**Motivation and Objective**
The aim is to build a system in which the objects are characterized by their parts to be used for grasp actions. Every grasp action should not only have a geometric meaning as in (1), but also a functional meaning, namely a use-based description. For example, a fork can be grasped in many ways, but if the aim is to use it, then maybe we need just to know it has an handle. Furthermore, information coming from the real world is intrinsically not precise, so the description of the object should take this uncertainty into account.

**The modules**
The modules are structured as follows:
- The **vision module** extracts information from the image and to find the degree of membership to functions like Big or Long;
- The **semantic module** is used to define the concepts related to the geometric properties of the objects, the structure of the objects themselves and the types of grasps that can be used; moreover, it is used to perform the actual fuzzy reasoning to find the degree of membership of the object found in the image to a concept expressing a physical object, e.g. a fork.

**General architecture**
The general architecture, including other sensory modules, is depicted in the figure:

**Examples**
**Example TBox axioms:**
- Fork $\equiv$ LongObject $\sqcap \geq 1$ hasHandle
- $\geq 1$ hasEnding $\sqcap 2$ hasTime
- GraspableByHandle $\equiv \geq 1$ hasHandle $\sqcap$ LongObject

**Example ABox assertions:**
- LongObject($x$)$\geq 1$
- hasHandle($x$, $p1$)$\geq 0.88$

**Example semantics:**
$$\geq_R(x, a) = \sup_{y \neq a} \min_{i=1}^n P_i R_i^2(x, a)$$

**Conclusion and future work**
Because of some limitations in the implementations, the domain is made up of few commonly used kitchen objects. We are planning to develop a more flexible $f$-SHTN reasoner and to include a stereovision system as well as other sensory modules.