|  |  |  |  |
| --- | --- | --- | --- |
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# Introduction

It will consist of an introductory paragraph, dealing with the problem to be solved, analyzing it and fixing the goals of the work. It will also refer the two separate files accompanying the report (*creation\_script* and *insertion\_script*). Finally, it should describe the document structure.

# Relational Design

This section is subdivided into three subsections:

* Relational Schema: the complete design (as it should be, despite of the restrictions of the tool that will be used to implement the design). The design must be notated with the *relational graph notation* (as explained in class).
* Implicit semantics: semantic presuppositions that are not found in the explicit description, but which are required to complete the relational design. Again, a tabular format is recommended for describing these presuppositions, such as the following:

|  |  |  |  |
| --- | --- | --- | --- |
| **Presp\_id** | **Stage** | **Mechanism** | **Description** |
| I1 | Design | Primary key | Cars are identified by number plate |
| I2 |  |  | … |
| … |  |  | … |

Table 1: Implicit semantics incorporated into the relational graph

* Non-observed explicit semantics: each of the explicit presuppositions (stated in the problem description) that could not be included in the relational graph, will be identified (with a label, such as S1, S2, …) and described in this section. Tabular format is recommended, as shown next:

|  |  |
| --- | --- |
| **Presp\_id** | **Description** |
| S1 | Phone numbers have 9 digits (at least, at most) |
| S2 |  |
| … | … |

Table 2: Non-observed explicit semantics

# Relational Statics Implementation in SQL (DDL)

This section must include the creation of each table. In addition to the code (*NEWcreation.sql* script) for creating tables (valid syntax in PL/SQL), you should include the correspondent subsections referring to the excluded semantics that are re-incorporated, the newly incorporated implicit semantics, and the explicit semantics that were observed but are now excluded. All these sections will be accomplishing by fulfilling the correspondent table (see tables 3, 4 and 5). Any of these tables is empty (in case), the table should be omitted and replaced by a phrase such as "Has not been reported."

Re-incorporated semantics: (identifiers referred to those assigned in table 1)

|  |  |
| --- | --- |
| **Presp\_id** | **Solution Description** |
| S1 | field size is 9; a constraint (*constraint\_name*) CHECK (phone≥100000000) is added to the table *<table\_name>* |
| … | … |

Table 3: re-incorporated explicit semantics

Incorporated implicit semantics: (numbering continues where ended in table 2)

|  |  |  |  |
| --- | --- | --- | --- |
| **Presp\_id** | **Stage** | **Mechanism** | **Description** |
| In+1 | Implem. | Check | There is no *age* greater than 120 years old |
| … |  |  | … |

Table 1(cont.): implicit semantics incorporated in the definition of each table

Excluded semantics:

|  |  |  |  |
| --- | --- | --- | --- |
| **Presp\_id** | **Description** | **Cause** | **Explicit/Implicit** |
| E1 | Contracts are automatically updated with the company’s update (integrity option UC on the FK referencing *Companies*). | PL/SQL does not observe this integrity option | Implicit |
| … | … | … |  |

Table 5: explicit semantics excluded in the creation of each table

# Workload (DML)

This section will describe the uploading of the workload (*NEWload.sql* script) from the tables provided (and described in the statement). To this end, we will analyze the problem of populating the tables with the workload. The solution will be described, with emphasis on:

* The specific order of tables to dump data into them (reasoned).
* The problems that arise (obligatory field value, inconsistencies in the original data, etc...) and the solutions adopted to overcome them.