DESIGN AND
USABILITY SERIES

INFOCORP
helping people LOVE their bank

Cognitive psychology applied to usability:

What do banks need to know in order to offer exceptional experiences to their customers?

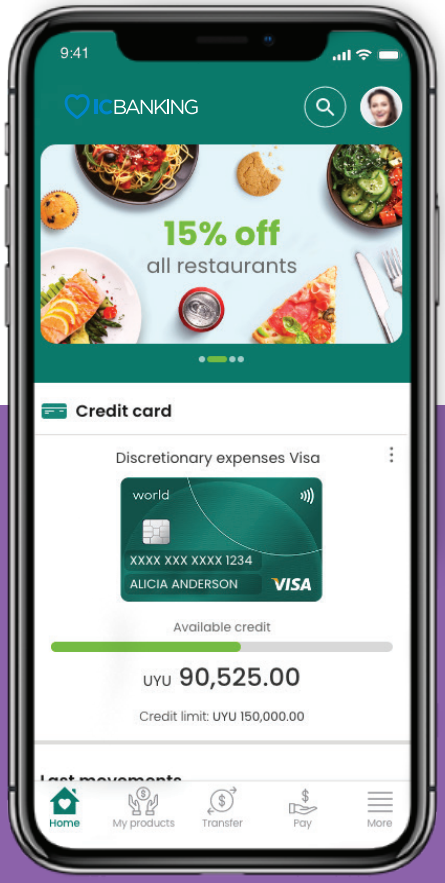
Design and usability
Another good recipe for customers to love their banks.

With the input from **Daniel Mordecki**, Director of Concreta
#Userexperience #Appdesign

The interface as a dialog between the user and the device

We can think the interaction with digital devices as a dialog between a human being and a system. In that dialog, we call interface to the part of the system that is perceivable, that is, the group of all elements of the system that the human can perceive through his senses, among which there are also the elements that besides perceiving, he can act with do body (for instance, touching).

That's why it's reasonable to conceive interaction as a dialog. The human perceives the stimuli issued by the interface, he decodes it to interpret them, prepares a response to give back to the system; and then the system processes the data received, defines a response and it codes it as stimuli in the interface, where the cycle begins once again.



For instance, the user dialogs with the app by clicking the 15% banner to see the list of restaurants in which he or she will have discounts.

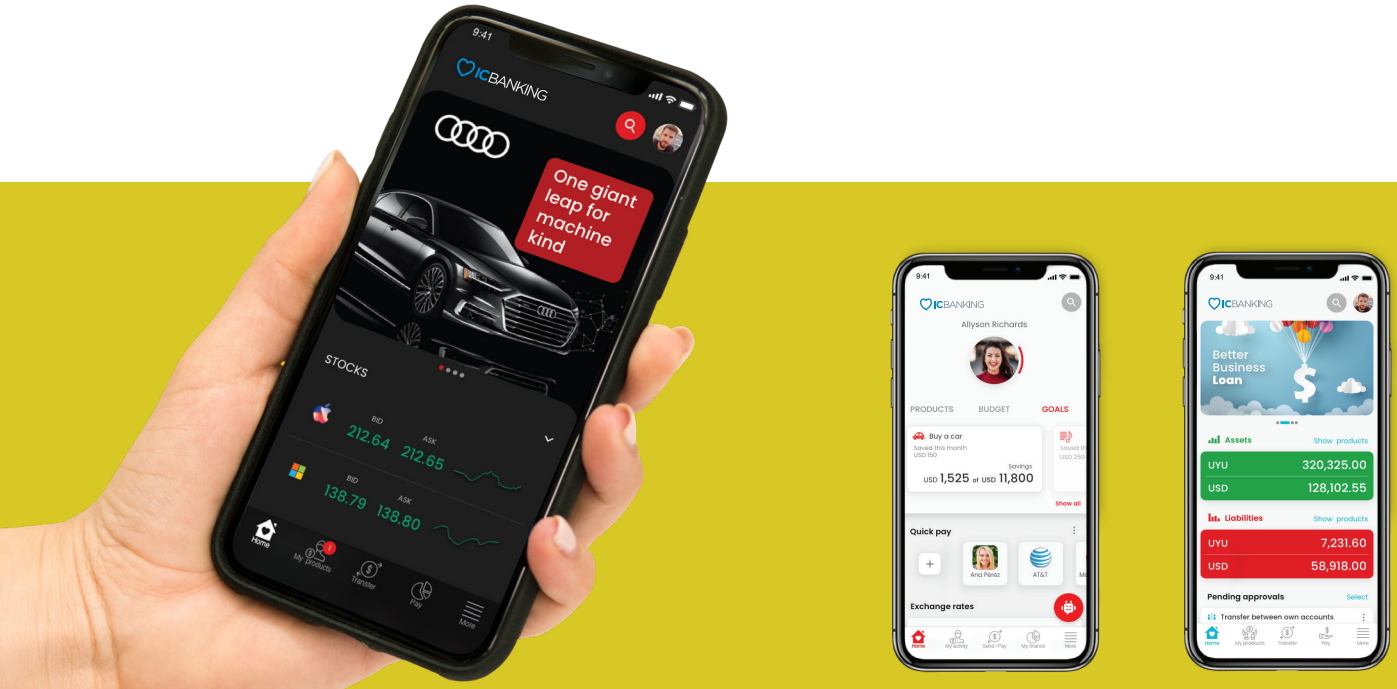
Cognitive Psychology as a tool

The interaction of humans with an interface is developed simultaneously at three different levels: seeing, reading, thinking. Each one requiring a particular level of attention, effort and reasoning, but for the user to perceive the entire experience, without being aware of which level was that contributed to each piece of information. However, as we can see below, the closer it is to the first level, the better their experience will be. That is to say, the least we make them think!

So, understanding how we think, feel, perceive, remember, decide and what intelligence, instinct and memory are, and especially intuition, will put us in a better situation to design interactions that will create unforgettable experiences. That's why we can assert that Cognitive Psychology is a strong tool to design user experiences.

In this paper, we are going to tell you about the three level of interactions that take place in this dialog and how we use them at Infocorp, as well as give you examples of different apps and websites that manage to offer exceptional user experiences.

Sharing this information with you is especially important in a context in which bank innovation and technology teams are increasingly participating in the process of product creation, using **Digital Banking Toolkit**.

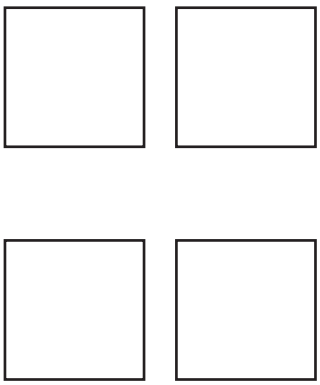


I look and I understand

The most basic level of interaction is the one we will call I look and I understand. This is an unconscious level of interaction and, in some cases, semiconscious, where the visitor almost doesn't need to make an effort to get the information and knowledge. The immediate understanding of perception and without effort is the maximum level of usability, and it generates great satisfaction.

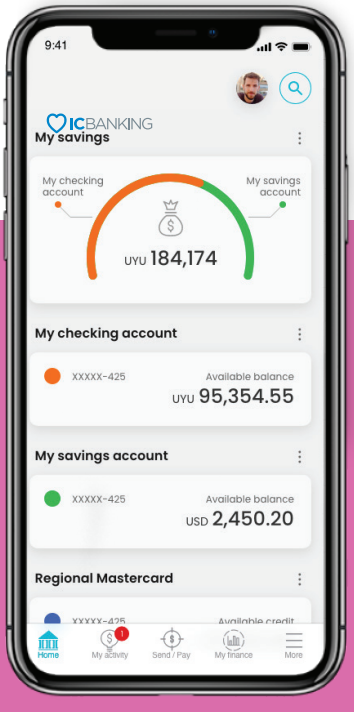
Why sometimes do I understand by just looking? Because when a visitor is faced with an interface, he does it with a previous background of acquired experiences and learnings that he will try to use to identify patterns, and within those, one particularly important is the previous experience browsing the web.

The patterns to be identified are usually as simple as powerful its influence for our understanding. The following image (Figure-1) shows one of the most basic and elemental ones: visual grouping. Even if squares don't have any content, it's obvious and natural that the two on top and the two below are somehow related between them. And that relationship is stronger than the one between both on the left or both on the right.



(Figura-1)

If design considers the I look and I understand level, then the visual grouping and the hierarchy created from chromatic effects, spaces, position, sizes, among other elements, allow the visitor to understand multiple aspects he sees on the screen with no effort whatsoever.



For instance, the person by just looking will realize he is seeing two different groups of information and, in this case, one of them related to expenses and the other one to savings.

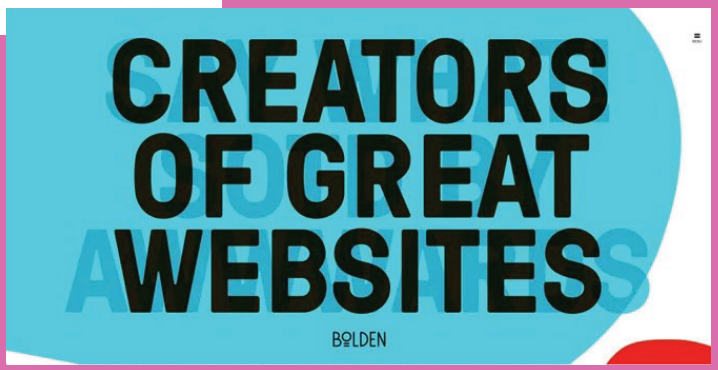
In fact, when a user is faced with a screen, the first thing his brain does is organize what he sees. This is an unconscious process and almost instantaneous, impossible to stop, which takes from a tenth to one fourth of a second, which some cognitive psychologists call the preperceptive space.

This mental process is a mechanism generated in the evolution which allows us humans to easily deal with the complex environment around us. 25,000 years ago in nature, the mechanism used to work perfectly fine: the big, the noisy, what moves, the strident, what stands out in any form goes in the front, and just like that we can easily identify a predatory.

In the interfaces we design, we don't have the same thing as in nature. We have to artificially create the visual aids for the most relevant to appear in the front and the unimportant in the background. The brain first groups and then it organizes hierarchically. Only at this point, if everything took place smoothly, the brain sends control to our conscious, to our perception.

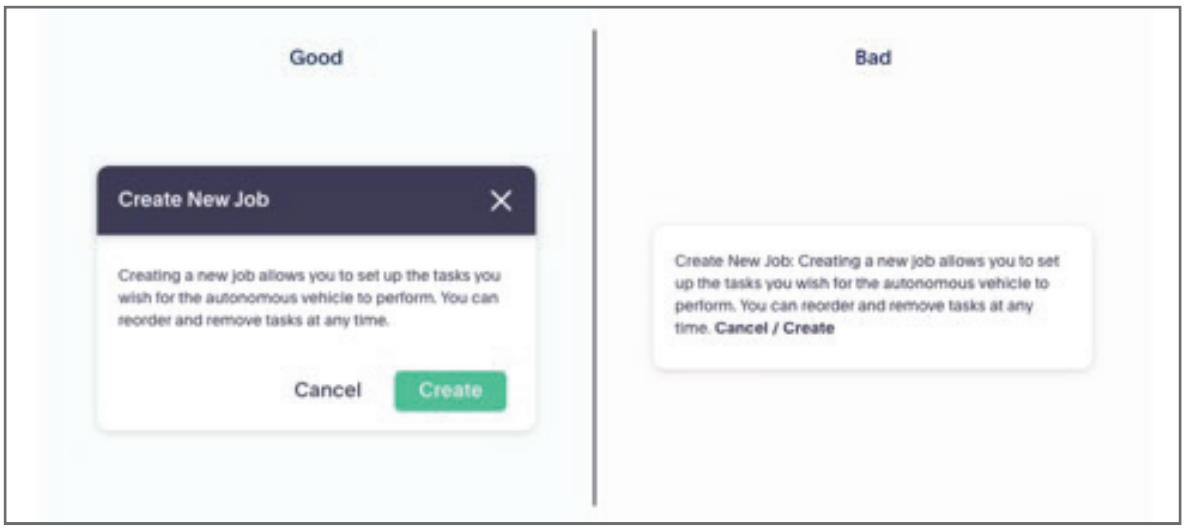
The following images are screen shots from a design company website, where there is an animation that I must see in order to understand what they offer, but I cannot do it by just looking at it.

Author/Copyright holder: Bolden.
Copyright terms and licence: Fair Use



Author/Copyright holder: Bolden.
Copyright terms and licence: Fair Use

In the next case, we see the difference between organizing certain piece of information hierarchically or not.



Another case in which it's hard for the brain to group and organize in hierarchy:

Check list

- ☑ Is the objective or main subject of the screen in the most prominent group out of the ones formed?
- ☑ Are there accessory elements that compete against relevant content?
- ☑ Is it worth it giving the user extra work for him to understand?

Intuition

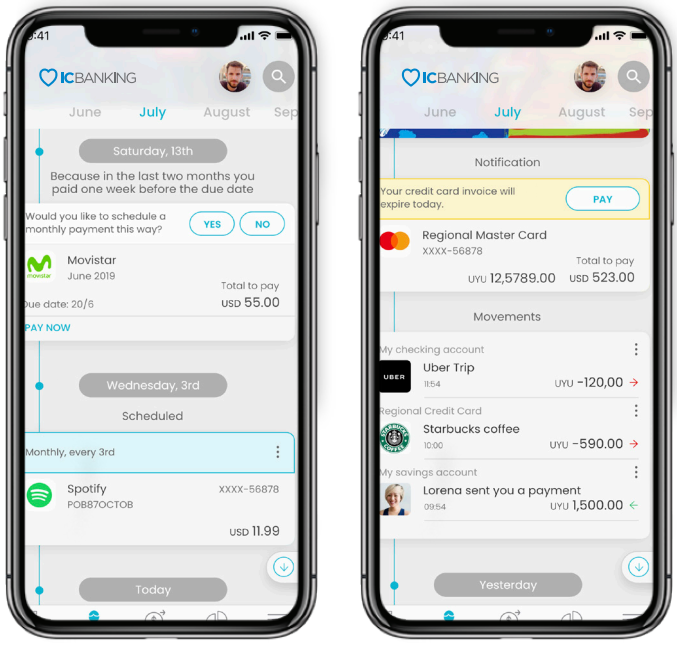
As we said, intuition plays an important role here. Contrary to popular belief that intuition is some kind of sixth sense, intuition is no more than a series of simple and basic patterns with which a person has interacted enough times so as for its identification and interpretation to be semiconscious or unconscious.

We are going to resort to the famous Pavlov's dog experiment, in order to explain this. At some point of his study, he confirmed that when they arrived with the food to the dogs, they had already salivated, and he concluded that what indicated them that food was on its way even far before than perceiving the smell, was the noise. He called that phenomenon classical conditioning.

The classical conditioning is the base of intuition: learning by repetition a stimulus that allows us to predict that an event will take place right away, some instants later. Our brain is a perfect machine to identify patterns, train with them and learn to predict what will happen just seconds later.

In an interface, this capacity to learn to predict what will happen in an instant, by pressing a key, clicking on a button or any other action depends on design decisions. An intuitive interface is designed in such a way that the user intuition predictions will always be right.

It is essential to keep in mind that user intuition is not trained in our site or desktop or mobile app, but in the thousand hours of digital interactions that the user spends during years with other sites and desktop and mobile apps.
That's why Infocorp apps uses browsing concepts just like those in social media, to which users have got used to over 10 years ago now.



Of course, there is space for innovation, but this can never occur sacrificing intuitive interaction, that's why I need to understand very well the reason why I will choose to be different, in order to assess if it is worth leaving the consistency and standards. At Infocorp, we call this guided creativity, because with the Digital Banking Toolkit, banks teams can innovate, create in the app for instance, but based on certain parameters.

https://digital.infocorpgroup.com/es/blog/digital-toolkit-una-solucion-para-el-banco-pensada-para-el-cliente

I read and I understand

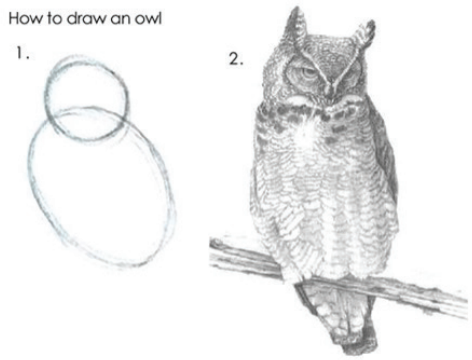
I read and I understand constitutes the next level of interaction. This way of interaction demands for the user to read the content. The particularity lies in the fact that he won't need anything other than the text to be read in order to understand exactly the meaning of it. He doesn't need to know about the company, nor the product specs:
I read and I understand is what we could call self-explanatory reading.

It's a very common mistake to assume that users, especially those who visit websites, have more knowledge or training than the one they really have, in particular, regarding the company's own site. It's amazing the number of times we visit a page of a service or product and, even if we read, we don't quite understand what it is they are offering or how to acquire it, because there's missing information that the company takes for granted, the company has it but the user who visits the site doesn't know.

Check list

- ☑ Do text work as well both within the interface as outside of it?
- ☑ If there are acronyms, jargon, technical terms or anglicisms: can they be replaced with more universal phrases and expressions?
- ☑ Does every screen, page and dialog include all the necessary information to understand it and use it?

We think it is always better to explain more than less, so to avoid things like in the following case:



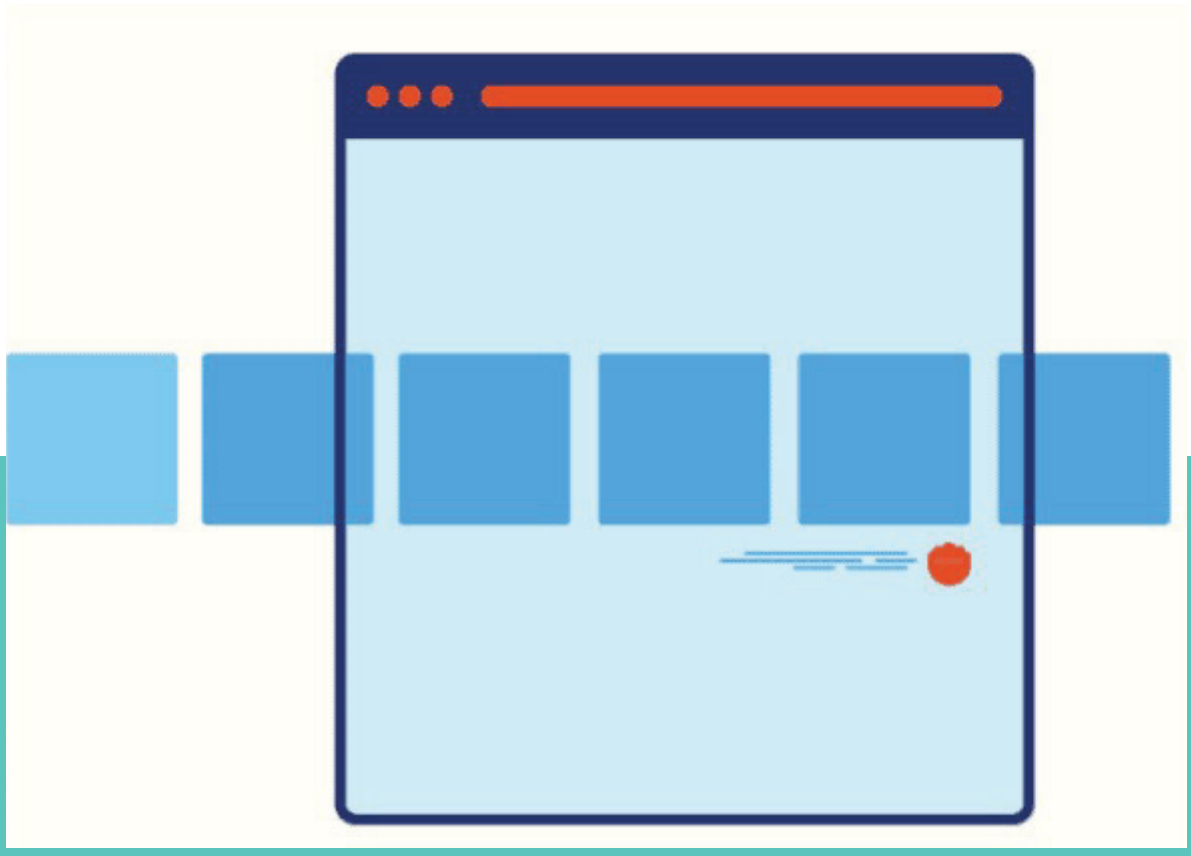
To know much more about the good practices regarding writing, we recommend our paper about Microcopy.

https://landing.infocorpgroup.com/es-uy/es-uy/es-uy/es/es/es-uy/descargable-por-que-tu-banco-deberia-ocuparse-del-microcopy

I think and I understand

I think and I understand is the omnipotent mechanism of interaction, it is who can solve any problem and convey any type of content or concept. But it does it at a high cost from the user's perspective: thinking is an intensive activity in the use of body's resources, especially glucose. A live body is always trying to keep the energy as much as possible, therefore, mammals avoid consuming our glucose. In short, us humans only think when it's essential to do so.

The effort to apply reasoning in order to understand the content that we present to a person is so considerable that if the reward is not significant, users will feel strongly let down. Another important aspect is that if users get an interpretation that they like, regardless of whether it's right or wrong, they will move forward assuming it's valid, without stopping to think about it.
Classic examples of this behavior are image exchangers, sliders or rotator.
The interpretation I look and I understand always comes first and users rarely stop to think about the content that is not visible.



And what do we do with all this?

We take careful care of the interaction among all levels!

The best result is obtained when the three levels interact appropriately. None of the three alone is enough to build an interface easy to understand and use. Each one has its own virtues and difficulties, and balance is the key.

For instance, when we build a page with a list of links to be selected, such as a list of products, the grouping, the hierarchy, the order the font size, the indentation must guarantee the level I look and I understand, allowing to understand which image corresponds to which text and which button to which price, without need to read the content. The level I read and I understand must guarantee that each text in the list be easy to understand without the need to resort to additional information. The level I think and I understand allows for a list of products to speak about the company, of the combination of products and services, the variety of its offer, it manages to convey ideas and concepts beyond what is strictly shown on the screen.

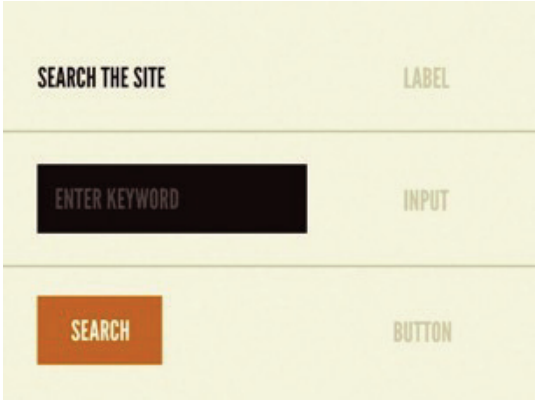
Check list

- ☑ Are interactions that demand for the user to think justified?
- ☑ Is it possible to put elements or dialogs from the level I think and I understand to I read and I understand, and from this one to I see and I understand?

Analyzing the interface

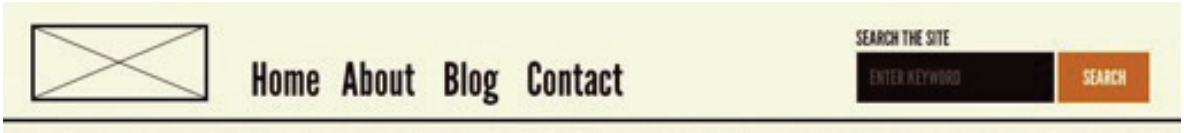
We will now use the terms introduced by designer Brad Frost, in his article Diseño Atómic[1]. Giving life to an interface using an interaction language entail defining in order:

1. **Atoms,** indivisible elements of the interface, such as button, label, field, title, subtitle, paragraph, link, image, icon, etc.



2. **Molecules**, combinations of two or three atoms of frequent use in the site, such as for instance label and field, image and caption, title, subtitle and blurb.

3. **Bodies**, components of the interface that have a simple function, form with labels, fields and buttons, the headline, search dialog or the foot.



[1] Brad Frost - Atomic Design - https://bradfrost.com/blog/post/atomic-web-design/
Las tres imágenes que ilustran los conceptos de átomo, molécula y organismo son tomadas del artículo.

Dialogs, pages and flows will be developed to constitute the entire system interface from these elements.

It is important to guarantee that interface components be unique and that will always have the same behavior. It cannot happen for instance that in one part of the interface a red button indicates “cancel” and in another one it means “continue”.

It is also important that the whole element feature be available every time it is deployed in the interface, either directly or indirectly. The only exception is the one that must be excluded for some good reason, such as security, for instance.

E.g., Regardless of the size and context, the same element is always represented to indicate the lack of an image.

If the interface is based on an interaction language, it will be homogenous throughout the entire interface, it will be able to create the user experience for current and future features, generating consistent and easy-to-use interaction, which your customers and users will appreciate.

Check list

- ☑ How many different types of buttons, fields, titles, icons and other elements are used in the interface? Does it make sense?
- ☑ Do interface elements always behave the same, besides looking always the same?
- ☑ Do similar interaction problems are solved in a similar way throughout the entire site or app?

Ready to consider Cognitive Psychology when deploying the new Banking app? At #Infocorp, we offer you the Digital Banking Toolkit, so you can manage to have a modern, innovative app, while being efficient. Shall we start?

#Userexperience #Appdesign #DigitalBanking

INFOCORP
helping people LOVE their bank

juan.banquero@infocorpgroup.com
Infocorpgroup.com