## horizontal line

CS-360



Project Report

09.04.2023

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Isidoros Chatzichrisos

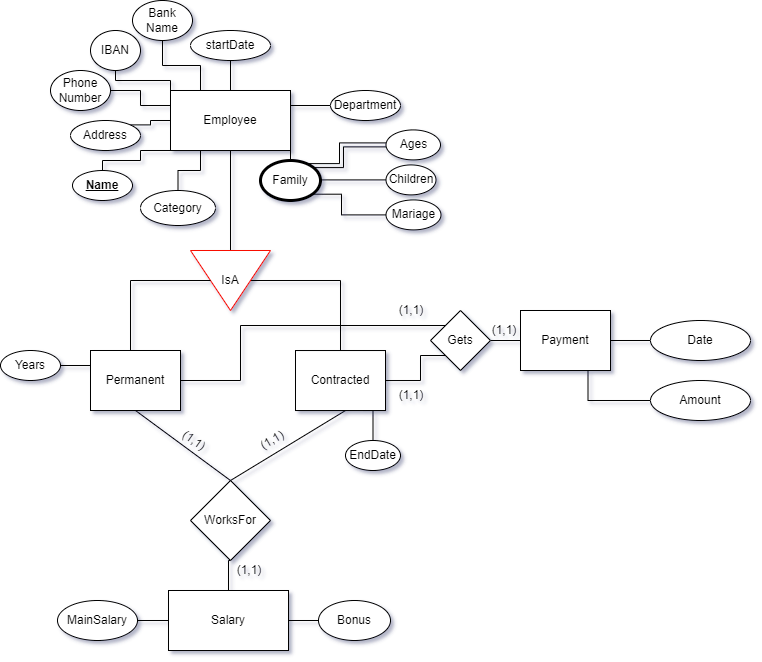
Theodoros Pontzouktzidis

Alexandros Markodimitrakis

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# ER Diagram.



# Entities (Names,Types,Keys,Cardinalities).

**Permanent:**

Name (String)

Address (String)

Phone Number (String)

IBAN (String)

BankName (String)

StartDate (DATE:SQL)

SalaryID (uint32)

Department (String)

Children (SMALLINT:SQL unsigned)

Mariage (Bool)

Category (BIT:SQL)

Years(TINYINT:SQL unsigned)

**Contracted:**

Name (String)

Address (String)

Phone Number (String)

IBAN (String)

BankName (String)

StartDate (DATE:SQL)

SalaryID (uint32)

Department (String)

Children (SMALLINT:SQL unsigned)

Mariage (Bool)

Category (BIT:SQL)

EndDate(DATE:SQL)

**Ages:**

Name (String)

Age (ENUM:SQL)

**Salary:**

*Name* (String)

Bonus (uint32)

MainSalary (uint32)

**Payment:**

*Name* (String)

Date (DATE:SQL)

Amount (uint32)

| **ENTITY** | **PRIMARY KEY** |
| --- | --- |
| Permanent | Name |
| Contracted | Name |
| Ages | Name  (foreign key from permanent or contracted) |
| Salary | Name  (foreign key from permanent or contracted) |
| Payment | Name  (foreign key from permanent or contracted) |

\* We divided Employee Entity in 2 Entities **Permanent** and **Contracted** so we can lower the cost of searching in the DB.

| **Entity(Cardinality)** | **Relation** | **(Cardinality)Entity** |
| --- | --- | --- |
| Permanent(1,1) | Gets | (1,1)Payment |
| Permanent(1,1) | WorksFor | (1,1)Salary |
| Contracted(1,1) | Gets | (1,1)Payment |
| Contracted(1,1) | WorksFor | (1,1)Salary |

\* We use Min,Max orientation. Also every Cardinality is set to 1,1 because each employee name can exist to one payment and salary and Each payment or salary relates to only one employee.

# Relational Model.

**Permanent**

| **Name** | Address | Phone Number | IBAN | BankName | StartDate | SalaryID | Department | Children | Mariage | Category | Years |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |

**Contracted**

| **Name** | Address | Phone Number | IBAN | BankName | StartDate | SalaryID | Department | Children | Mariage | Category | EndDate |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |

**Ages**

| **Name** | **Age** |
| --- | --- |

**Salary**

| *Name* | Bonus | MainSalary |
| --- | --- | --- |

**Payment**

| *Name* | Date | Amount |
| --- | --- | --- |

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# 

# Keys & Functional Dependencies.

# 3NF Without Data Loss.

# Testing & Screenshots.

# Comments.