Define the problem

- Identify their effective needs and how they work. This is needed to clearly define
  - what has to be represented.
  - Why is a representation needed?
  - Is it needed to communicate something?
  - Is it needed for finding new information?
  - Is it needed to prove hypotheses?
- It is necessary to bear in mind the human factors specific to the target audience that the application will address and, in particular, their cognitive and perceptive abilities.

Examine the nature of the data to represent.

- The data can be quantitative, ordinal, or categorical. → Nominal
- A different mapping may be appropriate, according to the data type.

Number of dimensions

- Important to determine the type of representation that we use.
- The attributes can be independent or dependent.
  - univariate - one dimension varies with respect to another
  - bivariate - there are two dependent dimensions
  - trivariate - three dependent dimensions
  - multivariate - four or more dimensions that vary compared to the independent ones.

Data structures

- These can be
  - linear - vectors, tables, collections, etc.
  - temporal - data that change in time
  - spatial or geographical - a map, floorplan, etc.
  - hierarchical - flowcharts, files on a disk, etc.
  - network - data that describe relationships between entities.

Type of interaction

- static - an image printed on paper or an image represented on a computer screen but not modifiable by the user.
- transformable - user can control the process of modification and transformation of data, such as varying some parameters of data entry, varying the extremes of the values of some attributes, or choosing a different mapping for view creation
- manipulable - the user can control and modify some parameters that regulate the generation of the views, like zooming on a detail or rotating an image represented in 3D

Example

- Analyze the Food Demand using python libraries. The aim of this analysis is to predict the number of food orders that customers will place in the upcoming weeks with the company.

Aim

① What type centers are most Popular.
② Popular cuisine ← Region, Center
③ Best selling categories ← Region, Center
④ Volume sale/week?

Answer the following Questions

- Find the most popular food item that customers have bought from the company → Burg, ~~Pie~~
- Find total food item order by the number of unique meals → Burg.
- Which one is the most expensive cuisine Pie / Burg.
- Inspect the base price and checkout price ? ~~Line?~~ ~~Box?~~ Histogram. (min to max)
- How are the weekly and monthly sales of the company varying? → Line.

Age → 10 – 35