

DBMS Project Descriptions

系統架構與環境

Ubuntu 17.10 + Python3.6.3 + mysql 5.7.22

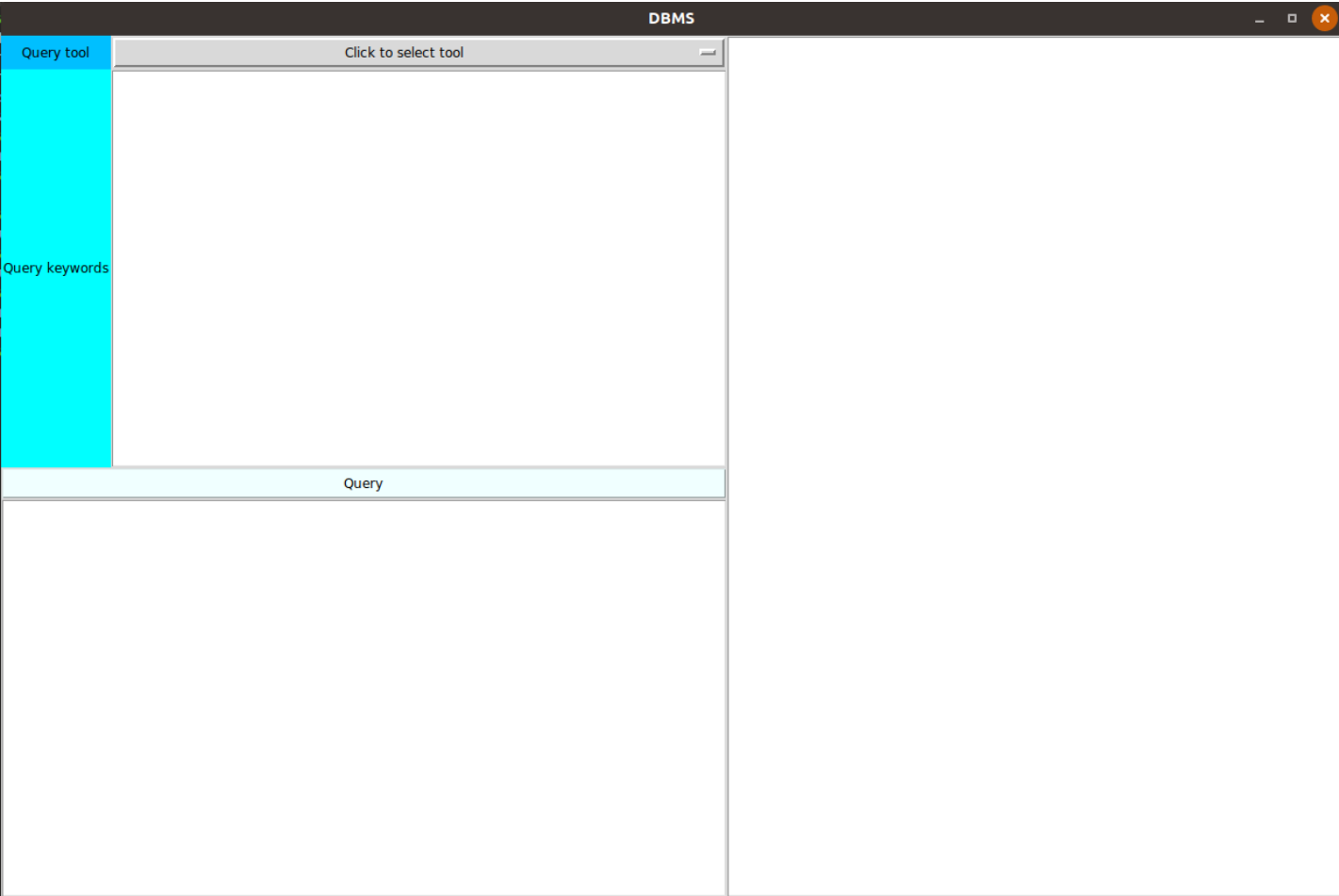
```
slahuat0727:databasse_project$ lsb_release -a
No LSB modules are available.
Distributor ID: Ubuntu
Description:    Ubuntu 17.10
Release:        17.10
Codename:       artful
slahuat0727:databasse_project$ python3 -V
Python 3.6.3
slahuat0727:databasse_project$ mysql -V
mysql Ver 14.14 Distrib 5.7.22, for Linux (x86_64) using EditLine wrapper
```

介面截圖與使用說明

提供 button 及 query 兩種操作界面，button 為一些經過設計的功能，query 則可以按 mysql 的查詢方式進行查詢。

您使用 query 進行查詢時，必須先將 tool 選擇為 mysql

起始畫面



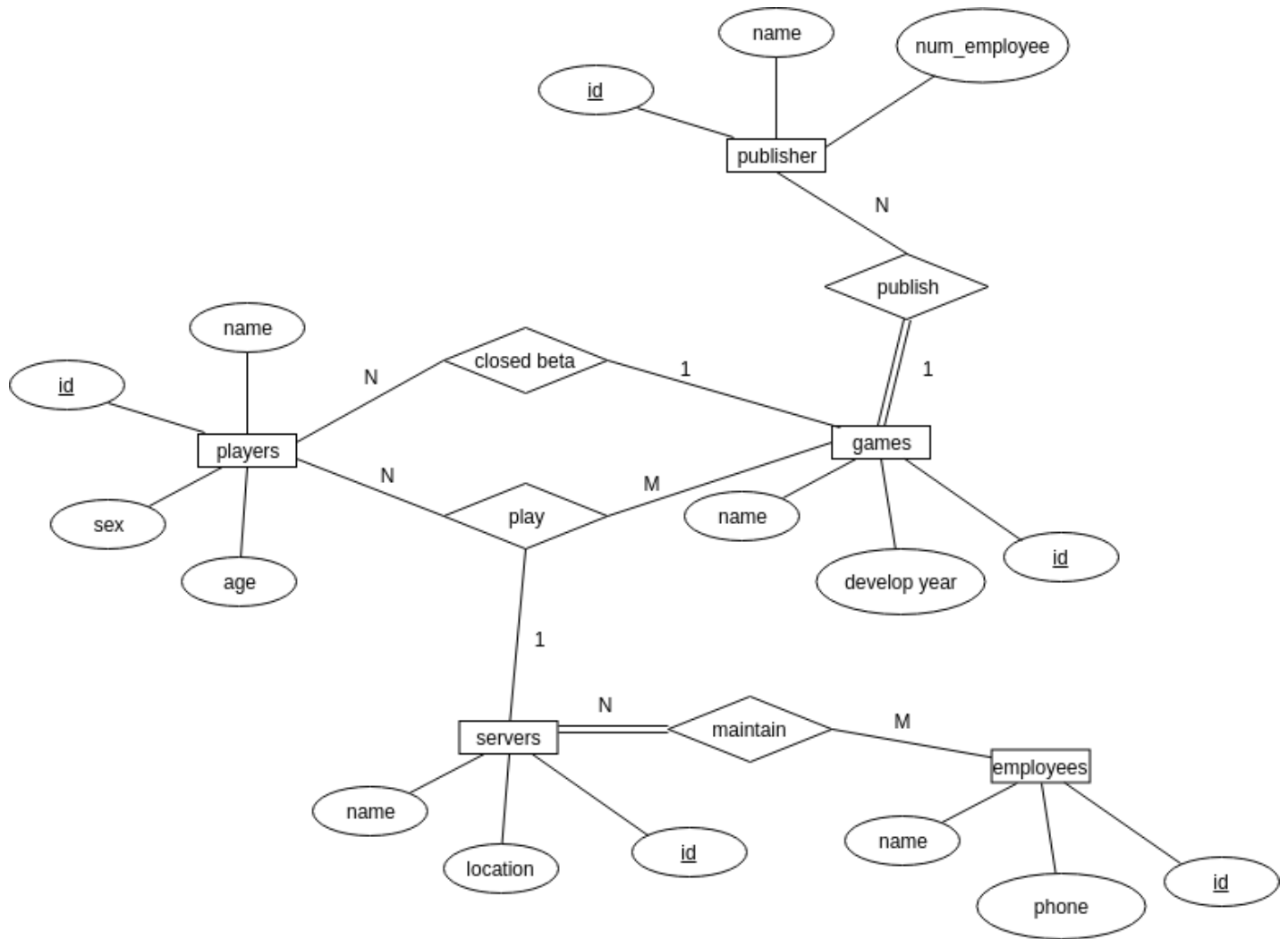
Button 功能

DBMS		
Query tool	SUM total closed player	
Query keywords	mysql	
	display all player	
	MIN MAX AVG of players	
	SELECT FROM WHERE player age < 20	
	INSERT Sharon	
	DELETE Sharon	
	UPDATE Ming	
	closed beta of game	
	SUM total closed player	
	num_close_beta > 2(HAVING COUNT)	
expert employee(IN)		
leisure employee(NOT IN)		
Japan employee(EXISTS)		
Pure not Japan E(NOT EXISTS)		
Query		
<pre> SELECT SUM(A.num) as total_closed_player FROM (SELECT COUNT(p.id) as num FROM r_closed_beta as r, players as p, games as g WHERE g.id = r.game_id AND p.id = r.player_id GROUP BY g.name) AS A </pre>		<pre> +-----+ total_closed_player +-----+ 146 +-----+ </pre>

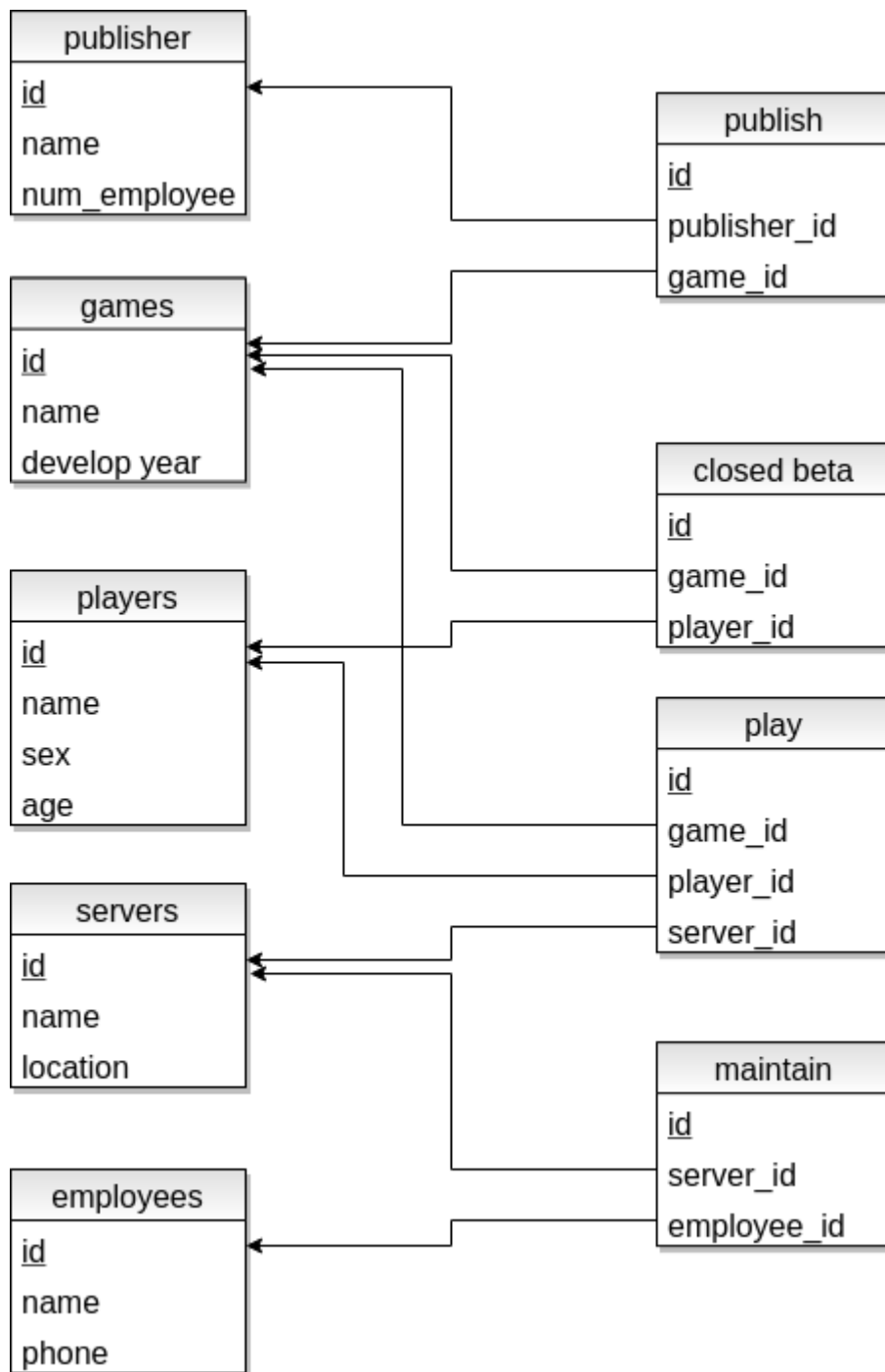
Query 查詢

DBMS		
Query tool	mysql	
Query keywords	SELECT DISTINCT e.name, e.phone	
	FROM employees as e, r_maintain as rm	
	WHERE e.id = rm.employee_id and rm.server_id IN	
	(
	SELECT s.id	
	FROM r_play as r, servers as s, players as p	
	WHERE s.id = r.server_id AND p.id = r.player_id	
	GROUP BY s.id	
	HAVING COUNT(p.id) > 3	
)	
Query		
enter your query		
		<pre> +-----+ name phone +-----+ employee_23 0918799136 employee_1 0918944115 employee_3 0918445420 employee_16 0918779938 employee_5 0918084701 employee_25 0918240542 employee_4 0918186202 employee_14 0918505445 +-----+ </pre>

ER Diagram



Relation Schema



Project 簡介

一個 server 遍佈全球各地的大遊戲平臺爲了方便管理玩家資訊及伺服器維護人員聯絡資訊而設計的資料庫系統。

Table 簡介

- players - 記錄每個玩家的資訊
 - id - DB key constraint

- name - 玩家名字(在遊戲中顯示)
- age - 玩家年齡（限制遊戲類型）
- sex - 性別（後續分析）
- games - 記錄遊戲資訊
 - id - DB key constraint
 - name - 遊戲名字
 - develop year - 記錄開發年份
- servers - 伺服器（玩家在玩該遊戲時使用的伺服器，不同伺服器可能有不同特性）
 - id - DB key constraint
 - name - server 名稱
 - location - server 地點，當發生問題時有助於知道該聯絡哪裡的工作人員維修
- employees - server 維護人員，負責不定時維護系統
 - id - DB key constraint
 - name - server 名稱
 - phone - 電話號碼，方便聯絡
- publisher - 遊戲開發商
 - id - DB key constraint
 - name - 公司名稱
 - num_employee - 該公司的員工數量

```
mysql> describe players;
```

Field	Type	Null	Key	Default	Extra
id	int(11)	NO	PRI	NULL	auto_increment
name	varchar(20)	NO		NULL	
sex	char(1)	NO		NULL	
age	int(11)	NO		NULL	

```
4 rows in set (0.00 sec)
```

```
mysql> describe games;
```

Field	Type	Null	Key	Default	Extra
id	int(11)	NO	PRI	NULL	auto_increment
name	varchar(30)	NO		NULL	
develop_year	int(11)	NO		NULL	

```
3 rows in set (0.00 sec)
```

```
mysql> describe servers;
```

Field	Type	Null	Key	Default	Extra
id	int(11)	NO	PRI	NULL	auto_increment
name	varchar(30)	NO		NULL	
location	varchar(30)	NO		NULL	

```
3 rows in set (0.00 sec)
```

```
mysql> describe employees;
```

Field	Type	Null	Key	Default	Extra
id	int(11)	NO	PRI	NULL	auto_increment
name	varchar(30)	NO		NULL	
phone	varchar(20)	NO		NULL	

```
3 rows in set (0.00 sec)
```

```
mysql> describe publishers;
```

Field	Type	Null	Key	Default	Extra
id	int(11)	NO	PRI	NULL	auto_increment
name	varchar(30)	NO		NULL	
num_employee	int(11)	NO		NULL	

```
3 rows in set (0.00 sec)
```

Relationship 簡介

- play - 記錄玩家在玩哪個遊戲時登錄哪個 server
- closed_play - 記錄遊戲的內測玩家
- publish - 記錄遊戲由哪家公司開發
- maintain - 記錄哪些 server 由哪些工程師維護

```
mysql> describe r_play;
```

Field	Type	Null	Key	Default	Extra
id	int(11)	NO	PRI	NULL	auto_increment
player_id	int(11)	YES	MUL	NULL	
server_id	int(11)	YES	MUL	NULL	
game_id	int(11)	YES	MUL	NULL	

4 rows in set (0.00 sec)

```
mysql> describe r_closed_beta;
```

Field	Type	Null	Key	Default	Extra
id	int(11)	NO	PRI	NULL	auto_increment
player_id	int(11)	YES	MUL	NULL	
game_id	int(11)	YES	MUL	NULL	

3 rows in set (0.00 sec)

```
mysql> describe r_publish;
```

Field	Type	Null	Key	Default	Extra
id	int(11)	NO	PRI	NULL	auto_increment
game_id	int(11)	YES	MUL	NULL	
publisher_id	int(11)	YES	MUL	NULL	

3 rows in set (0.00 sec)

```
mysql> describe r_maintain;
```

Field	Type	Null	Key	Default	Extra
id	int(11)	NO	PRI	NULL	auto_increment
server_id	int(11)	YES	MUL	NULL	
employee_id	int(11)	YES	MUL	NULL	

3 rows in set (0.00 sec)