TUTORIAL on FISCAL TRANSPARENCY PORTALS

A USER-CENTERED DEVELOPMENT

MODULE.6

Portal development

GIFT

GLOBAL INITIATIVE FOR FISCAL TRANSPARENCY

Tutorial on Fiscal Transparency Portals
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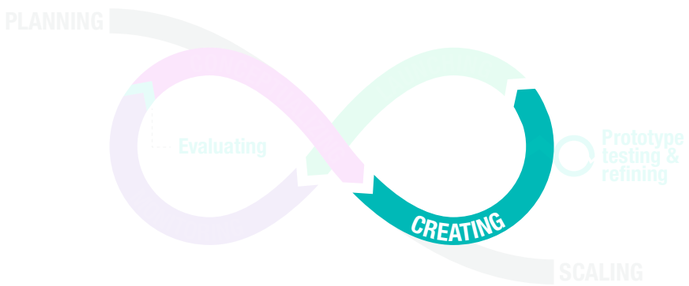
MODULE.6

Portal development

As mentioned in the introductory module on user-centered design, the three levels included in the creating stage of development are Structure Design, Information Design and Visual Design.



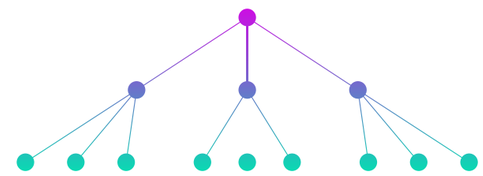
In this module these three levels suggested by Garrett (2011) will be discussed, as well as tools and tips for the prototype testing and refining stage, which occurs prior to the project's final programming.

Finally, a compendium of tools available to the team in charge of the project: a *toolkit* on open source, typographies, wireframes, images, maps, etcetera, is presented.

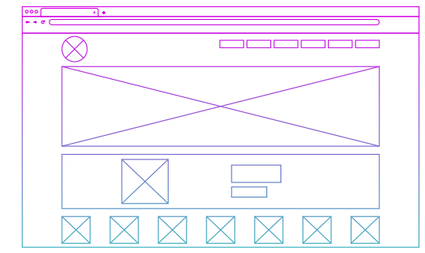
6.1 Portal architecture

To demonstrate in a simple way what structure design and information design are, we've included the following graphical representations:

Structure design



Information design

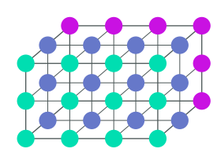


6.1.1 Structure design

In structure design, the possible content and navigation paths the portal will include are defined--that is, the routes users can take to move from one section to another and back, or from one piece of information to another related piece of information, allowing them to delve into or change between topics. Here, the *personas* will enter into play with the different *scenarios*, which will assist in anticipating users' possible behaviors in the portal, as well as how the portal will adapt and respond to this behavior.

While there are many different types of structures, the following two examples reveal how different structures can lead to different results.

Hierarchical structure
This structure allows users to delve through ramifications from root points, in only an ascendant or descendant manner. In this structure, usually called a *tree structure*, information becomes more specific with each transition downward between the root points.



Own elaboration based on Garret (2011)

Matrix structure
This structure allows for movement from one point to another along one or two dimensions within a publication, making navigation paths more flexible for users and more customizable based on their different needs, technological capabilities and levels of understanding regarding the content. For example, by clicking on the information of a certain government agency, a user can analyze companies that are linked to it and from there, navigate directly to contracts. In another example, for a user who might not know which government agency is linked to a particular company of interest, it would be possible to first access treasury payment data, then the company's information, and from there navigate to the related government agency.

Tip: When designing a portal's structure all of the members of the portal's development team should be engaged. This process can be completed with post-it notes, drawings of structures or online tools. The best tool for doing this will depend on the availability of face-to-face meetings.

It is important to take into account the different electronic devices, such as tablets, laptops or smartphones, with which users can navigate the portal or platform. This factor can influence the developing team's decisions on structural specifications--for example, on how *queries* (consultations to the databases on the portal's backend) will be programmed in order to avoid consuming all of the users' internet data when connected through their smartphones.

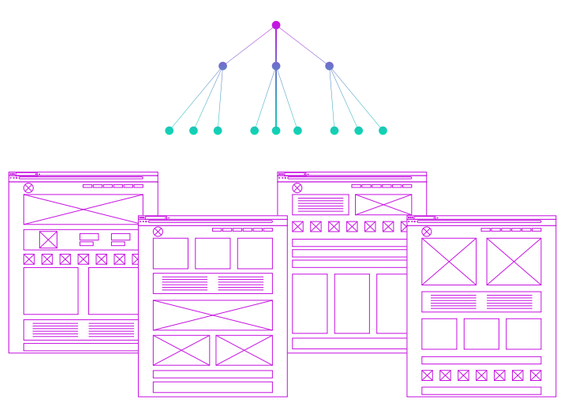
6.1.2 Information design

Once the structure is defined, information design should begin, in which *wireframes*--the proportions and element distribution plans, including text blocks, buttons, menus, etc.--are developed through a visual hierarchy that helps users achieve their objectives in a simple manner.

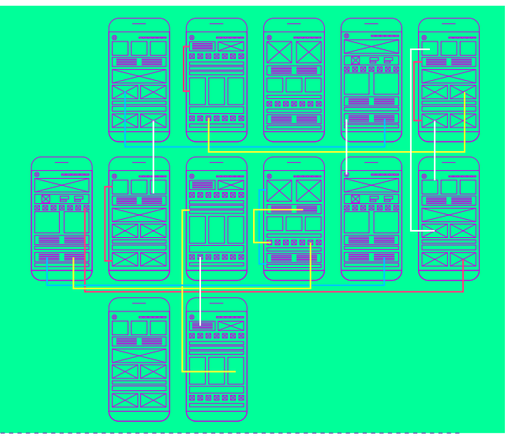
These wireframes will guide users in achieving their goals along one or several pages, giving them a sense of where they are in the portal and what options they have to achieve their tasks. This is the reason the wireframes should be developed based on the structure design step, seeking to anticipate the user's most common browsing intention probabilities.

Usually, wireframes are a consultation document for the whole development team, since they include the navigation specifications of each component of the portal and their relation to each other--that is, they contain all the decisions and details of how the general vision of the structure will be implemented in the *interface.* In addition to this, they allow for quick verification that the publication's development remains correctly linked to the conceptualizing stage.

When developing wireframes, it is important to keep in mind the progressive disclosure strategy (addressed in the final part of module four) by displaying information along multiple screens based on the different needs, goals and capabilities of the users.



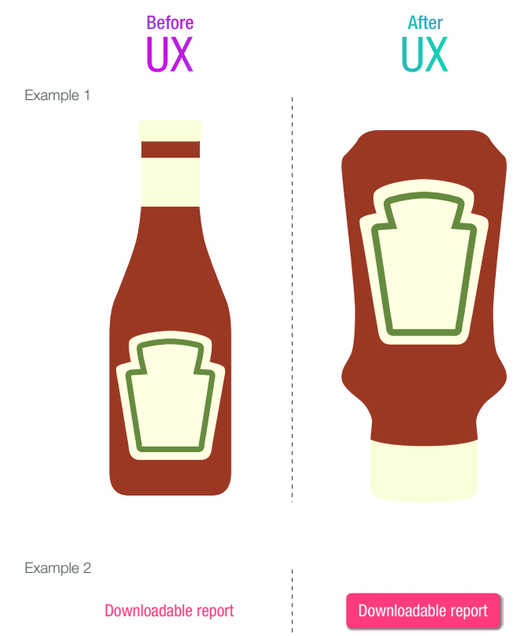
Tip: While it is possible to develop wireframes through hand drawings, digital tools are recommended as they facilitate a responsive design for multiple devices and resolutions.



Before addressing *visual design* (the third component of the creating stage), it is necessary to understand and differentiate between two basic concepts that allow the different audiences of a publication to have positive interactions: user interface and user experience.

User interface (UI) is the contact point, space or device with which users interact. In terms of our subject, the interface through which different audiences will interact with the information is the fiscal transparency portal or platforms, including all images, fonts, disposition, color palettes, etcetera.

On the other hand, **user experience** (UX) deals with user research, structure and information design, prototypes, personas and scenarios, testing, etcetera. In other words, UX deals with all the elements of UCD that are used to ensure that the user's interaction with the interface (the fiscal transparency portal or platforms) is positive.



UX is often confused with the *usability* of a publication, even though the latter is only one of the seven elements that contribute to user experience (Morville, 2004). To achieve a positive user experience, a portal should be:

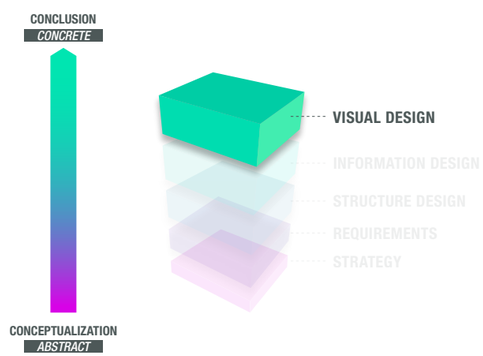
- **Useful** - The creation of a portal or platform should not to be impulsive or decided on a whim; it should solve the real needs of users.
- **Usable** - It should be an interface that works. Note that usability is necessary but not sufficient on its own.
- **Desirable** - Users should find the portal attractive. It should, through the proper use of visual elements, be capable of persuading different audiences.
- **Findable** - It should feature good structure and information designs that facilitate tasks.
- **Accessible** - It should be easily used and navigated by users with disabilities, enabling technological adjustments such as screen readers, keyboard navigation, monitor configuration, etc.
- **Credible** - It should provide clear, reliable, frequent, timely, relevant, comprehensive and accessible information.
- **Valuable** - It should help users to achieve their tasks and meet their needs.

These characteristics can be met in the development or upgrade of a fiscal transparency portal through the correct implementation of a cyclical, UCD-based iteration process.

6.2 Visual design of the portal

Visual Design is the least abstract level of the creating stage, wherein the guidelines for a publication's development become specific and detailed. It is at this level that the design of the interface, the visible face the user will interact with, begins.

It is common for visual design to be interpreted as an aesthetic subject only; however, it is important to remain cognizant that this interface is the final window of all the work developed in the previous levels. It is not only about creating a pleasant and attractive graphic, but about generating a functional and effective visual solution, taking into consideration users' capabilities, preferences and goals.



Here are five small tips for the visual development of a fiscal transparency portal or platform:

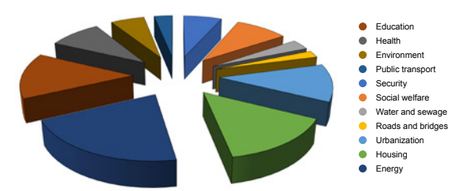
1. Do not imitate.
It is very common in the development of fiscal transparency portals for a main source of inspiration to be the portals of other countries. As previously mentioned the context of each country is however unique, together with the needs and capabilities of users. While it is positive to be inspired by good international implementations, imitating or replicating a portal can result in a product that is not attractive to its audience, or even worse, not functional from a contextual standpoint.

2. The format speaks volumes.
When buying soap, a coffee maker or any other type of product, its packaging is one of the most influential factors when forming an opinion on it. If the graphic design of the product is bad, it generates doubts about the quality of the product. Visual design speaks volumes, not only about the product, but also about the company or institution behind it. Imagine users entering an online shopping portal with low-quality graphic design. Isn't it possible they would feel distrust about entering their credit card information?

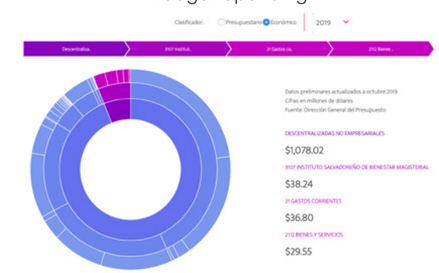
The same thing happens in the fiscal transparency field, the format of a publication speaks volumes, beyond numbers and fiscal transparency; it reflects the quality and professionalism of the institution.

Which of the following graphics represents an institution with greater credibility and strength in its data?

2019 Budget



Budget Spending



It is crucial to develop fiscal transparency portals and platforms with a professional visual design that suits the capabilities and goals of users and does not generate suspicion regarding the quality of the information contained in the publications.

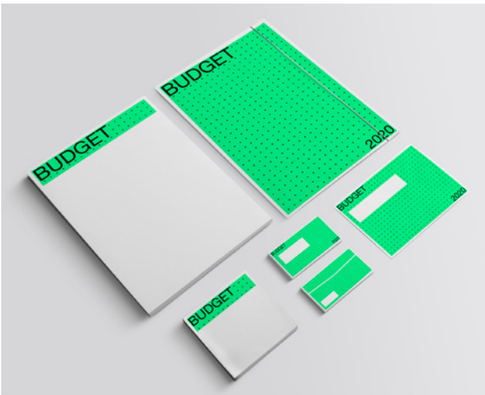
In the toolkit included in this module, sources for visual inspiration beyond fiscal transparency portals are presented. It is important to always analyze the latest worldwide graphic trends that are generating positive engagements.

3. Always respect the institutional or corporate identity.
Before commencing visual design, it is important to find out whether there are any institutional aesthetic guides or guidelines, such as standards for logo usage, an official color palette, fonts, recommended image style, etcetera. These elements are found in compilations better known as *corporate* or *institutional identity manuals.*

Respecting the visual image of an institution or fiscal transparency channel allows users to immediately identify the different products and platforms that are being developed, communication publications included.

Corporate identity manuals do not seek to restrict the creativity of the visual design, but rather to facilitate a supportive framework within the broader objective for development.

Order generates trust:



Corporate stationary example.

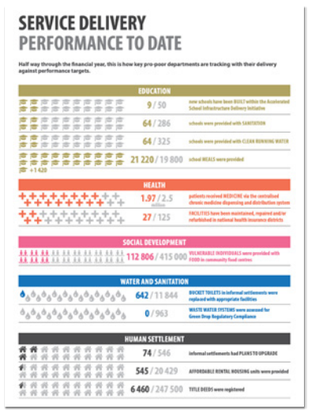
Corporate stationary example.

4. Make use of user-centered formats.
As addressed in the fourth module on segmenting audiences, to attain better engagement, it is important to develop content in formats that align with the goals and capabilities of users, taking advantage of one or several of these tools to achieve a positive experience between the user and the portal:

static graphics,

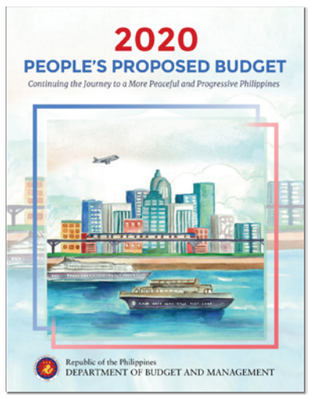
Vulekamali poster.

infographics,



Infographic from the Public Service Accountability Monitor (PSAM).

booklets,



People's Proposed Budget from the Department of Budget and Management of the Philippines.

video explanations,

Video from the Planning and Budget Office of Uruguay.

interactive presentations.

Graphic animation from the Ministry of Finance of Argentina.

When developing or updating a fiscal transparency portal or platform, as when drafting the communications related to it, text saturation should be avoided. It is important to bear in mind that we live in an increasingly visual society. Neuroscientists from the Massachusetts Institute of Technology discovered that the human brain can process whole images exposed to the eye in a mere 13 milliseconds; evidence of the brain's incredibly fast processing speed (Potter et al., 2013).

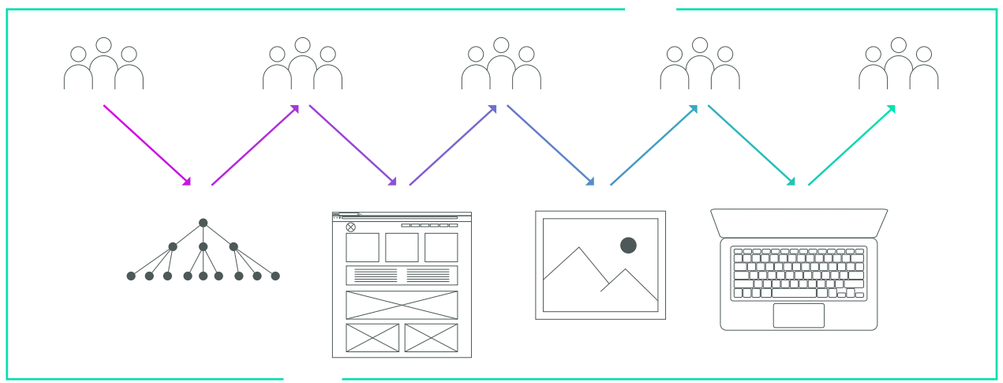
5. Use plain language.
Plain or simple language, commonly called *citizen language*, facilitates the public's understanding of fiscal contents, avoiding technicalities as far as possible and disaggregating information in a simple manner. Bear in mind that when researching the demand, the terms most used by a portal's audience to find fiscal information can easily be identified. Discovering these can help to better empathize with users.

It should also be considered that specialized public officials within a ministry may understand the nuances of their own area without understanding the nuances and information of another area. Similarly, a person from civil society or the general population may also not fully understand every topic. In both cases, this generates a lack of interest in the published fiscal information. It is thus recommended the implementation of plain language as a communication policy for the creation of portals, platforms and communication pieces.

6.3 Prototype tests

The possibilities that different users can conjure for a portal or platform are greater than those that a developing team can imagine on its own. It is very common to find surprises in the development process regarding definitions, that may otherwise have seemed obvious. This is the reason, testing and refining a functional prototype is crucial prior to a portal's final programming.

These tests can be carried out not only after the prototype is finished, but in all three phases of the creating stage, in order to cyclically refine it prior to completion. Refinements can be implemented through *usability testing.* This includes techniques such as observation or focus groups, in which representative users try to complete tasks while the developing team listens, observes, documents and takes notes.



Below is a list of some of the elements to consider for planning usability testing suggested by usability.gov (2019).

- **Scope of testing.** Depending on the stage of development, it must be decided what combination of aspects, such as navigation, content and visual design, will be evaluated.
- **Devices.** It should be determined whether testing will be performed for laptop computers, desktop computers, mobile phones or a combination of the above.
- **Number of tests.** After 5-10 tests have been carried out it will be possible to identify patterns and implement improvements.

- **Schedule and agenda.** Tests normally last around 90 minutes, which is why the order of implementation should be prepared--project presentations, instructions for users, etc.--and the spaces between one test and the next should be calculated.
- **Test scenarios.** A key objective in testing is to efficiently plan different scenarios, or tasks, for users to complete.
- **Indicators.** Depending on the scope of the testing, the dimensions to be evaluated must first be defined, as well as their qualitative and quantitative indicators. These dimensions can include satisfaction, fulfillment of the scenarios, or use and recommendations for improvement.

For example, as Heinz (n.d.) suggests, to measure satisfaction on the prototype you can ask questions such as: In what scenario would you use the portal? Were you looking for any information in particular and did you find it? What was the first thing that caught your attention? What topics did you find most interesting? The indicators of fulfillment in scenarios can be measured either with quantitative metrics--for example, the successful completion of a task, error ratio, fulfillment time, etcetera--or with open questions such as: What distracted you while you were performing the task? or What elements confused you while trying to accomplish your task? Finally, tests can be concluded with measurements on use and recommendations for improvement: What information do you find difficult to understand? or What else would you like to find in the portal?

Before implementation with users, it is advisable to carry out usability testing a couple of times with team members to verify the publication is functioning well.

Tip: Heinz (n.d.) recommends focusing on users individually through observation, since in focus groups there is a higher probability of obtaining answers influenced by the answers of the others.

6.4 Toolkit for developers: outputs, open code, libraries, etc.

To conclude this module on the creation of fiscal transparency portals and platforms, the following compendium of tools can be consulted, it provides various sources of help and inspiration for development.

Development

- **Free web fonts** (it's recommended to filter in "font properties" fonts with a number of styles higher than five): https://fonts.google.com/
- **Open Data Tutorial** (discussion ranges from what they are to how to implement them): http://bit.ly/OpenDataTutorial
- **Open Fiscal Data Package** (simple, free and open technical specification to publish fiscal and spending data): http://www.fiscaltransparency.net/ofdp/
- **Libraries of open source visualizations:** https://d3js.org/ | https://developers.google.com/chart/interactive/docs/gallery
- **Open license maps:** https://www.openstreetmap.org/
- **Free images libraries (it is very important to review the user license):** https://unsplash.com/ | https://www.pexels.com/royalty-free-images/ | https://freephotos.cc
- **Vector image libraries** (it is very important to review the user license): https://www.stockio.com/ | https://www.freevector.com/
- **Stickies online collaboration board:** https://mural.co
- **Sketching tool for structure design (sharable online):** https://docs.google.com/drawings/
- **Wireframe and prototype sketching tools:** https://www.invisionapp.com/ | https://idoc.mockplus.com
- **Free tools to carry out surveys:** https://try.typeform.com | https://www.surveymonkey.com
- **Tool to generate color palettes:** https://color.adobe.com/create/color-wheel/

Inspiration

- **Trends websites:** https://www.awwwards.com/ | https://dribbble.com/shots/popular/web-design
- **Examples of JavaScript visualizations:** https://threejs.org/
- **Color trends:** https://color.adobe.com/trends/Graphic-design
- **Digital visual design trends:** https://theblog.adobe.com/search/design+trends
- **Corporate identity design trends:** https://dribbble.com/shots/popular/branding
- **Illustration trends:** https://www.creativebloq.com/search?searchTerm=illustration+trends | https://dribbble.com/shots/popular/illustration