

INTERACTIVE DATA VISUALIZATION Session 02

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To the extent possible: the experience of a design summer workshop on images and things that worth measuring

informal education / metrics / data visualization / conviviality

One relevant aspect of the times we are living is the effort in supporting every claim, line of reasoning, every description or interpretation of reality with magnitudes, metrics, indexes ... any abstract entity but measurable. The wealth of a nation, the academic productivity, the evolution toward a more sustainable development, the greatness of a poem ... the unavoidable simplification implied in every quantification remain often undisclosed under the impartiality we show while presenting our data. This common way of arguing leads sometimes to paradoxes. Most of us rejoice when the GDP is growing (shouldn't we ?) and someone find difficult to understand why a 2 degrees increase in the average temperature of the planet may represent a serious environmental threat (anyway, it's just 2 degrees Celsius).

Starting from this premises, a collaborative design workshop, organized by [undisclosed] foundation, will take place next august with the aim to explore the relation between language and mental images: During a week, an interdisciplinary and heterogeneous group of volunteer will spend some time envisioning alternative metrics and prototyping ways to communicate what we really would like to measure (or to try to) from a very specific perspective; we will adopt the point of view of the few inhabitants of a rural underpopulated area.

This contribution is about this ongoing workshop experience and it aims to be part of a more general debate about the role of informal educational activities. Beside formal education and professional practice, these initiatives may represent an an

opportunity for developing collaborative design experiences in communication design as part of broader, and more ambitious, design for social innovation programs.

Therefore, we will summarize the methodology followed while planning the workshop, the theoretic framework we intend to adopt, the description of the proposed activities, the expected results and – by the time when the conference will take place – we will be able to present and evaluate some of the workshop's outputs.

an open process

There are a few things I've learned from previous experiences in informal education – many of them in collaboration with [undisclosed] foundation – that have worked well so far. As opposed to formal education, and due to the diverse personal and educational profile of attendants, the pedagogical approach can't be neither "teacher centered" or based on rigid design procedures. It has to be as flexible and negotiable as it could be in order to allow unexpected contributions to emerge.

At the same time, even without any external pressure to be productive, the main goal of a design workshop is to create some design proposals; better if somehow "instigated" by a new, or refurbished, conceptual inspiration and far from the "comfort zone" of professional and personal skills. Hence, the formula we came up with, is based essentially on two steps: a "trumpet call" introductory talk followed by a quick "Minimum Viable Product" design collaborative challenge, aimed to envision a tangible (even if speculative) artifact.

4 + 1 days (and activities)

Among many possible alternative approaches, we have focused the workshop activities on four main topics, leaving intentionally a blank spot for the final day. The first of them, our starting point, will bring us back to what may be defined as the "golden age" of quantitative explanations; we will look closely at Étienne Jules Marey (1878) essay on scientific graphic method of visual representation in science and the description offered by the french physiologist of all sort of devices, conceived to produce some kind of natural analogical fingerprints of physical phenomena. We will try then to imagine similar artifacts able to produce new visual outputs, from distributed network of sensors, or simply to think up some new interpretation for traditional ones, as dendrochronology do with growth rings of trees.

The following topic is related somehow with the financial crises of year 2008. One of its consequences is a report, promoted by the then president of France. Nicolas Sarkozy asked a group of international experts, led by Joseph E. Stiglitz, Amartya Sen and Jean-Paul Fitoussi (2009), to explore statistical indicators, as alternative to GDP, to measure economical and social prosperity. Starting from the apparent dichotomies as wealth and wellness, value and price or the creation of income v/s the creation of value, we will try to adopt the report's methodology and explore metrics suitable to describe invisible processes that are relevant from a rural perspective as, for instance, the energetic balance within urban areas and the countryside.

The two next subjects come from cognitive science; we will get familiar with two key concepts: mental images (and conventional ones), as described by A. Damasio (2021), and cognitive biases (and illusions) – from the perspective offered by D. Kahneman (2011). The two concepts together may explain, in our opinion, some of the paradoxical situations we mentioned before. Playing the role of the devil's advocate, we will try to learn about these self-contradictory explanations by creating new ones.

(no) expected results

It's no time now to speculate about expected results but we will be able to offer a critical balance of the initiative by the time of the conference. Our final assessment will rely on conviviality rather than productivity, as suggested by I. Illich (1973); in other words, we will go after the quality and the practical utility of the design proposal as well as we will care about personal (meaning individual) learning experience but we like to think that the "expected results" may eventually arise in the next future – as new unexpected initiatives – and they will be difficult to measure.

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Unpacking 'Onboardings' in data-driven narratives

Onboarding section / data-driven narratives / digital interfaces

This paper proposes that an effectively designed 'onboarding section' for data-driven narratives meets three conditions. In this paper, the onboarding of a data-driven narrative is understood as the first part of a data-driven project that communicates the inquiry of a specific argument in the form of an interactive digital artifact (usually a website). Onboarding is the unboxing moment of the visual and interactive elements that take part in the data-driven narrative introducing the subject matter and language to the reader. It is the entry point to the narrative that explains and anticipates to the reader what and how he/she will find in the narrative. It is also the space of the narrative where the designer as author states the aim of the project and the communicational objectives it pursues.

Previous literature already has studied the structural and communicative aspects of data-driven storytelling (Segel and Heer, 2010; Hullman and Diakopoulos, 2011; Bach et al, 2018). Although, this paper delves into the role of onboarding in the effectiveness of data-driven storytelling. From two didactic experiences emerges the urgency to propose some conditions for the effective design of "onboardings". An effective onboarding will be the one that helps the reader to enter, follow and conclude the data-driven narrative. Given the level of abstraction of the topics that can be investigated with data and the high level of visual and interactive experimentation with which they can be communicated, it is essential that onboardings account from the beginning for the key structure and visual representation of the information. If onboarding is not effective or fails, it jeopardizes the continuation of the experience and the understanding of the narrative with data.

Based on personal experience as a lecturer in a master's degree course and as a thesis supervisor in Design, I propose that onboarding may fulfill three conditions for being effective from the communication point of view: (1) it situates the subject in its context, (2) it guides the reading and usability of the artifact, and (3) it frames the communicative objectives proposed by the designer-author. These conditions should enable the reader to acquire the knowledge, skills, and behaviors necessary to engage with the narrative.

The first condition is about situating the subject in its context. To accomplish this, onboardings should introduce the actors, the relationship they have with the theme, and the fruition between them. Following Actor-Network Theory, this condition considers that the actors are not only people but also objects, technologies, and others. The second condition guides the reading and usability of the artifact by presenting the main visual and interactive features present through the narrative. It guides the reading and usability of the artifact: it works as the legend of a visualization. Finally, the third condition considers that onboarding is the narrative section in which designers as authors can briefly introduce the communicative objectives of the data-driven narrative.

These conditions are argued by means of case studies of online digital projects of data-driven narratives that are divided into three sections: projects carried out by students of the master's course; projects carried out by design thesis students; and projects carried out by design studios and freelance designers in the world.

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Making information tangible in the complexity of a 'data-based' world