



POLYTECHNIC UNIVERSITY OF THE PHILIPPINES

Polytechnic University of the Philippines  
**COLLEGE OF COMPUTER AND INFORMATION SCIENCES**  
A. Mabini Campus, Sta. Mesa, Manila

**Barangay Muzon Information Management System (BMIMS)  
& The Official Website of Barangay Muzon**

<https://bmms.000webhostapp.com/admin/index.php>  
<https://bmms.000webhostapp.com/public/index.php>

In Partial Fulfillment of the Requirements for  
**COMP 20213 – DATABASE ADMINISTRATION (DBA)**

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**TECHNICAL REPORT**



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## POLYTECHNIC UNIVERSITY OF THE PHILIPPINES

### I. Introduction

Barangay Muzon is the client of this project which is small neighborhood (313 hectares) in Naic, Cavite with a total population of 2,491 last 2017. This section will briefly introduce the background of the said organization. The administration is currently enforcing a self-analysis through a *Barangay Performance Management System (BGPMS)* that defines key primary indicators (KPIs) of the main service sectors. The BGPMS is a protocol mandated by *Department of the Interior and Local Government* (DILG) of Region IV-A CALABARZON. Their development thrust is as follows:

#### PANANAW

*Sambayanang nagkakaisa at may pagmamalasakit sa mamayan; magkakabalikat sa pagtamo ng bawat adhikain tungo sa pagulong at pag-unlad.*

#### MISYON

*Imulat ang mga mamamayan sa isang sambayang malinis, maayos, maunlad, at nagkakaisa sa pamamagitan ng pagsunod sa batas ng tao at batas ng Diyos.*

#### HANGARIN

*Maisakatuparan ang lahat ng mga plano na isinagawa sa programang pangkaunlaran na ito sa loob ng anim na taon, upang matamasa ng mga mamayan ang mas mataas na antas ng pampublikong serbisyo.*



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The organization would like to take their vision and values a step further by moving their BGPMS from a traditional file processing to a more technology-advanced approach. Mayor Felicita R. Imbis commits to digitizing at least 50% of the BGPMS before the end of 2021. BGPMS was then broken down into smaller stand-alone subsystems. One of which is the web-based system presented in this paper. Mayor Imbis pledges to continue and finish this project if she will be elected again in the next term. Furthermore, the mayor guarantees that the stand-alone systems will then be integrated and centralized if so.



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### II. Project Overview

As mandated by the 1991 Local Government Code, every neighborhood must adhere to the *Barangay Governance Performance Management System* (BGPMS). One aspect of this system is to fill out *Data Capture Forms* (DCF) every 5 years. DCF data ranges from resident information to primary data from external agencies (*Rural Health unit, Municipal Planning & Development Office, and Barangay Nutrisyon Iskolar*). After data collection, the barangay will then have to submit their report findings (*Ulat Kabatiran ng Pamamahala*).

The council is also having a hard time in efficiently handling blotter cases with traditional file processing system. As reports file up, the councils' tendency was performing a *Last In, First Out* (FIFO) scheduling instead of *First In, First Out* (FIFO). Not only is the manual system time inefficient in terms of processing, the officials of the barangay also couldn't provide an answer with absolute certainty whenever asked by a governing body of whether a certain resident currently has a pending case.

Due to the massive amount of data that has to be tracked, the officiating body is gearing towards the need for a computer-based information system. Hence, the website herewith in will provide such system for internal-based information.

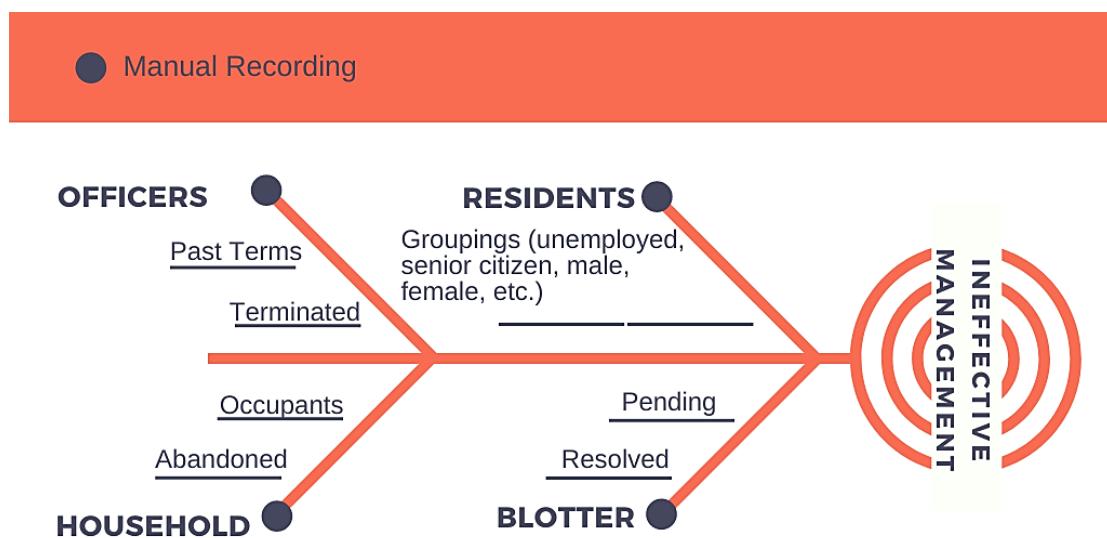


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### III. Statement of the Problem and Proposed Solution

#### Statement of the Problem

The leaders of the community abide by the BGPMS through traditional file processing system. This poses problems every district assessment since multitude of files should be created and updated. These files include data analysis such as age distribution of the population, rates of migration and immigration, percentage of religions, labor force, etc. Furthermore, the trust of the public is not optimized because of the notion that manual recording and checking is prone to blunders. Specifically, the proponent ought to solve the issue shown in the diagram below.



**Figure III—1. Fish Bone Diagram of Problem Analysis**



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### Proposed Solution

A web-based management system may not solve every technical problem that the local unit faces. However, it shall be the establishment, and stepping stone towards a more advanced approach to handling data. It undertakes swift, and easier maintenance of resident information since an employee won't have to manually search for a record in the barangay's journal. One would be able to filter a group of individuals according to a given condition in just a few clicks. Archived files will no longer take physical space, some of which were washed out since the neighborhood is prone to floods. For the last few years, numerous housings were also built in the north, near the boundary of *Barangay Labac*. At some point, as the population grows, a digital management system will no longer be just a privilege, but a necessity. The following lists the functionalities of BMIMS in response to the problems imposed by the current, manual system of the organization.

#### 1. Database Back-up

- 1.1. Automatic weekly back-up of the database
- 1.2. Manual export to csv through the admin website.

#### 2. Login & Account Management

- 2.1. Password update
- 2.2. Strong password requirement
- 2.3. Only the master admin can create and revoke an account for the officers.



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### 3. Dashboard

- 3.1. Population groupings
- 3.2. Officials
  - 3.2.1. List of current officials
  - 3.2.2. Insert new cycle
  - 3.2.3. Terminate an official
  - 3.2.4. Printable list of current officials

### 4. Residents

- 4.1. Displays list residents
- 4.2. Register a new resident
- 4.3. Update information of a resident
- 4.4. Archive a resident
- 4.5. Search residents by any attribute (first name, last name, age, house number, etc.)
- 4.6. Printable list of residents

### 5. Household

- 5.1. Displays list of households
- 5.2. Provision for copying the address (house number and street to clipboard)
  - used for filtering the list of residents based on where they live.
- 5.3. Printable list of households



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### 6. Blotter

- 6.1. Displays list of pending cases
- 6.2. View case details
- 6.3. Insert a new case
- 6.4. Search a case by any attribute (complainant name, complained resident name, etc.)
- 6.5. Settle a pending case
- 6.6. Printable list of pending cases

### 7. Archives

- 7.1. Displays history of officers
- 7.2. Displays list of terminated officers
- 7.3. Displays list of archived residents
  - 5.3.1. Restore archived resident
- 7.4. Displays list of unoccupied units
- 7.5. Displays list of resolved blotter cases
- 7.6. View resolved blotter case details
- 7.7. Printable list of every tables.



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### IV. Table Descriptions

In order to implement the functional requirements mentioned in the last section, the following tables were created: **administrator**, **blotter**, **complainant\_outsider**, **household**, **officer**, **resident**, **resolution**, **terminated\_officer**, **request**, and **document**. For every table presented in this chapter, those highlighted in yellow indicates **AUTO\_INCREMENT**, whilst those in green indicates **DEFAULT\_GENERATED**.

From these tables, several views were created which are discussed in Chapter VII.

*Table IV-1. household*

Field	Type	Null	Key	Default
house_no	CHAR(10)	No	PRI	NULL
street	ENUM ( 'A. Bonifacio', 'Callejon II', 'D. Silang', 'Diosomito', 'E. Aguinaldo', 'E. Balagtas', 'E. Jacinto', 'Lapu-Lapu', 'Lopez', 'M. Agoncillo', 'M. Aquino' )	No	PRI	NULL



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household_status	ENUM ( 'Active', 'Deleted' )	No		Active
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Records of **household** table are not field inputs of the users, instead it is derived from the **resident** table below. Whenever a new address is specified for a resident, a corresponding record is inserted in **household**. Furthermore, **ENUM** data type was also used whenever possible for compact data storage, and readable queries.

**Table IV-2. resident**

Field	Type	Null	Key	Default
resident_id	INT UNSIGNED	No	PRI	NULL
fname	VARCHAR(50)	No		NULL
mname	VARCHAR(50)	Yes		NULL
lname	VARCHAR(50)	No		NULL
sex	ENUM ( 'Male', 'Female' )	No		NULL



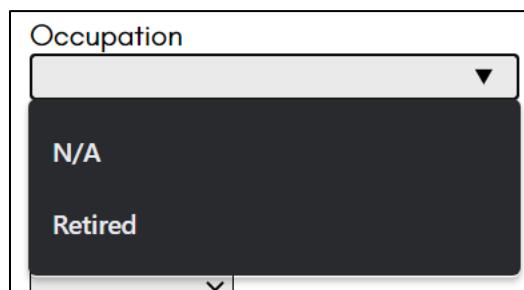
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<b>bday</b>	DATE	No		NULL
<b>educ</b>	ENUM ( 'Some Elementary', 'Elementary Graduate', 'Some High School', 'High School Graduate', 'Some College', 'College Graduate', 'Vocational', 'Advanced Degree', 'N/A' )	No		NULL
<b>occupation</b>	VARCHAR(50)	No		NULL
<b>citizenship</b>	VARCHAR(30)	No		Filipino
<b>religion</b>	ENUM ( 'Non-religious', 'Christian', 'Iglesia ni Cristo', 'Islam', 'Jehovah', 'Roman Catholic', 'Sabbath', 'Others' )	No		NULL
<b>contact_no</b>	CHAR(11)	No		NULL
<b>civil_status</b>	ENUM ( 'Annulled', 'Married', 'Separated', )	No		NULL



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	'Single', 'Widowed' )			
resident_status	ENUM ('Active', 'Deleted' )	No		NULL
house_no	CHAR(10)	No	MUL	NULL
street	ENUM ('A. Bonifacio', 'Callejon II', 'D. Silang', 'Diosomito', 'E. Aguinaldo', 'E. Balagtas', 'E. Jacinto', 'Lapu-Lapu', 'Lopez', 'M. Agoncillo', 'M. Aquino' )	No	MUL	NULL



**Figure IV—1. occupation Field**



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As shown in the previous figure, through a scripting language, the **occupation** field suggests answers but is not limited to the options provided. Moreover, the **house\_no**, and **street** are foreign keys that refers to **household**.

**Table IV-3. complainant\_outsider**

Field	Type	Null	Key	Default
<b>complainant_outsider_id</b>	INT UNSIGNED	No	PRI	NULL
<b>fname</b>	VARCHAR(50)	No		NULL
<b>mname</b>	VARCHAR(50)	Yes		NULL
<b>lname</b>	VARCHAR(50)	No		NULL
<b>contact_no</b>	CHAR(11)	No		NULL
<b>house_no</b>	CHAR(10)	No		NULL
<b>street</b>	VARCHAR(30)	No		NULL
<b>barangay</b>	VARCHAR(30)	No		NULL
<b>city_town</b>	VARCHAR(30)	No		NULL
<b>province</b>	VARCHAR(30)	Yes		NULL



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**Table IV-4. blotter**

Field	Type	Null	Key	Default
<b>blotter_id</b>	INT UNSIGNED	No	PRI	NULL
<b>date_time_reported</b>	DATETIME	No		CURRENT_TIMESTAMP
<b>incident_date_time</b>	DATETIME	No		NULL
<b>incident_place</b>	VARCHAR(255)	No		NULL
<b>blotter_status</b>	ENUM ('Pending', 'Settled', 'Filed to Action')	No		NULL
<b>offense_subject</b>	VARCHAR(255)	No		NULL
<b>incident_narrative</b>	VARCHAR(2000)	No		NULL
<b>complained_resident_id</b>	INT UNSIGNED	No	MUL	NULL
<b>guardian_complained_resident_id</b>	INT UNSIGNED	Yes	MUL	NULL
<b>complainant_resident_id</b>	INT UNSIGNED	Yes	MUL	NULL
<b>complainant_outsider_id</b>	INT UNSIGNED	Yes	MUL	NULL



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Offense Subject

- ▼
- Arson
- Assault & Battery
- Child abuse
- Cyber Crime
- Domestic Abuse
- Fraud
- Illegal Possession of Firearms
- Kidnapping
- Rape
- Theft

As shown by `blotter_status` in the previous table, a case record could only be one of the following: pending, settled, or filed to action. Settled is indicated whenever the problem was resolved locally, i.e., within the *barangay*. A case is filed to action whenever the *barangay* can no longer handle the situation, and is passed to a higher government unit. Furthermore, the figure on the left shows that the `offense_subject` field suggests answers using a different programming language, but is not limited

**Figure IV—2.**  
`offense_subject` Field to the options provided.

**Table IV-5. resolution**

Field	Type	Null	Key	Default
<code>resolution_id</code>	INT UNSIGNED	No	PRI	NULL
<code>date_time_reported</code>	DATETIME	No		CURRENT_TIMESTAMP
<code>incident_date_time</code>	DATETIME	No		NULL
<code>date_resolved</code>	DATE	No		NULL
<code>incident_place</code>	VARCHAR(255)	No		NULL



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<b>blotter_status</b>	ENUM ( 'Pending', 'Settled', 'Filed to Action' )	No		NULL
<b>offense_subject</b>	VARCHAR(255)	No		NULL
<b>incident_narrative</b>	VARCHAR(2000)	No		NULL
<b>resolution_narrative</b>	VARCHAR(2000)	No		NULL
<b>complained_resident_id</b>	INT UNSIGNED	No	MUL	NULL
<b>guardian_complained_resident_id</b>	INT UNSIGNED	Yes	MUL	NULL
<b>complainant_resident_id</b>	INT UNSIGNED	Yes	MUL	NULL
<b>complainant_outsider_id</b>	INT UNSIGNED	Yes	MUL	NULL

**Table IV-6. officer**

Field	Type	Null	Key	Default
<b>officer_id</b>	INT UNSIGNED	No	PRI	NULL
<b>officer_position</b>	ENUM ( 'Captain', 'Secretary', 'Treasurer', )	No		NULL



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	'Chairman of Committee on Agriculture', 'Chairman of Committee on Sports and Education', 'Chairman of Committee on Health', 'Chairman of Committee on Peace and Order', 'Chairman of Committee on Environmental Protection', 'Chairman of Committee on Budget and Appropriations', 'Chairman of Committee on Public Works', 'Youth Council Chairman' )			
<b>start_date</b>	DATE	No		CURDATE
<b>end_date</b>	DATE	Yes		NULL
<b>officer_status</b>	ENUM ( 'Current', 'Past' )	No		NULL
<b>resident_id</b>	INT UNSIGNED	No	MUL	NULL

**Table IV-7. terminated\_officer**

Field	Type	Null	Key	Default
<b>terminated_officer_id</b>	INT UNSIGNED	No	PRI	NULL
<b>officer_position</b>	ENUM ( 'Captain', 'Secretary',	No		NULL



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	'Treasurer', 'Chairman of Committee on Agriculture', 'Chairman of Committee on Sports and Education', 'Chairman of Committee on Health', 'Chairman of Committee on Peace and Order', 'Chairman of Committee on Environmental Protection', 'Chairman of Committee on Budget and Appropriations', 'Chairman of Committee on Public Works', 'Youth Council Chairman' )			
<b>start_date</b>	DATE	No		NULL
<b>date_terminated</b>	DATE	No		NULL
<b>cause_of_termination</b>	ENUM ( 'Resignation', 'Transfer of Residence', 'Transfer of Place of Work', 'Withdrawal of Appointment' )	No		NULL
<b>termination_narrative</b>	VARCHAR(2000)	No		NULL
<b>resident_id</b>	INT UNSIGNED	No	MUL	NULL

In order to strengthen the website's security, a master admin is the only account with the privilege of creating, and revoking an account for an officer. This is depicted in the next table.



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**Table IV-8. administrator**

Field	Type	Null	Key	Default
admin_id	INT UNSIGNED	No	PRI	NULL
admin_email	VARCHAR(100)	No		NULL
admin_password	VARCHAR(255)	No		NULL
officer_id	INT UNSIGNED	Yes	MUL	NULL

**Table IV-9. request**

Field	Type	Null	Key	Default
request_id	INT UNSIGNED	No	PRI	NULL
date_requested	DATE	No		CURDATE
document_name	ENUM ('Certificate of Residency', 'Certificate of Indigency')	No	MUL	NULL
requestor_id	INT UNSIGNED	No	MUL	NULL



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**Table IV-10. document**

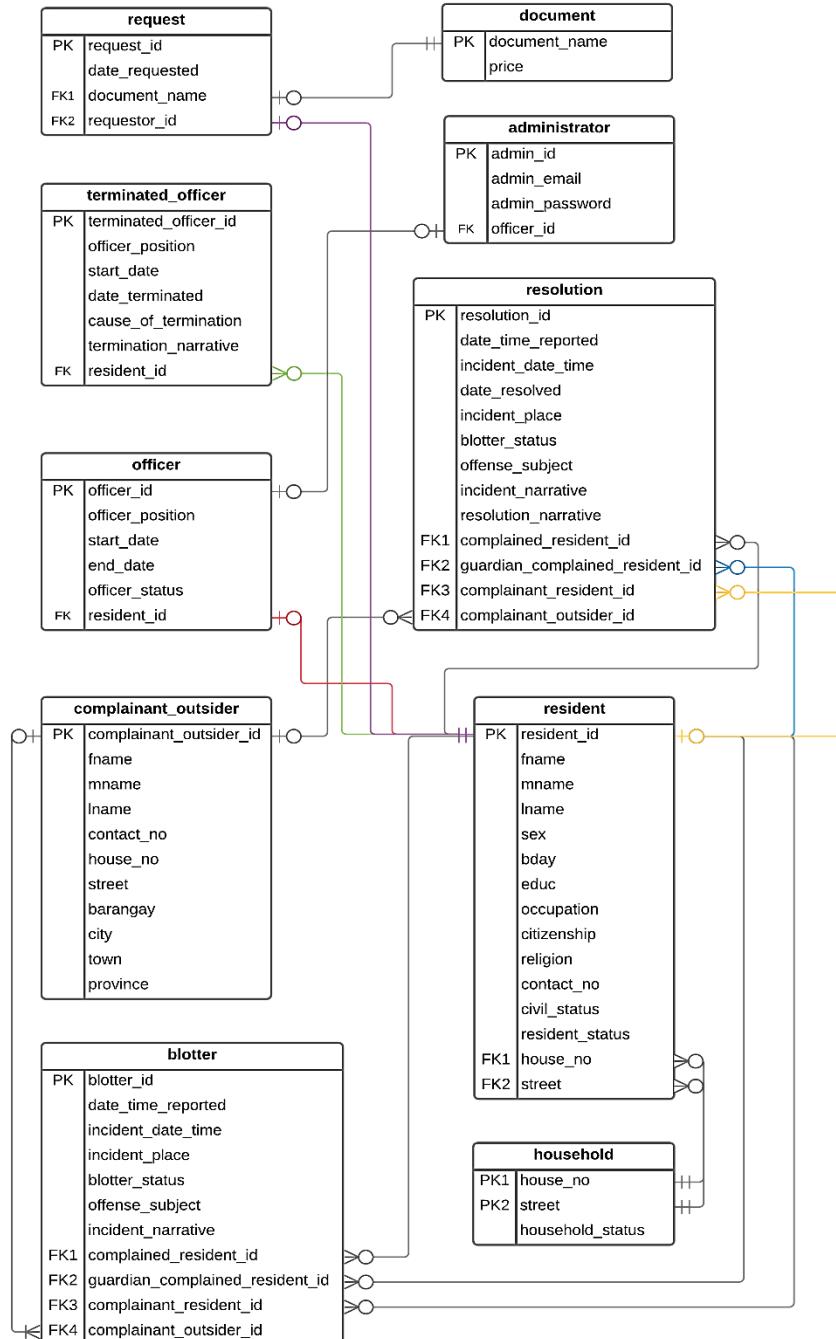
Field	Type	Null	Key	Default
document_name	ENUM ('Certificate of Residency', 'Certificate of Indigency')	No	PRI	NULL
price	DECIMAL(6, 2)	No		NULL

The figure on the next page shows the relationships between the aforementioned tables. Looking at the **blotter** entity, a field called **guardian\_complained\_resident** will be required if the complained resident's age is less than 18 years old at the time that case was submitted. Although, the diagram indicates that this field may be **NULL**, the aforementioned restriction is enforced using a trigger which is shown in Chapter VIII.

Moreover, the complainant could either be a local resident, or an outsider – *Exclusive OR*. Since it is not possible to have a **CHECK** constraint reference a column that also has a foreign key, this restriction was implemented through triggers as well.



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**Figure IV—3. Entity Relationship Diagram**



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### V. Table Content

The following are sample data used for testing and operational purposes. Nonetheless, the information was constructed to be as realistic as possible involving common Filipino characters such as enye (Ñ). Furthermore, the tables here are managed through the admin portal of the website. The master admin account has an email of [brgy.muzon.naic.cavite@gmail.com](mailto:brgy.muzon.naic.cavite@gmail.com) with a password of *Jeremiah 29:11*.

house_no	street	household_status
112	M. Aquino	Active
113	M. Aquino	Active
200	A. Bonifacio	Active
213	A. Bonifacio	Active
220	A. Bonifacio	Active
229	D. Silang	Active
25	D. Silang	Active
345	Callejon II	Active
347	Callejon II	Active
353	Callejon II	Active
366	Callejon II	Active
367	Callejon II	Active
411	Callejon II	Active
439	Callejon II	Active
481	Lapu-Lapu	Active
74	E. Balagtas	Active
96	E. Balagtas	Active

*Figure V—1. household Records*



## POLYTECHNIC UNIVERSITY OF THE PHILIPPINES

resident_id	fname	mname	lname	sex	bday	educ	occupation	citizenship	religion	contact_no	civil_status	resident_status	house_no	street
1	Teresita	Gumapas	De Ocampo	Female	1959-12-03	Advanced Degree	Teacher	Filipino	Roman Catholic	09568700018	Married	Active	366	Callejon II
2	Rizaldy	Gumapas	De Ocampo	Male	1958-12-02	Some High School	Sewer	Filipino	Roman Catholic	0949636880	Married	Active	366	Callejon II
3	Farrah Faye	Gumapas	De Ocampo	Female	1988-11-08	College Graduate	Accountant	Filipino	Roman Catholic	09173996481	Single	Active	366	Callejon II
4	Ralph Rian	Gumapas	De Ocampo	Male	1995-02-07	College Graduate	DevOps Engineer	Filipino	Roman Catholic	09477854445	Single	Active	366	Callejon II
5	Jovelyn	Caturay	Busque	Female	1981-04-28	College Graduate	Software Tester	Filipino	Roman Catholic	09490394823	Married	Active	367	Callejon II
6	Allan	Angue	Busque	Male	1981-10-13	College Graduate	Software Tester	Filipino	Roman Catholic	09491128936	Married	Active	367	Callejon II
7	Nathaniel Aaron	Caturay	Busque	Male	2010-03-30	Some Elementary	N/A	Filipino	Roman Catholic	09490394823	Single	Active	367	Callejon II
8	Amy	Angue	Cahu	Female	1995-02-06	College Graduate	Electrical Engineer	French	Jehovah	09079038153	Annulled	Active	25	D. Silang
9	Roxane	Angue	Cahu	Female	1999-11-22	Some College	N/A	French	Jehovah	09075175481	Single	Active	25	D. Silang
10	Axelle	Angue	Cahu	Female	2004-05-28	Some High School	N/A	French	Jehovah	09983408648	Single	Active	25	D. Silang
11	Felicta	Rodriguez	Imbis	Female	1956-06-01	College Graduate	Civil Servant	Filipino	Roman Catholic	09186475411	Married	Active	347	Callejon II
12	Riza	Lagatoc	Malaluan	Female	1980-05-25	High School Graduate	Laundrywoman	Filipino	Roman Catholic	09282308934	Married	Active	229	D. Silang
13	Editha	Magpali	Hallare	Female	1956-01-15	Some College	Civil Servant	Filipino	Roman Catholic	09089792979	Married	Active	353	Callejon II
14	Alvin	Jeciel	Hallare	Male	1961-06-06	High School Graduate	Civil Servant	Filipino	Roman Catholic	09186829559	Married	Active	353	Callejon II
15	Raquel	Pagtakhan	Loyola	Female	1980-05-25	College Graduate	Civil Servant	Filipino	Roman Catholic	09184720087	Married	Active	220	A. Bonifacio

**Figure V—2. resident Records Page 1 of 2**

resident_id	fname	mname	lname	sex	bday	educ	occupation	citizenship	religion	contact_no	civil_status	resident_status	house_no	street
16	Iconarcio	Domingo	Api	Male	1969-10-09	High School Graduate	Welder	Filipino	Roman Catholic	09497266639	Married	Active	74	E. Balagtas
17	Aniceta	Magtibay	Mercado	Female	1963-04-17	High School Graduate	Cook	Filipino	Roman Catholic	09494704213	Married	Active	411	Callejon II
18	Jeel	Magtala	Salvador	Male	1984-11-05	High School Graduate	Factory Worker	Filipino	Iglesia ni Cristo	09089792979	Married	Active	439	Callejon II
19	Daisy	Alcantara	Oneza	Female	1965-09-11	College Graduate	Civil Servant	Filipino	Roman Catholic	09485760732	Married	Active	345	Callejon II
20	Macario	Lubag	Mercada	Male	1956-05-16	College Graduate	Civil Servant	Filipino	Roman Catholic	09569126747	Married	Active	96	E. Balagtas
21	Rodolfo	Nacalaban	Años	Male	1956-08-23	College Graduate	Civil Servant	Filipino	Iglesia ni Cristo	09071294783	Married	Active	213	A. Bonifacio
22	Leonardo	Domingo	Apí	Male	1973-10-09	College Graduate	Civil Servant	Filipino	Roman Catholic	09495619046	Married	Active	74	E. Balagtas
23	Violeta	Balatico	Hera	Female	1980-11-05	College Graduate	Civil Servant	Filipino	Jehovah	09072914753	Single	Active	200	A. Bonifacio
24	Jasmine	Rodriguez	Imbis	Female	1995-06-01	College Graduate	Bank Teller	Filipino	Roman Catholic	09186475411	Married	Active	347	Callejon II
25	Rosmarilyn	Cabadin	Medina	Female	1999-11-13	Some College	N/A	Filipino	Roman Catholic	09452579778	Married	Active	112	M. Aquino
26	Odile	O'dair	Medina	Female	1999-10-28	Some College	N/A	American	Roman Catholic	09071093583	Married	Active	112	M. Aquino
27	Maria Patrice	Bigalbal	Pabilton	Female	1999-05-23	Some College	N/A	Filipino	Iglesia ni Cristo	09350928946	Single	Active	112	M. Aquino
28	Etchell	Bigalbal	Pabilton	Female	1965-07-19	College Graduate	Florist	Filipino	Iglesia ni Cristo	09359218835	Married	Active	113	M. Aquino
29	Benjamin James	Reyes	Sanchez	Male	1984-01-01	College Graduate	Art Director	Filipino	Roman Catholic	09358314949	Single	Active	481	Lapu-Lapu

**Figure V—3. resident Records Part 2 of 2**

complainant_outsider_id	fname	mname	lname	contact_no	house_no	street	barangay	city_town	provice
1	Sage	Santos	Sy	09985693185	2897-B	Gen. Del Pilar St.	Bangkal	Makati	NULL

**Figure V—4. complainant\_outsider Record**



## POLYTECHNIC UNIVERSITY OF THE PHILIPPINES

blotter_id	date_time_reported	incident_date_time	incident_place	blotter_status	offense_subject	incident_narrative	complainant_resident_id	guardian_complainant_resident_id	complainant_resident_id	complainant_outsider_id
2	2020-12-01 09:00:00	2020-07-21 14:30:00	Sy Residences	Pending	Fraud	Mr. Sanchez had himself as an employee of Sun Life and convinced Mr. Sy to avail a life insurance. Mr. Sy paid a down payment last July 21 worth Php 50,000. He has been trying to contact Mr. Sanchez for the next few months regarding the unfinished transactions. However, Mr. Sanchez was deliberately ignoring his calls and messages. Hence, Mr. Sy went to Mr. Sanchez's abode only to discover that he wasn't actually working for Sun Life.	29	NULL	NULL	1

**Figure V—5. blotter Record**

resolution_id	date_time_reported	incident_date_time	incident_place	blotter_status	offense_subject	incident_narrative	complainant_resident_id	guardian_complainant_resident_id	complainant_resident_id	complainant_outsider_id	resolution_narrative	date_resolved
1	2020-11-10 15:00:00	2020-11-07 06:30:00	Amy's Bakery	Settled	Theft	Ms. Pablon took a tray of bread worth Php 700 from Ms. Cahu's bakery store. According to Ms. Cahu, this isn't the first time that Ms. Pablon took something from their store. For the last two weeks, Ms. Pablon took flour, eggs, oil, and spatula from the bakery.	27	NULL	8	NULL	Ms. Patrice Pablon paid a settlement payment of Php 1000 to Ms. Amy Cahu.	2020-11-25

**Figure V—6. resolution Record**

officer_id	officer_position	start_date	end_date	officer_status	resident_id
1	Captain	2013-05-13	2018-05-15	Past	11
2	Secretary	2013-05-13	2018-05-15	Past	12
3	Treasurer	2013-05-13	2018-05-15	Past	13
4	Chairman of Committee on Agriculture	2013-05-13	2018-05-15	Past	14
5	Chairman of Committee on Sports and Education	2013-05-13	2018-05-15	Past	15
6	Chairman of Committee on Health	2013-05-13	2018-05-15	Past	16
7	Chairman of Committee on Peace and Order	2013-05-13	2018-05-15	Past	17
8	Chairman of Committee on Environmental Protection	2013-05-13	2018-05-15	Past	18
9	Chairman of Committee on Budget and Appropriations	2013-05-13	2018-05-15	Past	19
10	Chairman of Committee on Public Works	2013-05-13	2018-05-15	Past	20
11	Youth Council Chairman	2013-05-13	2018-05-15	Past	24
12	Captain	2018-05-15	NULL	Current	11
13	Secretary	2018-05-15	NULL	Current	21
14	Treasurer	2018-05-15	NULL	Current	13
15	Chairman of Committee on Agriculture	2018-05-15	NULL	Current	14
16	Chairman of Committee on Sports and Education	2018-05-15	NULL	Current	15
17	Chairman of Committee on Health	2018-05-15	NULL	Current	16
18	Chairman of Committee on Peace and Order	2018-05-15	NULL	Current	22
19	Chairman of Committee on Environmental Protection	2018-05-15	NULL	Current	23
20	Chairman of Committee on Budget and Appropriations	2018-05-15	NULL	Current	19
21	Chairman of Committee on Public Works	2018-05-15	NULL	Current	20
22	Youth Council Chairman	2018-05-15	NULL	Current	24

**Figure V—7. officer Records**



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terminated_officer_id	officer_position	start_date	date_terminated	cause_of_termination	termination_narrative	resident_id
1	Youth Council Chairman	2018-05-15	2019-02-04	Withdrawal of Appointment	Jasmine Imbis was caught using marijuana. The former Youth Council Chairman did not deny this. Although she was not pressed with any charges, she was immediately removed from service.	24

**Figure V—8. terminated\_officer Record**

admin_id	admin_email	admin_password	officer_id
1	brgy.muzon.naic.cavite@gmail.com	\$2y\$10\$CtnzbINrxyH1wLupEyJ2U.ta2WbMK5PdJi8AXNPEK.dQffNpNr5.2	NULL
2	riza.malaluan@gmail.com	\$2y\$10\$MTIKxMqwYNONcXUEi.wFMuWZyOCejJxiqtt5oKs3r7ez9BFi4b9uW	2
3	felicita.imbis@gmail.com	\$2y\$10\$uyNGNk8Ccj35tfSpFOWVte4rOjE02VDMYTBMYJAqULRysMSDYWjuO	12

**Figure V—9. administrator Records**

request_id	date_requested	document_name	requestor_id
1	2021-01-27	Certificate of Residency	27
2	2021-02-01	Certificate of Residency	1
3	2021-02-01	Certificate of Residency	2
4	2021-02-02	Certificate of Residency	5
5	2021-02-02	Certificate of Residency	6
6	2021-02-03	Certificate of Indigency	27

**Figure V—10. request Records**

document_name	price
Certificate of Residency	20.00
Certificate of Indigency	0.00

**Figure V—11. document Records**



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### VI. Data Definition

#### CREATE Statements

```
CREATE TABLE household (
    house_no CHAR(10) NOT NULL,
    street ENUM (
        'A. Bonifacio',
        'Callejon II',
        'D. Silang',
        'Diosomito',
        'E. Aguinaldo',
        'E. Balagtas',
        'E. Jacinto',
        'Lapu-Lapu',
        'Lopez',
        'M. Agoncillo',
        'M. Aquino'
    ) NOT NULL,
    household_status ENUM (
        'Active',
        'Deleted'
    ) DEFAULT 'Active' NOT NULL,
    CONSTRAINT pk_household PRIMARY KEY (house_no, street)
) Engine=InnoDB;
```

```
CREATE TABLE resident (
    resident_id INT UNSIGNED AUTO_INCREMENT PRIMARY KEY,
    fname VARCHAR(50) NOT NULL,
    mname VARCHAR(50),
    lname VARCHAR(50) NOT NULL,
    sex ENUM (
        'Male',
        'Female'
    ) NOT NULL,
    bday DATE NOT NULL,
```



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```
educ ENUM (
    'Some Elementary',
    'Elementary Graduate',
    'Some High School',
    'High School Graduate',
    'Some College',
    'College Graduate',
    'Vocational',
    'Advanced Degree',
    'N/A'
) NOT NULL,
occupation VARCHAR(50) NOT NULL,
citizenship VARCHAR(30) DEFAULT 'Filipino' NOT NULL,
religion ENUM (
    'Non-religious',
    'Christian',
    'Iglesia ni Cristo',
    'Islam',
    'Jehovah',
    'Roman Catholic',
    'Sabbath',
    'Others'
) NOT NULL,
contact_no CHAR(11) NOT NULL,
civil_status ENUM (
    'Annulled',
    'Married',
    'Separated',
    'Single',
    'Widowed'
) NOT NULL,
resident_status ENUM (
    'Active',
    'Deleted'
) DEFAULT 'Active' NOT NULL,
house_no CHAR(10) NOT NULL,
street ENUM (
    'A. Bonifacio',
    'Callejon II',
```



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```
'D. Silang',
'Diosomito',
'E. Aguinaldo',
'E. Balagtas',
'E. Jacinto',
'Lapu-Lapu',
'Lopez',
'M. Agoncillo',
'M. Aquino'
) NOT NULL,
CONSTRAINT fk_resident_household FOREIGN KEY (house_no, street)
    REFERENCES household (house_no, street)
    ON UPDATE CASCADE
    ON DELETE RESTRICT
) Engine=InnoDB;
```

```
CREATE TABLE complainant_outsider (
    complainant_outsider_id INT UNSIGNED AUTO_INCREMENT PRIMARY KEY,
    fname VARCHAR(50) NOT NULL,
    mname VARCHAR(50),
    lname VARCHAR(50) NOT NULL,
    contact_no CHAR(11) NOT NULL,
    house_no CHAR(10) NOT NULL,
    street VARCHAR(30) NOT NULL,
    barangay VARCHAR(30) NOT NULL,
    city_town VARCHAR(30) NOT NULL,
    province VARCHAR(30)
) Engine=InnoDB;
```

```
CREATE TABLE blotter (
    blotter_id INT UNSIGNED AUTO_INCREMENT PRIMARY KEY,
    date_time_reported DATETIME NOT NULL DEFAULT CURRENT_TIMESTAMP,
    incident_date_time DATETIME NOT NULL,
    incident_place VARCHAR(255) NOT NULL,
```



## POLYTECHNIC UNIVERSITY OF THE PHILIPPINES

```
blotter_status ENUM (
    'Pending',
    'Settled',
    'Filed to Action'
) DEFAULT 'Pending' NOT NULL,
offense_subject VARCHAR(255) NOT NULL,
incident_narrative VARCHAR(2000) NOT NULL,
complained_resident_id INT UNSIGNED NOT NULL,
guardian_complained_resident_id INT UNSIGNED,1
complainant_resident_id INT UNSIGNED,
complainant_outsider_id INT UNSIGNED,

CONSTRAINT fk_blotter_complained_resident_id
    FOREIGN KEY (complained_resident_id)
        REFERENCES resident (resident_id)
        ON UPDATE CASCADE
        ON DELETE RESTRICT,
CONSTRAINT fk_blotter_guardian_complained_resident_id
    FOREIGN KEY (guardian_complained_resident_id)
        REFERENCES resident (resident_id)
        ON UPDATE CASCADE
        ON DELETE RESTRICT,
CONSTRAINT fk_blotter_complainant_resident_id
    FOREIGN KEY (complainant_resident_id)
        REFERENCES resident (resident_id)
        ON UPDATE CASCADE
        ON DELETE RESTRICT,
CONSTRAINT fk_blotter_complainant_outsider_id
    FOREIGN KEY (complainant_outsider_id)
        REFERENCES complainant_outsider (complainant_outsider_id)
        ON UPDATE CASCADE
        ON DELETE RESTRICT
) Engine=InnoDB;
```

---

<sup>1</sup> **guardian\_complained\_resident\_id** field is only for children in conflict with the law.



## POLYTECHNIC UNIVERSITY OF THE PHILIPPINES

```
-- Setup of `resolution` table
CREATE TABLE resolution LIKE blotter;

ALTER TABLE resolution
CHANGE COLUMN blotter_id resolution_id INT UNSIGNED AUTO_INCREMENT NOT
NULL;

ALTER TABLE resolution
ALTER blotter_status DROP DEFAULT;

ALTER TABLE resolution
ADD COLUMN resolution_narrative VARCHAR(2000) NOT NULL;

ALTER TABLE resolution
ADD COLUMN date_resolved DATE NOT NULL;
```

```
CREATE TABLE officer (
    officer_id INT UNSIGNED AUTO_INCREMENT PRIMARY KEY,
    officer_position ENUM (
        'Captain',
        'Secretary',
        'Treasurer',
        'Chairman of Committee on Agriculture',
        'Chairman of Committee on Sports and Education',
        'Chairman of Committee on Health',
        'Chairman of Committee on Peace and Order',
        'Chairman of Committee on Environmental Protection',
        'Chairman of Committee on Budget and Appropriations',
        'Chairman of Committee on Public Works',
        'Youth Council Chairman'
    ) NOT NULL,
    start_date DATE NOT NULL DEFAULT (CURDATE()),
    end_date DATE DEFAULT NULL,
    officer_status ENUM (
        'Current',
        'Past'
    ) NOT NULL,
```



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```
resident_id INT UNSIGNED NOT NULL,  
  
CONSTRAINT fk_officer_resident_id FOREIGN KEY (resident_id)  
    REFERENCES resident (resident_id)  
    ON UPDATE CASCADE  
    ON DELETE RESTRICT  
) Engine=InnoDB;
```

```
CREATE TABLE administrator (  
    admin_id INT UNSIGNED AUTO_INCREMENT PRIMARY KEY,  
    admin_email VARCHAR(100) NOT NULL,  
    admin_password VARCHAR(255) NOT NULL,  
    officer_id INT UNSIGNED,  
  
    CONSTRAINT fk_admin_officer_id FOREIGN KEY (officer_id)  
        REFERENCES officer (officer_id)  
        ON UPDATE CASCADE  
        ON DELETE RESTRICT  
) Engine=InnoDB;
```

```
CREATE TABLE terminated_officer (  
    terminated_officer_id INT UNSIGNED AUTO_INCREMENT PRIMARY KEY,  
    officer_position ENUM (  
        'Captain',  
        'Secretary',  
        'Treasurer',  
        'Chairman of Committee on Agriculture',  
        'Chairman of Committee on Sports and Education',  
        'Chairman of Committee on Health',  
        'Chairman of Committee on Peace and Order',  
        'Chairman of Committee on Environmental Protection',  
        'Chairman of Committee on Budget and Appropriations',  
        'Chairman of Committee on Public Works',  
        'Youth Council Chairman'  
    ) NOT NULL,
```



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```
start_date DATE NOT NULL,  
date_terminated DATE NOT NULL,  
cause_of_termination ENUM (  
    'Resignation',  
    'Transfer of Residence',  
    'Transfer of Place of Work',  
    'Withdrawal of Appointment'  
) NOT NULL,  
termination_narrative VARCHAR(2000) NOT NULL,  
resident_id INT UNSIGNED NOT NULL,  
  
CONSTRAINT fk_terminated_officer_resident_id  
    FOREIGN KEY (resident_id)  
    REFERENCES resident (resident_id)  
    ON UPDATE CASCADE  
    ON DELETE RESTRICT  
) Engine=InnoDB;
```

```
CREATE TABLE document (  
    document_name ENUM (  
        'Certificate of Residency',  
        'Certificate of Indigency'  
    ) PRIMARY KEY,  
    price DECIMAL(6, 2) NOT NULL  
) Engine=InnoDB;
```

```
CREATE TABLE request (  
    request_id INT UNSIGNED AUTO_INCREMENT PRIMARY KEY,  
    date_requested DATE DEFAULT (CURDATE()) NOT NULL,  
    document_name ENUM (  
        'Certificate of Residency',  
        'Certificate of Indigency'  
    ) NOT NULL,  
    requestor_id INT UNSIGNED,
```



## POLYTECHNIC UNIVERSITY OF THE PHILIPPINES

```
CONSTRAINT fk_request_resident_id FOREIGN KEY (requestor_id)
    REFERENCES resident (resident_id)
    ON UPDATE CASCADE
    ON DELETE RESTRICT,
CONSTRAINT fk_request_document_name FOREIGN KEY (document_name)
    REFERENCES document (document_name)
    ON UPDATE CASCADE
    ON DELETE RESTRICT
) Engine=InnoDB;
```

### INSERT Statements

```
INSERT INTO
    household (house_no, street)
VALUES
    ('200', 'A. Bonifacio'),
    ('213', 'A. Bonifacio'),
    ('220', 'A. Bonifacio'),
    ('345', 'Callejon II'),
    ('347', 'Callejon II'),
    ('353', 'Callejon II'),
    ('366', 'Callejon II'),
    ('367', 'Callejon II'),
    ('411', 'Callejon II'),
    ('439', 'Callejon II'),
    ('25', 'D. Silang'),
    ('74', 'E. Balagtas'),
    ('96', 'E. Balagtas'),
    ('229', 'D. Silang'),
    ('112', 'M. Aquino'),
    ('113', 'M. Aquino'),
    ('481', 'Lapu-Lapu');
```

```
INSERT INTO
    resident
```



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```
VALUES
(
    DEFAULT, 'Teresita', 'Gumapas', 'De Ocampo',
    'Female', '1959-12-03', 'Advanced Degree', 'Teacher',
    'Filipino', 'Roman Catholic', '09568700018',
    'Married', DEFAULT, '366', 'Callejon II'
),
(
    DEFAULT, 'Rizaldy', 'Gumapas', 'De Ocampo',
    'Male', '1958-12-02', 'Some High School', 'Sewer',
    'Filipino', 'Roman Catholic', '0949636880',
    'Married', DEFAULT, '366', 'Callejon II'
),
(
    DEFAULT, 'Farrah Faye', 'Gumapas', 'De Ocampo',
    'Female', '1988-11-08', 'College Graduate', 'Accountant',
    'Filipino', 'Roman Catholic', '09173996481',
    'Single', DEFAULT, '366', 'Callejon II'
),
(
    DEFAULT, 'Ralph Rian', 'Gumapas', 'De Ocampo',
    'Male', '1995-02-07', 'College Graduate', 'DevOps Engineer',
    'Filipino', 'Roman Catholic', '09477854445',
    'Single', DEFAULT, '366', 'Callejon II'
),
(
    DEFAULT, 'Jovylyn', 'Caturay', 'Busque',
    'Female', '1981-04-28', 'College Graduate', 'Software Tester',
    'Filipino', 'Roman Catholic', '09490394823',
    'Married', DEFAULT, '367', 'Callejon II'
),
(
    DEFAULT, 'Allan', 'Angue', 'Busque',
    'Male', '1981-10-13', 'College Graduate', 'Software Tester',
    'Filipino', 'Roman Catholic', '09491128936',
    'Married', DEFAULT, '367', 'Callejon II'
),
(
    DEFAULT, 'Nathaniel Aaron', 'Caturay', 'Busque',
```



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```
'Male', '2010-03-30', 'Some Elementary', 'N/A',
'Filipino', 'Roman Catholic', '09490394823',
'Single', DEFAULT, '367', 'Callejon II'
),
(
    DEFAULT, 'Amy', 'Angue', 'Cahu', 'Female',
    '1995-02-06', 'College Graduate', 'Electrical Engineer',
    'French', 'Jehovah', '09079038153',
    'Annulled', DEFAULT, '25', 'D. Silang'
),
(
    DEFAULT, 'Roxane', 'Angue', 'Cahu',
    'Female', '1999-11-22', 'Some College', 'N/A',
    'French', 'Jehovah', '09075175481',
    'Single', DEFAULT, '25', 'D. Silang'
),
(
    DEFAULT, 'Axelle', 'Angue', 'Cahu',
    'Female', '2004-05-28', 'Some High School', 'N/A',
    'French', 'Jehovah', '09983408648',
    'Single', DEFAULT, '25', 'D. Silang'
),
(
    DEFAULT, 'Felicita', 'Rodriguez', 'Imbis',
    'Female', '1956-06-01', 'College Graduate', 'Civil Servant',
    'Filipino', 'Roman Catholic', '09186475411',
    'Married', DEFAULT, '347', 'Callejon II'
),
(
    DEFAULT, 'Riza', 'Lagatoc', 'Malaluan',
    'Female', '1980-05-25', 'High School Graduate', 'Laundrywoman',
    'Filipino', 'Roman Catholic', '09282308934',
    'Married', DEFAULT, '229', 'D. Silang'
),
(
    DEFAULT, 'Editha', 'Magpali', 'Hallare',
    'Female', '1956-01-15', 'Some College', 'Civil Servant',
    'Filipino', 'Roman Catholic', '09089792979',
    'Married', DEFAULT, '353', 'Callejon II'
```



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```
),
(
    DEFAULT, 'Alvin', 'Jeciel', 'Hallare',
    'Male', '1961-06-06', 'High School Graduate', 'Civil Servant',
    'Filipino', 'Roman Catholic', '09186829559',
    'Married', DEFAULT, '353', 'Callejon II'
),
(
    DEFAULT, 'Raquel', 'Pagtakhan', 'Loyola',
    'Female', '1980-05-25', 'College Graduate', 'Civil Servant',
    'Filipino', 'Roman Catholic', '09184720087',
    'Married', DEFAULT, '220', 'A. Bonifacio'
),
(
    DEFAULT, 'Iconarclo', 'Domingo', 'Api',
    'Male', '1969-10-09', 'High School Graduate', 'Welder',
    'Filipino', 'Roman Catholic', '09497266639',
    'Married', DEFAULT, '74', 'E. Balagtas'
),
(
    DEFAULT, 'Aniceta', 'Magtibay', 'Mercado',
    'Female', '1963-04-17', 'High School Graduate', 'Cook',
    'Filipino', 'Roman Catholic', '09494704213',
    'Married', DEFAULT, '411', 'Callejon II'
),
(
    DEFAULT, 'Jeel', 'Magtalas', 'Salvador',
    'Male', '1984-11-05', 'High School Graduate', 'Factory Worker',
    'Filipino', 'Iglesia ni Cristo', '09089792979',
    'Married', DEFAULT, '439', 'Callejon II'
),
(
    DEFAULT, 'Daisy', 'Alcantara', 'Oneza',
    'Female', '1965-09-11', 'College Graduate', 'Civil Servant',
    'Filipino', 'Roman Catholic', '09485760732',
    'Married', DEFAULT, '345', 'Callejon II'
),
(
    DEFAULT, 'Macario', 'Lubag', 'Mercada',
```



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```
'Male', '1956-05-16', 'College Graduate', 'Civil Servant',
'Filipino', 'Roman Catholic', '09569126747',
'Married', DEFAULT, '96', 'E. Balagtas'
),
(
    DEFAULT, 'Rodolfo', 'Nacalaban', 'Años',
    'Male', '1956-08-23', 'College Graduate', 'Civil Servant',
    'Filipino', 'Iglesia ni Cristo', '09071294783',
    'Married', DEFAULT, '213', 'A. Bonifacio'
),
(
    DEFAULT, 'Leonardo', 'Domingo', 'Api',
    'Male', '1973-10-09', 'College Graduate', 'Civil Servant',
    'Filipino', 'Roman Catholic', '09495619046',
    'Married', DEFAULT, '74', 'E. Balagtas'
),
(
    DEFAULT, 'Violeta', 'Balatico', 'Hera',
    'Female', '1980-11-05', 'College Graduate', 'Civil Servant',
    'Filipino', 'Jehovah', '09072914753',
    'Single', DEFAULT, '200', 'A. Bonifacio'
),
(
    DEFAULT, 'Jasmine', 'Rodriguez', 'Imbis',
    'Female', '1995-06-01', 'College Graduate', 'Bank Teller',
    'Filipino', 'Roman Catholic', '09186475411',
    'Married', DEFAULT, '347', 'Callejon II'
),
(
    DEFAULT, 'Rosmarilin', 'Cabadin', 'Medina',
    'Female', '1999-11-13', 'Some College', 'N/A',
    'Filipino', 'Roman Catholic', '09452579778',
    'Married', DEFAULT, '112', 'M. Aquino'
),
(
    DEFAULT, 'Odile', 'O''dair', 'Medina',
    'Female', '1999-10-28', 'Some College', 'N/A',
    'American', 'Roman Catholic', '09071093583',
    'Married', DEFAULT, '112', 'M. Aquino'
```



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```
),
(
    DEFAULT, 'Maria Patrice', 'Bigalbal', 'Pabiton',
    'Female', '1999-05-23', 'Some College', 'N/A',
    'Filipino', 'Iglesia ni Cristo', '09350928946',
    'Single', DEFAULT, '112', 'M. Aquino'
),
(
    DEFAULT, 'Etchell', 'Bigalbal', 'Pabiton',
    'Female', '1965-07-19', 'College Graduate', 'Florist',
    'Filipino', 'Iglesia ni Cristo', '09359218835',
    'Married', DEFAULT, '113', 'M. Aquino'
),
(
    DEFAULT, 'Benjamin James', 'Reyes', 'Sanchez',
    'Male', '1984-01-01', 'College Graduate', 'Art Director',
    'Filipino', 'Roman Catholic', '09358314949',
    'Single', DEFAULT, '481', 'Lapu-Lapu'
);
```

```
INSERT INTO
    officer
VALUES
    (DEFAULT, 1, '2013-05-13', '2018-05-15', 'Past', 11),
    (DEFAULT, 2, '2013-05-13', '2018-05-15', 'Past', 12),
    (DEFAULT, 3, '2013-05-13', '2018-05-15', 'Past', 13),
    (DEFAULT, 4, '2013-05-13', '2018-05-15', 'Past', 14),
    (DEFAULT, 5, '2013-05-13', '2018-05-15', 'Past', 15),
    (DEFAULT, 6, '2013-05-13', '2018-05-15', 'Past', 16),
    (DEFAULT, 7, '2013-05-13', '2018-05-15', 'Past', 17),
    (DEFAULT, 8, '2013-05-13', '2018-05-15', 'Past', 18),
    (DEFAULT, 9, '2013-05-13', '2018-05-15', 'Past', 19),
    (DEFAULT, 10, '2013-05-13', '2018-05-15', 'Past', 20),
    (DEFAULT, 11, '2013-05-13', '2018-05-15', 'Past', 24),
    (DEFAULT, 1, '2018-05-15', DEFAULT, 'Current', 11),
    (DEFAULT, 2, '2018-05-15', DEFAULT, 'Current', 21),
    (DEFAULT, 3, '2018-05-15', DEFAULT, 'Current', 13),
```



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```
(DEFAULT, 4, '2018-05-15', DEFAULT, 'Current', 14),
(DEFAULT, 5, '2018-05-15', DEFAULT, 'Current', 15),
(DEFAULT, 6, '2018-05-15', DEFAULT, 'Current', 16),
(DEFAULT, 7, '2018-05-15', DEFAULT, 'Current', 22),
(DEFAULT, 8, '2018-05-15', DEFAULT, 'Current', 23),
(DEFAULT, 9, '2018-05-15', DEFAULT, 'Current', 19),
(DEFAULT, 10, '2018-05-15', DEFAULT, 'Current', 20),
(DEFAULT, 11, '2018-05-15', DEFAULT, 'Current', 24);
```

```
-- Passwords inserted here are hashed using PHP's encoding algorithm.
INSERT INTO
    administrator (admin_email, admin_password, officer_id)
VALUES
(
    'brgy.muzon.naic.cavite@gmail.com',
    '$2y$10$CtnzbINrxyH1wLupEyJ2U.ta2WbMK5PdJi8AXNPEK.dQffNpNr5.2',
    NULL
),
(
    'felicita.imbis@gmail.com',
    '$2y$10$uyNGNk8Ccj35tfSpFOtVte4r0jE02VDMYTBMYJAqULRysMSDYWju0',
    12
);
```

```
INSERT INTO
    complainant_outsider
VALUES
(
    DEFAULT, 'Sage', 'Santos', 'Sy', '09985693185', '2897-B',
    'Gen. Del Pilar St.', 'Bangkal', 'Makati', NULL
);
```

```
INSERT INTO
    blotter
```



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```
VALUES
(
    DEFAULT, '2020-11-10 15-00-00', '2020-11-07 06-30-00',
    'Amy''s Bakery', DEFAULT, 'Theft',
    'Ms. Pabiton took a tray of bread worth Php 700 from Ms.
    Cahu''s bakery store. According to Ms. Cahu, this isn''t the
    first time that Ms. Pabiton took something from their store.
    For the last few weeks, Ms. Pabiton took flour, eggs, oil,
    and spatula from the bakery.', 27, NULL, 8, NULL
),
(
    DEFAULT, '2020-12-01 09-00-00', '2020-07-21 14-30-00',
    'Sy Residences', DEFAULT, 'Fraud',
    'Mr. Sanchez introduced
    himself as an employee of Sun Life, and convinced Mr. Sy to
    avail a life insurance. Mr. Sy paid a down payment last
    July 21 worth Php 50,000. He has been trying to contact Mr.
    Sanchez for the next few months regarding the unfinished
    transactions. However, Mr. Sanchez was deliberately
    ignoring his phone calls. Hence, Mr. Sy went to Mr.
    Sanchez'' abode only to discover that he wasn''t actually
    working for Sun Life.', 29, NULL, NULL, 1
);
```

```
-- Inserts a sample record into `resolution`
START TRANSACTION;
```

```
SELECT
    date_time_reported,
    incident_date_time,
    incident_place,
    offense_subject,
    incident_narrative,
    complained_resident_id,
    guardian_complained_resident_id,
    complainant_resident_id,
    complainant_outsider_id
INTO
```



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```
@date_time_reported,  
@incident_date_time,  
@incident_place,  
@offense_subject,  
@incident_narrative,  
@complained_resident_id,  
@guardian_complained_resident_id,  
@complainant_resident_id,  
@complainant_outsider_id  
FROM  
    blotter  
WHERE  
    blotter_id = 1;  
  
INSERT INTO  
    resolution  
VALUES  
(  
    DEFAULT, @date_time_reported, @incident_date_time,  
    @incident_place, 'Settled', @offense_subject,  
    @incident_narrative, @complained_resident_id,  
    @guardian_complained_resident_id, @complainant_resident_id,  
    @complainant_outsider_id, 'Ms. Pabiton paid a settlement  
    payment of Php 1000 to Ms. Cahu.', '2020-11-25'  
);  
  
DELETE FROM blotter WHERE blotter_id = 1;  
  
COMMIT;
```

```
-- Inserts a sample record into `terminated_officer`  
START TRANSACTION;  
SELECT  
    officer_position,  
    start_date,  
    resident_id  
INTO
```



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```
@officer_position,  
@start_date,  
@resident_id  
FROM  
    officer  
WHERE  
    officer_id = 22;  
  
INSERT INTO  
    terminated_officer  
VALUES  
    (DEFAULT,  @officer_position,  @start_date,  '2019-02-04',  
'Withdrawal of Appointment', 'Jasmine Imbis was caught using  
marijuana. The former Youth Council Chairman did not deny this.  
Although she was not pressed with any charges, she was  
immediately removed from service.', @resident_id);  
  
DELETE FROM officer WHERE officer_id = 22;  
  
-- Inserts replacement.  
INSERT INTO  
    officer  
VALUES  
    (DEFAULT, 11, '2019-02-04', NULL, 'Current', 25);  
COMMIT;
```



## VII. SQL Queries

For every SQL transaction presented in this chapter, it is not the actual code used for the website. The proponent used the interface that the PHP Data Object (PDO) offers, and converted it to implementation-specific SQL syntax for this documentation. Furthermore, the back-end layer implements error handling functionalities that rolls back the statements of the transaction if a database error occurred.

### Medium (5)

1. **Inserts a new cycle of officers, thus, the following query is executed for each position available for the term.**

```
START TRANSACTION;
-- Query 1: Get previous officer
SELECT
    officer_id
INTO
    @officer_id
FROM
    officer
WHERE
    officer_position = ?2 AND
    officer_status = 'Current';

-- Query 2: Update `officer_status` and `end_date` of
-- previous officer.
UPDATE officer
SET
    officer_status = 'Past',
    end_date = CURDATE()
WHERE
```

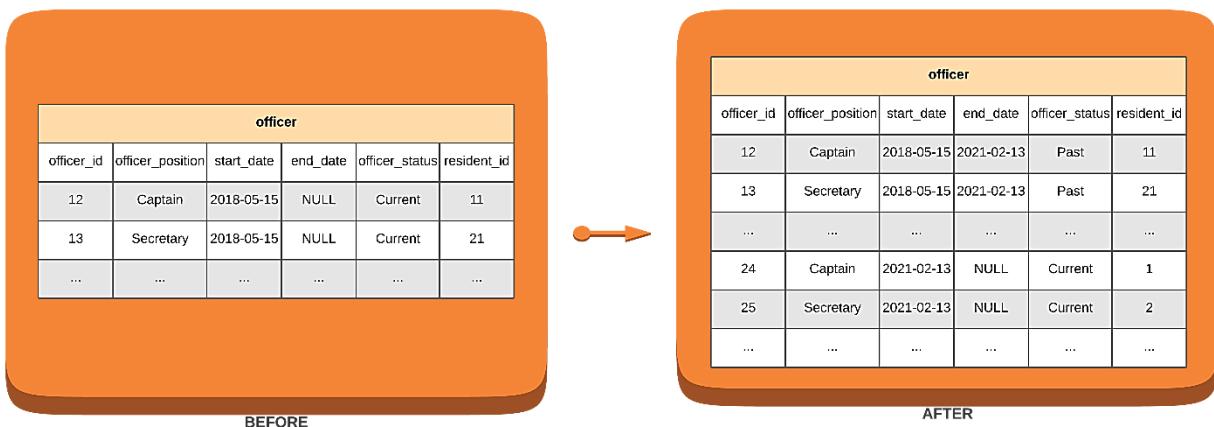
<sup>2</sup> Through PHP, it loops through all of the available positions of the term, and binds the current position to this parameter.



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```
officer_id = @officer_id;

-- Query 3: Insert new officer.
INSERT INTO
    officer (
        officer_position, officer_status,
        resident_id
    )
VALUES
    (?, ?, ?)3;
COMMIT;
```



**Figure VII—1.** Expected Results of Inserting a New Batch of Officers

### 2. Statements for the admin dashboard.

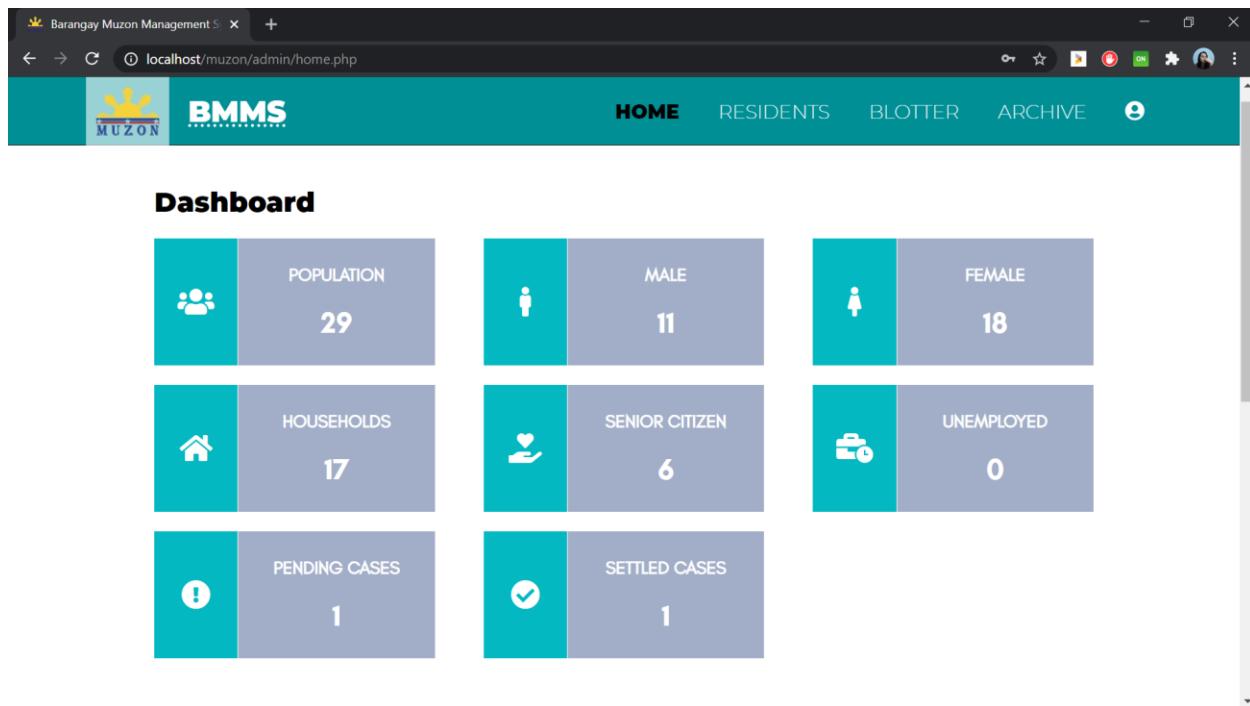
```
SELECT COUNT(resident_id) FROM resident;
SELECT COUNT(resident_id) FROM resident WHERE sex = 'Male';
SELECT COUNT(resident_id) FROM resident WHERE sex = 'Female';
SELECT COUNT(house_no) FROM household
WHERE household_status = 'Active';
```

<sup>3</sup> PHP binds the current officer position, an officer status of **Current**, and the **resident\_id** selected by the administrator through the user interface.



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```
SELECT COUNT(resident_id) FROM resident
    WHERE TIMESTAMPDIFF(YEAR, bday, CURDATE()) >= 60;
SELECT COUNT(resident_id) FROM resident
    WHERE occupation = 'N/A' AND
        TIMESTAMPDIFF(YEAR, bday, CURDATE()) >= 25;
SELECT COUNT(blottter_id) FROM blottter;
SELECT COUNT(resolution_id) FROM resolution;
```



**Figure VII—2.** Expected Results of the Dashboard

### 3. Archives or restores a resident.

```
UPDATE resident SET resident_status = 'Deleted'
    WHERE resident_id = ?4;
UPDATE resident SET resident_status = 'Active'
    WHERE resident_id = ?5;
```

<sup>4</sup> PHP binds the selected resident\_id that the admin wants to soft-delete.



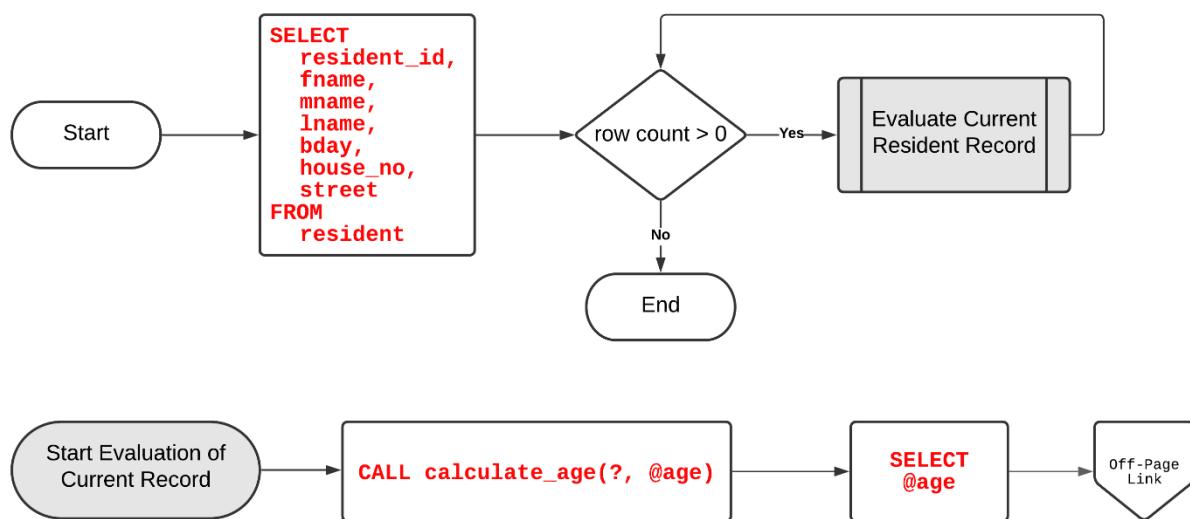
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A screenshot of a web browser displaying the "Archived Residents" page of the BMMS system. The page has a teal header with the "BMMS" logo and navigation links for HOME, RESIDENTS, BLOTTER, ARCHIVE, and a user icon. Below the header is a table with columns: ID, First Name, Middle Name, Last Name, Sex, Birthday, Age, and Restore. A single row is shown for a resident named Jovelyn Caturay Busque, female, born Apr. 28, 1981, aged 39. There is a "Restore" button next to the row. At the bottom of the table, it says "Showing 1 to 1 of 1 entries".

ID	First Name	Middle Name	Last Name	Sex	Birthday	Age	Restore
5	Jovelyn	Caturay	Busque	Female	Apr. 28, 1981	39	

**Figure VII—3.** Expected Results of Archiving/Restoring Resident

#### 4. Selects all residents eligible to be elected for a position.

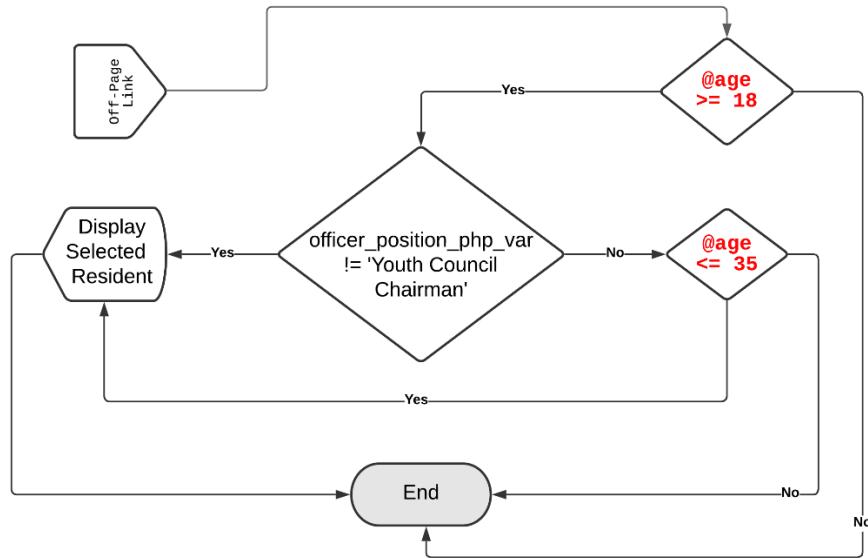


**Figure VII—4.** Flowchart for Displaying Eligible Residents for Election (Part 1)

<sup>5</sup> PHP binds the selected resident\_id that the admin wants to restore.



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**Figure VII—5. Flowchart for Displaying Eligible Residents for Election (Part 2)**

A screenshot of a web application titled "Barangay Muzon Management". The header includes the logo "BMMS" and navigation links for HOME, RESIDENTS, BLOTTER, ARCHIVE, and a user icon. The main content area shows a table titled "[ 2 ] Chairman of Committee on Sports and Education". The table has columns: ID, First Name, Middle Name, Last Name, Age, House No., and Street. The data is as follows:

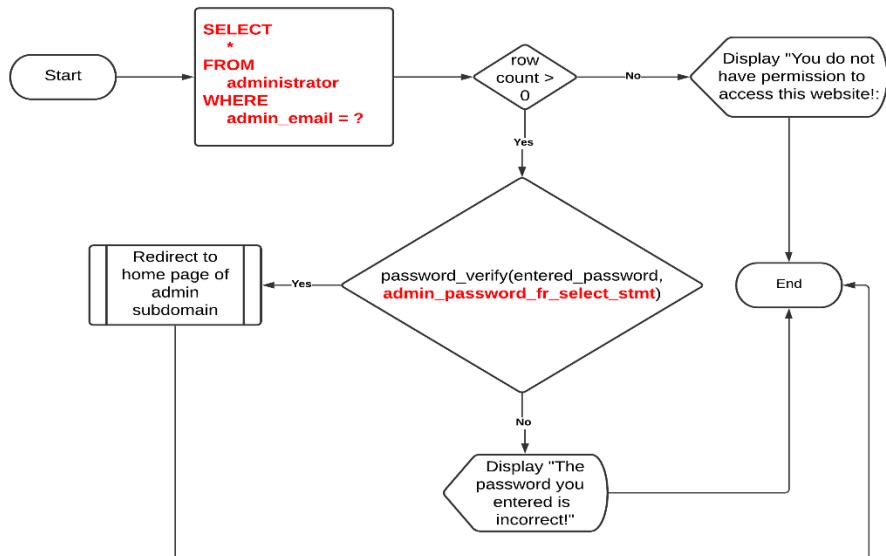
ID	First Name	Middle Name	Last Name	Age	House No.	Street
1	Teresita	Gumapas	De Ocampo	61	366	Callejon II
2	Rizaldy	Gumapas	De Ocampo	62	366	Callejon II
3	Farrah Faye	Gumapas	De Ocampo	32	366	Callejon II
4	Ralph Rian	Gumapas	De Ocampo	26	366	Callejon II
5	Jovelyn	Caturay	Busque	39	367	Callejon II
6	Allan	Angue	Busque	39	367	Callejon II
8	Amy	Angue	Cahu	26	25	D. Silang
9	Roxane	Angue	Cahu	21	25	D. Silang
11	Felicta	Rodriguez	Imbis	64	347	Callejon II
12	Riza	Lagatoc	Malaluan	40	229	D. Silang

**Figure VII—6. Expected Results of Eligible Residents for Election**

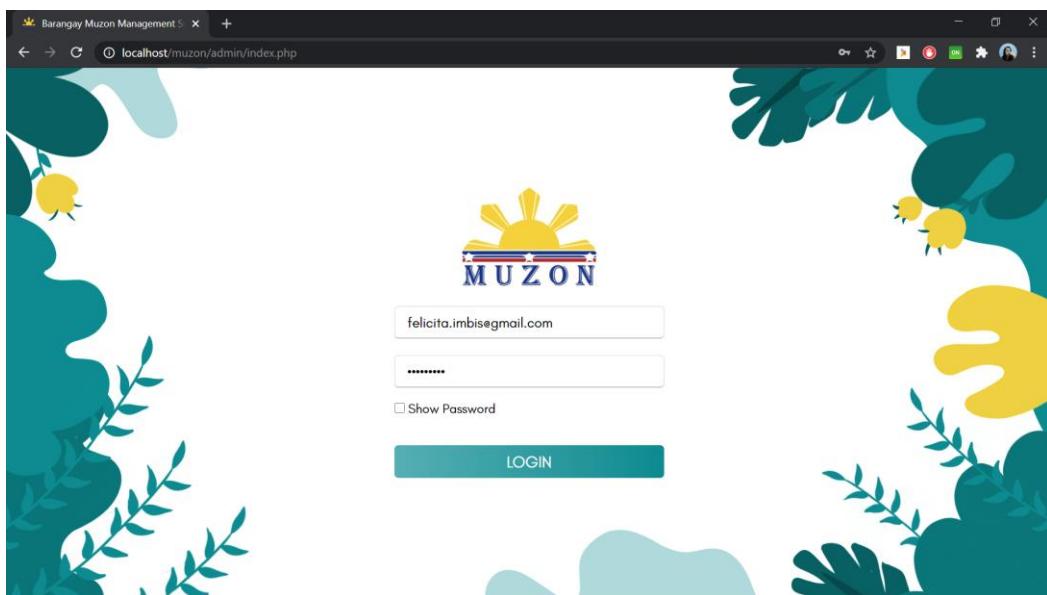


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### 5. Processes login.



**Figure VII—7.** Flowchart of Processing Login



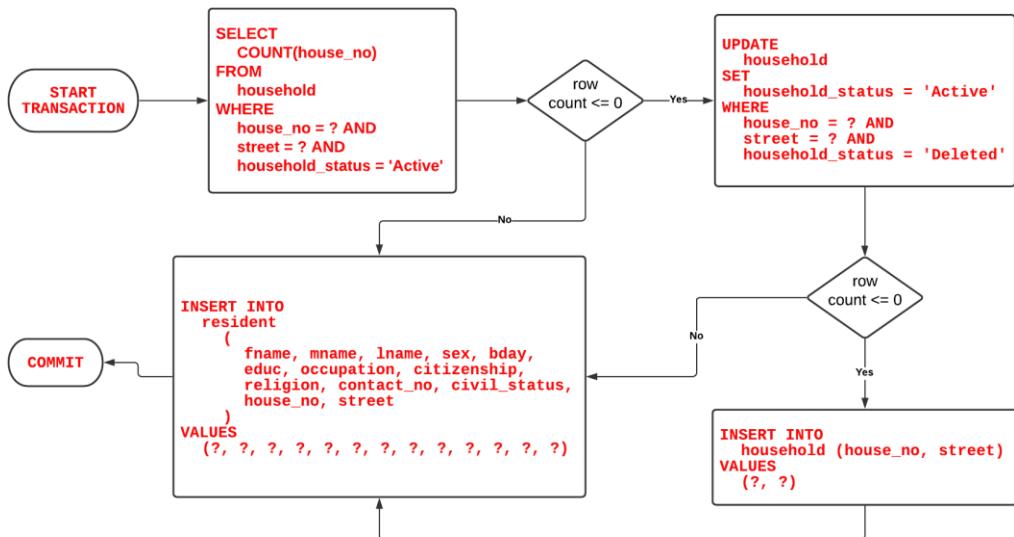
**Figure VII—8.** Expected Results of Processing Login



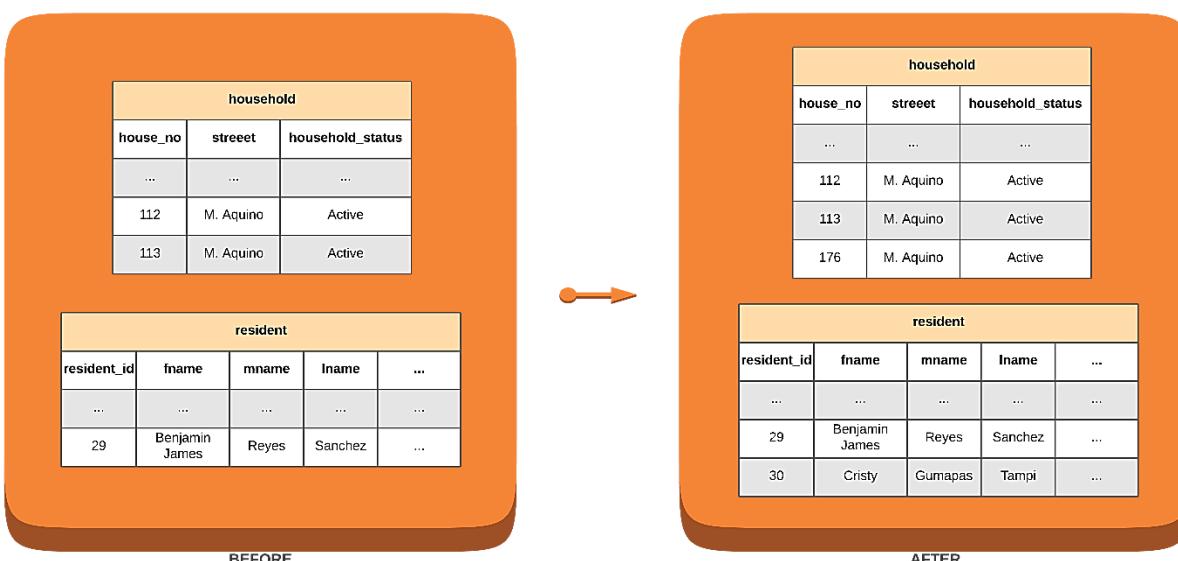
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### Hard (5)

#### 1. Inserts a resident.



**Figure VII—9.** Flowchart of Inserting a Resident



**Figure VII—10.** Expected Results of Inserting a Resident



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The first query in **Figure VII-9** is used to check first if the new resident's address is already existing in **household**. If address is not yet recorded, referring to the first decision block, then restore record from archive if it exists. If address does not exist in archive, a new **household** record is inserted. The resident record is finally inserted only after establishing the parent record.

### 2. Edits a resident record.

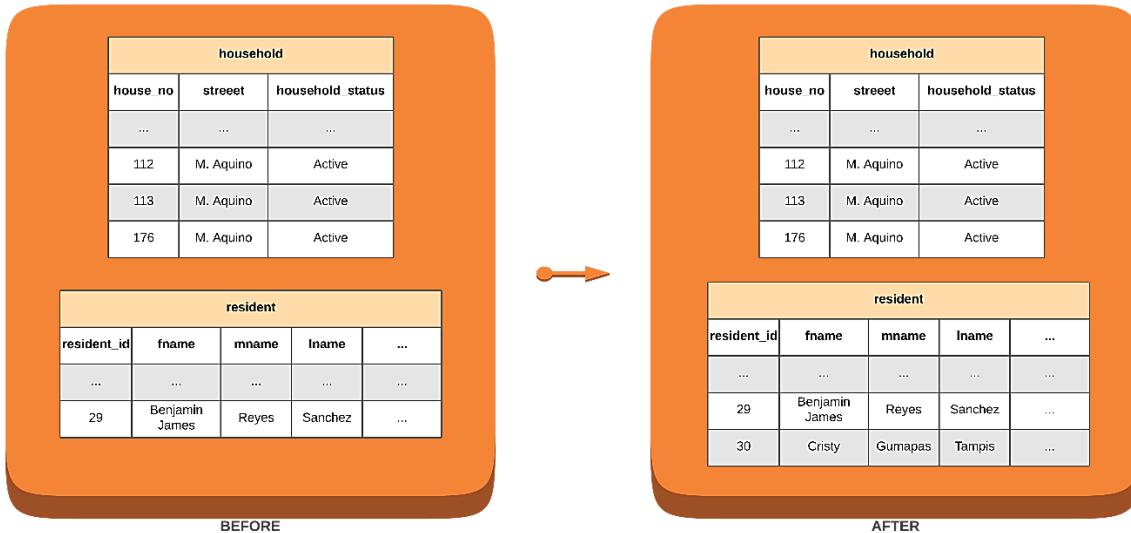
```
START TRANSACTION;
    -- Query 1: Insert updated address into `household` if
               address doesn't exists yet.
    INSERT IGNORE INTO household (house_no, street)
    VALUES (?, ?);

    -- Query 2: Update record in `resident`.
    UPDATE resident
    SET
        fname = ?,
        mname = ?,
        lname = ?,
        sex = ?,
        bday = ?,
        educ = ?,
        occupation = ?,
        citizenship = ?,
        religion = ?,
        contact_no = ?,
        civil_status = ?,
        house_no = ?,
        street = ?
    WHERE resident_id = ?
COMMIT;
```

Suppose the admin would like to correct Cristy's misspelled last name from the last figure, the expected results would be as follows.

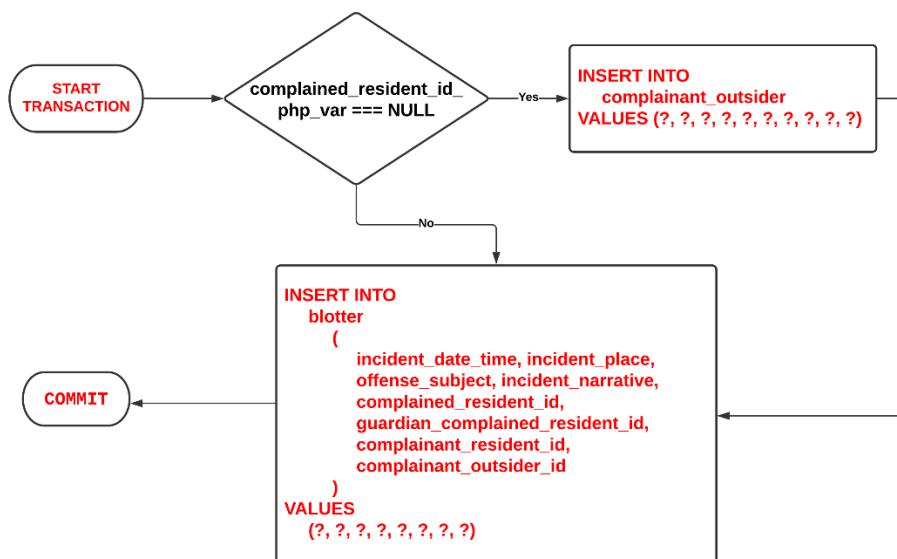


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**Figure VII—11.** Expected Results of Editing a Resident Record

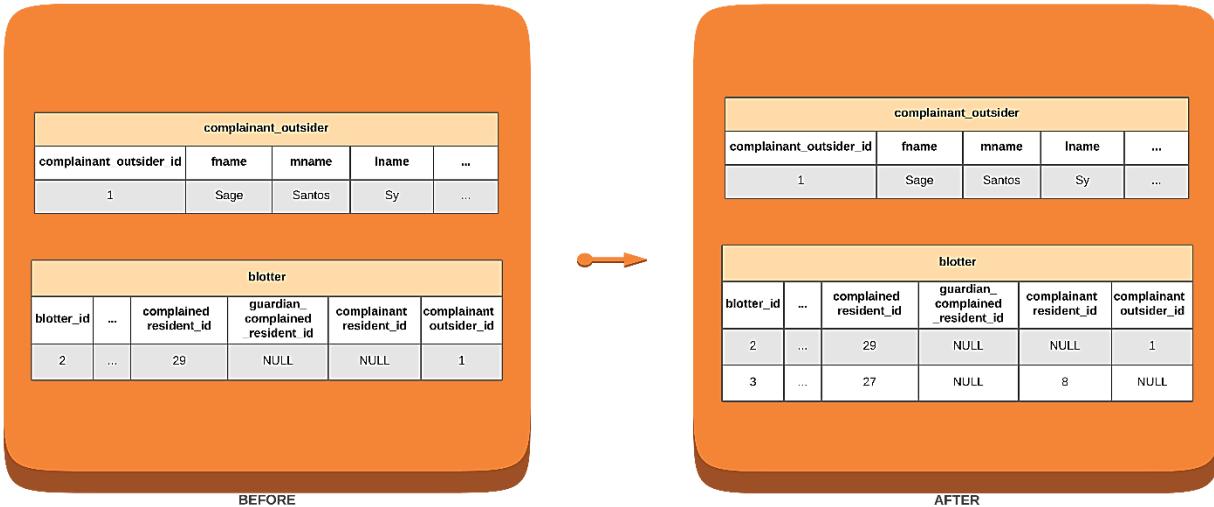
### 3. Inserts a blotter record.



**Figure VII—12.** Flowchart of Inserting a Blotter Record



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**Figure VII—13. Expected Results of Inserting a Blotter Record**

#### 4. Marks a blotter case as resolved.

```

START TRANSACTION;
-- Query 1: Retrieve data of newly resolved blotter record.
SELECT
*
FROM
    blotter
WHERE
    blotter_id = ?;

-- Query 2: Insert retrieved record to `resolution` along
-- with the new fields.
INSERT INTO
    resolution
VALUES
    (?, ?, ?, ?, ?, ?, ?, ?, ?, ?, ?, ?, ?);

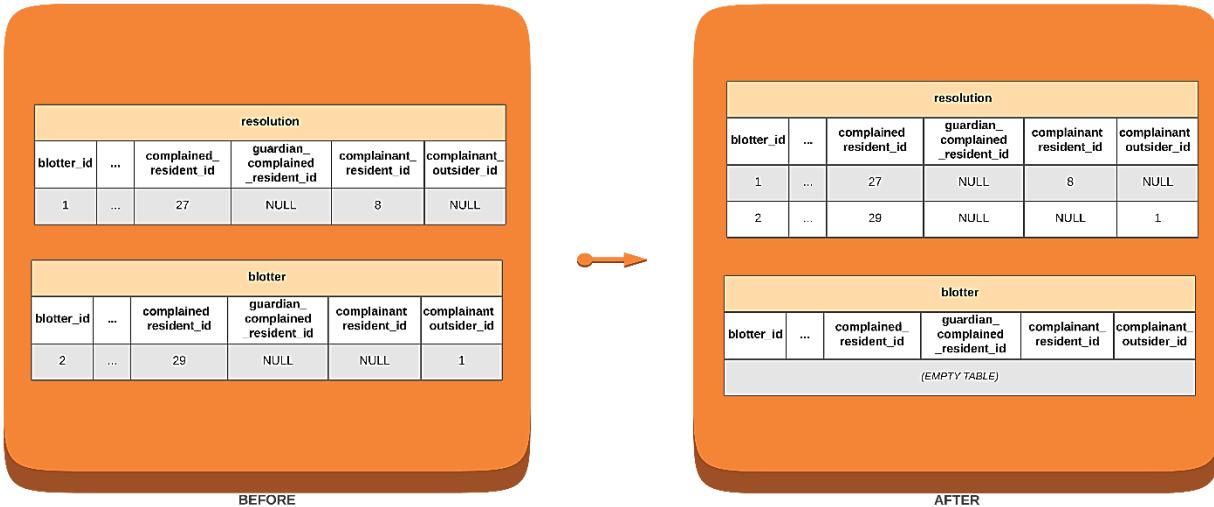
-- Query 3: Delete retrieved record from `blotter`.
DELETE FROM blotter WHERE blotter_id = ?;

COMMIT;

```



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**Figure VII—14.** Expected Results of Settling a Blotter Record

### 5. Marks an officer as terminated.

```

START TRANSACTION;
-- Query 1: Retrieve data of newly terminated officer.
SELECT * FROM officer WHERE officer_id = ?;

-- Query 2: Insert retrieved record to
-- `terminated_officer` along with the new fields.
INSERT INTO terminated_officer VALUES (?, ?, ?, ?, ?, ?, ?, ?);

-- Query 3: Delete retrieved record from `officer`.
DELETE FROM officer WHERE officer_id = ?;

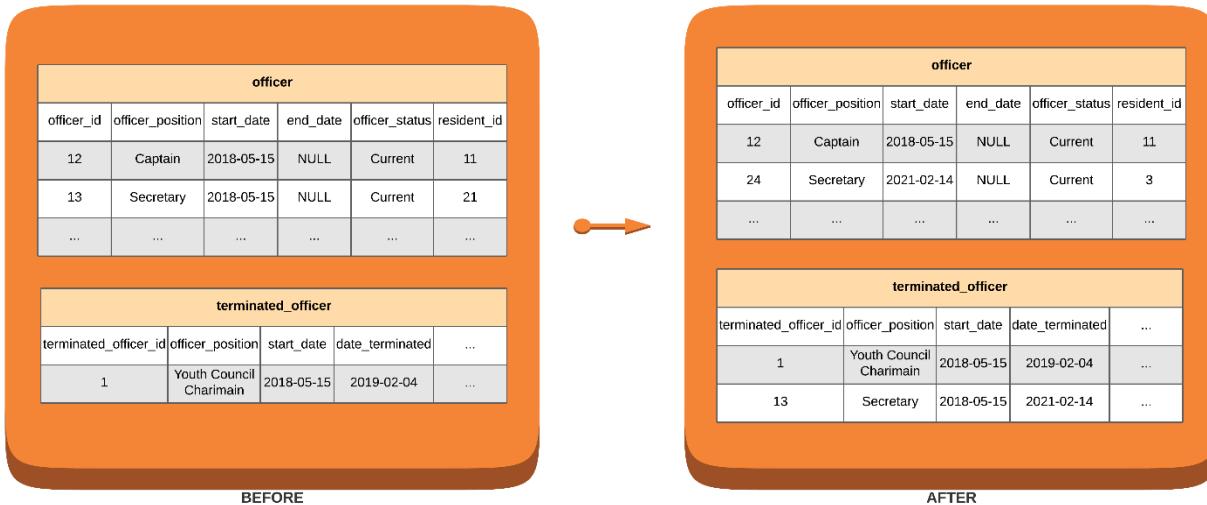
-- Query 4: Attempt insert new replacement to `officer`
INSERT INTO
    Officer (officer_position, start_date,
             officer_status, resident_id)
VALUES
    (?, ?, ?, ?);

COMMIT;

```



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**Figure VII—15. Expected Results of Terminating an Officer**



## VIII. Column & Scalar Functions, and Arithmetic Operators

### Statements that used Column Functions (3)

The expected results in this chapter, and the chapters following are based on the inserted records shown in Chapter VI. Furthermore, the queries in this chapter were ran as of February 5, 2021.

#### 1. Gets the number of requested documents for today.

```
SELECT
    COUNT(request_id)
FROM
    request
WHERE
    date_requested = CURDATE();
```

COUNT(request_id)
0

**Figure VIII—1.** Expected Result of Query with *COUNT* Function

#### 2. Gets the daily sales.

```
SELECT
    COALESCE(SUM(price), 0)
FROM
    request
```



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```
INNER JOIN document
    USING (document_name)
WHERE
    date_requested = CURDATE();
```

COALESCE(SUM(price), 0)
0.00

**Figure VIII—2.** Expected Results of Query with **SUM** Function

### 3. Gets the weekly average sales.

```
SELECT
    WEEK(date_requested, 1),
    ROUND(AVG(price), 2)
FROM
    request
INNER JOIN document
    USING (document_name)
GROUP BY
    WEEK(date_requested, 1);
```

week	ROUND(AVG(price), 2)
4	20.00
5	16.00

**Figure VIII—3.** Expected Results of Query with **AVG** Function



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### Statements that used Scalar Functions (4)

#### 1. Gets the number of requested documents for today.

```
SELECT
    COUNT(request_id)
FROM
    request
WHERE
    date_requested = CURDATE();
```

#### 2. Gets the daily sales.

```
SELECT
    COALESCE(SUM(price), 0)
FROM
    request
INNER JOIN document
    USING (document_name)
WHERE
    date_requested = CURDATE();
```

#### 3. Gets the weekly average sales.

```
SELECT
    WEEK(date_requested, 1) AS week,
    ROUND(AVG(price), 2)
FROM
    request
INNER JOIN document
    USING (document_name)
GROUP BY
    week;
```

Since the same queries from the last section were used, just different highlights on the function(s) being used, the expected results are also the same.



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### Statements that used Arithmetic Operators (3)

The stored procedure below makes use of: (1) subtraction, (2), division, and (3) multiplication to get the sales growth of the current week. It is worth noting that the queries in this chapter are only used for data analysis of *Compliance and Reporting*, and not displayed in the actual website. Hence, the expected results here were only ran directly from the command line.

```
DELIMITER $$  
CREATE PROCEDURE calc_sales_growth(  
    OUT p_sales_growth DECIMAL (6, 2)  
)  
BEGIN  
    DECLARE sales_last_week, sales_this_week, difference DECIMAL (6,  
2);  
  
    SELECT  
        COALESCE(SUM(price), 0)  
    INTO  
        sales_last_week  
    FROM  
        request  
    INNER JOIN document  
        USING (document_name)  
    WHERE  
        WEEK(date_requested, 1) = WEEK(CURDATE(), 1) - 1;  
  
    SELECT  
        COALESCE(SUM(price), 0)  
    INTO  
        sales_this_week  
    FROM  
        request  
    INNER JOIN document
```



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```
USING (document_name)
WHERE
    WEEK(date_requested, 1) = WEEK(CURDATE(), 1);

SET difference = sales_this_week - sales_last_week;

IF difference > 0 THEN
    SET p_sales_growth =
        ROUND((difference / sales_last_week) * 100, 2);
END IF;
END $$;
DELIMITER ;

CALL calc_sales_growth(@sales_growth);
SELECT CONCAT(@sales_growth, '%');
```

+	- - - - -	+
	CONCAT(@sales_growth, '%')	
+	- - - - -	+
	300.00%	
+	- - - - -	+

**Figure VIII—4.** Expected Result of Statements with Arithmetic Operators



## IX. Retrieving from Multiple Tables

The expected results in this chapter, and the chapters following are based on the inserted records shown in Chapter VI. In order to avoid data duplication in inserting records for **officer**, each entry references a record in the **resident** table as shown in the ERD found in Chapter IV.

The last line of every item in this Chapter issues a **SELECT** statement against the **VIEW** which executes the underlying **JOINS** specified in the **VIEW**'s definition. The result set returned is then displayed in the admin side of the website. Furthermore, for each date field, it is converted to a long date format using a different scripting language.

### Medium (4)

#### 1. Gets the information of the current officers.

```
CREATE VIEW curr_officers AS
SELECT
    officer_id,
    officer_position,
    CONCAT(fname, ' ', LEFT(mname, 1), '. ', lname) AS name
FROM
    officer
INNER JOIN
    resident USING (resident_id)
WHERE
    officer_status = 'Current';

SELECT * FROM curr_officers ORDER BY officer_position;
```



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A screenshot of a web browser showing the "Officers" list in the BMMS Admin Side. The page has a teal header with the "BMMS" logo and navigation links for HOME, RESIDENTS, BLOTER, ARCHIVE, and a user icon. Below the header is a search bar and three buttons: "New Cycle", "Print", and "CSV". The main content is a table with columns: ID, Position, Name, and Terminate. The data rows are: 12 (Captain, Felicita R. Imbis), 13 (Secretary, Rodolfo N. Años), 14 (Treasurer, Editha M. Hallare), 15 (Chairman of Committee on Agriculture, Alvin J. Hallare), 16 (Chairman of Committee on Sports and Education, Raquel P. Loyola), 17 (Chairman of Committee on Health, Iconarclo D. Api), 18 (Chairman of Committee on Peace and Order, Leonardo D. Api), 19 (Chairman of Committee on Environmental Protection, Violeta B. Hera), 20 (Chairman of Committee on Budget and Appropriations, Daisy A. Oneza), and 21 (Chairman of Committee on Public Works, Macario L. Mercada).

ID	Position	Name	Terminate
12	Captain	Felicita R. Imbis	X
13	Secretary	Rodolfo N. Años	X
14	Treasurer	Editha M. Hallare	X
15	Chairman of Committee on Agriculture	Alvin J. Hallare	X
16	Chairman of Committee on Sports and Education	Raquel P. Loyola	X
17	Chairman of Committee on Health	Iconarclo D. Api	X
18	Chairman of Committee on Peace and Order	Leonardo D. Api	X
19	Chairman of Committee on Environmental Protection	Violeta B. Hera	X
20	Chairman of Committee on Budget and Appropriations	Daisy A. Oneza	X
21	Chairman of Committee on Public Works	Macario L. Mercada	X

**Figure IX—1.** Expected Results of *curr\_officers* VIEW - Admin Side

A screenshot of a web browser showing the "ELECTED OFFICIALS" list in the BMMS Public Side. The page has a dark blue header with the "MUZON" logo and navigation links for HOME, NEWS & EVENTS, ABOUT US, and CONTACT. Below the header is a section titled "ELECTED OFFICIALS" with a table. The table has two columns: "Position" and "Name". The data rows are: Captain (Felicita R. Imbis), Secretary (Rodolfo N. Años), Treasurer (Editha M. Hallare), Chairman of Committee on Agriculture (Alvin J. Hallare), Chairman of Committee on Sports and Education (Raquel P. Loyola), Chairman of Committee on Health (Iconarclo D. Api), Chairman of Committee on Peace and Order (Leonardo D. Api), Chairman of Committee on Environmental Protection (Violeta B. Hera), Chairman of Committee on Budget and Appropriations (Daisy A. Oneza), Chairman of Committee on Public Works (Macario L. Mercada), and Youth Council Chairman (Rosmarilin C. Medina).

Position	Name
Captain	Felicita R. Imbis
Secretary	Rodolfo N. Años
Treasurer	Editha M. Hallare
Chairman of Committee on Agriculture	Alvin J. Hallare
Chairman of Committee on Sports and Education	Raquel P. Loyola
Chairman of Committee on Health	Iconarclo D. Api
Chairman of Committee on Peace and Order	Leonardo D. Api
Chairman of Committee on Environmental Protection	Violeta B. Hera
Chairman of Committee on Budget and Appropriations	Daisy A. Oneza
Chairman of Committee on Public Works	Macario L. Mercada
Youth Council Chairman	Rosmarilin C. Medina

**Figure IX—2.** Expected Results of *curr\_officers* VIEW - Public Side



## POLYTECHNIC UNIVERSITY OF THE PHILIPPINES

### 2. Gets the information of the terminated officers.

```
CREATE VIEW terminated_officers AS
SELECT
    officer_position,
    CONCAT(fname, ' ', LEFT(mname, 1), '. ', lname) AS name,
    cause_of_termination,
    start_date,
    date_terminated
FROM
    terminated_officer
INNER JOIN
    resident USING (resident_id);

SELECT * FROM terminated_officers
ORDER BY date_terminated, officer_position, name;
```

A screenshot of a web-based application titled "BMMS" (Barangay Muzon Management System). The top navigation bar includes links for HOME, RESIDENTS, BLOTER, ARCHIVE, and a user icon. The main content area is titled "Terminated Officers". It displays a table with the following data:

Position	Name	Cause of Termination	Start	End
Youth Council Chairman	Jasmine R. Imbis	Withdrawal of Appointment	May 15, 2018	Feb. 4, 2019

Showing 1 to 1 of 1 entries

Search:

Previous | 1 | Next

Below the table, there is a section titled "Archived Residents" with a table header:

Position	Name	Cause of Termination	Start	End
----------	------	----------------------	-------	-----

**Figure IX—3. Expected Results of `terminated_officers` VIEW**



## POLYTECHNIC UNIVERSITY OF THE PHILIPPINES

### 3. Deletes the account of all officers who are no longer in service.

```
DELETE
    admin
FROM
    administrator AS admin
INNER JOIN officer
    USING(officer_id)
WHERE
    officer_status = 'Past'
```

In particular, this is only available for the master admin. This provision is used for database maintenance, i.e., cleaning the admin table possibly after every term. At Figure IX-8, you could see that there is a “Clean” button. Upon its execution, the administrator table should be as follows, i.e., the account for *Riza Malaluan* is no longer available. Furthermore, since this feature is just for database maintenance, an alert message is only displayed on the website.

admin_id	admin_email	admin_password	officer_id
1	brgy.muzon.naic.cavite@gmail.com	\$2y\$10\$CtnzbINryH1wLupEyJ2U.ta2WbMK5PdJi8AXNPEK.d...	NULL
2	felicita.imbis@gmail.com	\$2y\$10\$uyNGNk8Ccj35tfSpFOWVte4rOjE02VDMYTBMYJaqULR...	12

**Figure IX—4. Expected Results of DELETE JOIN**

### 4. Retrieves data of all officers.

```
CREATE VIEW officer_details AS
SELECT
    *
FROM
    officer
```



## POLYTECHNIC UNIVERSITY OF THE PHILIPPINES

```

INNER JOIN resident
USING (resident_id);

SELECT * FROM officer_details;

```

The query above is also only used for *Compliance and Reporting*, hence, the results shown in the succeeding figure was directly ran from the command line. The result set is more commonly used to assess the capability and suitability of the individuals that holds a position or has held a position. The PDF file generated is also used as reference whenever requested as part of the BGPMS.

resident_id	officer_id	officer_position	start_date	end_date	officer_status	fname	mname	lname	sex	bday	educ	occupation	citizenship	religion	contact_no	civil_status	resident_status	house_no	street
11	1	Captain	2013-05-13	2018-05-15	Past	Felicita	Rodriguez	Imbis	Female	1956-06-01	College Graduate	Civil Servant	Filipino	Roman Catholic	09186475411	Married	Active	347	Callejon II
12	2	Secretary	2013-05-13	2018-05-15	Past	Riza	Lagatoc	Malauan	Female	1980-05-25	High School Graduate	Laundrywoman	Filipino	Roman Catholic	09282308934	Married	Active	229	D. Silang
13	3	Treasurer	2013-05-13	2018-05-15	Past	Editha	Maggali	Hallare	Female	1956-01-15	Some College	Civil Servant	Filipino	Roman Catholic	09089792979	Married	Active	353	Callejon II
14	4	Chairman of Committee on Agriculture	2013-05-13	2018-05-15	Past	Alvin	Jeciel	Hallare	Male	1961-06-06	High School Graduate	Civil Servant	Filipino	Roman Catholic	09186829559	Married	Active	353	Callejon II
15	5	Chairman of Committee on Sports and Education	2013-05-13	2018-05-15	Past	Raquel	Pagtakhan	Loyola	Female	1980-05-25	College Graduate	Civil Servant	Filipino	Roman Catholic	09184720087	Married	Active	220	A. Bonifacio
16	6	Chairman of Committee on Health	2013-05-13	2018-05-15	Past	Iconrado	Domingo	Api	Male	1969-10-09	High School Graduate	Welder	Filipino	Roman Catholic	09497266639	Married	Active	74	E. Balagtas
17	7	Chairman of Committee on Peace and Order	2013-05-13	2018-05-15	Past	Aniceta	Magtibay	Mercado	Female	1963-04-17	High School Graduate	Cook	Filipino	Roman Catholic	09494704213	Married	Active	411	Callejon II
18	8	Chairman of Committee on Environmental Protection	2013-05-13	2018-05-15	Past	Jeel	Magtala	Salvador	Male	1984-11-05	High School Graduate	Factory Worker	Filipino	Iglesia ni Cristo	09089792979	Married	Active	439	Callejon II
19	9	Chairman of Committee on Budget and Appropriations	2013-05-13	2018-05-15	Past	Daisy	Alcantara	Oneza	Female	1965-09-11	College Graduate	Civil Servant	Filipino	Roman Catholic	09485760732	Married	Active	345	Callejon II
20	10	Chairman of Committee on Public Works	2013-05-13	2018-05-15	Past	Macario	Lubag	Mercada	Male	1956-05-16	College Graduate	Civil Servant	Filipino	Roman Catholic	09569126747	Married	Active	96	E. Balagtas
24	11	Youth Council Chairman	2013-05-13	2018-05-15	Past	Jasmine	Rodriguez	Imbis	Female	1995-06-01	College Graduate	Bank Teller	Filipino	Roman Catholic	09186475411	Married	Active	347	Callejon II
11	12	Captain	2018-05-15	NULL	Current	Felicita	Rodriguez	Imbis	Female	1956-06-01	College Graduate	Civil Servant	Filipino	Roman Catholic	09186475411	Married	Active	347	Callejon II
21	13	Secretary	2018-05-15	NULL	Current	Rodolfo	Nacablan	Aflos	Male	1956-08-23	College Graduate	Civil Servant	Filipino	Iglesia ni Cristo	09071294783	Married	Active	213	A. Bonifacio
13	14	Treasurer	2018-05-15	NULL	Current	Editha	Maggali	Hallare	Female	1956-01-15	Some College	Civil Servant	Filipino	Roman Catholic	09089792979	Married	Active	353	Callejon II
14	15	Chairman of Committee on Agriculture	2018-05-15	NULL	Current	Alvin	Jeciel	Hallare	Male	1961-06-06	High School Graduate	Civil Servant	Filipino	Roman Catholic	09186829559	Married	Active	353	Callejon II
15	16	Chairman of Committee on Sports and Education	2018-05-15	NULL	Current	Raquel	Pagtakhan	Loyola	Female	1980-05-25	College Graduate	Civil Servant	Filipino	Roman Catholic	09184720087	Married	Active	220	A. Bonifacio
16	17	Chairman of Committee on Health	2018-05-15	NULL	Current	Iconrado	Domingo	Api	Male	1969-10-09	High School Graduate	Welder	Filipino	Roman Catholic	09497266639	Married	Active	74	E. Balagtas
22	18	Chairman of Committee on Peace and Order	2018-05-15	NULL	Current	Leonardo	Domingo	Api	Male	1973-10-09	College Graduate	Civil Servant	Filipino	Roman Catholic	09495619046	Married	Active	74	E. Balagtas
23	19	Chairman of Committee on Environmental Protection	2018-05-15	NULL	Current	Violeta	Balatoco	Hera	Female	1980-11-05	College Graduate	Civil Servant	Filipino	Jehovah	09072914753	Single	Active	200	A. Bonifacio
19	20	Chairman of Committee on Budget and Appropriations	2018-05-15	NULL	Current	Daisy	Alcantara	Oneza	Female	1965-09-11	College Graduate	Civil Servant	Filipino	Roman Catholic	09485760732	Married	Active	345	Callejon II
20	21	Chairman of Committee on Public Works	2018-05-15	NULL	Current	Macario	Lubag	Mercada	Male	1956-05-16	College Graduate	Civil Servant	Filipino	Roman Catholic	09569126747	Married	Active	96	E. Balagtas
25	23	Youth Council Chairman	2019-02-04	NULL	Current	Rosmarin	Cabasin	Medina	Female	1999-11-13	Some College	N/A	Filipino	Roman Catholic	09452579778	Married	Active	112	M. Aquino

**Figure IX—5. Expected Results of *officer\_details* VIEW**



## POLYTECHNIC UNIVERSITY OF THE PHILIPPINES

### Hard (4)

#### 1. Gets the list of ALL past officers.

```
CREATE VIEW past_officers AS
SELECT
    officer_position,
    CONCAT(fname, ' ', LEFT(mname, 1), '. ', lname) AS name,
    start_date,
    end_date
FROM
    officer
INNER JOIN resident
    USING (resident_id)
WHERE
    officer_status = 'Past'
UNION
SELECT
    officer_position,
    CONCAT(fname, ' ', LEFT(mname, 1), '. ', lname) AS name,
    start_date,
    date_terminated
FROM
    terminated_officer
INNER JOIN resident
    USING (resident_id);

SELECT * FROM past_officers
ORDER BY end_date DESC, officer_position;
```

In particular, the query above retrieves records of officers from previous terms, as well as the terminated officers. The result set is then labeled as *History of Officers* as shown in the next figure.



## POLYTECHNIC UNIVERSITY OF THE PHILIPPINES

A screenshot of a web-based application titled "BMMS" (Barangay Muzon Management System). The top navigation bar includes links for "HOME", "RESIDENTS", "BLOTTER", and "ARCHIVE". The "ARCHIVE" link is highlighted in red. Below the navigation, the title "History of Officers" is displayed. A search bar and buttons for "Print" and "CSV" are visible. A table lists historical officer positions and their details. The table has columns for Position, Name, Start, and End. The data shows 12 entries of officers from 2013 to 2019.

Position	Name	Start	End
Youth Council Chairman	Jasmine R. Imbis	May 15, 2018	Feb. 4, 2019
Captain	Felicitia R. Imbis	May 15, 2013	May 15, 2018
Chairman of Committee on Agriculture	Alvin J. Hallare	May 15, 2013	May 15, 2018
Chairman of Committee on Budget and Appropriations	Daisy A. Oneza	May 15, 2013	May 15, 2018
Chairman of Committee on Environmental Protection	Jeel M. Salvador	May 15, 2013	May 15, 2018
Chairman of Committee on Health	Iconarclo D. Api	May 15, 2013	May 15, 2018
Chairman of Committee on Peace and Order	Aniceta M. Mercado	May 15, 2013	May 15, 2018
Chairman of Committee on Public Works	Macario L. Mercada	May 15, 2013	May 15, 2018
Chairman of Committee on Sports and Education	Raquel P. Loyola	May 15, 2013	May 15, 2018
Secretary	Riza L. Malaluan	May 15, 2013	May 15, 2018

Showing 1 to 10 of 12 entries

Previous 1 2 Next

**Figure IX—6. Expected Results of *past\_officers* VIEW**

### 2. Gets the list of officers without access to the website.

```
CREATE VIEW officers_without_account AS
SELECT
    officer_id,
    officer_position,
    CONCAT(fname, ' ', LEFT(mname, 1), '. ', lname) AS name
FROM
    officer
LEFT JOIN administrator
    USING (officer_id)
INNER JOIN resident
    USING (resident_id)
WHERE
    officer_status = 'Current' AND
    administrator.officer_id IS NULL;
```



## POLYTECHNIC UNIVERSITY OF THE PHILIPPINES

```
SELECT * FROM officers_without_account  
ORDER BY officer_position;
```

Particularly, the previous **VIEW** is only available for the master admin. This **VIEW** is used to implement the functionality of creating accounts for the officers as shown in the figure below.

A screenshot of a web-based application titled "Barangay Muzon Management". The header includes the logo "BMMS" and navigation links for "HOME", "RESIDENTS", "BLOTER", and "ARCHIVE". The main content area is titled "Create an Account". It features a table listing ten officers with their details and a "Create" button next to each entry. The table columns are "ID", "Position", "Name", and "Create".

ID	Position	Name	Create
13	Secretary	Rodolfo N. Años	<a href="#">+</a>
14	Treasurer	Editha M. Hallare	<a href="#">+</a>
15	Chairman of Committee on Agriculture	Alvin J. Hallare	<a href="#">+</a>
16	Chairman of Committee on Sports and Education	Raquel P. Loyola	<a href="#">+</a>
17	Chairman of Committee on Health	Iconarclo D. Api	<a href="#">+</a>
18	Chairman of Committee on Peace and Order	Leonardo D. Api	<a href="#">+</a>
19	Chairman of Committee on Environmental Protection	Violeta B. Hera	<a href="#">+</a>
20	Chairman of Committee on Budget and Appropriations	Daisy A. Oneza	<a href="#">+</a>
21	Chairman of Committee on Public Works	Macario L. Mercada	<a href="#">+</a>
25	Youth Council Chairman	Rosmarilyn C. Medina	<a href="#">+</a>

Show 10 entries Search:

Showing 1 to 10 of 10 entries Previous [1](#) Next

**Figure IX—7. Expected Results of *officers\_without\_account* VIEW**

On the contrary, the succeeding query is used to implement the functionality of revoking accounts of the current officers.



## POLYTECHNIC UNIVERSITY OF THE PHILIPPINES

### 3. Get the list of officers with access to the website.

```
CREATE VIEW officers_with_account AS
SELECT
    officer_id,
    officer_position,
    CONCAT(fname, ' ', LEFT(mname, 1), '. ', lname) AS name
FROM
    administrator
INNER JOIN officer
    USING (officer_id)
INNER JOIN resident
    USING (resident_id)
WHERE
    officer_status = 'Current' AND
    admin_email != 'brgy.muzon.naic.cavite@gmail.com';

SELECT * FROM officers_with_account
ORDER BY officer_position;
```

A screenshot of a web browser displaying a dashboard titled 'BMMS'. The dashboard has a teal header with the 'BMMS' logo and navigation links for 'HOME', 'RESIDENTS', 'BLOTER', 'ARCHIVE', and a user icon. Below the header, there is a table showing a list of officers with account details. The table includes columns for 'Name', 'Position', and 'Status' (indicated by small icons). At the bottom of the table, there are 'Previous' and 'Next' buttons. Below the table, a modal dialog is open with the title 'Revoke Account'. It contains a 'Clean' button, a search bar, and a table with columns 'ID', 'Position', 'Name', and 'Revoke'. A single row is visible in the table, showing ID 12, Position Captain, Name Felicita R. Imbis, and a red 'Revoke' button.

**Figure IX—8. Expected Results of `officers_with_account` VIEW**



## POLYTECHNIC UNIVERSITY OF THE PHILIPPINES

Furthermore, the previous query also excludes the master admin from the result set.

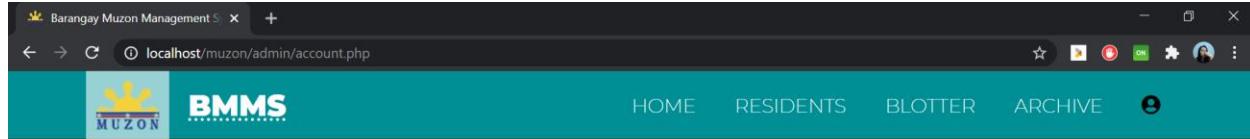
### 4. Procedure used to get the details of the current officer that is logged in.

```
DELIMITER $$  
CREATE PROCEDURE get_officer_admin (  
    IN p_officer_id INT UNSIGNED,  
    OUT p_admin_name VARCHAR(100),  
    OUT p_admin_position VARCHAR(50)  
)  
BEGIN  
    SELECT  
        CONCAT(fname, ' ', LEFT(mname, 1), '. ', lname),  
        officer_position  
    INTO  
        p_admin_name,  
        p_admin_position  
    FROM  
        administrator  
    INNER JOIN officer  
        USING (officer_id)  
    INNER JOIN resident  
        USING (resident_id)  
    WHERE  
        officer_id = p_officer_id;  
END $$  
DELIMITER ;  
  
CALL get_officer_admin(? , @admin_name, @admin_position);  
SELECT @admin_name;  
SELECT @admin_position;
```

Through PHP, the `officer_id` of the logged in user is passed into this procedure. The succeeding figure shows the expected results when **12** is passed as the first parameter.



## POLYTECHNIC UNIVERSITY OF THE PHILIPPINES



**Figure IX—9.** Expected Results of `get_officer_admin` PROCEDURE



## POLYTECHNIC UNIVERSITY OF THE PHILIPPINES

### X. Subquery

Medium (3)

#### 1. Gets the information of the current officials.

```
SELECT
    *
FROM
    resident
WHERE
    resident_id IN (
        SELECT
            resident_id
        FROM
            officer
        WHERE
            officer_status = 'Current'
    );
```

resident_id	fname	mname	lname	sex	bday	educ	occupation	citizenship	religion	contact_no	civil_status	resident_status	house_no	street
11	Felicta	Rodriguez	Imbis	Female	1956-06-01	College Graduate	Civil Servant	Filipino	Roman Catholic	09186475411	Married	Active	347	Callejon II
21	Rodolfo	Nacalaban	Aflos	Male	1956-08-23	College Graduate	Civil Servant	Filipino	Iglesia ni Cristo	09071294783	Married	Active	213	A. Bonifacio
13	Editha	Maggali	Hallare	Female	1956-01-15	Some College	Civil Servant	Filipino	Roman Catholic	09089792979	Married	Active	353	Callejon II
14	Alvin	Jeciel	Hallare	Male	1961-06-06	High School Graduate	Civil Servant	Filipino	Roman Catholic	09186829559	Married	Active	353	Callejon II
15	Raquel	Pagtakhan	Loyola	Female	1980-05-25	College Graduate	Civil Servant	Filipino	Roman Catholic	09184720087	Married	Active	220	A. Bonifacio
16	Iconarcio	Domingo	Api	Male	1969-10-09	High School Graduate	Welder	Filipino	Roman Catholic	09497266639	Married	Active	74	E. Balagtas
22	Leonardo	Domingo	Api	Male	1973-10-09	College Graduate	Civil Servant	Filipino	Roman Catholic	09495619048	Married	Active	74	E. Balagtas
23	Violeta	Balatico	Hera	Female	1980-11-05	College Graduate	Civil Servant	Filipino	Jehovah	09072914753	Single	Active	200	A. Bonifacio
19	Daisy	Alicantara	Oneza	Female	1965-09-11	College Graduate	Civil Servant	Filipino	Roman Catholic	09485760732	Married	Active	345	Callejon II
20	Macario	Lubag	Mercada	Male	1956-05-16	College Graduate	Civil Servant	Filipino	Roman Catholic	09569126747	Married	Active	96	E. Balagtas
25	Rosmarlin	Cabadin	Medina	Female	1999-11-13	Some College	N/A	Filipino	Roman Catholic	09452579778	Married	Active	112	M. Aquino

Figure X—1. Expected Results of Subquery - Medium 1

#### 2. Gets the information of the terminated officials.

```
SELECT
    *
FROM
    resident
```



## POLYTECHNIC UNIVERSITY OF THE PHILIPPINES

```
WHERE
    resident_id IN (
        SELECT
            resident_id
        FROM
            terminated_officer
    );
```

resident_id	fname	mname	lname	sex	bday	educ	occupation	citizenship	religion	contact_no	civil_status	resident_status	house_no	street
24	Jasmine	Rodriguez	Imbis	Female	1995-06-01	College Graduate	Bank Teller	Filipino	Roman Catholic	09186475411	Married	Active	347	Callejon II

**Figure X—2.** Expected Results of Subquery - Medium 2

### 3. Gets the information of residents with a pending case.

```
SELECT
    *
FROM
    resident
WHERE
    resident_id IN (
        SELECT
            complained_resident_id
        FROM
            blotter
    );
```

resident_id	fname	mname	lname	sex	bday	educ	occupation	citizenship	religion	contact_no	civil_status	resident_status	house_no	street
29	Benjamin James	Reyes	Sanchez	Male	1984-01-01	College Graduate	Art Director	Filipino	Roman Catholic	09358314949	Single	Active	481	Lapu-Lapu

**Figure X—3.** Expected Results of Subquery - Medium 3

### Hard (2)

The succeeding SQL statement is used when a resident is recently deleted, and nobody no longer lives in his previous address. If so, the corresponding record from the household table is soft-deleted.



## POLYTECHNIC UNIVERSITY OF THE PHILIPPINES

### 1. household table maintenance

```
UPDATE household
SET household_status = 'Deleted'
WHERE NOT EXISTS (
    SELECT
        house_no,
        street
    FROM
        resident
    WHERE
        (household.house_no = resident.house_no) AND
        (household.street = resident.street) AND
        resident_status = 'Active'
)
```

A screenshot of a web browser displaying the "Households" page of the BMMS (Barangay Muzon Management System). The page has a teal header with the "BMMS" logo and navigation links for HOME, RESIDENTS, BLOTTER, ARCHIVE, and a user icon. Below the header is a search bar labeled "Search:" with a placeholder and a clear button. There are also "Print" and "CSV" buttons. The main content area shows a table with columns "House Number", "Street", and "Copy to Clipboard". The table contains 10 entries, each with a copy icon. At the bottom, there is a footer with the text "Showing 1 to 10 of 17 entries" and a navigation bar with buttons for "Previous", "1", "2", and "Next".

House Number	Street	Copy to Clipboard
200	A. Bonifacio	
213	A. Bonifacio	
220	A. Bonifacio	
345	Callejon II	
347	Callejon II	
353	Callejon II	
366	Callejon II	
367	Callejon II	
411	Callejon II	
439	Callejon II	

**Figure X—4.** Expected Results of Subquery - Hard 1



## POLYTECHNIC UNIVERSITY OF THE PHILIPPINES

### 2. Gets the list of residents eligible for requesting a document.

```
SELECT
    CONCAT(fname, ' ', LEFT(mname, 1), '. ', lname) AS name,
    house_no,
    street
FROM
    resident
WHERE
    resident_id NOT IN (
        SELECT
            complained_resident_id
        FROM
            blotter
    );
```

name	house_no	street
Teresita G. De Ocampo	366	Callejon II
Rizaldy G. De Ocampo	366	Callejon II
Farrah Faye G. De Ocampo	366	Callejon II
Ralph Rian G. De Ocampo	366	Callejon II
Jovylyn C. Busque	367	Callejon II
Allan A. Busque	367	Callejon II
Nathaniel Aaron C. Busque	367	Callejon II
Amy A. Cahu	25	D. Silang
Roxane A. Cahu	25	D. Silang
Axelle A. Cahu	25	D. Silang
Felicta R. Imbis	347	Callejon II
Riza L. Malaluan	229	D. Silang
Editha M. Hallare	353	Callejon II
Alvin J. Hallare	353	Callejon II
Raquel P. Loyola	220	A. Bonifacio
Iconarclo D. Api	74	E. Balagtas
Aniceta M. Mercado	411	Callejon II
Jeel M. Salvador	439	Callejon II
Daisy A. Oneza	345	Callejon II
Macario L. Mercada	96	E. Balagtas
Rodolfo N. Años	213	A. Bonifacio
Leonardo D. Api	74	E. Balagtas
Violeta B. Hera	200	A. Bonifacio
Jasmine R. Imbis	347	Callejon II
Rosmarilin C. Medina	112	M. Aquino
Odile O. Medina	112	M. Aquino
Maria Patrice B. Pabiton	112	M. Aquino
Etchell B. Pabiton	113	M. Aquino

**Figure X—5. Expected Results of Subquery - Hard 2**



## XI. Stored Procedure

### With Input Parameter (2/1)

#### 1. Gets the name of the complained resident used in viewing blotter records.

```
DELIMITER $$  
CREATE PROCEDURE get_complained_resident (  
    IN p_resident_id INT UNSIGNED,  
    OUT p_resident_name VARCHAR(100)  
)  
BEGIN  
    SELECT  
        CONCAT(fname, ' ', LEFT(mname, 1), '. ', lname)  
        INTO  
            p_resident_name  
    FROM  
        resident  
    WHERE  
        resident_id = p_resident_id;  
END $$  
DELIMITER ;
```

#### 2. Gets the name of the complainant used in viewing blotter records.

```
DELIMITER $$  
CREATE PROCEDURE get_complainant (  
    IN p_resident_id INT UNSIGNED,  
    IN p_outsider_id INT UNSIGNED,  
    OUT p_complainant_name VARCHAR(100)  
)  
BEGIN  
    IF p_resident_id IS NOT NULL THEN  
        SELECT  
            CONCAT(fname, ' ', LEFT(mname, 1), '. ', lname)  
        INTO  
            p_complainant_name  
        FROM
```



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```
    resident
WHERE
    resident_id = p_resident_id;
ELSE
SELECT
    CONCAT(fname, ' ', LEFT(mname, 1), '. ', lname)
INTO
    p_complainant_name
FROM
    complainant_outsider
WHERE
    complainant_outsider_id = p_outsider_id;
END IF;
END $$
DELIMITER ;
```

A screenshot of a web browser displaying the "Blotter" page of the BMMS (Barangay Muzon Management System). The page has a teal header with the "BMMS" logo and navigation links for HOME, RESIDENTS, BLOTTER (which is active), and ARCHIVE. Below the header is a search bar and a table titled "Blotter". The table has columns: ID, Complained Resident, Complainant, Offense Subject, Status, View, and Settle. One entry is shown: ID 2, Complained Resident Benjamin James R. Sanchez, Complainant Sage S. Sy, Offense Subject Fraud, Status Pending, View (eye icon), and Settle (checkmark icon). At the bottom, it says "Showing 1 to 1 of 1 entries" and has "Previous" and "Next" buttons.

**Figure XI—1.** Expected Results of Procedures with Input Parameter V1



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A screenshot of a web browser displaying a Blotter Report. The header includes the "BMMS" logo and navigation links for HOME, RESIDENTS, BLOTTER (which is active), and ARCHIVE. Below the header, there is a link to "Back to Blotter List". The main content is titled "Blotter Report" and contains a table with the following data:

Case No.	2
Complainced Resident	Benjamin James R. Sanchez
Guardian of Complainced Resident	N/A
Complainant	Sage S. Sy
Date & Time Reported	Dec. 1, 2020 at 9:00 AM
Date & Time of Incident	Jul. 21, 2020 at 2:30 PM
Place of Incident	Sy Residences
Status	Pending
Offense Subject	Fraud

**Figure XI—2. Expected Results of Procedures with Input Parameter V2**

### Without Any Parameter (1)

#### 1. Gets the list of residents.

```
DELIMITER $$  
CREATE PROCEDURE load_residents()  
BEGIN  
    SELECT * FROM resident;  
END $$  
DELIMITER ;
```

The query above is used for selecting an official, a complained resident for a blotter case, guardian of a child in conflict with the law, a local complainant, or for simply displaying the list of all residents.



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A screenshot of a web-based application titled "Residents" under the "RESIDENTS" tab of the BMMS system. The page displays a table of resident information with columns for ID, First Name, Middle Name, Last Name, Sex, Birthday, Age, Highest Educ. Attainment, Occupation, and Citizenship. Two rows of data are visible:

ID	First Name	Middle Name	Last Name	Sex	Birthday	Age	Highest Educ. Attainment	Occupation	Citizenship
1	Teresita	Gumapas	De Ocampo	Female	Dec. 3, 1959	61	Advanced Degree	Teacher	Filipino
2	Rizaldy	Gumapas	De Ocampo	Male	Dec. 2, 1958	62	Some High School	Sewer	Filipino
3	Farrah	Gumapas	De Ocampo	Female	Dec. 1, 2000	20	College	Electrician	Filipino

Below the table, there are several status indicators and links: Religion (Roman Catholic), Contact No. (09568700018), Civil Status (Married), House No. (366), Street (Callejon II), Edit (person icon), and Archive (person icon).

**Figure XI—3. Expected Results of Procedure Without Any Parameter V1**

A screenshot of a web-based application titled "Step 1: Complained Resident" under the "BLOTTER" tab of the BMMS system. The page displays a table of resident information with columns for ID, First Name, Middle Name, Last Name, Age, House No., and Street. Ten rows of data are visible, representing the first 10 entries out of 29 total.

ID	First Name	Middle Name	Last Name	Age	House No.	Street
1	Teresita	Gumapas	De Ocampo	61	366	Callejon II
2	Rizaldy	Gumapas	De Ocampo	62	366	Callejon II
3	Farrah Faye	Gumapas	De Ocampo	32	366	Callejon II
4	Ralph Rian	Gumapas	De Ocampo	26	366	Callejon II
5	Jovylyn	Caturay	Busque	39	367	Callejon II
6	Allan	Angue	Busque	39	367	Callejon II
7	Nathaniel Aaron	Caturay	Busque	10	367	Callejon II
8	Amy	Angue	Cahu	26	25	D. Silang
9	Roxane	Angue	Cahu	21	25	D. Silang
10	Axelle	Angue	Cahu	16	25	D. Silang

At the bottom, a message indicates "Showing 1 to 10 of 29 entries" and includes navigation links for Previous, Next, and page numbers 1, 2, 3.

**Figure XI—4. Expected Results of Procedure Without Any Parameter V2**



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### With Output Parameter (1)

#### 1. Gets the age of a resident.

```
DELIMITER $$  
CREATE PROCEDURE calculate_age (  
    IN p_bday DATE,  
    OUT p_age INT UNSIGNED  
)  
BEGIN  
    SELECT  
        TIMESTAMPDIFF(YEAR, p_bday, CURDATE())  
    INTO  
        p_age;  
END $$  
DELIMITER ;
```

A screenshot of a web-based application titled "Barangay Muzon Management". The header includes the "BMMS" logo and navigation links for "HOME", "RESIDENTS", "BLOTTER", and "ARCHIVE". The main content area is titled "Step 2: Complainant Data" and shows a table of resident information. The table has columns: ID, First Name, Middle Name, Last Name, Age, House No., and Street. There are two tabs at the top of the table: "LOCAL" (which is selected) and "OUTSIDER". A search bar is located at the top right of the table. The table data is as follows:

ID	First Name	Middle Name	Last Name	Age	House No.	Street
1	Teresita	Gumapas	De Ocampo	61	366	Callejon II
2	Rizaldy	Gumapas	De Ocampo	62	366	Callejon II
3	Farrah Faye	Gumapas	De Ocampo	32	366	Callejon II
4	Ralph Rian	Gumapas	De Ocampo	26	366	Callejon II
5	Joylyn	Caturay	Busque	39	367	Callejon II
6	Allan	Angue	Busque	39	367	Callejon II
7	Nathaniel Aaron	Caturay	Busque	10	367	Callejon II
8	Amy	Angue	Cahu	26	25	D. Silang
9	Roxane	Angue	Cahu	21	25	D. Silang
10	Axelle	Angue	Cahu	16	25	D. Silang

**Figure XI—5. Expected Results of Procedure with Output Parameter**

All tables that shows the age of the resident, just like in the figure above, makes use of the `calculate_age` procedure.



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### XII. Views

#### Using SELECT \*

The query below retrieves the data of officers for *Compliance and Reporting*. As mentioned in Chapter IX, the result set is more commonly used to assess the capability and suitability of the individuals that holds a position or has held a position. The PDF file generated is also used as reference whenever requested as part of the BGPMS.

```
CREATE VIEW officer_details AS
SELECT
*
FROM
    officer
INNER JOIN resident
    USING (resident_id);
```

resident_id	officer_id	officer_position	start_date	end_date	officer_status	fname	mname	lname	sex	bday	educ	occupation	citizenship	religion	contact_no	civil_status	resident_status	house_no	street
11	1	Captain	2013-05-13	2018-05-15	Past	Felicita	Rodriguez	Imbis	Female	1955-06-01	College Graduate	Civil Servant	Filipino	Roman Catholic	09186475411	Married	Active	347	Callejon II
12	2	Secretary	2013-05-13	2018-05-15	Past	Riza	Lagatoc	Malauan	Female	1980-05-25	High School Graduate	Laundrywoman	Filipino	Roman Catholic	09282308934	Married	Active	229	D. Silang
13	3	Treasurer	2013-05-13	2018-05-15	Past	Editha	Maggali	Hallare	Female	1956-01-15	Some College	Civil Servant	Filipino	Roman Catholic	09089792979	Married	Active	353	Callejon II
14	4	Chairman of Committee on Agriculture	2013-05-13	2018-05-15	Past	Alvin	Jeciel	Hallare	Male	1961-06-06	High School Graduate	Civil Servant	Filipino	Roman Catholic	09166829659	Married	Active	353	Callejon II
15	5	Chairman of Committee on Sports and Education	2013-05-13	2018-05-15	Past	Raquel	Pagtakhan	Loyola	Female	1980-05-25	College Graduate	Civil Servant	Filipino	Roman Catholic	09184720087	Married	Active	220	A. Bonifacio
16	6	Chairman of Committee on Health	2013-05-13	2018-05-15	Past	Iconrado	Domingo	Api	Male	1969-10-09	High School Graduate	Weider	Filipino	Roman Catholic	09497266639	Married	Active	74	E. Balagtas
17	7	Chairman of Committee on Peace and Order	2013-05-13	2018-05-15	Past	Aniceta	Magtibay	Mercado	Female	1963-04-17	High School Graduate	Cook	Filipino	Roman Catholic	09494704213	Married	Active	411	Callejon II
18	8	Chairman of Committee on Environmental Protection	2013-05-13	2018-05-15	Past	Jeel	Magtala	Salvador	Male	1984-11-05	High School Graduate	Factory Worker	Filipino	Iglesia ni Cristo	09089792979	Married	Active	439	Callejon II
19	9	Chairman of Committee on Budget and Appropriations	2013-05-13	2018-05-15	Past	Daisy	Alcantara	Oneza	Female	1965-09-11	College Graduate	Civil Servant	Filipino	Roman Catholic	09485760732	Married	Active	345	Callejon II
20	10	Chairman of Committee on Public Works	2013-05-13	2018-05-15	Past	Macario	Lubag	Mercada	Male	1956-05-16	College Graduate	Civil Servant	Filipino	Roman Catholic	09569126747	Married	Active	96	E. Balagtas
24	11	Youth Council Chairman	2013-05-13	2018-05-15	Past	Jasmine	Rodriguez	Imbis	Female	1995-06-01	College Graduate	Bank Teller	Filipino	Roman Catholic	09186475411	Married	Active	347	Callejon II
11	12	Captain	2018-05-15	NULL	Current	Felicita	Rodriguez	Imbis	Female	1956-06-01	College Graduate	Civil Servant	Filipino	Roman Catholic	09186475411	Married	Active	347	Callejon II
21	13	Secretary	2018-05-15	NULL	Current	Rodolfo	Nacalaban	Aflos	Male	1956-08-23	College Graduate	Civil Servant	Filipino	Iglesia ni Cristo	09071294783	Married	Active	213	A. Bonifacio
13	14	Treasurer	2018-05-15	NULL	Current	Editha	Maggali	Hallare	Female	1956-01-15	Some College	Civil Servant	Filipino	Roman Catholic	09089792979	Married	Active	353	Callejon II
14	15	Chairman of Committee on Agriculture	2018-05-15	NULL	Current	Alvin	Jeciel	Hallare	Male	1961-06-06	High School Graduate	Civil Servant	Filipino	Roman Catholic	09186829659	Married	Active	353	Callejon II
15	16	Chairman of Committee on Sports and Education	2018-05-15	NULL	Current	Raquel	Pagtakhan	Loyola	Female	1980-05-25	College Graduate	Civil Servant	Filipino	Roman Catholic	09184720087	Married	Active	220	A. Bonifacio
16	17	Chairman of Committee on Health	2018-05-15	NULL	Current	Iconrado	Domingo	Api	Male	1969-10-09	High School Graduate	Weider	Filipino	Roman Catholic	09497266639	Married	Active	74	E. Balagtas
22	18	Chairman of Committee on Peace and Order	2018-05-15	NULL	Current	Leonardo	Domingo	Api	Male	1973-10-09	College Graduate	Civil Servant	Filipino	Roman Catholic	09495619046	Married	Active	74	E. Balagtas
23	19	Chairman of Committee on Environmental Protection	2018-05-15	NULL	Current	Violeta	Batallo	Hera	Female	1980-11-05	College Graduate	Civil Servant	Filipino	Jehovah	09072914753	Single	Active	200	A. Bonifacio
19	20	Chairman of Committee on Budget and Appropriations	2018-05-15	NULL	Current	Daisy	Alcantara	Oneza	Female	1965-09-11	College Graduate	Civil Servant	Filipino	Roman Catholic	09485760732	Married	Active	345	Callejon II
20	21	Chairman of Committee on Public Works	2018-05-15	NULL	Current	Macario	Lubag	Mercada	Male	1956-05-16	College Graduate	Civil Servant	Filipino	Roman Catholic	09569126747	Married	Active	96	E. Balagtas
25	23	Youth Council Chairman	2019-02-04	NULL	Current	Rosmarlin	Cabadin	Medina	Female	1999-11-13	Some College	N/A	Filipino	Roman Catholic	09452579778	Married	Active	112	M. Aquino

**Figure XII—1. Expected Results of officer\_details VIEW**



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### Using JOIN not used Chapter IX

The following query list the of document requests including the requestor's name, date requested, and the price paid.

```
CREATE VIEW request_details AS
SELECT
    CONCAT(fname, ' ', LEFT(mname, 1), '. ', lname) AS name,
    date_requested,
    document_name,
    price
FROM
    request
INNER JOIN resident
    ON request.requestor_id = resident.resident_id
INNER JOIN document
    USING (document_name);
```

<b>name</b>	<b>date_requested</b>	<b>document_name</b>	<b>price</b>
Teresita G. De Ocampo	2021-02-01	Certificate of Residency	20.00
Rizaldy G. De Ocampo	2021-02-01	Certificate of Residency	20.00
Jovylyn C. Busque	2021-02-02	Certificate of Residency	20.00
Allan A. Busque	2021-02-02	Certificate of Residency	20.00
Maria Patrice B. Pabiton	2021-01-27	Certificate of Residency	20.00
Maria Patrice B. Pabiton	2021-02-03	Certificate of Indigency	0.00

**Figure XII—2.** Expected Results of *request\_details* VIEW



### XIII. Triggers

#### DDL Trigger

The database management system used for the website was MySQL which does not support DDL triggers. Furthermore, the creation of the website did not need such triggers.

#### DML Trigger (4/1)

The images on this section are never shown on the website since these restrictions are also already enforced on the front-end layer.

1. Ensures that of the two foreign keys of blotter, `complainant_resident_id` and `complainant_outsider_id`, only one is filled out.

```
DELIMITER $$  
CREATE TRIGGER before_insert_blotter_complainant  
BEFORE INSERT ON blotter  
FOR EACH ROW  
BEGIN  
    IF  
        (NEW.complainant_resident_id IS NULL  
         AND NEW.complainant_outsider_id IS NULL) OR  
        (NEW.complainant_resident_id IS NOT NULL  
         AND NEW.complainant_outsider_id IS NOT NULL)  
    THEN  
        SIGNAL SQLSTATE '45000'
```



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```
        SET MESSAGE_TEXT = 'Complainant must only either  
        be a local resident, or an outsider.';  
    END IF;  
END $$  
DELIMITER ;
```

```
mysql> INSERT INTO  
->     blotter  
-> VALUES  
->     (  
->         DEFAULT, DEFAULT, '2021-02-10 09:00:00', 'Amy''s Bakery', DEFAULT, 'Theft'  
->         'Ms. Pabiton took Ms. Cahu''s cellphone whilst the latter was busy baking.',  
->         DEFAULT, 27, NULL, 8, 1  
->     );  
ERROR 1644 (45000): Complainant must only either be a local resident, or an outsider.
```

**Figure XIII—1. Expected Results of TRIGGER 1**

2. Ensures that if the complained resident is a child in conflict with the law, a guardian should be presented.

```
DELIMITER $$  
CREATE TRIGGER before_insert_blotter_complained  
BEFORE INSERT ON blotter  
FOR EACH ROW  
BEGIN  
    DECLARE birthday DATE;  
    DECLARE age INT UNSIGNED;  
  
    SELECT  
        bday INTO birthday  
    FROM  
        resident  
    WHERE  
        resident_id = NEW.complained_resident_id;
```



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```
SELECT
    TIMESTAMPDIFF(YEAR, birthday, CURDATE())
INTO age;

IF
    age < 18 AND NEW.guardian_complained_resident_id
    IS NULL
THEN
    SIGNAL SQLSTATE '45000'
        SET MESSAGE_TEXT = 'Underage complained resident
                           must have a guardian.';
END IF;
END $$
DELIMITER ;
```

```
mysql> INSERT INTO
->     blotter
-> VALUES
->     (
->         DEFAULT, DEFAULT, '2021-02-10 09-00-00', 'Amy''s Bakery', DEFAULT, 'Theft'
->         'Nathan took Ms. Cahu''s cellphone whilst the latter was busy baking.',
->         DEFAULT, 7, NULL, 8, NULL
->     );
ERROR 1644 (45000): Underage complained resident must have a guardian.
```

**Figure XIII—2. Expected Results of TRIGGER 2**

### 3. Ensures that there is consistency with the status of blotter records.

```
DELIMITER $$
CREATE TRIGGER before_insert_blotter
BEFORE INSERT ON blotter
FOR EACH ROW
BEGIN
    IF NEW.blotter_status != 'Pending' THEN
        SIGNAL SQLSTATE '45000'
            SET MESSAGE_TEXT = 'Newly reported cases should
                               have a status of ''Pending''.';
    END IF;
END $$
```



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```
DELIMITER ;
```

```
mysql> INSERT INTO
->     blotter
-> VALUES
->     (
->         DEFAULT, DEFAULT, '2021-02-10 09:00:00', 'Amy''s Bakery', 'Setted', 'Theft'
->         'Ms. Pabiton took Ms. Cahu's cellphone whilst the latter was busy baking.', 
->         DEFAULT, 27, NULL, 8, NULL
->     );
ERROR 1644 (45000): Newly reported cases should have a status of 'Pending'.
```

**Figure XIII—3. Expected Results of TRIGGER 3**

#### 4. Ensures consistency of officers per cycle.

```
DELIMITER $$
CREATE TRIGGER before_insert_officer
BEFORE INSERT ON officer
FOR EACH ROW
BEGIN
    DECLARE n_curr_officers, taken INT UNSIGNED;

    IF NEW.officer_status = 'Current' THEN
        SELECT
            COUNT(officer_id) INTO n_curr_officers
        FROM
            officer
        WHERE
            officer_position = NEW.officer_position AND
            officer_status = 'Current';

        SELECT
            COUNT(officer_id) INTO taken
        FROM
            officer
        WHERE
            resident_id = NEW.resident_id AND
            officer_status = 'Current';

        IF n_curr_officers >= 1 THEN
```



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```
SIGNAL SQLSTATE '45000'
    SET MESSAGE_TEXT = 'There should only be
        one current officer per position.';
END IF;

IF taken >= 1 THEN
    SIGNAL SQLSTATE '45000'
        SET MESSAGE_TEXT = 'An officer can only
            hold one position per term.';
    END IF;
END IF;
END $$
DELIMITER ;
```

```
mysql> INSERT INTO
->     officer
-> VALUES
->     (DEFAULT, 1, '2021-02-05', NULL, 'Current', 1);
ERROR 1644 (45000): There should only be one current officer per position.
mysql>
```

**Figure XIII—4.** Expected Results of TRIGGER 4



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### XIV. Author

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#### EDUCATION

Senior High School	Cavite National Science High School Garita-B Maragondon, Cavite STEM, 2016-2018
College	Polytechnic University of the Philippines Anonas St., Sta. Mesa, Manila BSIT, 2018-ongoing

#### AWARDS

Senior High School	With Honor Leadership Award
College	President's Lister, 2018-2020

#### SKILLS

Programming	C, Python, Cobol, Java, PHP, JavaScript, and SQL
Statistics	SPSS, and Excel
Networking	Packet Tracer, and Windows Server
Others	Microsoft Suite, Adobe Photoshop, and Adobe Premiere Pro



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*end of documentation*