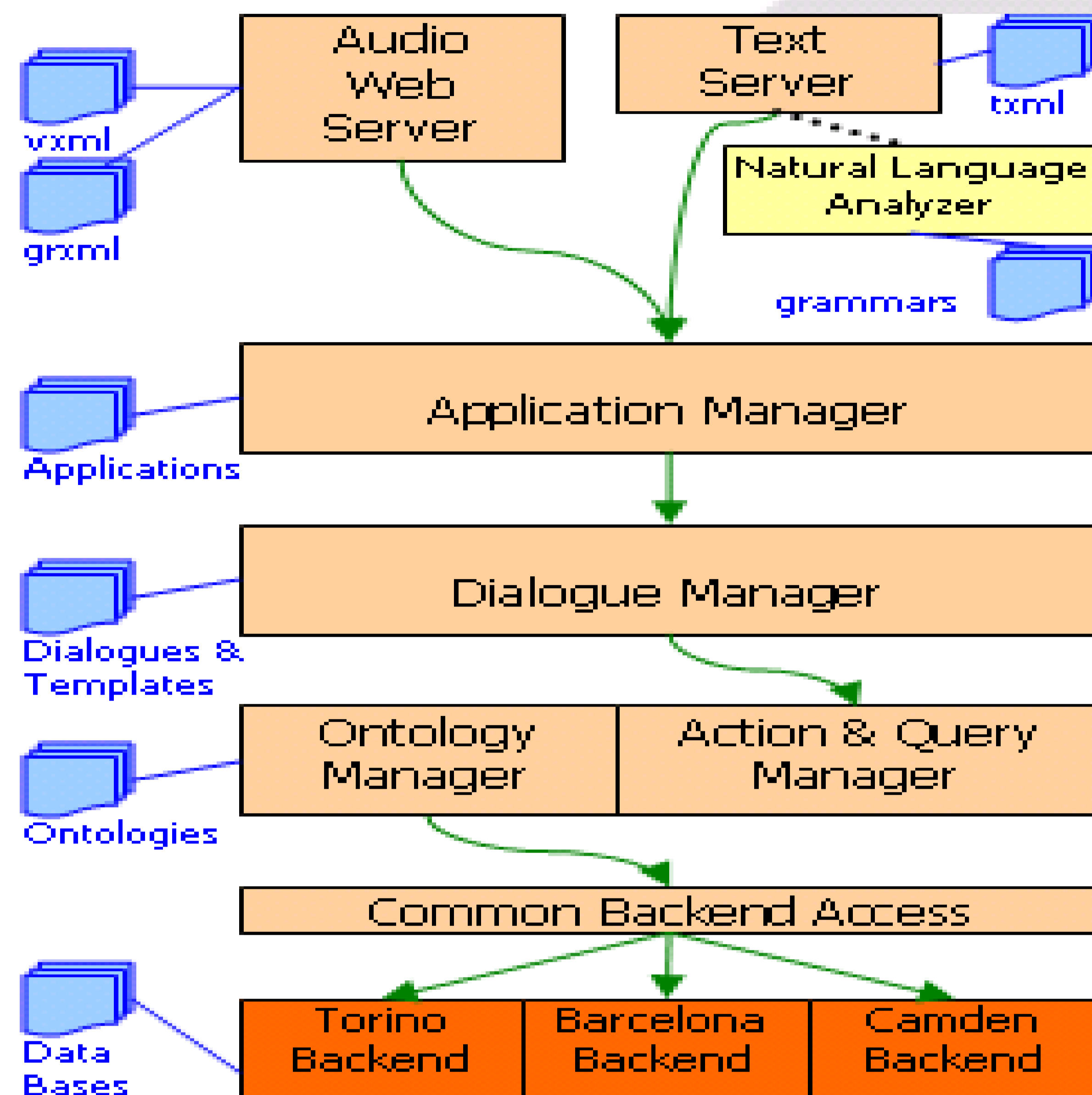


Obtaining Linguistic Resources for Dialogue Systems from Application Specifications and Domain Ontologies

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The HOPS Platform



Fada Communication

Generating the voice resources in English

Related to the attribute *servicetype*

The system prompts

- "In the Large Objects Collection service you can fix a collection date, get information and cancel a previous collection. What do you want to do?"
- "I'm sorry, I can't understand you. Press 1 for fix a collection date, press 2 for information, press 3 for cancelling a collection date."

The voice grammar

```
public $gramserviceType =
($gramI{:ret} | $gramC{:ret} | $gramT{:ret} )
{<@serviceType $ret>};
private $gramI = ( information )
{ return("information") };
private $gramC = ( cancel_a_request | cancel |
cancel_collection | cancellation )
{ return("cancellation") };
private $gramT = ( fix_a_collection | collection |
request | pick_up | take_out | ask_for_a_date )
{ return("collection") };
```

Related to the attribute *object*

The system prompt

What do you want to get rid of?

The voice grammar

```
private $furniture = ( ("sofa") | ("armchair") | ("sofa
bed") | ("armrests") | ("chair") | ("stool") | ("bench") |
("table") | ("dinner table") | ("coffe table") | ("computer
table")) {return($string)};
```

Translating the resources to Spanish, Catalan and Italian

Related to the attribute *servicetype*

The system prompts in Spanish

- "En el servicio de recogida de muebles se puede concertar día para una recogida, obtener información acerca de puntos de reciclaje o cancelar una recogida. ¿Qué acción desea realizar?"
- "Lo siento, pero no le he entendido. Marque 1 para fijar una recogida, marque 2 para información, marque 3 para cancelar una recogida."

The voice grammar in Spanish

```
public $gramserviceType =
($gramI{:ret} | $gramC{:ret} | $gramT{:ret} )
{<@serviceType $ret>};
private $gramI = ( información )
{ return("información") };
private $gramC = ( cancelar_una_cita | cancelar |
cancelar_una_recogida | cancelación )
{ return("cancellation") };
private $gramT = ( fijar_una_recogida | recogida |
concertar_dia | pedir_fecha )
{ return("collection") };
```

Related to the attribute *object*

The system prompt in Spanish

What do you want to get rid of?

The voice grammar in Spanish

```
private $furniture = ( ("sofa") | ("sillón") | ("sofá
cama") | ("butaca") | ("silla") | ("taburete") | ("banco") |
("mesa") | ("mesa de comedor") | ("mesa de centro") |
("mesa de ordenador")) {return($string)};
```

Obtaining the written text grammars

Related to the attribute *servicetype*

The grammar rules

```
s-> gramserviceType
s-> vwant gramserviceType (1 2)
gramservicetype -> inform
gramservicetype -> cancel
gramservicetype -> transaction
```

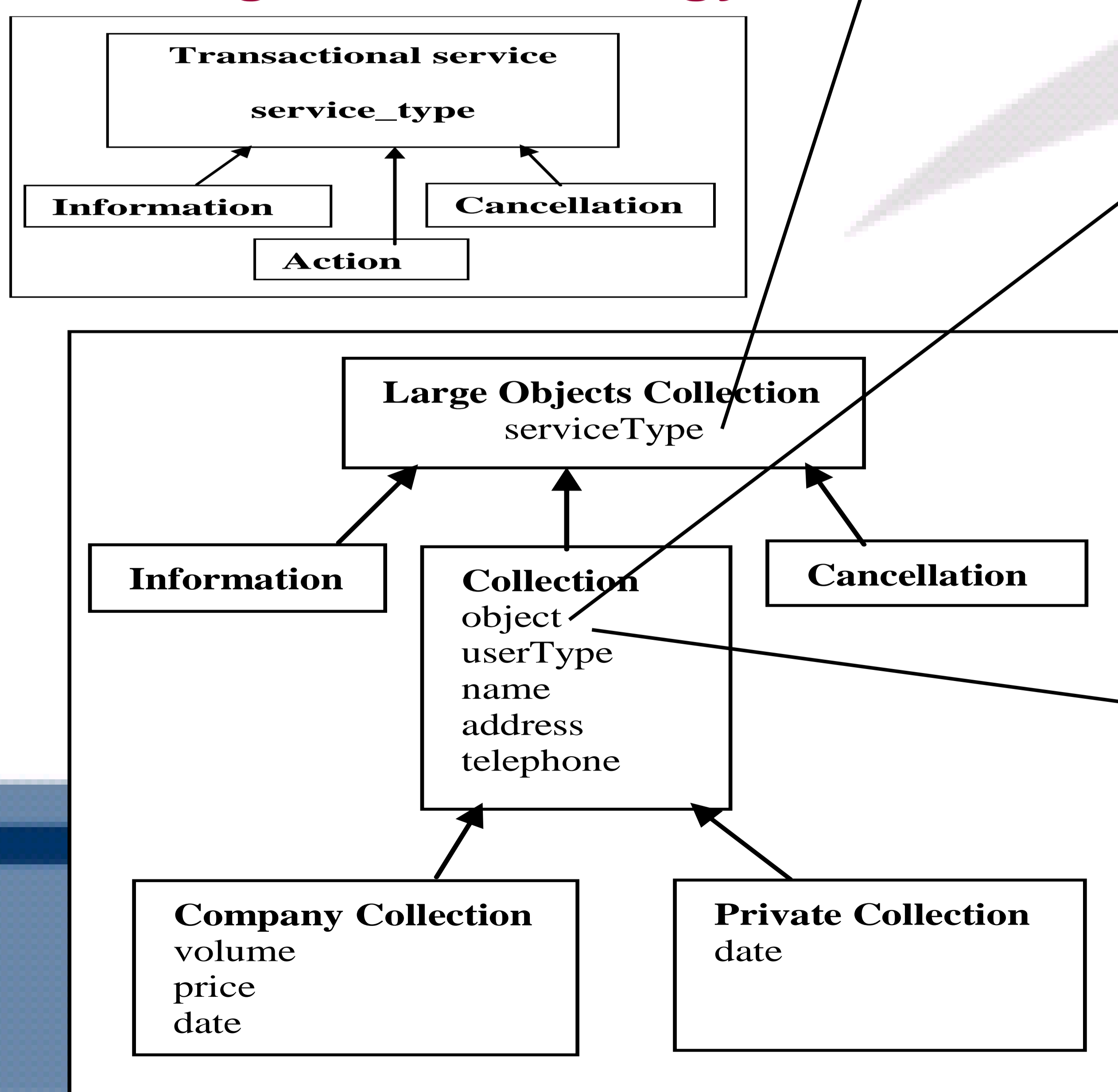
The lexical entries for English

String	category	interpretation
"information"	inform	information
"cancel a request"	cancel	cancellation
"cancel collection"	cancel	cancellation
"cancel"	cancel	cancellation
"cancellation"	cancel	cancellation
"fix a collection"	transaction	collection
"pick up"	transaction	collection
"collection"	transaction	collection
"request"	transaction	collection
vwant	"I want"	((I, x)(x))
vwant	"I would like to"	((I, x)(x))

The lexical entries for Spanish

String	category	interpretation
"información"	inform	information
"cancelar una recogida"	cancel	cancellation
"cancelar una cita"	cancel	cancellation
"cancelar"	cancel	cancellation
"cancelación"	cancel	cancellation
"fijar una recogida"	transaction	collection
"pedir fecha"	transaction	collection
"recogida"	transaction	collection
"concertar"	transaction	collection
vwant	"quiero que"	((I, x)(x))
vwant	"me gustaria"	((I, x)(x))

Representing the application knowledge in an ontology



Obtained from an existing furniture ontology

