

Example Application

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Scope

The example application is a schema for management of car ownerships and car producers.

External Terminology Schema

- showing entity classes only -

```

:                               System
  :                               Schema
    :                               Country
      :                               Person
        :                               Owned car
          :                               Producer
            :                               Car
              :                               Owner

```

External Terminology Schema

- showing references -

```

:                               System
  :                               Schema
    :                               Country
      :                               Person
        :                               Owned car
          :                               <> Owned car 'Person 'Country ': (Country (Producer (Car
            :                               Producer
              :                               Car
                :                               Owner
                  :                               <> Owner, Car 'Producer 'Country ': (Country (Person

```

Here we have assumed that the Producer may be located in another Country. Therefore, we navigate up to the Schema and down through possibly another Country. The navigation shall apply for the Population of instances, as well. Therefore, the Schema or Population are indicated by : only, ie without a name tag.

External Terminology Schema

- showing entities and attributes -

```

:           System
  :         Schema
    :       Country
      :     Name
        :   Person
          :   Name
            : Owned car
              <> Owned car 'Person 'Country ' (
                  /Country (Name,
                    /Producer (Name,
                      /Car (No
                        :   No
                          :   Producer
                            :   Name
                              :   Car
                                :   Owner
                                  <> Owner 'Car 'Producer 'Country ' (
                                      /Country (Name,
                                        /Person (Name
                                          :   No

```

The shown attributes may be added in a pre-compilation, and they are used in the design of the end user interface.

Note that the first reference states the navigation through the Producer branch. The slashes indicate continuation from the previous line, in a one-dimensional notation.

When executing insertion of the Owned car line,

- the reference to the Producer's Car No is checked.
- If it exists,
 - the Owned car is inserted,
 - and the reference is inserted.
- If not,
 - the insertions are not carried out.

The execution may be more complex, eg that the reference in the opposite direction is updated, from Owner to Person.

External Terminology Schema - showing functions -

:		System
:	:	Schema
:	:	Country
:	:	Name Id<>
:	:	(Lh(10)<>, S<> '&(& alpha
:	:	#owned cars C(1,1)
:	:	(C(0,1)<>, Lh(9)<>, S<> '&(& number
:	:	Person
:	:	Name Id<>
:	:	(Lh(20)<>, S<> '&(& alpha
:	:	Owned car
:	:	<>
:	:	><
:	:	Owned car 'Person 'Country >< #owned cars
:	:	<>
:	:	><
:	:	Owned car 'Person 'Country >< #owned cars
:	:	<>
:	:	Owned car 'Person 'Country ': (
:	:	/Country (Name,
:	:	/Producer (Name,
:	:	/Car (No
:	:	No Id<>
:	:	(Lh(1)<>, S<> '&(& number
:	:	Producer
:	:	Name Id<>
:	:	(Lh(10)<>, S<> '&(& alphanum
:	:	Car
:	:	(S<> '&(& number
:	:	No Id<>
:	:	(S<> '&(& number
:	:	#wheels
:	:	(C(0, 1)<>, Lh(1)<>, S<> '&(& number
:	:	Owner
:	:	<>
:	:	Owner 'Car 'Producer 'Country ': (Country (Name, Person (
:	:	Name

That there is just one identifier attribute and it has only one value is incorporated in the definition of the Id function. Therefore C(1,1) needs not be stated for the identifiers.

We have indicated the increment and decrement functions, but have not shown the Conditions for when they are activated. The test may be built into these functions, as they are placed directly under the entity that is inserted or deleted.