

# Globally defined and identified information

Every digital information is a number sequence. The numbers select from a set of possibilities resp. **domain**.

**Information = selection** from a set or **domain**.

Preconditions for precise transfer of information are:

- (1) **Well defined domain** (a priori, for all participants of conversation)
- (2) **Ordered domain** (so that its elements are selectable by numbers)
- (3) **Transfer of the number sequence** which shows the **selection** in the domain

Up to now (2018) the domain is defined locally (by context). The internet makes much more possible:

**We can define the domain globally!**

→ The new purposefully unifying information carrier ("Domain Vector" resp. DV) has the form:

**UL (of online definition) plus number sequence**

**UL** = "Uniform Locator" on the internet (used for globally unique identification and definition),

- can be the **URL** or an **abbreviated equivalent**, e.g. a short numeric pointer (e.g. to a local URL table),
- identifies the kind of the following **number sequence** (like a file ending can identify the kind of data in the file),
- is also pointer to the online definition of the **number sequence**, so it **defines the domain** of a selection (globally). The **number sequence** after the UL defines the **selection** in the domain and **represents the variables (data)**.

**The online definition of the domain is located (globally uniquely) by the UL.** The online definition contains a bijective mapping from every number sequence to every element of the defined domain. Therefore further definitions (metadata) mixed with the **data (number sequence)** are not necessary. The central (globally uniform) definition of the domain allows (as additional "bonus") **similarity search**. The domain can be defined as multidimensional metric space. It is called "Domain Space" (DS).  
Nomenclature: Every DV (resp. Domain Vector) is element of a DS (Domain Space).

The DV: **UL (of definition) plus number sequence**

- enables the combination:
  - **Maximal competence (definition by all internet users)**
  - **Maximal efficiency (number sequence)** (allows maximal entropy)
- can represent every definable information - **precisely** from **simple** word to **complex** multidimensional information e.g. in science, medicine, industry.
- is internationally uniform and comparable for similarity search. The **users create** the search criteria.
- **http://numericsearch.com** demonstrates searchability.
- is **language independent** (if the selected language of the definition is not relevant for the meaning of the definition), so that the online definition can be **multilingual**.

Existing online definitions can be reused (linked together and recombined) in new definitions. For search (and before providing data) users can select the best (most meaningful) definitions. This motivates to create better and better definitions.

Details: <https://arxiv.org/abs/1801.03106>

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