

User Experience, Web Design & CRO

Session 3

User Experience Research



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User Experience Research

Contents:

1. User Experience Research
2. UX Research Methods and Tools: Heuristic, User Tests, Office Testing, Agile Testing, Card-Sorting, Tree-Testing, Eye Tracking, Co-creation and Customer Maps
3. Other research tools: don't forget your Analytics

Short readings

Session 3 – User Experience Research

Other complementary readings are reflected in each slide of the session.

PDFs and other materials are uploaded in the Campus

1. 10 Usability Heuristics for User Interface Design. Nielsen & Norman Group (1995):
<https://www.nngroup.com/articles/ten-usability-heuristics/>
2. Example of Test Scripts and Checklists for User Testing. Steve Krug 2010. <https://sensible.com/download-files/>
3. "Think Aloud: the number one UX tool". Nielsen & Norman Group. <https://www.nngroup.com/articles/thinking-aloud-the-1-usability-tool/>
4. "Office/Sketch Testing. Nielsen & Norman Group. <https://www.nngroup.com/articles/sketch-test/>
5. "Tree Testing". Nielsen & Norman Group. <https://www.nngroup.com/articles/tree-testing/>
6. "Customer Maps". Nielsen & Norman Group. <https://www.nngroup.com/articles/customer-journey-mapping/>

What is DESIGN in the world of business? (from Session 1)

- Connect Human Needs with Technology (Don Norman)
- Do the “**RIGHT THINGS**” and do them “**RIGHT**”
- Design critical mission is to change customer behaviour towards a better situation for THEM with a positive impact in the BUSINESS

What are the “RIGHT THINGS”?

“Don’t solve the problem that’s asked to you. It’s almost always the wrong problem”

Don Norman

Video. “Principles of Human Centered Design”:

<https://www.nngroup.com/videos/principles-human-centered-design-don-norman/>

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Research, observe and co-create with users

- Observe and understand users to **build Digital Products connected with their needs and wishes and his Mental Model**
 - Types of research techniques:
 - **Generative and Evaluative**
 - **Qualitative and Quantitative**
1. Heuristic review
 2. User testing
 3. Card Sorting
 4. Tree Testing
 5. Eye Tracking
 6. Co-creation groups
 7. User Diaries
 8. Customer Journeys/Maps
 9. Other research tools:
 - Surveys (satisfaction / demographics)
 - Benchmarks
 - Customer Analytics data



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1- Heuristic review

- Expert review based on “10 Usability Heuristics for User Interface Design” from Jakob Nielsen 1995:
<https://www.nngroup.com/articles/ten-usability-heuristics/>
- Jakob Nielsen's 10 general principles for interaction design are called "heuristics" because they are broad rules of thumb and not specific usability guidelines
- They are broadly adopted and used for many UX experts, agencies and brands

1- Heuristic review

1 Visibility of System Status

Designs should **keep users informed** about what is going on, through appropriate, timely feedback.

2 Match between System and the Real World

The design should speak the users' language. Use words, phrases, and concepts **familiar to the user**, rather than internal jargon.

Nielsen Norman Group

Jakob's Ten Usability Heuristics

3 User Control and Freedom

Users often perform actions by mistake. They **need a clearly marked "emergency exit"** to leave the unwanted state.

4 Consistency and Standards

Users should not have to wonder whether different words, situations, or actions mean the same thing. **Follow platform conventions.**

5 Error Prevention

Good error messages are important, but the best designs **prevent problems** from occurring in the first place.

6 Recognition Rather Than Recall

Minimize the user's memory load by making elements, actions, and options visible. Avoid making users remember information.

7 Flexibility and Efficiency of Use

Shortcuts — hidden from novice users — may **speed up the interaction** for the expert user.

10 Help and Documentation

It's best if the design **doesn't need** any additional explanation. However, it may be necessary to provide documentation to help users understand how to complete their tasks.

8 Aesthetic and Minimalist Design

Interfaces should not contain information which is irrelevant. Every extra unit of information in an interface **competes** with the relevant units of information.

9 Recognize, Diagnose, and Recover from Errors

Error messages should be expressed in **plain language** (no error codes), precisely indicate the problem, and constructively suggest a solution.

NN/g

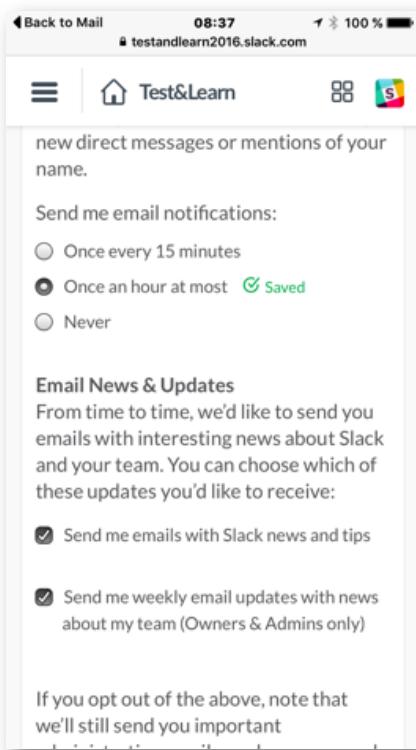
www.nngroup.com/articles/ten-usability-heuristics/

1- Heuristic review

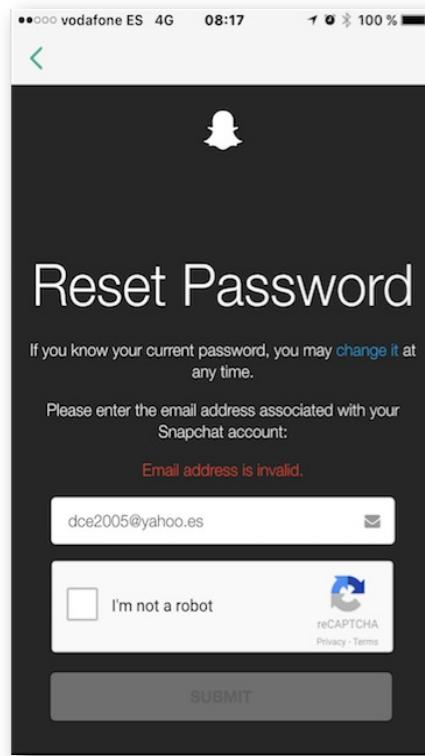
1. Visibility of system status: The system should always keep users informed about what is going on, through appropriate feedback within reasonable time (i.e transitions).
2. Match between system and the real world: The system should speak the users' language, with words, phrases and concepts familiar to the user, rather than system-oriented terms. Follow real-world conventions, making information appear in a natural and logical order (Green "Continue" – Red/Grey "Cancel").
3. User control and freedom: Users often choose system functions by mistake and will need a clearly marked "emergency exit" to leave the unwanted state without having to go through an extended dialogue. Support undo and redo.
4. Consistency and standards: Users should not have to wonder whether different words, situations, or actions mean the same thing (same CTA leads to the same page).
5. Error prevention: Even better than good error messages is a careful design which prevents a problem from occurring in the first place. Either eliminate error-prone conditions or check for them and present users with a confirmation option before they commit to the action.
6. Recognition rather than recall: Minimize the user's memory load by making objects, actions, and options visible. The user should not have to remember information from one part of the dialogue to another. Instructions for use of the system should be visible or easily retrievable whenever appropriate.
7. Flexibility and efficiency of use: Accelerators — unseen by the novice user — may often speed up the interaction for the expert user such that the system can cater to both inexperienced and experienced users. Allow users to tailor frequent actions.
8. Aesthetic and minimalist design: Every extra unit of information in a dialogue / flow / screen competes with the relevant units of information and diminishes their relative visibility.
9. Help users recognize, diagnose, and recover from errors: Error messages should be expressed in plain language (no codes), precisely indicate the problem, and constructively suggest a solution.
10. Help and documentation: Even though it is better if the system can be used without documentation, it may be necessary to provide help and documentation.

Let's practice!: try to match the 10 heuristic principles with this experiences

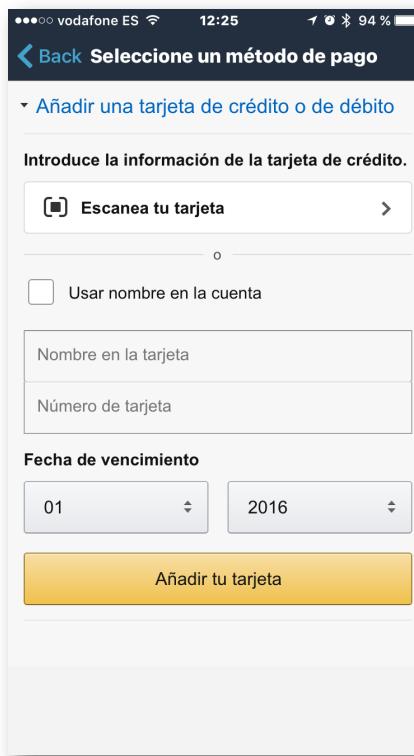
1- Slack: Saving your option without a "submit" button



2- Snapchat: Error message
"Email Address is invalid"

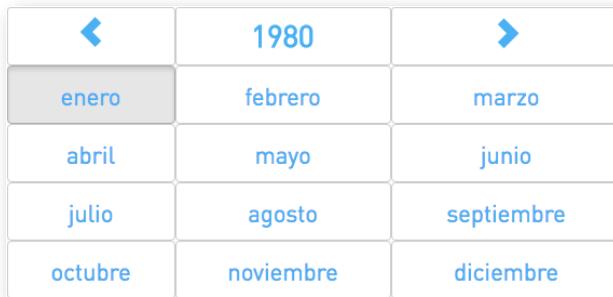
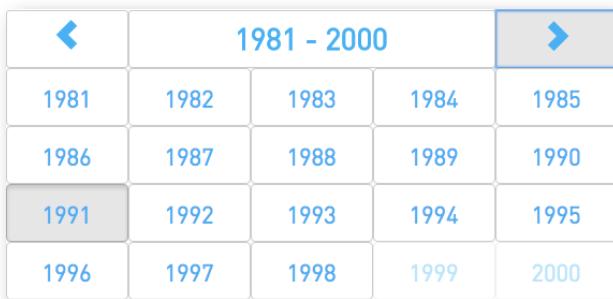


3- Amazon / Apple Pay: scan your credit card instead of adding the details manually



Let's practice!: try to match the 10 heuristic principles with this experiences

4- Old registration process - Date picker (Birthday) – Car2Go (currently Share-Now). Dynamically choosing the year, then the month then the date...

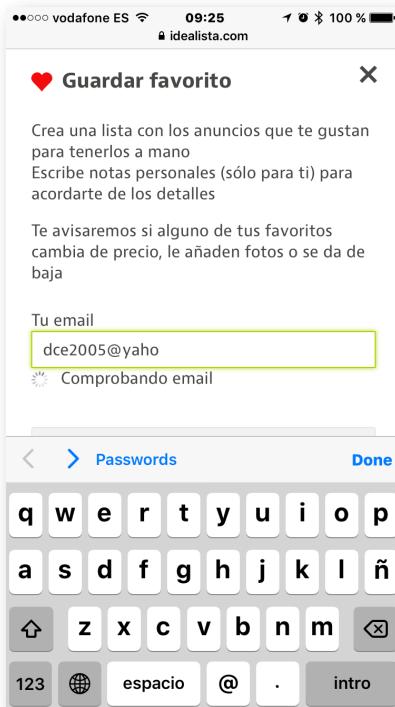


5- Old registration process - Orientation– Car2Go (currently Share-Now). Moving dynamically between the different steps of the process by clicking the icons (Personal Data, Driving License, Credit Card, Finish)

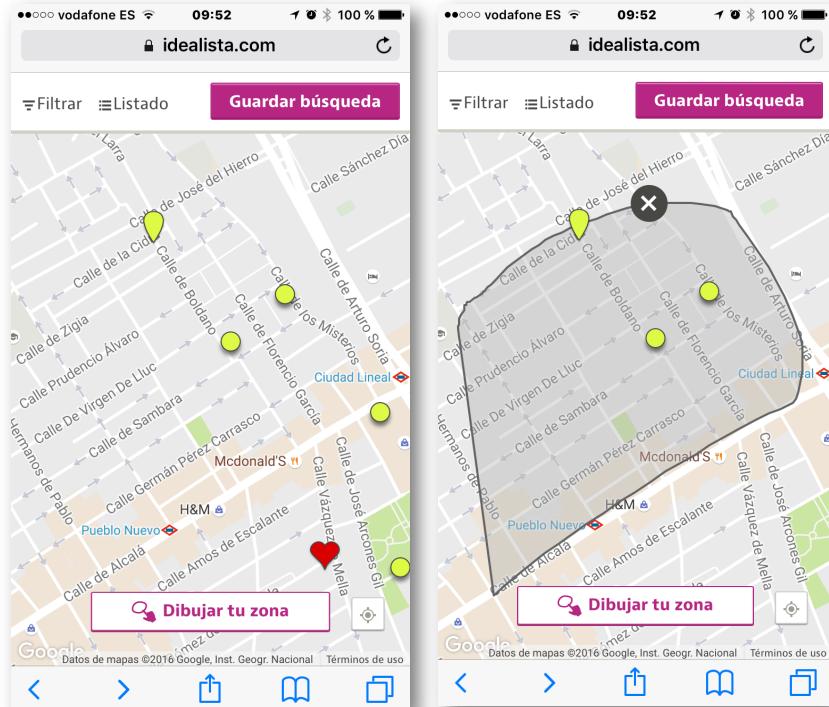


Let's practice!: try to match the 10 heuristic principles with this experiences

6- Idealista: login process to save your Favorites. First confirmation of email address as you type and once validated you enter the password for final validation.



7- Idealista: choose with your fingers the area to buy/rent a house to see the available houses. You can zoom the map to choose any area (small or big) with your fingers



2- User testing (1/2)

- Review and valuation of a Digital Product with **real users in a lab environment** emulating real user context
- 5-10 Participants are selected based on demographics or segment requirements (based on “User Personas”)
- Participants complete a set of tasks under a simulated context of use – following a **Test Script**
- A facilitator leads the session **without influencing** the user. In occasions helps the user to recover from difficulties



Source: User test checklist <https://www.nngroup.com/articles/usability-test-checklist/>

Example of Test Scripts and Checklists for User Testing. Steve Krug 2010. <https://sensible.com/download-files/>

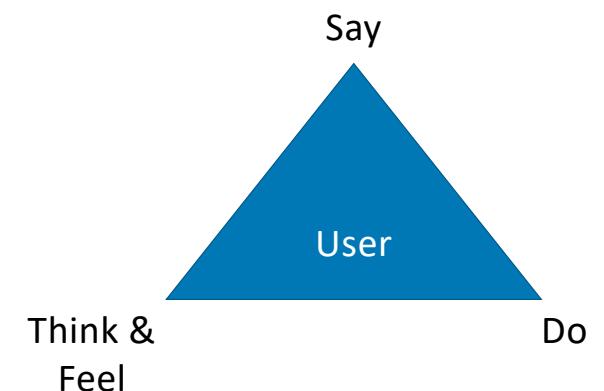
Searching for “Product Friction”: the Amazon way

<http://firstround.com/review/amazons-friction-killing-tactics-to-make-products-more-seamless/>

2- User testing (2/2)

- Another facilitator takes notes from the observation room
- **Think Aloud:** the user is requested to perform the tasks while verbalizing aloud their thoughts and emotions
- Sessions are recorded (audio, video using professional software: i.e Lookback.io)
- Main goal: identify usability barriers (**FRICITION**) and evaluate the user satisfaction and expectations with the Digital Product
- Metrics: Task success rate, Task completion time, % of error, User satisfaction,

Reading: "Think Aloud": <https://www.nngroup.com/articles/thinking-aloud-the-1-usability-tool/>



2- User testing: “first-click testing” or “Sketch testing”

- Simple, cheap and fast validation method to test Information Architecture
- Users clicks once to initiate the start of a task
- Usually over a static prototype, pdf or HTML basic template
- Very popular and easy to organize inside organizations

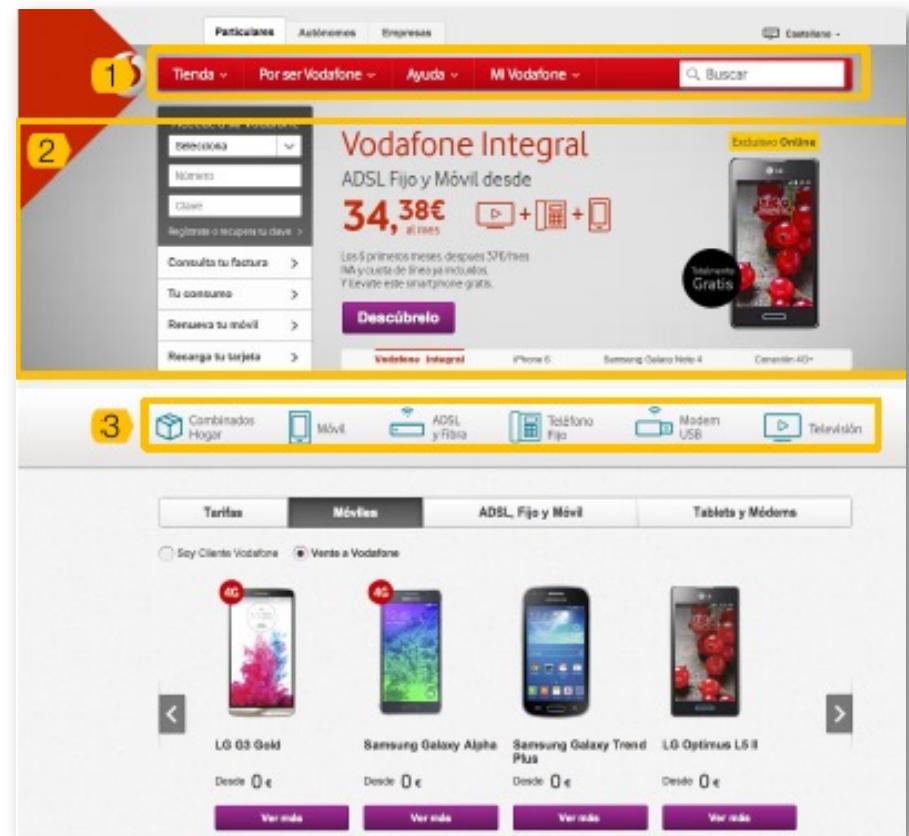
“Office/Sketch Testing” from Nielsen & Norman

<https://www.nngroup.com/articles/sketch-test/>

First click / Five second test tools:

<https://www.optimalworkshop.com/chalkmark>

<https://fivesecondtest.com/>



2- Remote user testing

- When budget is limited, time is scarce or need to test a high number of users from different countries in different languages
- Users complete tasks on a web or app from his location, using their own equipment (browser versión, mobile handset, etc...)
- Can recruit real users visiting your web or App to request participate in the test
- A specialized software records the user activity including, video, audio and insights from questionnaires
- You can benchmark with other similar/competition site/apps completion time and success ratios
- Typical platforms are “User Zoom”, “usertesting.com” “whatusersdo.com”, etc...



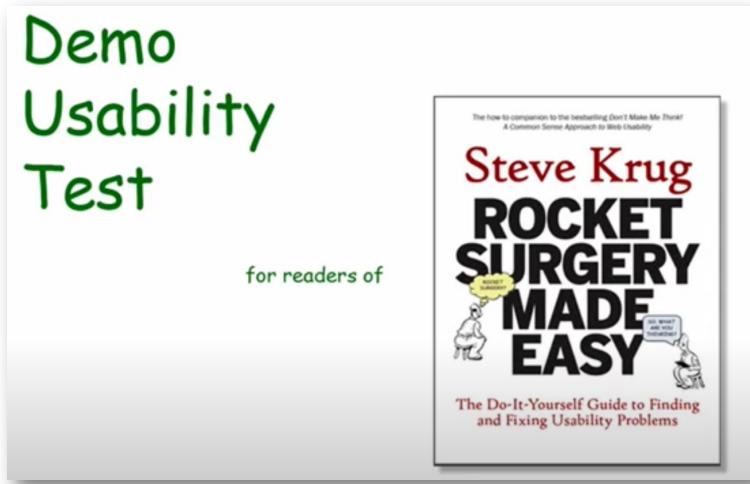
User Zoom for the Lab

<https://www.userzoom.com/>

UserTesting.com

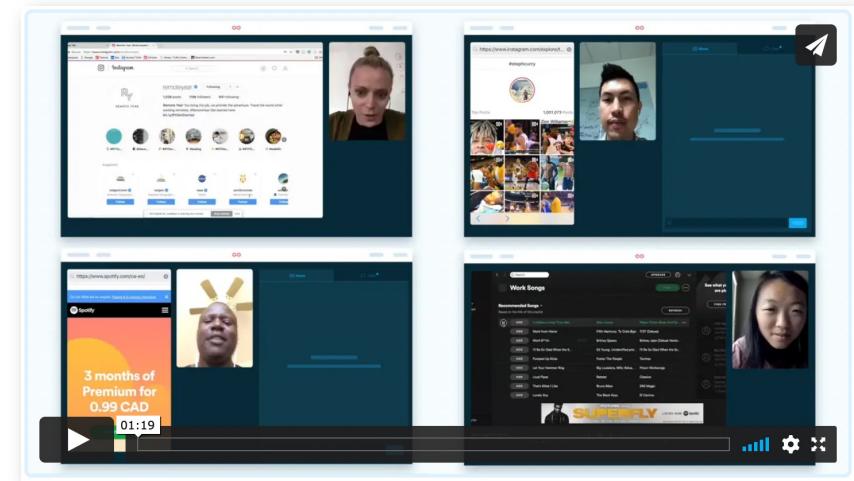
<https://www.usertesting.com/>

2- User testing: examples and tools



Demo of a Real Lab UX Test

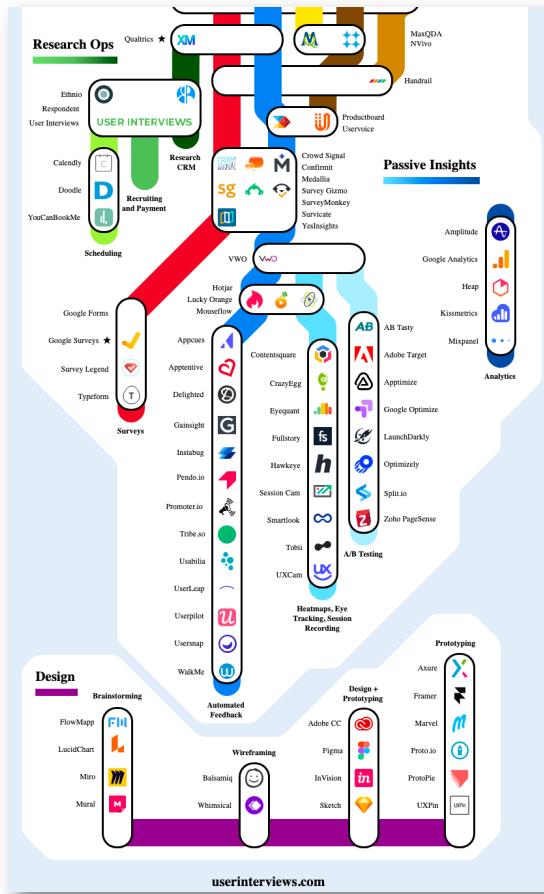
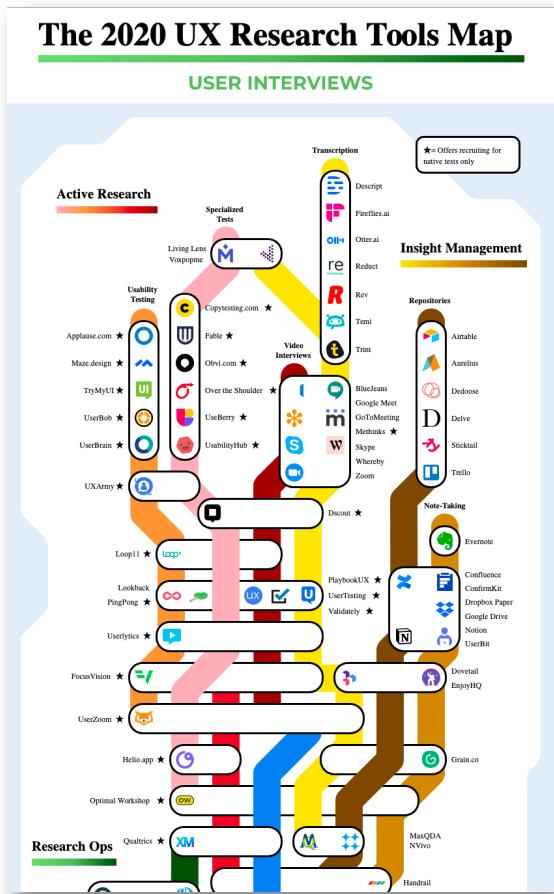
Video demo with real users (User testing):
https://youtu.be/1UCDUOB_aS8



Explore Lookback.ie

Lookback.io – Remote Testing Tool
<https://lookback.io/>

2- User research: more and more tools



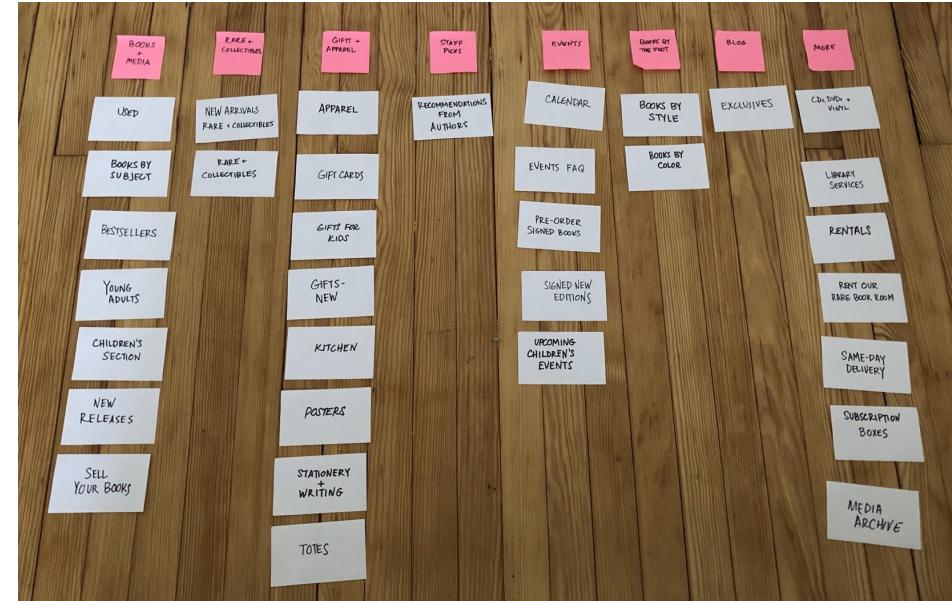
User research is a growing discipline with tools in different categories:

- Active Research
- Insight Management
- Research Operations
- Passive Insights
- Design

User Research tool-map 2022
(includes access to a downloadable version):
<https://www.userinterviews.com/ux-research-field-guide-chapter/user-research-tools>

3- Card sorting

- To explore the way users understand and categorize content units on a Digital Product
- It gives us the **Information Architecture** of the Digital Product
- Provide insights based on the **user mental model** to define an Information Architecture in two areas:
 - taxonomy (groups of content units)
 - labelling (how users name things)
- Two types:
 - Open (categories are free)
 - Closed (categories are set by the facilitator)



Reading Card sorting methodology: <https://www.nngroup.com/articles/card-sorting-definition/>

3- Card sorting – let's practice !

FRESH TUNA	JAM
ORANGE JUICE	MILK
COCA COLA	NAPKINS
SLICED BREAD	FLOUR
YOGURT	BEER
TOMATOES	PORK TENDERLOIN
CEREALS	SALT

3- Card sorting – let's practice ! – OPEN Card Sorting

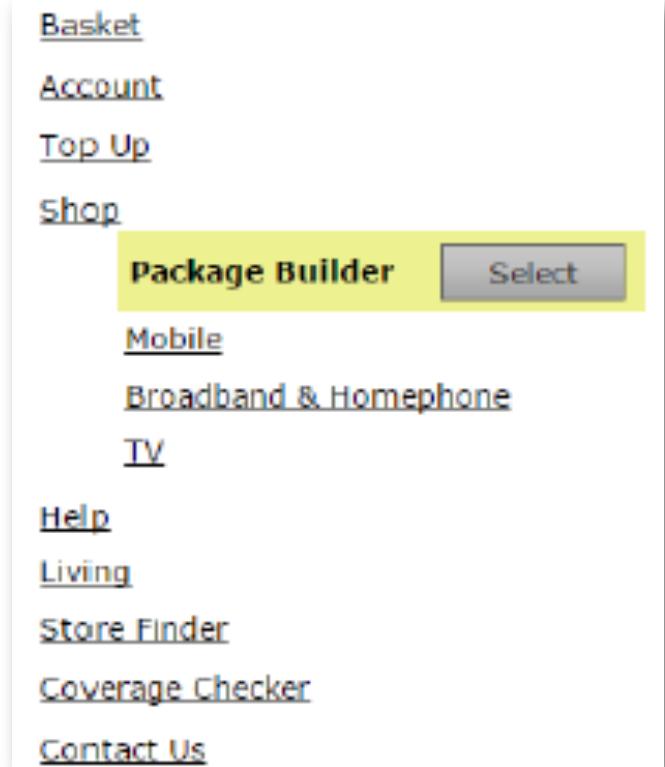
Name the categories →						
Assign the Products →						
Assign the Products →						
Assign the Products →						
Assign the Products →						

3- Card sorting – let's practice ! – CLOSED Card Sorting

Name the categories →	BREAKFAST	DRINKS	FRESH FOOD	BREAD & BAKERY	DAIRY
Assign the Products →					
Assign the Products →					
Assign the Products →					
Assign the Products →					

4- Tree testing

- Exploratory user testing to evaluate the “searchability” of content units
- By browsing a given information architecture users validate the content tree of a Digital Product
- Validate or invalidate a proposed Inf. Architecture

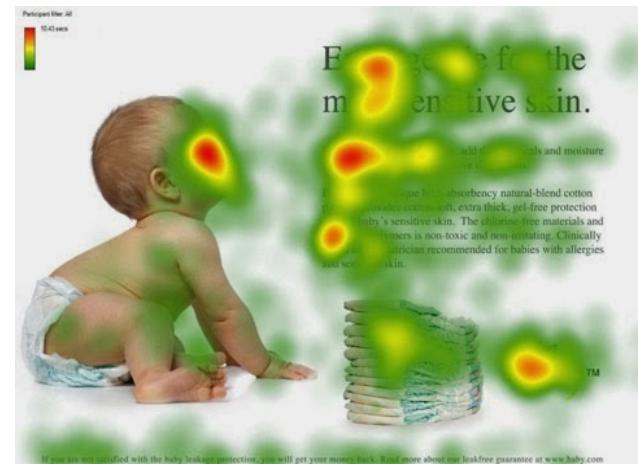
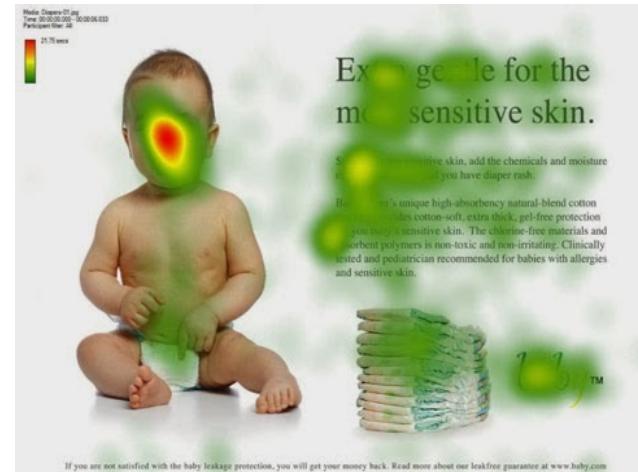


Reading: Tree Testing <https://www.nngroup.com/articles/tree-testing/>

5- Eye Tracking

- The eye movement (pupil) is recorded by using a glasses to identify the areas where the user is paying attention or hot areas
- It usually records how long the user stays on a point and what is the order the user is following in his visual exploration

Reading Eye Tracking:
<https://imotions.com/blog/eye-tracking-work/>



6- Co-creation groups

- Used to conceptualize a Digital Product
- The aim is to build a Digital product proposed by real users but including highest business benefit at the same time
- Some times it is delivered with internal stakeholders (Marketing or Customer service representatives) who have a high understanding of customer needs



7- User diaries

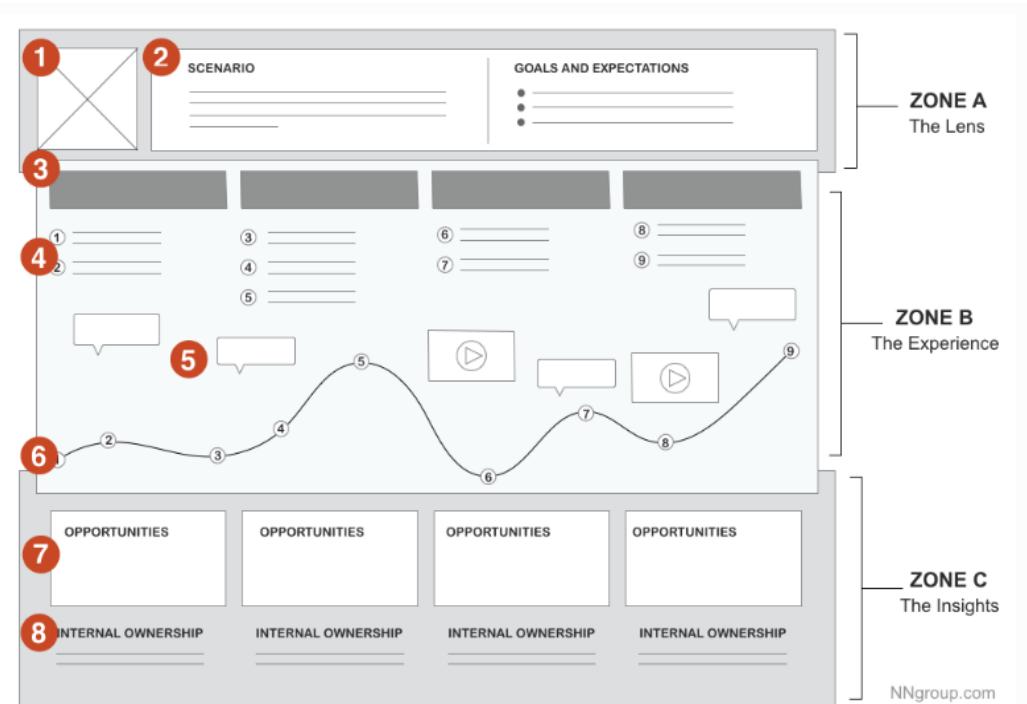
- Users record annotations, events and incidences (along with ideas or recommendation) while using the Digital Product
- Typically include: what happened, when, where and how during a defined time period
- Very useful to research on Service Design (blending physical and Digital experiences)
- It usually reveals important details not easy to find in user tests, interviews or co-creation sessions

User Diary		Project: new branch experience (Banking)				
Dates: [Date]		Participant name: Name Surname			Task: Make international payment	
Date	Time record	Location / physical / digital	User barrier	Incidence	Improvement	Description
12-05-2019	10:30	Bank branch - 16th Main Street	x			More than 15 minutes queuing to be attended
12-05-2019	10:45	Bank branch - 16th Main Street		x		There were no records of my transaction at the branch's computer
12-05-2019	20:00	www.bank.com/private_area			x	After login I had to input the transaction data, for the third time. No record available in my private area

Reading Diary Studies: <https://www.nngroup.com/articles/diary-studies/>

8- Customer Journeys / Maps

- Visual representation of the process followed by the user to complete a task or goal
- It includes **emotions and thoughts** from the users (highlights and downlights)
- It also includes the necessary **Digital and Physical artefacts**
- It provides a **cross-functional customer experience** view in organizations which traditionally are very siloed
- Organizations need to **map their resources with the Customer Map** to ensure the delivery of the experience (Service Design)



Reading Customer Maps: <https://www.nngroup.com/articles/customer-journey-mapping/>

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3- Other research tools

Don't forget your Analytics !

- **Satisfaction and demographics surveys:** through online surveys getting insights on satisfaction and recommendation index (NPS, Customer Effort Scores, etc...). Additionally through different wave of surveys, we can track the customer/user demographics: gender, location, reason of visit, age, browser and technology, etc...
- **Competitor benchmarks or benchmark from other Industry Digital Products**
- **Customer Analytics data:** by analysing Digital Product behavioural data we can obtain evidences and trends from users. This qualitative view complements the qualitative view from user tests etc... (visits, unique visitors, dwelling time, bounce rates, page views, click-stream, etc...)

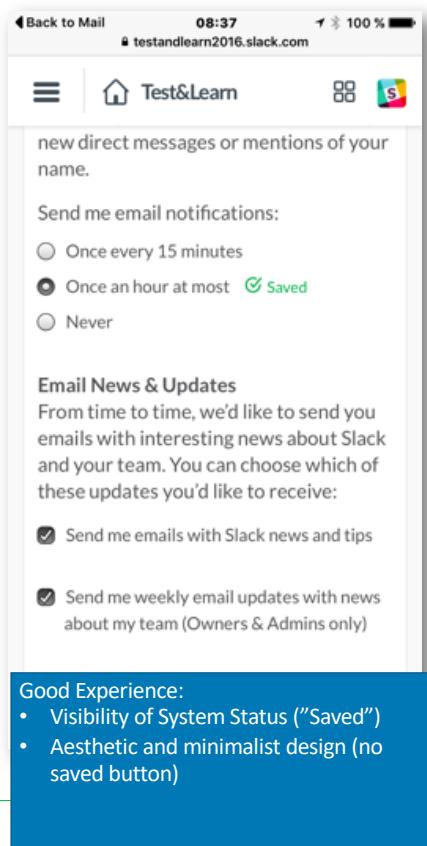
Qualitative versus Quantitative research (video): <https://www.nngroup.com/videos/qualitative-vs-quantitative-research/>

Key Takeaways from Session 3

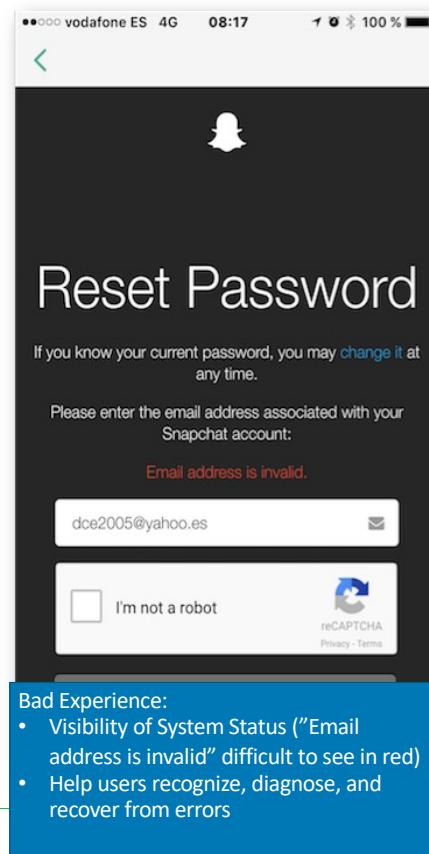
1. “Do not solve the problem that’s asked to you. It’s almost always the wrong problem” (Don Norman). The UX Research allow us to identify the relevant human needs to cover by a Digital Product and / or validate a given solution
2. There are two types of research techniques: Generative research to identify an opportunity to solve a real human issue and Evaluative research to validate a solution built for a specific user need. Always explore the user Mental Model in your research activities.
3. Qualitative research is based on observation not on listening what customer does. Think aloud is the way users express their feelings about a Digital Product
4. There are a number of qualitative techniques, the most popular are Heuristic Reviews, User Tests, Card-sorting, User Diaries and Customer Maps
5. There are other quantitative methods used along with the qualitative ones: Satisfaction and Demographic Surveys, Competitor Benchmark and your Customer Analytics Data
6. Usually quantitative data is useful to validate the qualitative insights

Let's practice!: try to match the 10 heuristic principles with this experiences

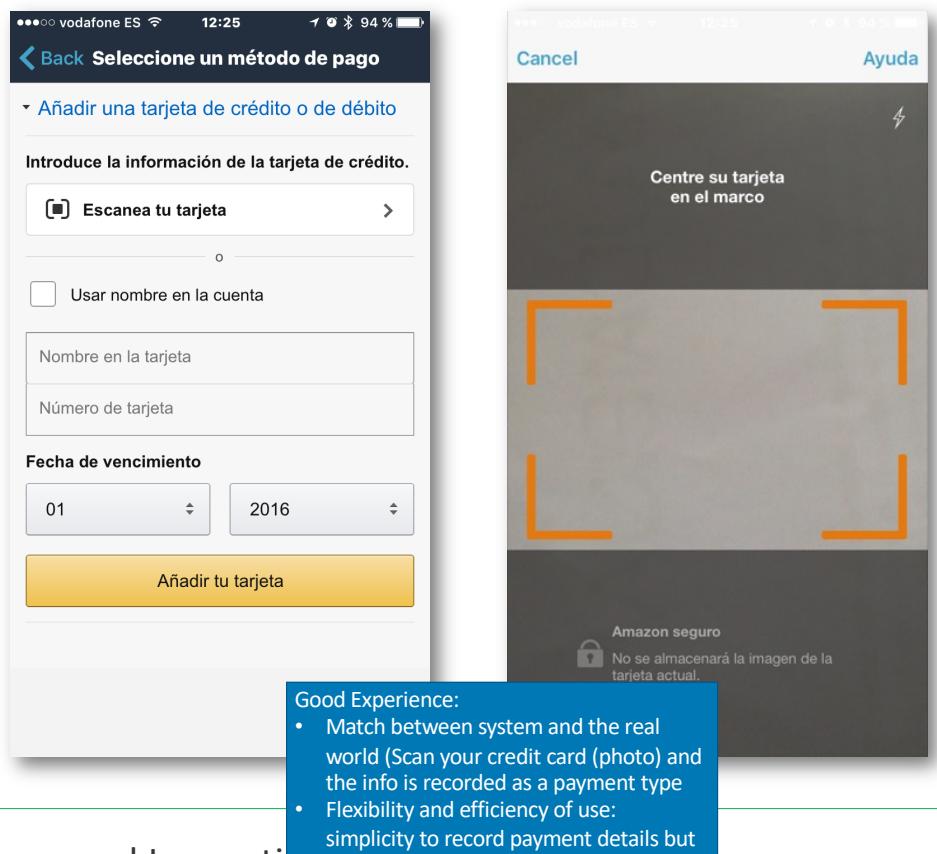
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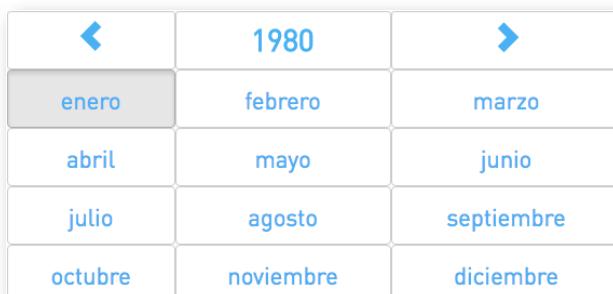
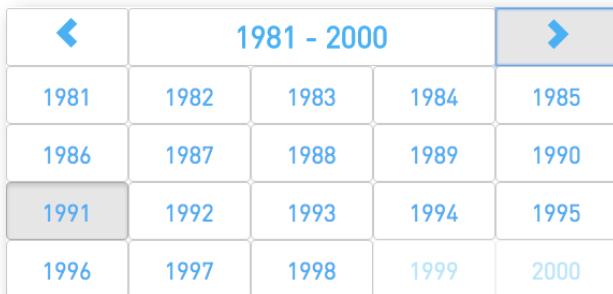


3- Amazon / Apple Pay: scan your credit card instead of adding the details manually



Let's practice!: try to match the 10 heuristic principles with this experiences

4- Old registration process - Date picker (Birthday) – Car2Go (currently Share-Now). Dynamically choosing the year, then the month then the date...



Good Experience:

- Flexibility and efficiency of use: simple and easy process (time picker)
- Aesthetic and minimalist design (no input fields for dates, just selecting by clicking)

5- Old registration process - Orientation– Car2Go (currently Share-Now). Moving dynamically between the different steps of the process by clicking the icons (Personal Data, Driving License, Credit Card, Finish)

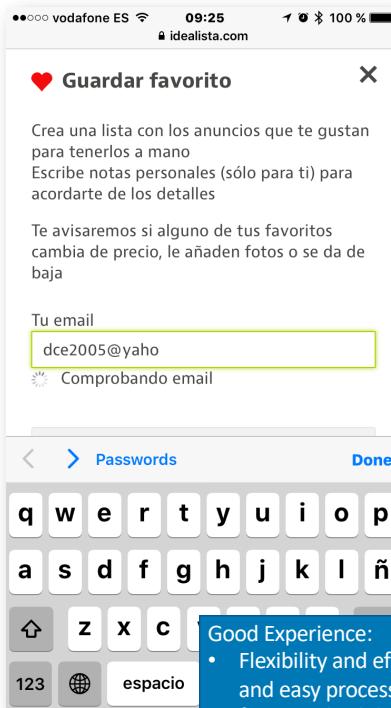


Good Experience:

- Recognition rather than recall
- User control and freedom (you can change of step simply by clicking any icon: Personal Data, Driving License, Credit Card, Finish)

Let's practice!: try to match the 10 heuristic principles with this experiences

6- Idealista: login process to save your Favorites. First confirmation of email address as you type and once validated you enter the password for final validation.



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