SENSOR VARIABLE FONT MODEL

Components, architecture and flow

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e/s/d/ madrid

P.PORTO ESCOLA SUPERIOR DE MEDIA ARTES E DESIGN

Sensor Variable Font Model

Presentation and objective

- This project presents a model that sets the groundwork for **establishing a significant relationship between variable font and its application in graphical interfaces** from data collected by different sensors.
- The aim is to **offer users more meaningful experiences when interacting with graphical interfaces**, giving them a connoted sense based on the relationship that exists between the data that feed an interface and the typographies that represent it.

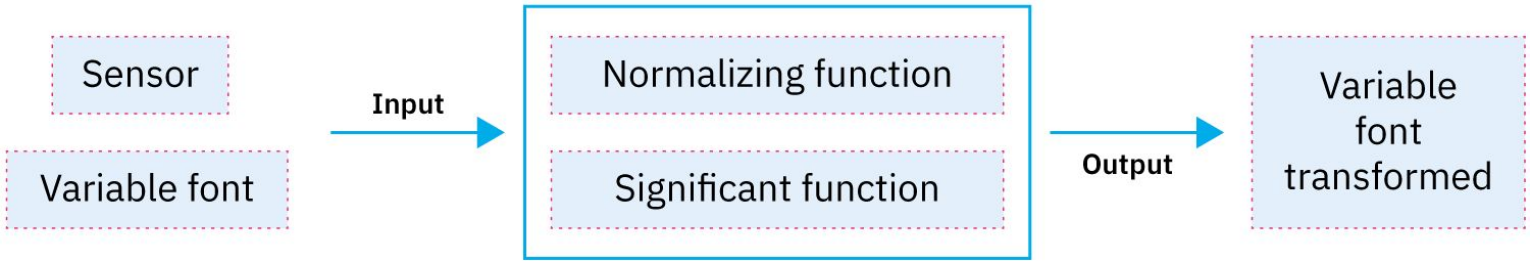
Sensor Variable Font Model

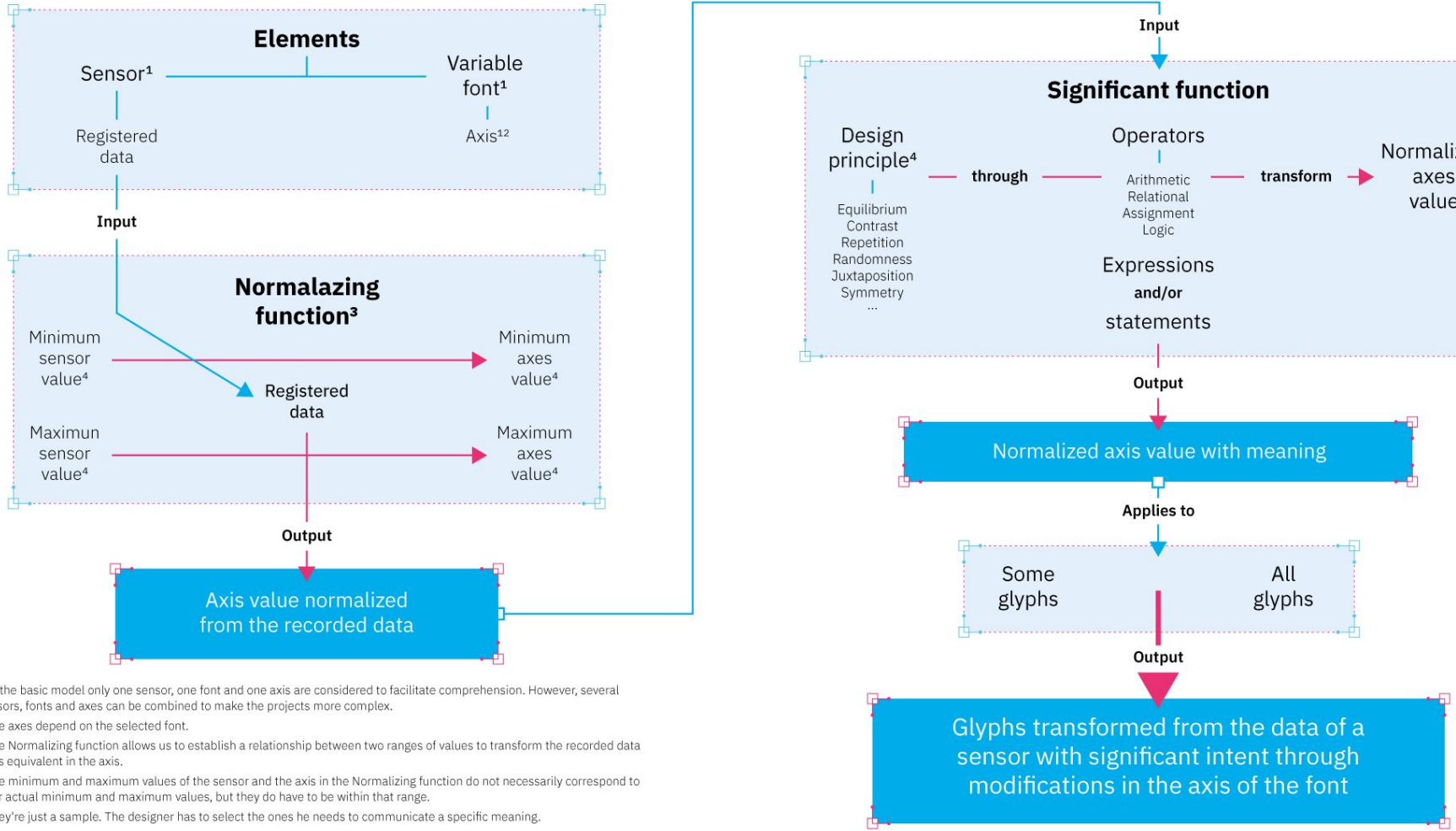
Specifications

- **Flexible**. The model has parts with a higher level of abstraction that allow it to be applied to different types of interactive projects.
- **Provides meaning.** The model returns a result that conveys a certain communicative intention.
- Communicates through **typography**. The means to communicate the connoted sense are the variation axes of the variable typography.
- Based on **IoT** and human-machine interaction.

Sensor Variable Font Model

Basic architecture





[1] In the basic model only one sensor, one font and one axis are considered to facilitate comprehension. However, several sensors, fonts and axes can be combined to make the projects more complex.

[2] The axes depend on the selected font.

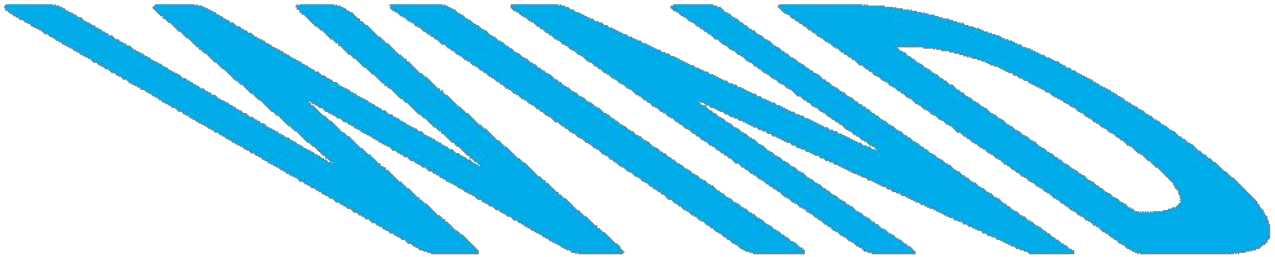
[3] The Normalizing function allows us to establish a relationship between two ranges of values to transform the recorded data to its equivalent in the axis.

[4] The minimum and maximum values of the sensor and the axis in the Normalizing function do not necessarily correspond to their actual minimum and maximum values, but they do have to be within that range.

[5] They're just a sample. The designer has to select the ones he needs to communicate a specific meaning.

Sensor Variable Font Model

Basic example



- In this case it has been used two kind of data recorded by the sensors, **wind direction** and **speed,** applied to a single variable font axis, **slant**.

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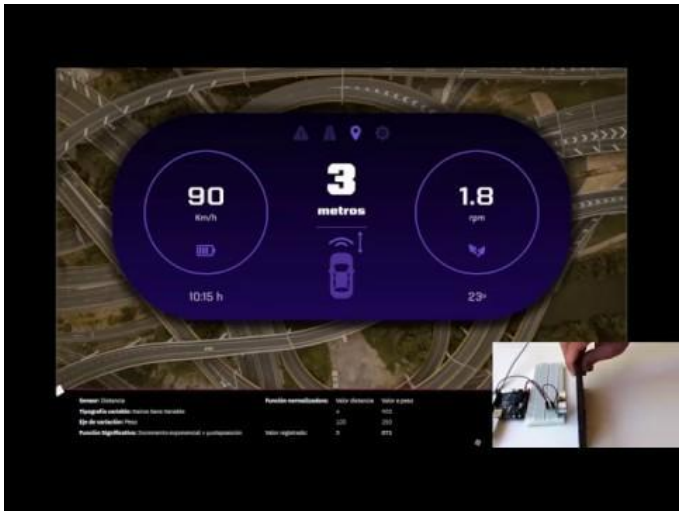
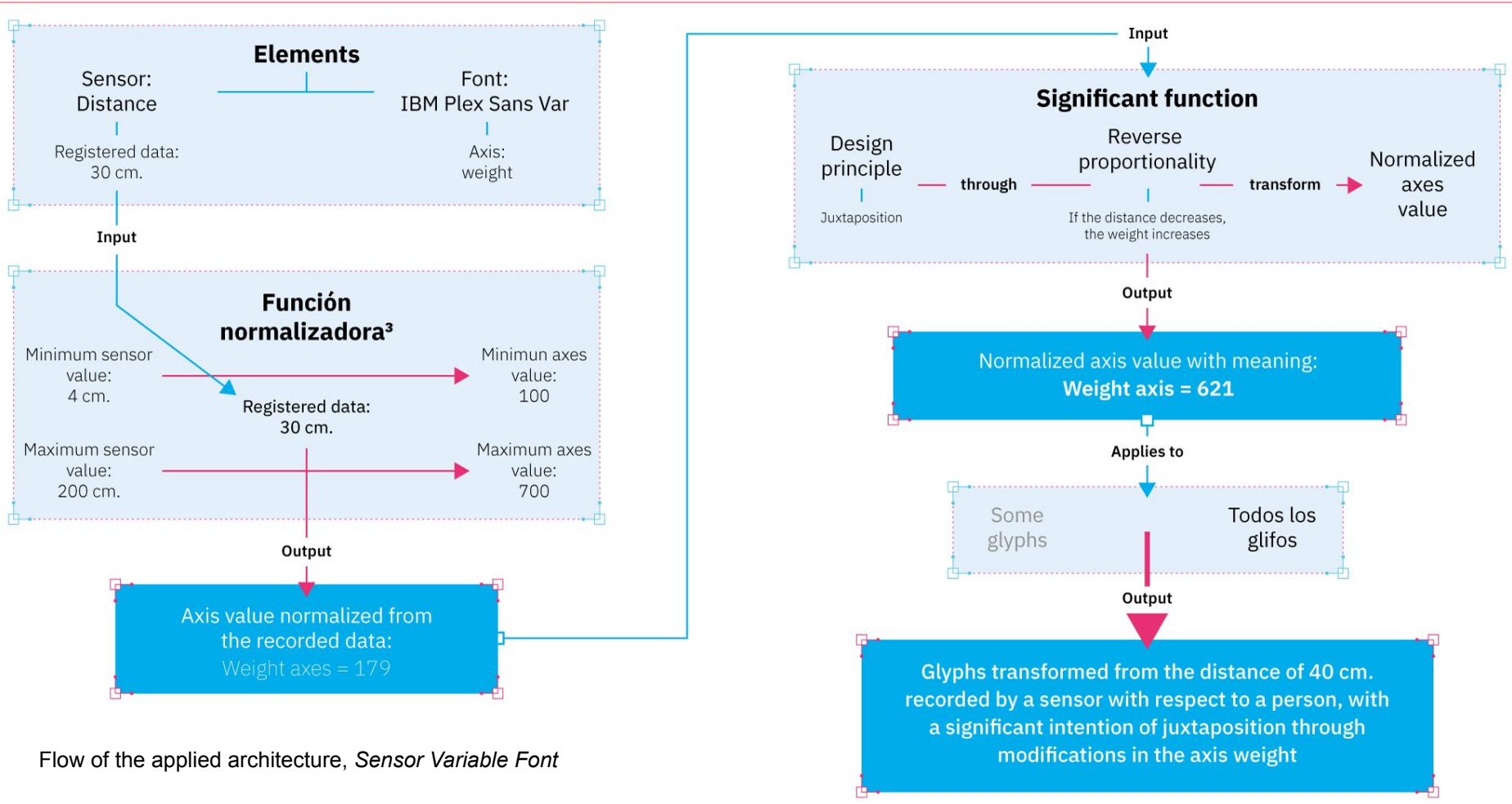
Applied example to a graphic interface

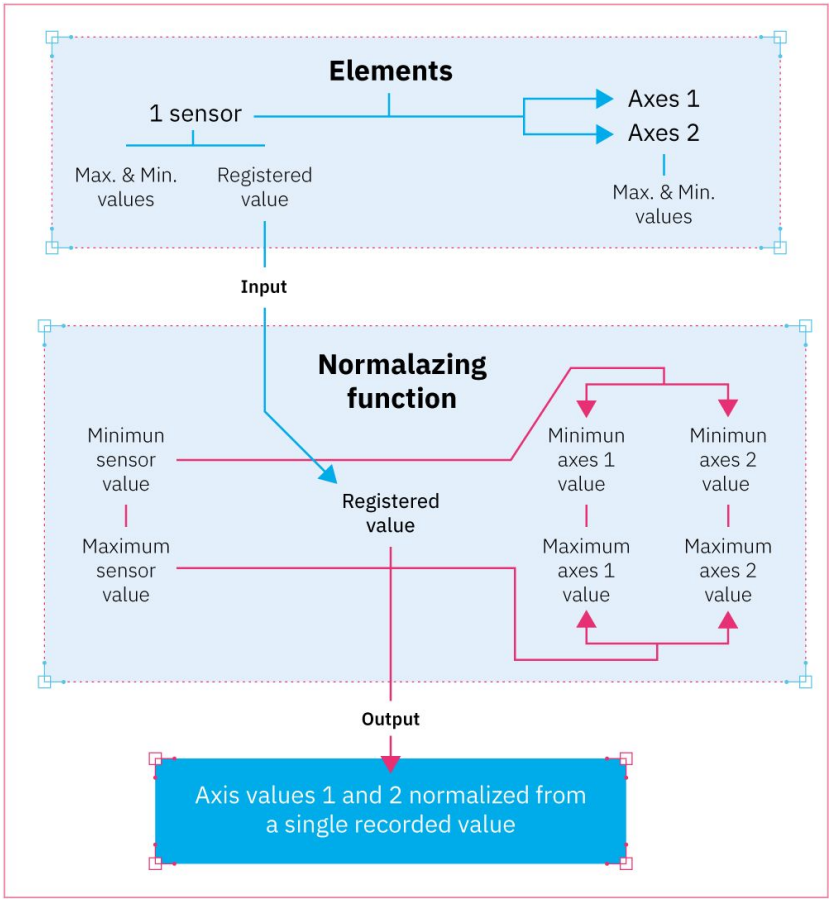


- In this case it has been used a **distance sensor** applied to the **weight** of the font on the control panel of a car.

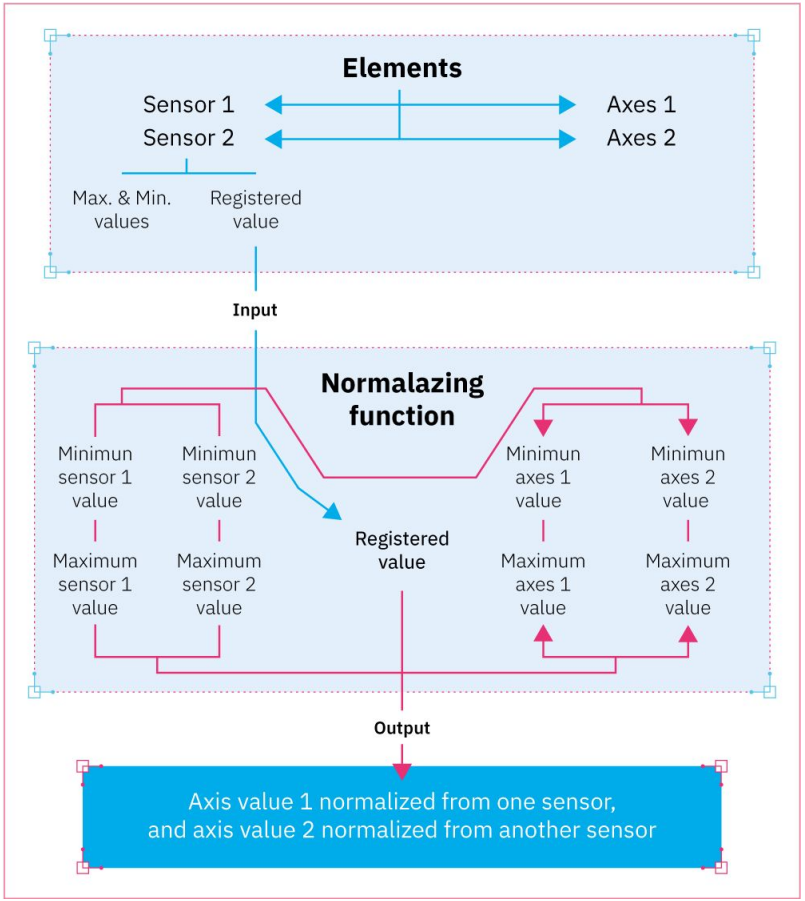


Flow of the applied architecture, *Sensor Variable Font*

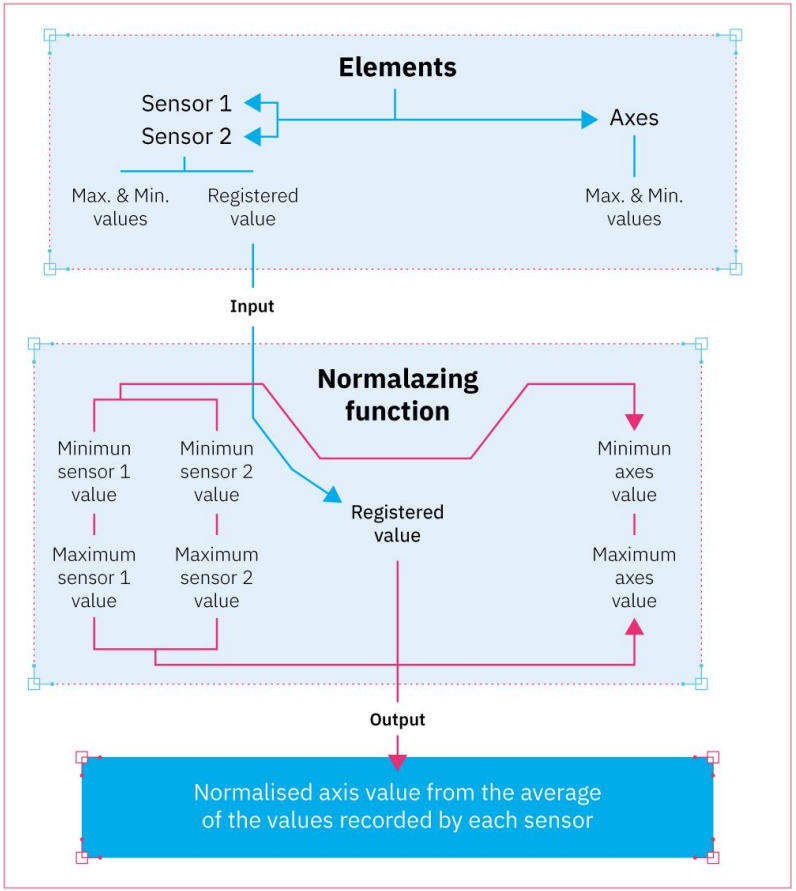
Model with one sensor and two axes



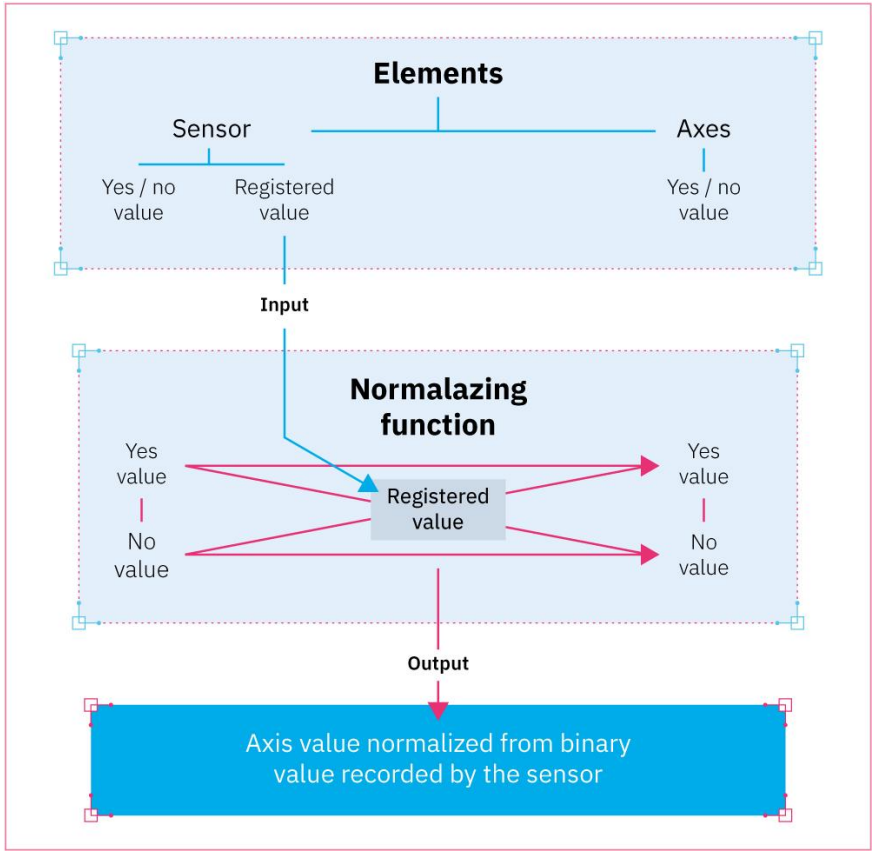
Model with two sensors and two axes



Modelo con dos sensores y un eje de variación



Modelo con un sensor que registra valores binarios y un eje de variación binario



Sensor Variable Font Model

Visual communication techniques (Dondis, 1992)

Equilibrium	>	Instability	Neutrality	>	Accent
Symmetry	>	Asymmetry	Transparency	>	Opacity
Regularity	>	Irregularity	Coherence	>	Variation
Simplicity	>	Complexity	Realism	>	Distortion
Unit	>	Fragmentation	Flat	>	Deep
Economy	>	Profusion	Singularity	>	**Juxtaposition**
Reluctance	>	Exaggeration	Sequentiality	>	**Randomness**
Predictability	>	Spontaneity	Acuity	>	Diffusivity
Activity	>	Passivity	Continuity	>	Episodicity
Subtlety	>	Audacity			

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Basic Operators

Arithmetic	**Relational**	**Assignment**	**Logic**
Sum: +	Same as: ==	Variable name = expresion	Y (&&)
Subtraction: –	Less than: <	Incremental: m = i++	O (||)
Multiplication: *	Greater than: >		
Division: /	Less than or equal to: <=		
Remainder: %	Greater than or equal to: >=		
	Different than: !=		

Bibliographic references

- Gerstner, K. (1979). *Diseñar programas.* Barcelona: GG.
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- Ruder, E. (1967). *Typography: A Manual of Design: A Textbook of Design.* Suiza: Arthur Niggli.

Thank you very much for your attention

Sensor Variable Font: *Semantic interfaces through variable fonts*

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