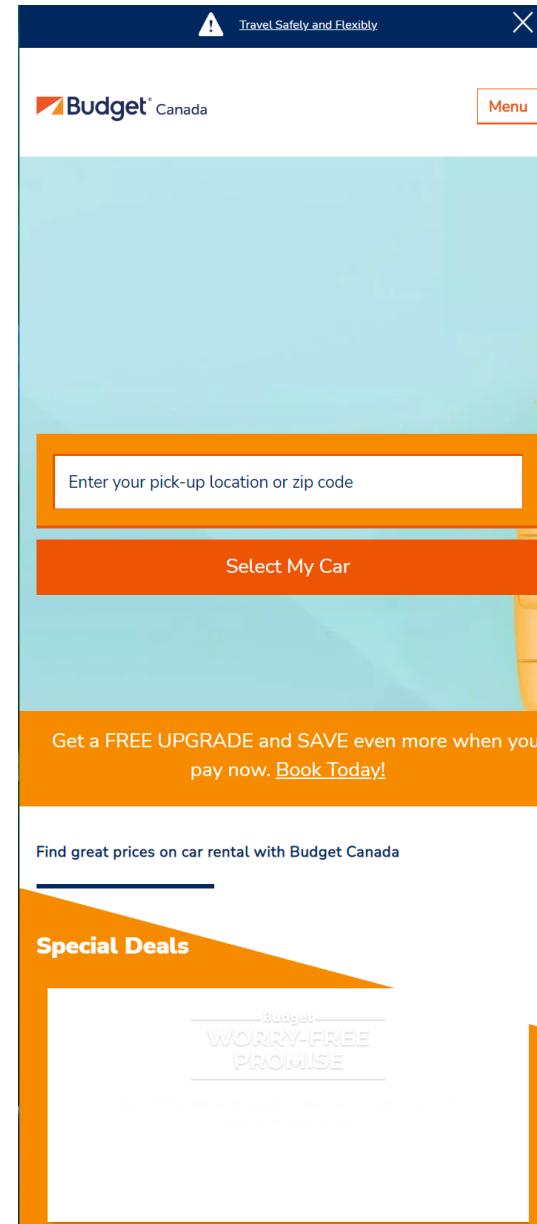
Select My Car

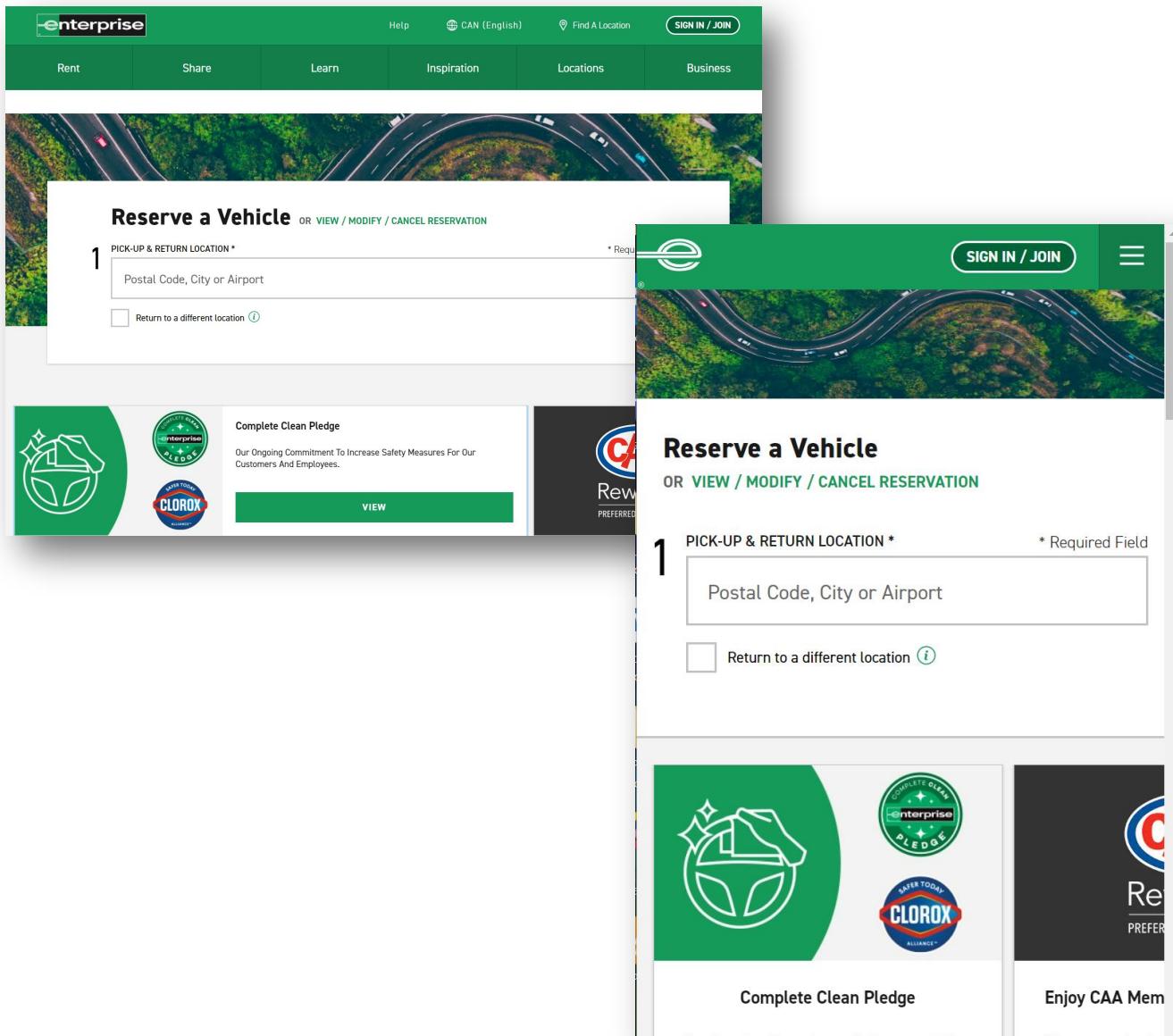
Get a FREE UPGRADE and SAVE even more when you pay now. [Book Today!](#)

Find great prices on car rental with Budget Canada

Special Deals

Budget
WORRY-FREE PROMISE





The screenshot shows the Enterprise Rent-A-Car website interface. At the top, there's a navigation bar with links for 'Help', 'CAN (English)', 'Find A Location', 'SIGN IN / JOIN', 'Rent', 'Share', 'Learn', 'Inspiration', 'Locations', and 'Business'. Below the navigation is a large aerial photograph of a winding road through a green landscape.

Reserve a Vehicle OR [VIEW / MODIFY / CANCEL RESERVATION](#)

1 PICK-UP & RETURN LOCATION * * Required Field

Postal Code, City or Airport

Return to a different location [i](#)

Complete Clean Pledge
Our Ongoing Commitment To Increase Safety Measures For Our Customers And Employees.

[VIEW](#)

Reserve a Vehicle
OR [VIEW / MODIFY / CANCEL RESERVATION](#)

1 PICK-UP & RETURN LOCATION * * Required Field

Postal Code, City or Airport

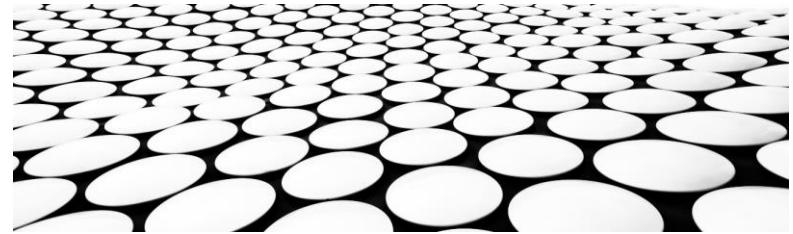
Return to a different location [i](#)

Complete Clean Pledge

Enjoy CAA Member Benefits

PREFERRED RATES

Case study – Car rental (2)



enterprise

Careers Help Find a Location

Rent Share Learn Inspiration Locations Business

Home / Car Rental

Reserve a Rental Car

or [View / Modify / Cancel Reservation](#)

1 Pick-up & Return Location (Postal Code, City or Airport)* * Required Field

Provide a Location

Return to a different location



Renting a Car with Enterprise

At Enterprise Rent-A-Car we make renting a car seamless so you can get right on your way. Find the nearest location from our network of 7,600 neighborhood and airport branches in over 85 countries. See how much it costs to rent a car for the day, a weekend or a full week by starting a reservation now.

Home / Car Rental

Reserve a Rental Car

or [View / Modify / Cancel Reservation](#)

Pick-up & Return Location (Postal Code, City or Airport)* * Required Field

Provide a Location

Return to a different location



Renting a Car with Enterprise

At Enterprise Rent-A-Car we make renting a car seamless so you can get right on your way. Find the nearest location from our network of 7,600 neighborhood and airport branches in over 85 countries. See how much it costs to rent a car for the day, a weekend or a full week by starting a reservation now.

Hertz

RESERVATIONS LOCATIONS DEALS GOLD PLUS REWARDS VEHICLES

Book a Car View/Modify/Cancel a Reservation

1 Pick-up Location (City, State, Airport Code or US Zip Code)
Help me find a location
 Return car to a different Hertz location

2 Pick-up Date & Time:
05:00 PM
Return Date & Time:
05:00 PM

Rental Car Type: No Preference
 Use My Hertz Gold Plus Rewards Points [Learn More About Your Points](#)
 Enter a Discount or Promo Code

[Book as a Member](#) [Book as a Guest](#)

Hertz Gold Plus Rewards®
Members skip the counter.

Hertz Login

Book a Car View/Modify/Cancel a Reservation

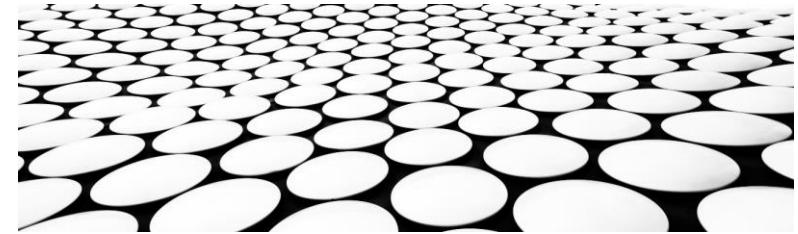
1 Pick-up Location (City, State, Airport Code or US Zip Code)
Help me find a location
 Return car to a different Hertz location

2 Pick-up Date & Time:
07:00 PM
Return Date & Time:
07:00 PM

Rental Car Type: No Preference
 Use My Hertz Gold Plus Rewards Points [Learn More About Your Points](#)
[Enter a Discount or Promo Code](#)

[Book as a Member](#) [Book as a Guest](#)

Case study – Car rental (3)



Hertz Reservations Locations Deals Gold Plus Rewards Vehicles



EN/CA

Login/Sign-Up

Hertz Rental Car. Let's Go!

Same Drop-off Location Add a Discount Code

Pick-up Location

Pick-up Date

Pick-up Time

05:00 PM

Drop-off Date

Drop-off Time

05:00 PM [View / Edit / Cancel](#)[Continue](#)

Hertz

Hertz Rental Car. Let's Go!

Same Drop-off Location Add a Discount Code [View / Edit / Cancel](#)

Pick-up Location

Pick-up Date

Pick-up Time

05:00 PM

Drop-off Date

Drop-off Time

05:00 PM [Continue](#)

Skip the counter. Every time.

Members benefit from day one.

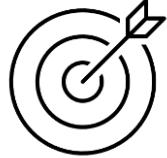
[Learn More](#)



SUMMARY

- Introduction to the problem of communication within a limited space
- Impact of web versus mobile design

Part 5 Icons



GOALS OF THE PRESENTATION

- Discuss icons as tools of visual communication
- Design guidelines for icons
- Case study

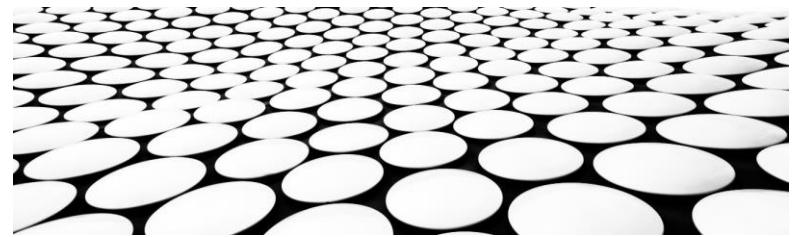
Communicating with icons

Icons must first and foremost **communicate meaning**

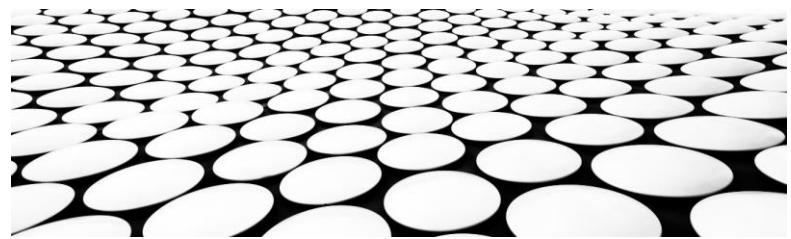
- They are a visual representation of an object, action or idea

Always user-test all icons!!!

- If an icon is not clear, it is reduced to visual noise and brings confusion



Icon guidelines



Keep icons as simple as possible

- Enough information to convey the message and no more
 - No fancy borders or frills
- Too much detail causes users to
 - take longer in recognition
 - become interested in the pretty picture

Keep icons distinct from each other

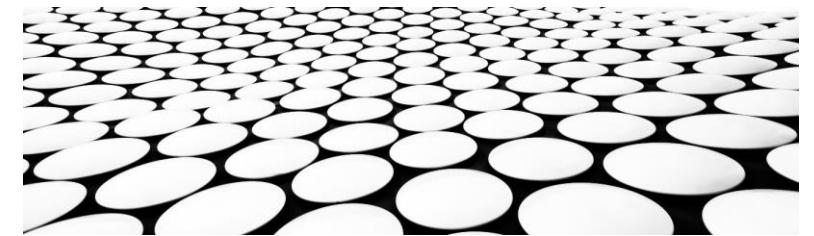
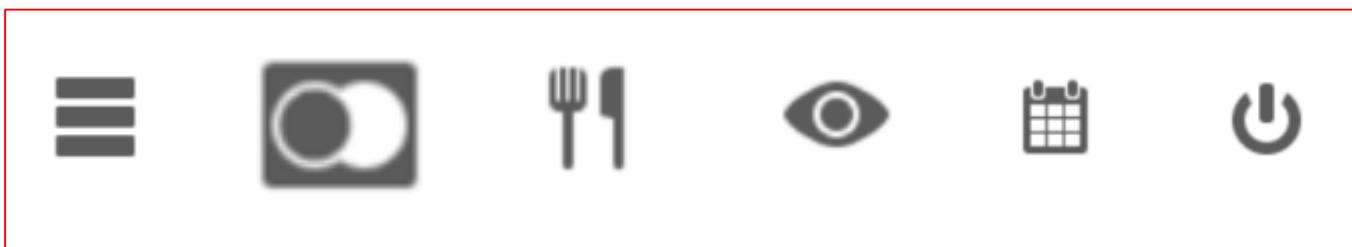
- Perform tests to ensure each icon can only be interpreted as meaning one command

Icon guidelines

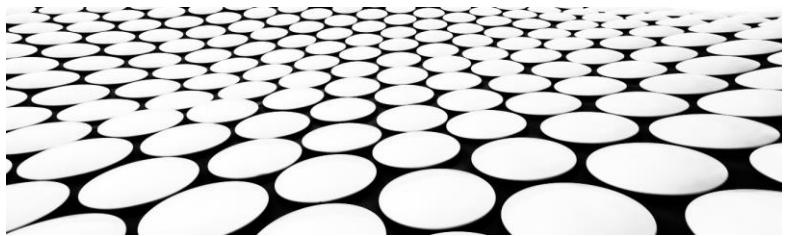
Use standard icons whenever possible (e.g. home, search, save, ...)

- Very few icons are universal

What do these
icons mean?



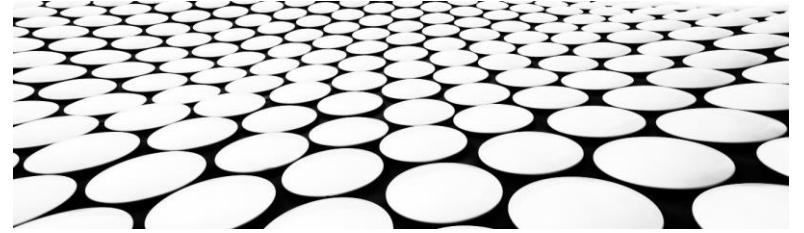
Text and Icons



- Sometimes addition of text can aid in the interpretation of the icon
- Can be included permanently or may appear when the pointer is placed over the icon
- For non-standard icons, text can help if present at all time
 - problematic for internationalization



Text and Icons



SEO & INTERNET ICONS



Promotion



Limit



Start Up



Keyword



Upload



Team



Download



Touchscreen



Network



Idea



Pay



E-commerce



Partnership



Refund

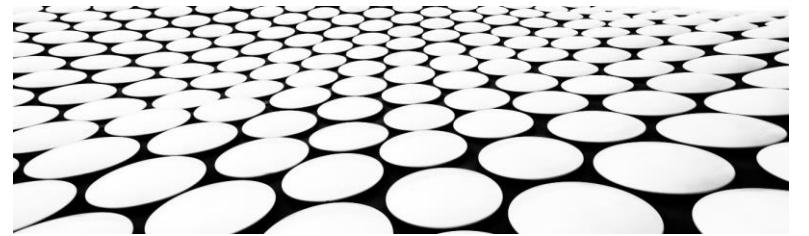


Time



Expansion

Advantages



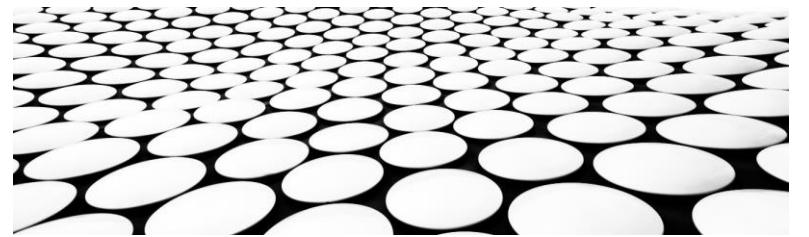
Quick Searching

- It is generally quicker to find the appropriate icon on a screen than to find a function in a text list

Compactness

- Icons normally take up less room on the screen than if the corresponding functions were described with text

Advantages of using icons



Comprehensibility

- If the icon is carefully chosen, most icon are easily understood by an "average" user

Universality

- Many icons are relatively language and/or culturally independent, so they can be used on international versions of software without the localization costs

Availability

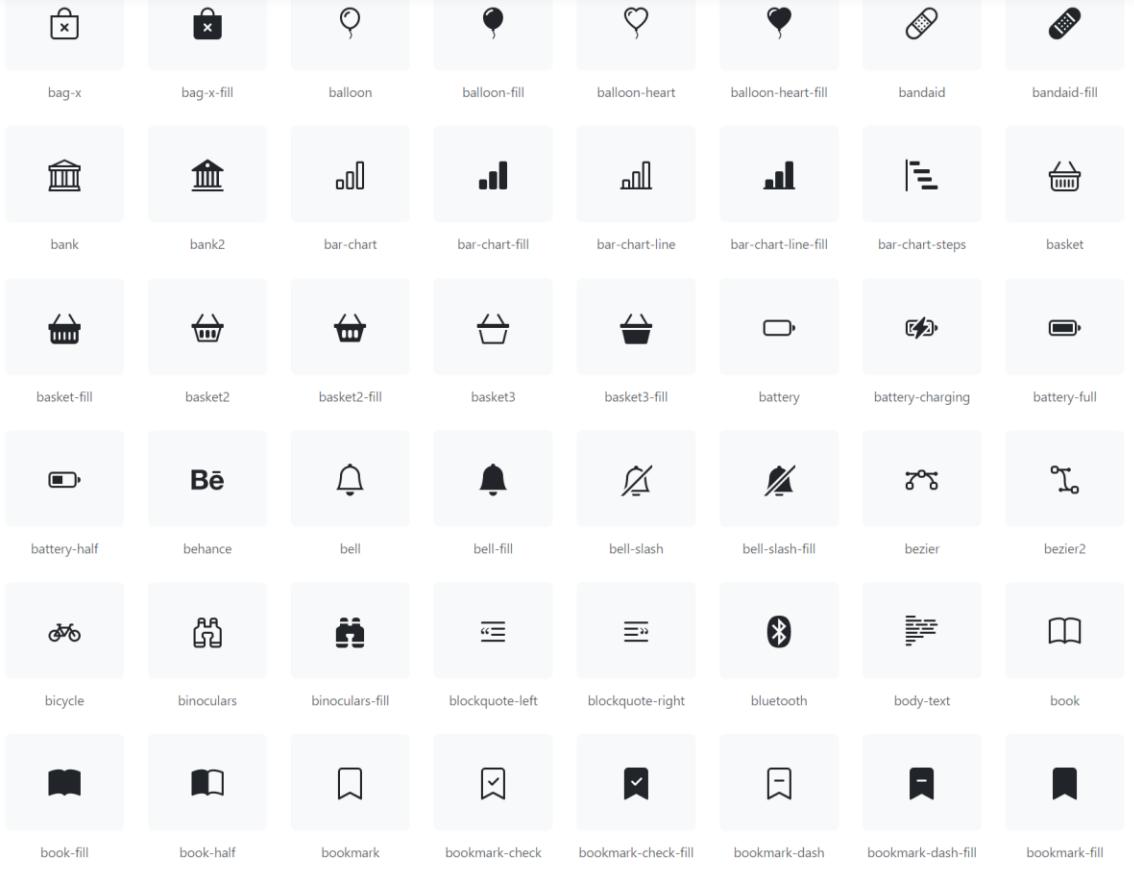
- Not too difficult to obtain ready-made icons for practically any function from media such as WWW and collections of clip-art



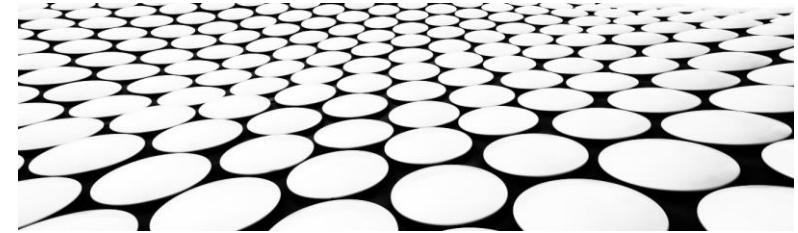
New in v1.8.0: 140+ new icons!

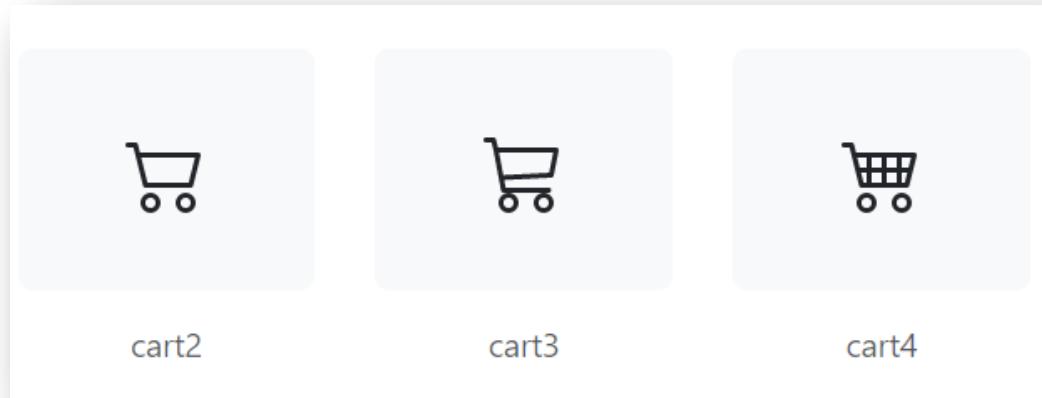
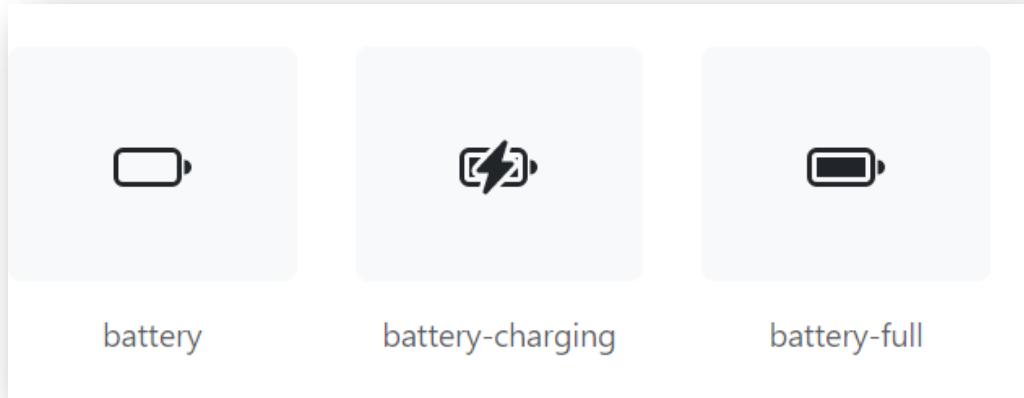
Bootstrap Icons

Free, high quality, open :
icons. Include them anyv
web fonts. Use them wit
project.

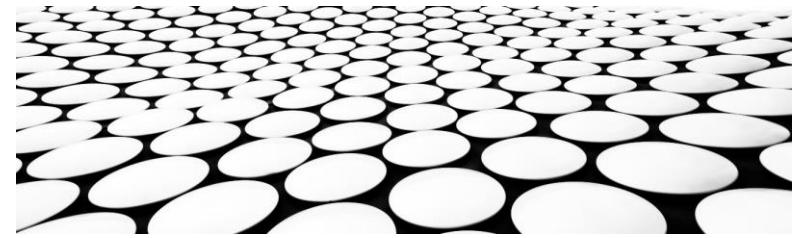


Icons everywhere

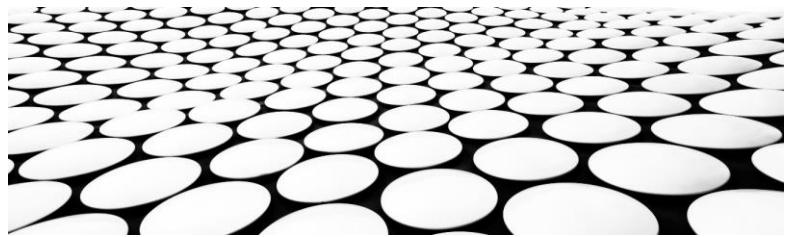




Small variations



Disadvantages of using icons



Ambiguity

- If the icon has not been well designed, there may be no way for the average user to even guess what it represents

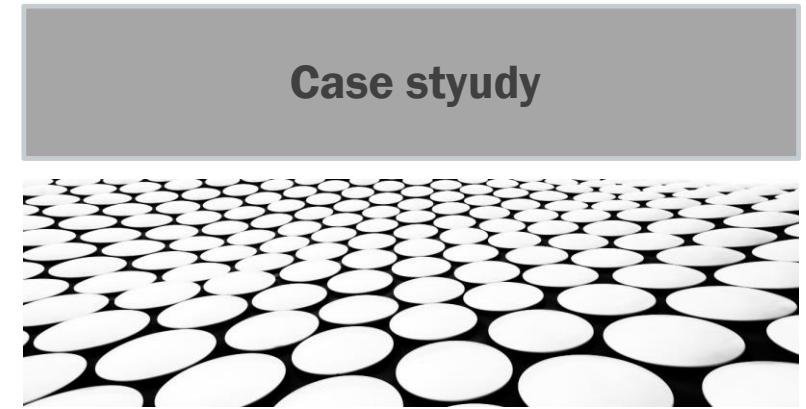
Limits to imagery

- Cannot always completely replace words
- Some complex situations require words

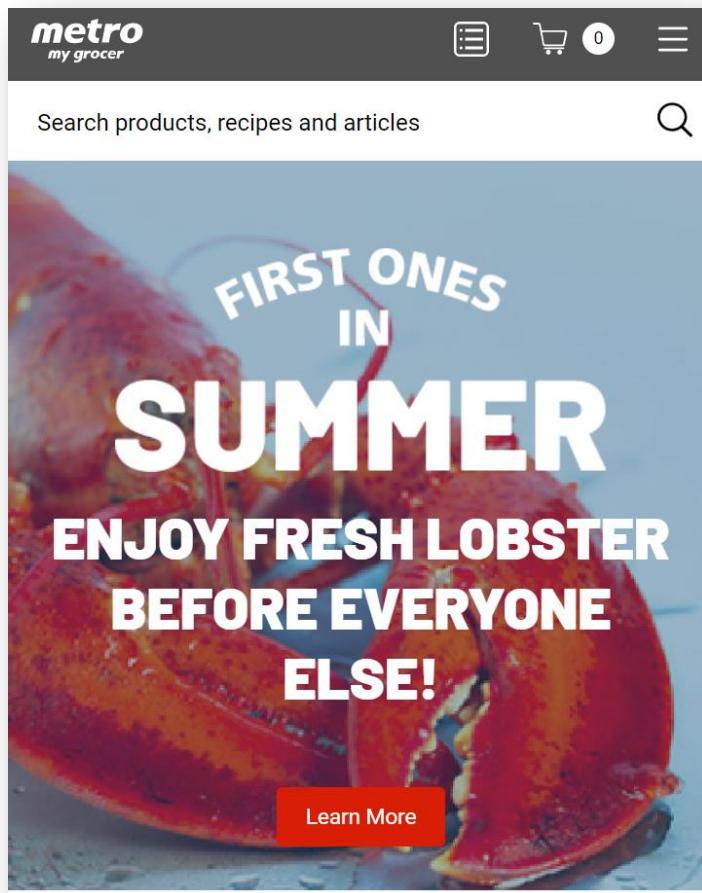
Cost of novelty

- It is difficult and costly to design a brand new icon that one can be sure will be interpreted properly by the users

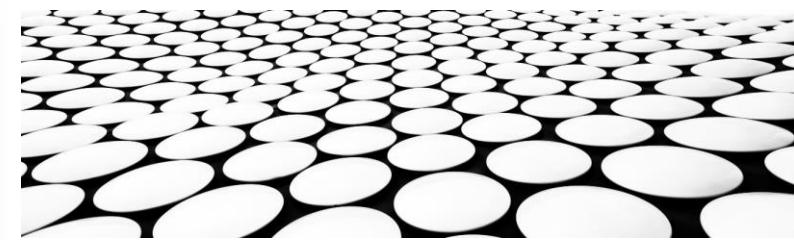
The image shows the homepage of the Metro my grocer website. At the top, there's a dark header bar with the "metro my grocer" logo and "MY ONLINE GROCERIES" text. Below the header is a search bar and a navigation menu with links for "ONLINE GROCERY", "FLYER AND COUPONS", "RECIPES", "PRODUCTS TO DISCOVER", "METRO&MOI", and "MY HEALTH MY CHOICES". A "Sign in" button is also present. The main content area features a large image of lobsters with the text "FIRST ONES IN SUMMER" and "ENJOY FRESH LOBSTER BEFORE EVERYONE ELSE!". A red "Learn More" button is at the bottom right of the main image. The overall design is clean and modern.

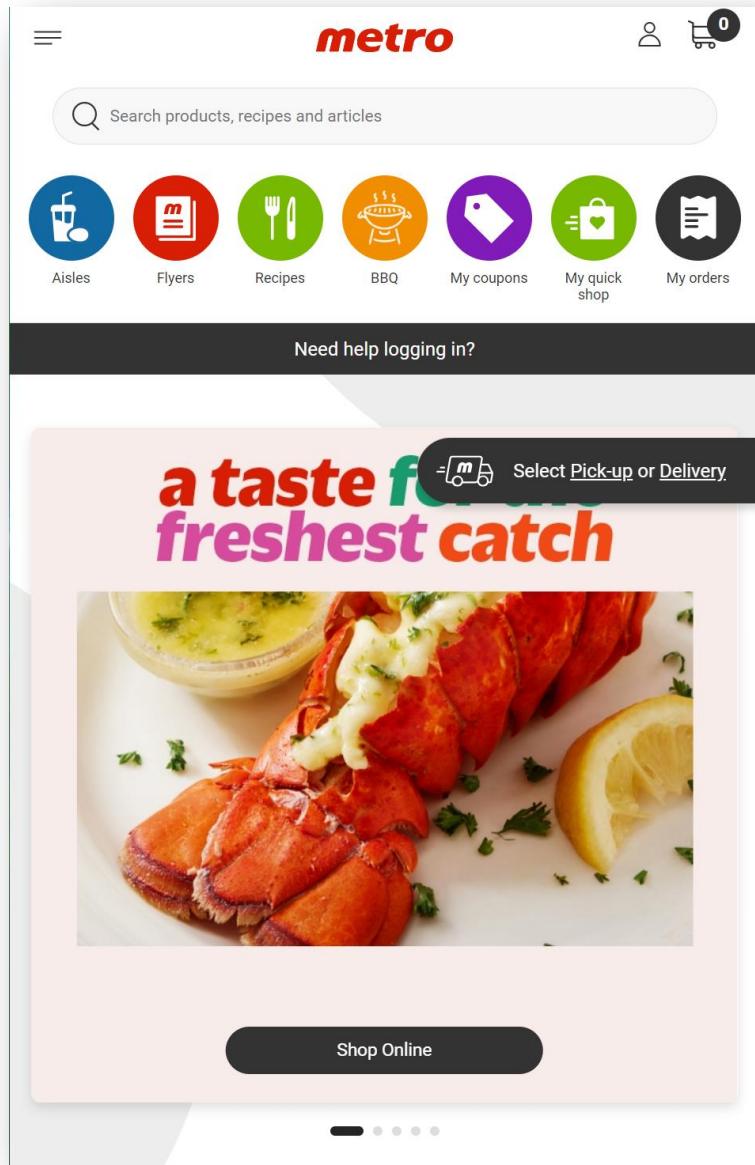


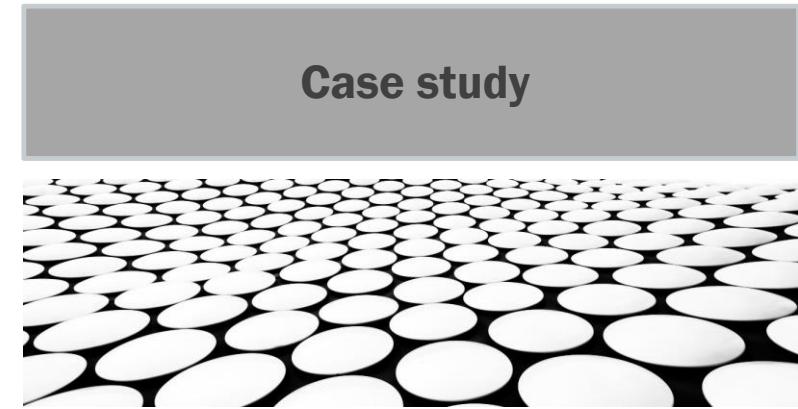
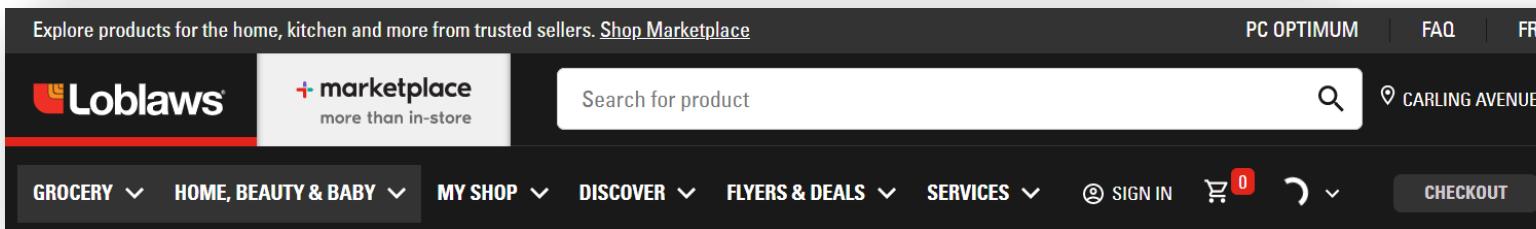
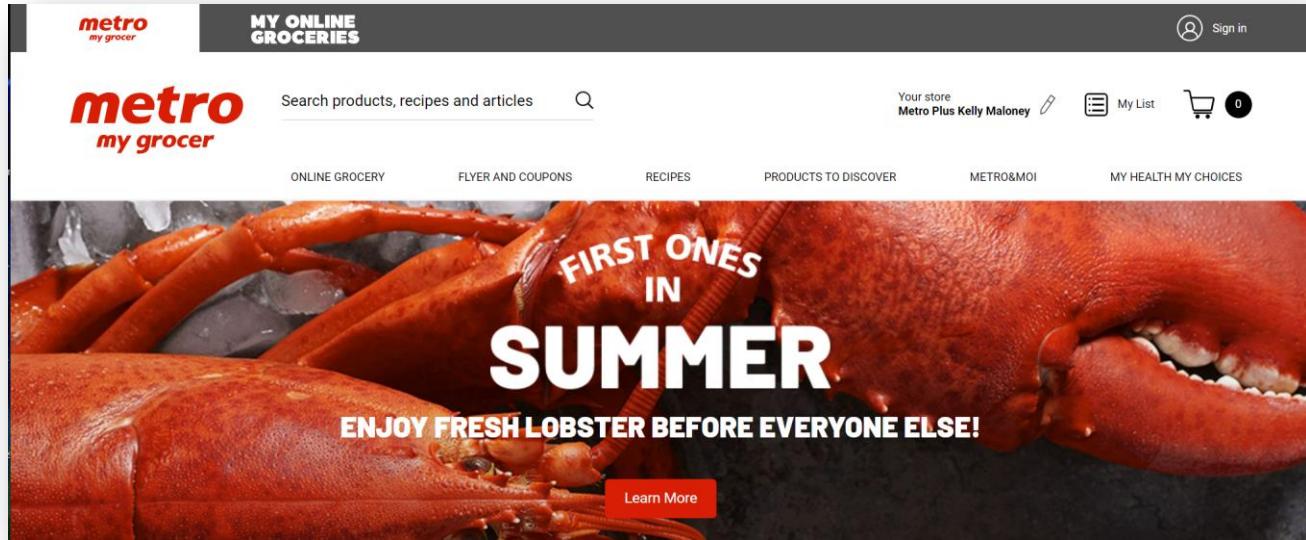
Case study

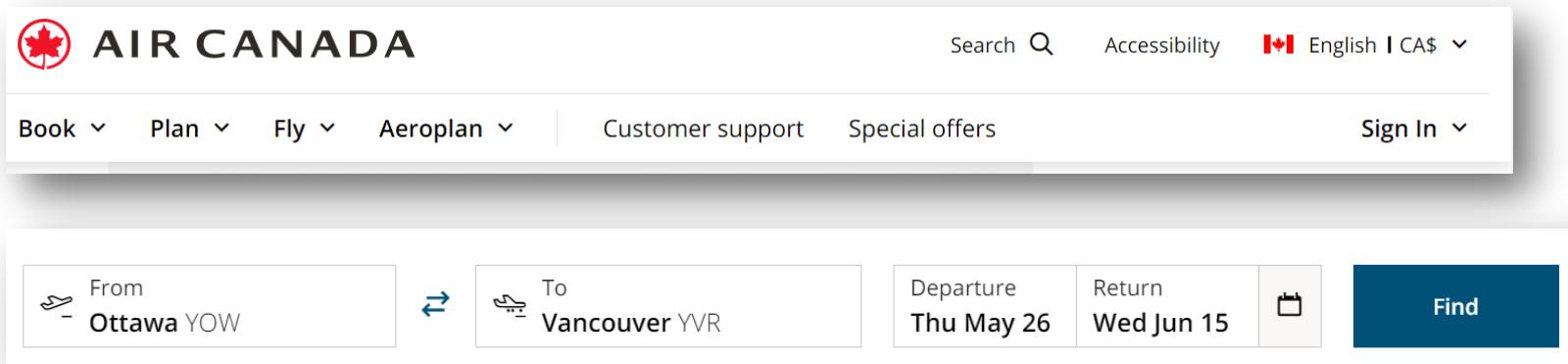


Case study



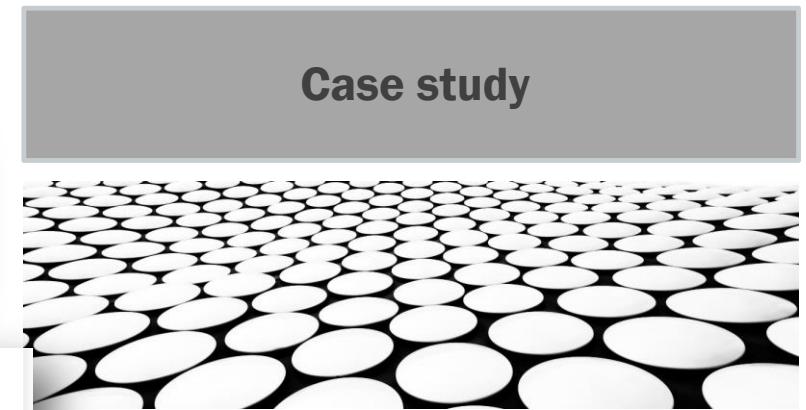
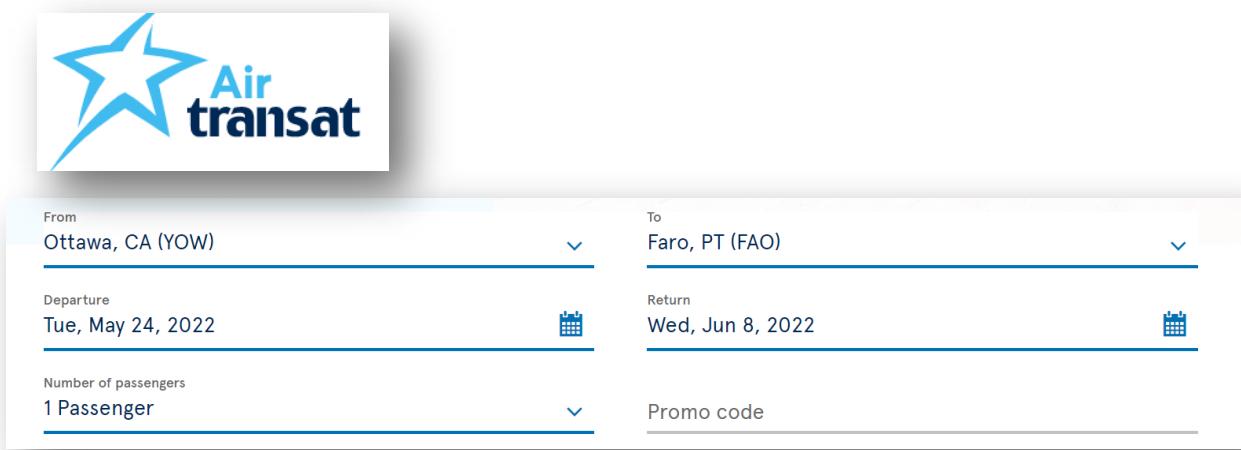






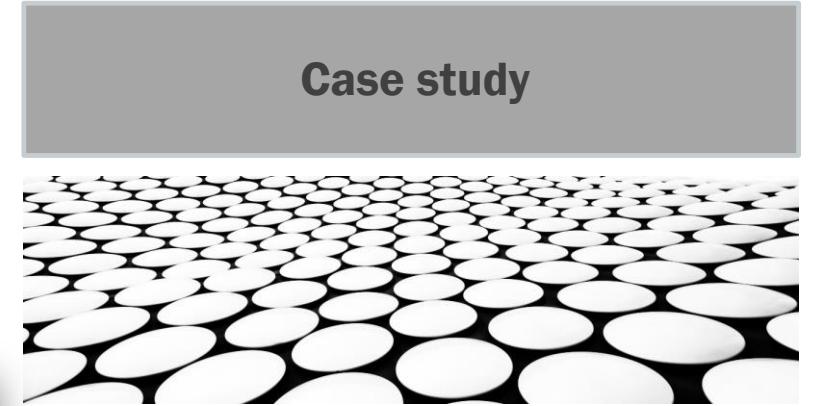
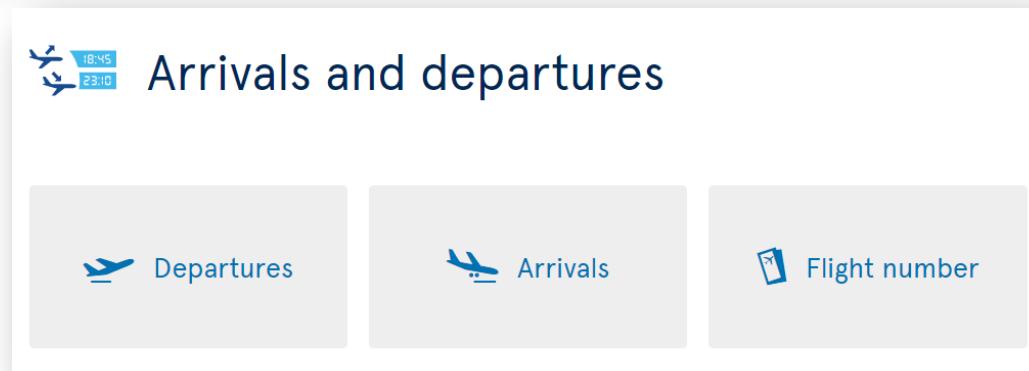
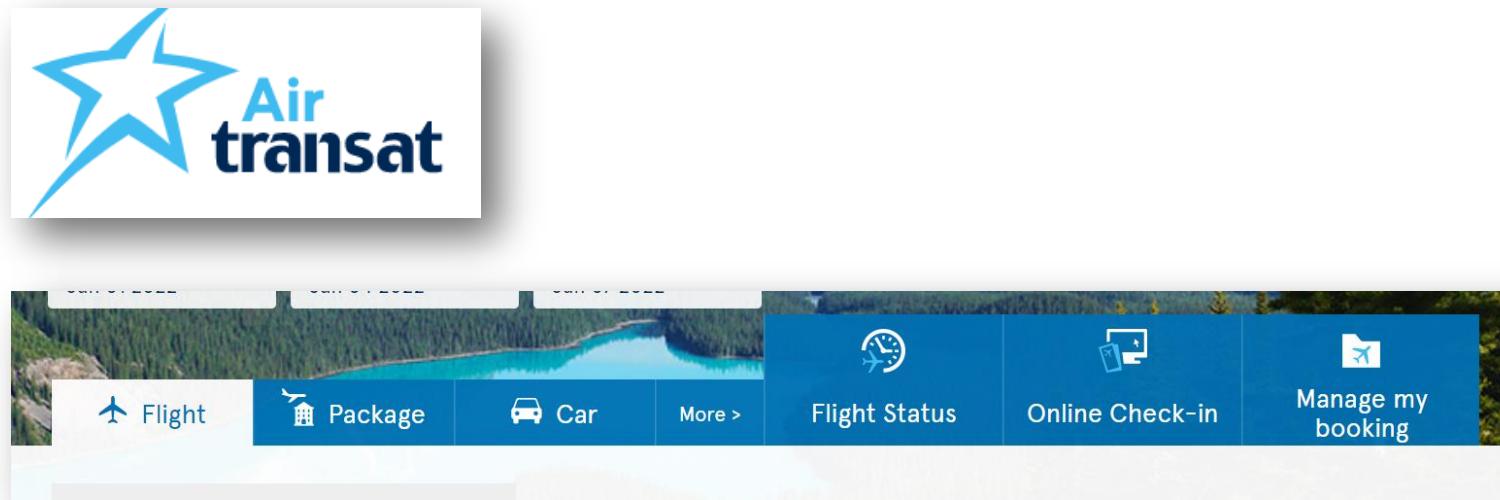
Air Canada flight search interface:

- From:** Ottawa YOW
- To:** Vancouver YVR
- Departure:** Thu May 26
- Return:** Wed Jun 15
- Find** button

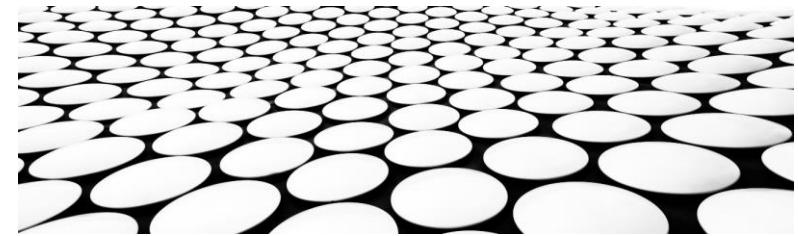
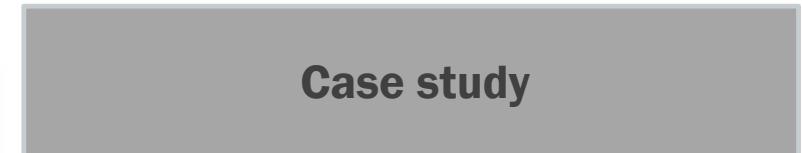
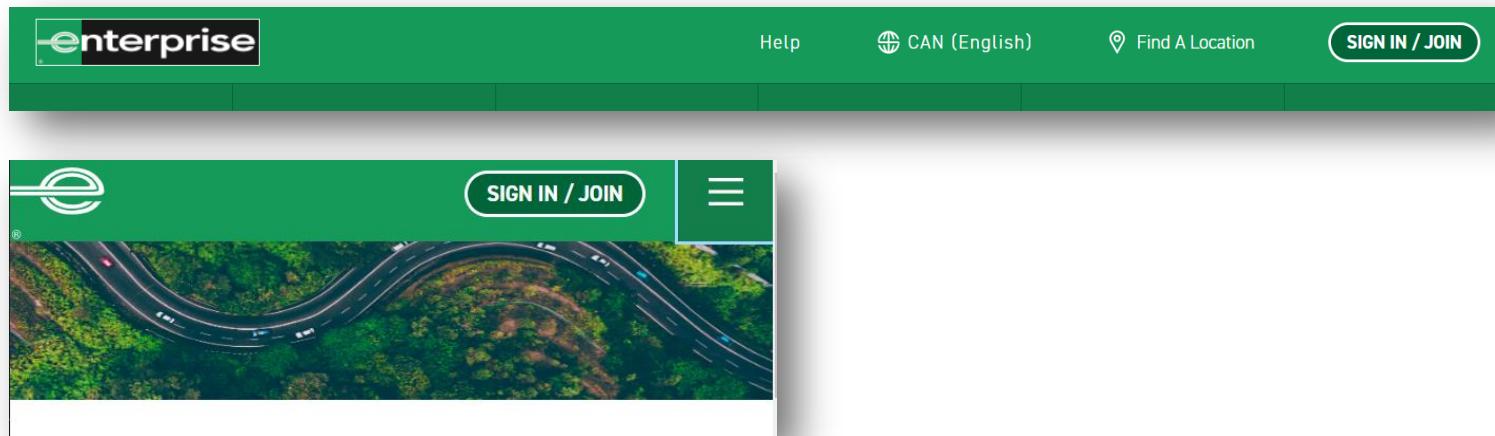



Air Transat flight search interface:

- From:** Ottawa, CA (YOW)
- To:** Faro, PT (FAO)
- Departure:** Tue, May 24, 2022
- Return:** Wed, Jun 8, 2022
- Promo code:** input field



Case study



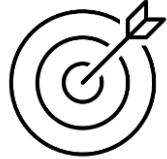


SUMMARY

- Icons play an important role in “space-limited” communication
- Choice or design of icons is not trivial
- Certain standards have emerged through the years

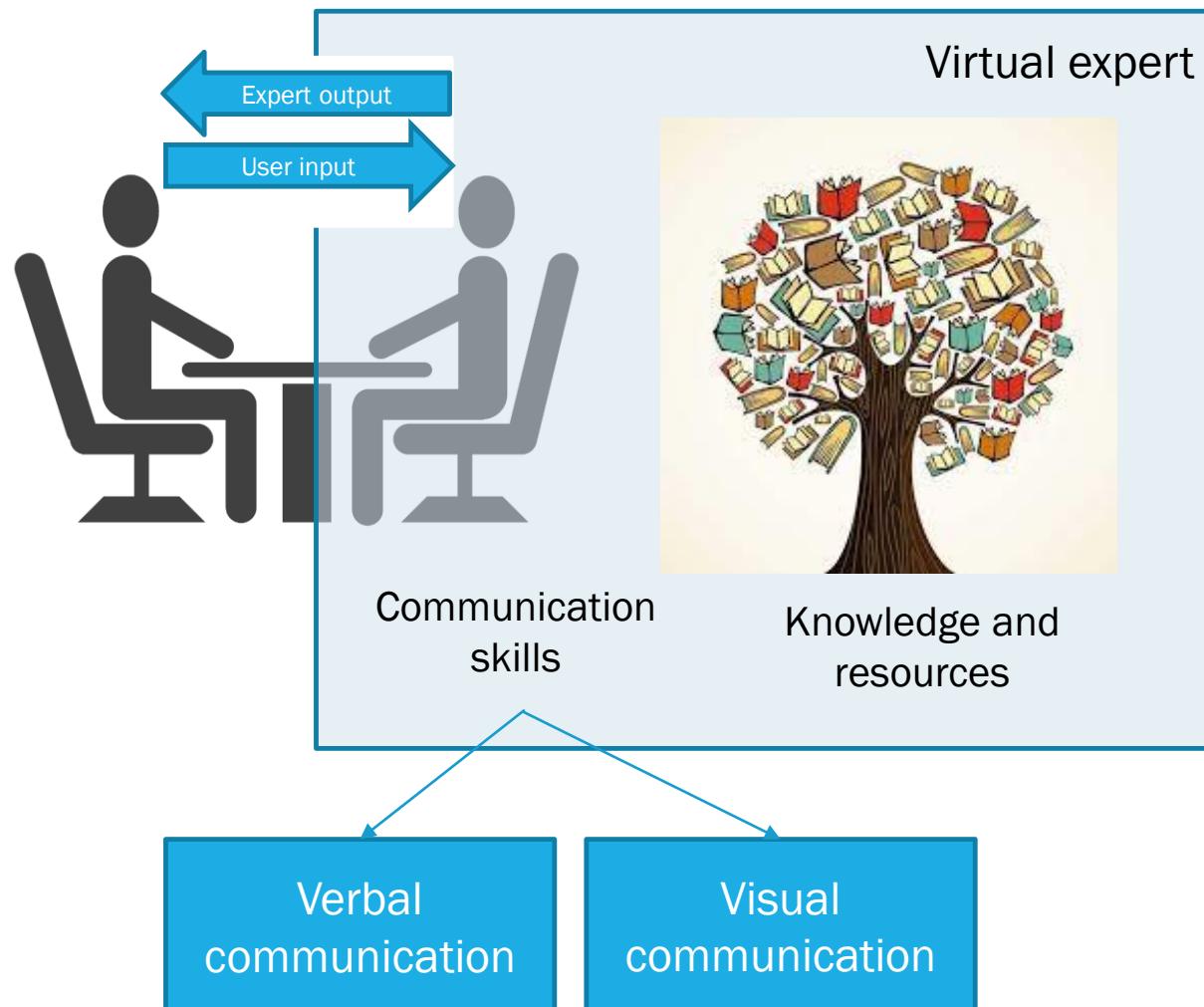
Part 6

Language

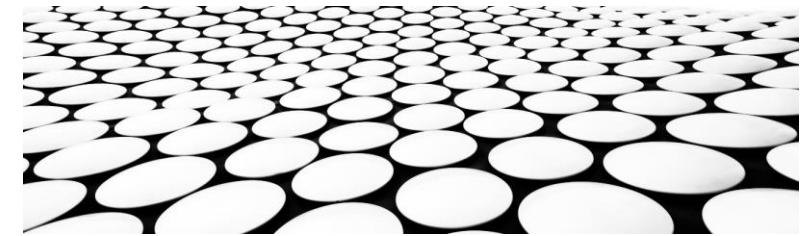


GOALS OF THE PRESENTATION

- Highlight of a few important elements within verbal communication
- Introduce the problem of synonyms
- Introduce the notion of contextual word choices
- Discuss the problem of various use of space for different languages



An HCI view
Virtual expert





What to say?

Bootstrap 5 Jumbotron

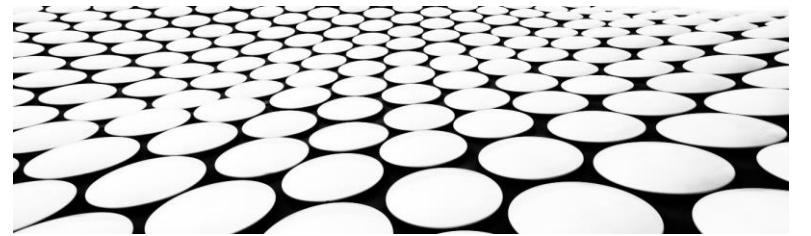
A jumbotron was introduced in Bootstrap 3 as a big padded box for calling extra attention to some special content or information.

Jumbotrons are no longer supported in Bootstrap 5. **However**, you can use a `<div>` element and add special helper classes together with a color class to achieve the same effect:

Jumbotron Example

Placeholder text for the jumbotron example.

Containers / not content



Sarah Yanshin-Hall [Follow](#)
 May 20, 2020 · 12 min read ★ · [Listen](#)

[Twitter](#) [Facebook](#) [LinkedIn](#) [Reddit](#) [Share](#)

Designed to reassure: reimagining services in anxious times



Published in UX Collective

✖ Less clear

“Practice social distancing.”

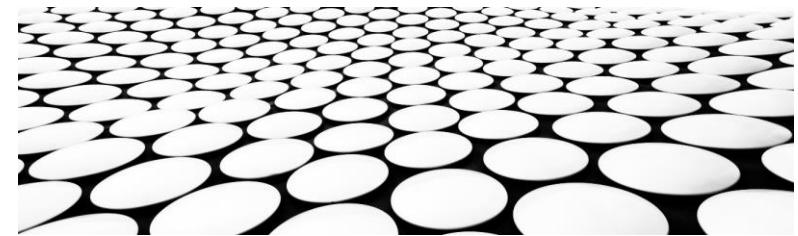
- ✗ New term
- ✗ Unclear
- ✗ Not specific
- ✗ Conceptual

✓ More clear

“Stay at home. Get groceries once per week.”

- ✓ Use known words
- ✓ Be clear
- ✓ Be specific
- ✓ Be concrete

Clear messages



Clear and Concise: How to Sculpt Sentences to Communicate Better

by Henneke | 133 enchanting opinions, add yours? :)

Example sentence #1:

When I started my own business, it has given me a whole new perspective to see the bigger picture when it comes to finding a work / life balance.

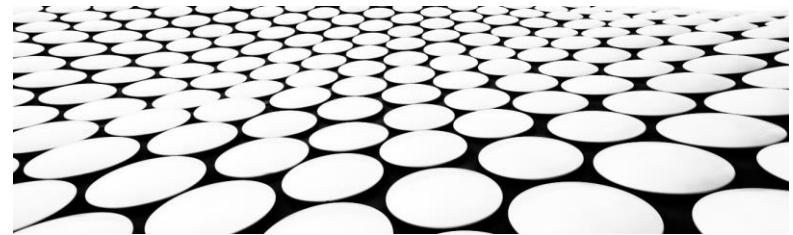
Meaningful words in bold:

When I **started** my own **business**, it has given me a whole **new perspective** to see the **bigger picture** when it comes to finding a **work / life balance**.

Clear and concise version:

Starting my own business has given me a new perspective on work / life balance.

Clear messages



Clear and Concise: How to Sculpt Sentences to Communicate Better

by Henneke | 133 enchanting opinions, add yours? :)

Example sentence #2:

I will provide you with suggestions on your performance so you can overcome the challenges you encounter every day while working for a difficult boss, so you can feel less stressed.

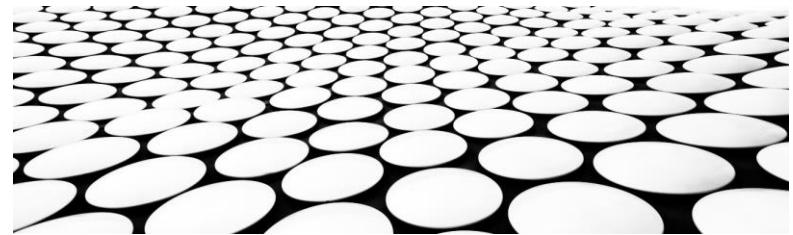
Meaningful words in bold:

I will provide you with **suggestions** on your performance so you can **overcome** the **challenges** you encounter **every day** while **working** for a **difficult boss**, so you can feel **less stressed**.

Clear and concise version:

I help you overcome the daily challenges of working for a difficult boss, so you feel less stressed.

Clear messages



BtB Translation Bureau Bureau de la traduction
http://www.btb.termiumplus.gc.ca

Writing TIPS

Français | Home | Contact Us | Help | Search Canada.ca | Canada.ca

clear communication: use clear words and expressions

A similar topic is discussed in French in the article [**COMMUNICATION CLAIRE : CHOISISSEZ DES MOTS CLAIRS.**](#))

To make your texts easy to understand, you must have not only an excellent grasp of your topic but also an idea of how much your readers already know.

Whenever possible, choose words that the readers are familiar with. If you need to use more complex words, there are techniques you can use to make them easier to understand, as you will see below.

[**Use simple, familiar words and phrases**](#)

[**Use appropriate expressions and references**](#)

[**Avoid jargon and unfamiliar acronyms or expressions**](#)

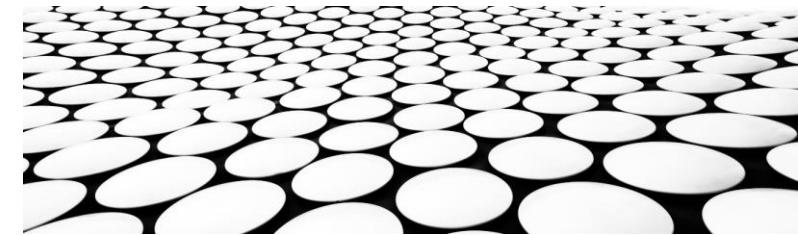
[**Explain complex terms and ideas**](#)

[**Use concrete examples**](#)

[**Use comparisons**](#)

[**Avoid chains of nouns**](#)

Clear messages



Messages, buttons, indicators should use familiar and non-ambiguous language

Many possible synonyms:

Quit

Exit

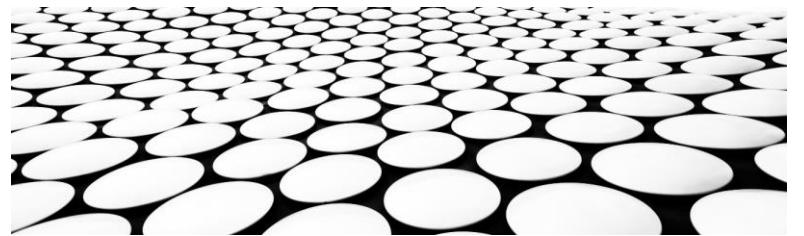
Bye

Logoff

Logout

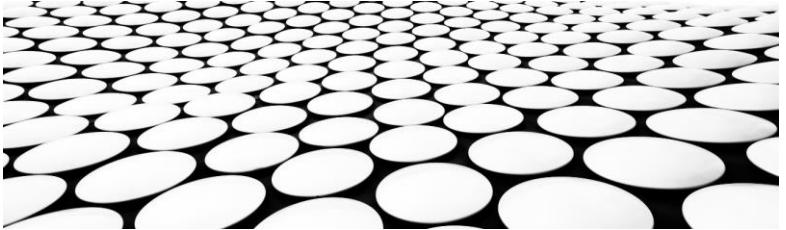
Leave

Synonyms



[Sign in](#)[Log in](#)[Register](#)[Sign up](#)[Join](#)

Synonyms



UX User Experience

Home

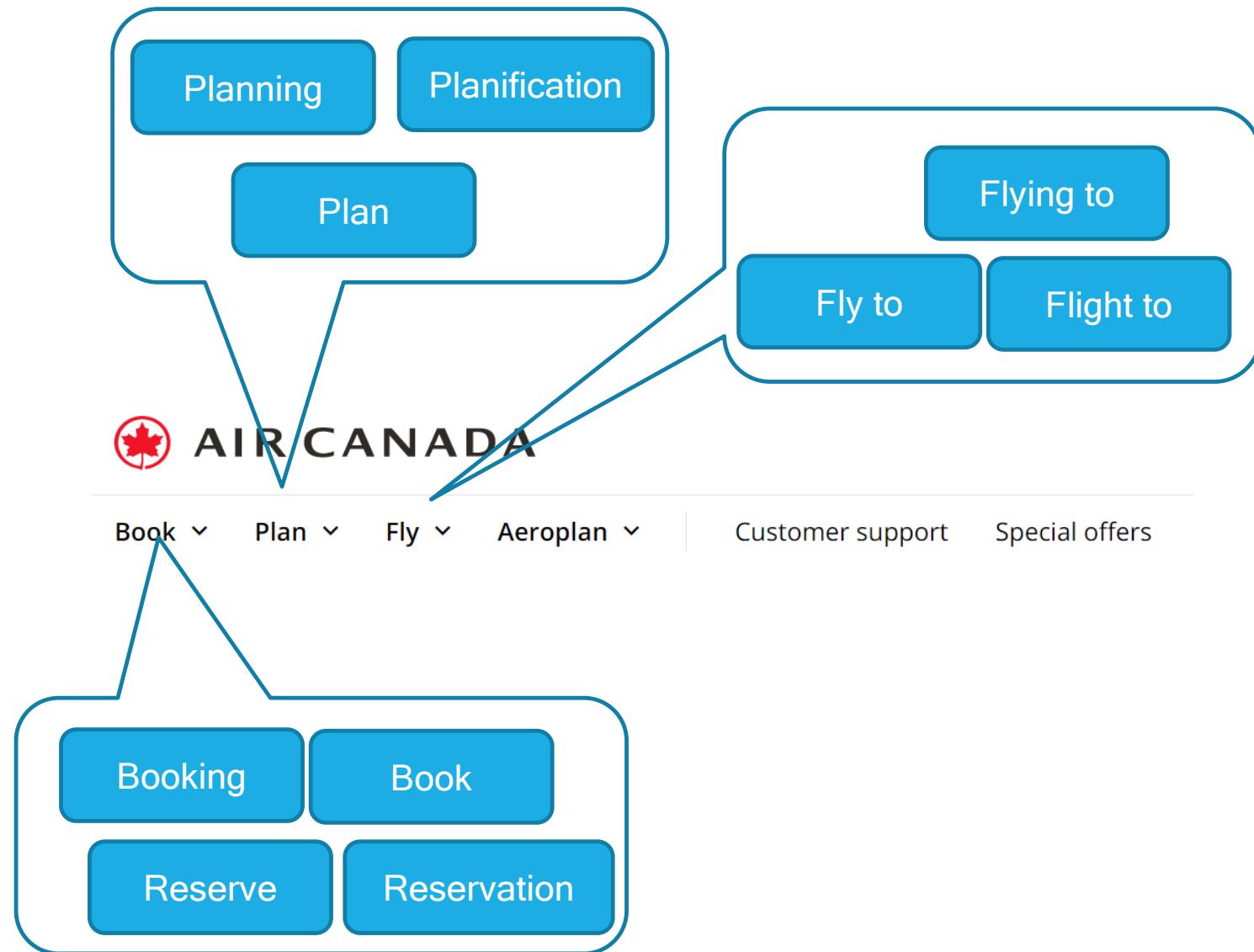
Using "Sign in" vs using "Log in"

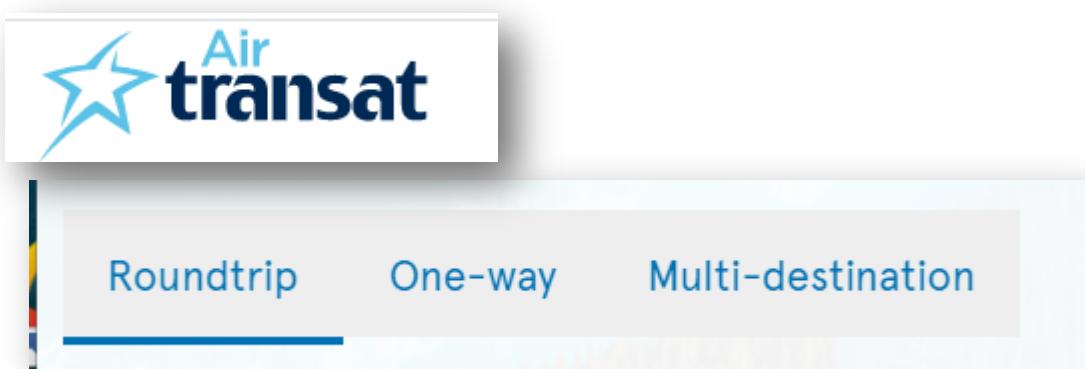
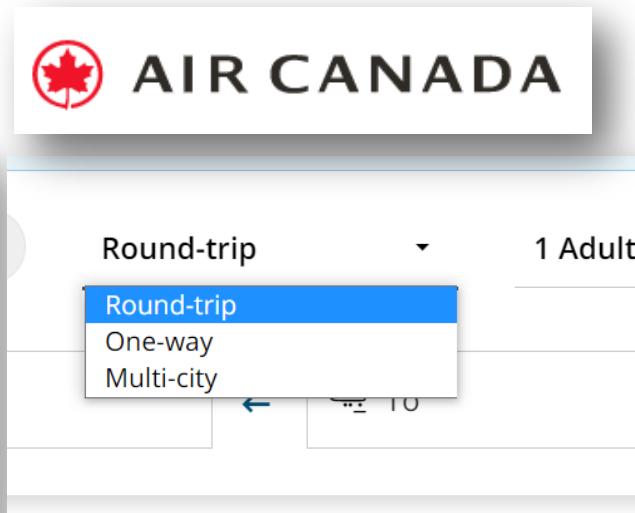
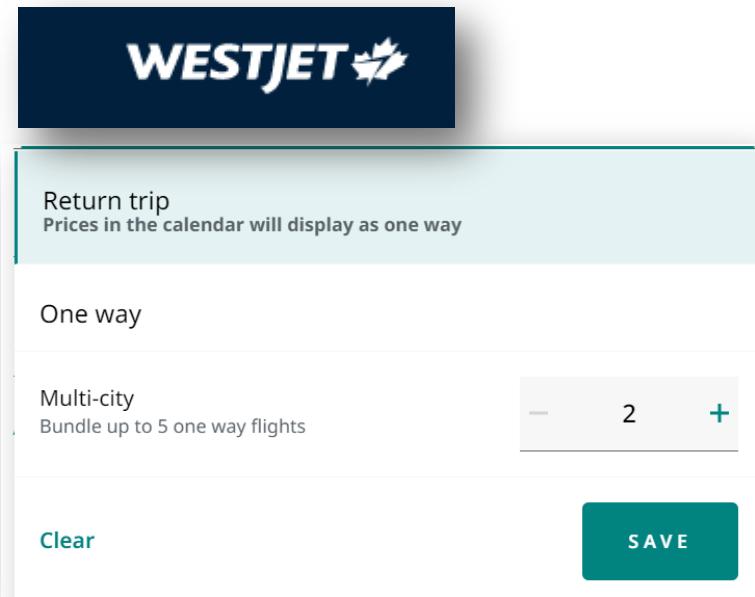
PUBLIC

Asked 11 years, 8 months ago Modified 5 months ago Viewed 156k times

In "[Homepage Usability](#)", Jakob Nielsen (together with Marie Tahir, 2002, p. 53) **recommends the use of "sign in" / "sign out" over "log in" / "log out".** This is empirically based on a survey of several large-scale websites and thus supports OP's "more common" argument.

Furthermore, I second [@Dan Barak](#) in that you should use "Register" or "Join [your-service-here]" as opposed to "sign up" in order to avoid unnecessary confusion. (I cannot recall whether Nielsen and Tahir had any recommendations regarding *this* issue, though.)





Words are the
same in 2023.



Type de voyage

Aller-retour

Aller-retour

Les prix s'afficheront en allers simples dans le calendrier

Aller simple

Villes multiples

Groupez jusqu'à 5 vols allers simples à la fois

2

+

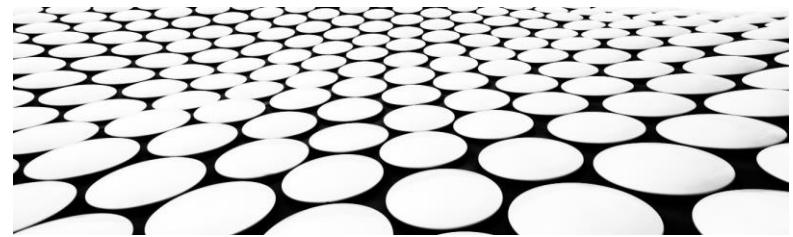


Aller-retour

Aller simple

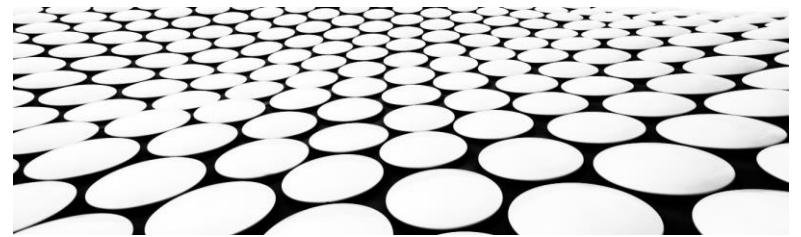
Multi-destinations

Industry standards?



Aller-retour Aller simple Multi-destinations/Escale

Contextualisation



Click below to cancel your subscription:

Cancel

Back

Are you sure you want to cancel?

Cancel

Yes



Your flight(s)

Tue, May 24, 2022		Flight TS7343/TS232		Wed, Jun 8, 2022		Flight TS233/TS7346	
Ottawa	Departs 16:45	○—○	1 stop	Faro	Departs 12:30	○—○	1 stop
			13h 5m				13h 38m
			Dash8 Q400 A321neo LR				A330-200 Dash8 Q400
			Eco Budget				Eco Budget

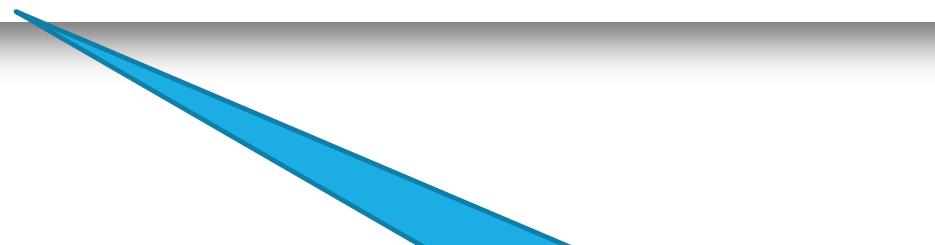
Options

No options selected

Price details

1 Adult	1 x \$430.00
Flight	1 x \$430.00
Other ATC	1 x \$570.00
▼ Taxes, fees & charges	1 x \$108.79
Total	1 x \$1,108.79

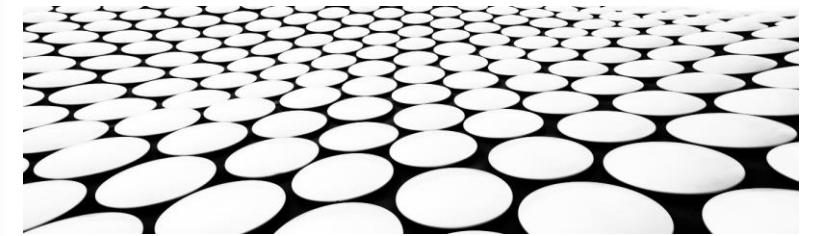
\$1,108.79
Taxes and fees included

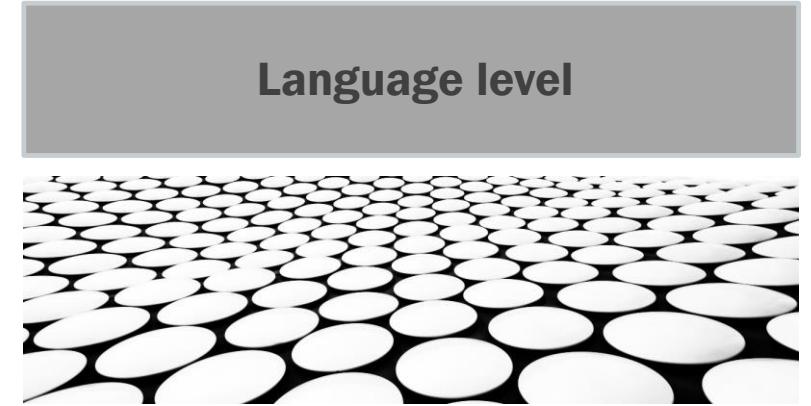
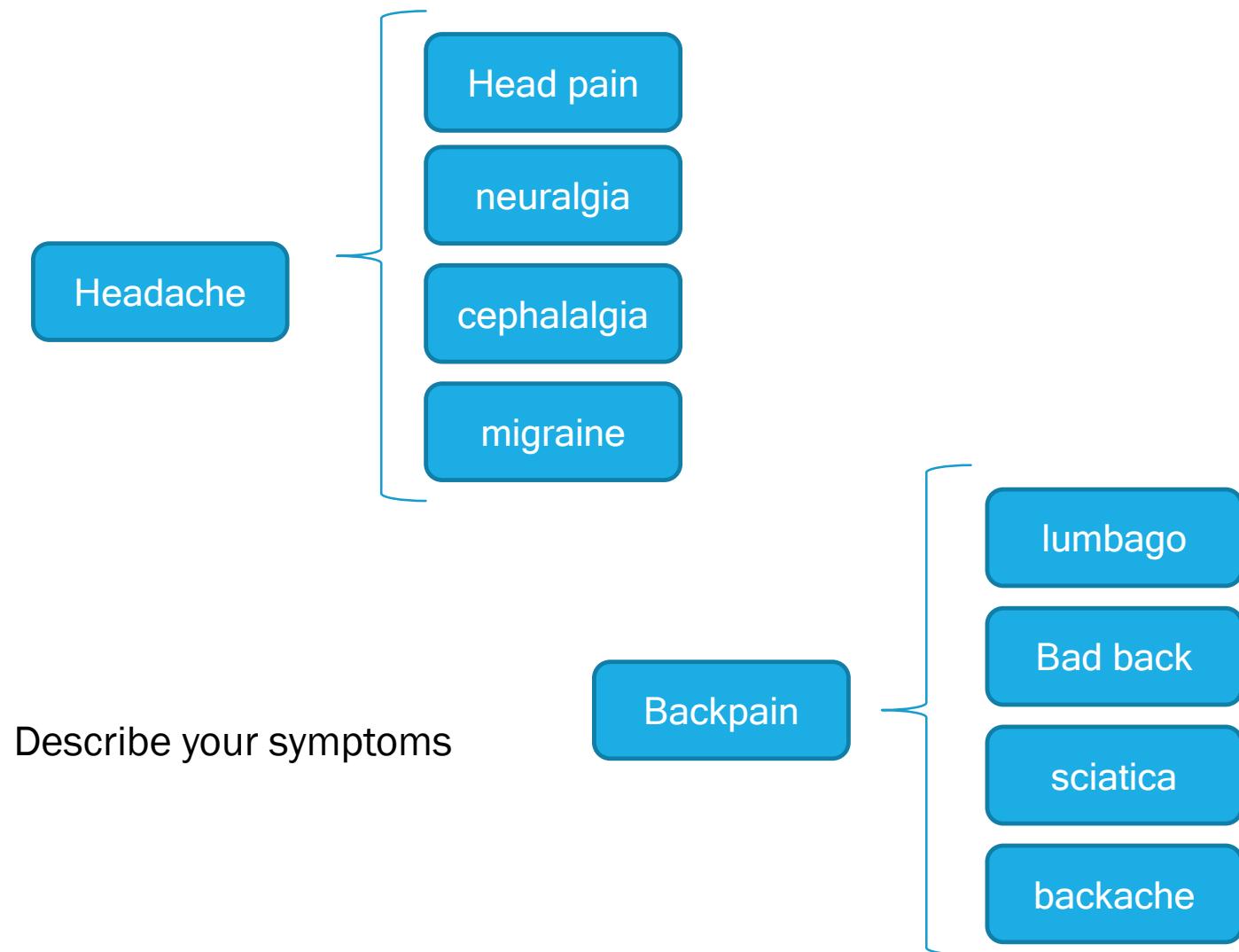
Return 

Continue

What do you think of the use
of word « return » here

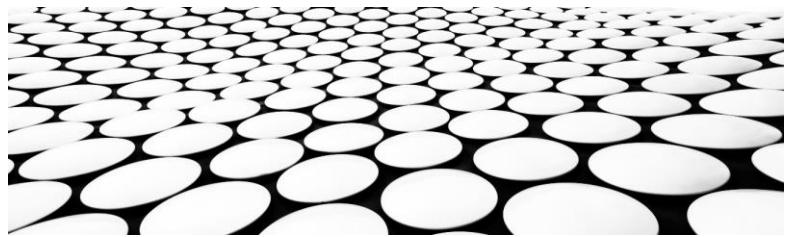
Case study – Airline travel





Generic / Specific

- Specific words, focusing on the exact actions to be performed, tend to lead to less confusion and favors recall
 - *place vs destination*
 - *insert vs add*



Confirm transaction of 147.38\$?

Yes

No

Confirm withdrawal of 147.38\$?

Yes

No

Confirm withdrawal of 147.38\$?

Yes

No

Confirm withdrawal of 147.38\$?

Yes, go ahead

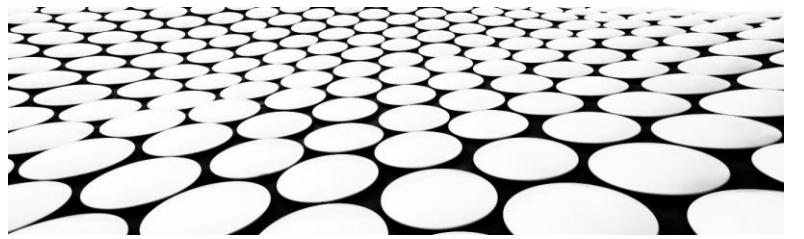
No, changed my mind

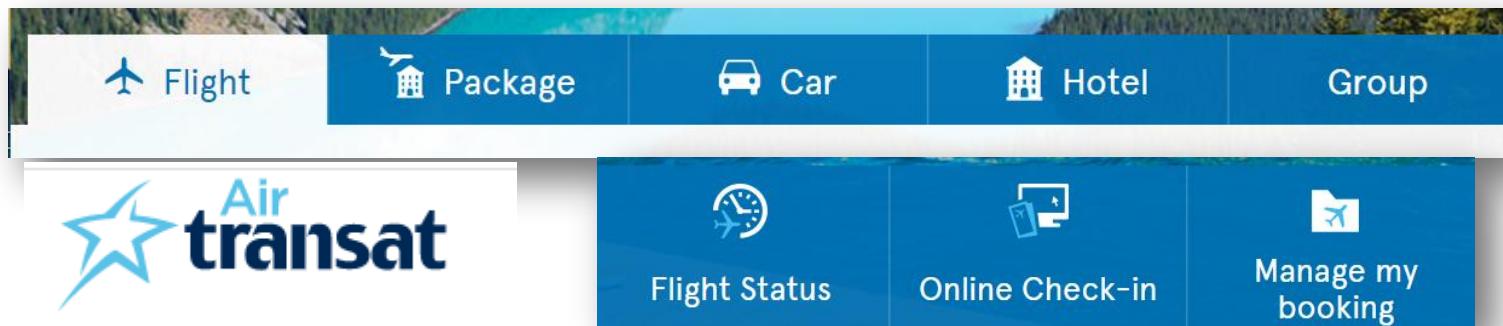
Confirm withdrawal of 147.38\$?

Yes, I want to go ahead with the withdrawal

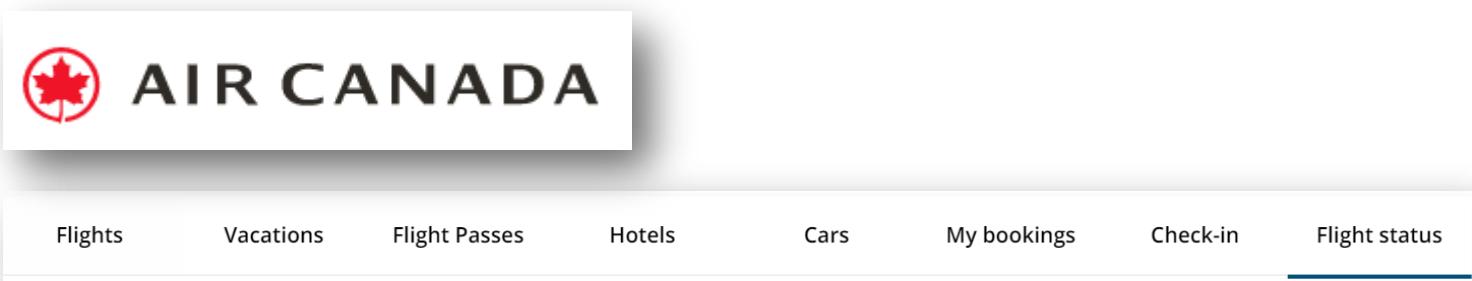
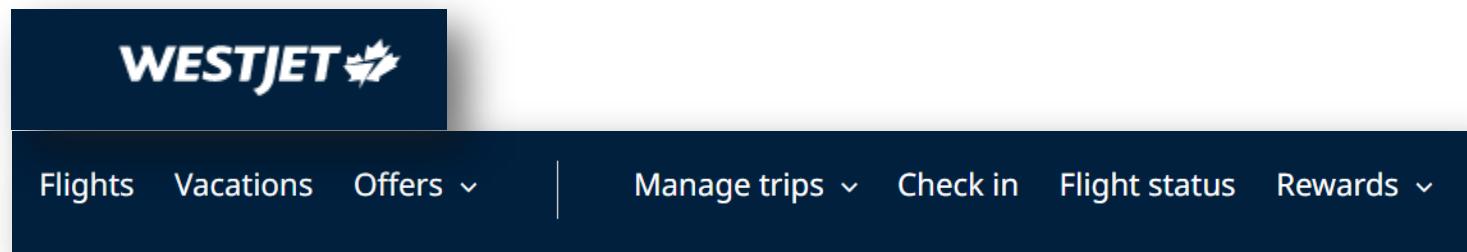
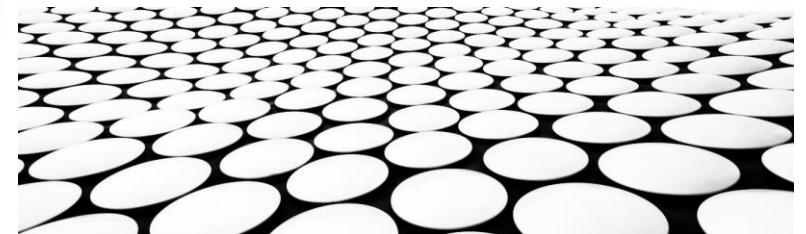
No, take me back, I changed my mind.

Conversation style





Navigation language



Different languages,
different space usage



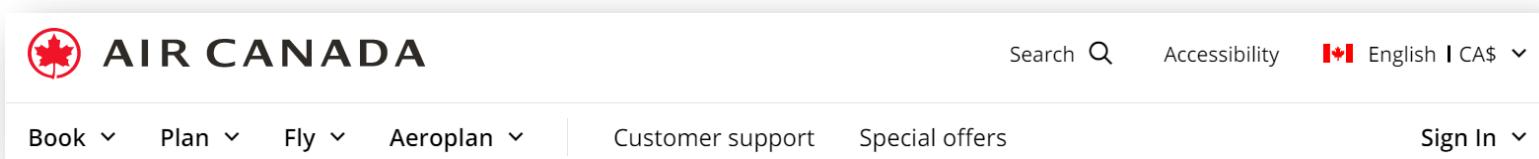
Canada (CAD) - English ▾  Manage My Booking

Book ▾ Deals ▾ Destinations ▾ Travel information ▾ Contact us 



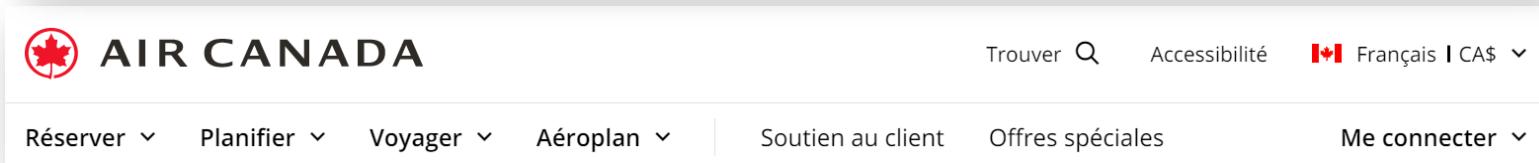
Canada (CAD) - Français ▾  Gérer ma réservation

Réserver ▾ Offres spéciales ▾ Destinations ▾ Info voyage ▾ Nous joindre 



 AIR CANADA Accessibility  English | CA\$ ▾

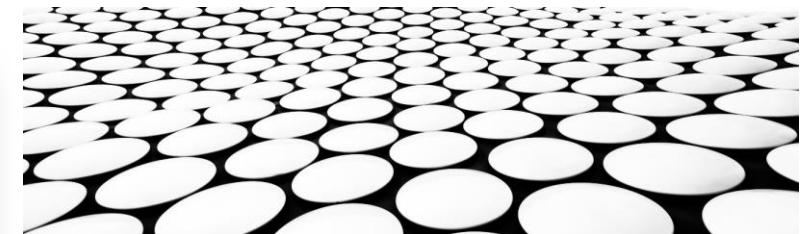
Book ▾ Plan ▾ Fly ▾ Aeroplan ▾ Customer support Special offers Sign In ▾



 AIR CANADA Accessibilité  Français | CA\$ ▾

Réserver ▾ Planifier ▾ Voyager ▾ Aéroplan ▾ Soutien au client Offres spéciales Me connecter ▾

Variation in size



Hertz Reservations Locations Deals Gold Plus Rewards Vehicles

EN/CA Login/Sign-Up

Hertz Rental Car. Let's Go!

Same Drop-off Location Add a Discount Code (i)

Pick-up Location	Pick-up Date	Pick-up Time 05:00 PM	Drop-off Date	Drop-off Time 05:00 PM	View / Edit / Cancel
Continue					

Hertz Tarifs et Réservations Nos agences Offres spéciales Fidélité Nos véhicules

FR/CA Se connecter/S'inscrire

Hertz location de voiture. Votre voyage commence ici.

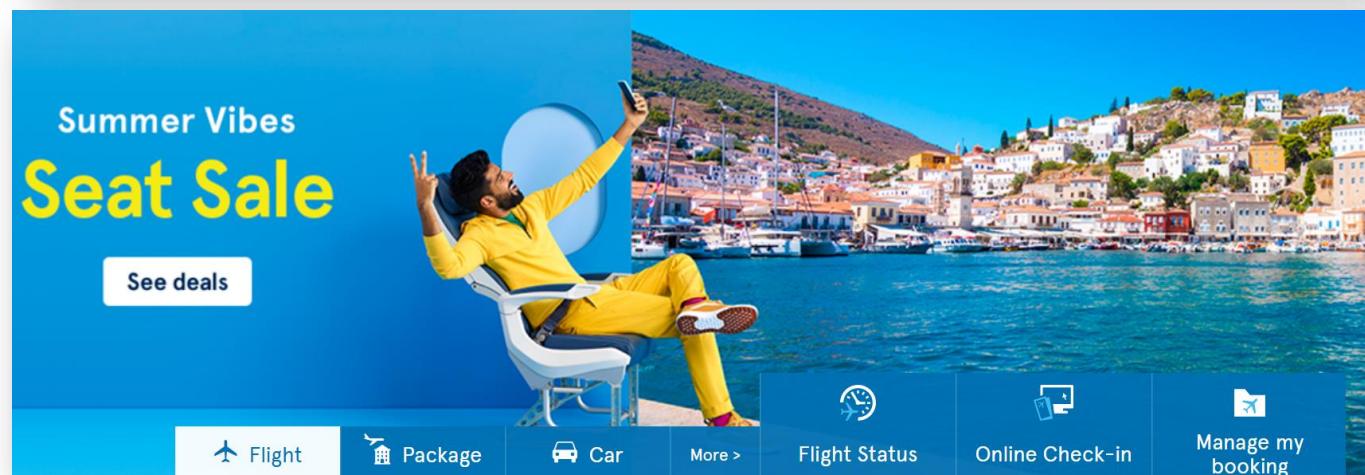
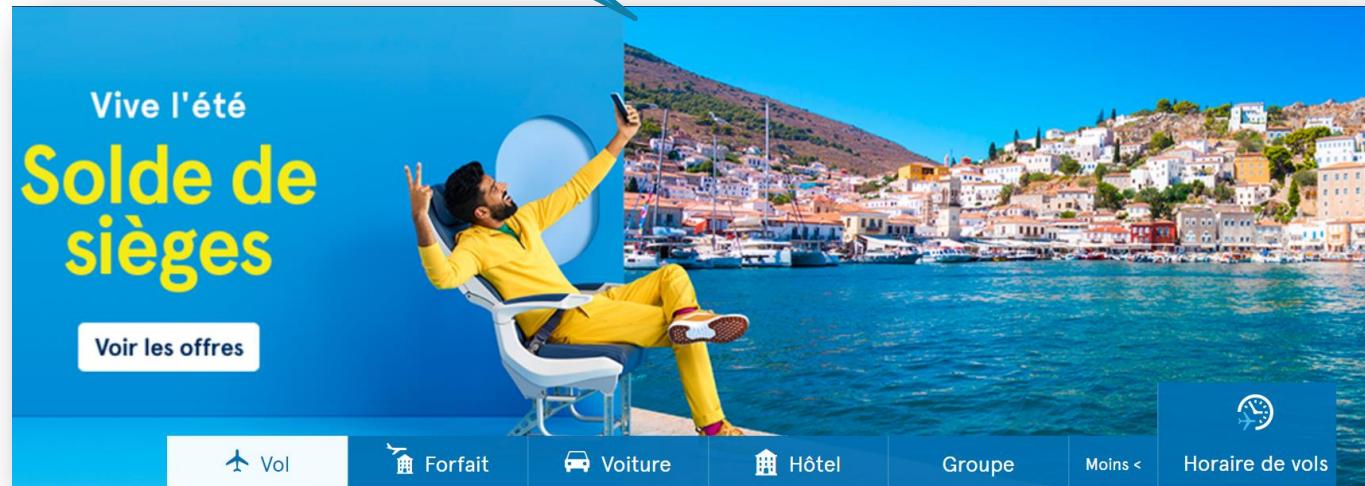
Hertz. Bonne route!

Même agence de départ et Ajouter un code de réduction (i)

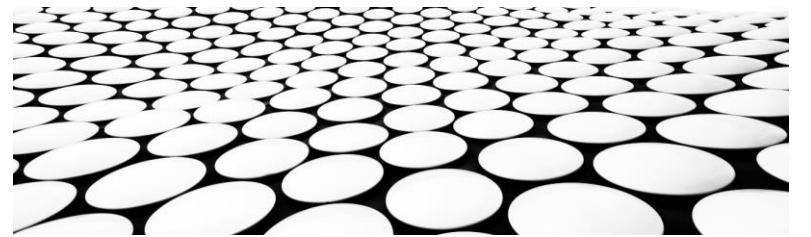
Afficher / modifier / annuler

Ville, gare ou Code d'aéroport	Date de prise en charge	Heure de prise en charge 05:00 PM	Date de retour	Heure de retour 05:00 PM	CONTINUER
--------------------------------	-------------------------	--------------------------------------	----------------	-----------------------------	---------------------------

Use of promotional language



Case study – Airline travel



La Promo C'est l'temps de voyager se termine dans: 02 jours 07 heures 37 minutes 52 secondes

Promotion
C'est l'temps de voyager
Faites vite!

Vols vers l'Europe et les États-Unis à bon prix

[Voir les offres](#)

Toulouse
De Montréal
Vol aller-retour
796\$
taxes & frais incl.
03 sept. 2023 au 11 sept. 2023

[Réserver](#)

Vol Forfait Voiture Plus > Horaire de vols Enregistrement en ligne Gérer ma réservation

Time to go
promotion Hurry up!

Flights to Europe & the USA at great prices

[See offers](#)

Toulouse
From Montreal
Roundtrip flight
\$796
taxes & fees incl.
Sep 03 2023 to Sep 11 2023

[Book](#)

Flight Package Car More > Flight Status Online Check-in Manage My Booking



SUMMARY

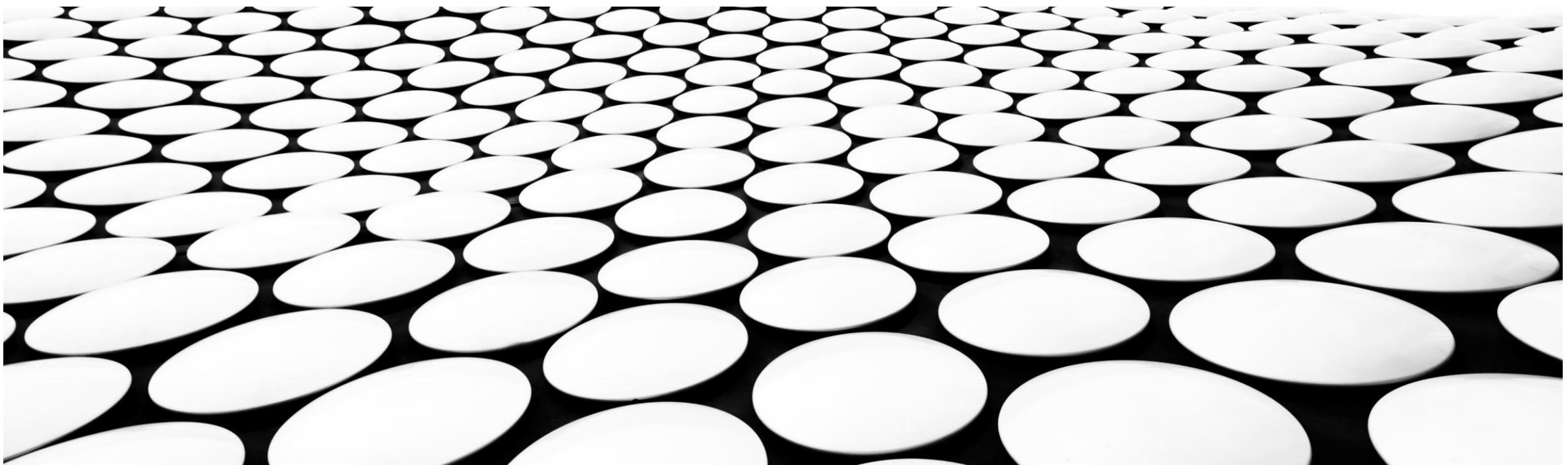
- Importance of language
 - Synonyms
 - Part-of-Speech
 - Language level
 - Spelling
 - Language length (word sizes)
 - Promotional language



END OF SERIE: VERBAL AND VISUAL COMMUNICATION

- Part 1 – Introduction
- Part 2 – Colors
- Part 3 – Typography
- Part 4 – Screen Layout
- Part 5 – Icons
- Part 6 – Language

GOAL-ORIENTED INTERACTIONS

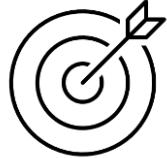




GOAL-ORIENTED INTERACTIONS

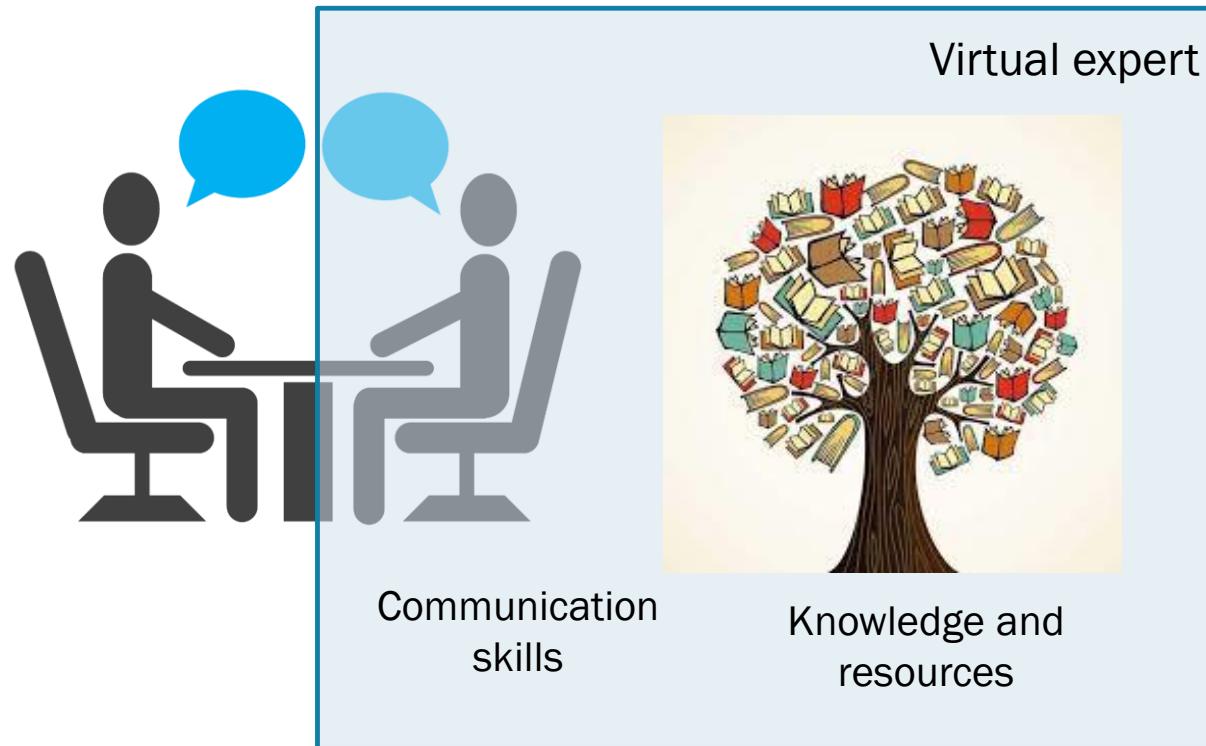
- Part 1 – Introduction
- Part 2 – Organizational patterns
- Part 3 – User Input Widgets
- Part 4 – Navigational patterns

Part 1 Introduction



GOALS OF THE PRESENTATION

- Importance of good communication in HCIs
- Presentation of a model of HCI
- Importance of “goal-oriented” UI within the UCD approach



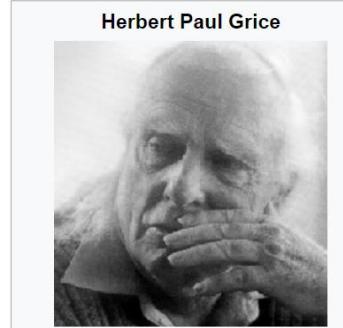
A virtual expert, will use all its knowledge and communication skills to make the user productive!

Grice's Maxims of Conversation: The Principles of Effective Communication



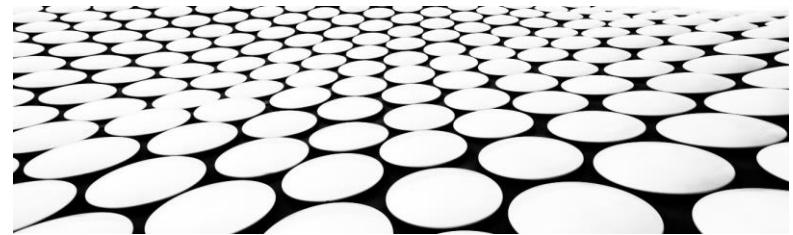
One way to accomplish this is to ask yourself the following questions, whenever you engage in an important act of communication:

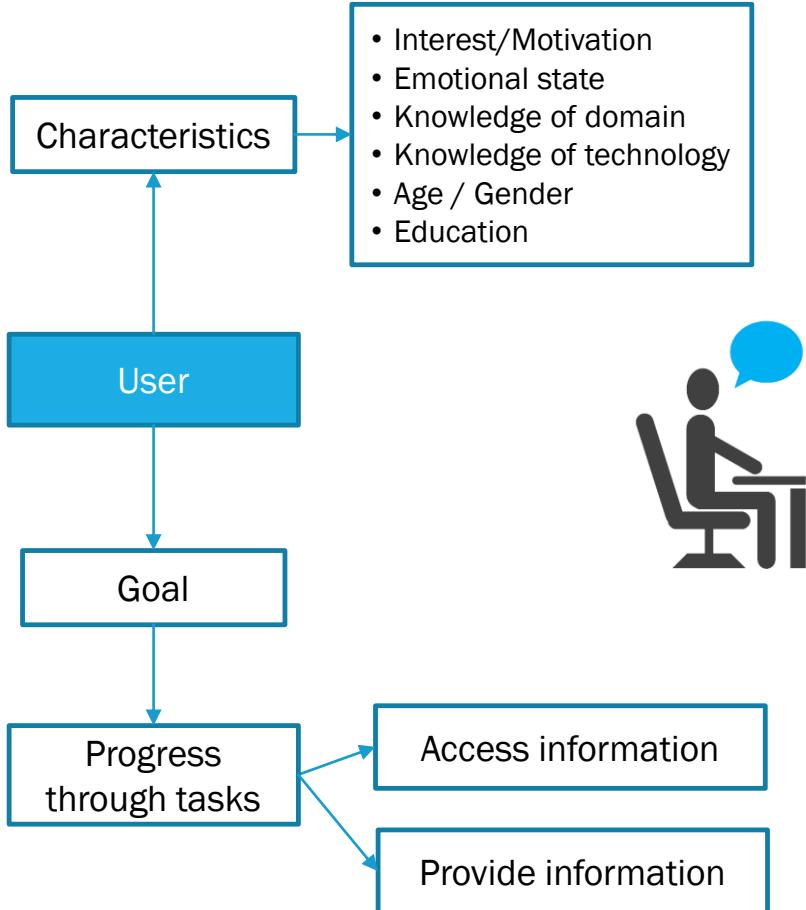
- Am I including all the necessary information?
- Am I being as concise as possible, by omitting unnecessary details and irrelevant information?
- Am I certain that everything that I'm saying is true, and can be backed up with evidence? If not, am I sure that this information should be included, and did I provide a disclaimer showing my doubts about it?
- Am I using language that is clear and without any ambiguity?
- Am I presenting the information in a structured, well-organized, and logically ordered manner?



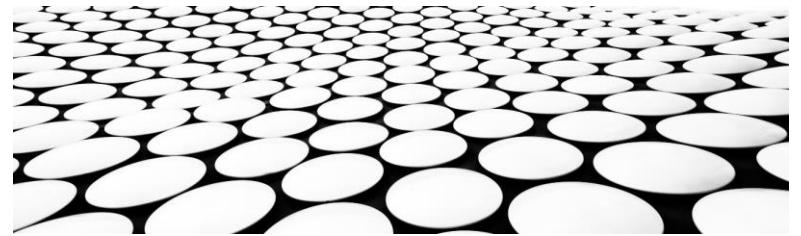
Born	13 March 1913 Birmingham, England, U.K.
Died	28 August 1988 (aged 75) Berkeley, California, U.S.
Alma mater	Corpus Christi College, Oxford
Era	20th-century philosophy
Region	Western philosophy

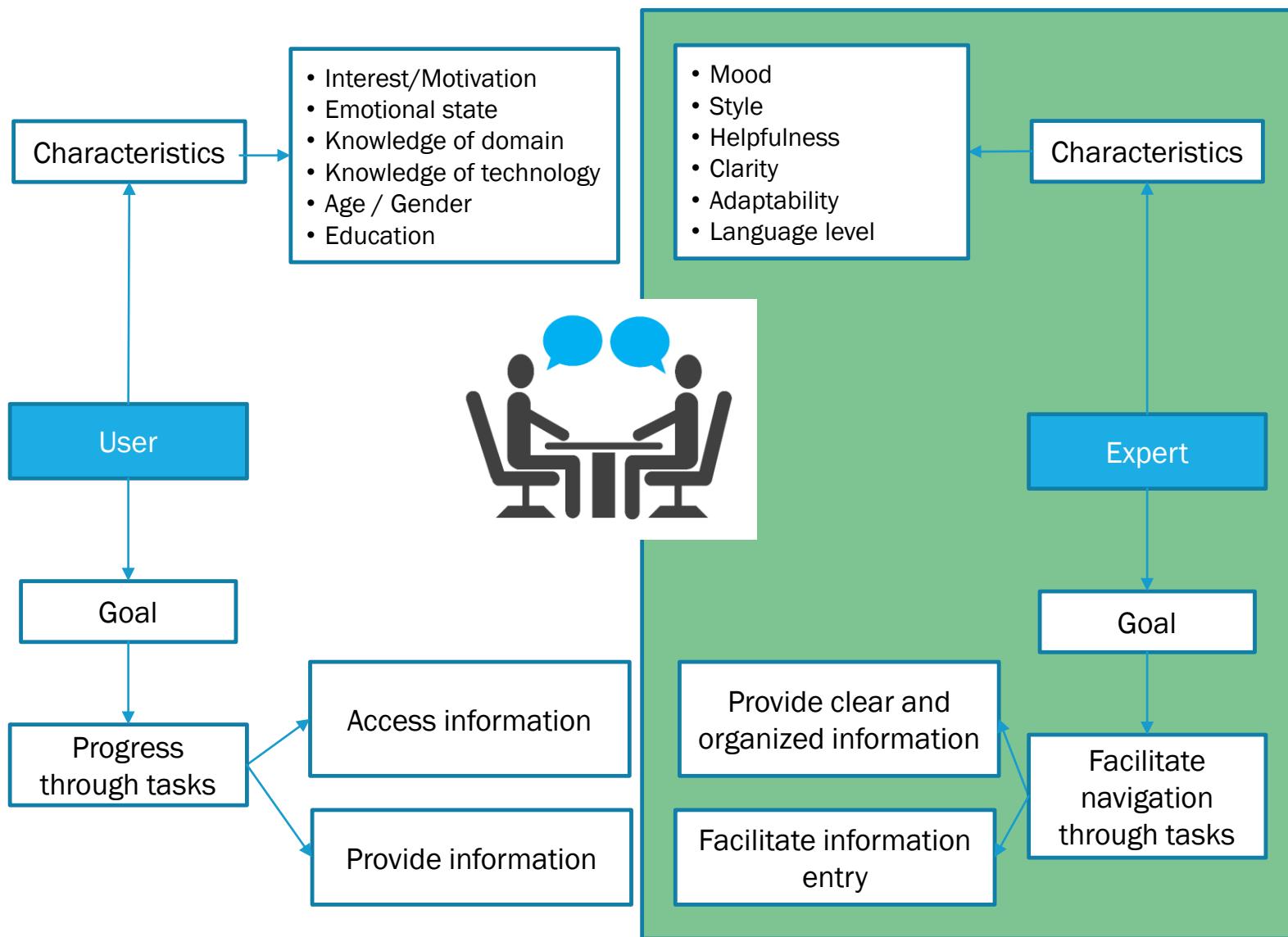
Grice Maxims



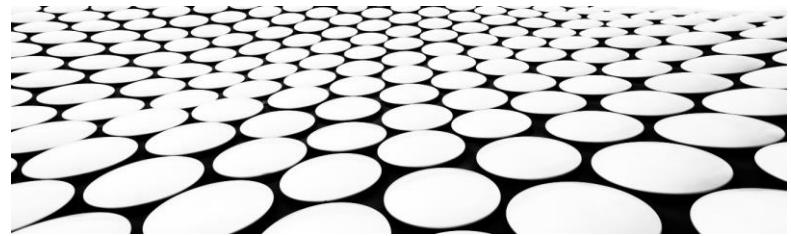


User Centered Design





Virtual Expert Model



Budget® Canada

Sign In Register Business Rental Customer Care

Reservations Deals Locations Cars & Services Fastbreak

Rent a Moving Truck >

LIMITED TIME Super Spring SALE!

Save UP TO 35% OFF Base Rates with Pay Now

Enter your pick-up location or zip code 05/10/2022 noon

Please enter a Pick-up Location

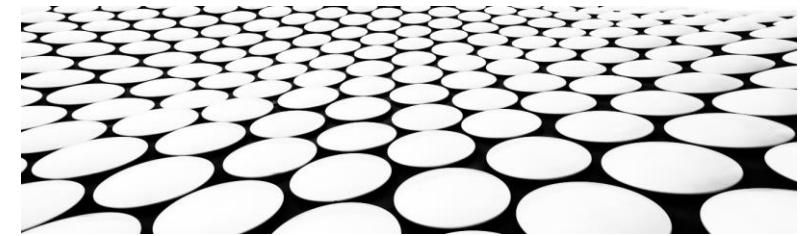
Return to same location 05/11/2022 noon

Age: 25+ I live in: Canada Add Customer ID * Offer Codes * Vehicle Type *

Select My Car

Get up to 35% off base rates when you pay now. [Book Today!](#)

Case study Car Rental



 AIR CANADA

Search Accessibility  English | CA\$

Book Plan Fly Aeroplan Customer support Special offers Sign In


**DON'T GO SMALL
GO AUSTRALIA.**

15% OFF

Don't go small, go Australia.

Epic experiences and savings await. Book now and save up to 15% on select base fares to Sydney or Brisbane.*...

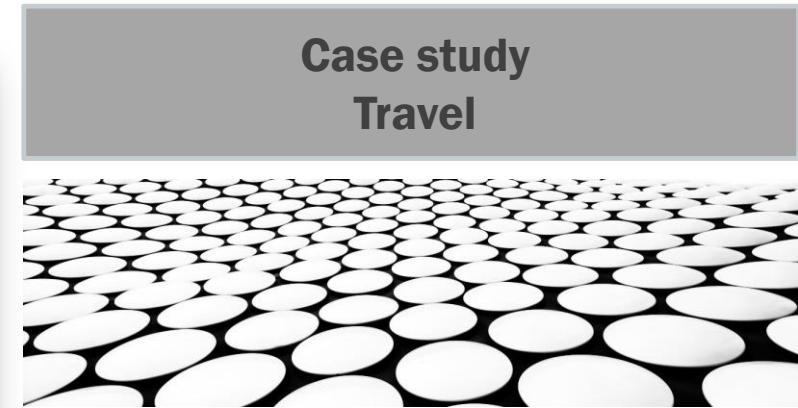
[BOOK BY MAY 18, 2022 >](#)

Flights Vacations Flight Passes Hotels Cars My bookings Check-in Flight status

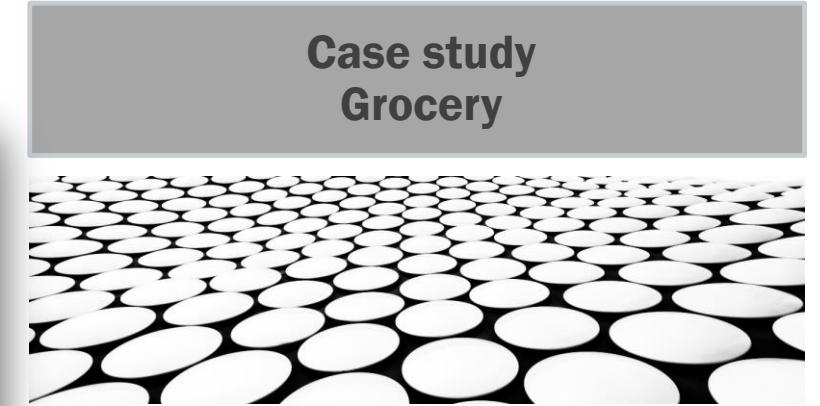
 Find the latest entry requirements and COVID-19 measures for your destination. [Review requirements](#)

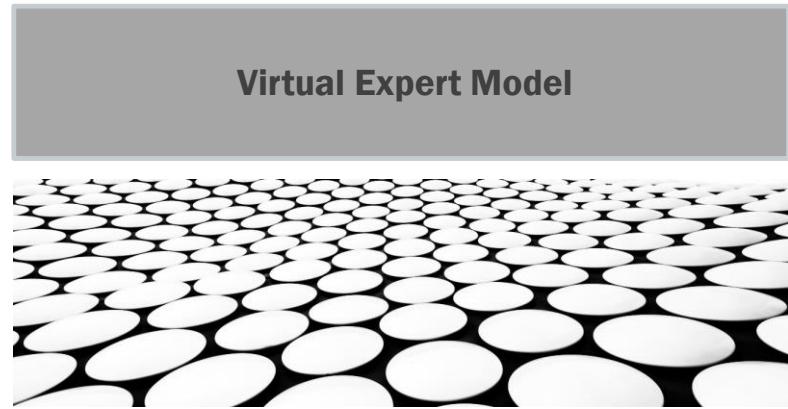
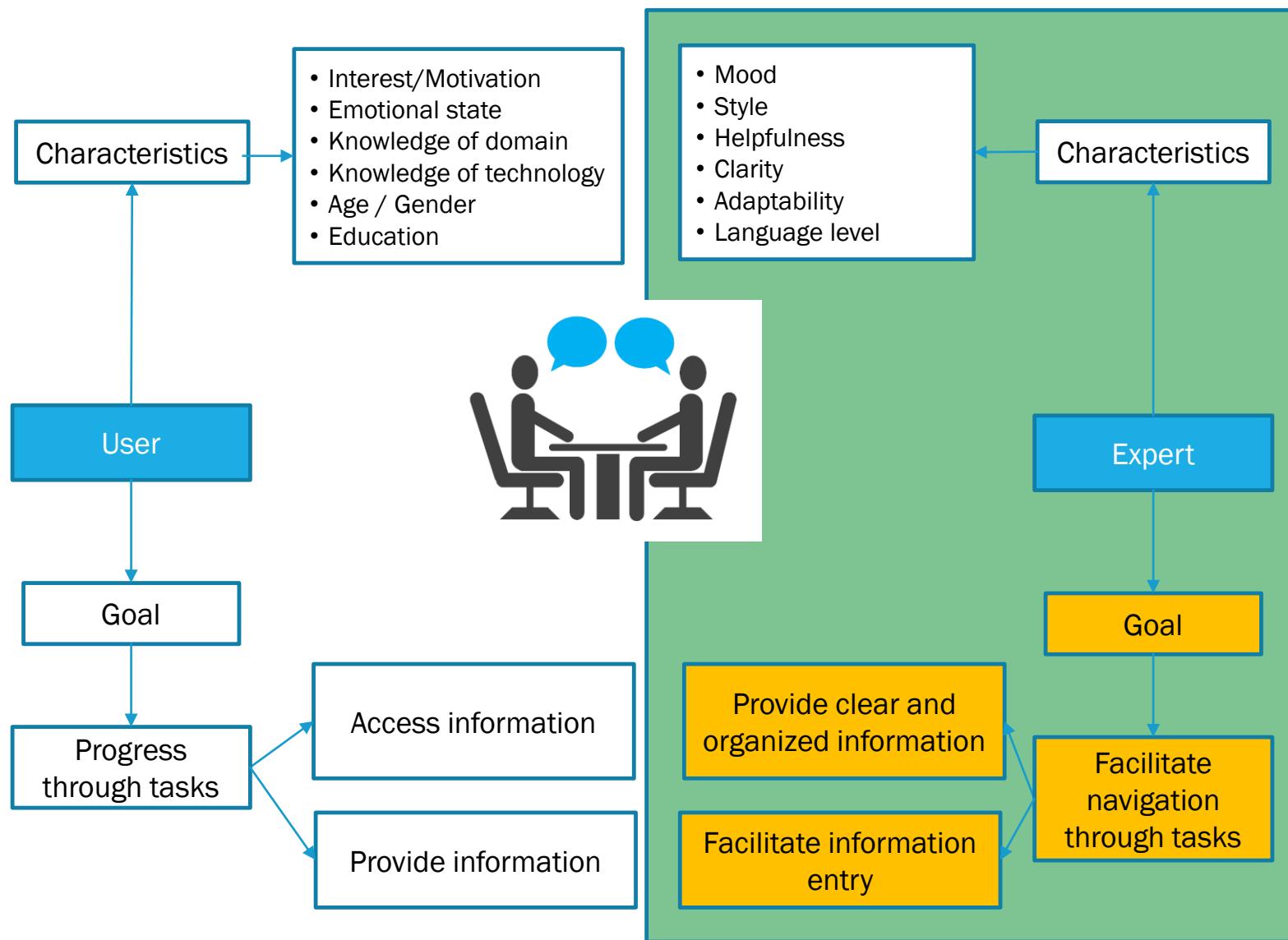

 Round-trip 1 Adult Promotion Code

 To Departure Return 



The screenshot shows the homepage of the Metro my grocer website. At the top, there's a dark header bar with the "metro my grocer" logo, a "MY ONLINE GROCERIES" button, and a "Sign in" link. Below the header is a search bar with the placeholder "Search products, recipes and articles" and a magnifying glass icon. To the right of the search bar are links for "Your store Metro Plus Kelly Maloney" (with a pencil icon), "My List" (with a list icon), and a shopping cart icon showing "0". The main navigation menu includes "ONLINE GROCERY", "FLYER AND COUPONS", "RECIPES", "PRODUCTS TO DISCOVER", "METRO&MOI", and "MY HEALTH MY CHOICES". The main visual is a large image of a cooked lobster with the text "FIRST ONES IN SUMMER" overlaid in white, followed by "ENJOY FRESH LOBSTER BEFORE EVERYONE ELSE!". A red "Learn More" button is at the bottom of this section. Below the main image, a white banner displays the text "From May 12th to 18th, 2022".





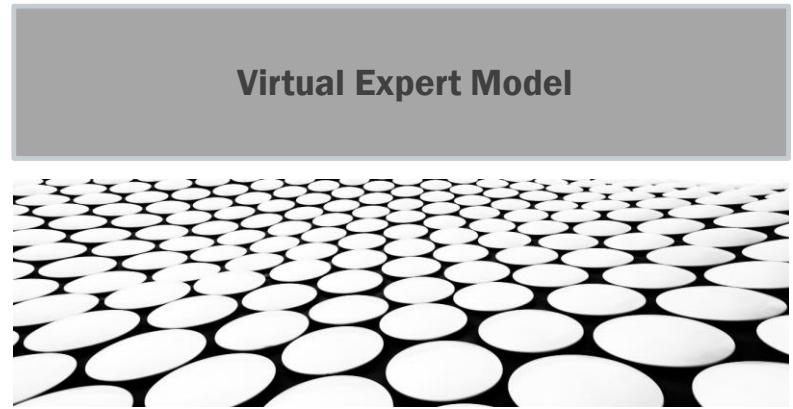
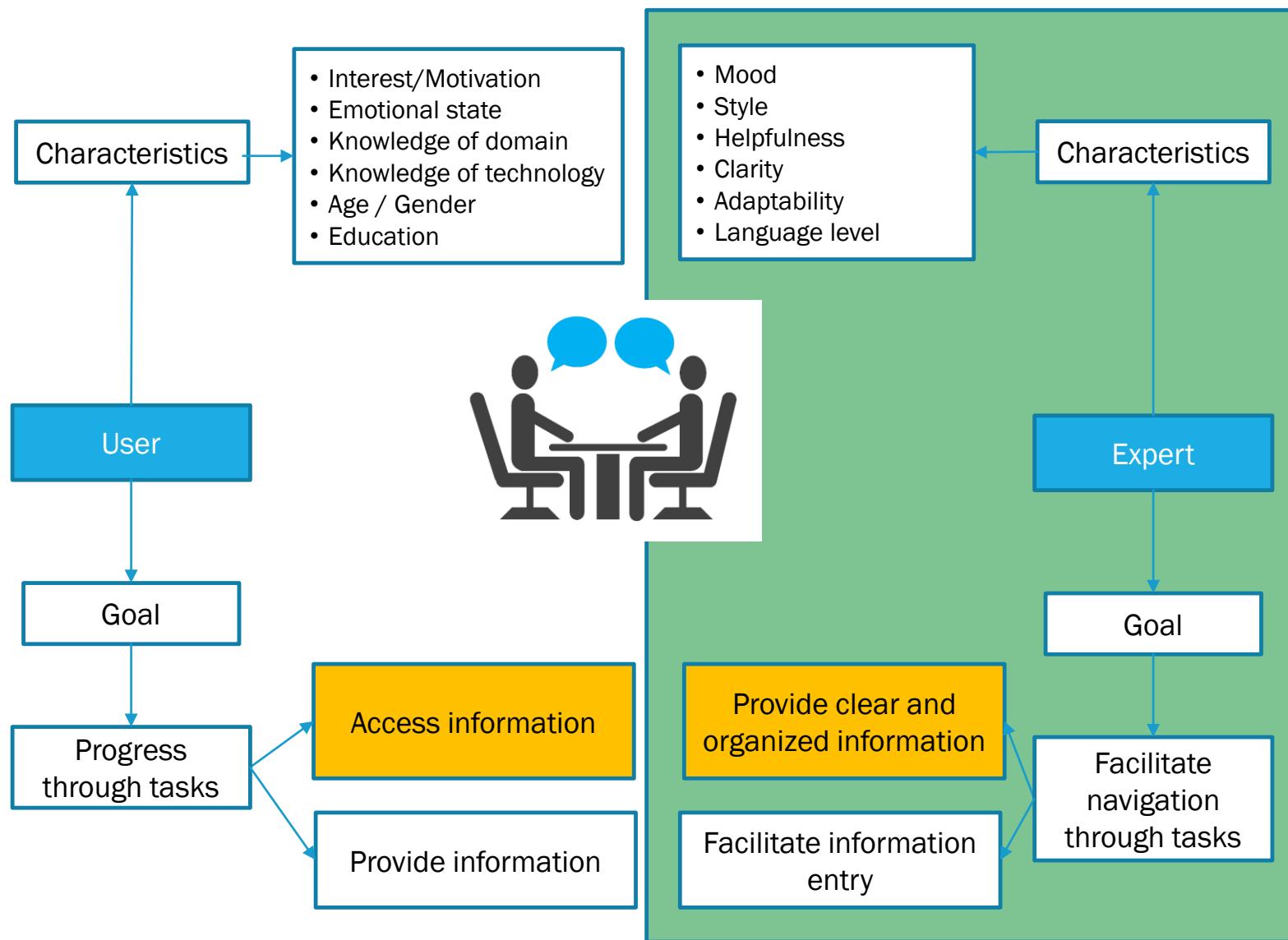


SUMMARY

- Introduction of the Virtual Expert model who will:
 - Provide clear and organized information
 - Facilitate information entry
 - Facilitate navigation through tasks
- And... have a certain personality (next week's class)

Part 2

Organizational Patterns



New in v5.2 CSS variables, responsive offcanvas, new utilites, and more!



Build fast, responsive sites with Bootstrap

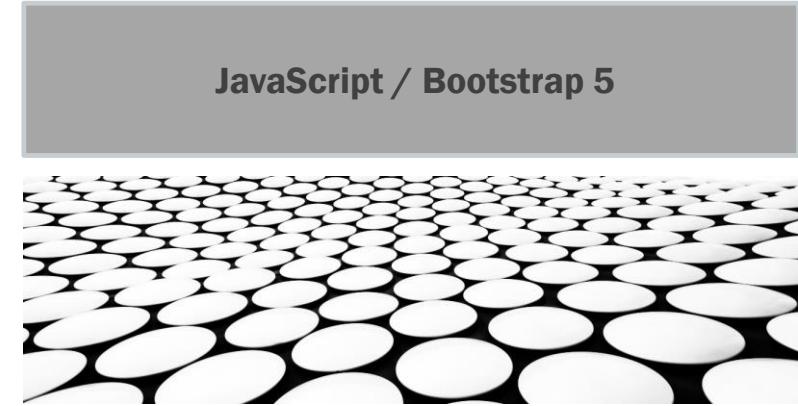
Powerful, extensible, and feature-packed frontend toolkit. Build and customize with Sass, utilize prebuilt grid system and components, and bring projects to life with powerful JavaScript plugins.

\$ npm i bootstrap@5.2.0-beta1 [\[Install\]](#)

[Read the docs](#)

Currently v5.2.0-beta1 · [Download](#) · [v4.6.x docs](#) · [All releases](#)

 Need a better way to test your web app? Testim's advanced AI automates UI testing. Try it for free.
ads via Carbon





Tutorials ▾ References ▾ Exercises ▾ Videos Pro NEW

Home HTML CSS JAVASCRIPT SQL PYTHON PHP BOOTSTRAP

Bootstrap 5 Tutorial

BS5 HOME

- BS5 Get Started
- BS5 Containers
- BS5 Grid Basic
- BS5 Typography
- BS5 Colors
- BS5 Tables
- BS5 Images
- BS5 Jumbotron
- BS5 Alerts
- BS5 Buttons
- BS5 Button Groups
- BS5 Badges
- BS5 Progress Bars
- BS5 Spinners
- BS5 Pagination
- BS5 List Groups
- BS5 Cards

BS5 Dropdowns

BS5 Collapse

BS5 Navs

BS5 Navbar

BS5 Carousel

BS5 Modal

BS5 Tooltip

BS5 Popover

BS5 Toast

BS5 Scrollspy

BS5 Offcanvas

BS5 Utilities

BS5 Flex

Bootstrap 5 Forms

BS5 Forms

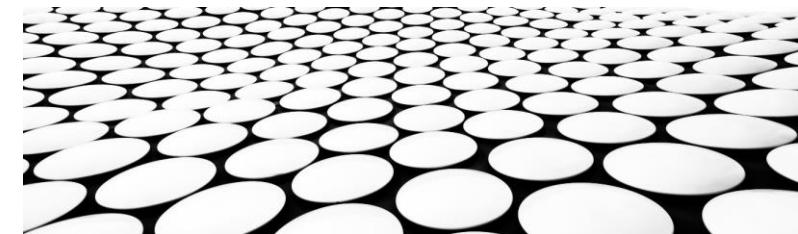
BS5 Select Menus

BS5 Checks and Radios

BS5 Range

BS5 Input Groups

JavaScript / Bootstrap 5



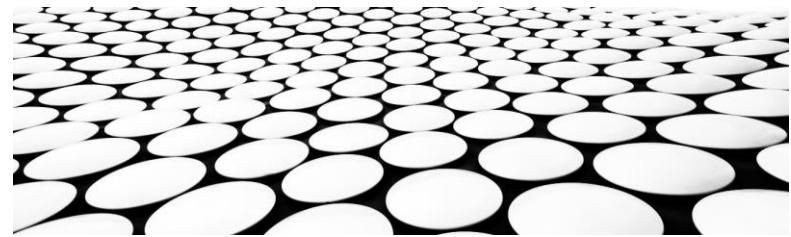
As I present the patterns, think of:

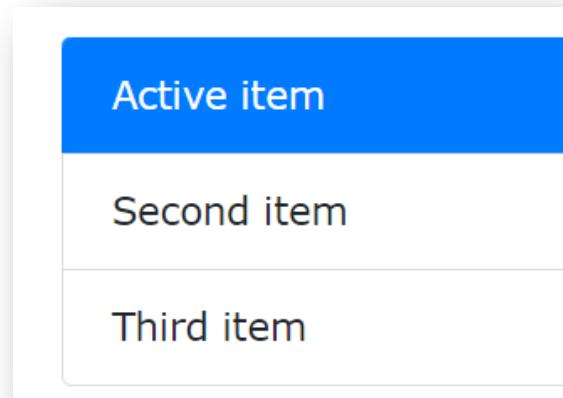
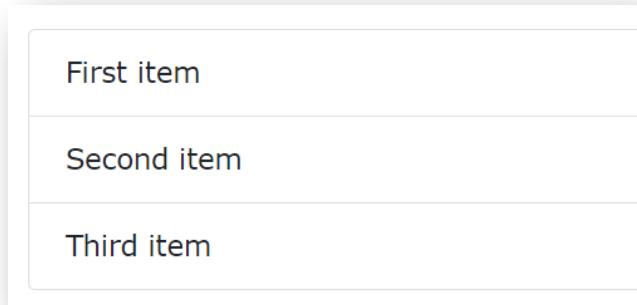
- Anything in the hairdresser site...
- Anything in the dentist site...
- Anything in the veterinarian site...
- Anything in the bike repair site...
- Anything in the service site...

that can be presented/organized in such a way to make the user productive.

Focus on WHY such pattern would be used.

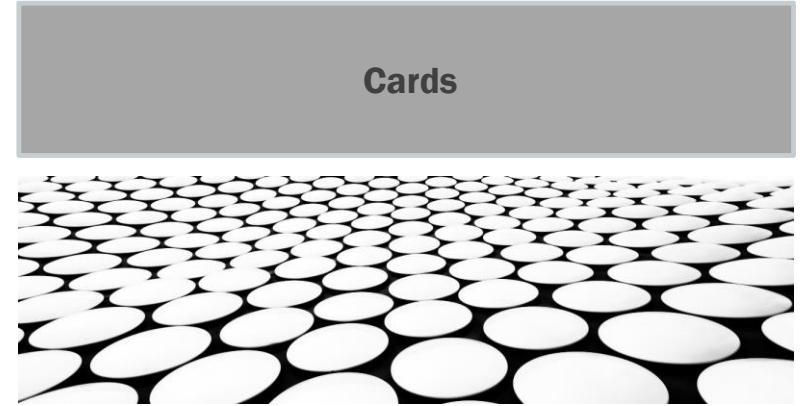
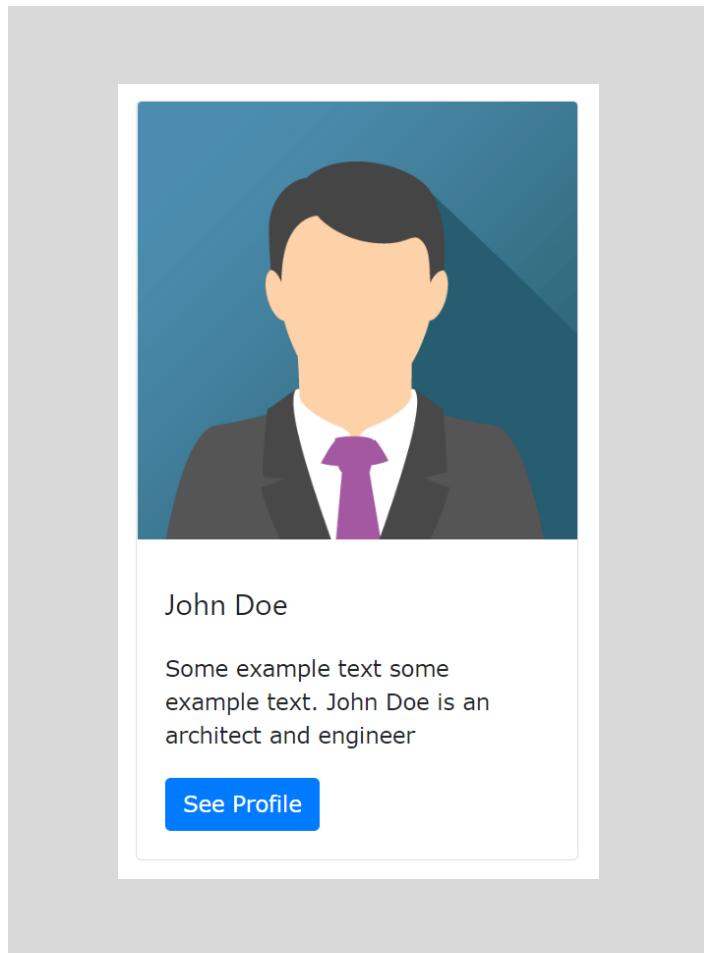
Think of your project



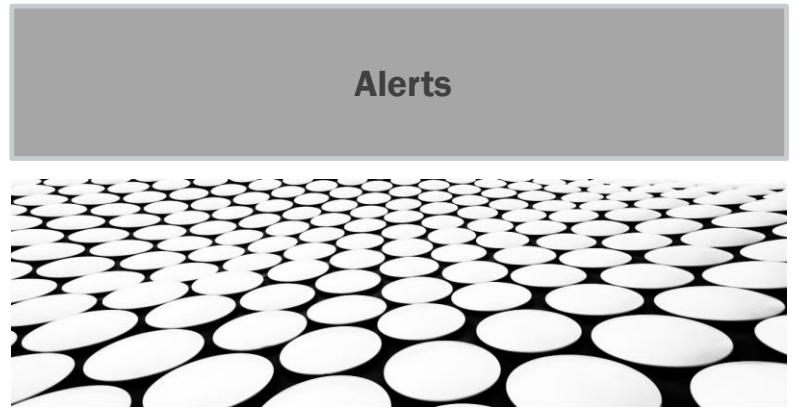
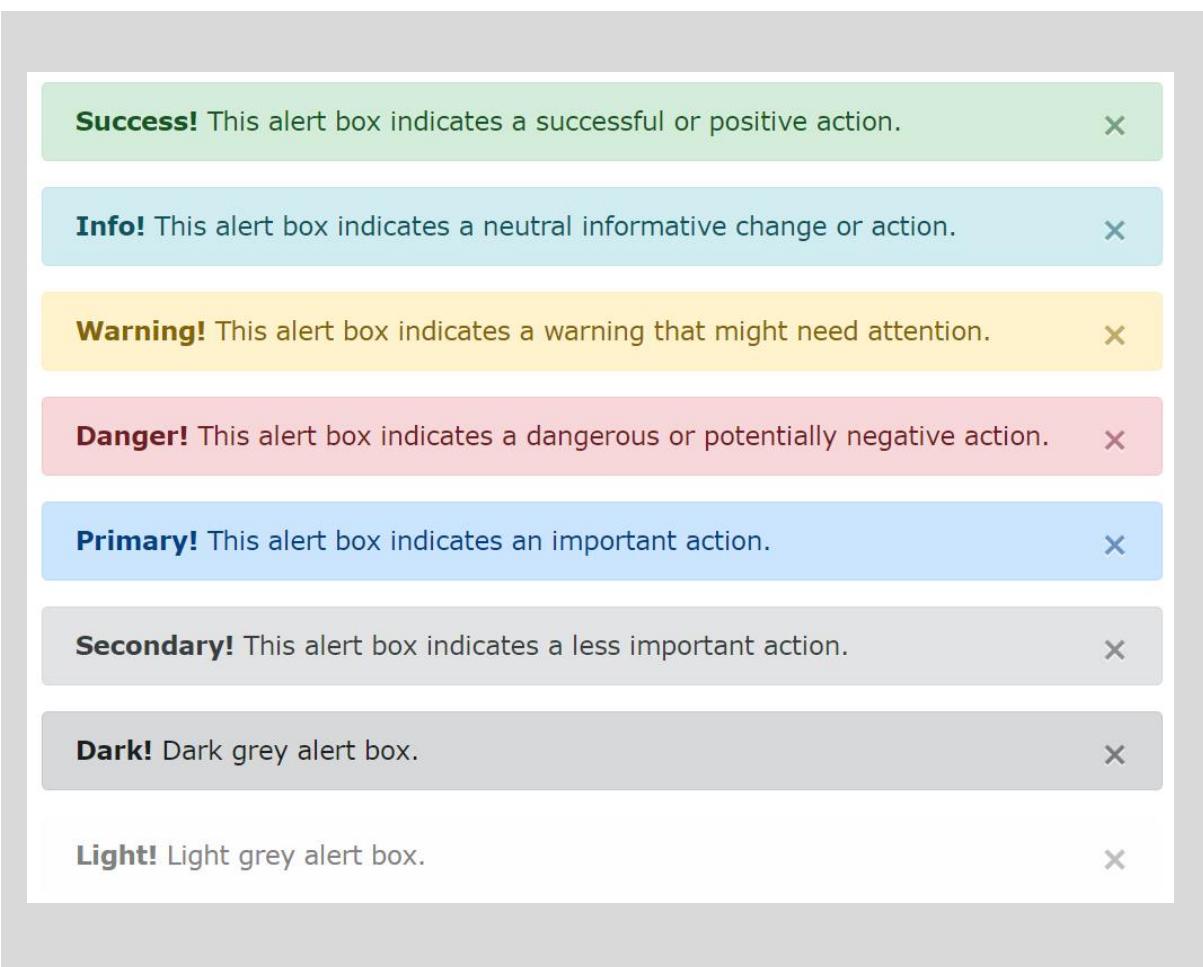


Example

Firstname	Lastname	Email
John	Doe	john@example.com
Mary	Moe	mary@example.com
July	Dooley	july@example.com



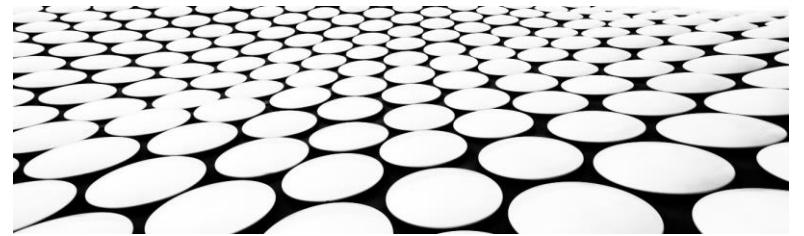
Cards



Alerts



Pagination / Breadcrumbs



Click Me

Click Me

Lore ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat.

Accordion

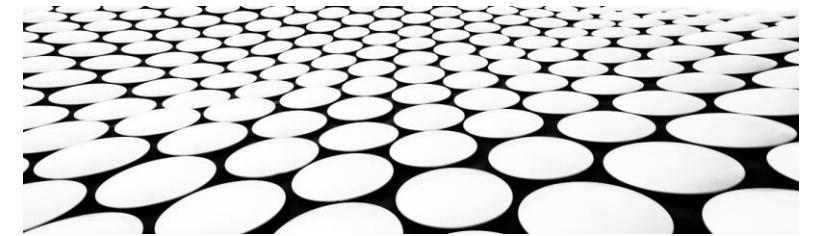
[Collapsible Group Item #1](#)

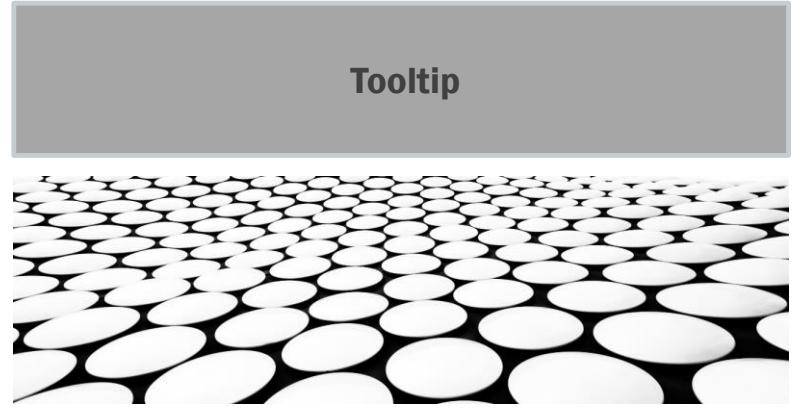
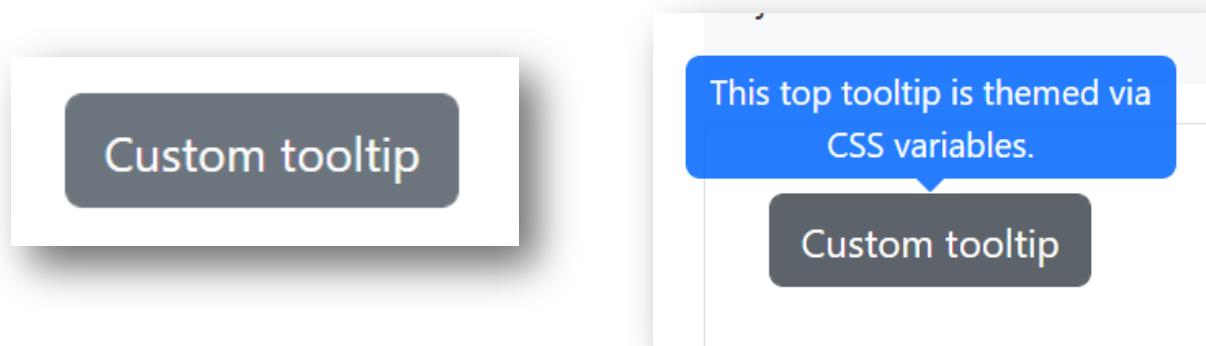
Lore ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat.

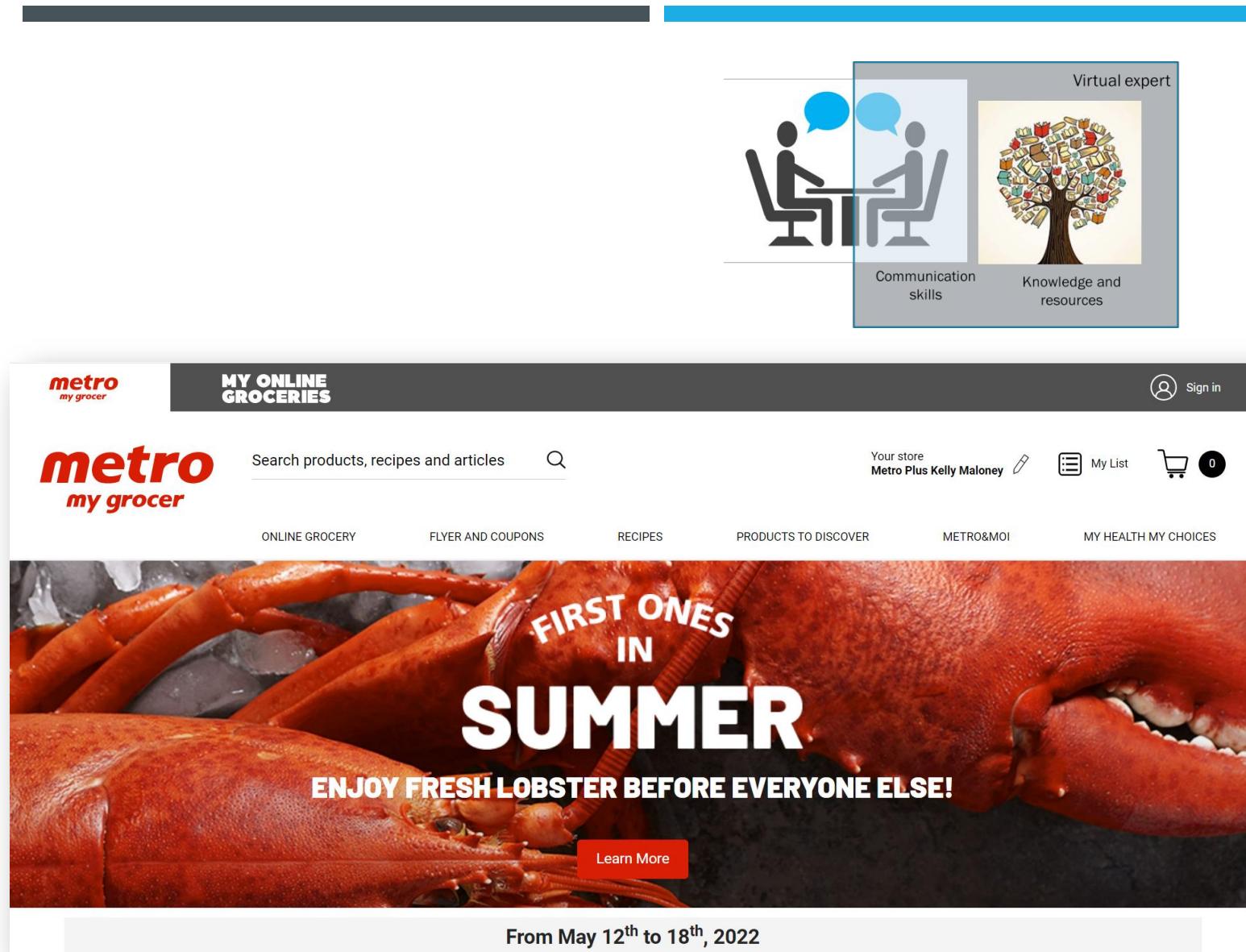
[Collapsible Group Item #2](#)

[Collapsible Group Item #3](#)

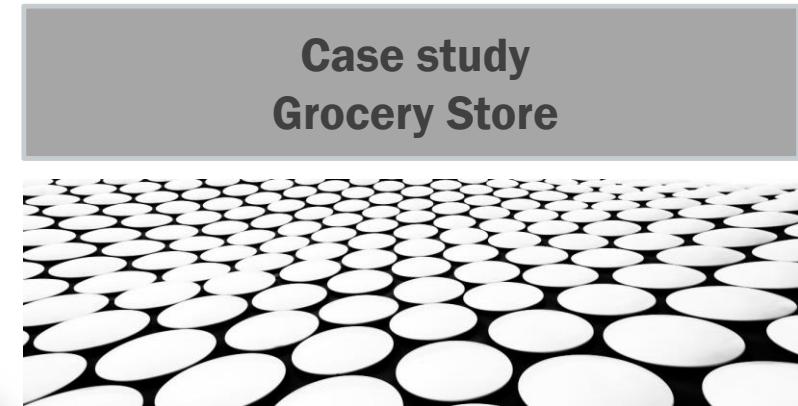
Collapse / Accordion







The screenshot shows the homepage of Metro my grocer. At the top, there's a navigation bar with the "metro my grocer" logo, a search bar, and a "Sign in" button. Below the navigation, there are several menu links: ONLINE GROCERY, FLYER AND COUPONS, RECIPES, PRODUCTS TO DISCOVER, METRO&MOI, and MY HEALTH MY CHOICES. The main feature is a large image of a lobster with the text "FIRST ONES IN SUMMER ENJOY FRESH LOBSTER BEFORE EVERYONE ELSE!" and a "Learn More" button. At the bottom, it says "From May 12th to 18th, 2022". Above the main content, there's a diagram with four boxes: "Communication skills" (two people at a table), "Virtual expert" (a tree made of books), "Knowledge and resources" (a tree made of books), and "Myself" (a person icon).



Online Grocery

Fruits & Vegetables

Dairy & Eggs

Pantry

Cooked Meals

Value Pack

Beverages

Beer & Wine

Meat & Poultry

Vegan & Vegetarian Food

Organic Groceries

Snacks

Frozen

Bread & Bakery Products

Deli & Prepared Meals

Fish & Seafood

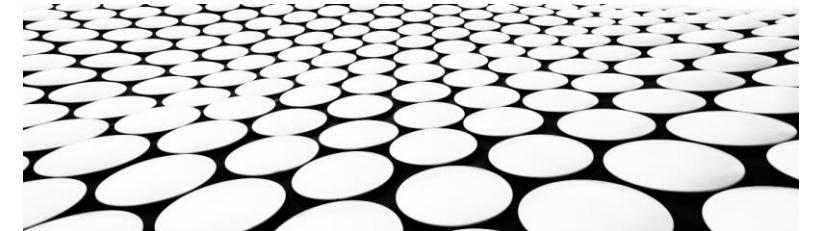
World Cuisine

Household & Cleaning



FRUITS →	VEGETABLES →
Apples & Pears	Tomatoes & Cucumber
Avocados & Exotic Fruits	Potatoes, Carrots & Celery
Bananas & Plantains	Lettuce & Leafy Vegetables
Berries & Cherries	Peppers, Zucchini & Eggplant
Grapes	Broccoli, Cauliflower & Cabbage
Citrus Fruits	Mushrooms
Peaches, Nectarines & Stone Fruits	Peas, Beans & Corn
Watermelons & Melons	Onions & Leeks
	Ginger, Garlic & Shallots
	Squash & Pumpkin
	Asparagus & Artichokes
	Root Vegetables
	Exotic Vegetables

Case study Grocery Store



Flyer and coupons

Surprise price

8.77 /lb

See The Flyer

★ DISCOVER OUR BEST ★

QUALITY BEEF

WITH UP TO 40% OFF

BOEUF PLATINUM ANGUS AAA BEEF

UNIQUE TENDERNESS | SUPERIOR QUALITY

Discover

FREE DELIVERY

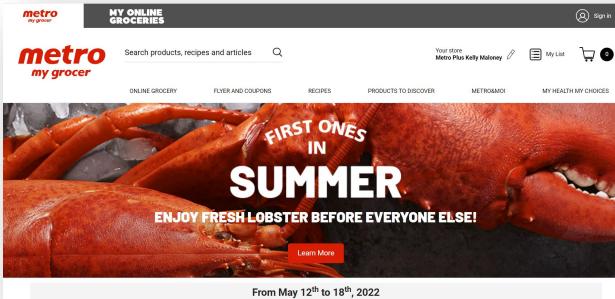
when you buy 3 participating products*

PROMO CODE **DELIVERY16**

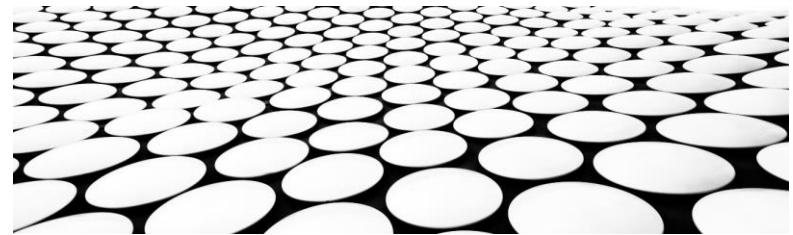
Shop Now

*Valid for selected stores only.
Offer not available for the MPriority or Express Delivery service.

WEEKLY DEALS



Case study Grocery Store



Recipes

Recipes →

BY CATEGORY →

BY SEASON →

Fall

Winter

Spring

Summer

QUICK AND EASY →



1-24 on 30



RECIPE

Rice Spring Rolls with Peanut Sauce

⌚ 1



RECIPE

Spring Rolls with Peanut Sauce

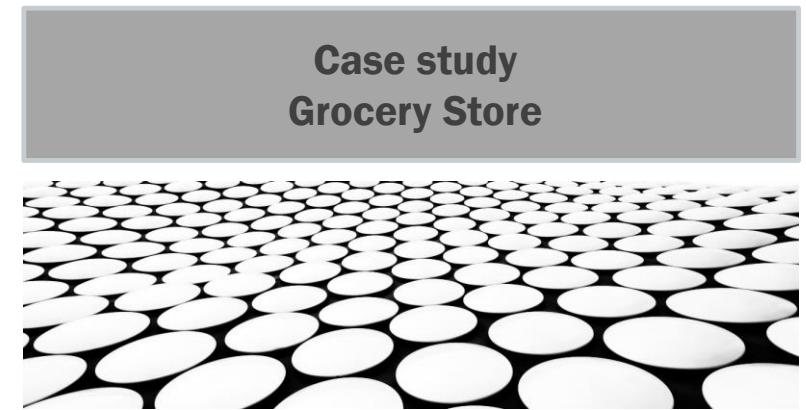
⌚ 1



RECIPE

Feta Spring Rolls with Salsa

< Page 1 of 2 >



Home / Recipes / By Season / Spring



metro
my grocer

MY ONLINE GROCERIES

Search products, recipes and articles

ONLINE GROCERY FLYER AND COUPONS RECIPES PRODUCTS TO DISCOVER METROMBOI MY HEALTH MY CHOICES

Your store Metro Plus Kelly Malone

Sign In

My List

Cart

FIRST ONES IN SUMMER
ENJOY FRESH LOBSTER BEFORE EVERYONE ELSE!

Learn More

From May 12th to 18th, 2022

1-24 on 30



RECIPE

Rice Spring Rolls with
Peanut Sauce

1



RECIPE

Spring Rolls with Peanut
Sauce

1

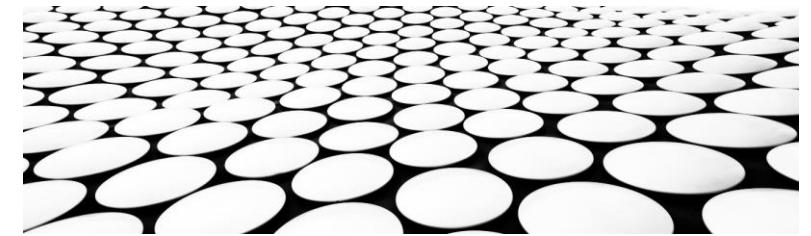


RECIPE

Feta Spring Rolls with Salsa

< Page 1 of 2 >

Case study Grocery Store





Rice Spring Rolls with Peanut Sauce

Rate this recipe 19 Votes



Gluten-free



Lactose-free

2
ROLLS

0:18
PREPARATION

0:04
COOKING

0:22
TOTAL TIME

Ingredients



Add all to grocery list



Shop all ingredients

1 oz
(30 g)

Rice vermicelli



2

6 in. (15 cm) rice spring roll wrappers



To taste cold-water shrimp



4

Leaves fresh mint



4

Thin carrots sticks



1/4 cup
(60 mL)

Shredded lettuce



Preparation



Soak vermicelli in very hot water for 8 min. Drain and set aside.

Soften rice cakes, one at a time, in warm water. In the centre of each, place shrimp, mint leaves, carrot sticks, vermicelli and shredded lettuce. Fold edges over and roll up. Set aside.

In a small pan, mix remaining ingredients together.

Cook on medium heat until peanut butter is completely melted.

Serve rolls with peanut sauce.

Source : Metro

Wine and meal pairing



TM

DELICATE AND LIGHT

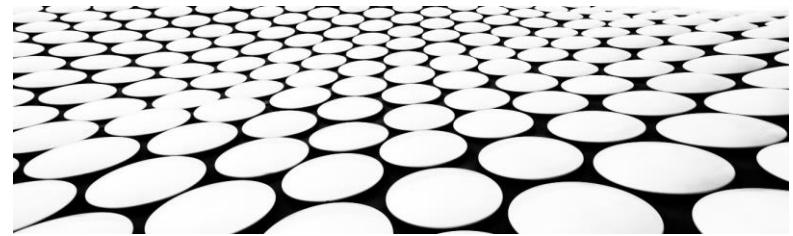
These dry, more delicate wines stand out with their pale colour, simple fruit aromas, and the sensation of freshness their acidity brings forth.

Product category: white wine.

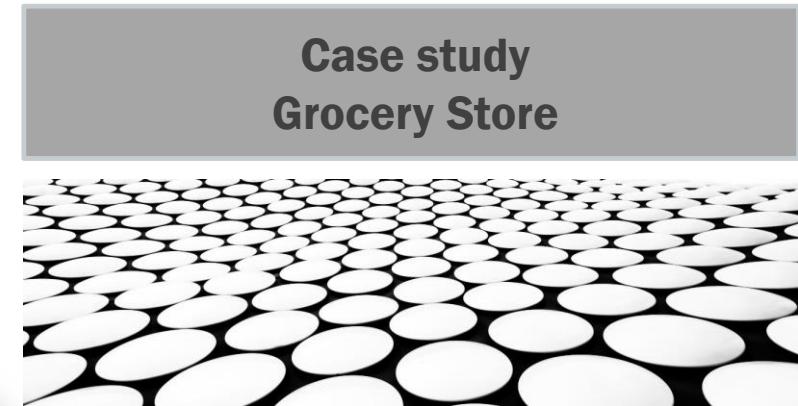
[Discover your taste profile!](#)

© Société des alcools du Québec, 2007

Case study Grocery Store



The screenshot shows the Metro my grocer website. At the top, there's a navigation bar with the logo 'metro my grocer' and a 'MY ONLINE GROCERIES' button. On the right side of the bar are icons for 'Sign in' and a user profile. Below the bar, there's a search bar with the placeholder 'Search products, recipes and articles' and a magnifying glass icon. The main menu includes links for 'ONLINE GROCERY', 'FLYER AND COUPONS', 'RECIPES', 'PRODUCTS TO DISCOVER', 'METRO&MOI', and 'MY HEALTH MY CHOICES'. A large promotional banner features a close-up of a cooked lobster with the text 'FIRST ONES IN SUMMER ENJOY FRESH LOBSTER BEFORE EVERYONE ELSE!' and a red 'Learn More' button. At the bottom of the banner, it says 'From May 12th to 18th, 2022'. Above the main content area, there's a diagram with four boxes: 'Communication skills' (two people at a table), 'Virtual expert' (a tree made of books), 'Knowledge and resources' (a tree made of books), and 'Myself' (a person icon).



Explore products for the home, kitchen and more from trusted sellers. [Shop Marketplace](#)

Loblaws marketplace more than in-store

Search for product

PC OPTIMUM | FAQ | FR

CARLING AVENUE

GROCERY | HOME, BEAUTY & BABY | MY SHOP | DISCOVER | FLYERS & DEALS | SERVICES

SIGN IN | \$0.00 | CHECKOUT

THE PC® INSIDERS REPORT™ SUMMER EDITION IS BACK

Over 100 exciting new PC® products to make the most of summer.

[SHOP MUST-TRY'S](#) [SHOP THE FULL COLLECTION](#)



Sign in, get rewarded 

Get exclusive deals, PC Optimum™ points, and more when you sign in.

[SIGN IN](#) [Create an account >](#)

Flyers & Deals 

Shop this week's flyers & deals



[View flyer >](#)

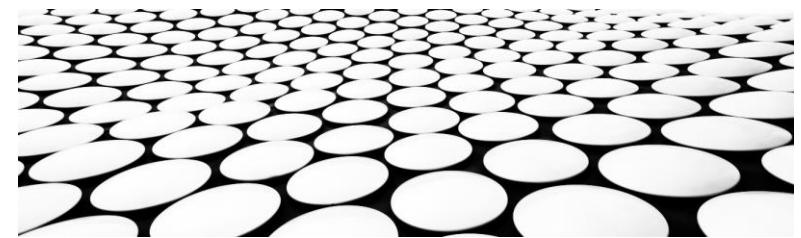
Shop your way

However you like to shop, we have it covered

[Pickup](#) [In-store](#)

[Delivery](#)

Case study Grocery Store (2)



IGA | FR

Select a store | Select a shopping list | My Account

All ▾

NEED INSPIRATION? ONLINE GROCERY FLYER & PROMOTIONS RECIPES CAREERS REVELATIONS LOCAL ACCELERATOR

LONG WEEKEND = REVELATIONS ALL THE WAY!

Get your BBQ ready for the long weekend and enjoy our Revelations products!

TRY OUR REVELATIONS

REVELATIONS
Exciting products that have everybody talking.

We've got stuff to BBQ!

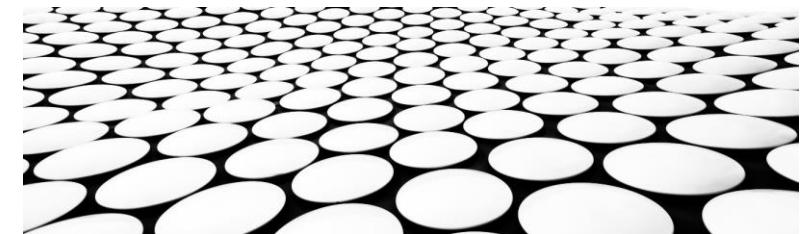
RICARDO

Sterling SILVER RIBS PREMIUM BEEF

Exclusively at **IGA**

Except for some specialized shops.

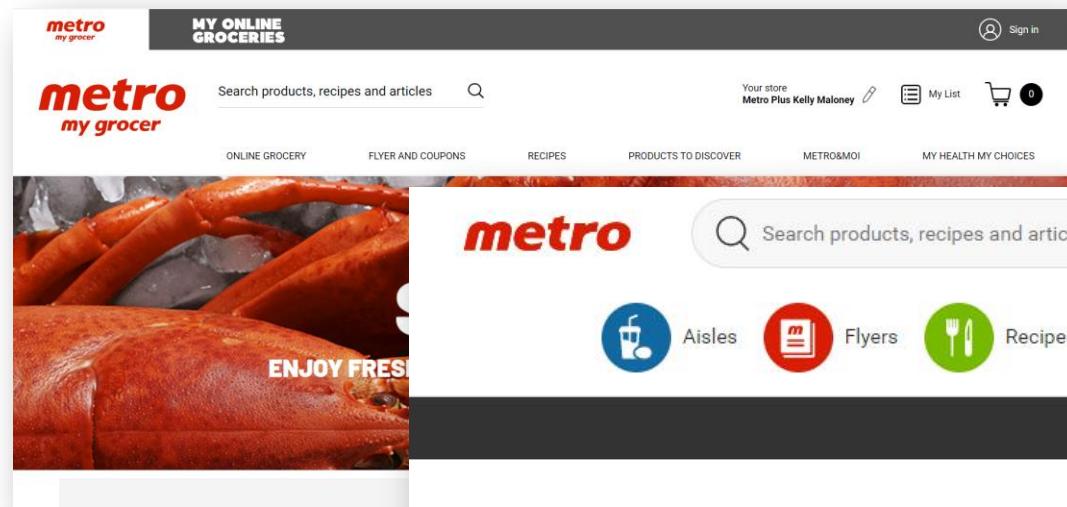
Case study Grocery Store (3)



The screenshot shows the homepage of metro my grocer. At the top left is the logo 'metro my grocer'. In the center, it says 'MY ONLINE GROCERIES'. On the right is a 'Sign in' button with a user icon. Below the header is a search bar with placeholder text 'Search products, recipes and articles' and a magnifying glass icon. To the right of the search bar is a 'Your store' section showing 'Metro Plus Kelly Maloney' with a location pin icon. Next to it are 'My List' and a shopping cart icon with a '0' badge. Below the search bar are six navigation links: 'ONLINE GROCERY', 'FLYER AND COUPONS', 'RECIPES', 'PRODUCTS TO DISCOVER', 'METRO&MOI', and 'MY HEALTH MY CHOICES'.

The screenshot shows the homepage of Loblaw's marketplace. At the top left is the 'Loblaws' logo. Next to it is a 'marketplace' button with the text 'more than in-store'. In the center is a search bar with placeholder text 'Search for product' and a magnifying glass icon. To the right are links for 'PC OPTIMUM', 'FAQ', and 'FR'. Below the search bar is a location indicator 'CARLING AVENUE'. The main navigation menu includes 'GROCERY', 'HOME, BEAUTY & BABY', 'MY SHOP', 'DISCOVER', 'FLYERS & DEALS', and 'SERVICES'. On the right side, there are 'SIGN IN', a shopping cart icon with a '0' badge, '\$0.00', and a 'CHECKOUT' button. A pink banner is visible at the bottom.

The screenshot shows the homepage of IGA. At the top left is the 'IGA' logo. In the center is a search bar with a dropdown menu showing 'All' and a magnifying glass icon. To the right is a red shopping cart icon with '\$0.00'. Below the search bar are several navigation links: 'NEED INSPIRATION?', 'ONLINE GROCERY', 'FLYER & PROMOTIONS', 'RECIPES', 'CAREERS', 'REVELATIONS', and 'LOCAL ACCELERATOR'.



2022

2023

SPOIL MOM THIS MOTHER'S DAY WITH HIGH TEA

FRONT STREET BAKERY
Mini Gourmet Red Velvet Cake
350 g

\$9.99 ea.
\$2.85 /100g
\$10.99 -ea.
Valid until May 17, 2023

View our Ideas!

FRONT STREET BAKERY
Oatmeal Chocolate Cookies
380 g

Other varieties

\$5.99 ea.
\$1.58 /100g

The screenshot shows the Metro my grocer website interface from 2022. At the top, there is a dark header bar with the "metro my grocer" logo on the left, a "MY ONLINE GROCERIES" button in the center, and a "Sign in" button on the right. Below the header is a white navigation bar featuring the "metro my grocer" logo on the left, a search bar with the placeholder "Search products, recipes and articles" in the middle, and a magnifying glass icon. To the right of the search bar are links for "Your store Metro Plus Kelly Maloney" (with a pencil icon), "My List" (with a clipboard icon), and a shopping cart icon showing "0". The main menu below the navigation bar includes categories like "ONLINE GROCERY", "FLYER AND COUPONS", "RECIPES", "PRODUCTS TO DISCOVER", "METRO&MOI", and "MY HEALTH MY CHOICES".

2022

The screenshot shows the Metro my grocer website interface from 2023. The layout is similar to the 2022 version, with the "metro" logo at the top left, a search bar in the center, and a "Sign in" button on the right. A blue banner on the right side promotes the "AIR MILES® Reward Miles™" program, encouraging users to "Join the program." Below the header are several navigation icons: "Aisles" (blue circle with a shopping cart), "Flyers" (red circle with a document), "Recipes" (green circle with a fork and knife), "My offers" (orange circle with a tag), "My quick shop" (green circle with a shopping bag), and "My orders" (black circle with a document). A black footer bar at the bottom contains the text "Need help logging in? [Click here.](#)".

2023

Explore products for the home, kitchen and more from trusted sellers. Shop Marketplace

Loblaws + marketplace more than in-store

Search for product

GROCERY ▾ HOME, BEAUTY & BABY ▾ MY SHOP ▾ DISCOVER ▾ FLYERS & DEALS ▾ SERVICES ▾

THE PC® INSIDERS REPORT™ SUMMER EDITION IS BACK

Over 100 exciting new PC® products to make the most of summer.

[SHOP MUST-TRY'S](#) [SHOP THE FULL COLLECTION](#)

Sign in, get rewarded  Get exclusive deals, PC Optimum™ points, and more when you sign in.

[SIGN IN](#) [Create an account >](#)

Flyers & Deals  Shop this week's flyers & deals

 [View flyer >](#)

2022

Explore products for the home, kitchen and more from trusted sellers. Shop Marketplace

PC OPTIMUM FAQ FR

CARLING AVENUE

SIGN IN  \$0.00 CHECKOUT

Explore products for the home, kitchen and more from trusted sellers. Shop Marketplace

PC OPTIMUM FAQ FR

ISABELLA STREET

SIGN IN  \$0.00 CHECKOUT

GET YOUR GRILL ON

Meat, seafood, and more BBQ favourites ready to hit the grill.

[SHOP NOW](#)



Until June 30, get 1 month of FREE pickup and delivery when you spend \$100+ on your first PC Express order.* Use code 1PCX100

\$0 pickup and delivery on eligible orders.*

express™ pass Get a 1-month FREE trial when you sign up for an annual PC Express Pass – only \$99.99!* Free trial only available on new subscriptions.

[SIGN UP](#)

Sign in, get rewarded  Get exclusive deals, PC Optimum™ points, and more when you sign in.

Flyers & Deals  Shop this week's flyers & deals

Shop your way However you like to shop, we have it covered

2023

Explore products for the home, kitchen and more from trusted sellers. [Shop Marketplace](#)

Loblaws marketplace more than in-store

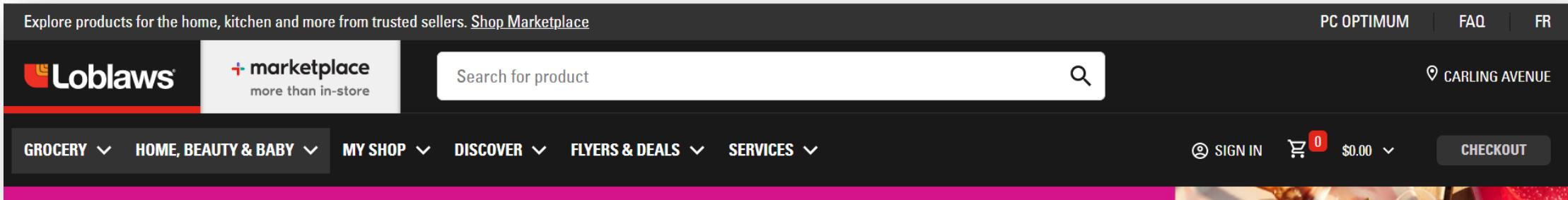
Search for product

PC OPTIMUM | FAQ | FR

CARLING AVENUE

GROCERY ▾ HOME, BEAUTY & BABY ▾ MY SHOP ▾ DISCOVER ▾ FLYERS & DEALS ▾ SERVICES ▾

SIGN IN 0 \$0.00 ▾ CHECKOUT



2022

Explore products for the home, kitchen and more from trusted sellers. [Shop Marketplace](#)

Loblaws marketplace more than in-store

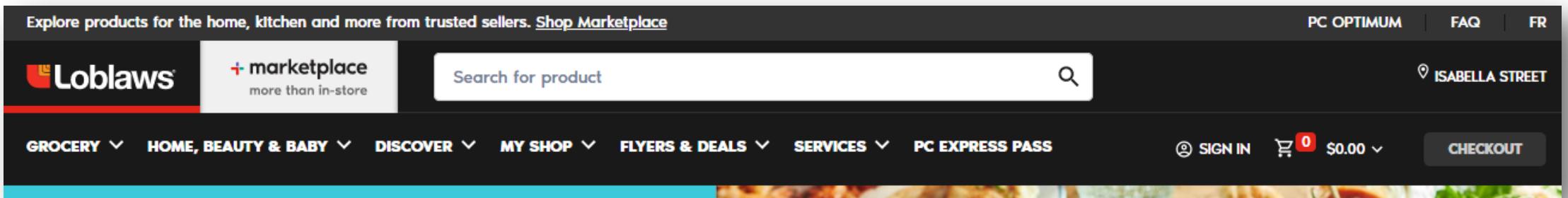
Search for product

PC OPTIMUM | FAQ | FR

ISABELLA STREET

GROCERY ▾ HOME, BEAUTY & BABY ▾ DISCOVER ▾ MY SHOP ▾ FLYERS & DEALS ▾ SERVICES ▾ PC EXPRESS PASS

SIGN IN 0 \$0.00 ▾ CHECKOUT



2023

FR | Select a store | Select a shopping list | My Account

IGA

All ▾

\$0.00

NEED INSPIRATION? ONLINE GROCERY FLYER & PROMOTIONS RECIPES CAREERS REVELATIONS LOCAL ACCELERATOR

LONG WEEKEND = REVELATIONS ALL THE WAY!

Get your BBQ ready for the long weekend and enjoy our Revelations products!

TRY OUR REVELATIONS

2022

FR | Select a store | Select a shopping list | My Account

IGA

All ▾

\$0.00

NEED INSPIRATION? OUR PRODUCTS FLYER & PROMOTIONS RECIPES HOME ECONOMICS SCENE+ MY OFFERS

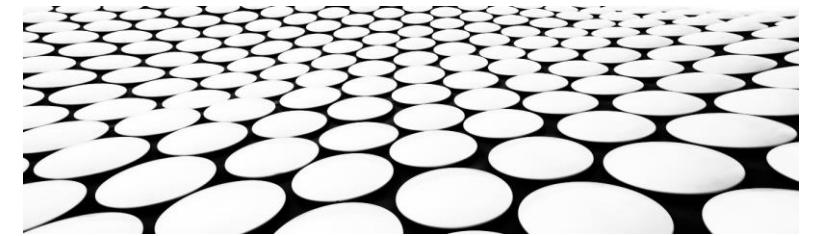
LES CHEFS X IGA

Discover our recipe inspired from the tv show les chefs!

LEARN MORE

Les Chefs! Monday 8pm, on ICI TÉLÉ

2023

ExerciseCompare sites with a focus on organizational patterns

- Brief / extended information (collapsible)
- "Changing" information (alternating in time)
- Pagination, Breadcrumbs
- Cards
- Tables, Lists
- Accordion
- Alerts



SUMMARY

- Information organization
 - Grouping of similar information
 - Division of large amount of information into sections
 - Different formats for information presentation
 - Static/Dynamic information

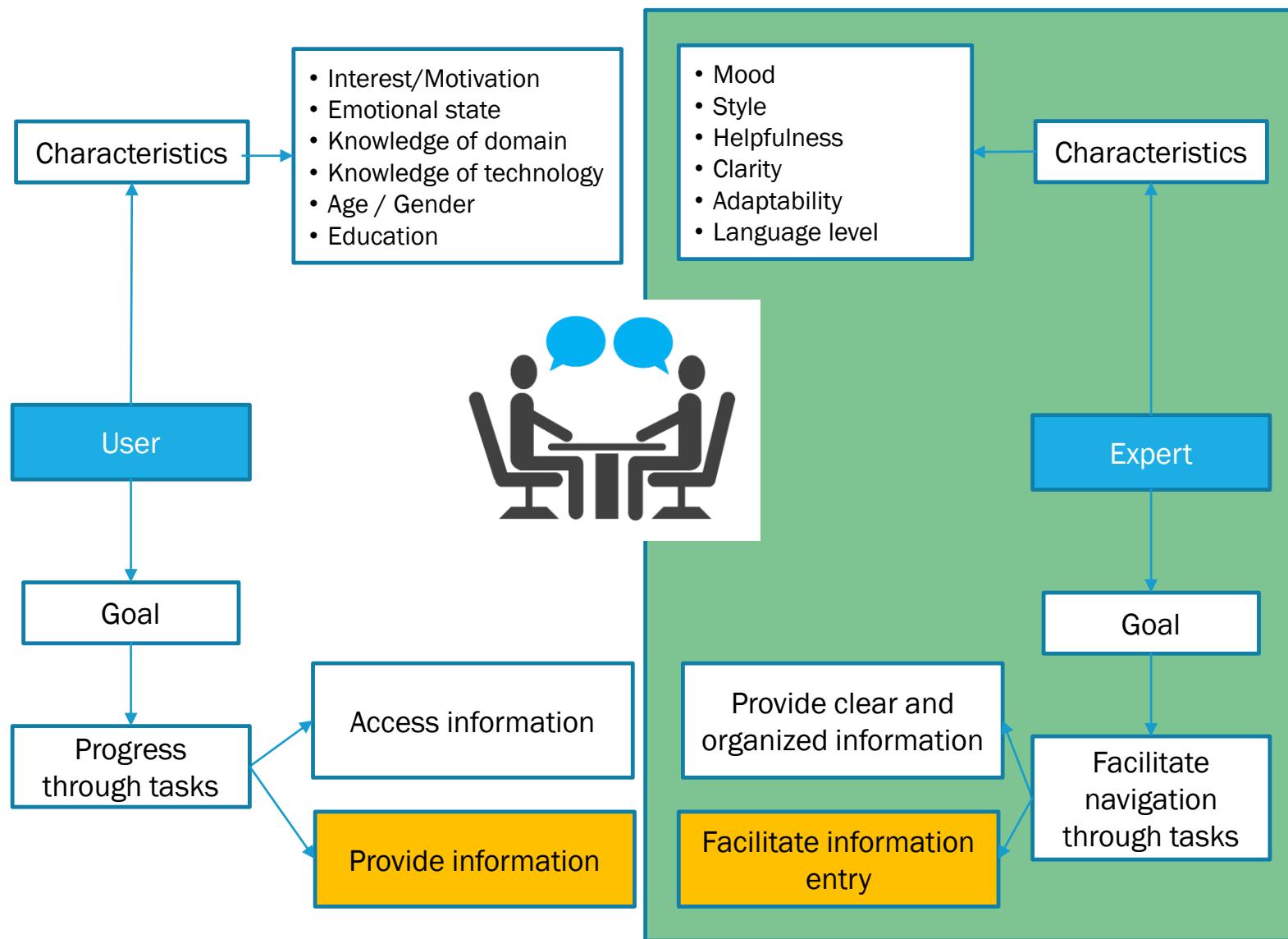
Part 3

User input component



GOALS OF THE PRESENTATION

- Present user input components (widgets)
- Bootstrap 5 as example framework
- Case study – Air travel





Bootstrap 5 Tutorial

BS5 HOME

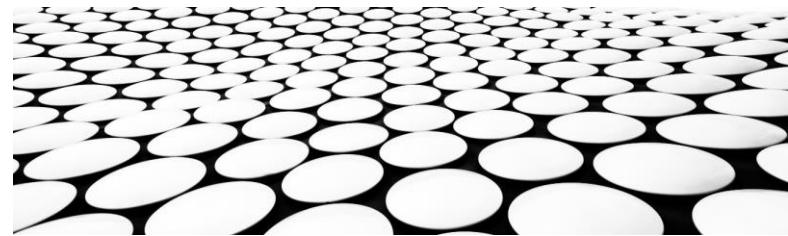
[BS5 Get Started](#)[BS5 Containers](#)[BS5 Grid Basic](#)[BS5 Typography](#)[BS5 Colors](#)[BS5 Tables](#)[BS5 Images](#)[BS5 Jumbotron](#)[BS5 Alerts](#)[BS5 Buttons](#)[BS5 Button Groups](#)[BS5 Badges](#)[BS5 Progress Bars](#)[BS5 Spinners](#)[BS5 Pagination](#)[BS5 List Groups](#)[BS5 Cards](#)[BS5 Dropdowns](#)[BS5 Collapse](#)[BS5 Navs](#)[BS5 Navbar](#)[BS5 Carousel](#)[BS5 Modal](#)[BS5 Tooltip](#)[BS5 Popover](#)[BS5 Toast](#)[BS5 Scrollspy](#)[BS5 Offcanvas](#)[BS5 Utilities](#)[BS5 Flex](#)

Bootstrap 5 Forms

[BS5 Forms](#)[BS5 Select Menus](#)[BS5 Checks and Radios](#)[BS5 Range](#)[BS5 Input Groups](#)

Which components would be useful in your project?

JavaScript / Bootstrap 5



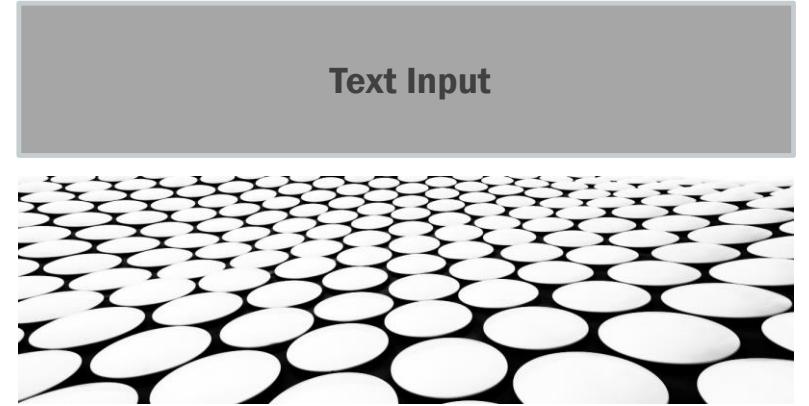
Plain text Inputs

Plaintext input

Normal input

Comments:

Submit



Email:

Password:

Remember me

Submit

Username:

 ⓘ

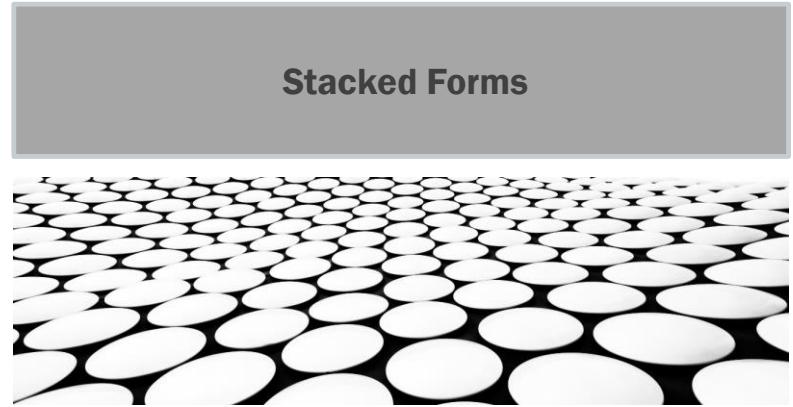
Please fill out this field.

Password:

 ⓘ

Please fill out this field.

I agree on blabla.
Check this checkbox to continue.



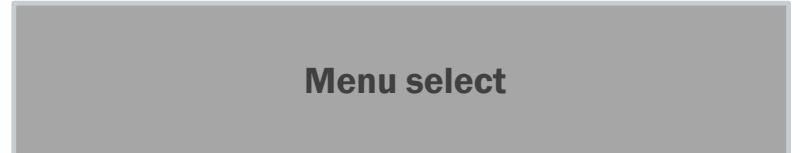
Select Menu

Select menu (select one):

1

Multiple select menu (hold ctrl or shift (or drag with the mouse) to select more than one):

2
3
4
5



Checkboxes

Checkboxes are used if you want the user to select any number of options from a list of preset options.

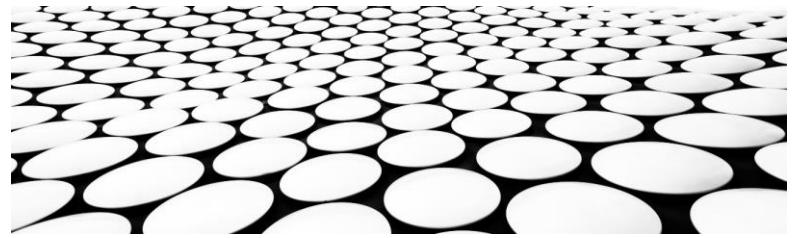
- Option 1
- Option 2
- Disabled Option

Radio buttons

Radio buttons are used if you want to limit the user to just one selection from a list of preset options.

- Option 1
- Option 2
- Option 3

Checkboxes / Radio Buttons



Toggle Switches

If you want your checkbox to be styled as a toggle switch, use the `.form-switch` class together with the `.form-check` container:



Custom Range

To style a range menu, add the `.form-range` class to the input element with `type="range"`:

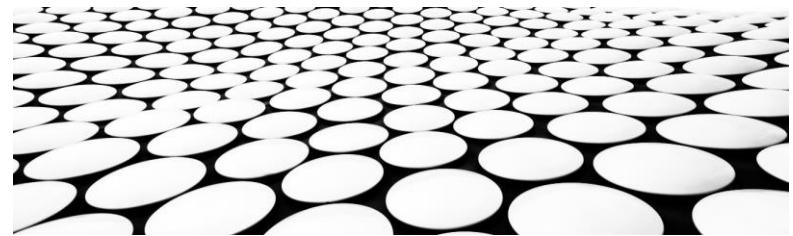
Custom range

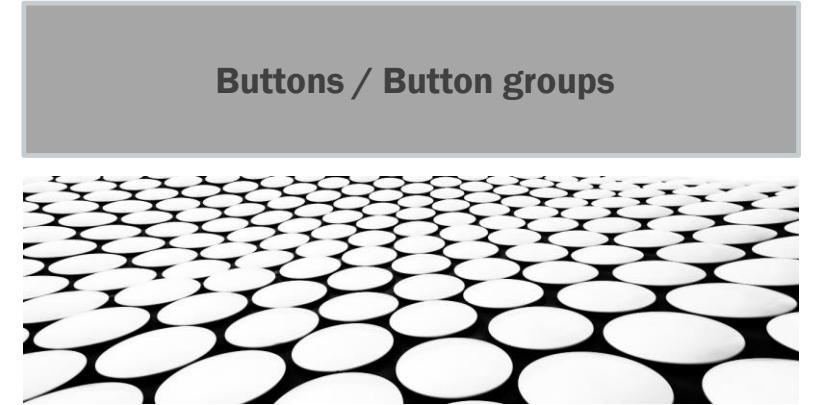
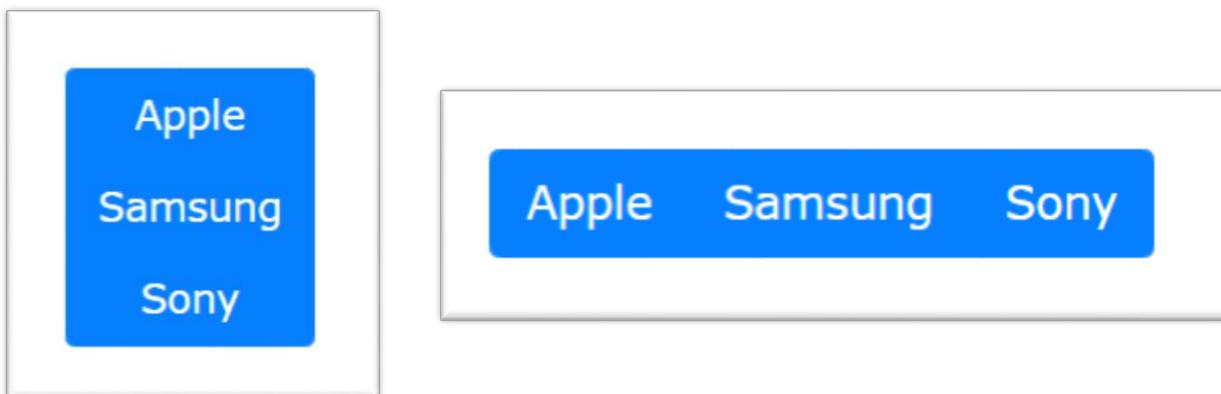
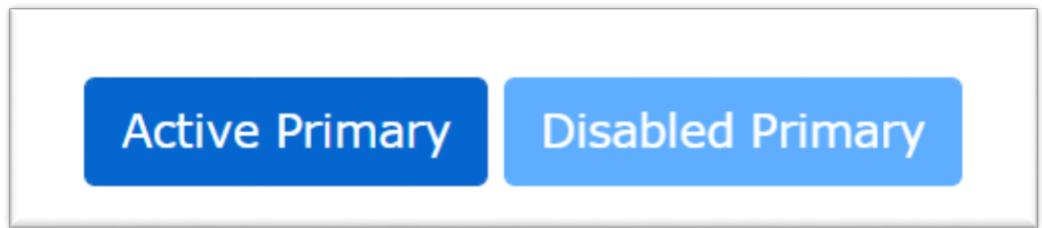
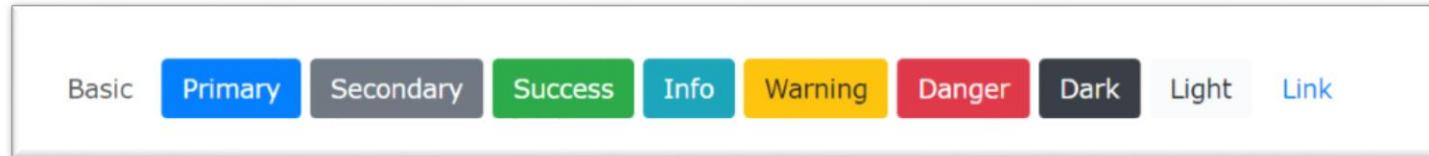


Default range

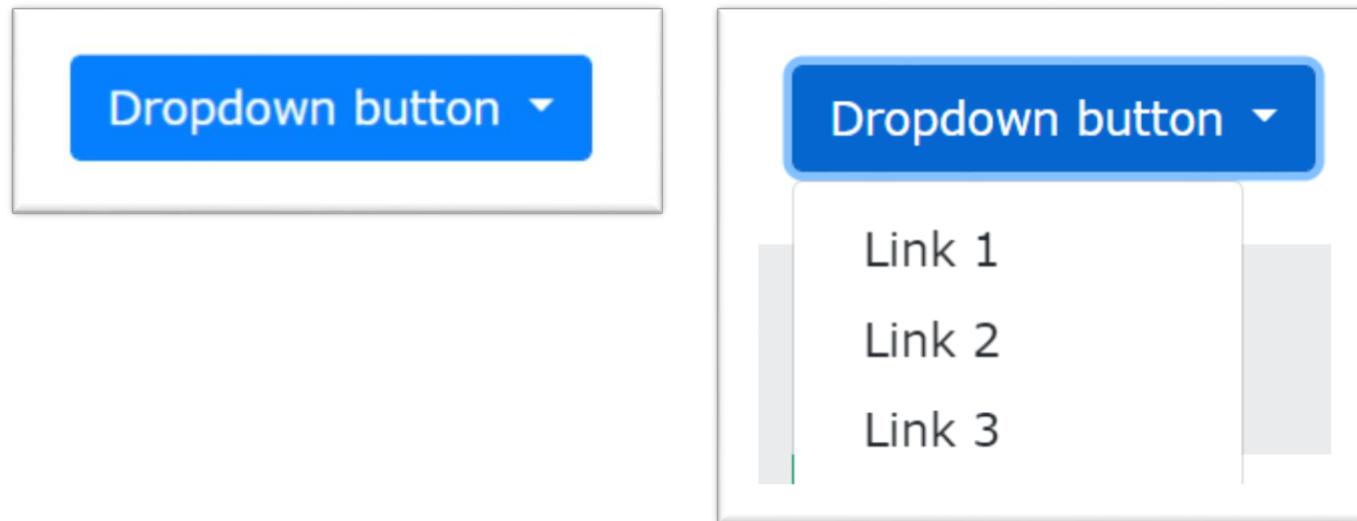


Switches / Ranges

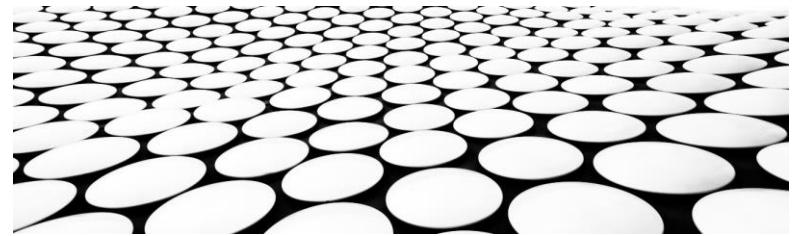


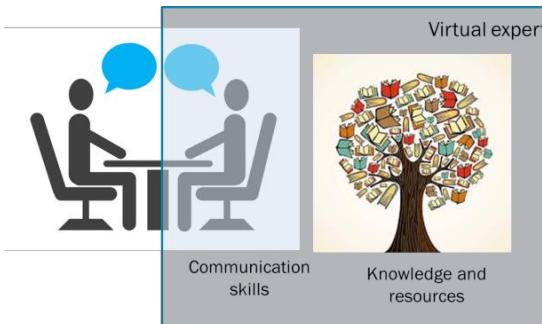


Buttons / Button groups



Buttons / Lists





AIR CANADA

Search Accessibility English | CA\$

Book Plan Fly Aeroplan Customer support Special offers Sign In

**DON'T GO SMALL
GO AUSTRALIA.**

15% OFF

Don't go small, go Australia.

Epic experiences and savings await. Book now and save up to 15% on select base fares to Sydney or Brisbane.*...

[BOOK BY MAY 18, 2022 >](#)

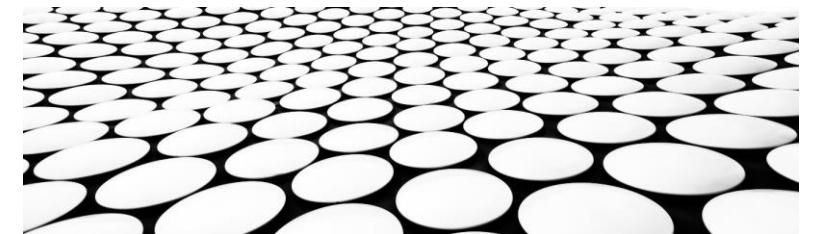
Flights Vacations Flight Passes Hotels Cars My bookings Check-in Flight status

Find the latest entry requirements and COVID-19 measures for your destination. [Review requirements](#)

Cash Points Round-trip 1 Adult Promotion Code

From To Departure Return Find

Case study - Travel



AIR CANADA

Search Accessibility English | CAS Sign In

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15% OFF

Don't go small, go Australia! Epic experiences and savings await. Book by May 15 and save up to 15% on select base fares to Sydney or Brisbane.*

[BOOK BY MAY 15](#)

Flights Vacations Flight Passes Hotels Cars My bookings Check-in Fl

Find the latest entry requirements and COVID-19 measures for your destination. [Review requirements](#)

Cash Points Round-trip 1 Adult Promotion Code

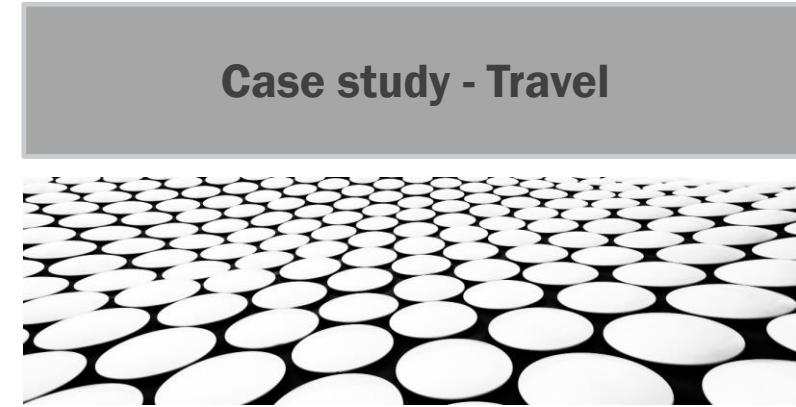
From To Departure Return

Baggage

- Carry-On Baggage
- Checked Baggage
- Special items
- Restricted /Prohibited items
- Delayed/Damaged bags
- Ship your luggage ahead

Special Assistance

- Travelling with children
- Children travelling alone
- Travelling with your pet
- Special meals
- Bereavement fares



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Don't go small, go Australia.
Epic experiences and savings await. Book now and save up to 15% on select base fares to Sydney or Brisbane.*
[BOOK BY MAY 18, 2022](#)

Flights Vacations Flight Passes Hotels Cars My bookings Check-in Flight status

Find the latest entry requirements and COVID-19 measures for your destination. [Review requirements](#)

Cash Points Round-trip 1 Adult Promotion Code

From To Departure Return Find

From **- Van** X

- VAN** Van, Turkey
Van Ferit Melen Airport
- YVR** Vancouver, British Columbia, Canada
Vancouver Int.
- HEL** Helsinki, Finland
Helsinki-Vantaa
- PHW** Phalaborwa, South Africa
Hendrik Van Eck Airport
- VVC** Villavicencio, Colombia
La Vanguardia Airport

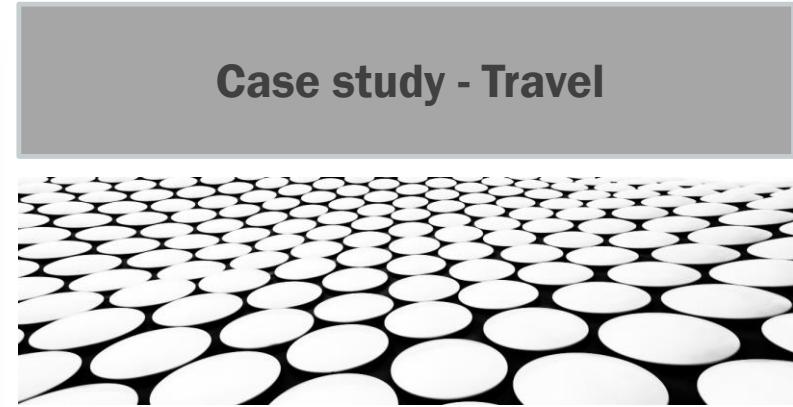
Port Moresby, Papua New Guinea

From

Enter the city name, airport code, province or country/region.

From **- Vancouver YVR** ↔ **To**
Please select a valid destination for this trip.

Departure Return Find
Please select valid travel dates for this trip.



AIR CANADA

Search Accessibility English | CAS Sign In

Book Plan Fly Aeroplan Customer support Special offers

15% OFF

Don't go small, go Australia.

Epic experiences and savings await. Book now and save up to 15% on select base fares to Sydney or Brisbane.*

[BOOK BY MAY 18, 2022 >](#)

**DON'T GO SMALL
GO AUSTRALIA.**

Flights Vacations Flight Passes Hotels Cars My bookings Check-in Flight status

Find the latest entry requirements and COVID-19 measures for your destination. [Review requirements](#)

Cash Points Round-trip 1 Adult Promotion Code

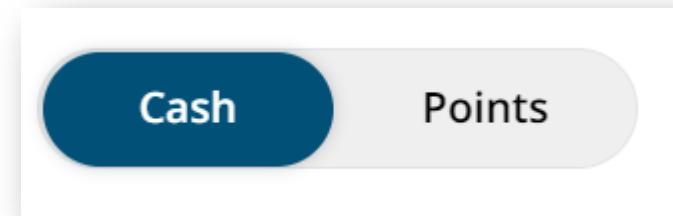
From To Departure Return Find

Round-trip

Round-trip ✓

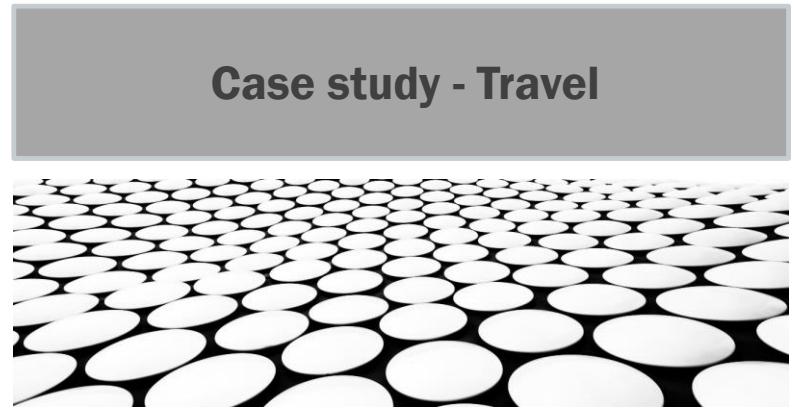
One-way

Multi-city



Case study - Travel

The screenshot shows the Air Canada homepage with a banner for a 15% off promotion to Australia. Below the banner, there's a search bar and navigation links for Flights, Vacations, Flight Passes, Hotels, Cars, My bookings, Check-in, and Flight status. A message at the bottom left says "Find the latest entry requirements and COVID-19 measures for your destination." An overlay window is displayed, titled "1 Adult". It contains fields for "Adult (16+)" (set to 1), "Youth (12-15)" (set to 0), "Child (2-11)" (set to 0), "Infant (On lap)" (set to 0), and "Infant (In seat)" (set to 0). Each field has a minus and plus button. At the bottom is a large blue "Close" button.



AIR CANADA

Search Accessibility English | CAS

Book Plan Fly Aeroplan Customer support Special offers Sign In

15% OFF

Don't go small, go Australia.

Epic experiences and savings await. Book now and save up to 15% on select base fares to Sydney or Brisbane.*

[BOOK BY MAY 18, 2022](#)

Flights Vacations Flight Passes Hotels Cars My bookings Check-in Flight status

Find the latest entries

Cash Points

From

SUN	MON	TUE	WED	THU	FRI	SAT
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				

< >

SUN	MON	TUE	WED	THU	FRI	SAT
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				

X

May 2022 June 2022

Clear dates

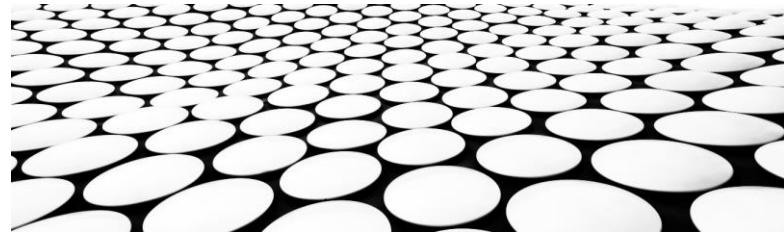
Please select your departure date.

Return:

Duration:

Select

Case study - Travel



Flights Vacations Flight Passes Hotels Cars My bookings Check-in Flight status

(i) Find the latest entry requirements and COVID-19 measures for your destination. [Review requirements](#)

Cash Points Round-trip 1 Adult Promotion Code

From To Departure Return [Find](#)

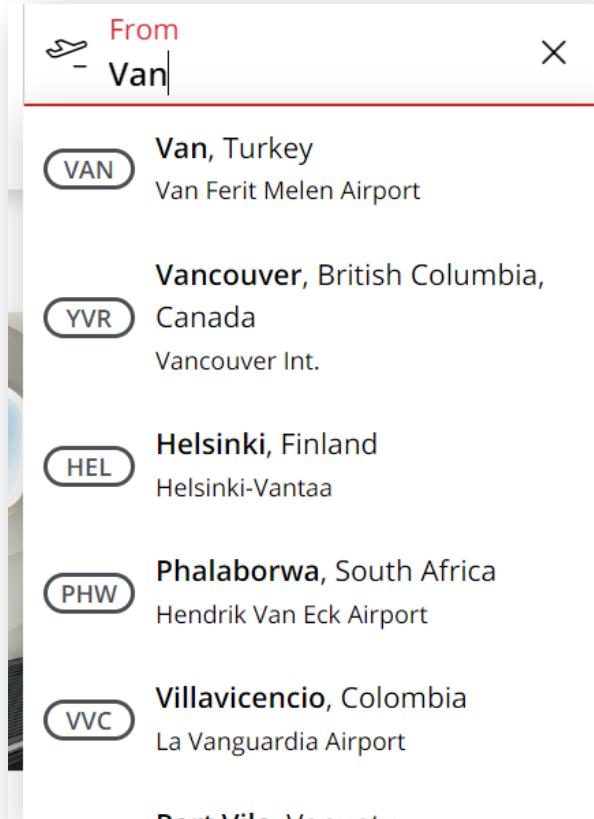
2022

Flights Packages Flight Passes Hotels Cars My bookings Check-in Flight status

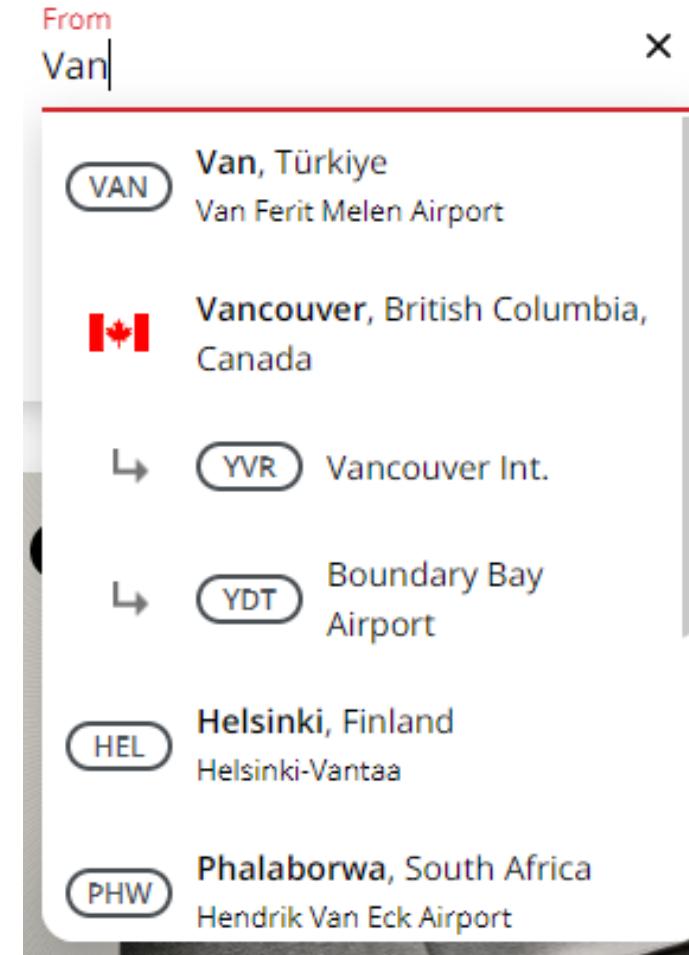
Round-trip One-way Multi-city/Stopover Book with points **AEROPLAN**

From Ottawa YOW To [Departure](#) [Return](#) Passenger(s) 1 Adult [Add promotion code](#) [Search flights](#)

2023



2022



2023

 Air transat

Canada (CAD) – English  Manage My Booking

Book ▾ Deals ▾ Destinations ▾ Travel information ▾ Contact us Search

Longer than usual wait times in Contact Centre. See our useful links:

[Entry requirements by destination](#) [Modify or cancel a reservation](#) [On-hold help](#)

From	To	Price	Date
Montreal (CA)	Toronto (CA)	\$213 taxes & fees incl.	May 20 2022
Montreal (CA)	Toronto (CA)	\$213 taxes & fees incl.	Jun 01 2022
Montreal (CA)	Quebec (CA)	\$235 taxes & fees incl.	May 20 2022
Montreal (CA)	Quebec (CA)	\$235 taxes & fees incl.	Jun 01 2022
Montreal (CA)	Calgary (CA)	\$274 taxes & fees incl.	Jun 08 2022
Montreal (CA)	Vancouver (CA)	\$297 taxes & fees incl.	Jun 03 2022



Flight Status Online Check-in Manage my booking

Flight Package Car More >

Roundtrip One-way Multi-destination

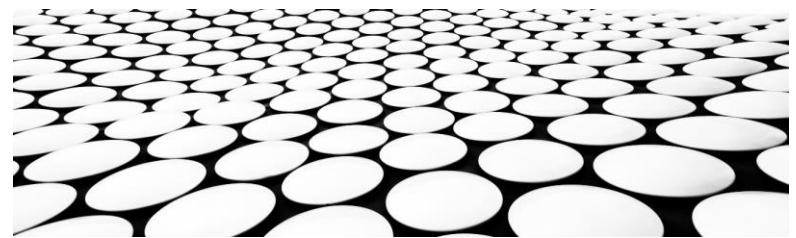
From Ottawa, CA (YOW) To Select a city / an airport

Departure  Return 

Number of passengers 1 Passenger Promo code



Case study – Travel (2)



Get Travel Ready
[Self-serve options](#) | [Change or cancel a booking](#) | [Destination requirements](#)

CLOSE X

WESTJET

Flights Vacations Offers ▾ Manage trips ▾ Check in Flight status Rewards ▾

Flights Vacations Check in

Book a flight

Sign in to apply companion vouchers, see Member Exclusive savings or earn and use Westjet dollars.

[Sign in](#)

Trip type
Return trip

From
Montreal, QC [Switch](#)

Going to

Apply discount code

Departure date
Sun May 15 [Switch](#)

Return date
Sun May 15 [Switch](#)

Guests
1 Guest

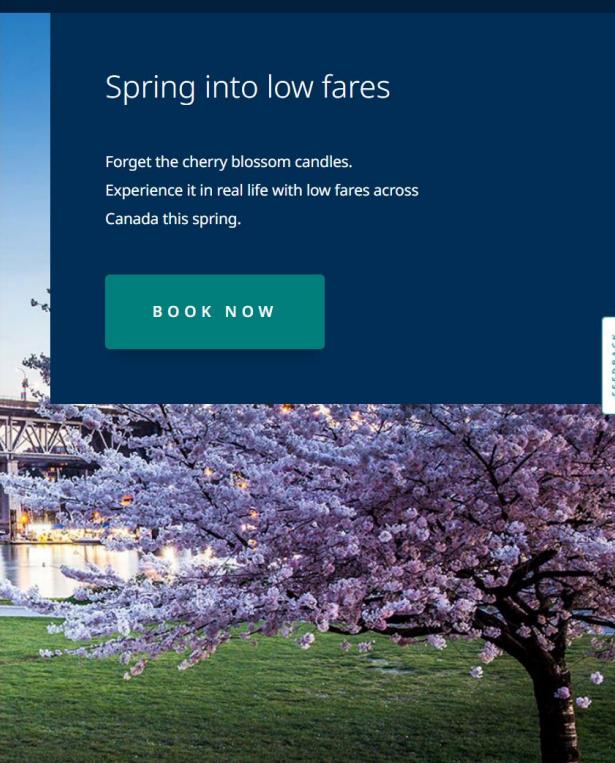
[GET FLIGHTS](#)

Spring into low fares

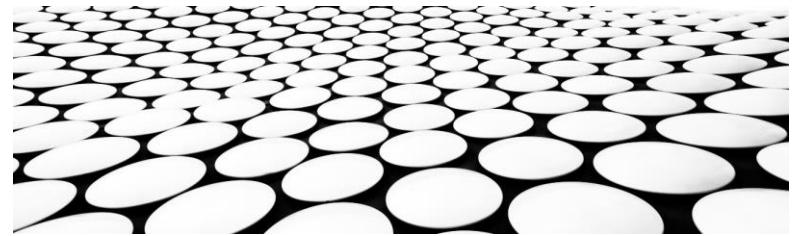
Forget the cherry blossom candles. Experience it in real life with low fares across Canada this spring.

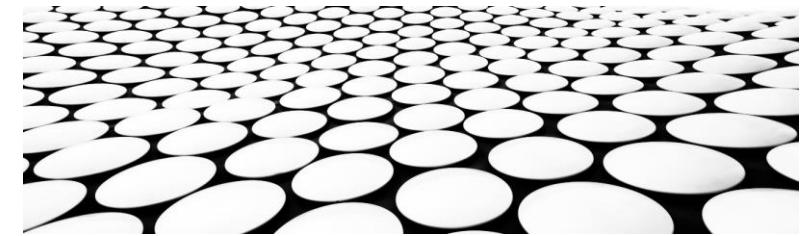
[BOOK NOW](#)

[FEEDBACK](#)



Case study – Travel (2)



ExerciseCompare sites with a focus user input

- Text
- Auto-completion
- Lists
- Toggle, checkbox, radio button
- Calendar (date selection)
- Specialized entry for a particular domain (e.g. nb persons of different ages)

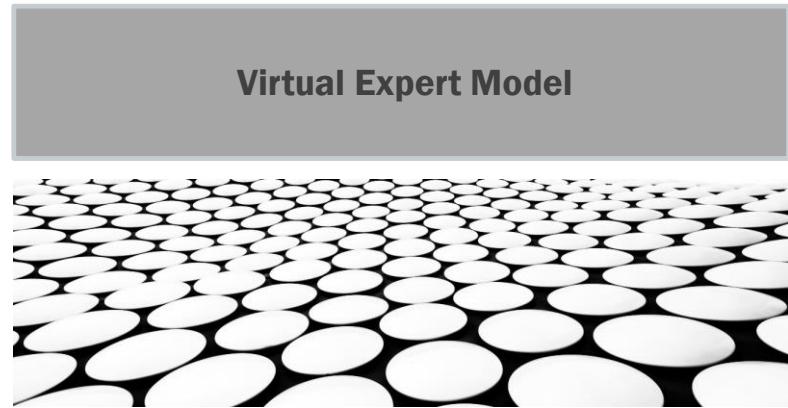
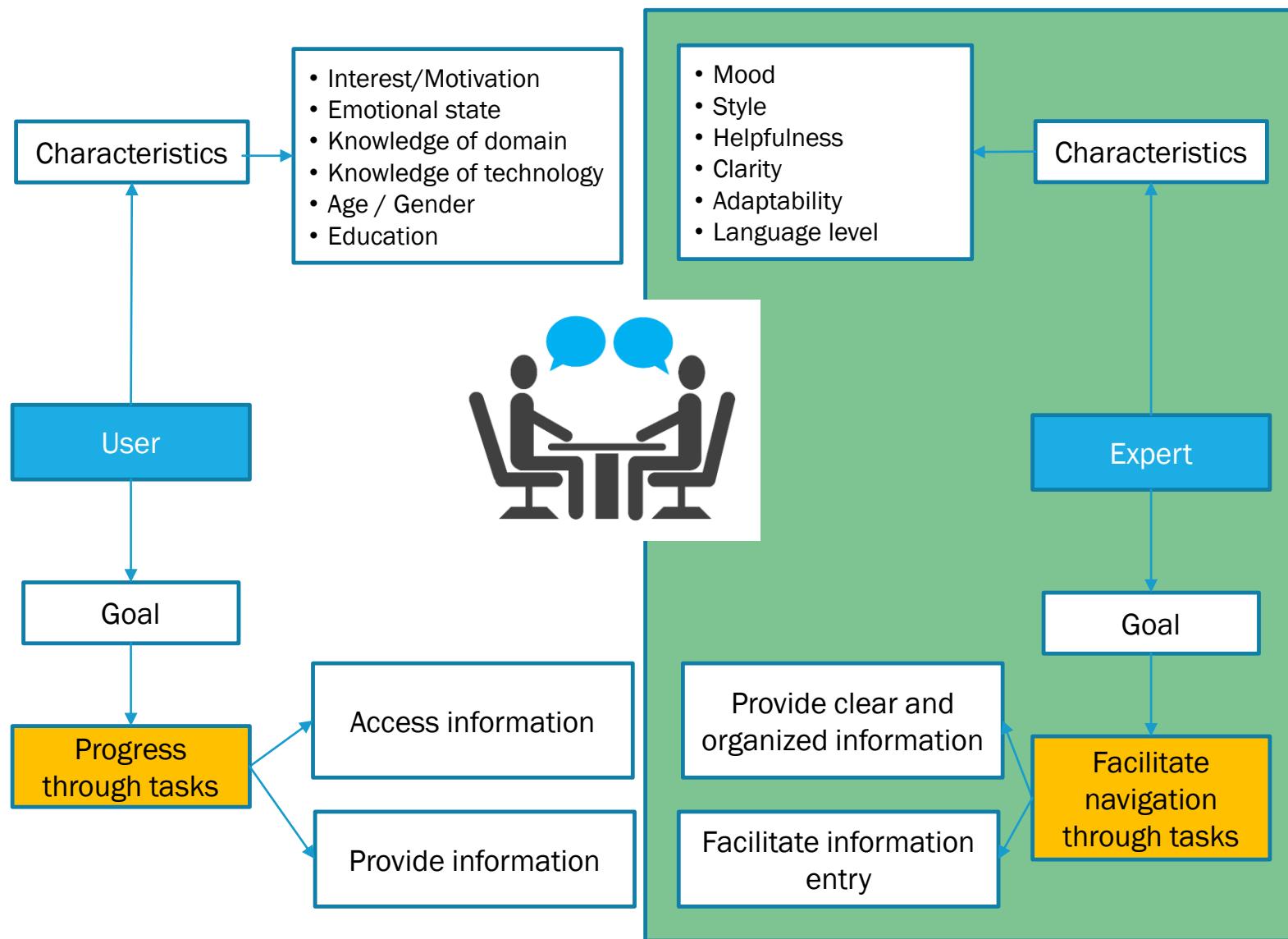


SUMMARY

- Overview of some components (widgets) to facilitate user input
- Introduction of the idea of validation and constraints

Part 4

Navigational patterns



 W3
schools

Tutorials ▾ References ▾ Exercises ▾ Videos Pro NEW

Home HTML CSS JAVASCRIPT SQL PYTHON PHP BOOTSTRAP

Bootstrap 5 Tutorial

BS5 HOME

BS5 Get Started

BS5 Containers

BS5 Grid Basic

BS5 Typography

BS5 Colors

BS5 Tables

BS5 Images

BS5 Jumbotron

BS5 Alerts

BS5 Buttons

BS5 Button Groups

BS5 Badges

BS5 Progress Bars

BS5 Spinners

BS5 Pagination

BS5 List Groups

BS5 Cards

BS5 Dropdowns

BS5 Collapse

BS5 Navs

BS5 Navbar

BS5 Carousel

BS5 Modal

BS5 Tooltip

BS5 Popover

BS5 Toast

BS5 Scrollspy

BS5 Offcanvas

BS5 Utilities

BS5 Flex

Bootstrap 5 Forms

BS5 Forms

BS5 Select Menus

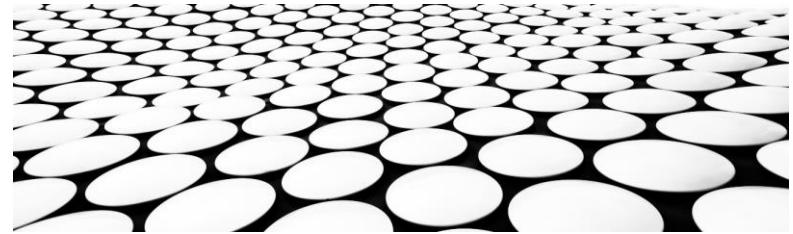
BS5 Checks and Radios

BS5 Range

BS5 Input Groups

Which components would be useful in your project?

JavaScript / Bootstrap 5



Nav Menus

Link Link Link Disabled

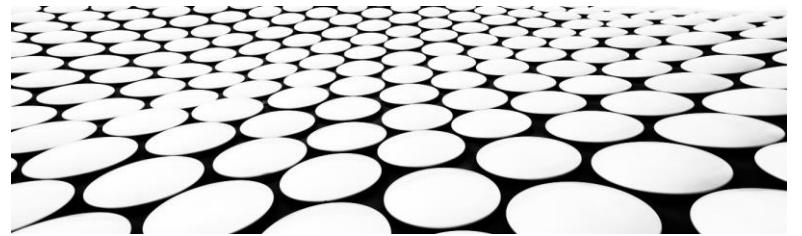
Pills

Active Link Link Disabled

Tabs

Active Link Link Disabled

Navs

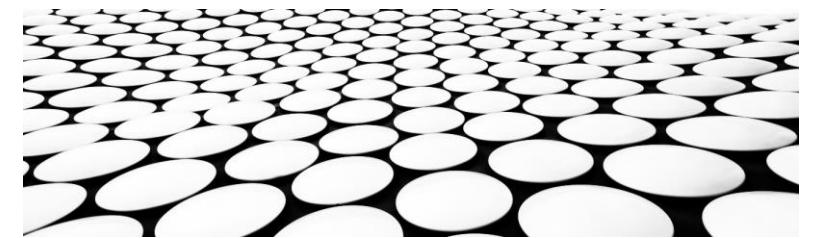


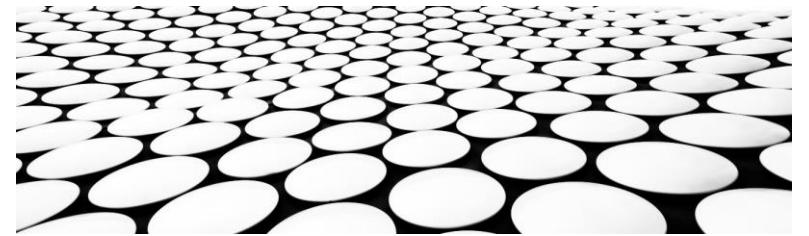
Navigation Bars

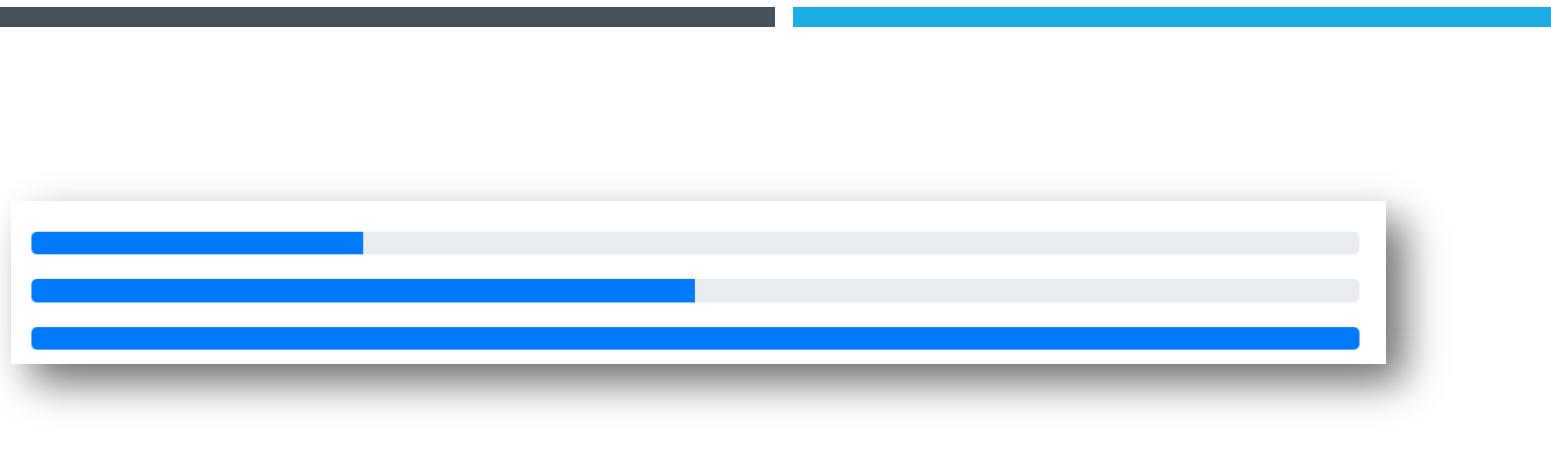
A navigation bar is a navigation header that is placed at the top of the page:



Navigation Bars

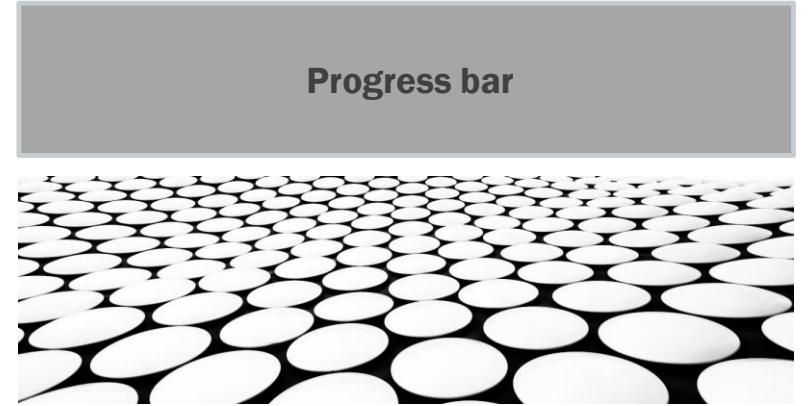




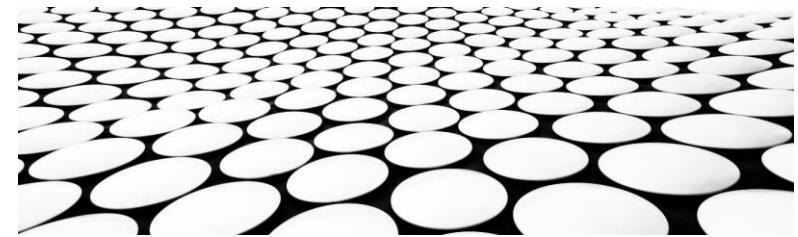


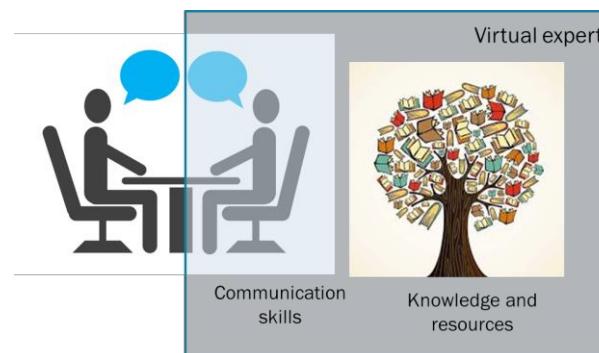
Progress Bar Labels

Add text inside the progress bar to show the visible percentage:



Spinners





Air transat

Canada (CAD) - English 2 Manage My Booking

Book ▾ Deals ▾ Destinations ▾ Travel information ▾ Contact us Search

Longer than usual wait times in Contact Centre. See our useful links:

[Entry requirements by destination](#) [Modify or cancel a reservation](#) [On-hold help](#)

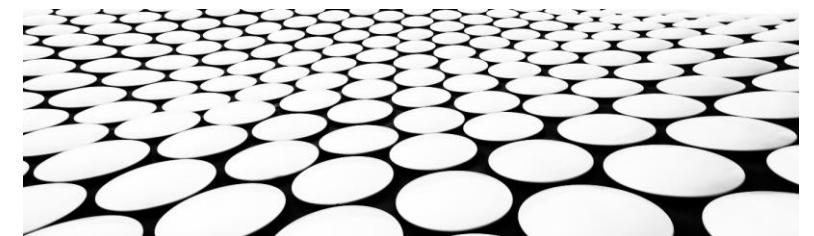
Summer Vibes
Seat Sale

[See deals](#)

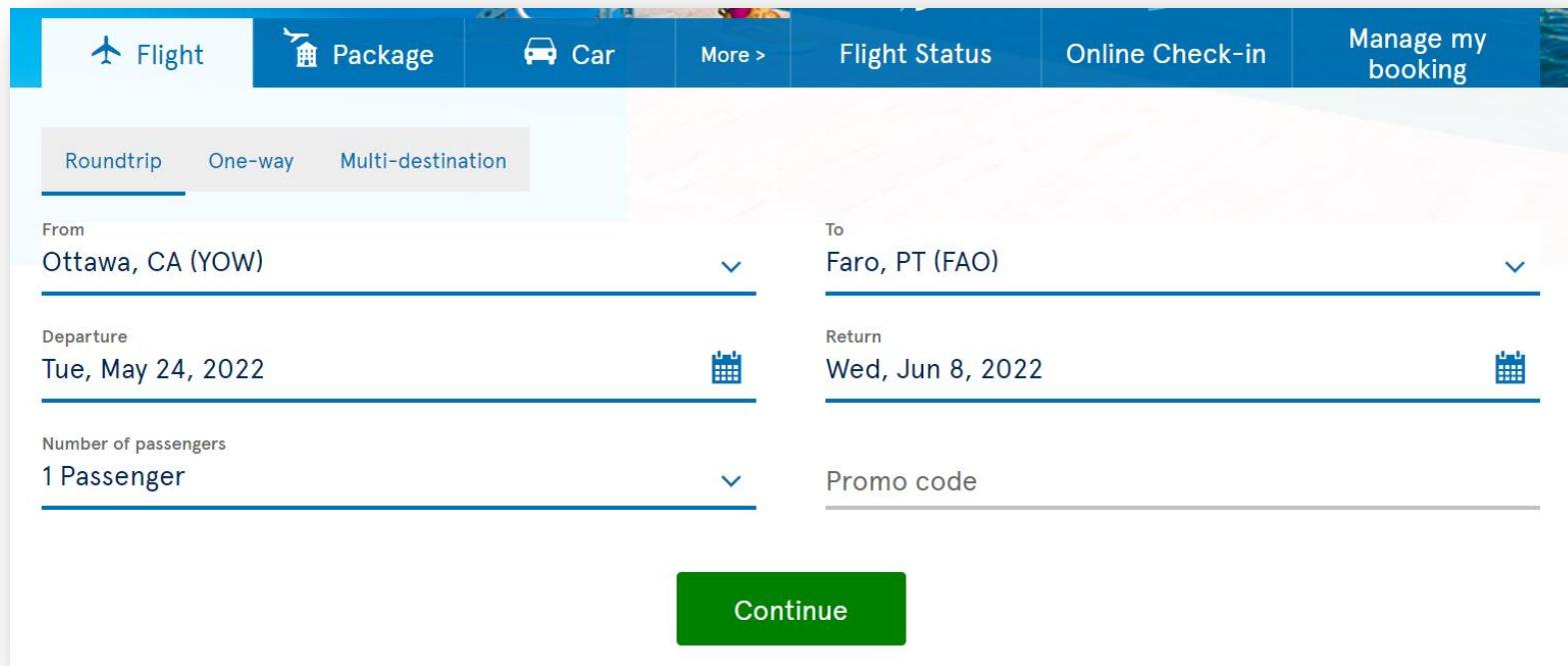
Flight Status **Online Check-in** **Manage my booking**

Flight **Package** **Car** More >

Case study - Travel



Case study - Travel



The image shows a travel booking interface with a search results page. At the top, there's a navigation bar with icons for Flight, Package, Car, More >, Flight Status, Online Check-in, and Manage my booking. Below the navigation bar, there are tabs for Roundtrip, One-way, and Multi-destination, with Roundtrip selected. The search form includes fields for 'From' (Ottawa, CA (YOW)), 'To' (Faro, PT (FAO)), 'Departure' (Tue, May 24, 2022), 'Return' (Wed, Jun 8, 2022), 'Number of passengers' (1 Passenger), and a 'Promo code' field. A green 'Continue' button is at the bottom.

Flight

Package

Car

More >

Flight Status

Online Check-in

Manage my booking

Roundtrip

One-way

Multi-destination

From
Ottawa, CA (YOW)

To
Faro, PT (FAO)

Departure
Tue, May 24, 2022

Return
Wed, Jun 8, 2022

Number of passengers
1 Passenger

Promo code

Continue

1 Flights 2 Options 3 Payment 4 Confirmation

Ottawa (YOW) → Faro (FAO)

Sat, May 21, 2022 Sun, May 22, 2022 Mon, May 23, 2022 **Tue, May 24, 2022** \$572 tx. & fees incl. Wed, May 25, 2022 Thu, May 26, 2022 Fri, May 27, 2022

< Try alternate dates Try alternate dates >

Eco Budget #1 pick **Eco Standard** **Eco Flex** **Club Standard** **Club Flex**

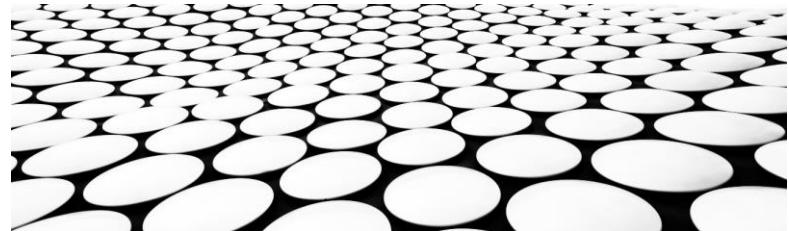
Checked bags with a fee 1 checked bag Standard seat selection Refundable Date change 2 checked bags Club seat selection Gourmet Meal Personalized service Comfort Kit Exclusive cabin

Departs Duration Arrives **Limited time offer: no change fees. See details**

18:45 Ottawa (YOW) TS7347 Dash8 Q400 TS232 A321neo LR	11h 5m 1 stop ○—○	10:50 +1 Faro (FAO) Operated by Westjet Encore Operated by Air Transat	\$572	\$662	\$1,222	Not available	\$2,167 1 seat left at this price
16:45 Ottawa (YOW) TS7343 Dash8 Q400 TS232 A321neo LR	13h 5m 1 stop ○—○	10:50 +1 Faro (FAO) Operated by Westjet Encore Operated by Air Transat	\$572	\$662	\$1,222	Not available	\$2,167 1 seat left at this price

▼ Details

Case study - Travel



Your flight(s)

Tue, May 24, 2022		Flight TS7343/TS232
Ottawa	○—○	Faro
Departs	1 stop	Arrives
16:45	13h 5m	10:50 +1
Dash8 Q400	A321neo LR	
Eco Budget		

Wed, Jun 8, 2022		Flight TS233/TS7346
Faro	○—○	Ottawa
Departs	1 stop	Arrives
12:30	13h 38m	21:08
A330-200	Dash8 Q400	
Eco Budget		

Options

No options selected

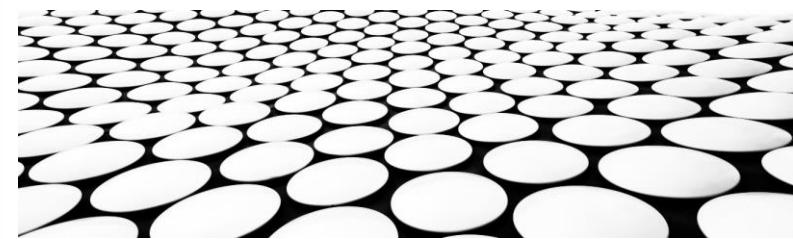
Price details	
1 Adult	
Flight	1 x \$430.00
Other ATC	1 x \$570.00
▼ Taxes, fees & charges	1 x \$108.79
Total	1 x \$1,108.79

\$1,108.79

Taxes and fees included

[Return](#)[Continue](#)

Case study - Travel



Seat selection, meals and bags

Departure flights

Ottawa → Toronto

Flight TS7343 · Airbus Dash8 Q400 · Operated by Westjet Encore

i Flight TS7343 is not operated by Air Transat. Certain terms and services may differ. Additional baggage must be paid for at the airport.

Adult 1

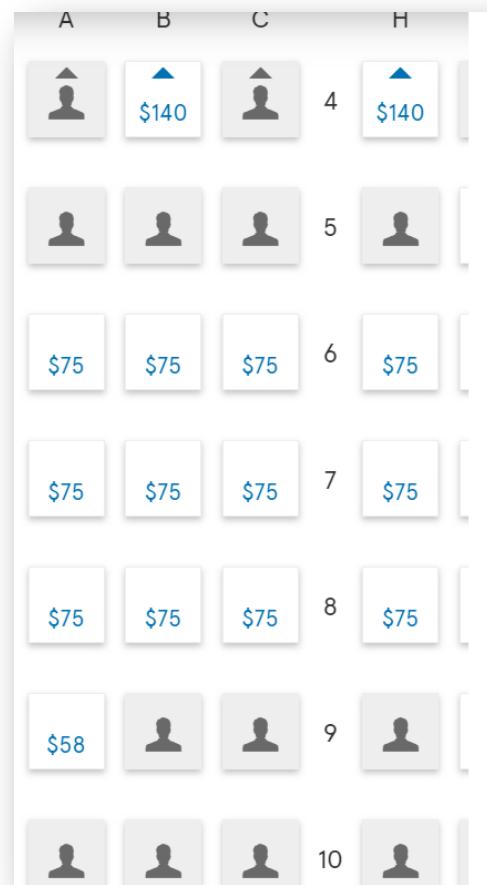
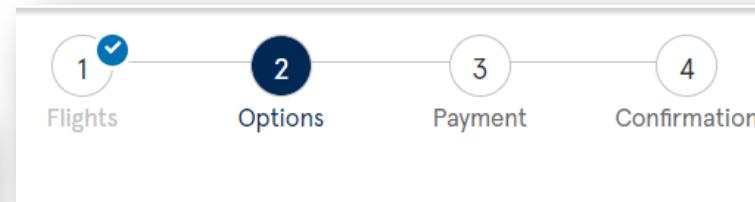
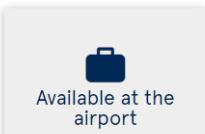
Eco Budget includes: bag 0 checked bags

Toronto → Faro

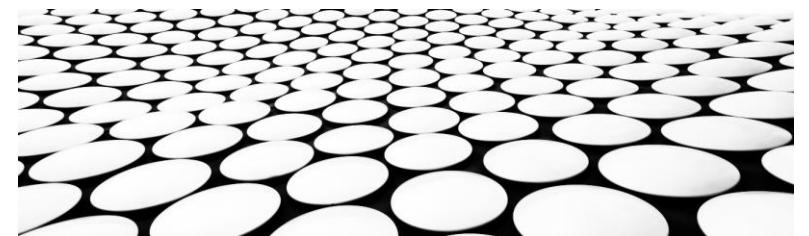
Flight TS232 · Airbus A321neo LR · Operated by Air Transat

Adult 1

Eco Budget includes: bag 0 checked bags



Case study - Travel



Get Travel Ready
[Self-serve options](#) | [Change or cancel a booking](#) | [Destination requirements](#)

CLOSE X

WESTJET

Flights Vacations Offers ▾ Manage trips ▾ Check in Flight status Rewards ▾

Flights Vacations Check in

Book a flight

Sign in to apply companion vouchers, see Member Exclusive savings or earn and use Westjet dollars.

[Sign in](#)

Trip type
Return trip

From
Montreal, QC [Switch](#)

Going to

Apply discount code

Departure date
Sun May 15 [Switch](#)

Return date
Sun May 15 [Switch](#)

Guests
1 Guest

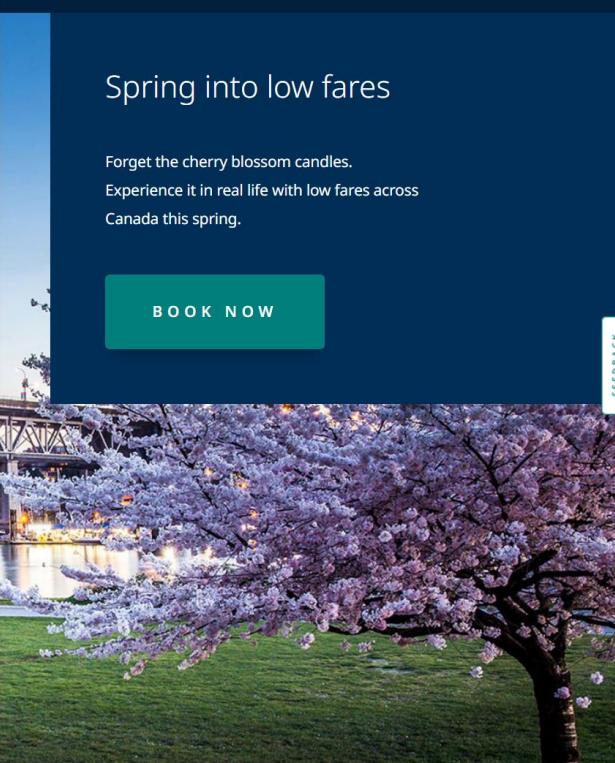
[GET FLIGHTS](#)

Spring into low fares

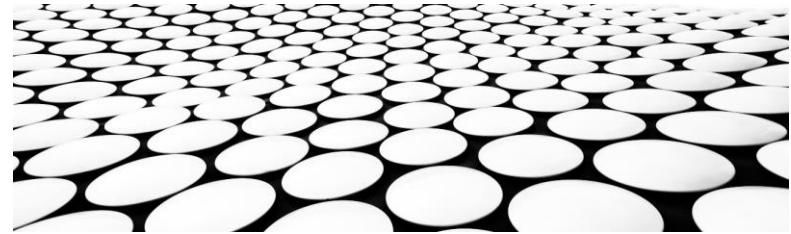
Forget the cherry blossom candles. Experience it in real life with low fares across Canada this spring.

[BOOK NOW](#)

[FEEDBACK](#)



Case study – Travel (3)



Departure date

CLOSE X

May 2023							June 2023						
Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat
	1	2	3	4	5	6				1	2	3	
7	8	9	10	11	12	13	4	5	6	7	8	9	10
14	15	16	17 \$547	18 \$564	19 \$575	20 \$555	11	12	13	14	15	16	17 \$149
21 \$558	22 \$575	23 \$314	24 \$316	25 \$314	26 \$341	27 \$446	18	19 \$264	20 \$237	21 \$149	22 \$149	23 \$198	24 \$189
28 \$314	29 \$496	30 \$253	31 \$253				25	26 \$276	27 \$198	28 \$189	29 \$199	30 \$266	

Low fare

All prices in CAD, one-way, per guest

Book a flight

Trip type: Return trip

From: Ottawa, ON Switch

Going to: Vancouver, BC

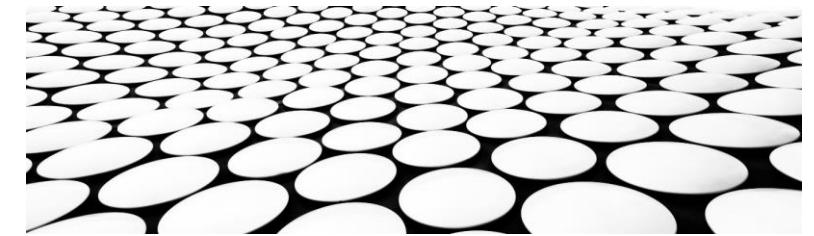
Use companion voucher i

Apply discount code

Departure date: When do you want to leave? Return date: When do you want to return?

Guests: 1 Guest

GET FLIGHTS

ExerciseCompare sites with a focus on navigation

- Progress indicator (clear?)
- Do you always know where you are?
- Ease of exploration
- Ease of completing a linear task (and being able to go back)
- Accelerated navigation by "informed" selections (e.g. price + dates together)
- Accelerated navigation by selections with "mapping" (e.g. seats)