

The DQD Query Language

LCP's query language DQD (Descriptive Query Definition) follows the idea of Entity-Relationship models. Entities sets are defined by logical formulae on properties and relations between them. The query engine then searches for those constellations inside the corpus or corpora selected. Along the lines of first order logic, quantors can be employed to enforce the existence or non-existence of constellations.

Every query needs to specify at least one result set, which is either a (plain) list of entities comprising the query matches, a statistical or a collocational analysis. T

Introduction

In a text corpus with standard annotations (viz the [CoNLL-U format](#)), a simple query for the occurrence of the word "dogs" would look like this:

```
Segment s

Token t
  form = "dogs"

Result => plain
  context
    s
  entities
    t
```

Instantiation and Scopes

Entities are instantiated by providing the entity name followed by a (unique) handle, which can be used to reference the entity. By instantiating an entity, it is by default existentially quantified and its scope ranges from its instantiation to the end of the query. Exceptions are negative existential quantification and entities inside sequences with repetitions (see below).

```
Segment s
```

An entity of type "Segment" (sentence segment) is instantiated with the handle "s" assigned. The part-of operator @ requires the subsequently instantiated entity to be part of the previously instantiated entity which is referred to by its handle.

```
Segment s
```

```
Token@s t
```

An entity of type "Token" is instantiated with the handle "t" assigned. It is required to be part of the sentence segment "s"

Dimensions

Entities are tied to at least one dimension. Three dimensions are available in LCP:

1. **Stream** –
2. **Time** –
3. **Space** –

Quick Reference

Entities

Entities are defined in the [Corpus Template](#). Though aleatory names can be used, we use *Document* for documents, *Segment* for sentence segments and *Token* for tokens in the examples. Entities are expected to start with an uppercase character.

Attributes

Attributes are also defined in the [Corpus Template](#) and thus their naming is free for a corpus creator to define. As a standard set, we use *form* for word forms, *lemma* for lemmas, *upos* for [Universal part-of-speech tags](#), and *morph* for [Universal features](#). Attributes stored as [Meta Data](#) is mapped to entity attributes unless a native attribute with the same name exists. In that case, the meta attribute needs to be explicitly referenced.

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