## Database design phase 2 – Logical (and later Physical) Design

### Data Dictionary

Table descriptions

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Table name** | **Description** | **Synonyms/Aliases (to be avoided)** | **Occurrence** | **Medium / Max amount** | **Volatility** |
| RoleType | Precise the role’s type. It defines every position we can have in a project | Part, character, title, Job, position, post, task | Added whenever we need a new ability in a project. Never removed (can be re-used). | 10 / 100 |  |
| RoleNeed | Define the role we need for a project. It is the position that must be field with an employee to carry out the project | Demand, wish, commitment | Added whenever a new role is needed in a project or whenever a project is created and removed when the linked project is deleted. | 1200 / 10000 |  |
| ProjectLearner | Define the assessment of a project. Feasibility or not. This is made by a employee on a project. | Feasibility, assessment, practicability | Added in the same time as a new project is added. Removed when the project is deleted. | 300 / 1000 |  |
| ProjectWorker | Define the employee that works in project. That is the link between employee and project by the RoleNeed of the project. | ProjectEmployee, laborer, projectHand | Added whenever a employee apply for a project’s role. Removed when the project or employee is deleted. | 1200 / 10000 |  |
| Project | Detailed project that customer ordered. Eg : Telia Website, Haaga-Helia extranet, Ikea webshop, … | Work, assignment, application | Added whenever we get new projects to from a customers. | 300 / 1000 |  |
| ProjectStatus | Information about the current development completion of a project. Eg : upcoming, ongoing, completed | Completion, Advancement, Progression | Modified when a step is crossed (start, completion,…) | 3 / 3 |  |
| JobTitle | Name that describes the employee’s job in the organization | Activity, assignment, work, career, position, post, profession | Added whenever we offer new activities and need new competences. Never removed (can be re-used). | 10 / 100 |  |
| Employee | Physical person that is employed by the company. Contains all the person’s contact information such as firstname, lastname, email, etc. | Member, worker, staff member, laborer, job holder | Added whenever a new employee joins the company and removed when the employee leaves the company (resignation, retirement) | 100 / 1000 |  |
| Location | Precise place or position. Contains the name of the city where the employee lives or where the project is managed. | Position, place, situation, locality, city, spot, site, area, address | Added in the same time as a new employee is added in case the city is not already in the database. Never removed (value never changes and can be re-used). | 25 / 500 |  |
| Skill | Skills that an employee has that can be put to use in a project | Talent  Competence | List of skills added once, possible update if a new skill pops up | 50 / 150 |  |
| SkillCategory | Category of skill, each skill belongs to a category | Category | List of categories added once and for all, exceptions may occur | 10/  50 |  |
| SkillLevel | Level of skill of an employee | Competence  Talents | List added once and for all | 5/10 |  |
| SkillMarking | Table that links an employee with his skills and skill level | Competences | Updated every time an employee learns a new skill, or gets better at something | 100/9999 |  |
| Client | The client that ordered a project | Customer, Mandator | Added when a new project begins or reused if already existing in the database | 50/200 |  |

Table 1.1 Data Dictionary. Table descriptions.

Column descriptions with the data types of the chosen technical storage (Relational Database, MS SQL Server Database):

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Table name** | **Column** | **Description** | **Data type and Length** | **NULL / UNIQUE** | **Primary/Alternate key** | **Special value domain?** |
| RoleType | id | (Surrogate key) | INTEGER | NOT NULL | PK |  |
|  | name | Role’s name | VARCHAR(256) | NOT NULL, UNIQUE | AK |  |
|  |  |  |  |  |  |  |
| RoleNeed | id | (Surrogate key) | INTEGER | NOT NULL | PK |  |
|  | projectId | FK project | INTEGER | NOT NULL | FK1 |  |
|  | roleTypeId | FK roleType | INTEGER | NOT NULL | FK2 |  |
|  |  |  |  |  |  |  |
| ProjectLearner | employeeId | Primary key and FK employee | INTEGER | NOT NULL | PK, FK1 |  |
|  | projectId | Primary key and FK project | INTEGER | NOT NULL | PK, FK2 |  |
|  | isInvitation | Is from an invitation | BOOLEAN | NOT NULL |  |  |
|  | isAccepted | Acceptance of the project | BOOLEAN |  |  |  |
|  |  |  |  |  |  |  |
| ProjectWorker | employeeId | Primary key and FK employee | INTEGER | NOT NULL | PK, FK1 |  |
|  | roleNeedId | Primary key and FK roleNeed | INTEGER | NOT NULL | PK, FK2 |  |
|  | isInvitation | Is from an invitation | BOOLEAN | NOT NULL |  |  |
|  | isAccepted | Acceptance of the job | BOOLEAN |  |  |  |
|  |  |  |  |  |  |  |
| Project | id | (Surrogate key) | INTEGER | NOT NULL | PK | 1-999999 |
|  | name | Project’s name | VARCHAR(256) | NOT NULL |  |  |
|  | clientId | FK client | INTEGER | NOT NULL | FK1 |  |
|  | description | Project’s description | TEXT |  |  |  |
|  | projectStatusId | FK project status | INTEGER | NOT NULL | FK2 | 1-999999 |
|  | isLookingForMember | Information about enrollment status | BOOLEAN | NOT NULL |  |  |
|  | projectManagerId | FK employee | INTEGER | NOT NULL | FK3 | 1-999999 |
|  | locationId | FK location | INTEGER | NOT NULL | FK4 | 1-999999 |
|  |  |  |  |  |  |  |
| ProjectStatus | id | (Surrogate key) | INTEGER | NOT NULL | PK | 1-999999 |
|  | name | Status’ name | VARCHAR(256) | NOT NULL |  |  |
|  |  |  |  |  |  |  |
| Skill | id | (Surrogate key) | INTEGER | NOT NULL | PK | 1-999 |
|  | name | Name of the skill | VARCHAR(256) | NOT NULL | AK | - |
|  | skillCategoryId | FK skill category | INTEGER | NOT NULL | FK1 |  |
|  |  |  |  |  |  |  |
| SkillCategory | id | (Surrogate key) | INTEGER | NOT NULL | PK | 1-99 |
|  | name | Name of the skill category | VARCHAR(256) | NOT NULL | AK | - |
|  |  |  |  |  |  |  |
| SkillLevel | id | (Surrogate key) | INTEGER | NOT NULL | PK | 1-10 |
|  | name | Name of the skill level | VARCHAR(256) | NOT NULL | AK | - |
|  |  |  |  |  |  |  |
| SkillMarking | employeeId | Id ot the employee | INTEGER | NOT NULL | PK, FK1 | 1-9999 |
|  | skillId | Id ot the skill | INTEGER | NOT NULL | PK, FK2 | 1-999 |
|  | skillLevelId | Id ot the skill level | INTEGER | NOT NULL | FK3 | 1-10 |
|  |  |  |  |  |  |  |
| Employee | id | (Surrogate key) | INTEGER | NOT NULL | PK |  |
|  | lastName | Last name | VARCHAR(256) | NOT NULL |  |  |
|  | firstName | First name | VARCHAR(256) | NOT NULL |  |  |
|  | email | E-mail address | VARCHAR(256) | UNIQUE | AK1 |  |
|  | isBooked | Availability | BOOLEAN | NOT NULL |  |  |
|  | passwordHash | Hashed password | VARCHAR(256) | NOT NULL |  |  |
|  | jobTitleId | FK job title | INTEGER | NOT NULL | FK1 |  |
|  | locationId | FK location | INTEGER | NOT NULL | FK2 |  |
|  |  |  |  |  |  |  |
| JobTitle | id | (Surrogate key) | INTEGER | NOT NULL | PK |  |
|  | name | Job title | VARCHAR(256) | UNIQUE | AK |  |
|  |  |  |  |  |  |  |
| Location | id | (Surrogate key) | INTEGER | NOT NULL | PK |  |
|  | name | City’s name | VARCHAR(256) | UNIQUE | AK |  |
|  |  |  |  |  |  |  |
| Client | id | (Surrogate key) | INTEGER | NOT NULL | PK |  |
|  | name | Client’s name | VARCHAR(256) | NOT NULL |  |  |

Table 1.2 Data Dictionary. Column descriptions.