

Report 10 - Magazine Database

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1 Determine concepts that needs to be stored

In this NGO, we have director in each head office manages project based on some particular action in each city

- person
- office
- project
- action
- city

2 Determine attributes of each concept

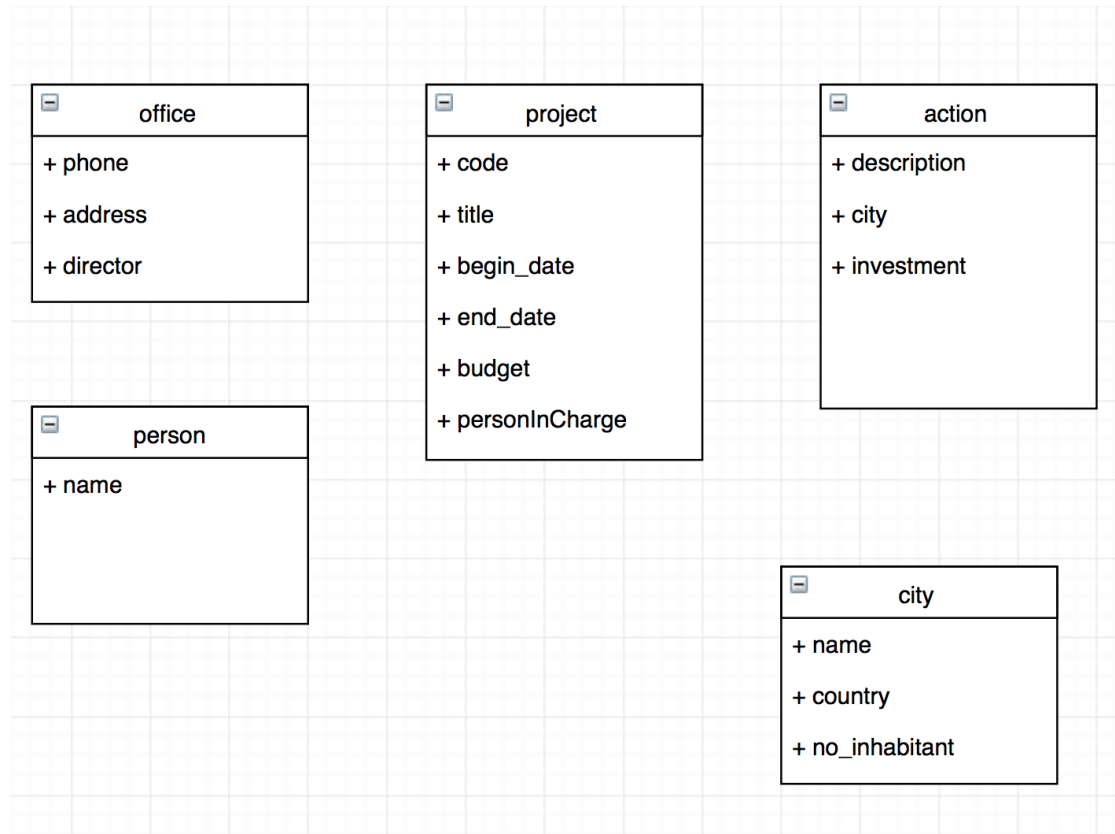


Figure 1: Determine Attribute

3 Determine links (relationships) between them

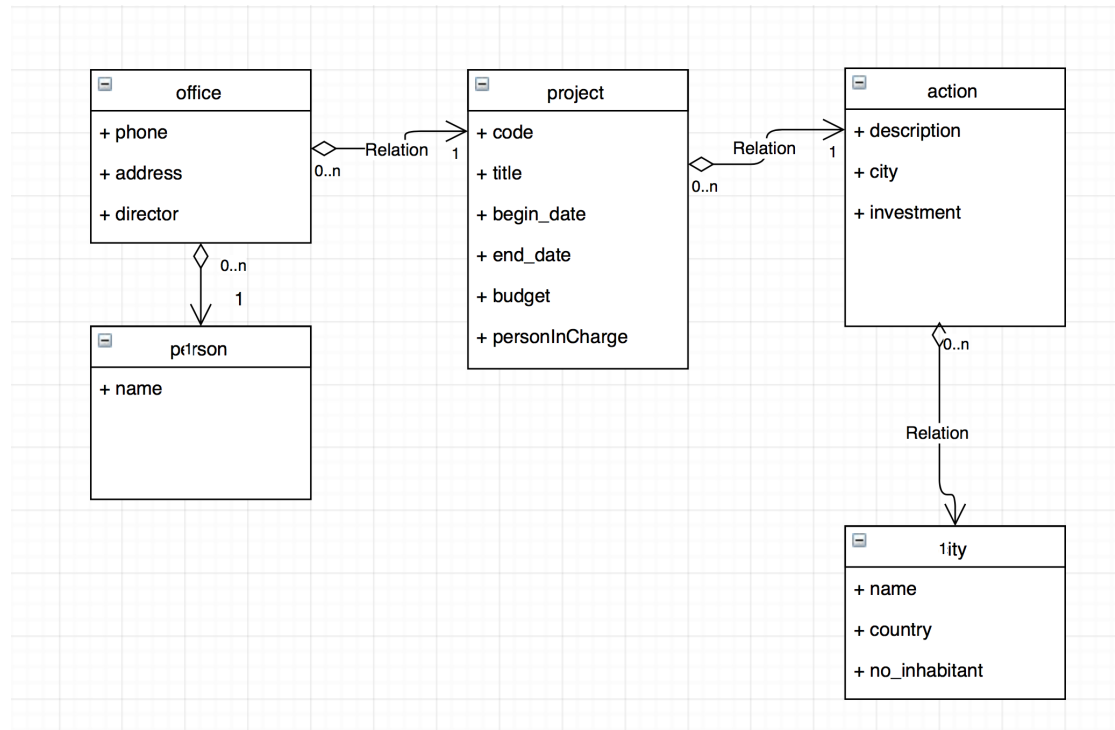


Figure 2: Determine relationship

4 Determine types of each concept attribute

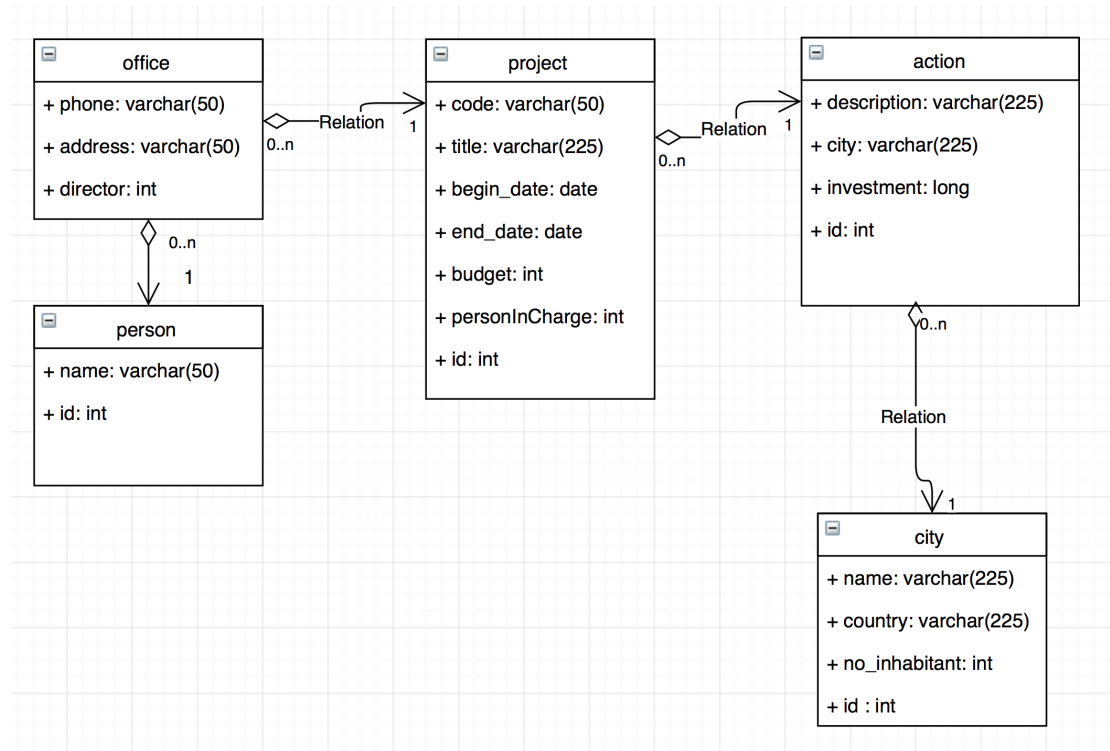


Figure 3: Determine attribute type

5 Solve foreign key links

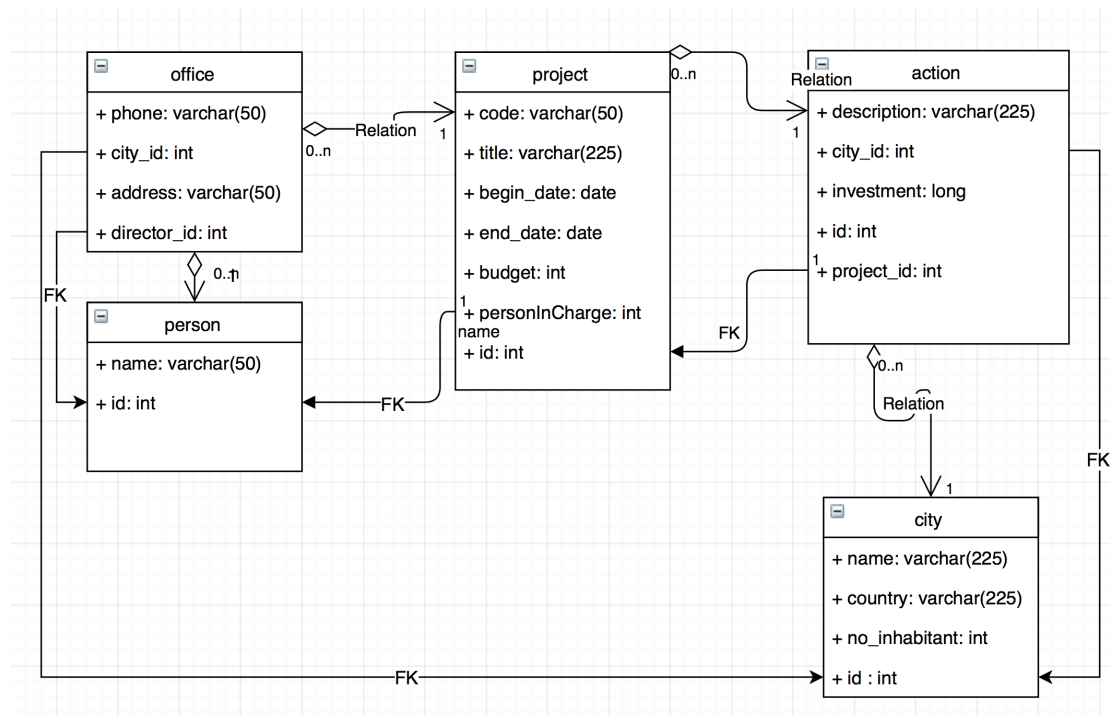


Figure 4: Solve Foreign Key

6 Implementation

```
create database ngo;
use ngo;
CREATE TABLE person (
    id INT NOT NULL AUTO_INCREMENT,
    name VARCHAR(225),
    PRIMARY KEY (id)
);
```

```
CREATE TABLE city (
    id INT NOT NULL AUTO_INCREMENT,
    country VARCHAR(225),
    no_inhabitant INT,
    name VARCHAR(225),
```

```

        PRIMARY KEY (id)
    );

CREATE TABLE office (
    id INT NOT NULL AUTO_INCREMENT,
    phone VARCHAR(225),
    address VARCHAR(225),
    director_id INT,
    city_id INT,
    PRIMARY KEY (id),
    FOREIGN KEY (director_id) REFERENCES person(id),
    FOREIGN KEY (city_id) REFERENCES city(id)
);

CREATE TABLE project (
    id INT NOT NULL AUTO_INCREMENT,
    code VARCHAR(50),
    title VARCHAR(225),
    begin_date DATE,
    end_date DATE,
    budget INT,
    personInCharge INT,
    PRIMARY KEY (id),
    FOREIGN KEY (personInCharge) REFERENCES person(id)
);

CREATE TABLE action (
    id INT NOT NULL AUTO_INCREMENT,
    description VARCHAR(225),
    investment INT,
    project_id INT,
    city_id INT,
    PRIMARY KEY (id),
    FOREIGN KEY (city_id) REFERENCES city(id),
    FOREIGN KEY (project_id) REFERENCES project(id)
);

```

Describe table

```
DESCRIBE person;
```

Field	Type	Null	Key	Default	Extra
-------	------	------	-----	---------	-------

```

|
+-----+-----+-----+-----+-----+-----+
| id      | int(11)      | NO    | PRI | NULL      | auto_increment |
| name    | varchar(225) | YES   |     | NULL      |                 |
+-----+-----+-----+-----+-----+-----+
2 rows in set (0.00 sec)

```

DESCRIBE office;

```

+-----+-----+-----+-----+-----+-----+
| Field      | Type          | Null | Key | Default | Extra           |
+-----+-----+-----+-----+-----+-----+
| id         | int(11)       | NO   | PRI | NULL     | auto_increment |
| phone      | varchar(225)  | YES  |     | NULL     |                 |
| address    | varchar(225)  | YES  |     | NULL     |                 |
| director_id | int(11)       | YES  | MUL | NULL     |                 |
| city_id    | int(11)       | YES  | MUL | NULL     |                 |
+-----+-----+-----+-----+-----+-----+
5 rows in set (0.01 sec)

```

DESCRIBE project;

```

+-----+-----+-----+-----+-----+-----+
| Field      | Type          | Null | Key | Default | Extra           |
+-----+-----+-----+-----+-----+-----+
| id         | int(11)       | NO   | PRI | NULL     | auto_increment |
| code       | varchar(50)   | YES  |     | NULL     |                 |
| title      | varchar(225)  | YES  |     | NULL     |                 |
| begin_date | date          | YES  |     | NULL     |                 |
| end_date   | date          | YES  |     | NULL     |                 |
+-----+-----+-----+-----+-----+-----+

```

budget	int(11)	YES		NULL	
personInCharge	int(11)	YES	MUL	NULL	

7 rows in set (0.00 sec)

DESCRIBE action;

Field	Type	Null	Key	Default	Extra
id	int(11)	NO	PRI	NULL	auto_increment
description	varchar(225)	YES		NULL	
investment	int(11)	YES		NULL	
project_id	int(11)	YES	MUL	NULL	
city_id	int(11)	YES	MUL	NULL	

5 rows in set (0.00 sec)

DESCRIBE city;

Field	Type	Null	Key	Default	Extra
id	int(11)	NO	PRI	NULL	auto_increment
country	varchar(225)	YES		NULL	
no_inhabitant	int(11)	YES		NULL	
name	varchar(225)	YES		NULL	