



**COLLEGE OF ENGINEERING AND COMPUTER STUDIES**

**FINAL DOCUMENTATION**

**A requirement submitted to the College of Engineering and Computer  
Studies as a requirement for the completion of the Application  
Development Laboratory**

**BARANGAY SANTIAGO BARANGAY CLEARANCE SYSTEM**



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**BSIT 3-1**

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## I INTRODUCTION

Stotomas city is one of the places in the Philippines that has become a city, On October 5, 2018, President Rodrigo Duterte signed Republic Act 11086 or "An Act Converting the Municipality of Santo Tomas in the Province of Batangas into a Component City to be known as the City of Santo Tomas.

There is a lot of livelihood in stotomas city, and there are many schools and some working places here, there are also many barangays in the city of stotomas, the population of stotomas city is also large and there are also many people who need jobs for they can make a living on a daily basis, the proponents know right now that it is difficult to get a job and too many requirements are needed to enter, one of which is getting barangay clearance.

In the system that wants to have in the barangay it help those people who need work, the proponents want to implement the barangay clearance system in barangay santiago stotomas, and it is also possible in other barangays that want to have this system, it means to facilitate obtaining barangay clearance in an easy way, and it will also help especially in today's situation to reduce the number of people going to the barangay to avoid the spread of the virus and that is the COVID 19

## II OBJECTIVES

- 1) To have a barangay clearance system.
- 2) Provide workers for the system like admin, staff or barangay workers to manage the system or database
- 3) Manage the people who get the barangay clearance using the system.
- 4) Generating a proper barangay clearance form
- 5) Reduce people to go in the barangay to avoid virus.
- 6) To help many people who get job by getting requirements.

### III METHODOLOGY

#### Image of the interview



#### Interview

The proponents conducted an interview in the barangay in May 2021 as to find out which system they will choose that will help the barangay, and the proponents prepared some questions based on the system that will create and how it will help the barangay.

When the proponents interviewed the barangay, the proponents ask first the barangay if the proponents could gather news about what was happening in the barangay, after they told what was happening, the proponents immediately asked them “ if there was a problem in our barangay, and was there also a problem about the technologies the proponents wanted do you want to have it here in the barangay?” they said they had very few problems in the barangay, and I started interviewing about the system, and the proponents prepared few questions about our system, the barangay approved our system and after the interview the proponents immediately do the UI design of the system.



**User Stories and Test cases**

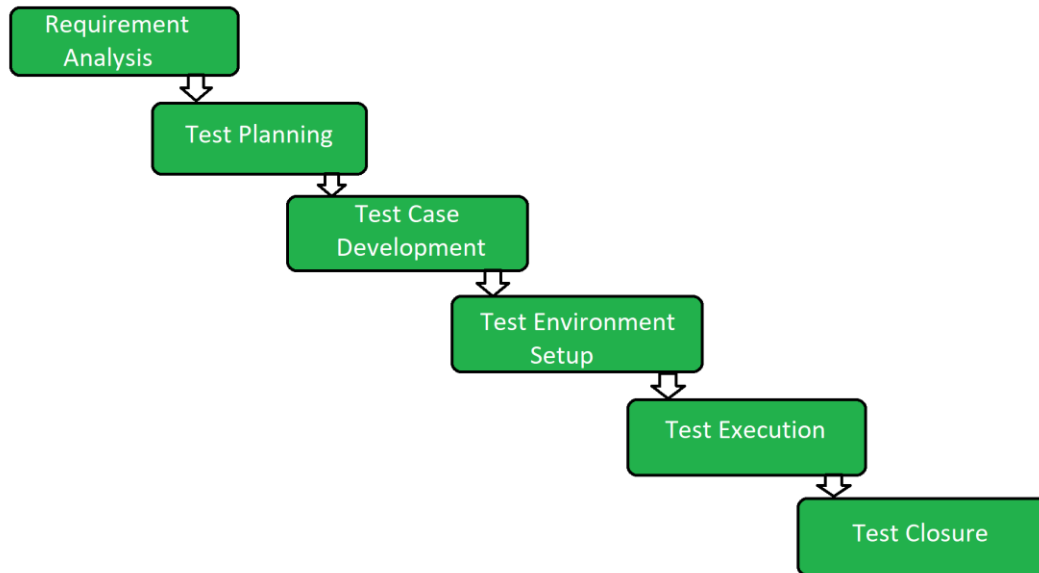
The barangay's need to have a barangay clearance system in this pandemic to follow the health protocol, the barangay also needs website application and, in the applications, will see the login page, registration page, and the homepage and inside the home page is the application system, the barangay's thinking about inserting images in the barangay clearance system for the user's 2x2 pictures, In the system, the barangay's need admin page to monitor the user's information Features of the systems

The main priority feature of the system is on how users or residents can get their barangay clearance through online because the proponents all know that some people struggle to get it onsite, with this system created it can help a lot of people, Also, it uses a secured DBMS with a user-friendly website with its simple and unique features that users can access to get their barangay clearance online.

<b>USER STORIES</b>	<b>TEST CASES AND ACCEPTANCE</b>
A barangay's need to have a barangay clearance system in this pandemic to follow the health protocol.	AC 1: The developers create the barangay clearance system, and it have website.
A barangay's needs website application and in the applications will see the login page, registration page, and the homepage and inside the home page is the application system.	AC 1: The developers, put design of login page and registration page, and the developers use data base to put the user's account after registrations, and the email and password will use in the login page to see the home page of the system also the application system.
A barangay's thinking about inserting images in the barangay clearance system for the user's 2x2 pictures.	AC 1: The developers put an insert image in the system, and the users will send image easily
In the system, the barangay's need admin page to monitor the user's information	AC 1: The developers create separate website for user and admin, the developers created a website for admin to monitor the user's information about their barangay clearance.

## Test Cases

### STLC



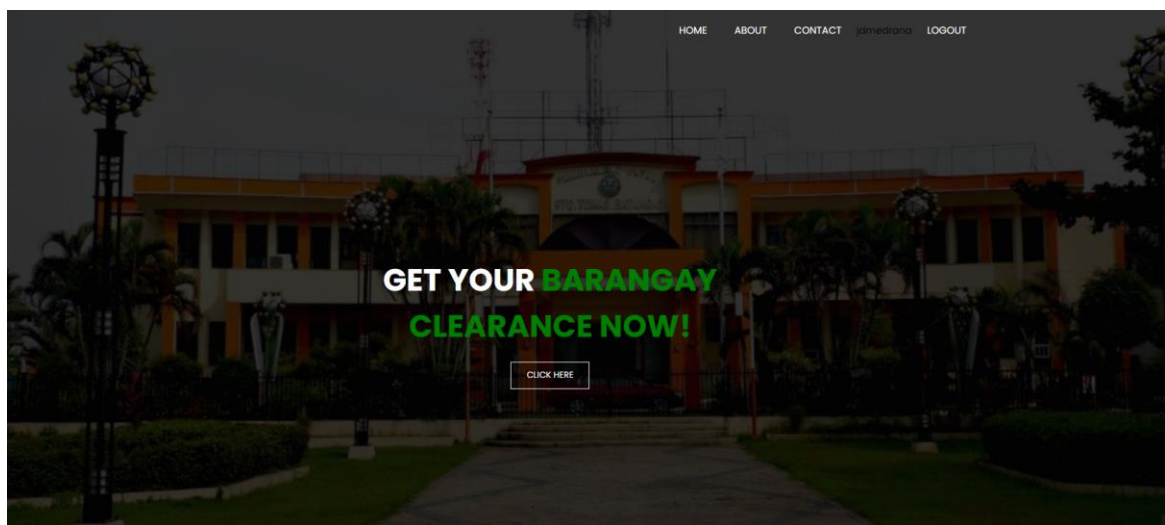
The Software Testing Life Cycle is an arrangement of exercises conducted amid the testing handle to guarantee computer program quality objectives are met. STLC includes both confirmation and approval exercises. Opposite to well-known conviction, Software Testing is not fair a single/isolate movement, i.e., testing. It comprises of an arrangement of exercises carried out methodologically to assist certify your program item. STLC stands for Software Testing Life Cycle.

The proponents use this STLC to our system, the barangay clearance system are start in Test Planning phase or requirement analysis, the process of this planning us to know the requirements from the testing point of view to know the testable requirements, the second phase the proponents use the test Case Designing it develop the test cases based on scope and criteria, the next phase is the Test Environment Setup when integrated environment is ready to validate the product, the next phase is Test Execution it is the real-time validation of product and finding bugs and the last phase is Test Closure once testing is completed, matrix, reports, results are documented.

## Barangay Clearance System Testing (GUI)

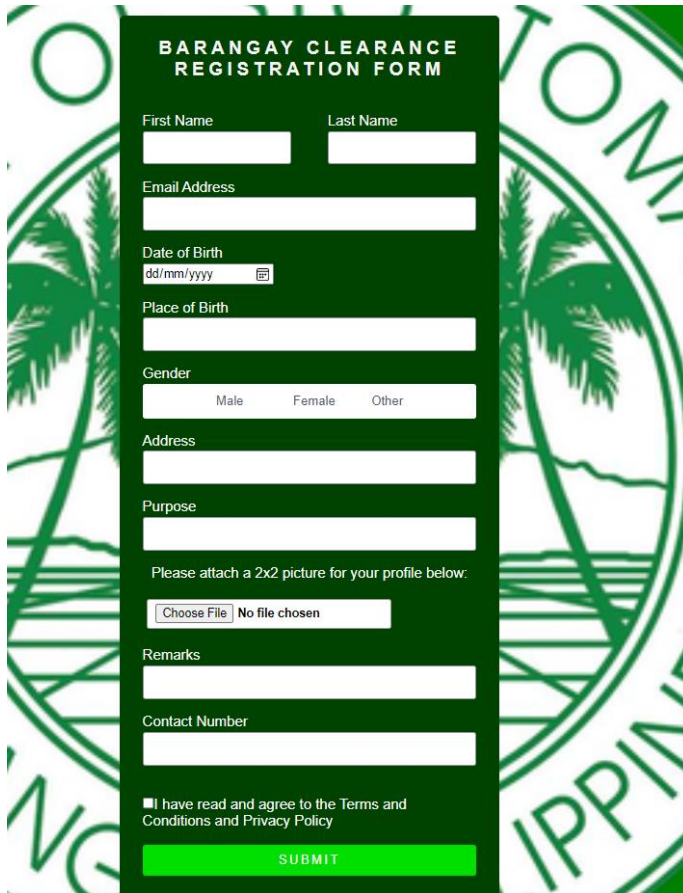
In this system, the developers are created barangay clearance system, using some functions, and it can see in the system the sign up and log in page for the users, and the developers also created home page for the system and the application of the systems, and the developers created admin page to see the records of the users. And the proponents use XAMPP MYSQL data base, coding (HTML, SQL, and Javascript) programming language.

### GUI of the system



the proponents used this background because our barangay is located at stotomas.

### GUI of application

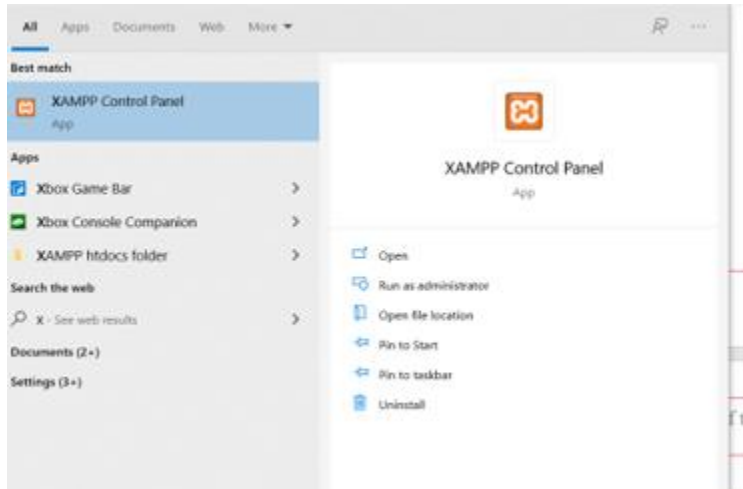


The proponents used this design to use easily, and it is not messy to fill up the information.



## Process of the System (USER MANUAL)

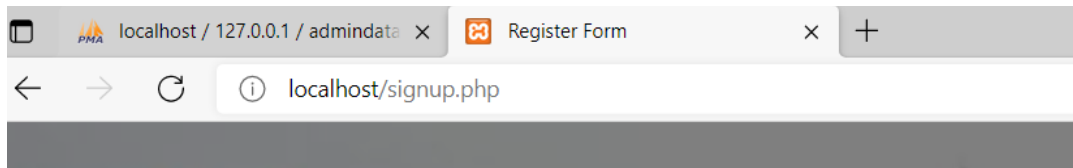
### You need XAMPP FIRST



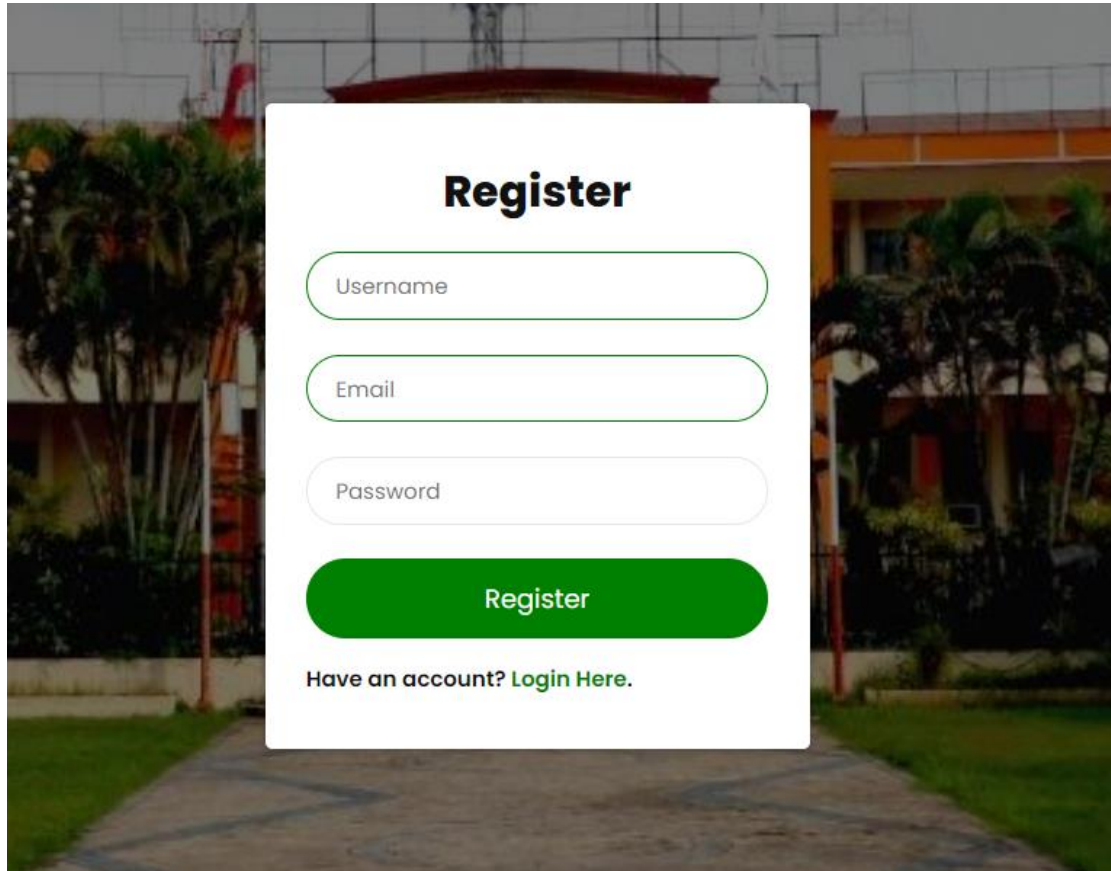
### Requirements

Computer / Laptop  
Internet Connection

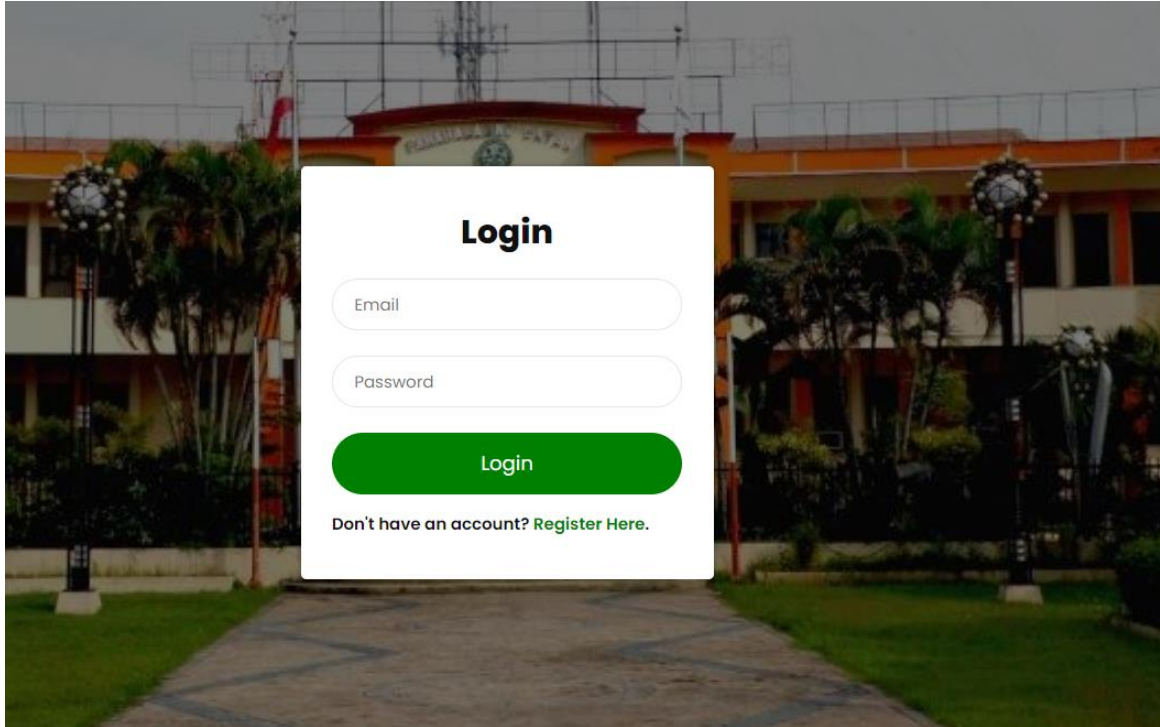
Location Site:



**Sign in page** – in this page, the users will sign up before login, because the log in needs email and password to go in the home page.

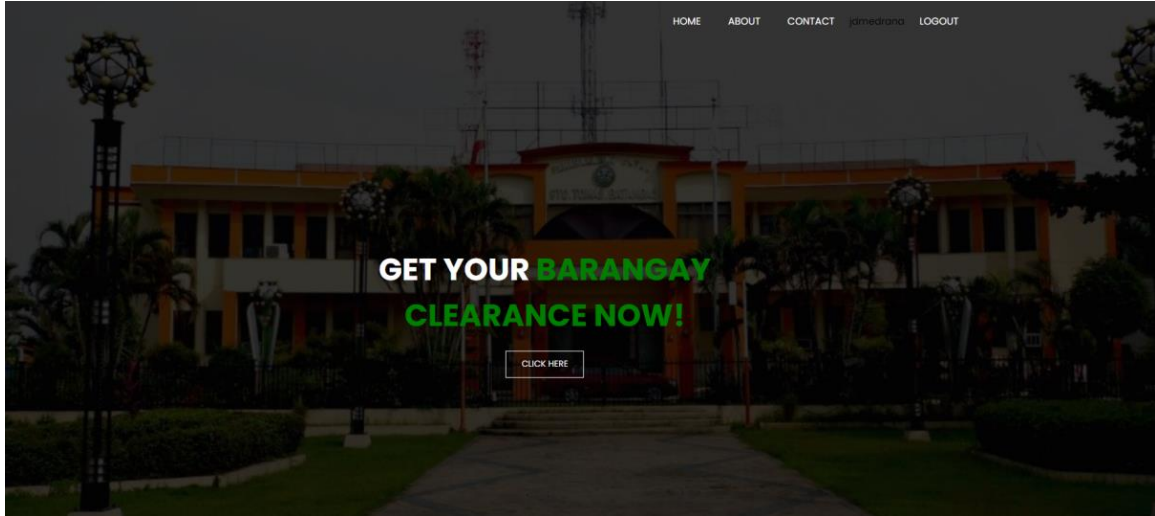


**Login page** – in this page, the users will put their email address and password to log in and go to the homepage.

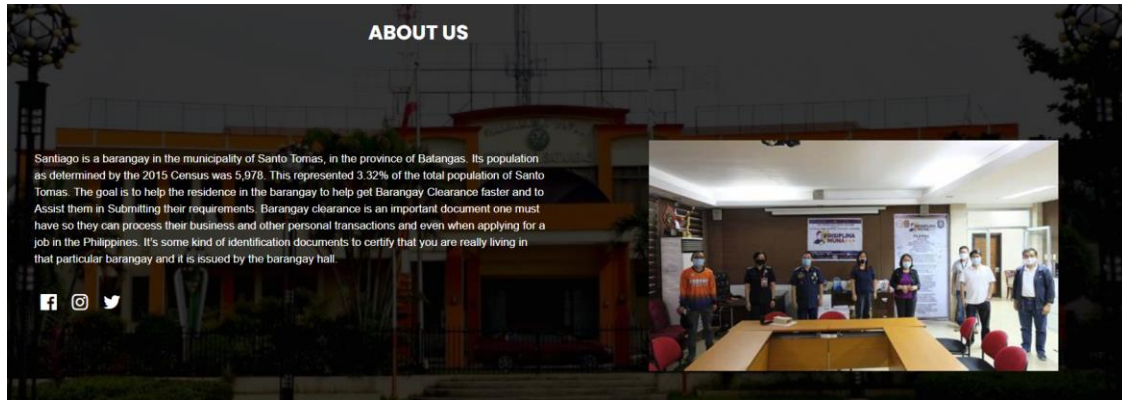




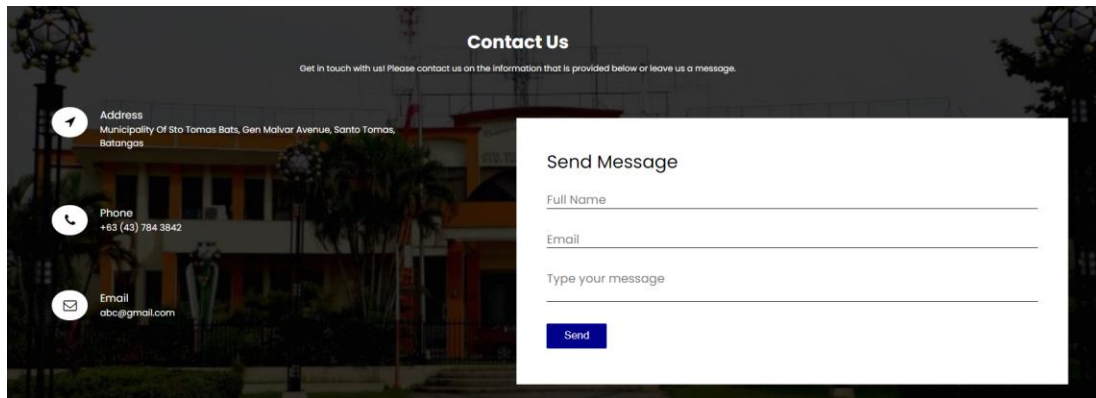
**Home page** – in this page, the users will see the homepage, and some history of the barangay.



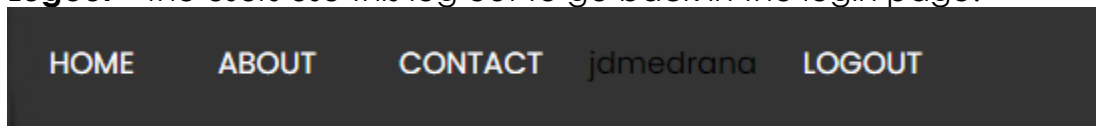
**About Us** – in this page, the users will see the about us, the users will see the history and population of the barangays, and the users will see the description of the systems in the about us, they will see how system are important to use in the barangay.



**Contact Us** – in this page, the users will contact our barangay for their problems or other suggestions.



**Logout** – the users use this log out to go back in the login page.



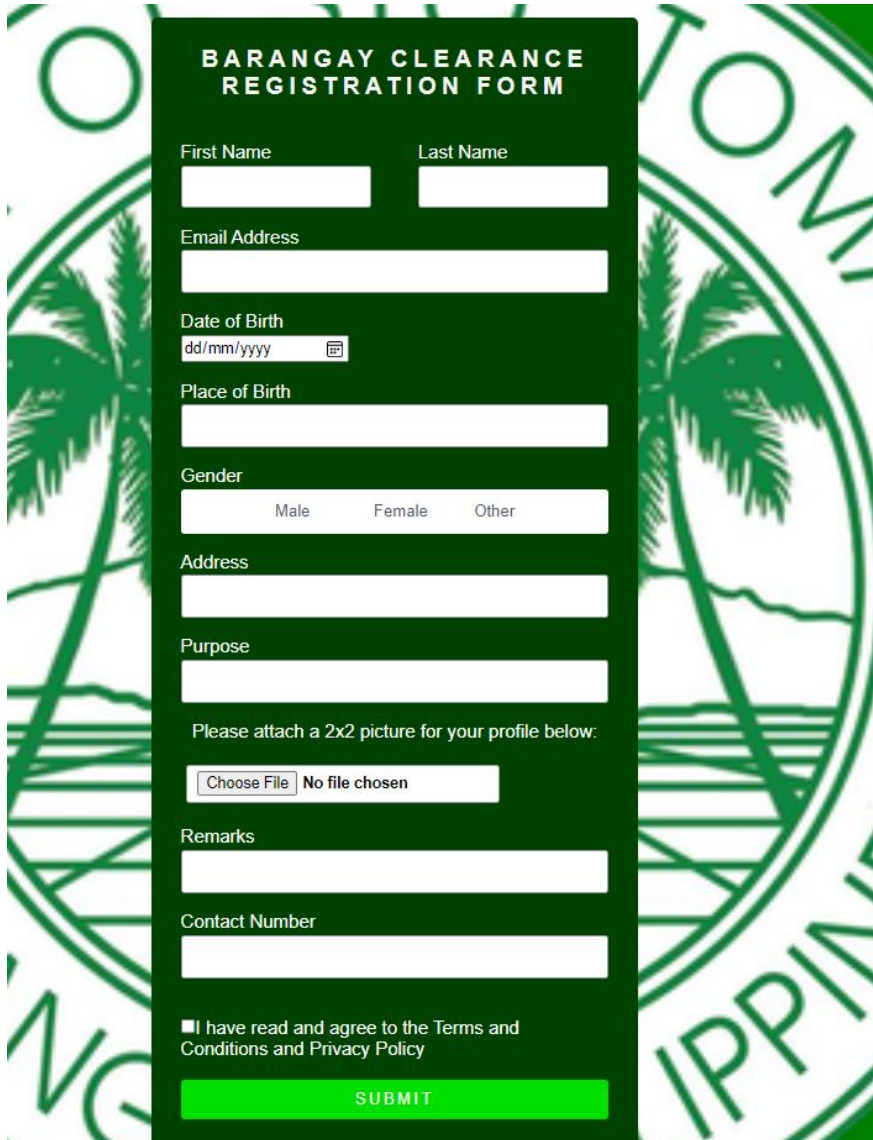


**Barangay Clearance form** – the users will click the button to proceed in the barangay clearance form.





**System Application** - this is the main application of the system, the users will use the applications to register and to get their barangay clearance by inputting their information.




The image shows a digital registration form titled "BARANGAY CLEARANCE REGISTRATION FORM" set against a background of a large, faint watermark of the Lyceum of the Philippines University seal. The form is white with black text and input fields. It includes fields for First Name, Last Name, Email Address, Date of Birth (with a date picker), Place of Birth, Gender (with radio buttons for Male, Female, and Other), Address, Purpose, a file upload section for a 2x2 profile picture, Remarks, and Contact Number. At the bottom, there is a checkbox for agreeing to terms and a green "SUBMIT" button.

**BARANGAY CLEARANCE  
REGISTRATION FORM**

First Name  Last Name

Email Address

Date of Birth  

Place of Birth

Gender  Male  Female  Other

Address

Purpose

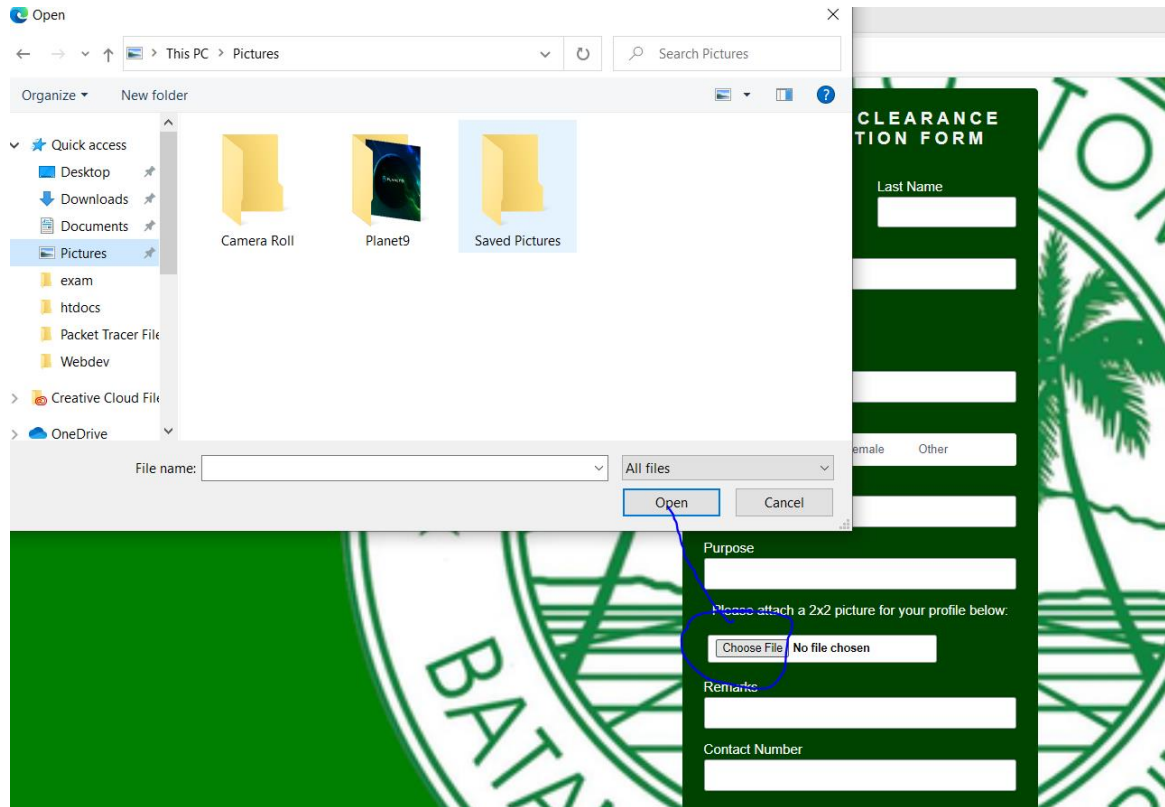
Please attach a 2x2 picture for your profile below:

Remarks

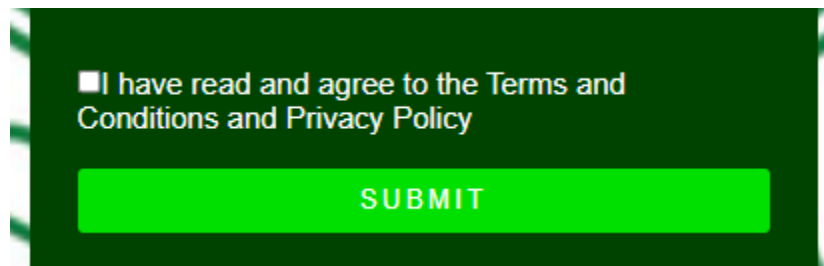
Contact Number

I have read and agree to the Terms and Conditions and Privacy Policy

**Inserting Image** – The user will insert their picture for 2x2 picture to use in the barangay clearance, and this function is our client want's.



**Submit Button** – In this function, the users need to click submit button to submit their information in the admin








**Users Records** – this is the records of the user, the admin is the one who will manage this page, because the admin will tell the staff to do the barangay clearance by using this records of the users.

localhost/table.php



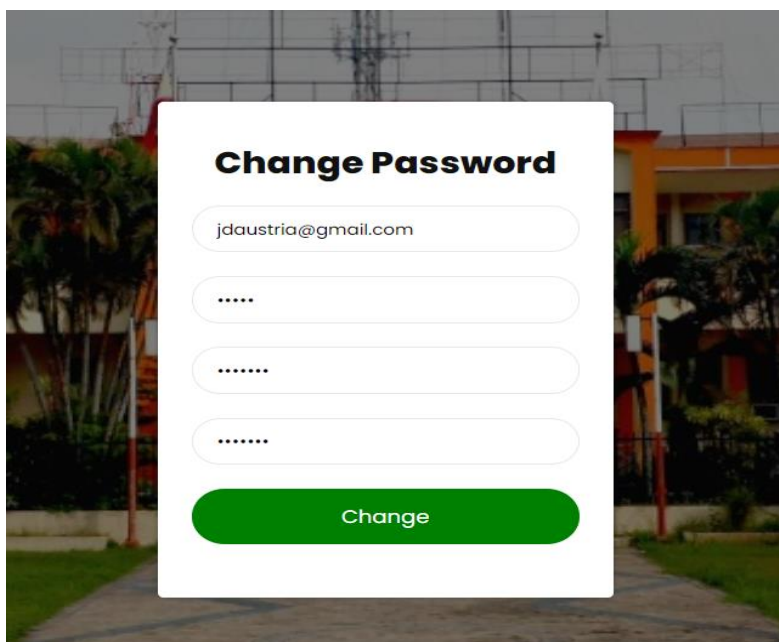
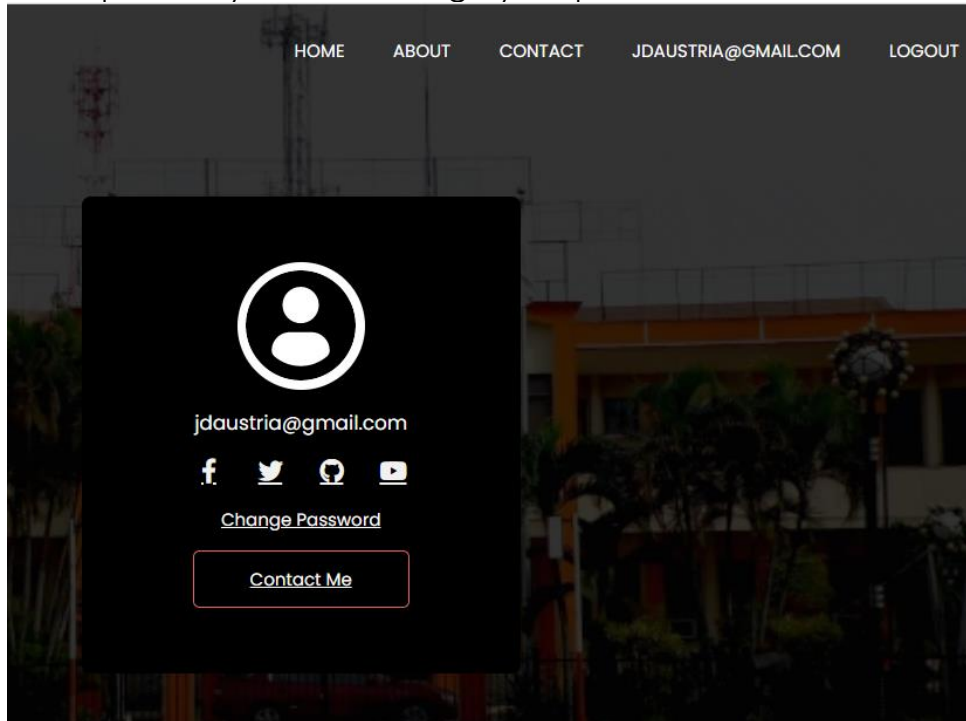
Admin

- Home
- Data
- Logout

First Name	Last Name	Email	Date of Birth	Place of Birth	Gender	Address	Purpose	Image	Remarks	Contact Number
Denzel Joseph	Tolosa	djaytolosa18@gmail.com	2021-06-09	San Pablo	male	280 Barangay San Agustin Alaminos, Laguna	Barangay Clearance	tarpaulin.jpg	College	978456123
Jan Dale	Austria	jandaleaustria30@gmail.com	2000-01-30	St Cabrini Stotomas Batangas	male	Stotomas	Job	Planet0_3840x2160.jpg	None	5042866
leonell	bais	leonell@gmail.com	2000-02-02	lipa	male	Lipa	Job interview	Planet0_3840x2160.jpg	hahaha	999999
Austria	Jan Dale	jdaustria@gmail.com	1900-01-01	Santiago	male	Stotomas	interview	Planet0_3840x2160.jpg	nonee	9091019
JAN DALE	AUSTRIA	jandaleaustria@lpulaguna.edu.ph	2000-06-01	Batangas City	male	Stotomas City	Internship	love.jpg	none	99999999

## Maintenance Manual

In this process you can change your password.

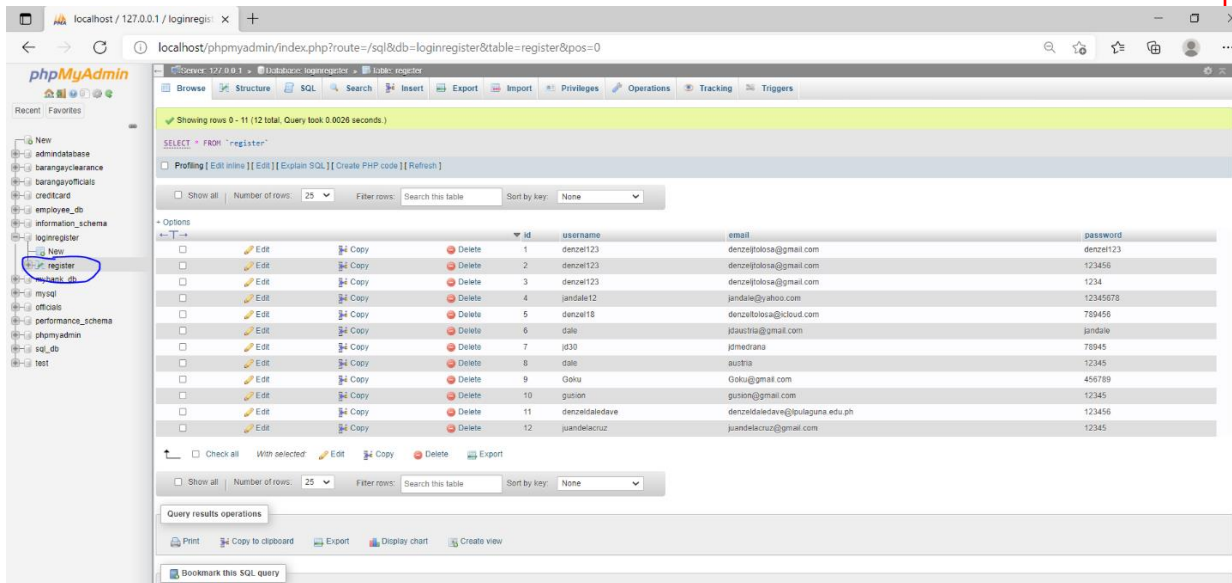


### The password was changed.

+ Options				id	username	email	password
<input type="checkbox"/>	Edit	Copy	Delete	1	denzel123	denzejtolosa@gmail.com	denzel123
<input type="checkbox"/>	Edit	Copy	Delete	2	denzel123	denzejtolosa@gmail.com	123456
<input type="checkbox"/>	Edit	Copy	Delete	3	denzel123	denzejtolosa@gmail.com	1234
<input type="checkbox"/>	Edit	Copy	Delete	4	jandale12	jandale@yahoo.com	12345678
<input type="checkbox"/>	Edit	Copy	Delete	5	denzel18	denzejtolosa@icloud.com	789456
<input type="checkbox"/>	Edit	Copy	Delete	6	dale	jdaustria@gmail.com	jandale
<input type="checkbox"/>	Edit	Copy	Delete	7	jd30	jdmeoraha	78945
<input type="checkbox"/>	Edit	Copy	Delete	8	dale	austria	12345
<input type="checkbox"/>	Edit	Copy	Delete	9	Goku	Goku@gmail.com	456789
<input type="checkbox"/>	Edit	Copy	Delete	10	gusion	gusion@gmail.com	12345
<input type="checkbox"/>	Edit	Copy	Delete	11	denzeldaledave	denzeldaledave@bulaguna.edu.ph	123456
<input type="checkbox"/>	Edit	Copy	Delete	12	juandelacruz	juandelacruz@gmail.com	12345

**Data base backup:** In this process will show the backup of database files who are registered in the barangay clearance system, and who are registered and sign up their account to log in their account to get barangay clearance.

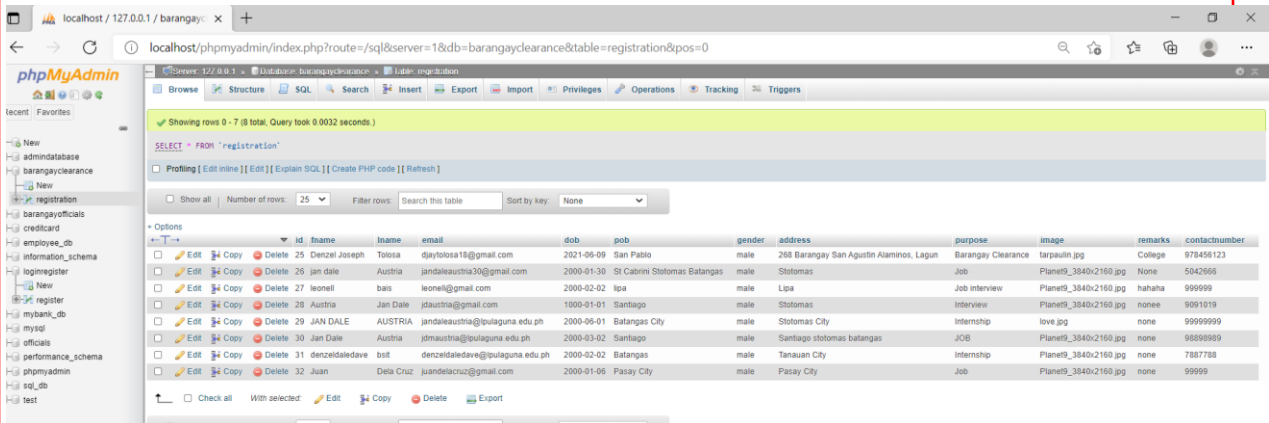
### Sign up / Register:



The screenshot shows the phpMyAdmin interface for a local database. The 'register' table is selected in the left sidebar. The main window displays the table structure and data. The table has 12 rows, with columns for id, username, email, and password. The data is as follows:

id	username	email	password
1	denzel123	denzejtolosa@gmail.com	denzel123
2	denzel123	denzejtolosa@gmail.com	123456
3	denzel123	denzejtolosa@gmail.com	1234
4	jandale12	jandale@yahoo.com	12345678
5	denzel18	denzejtolosa@icloud.com	789456
6	dale	jdaustria@gmail.com	jandale
7	jd30	jdmeoraha	78945
8	dale	austria	12345
9	Goku	Goku@gmail.com	456789
10	gusion	gusion@gmail.com	12345
11	denzeldaledave	denzeldaledave@bulaguna.edu.ph	123456
12	juandelacruz	juandelacruz@gmail.com	12345

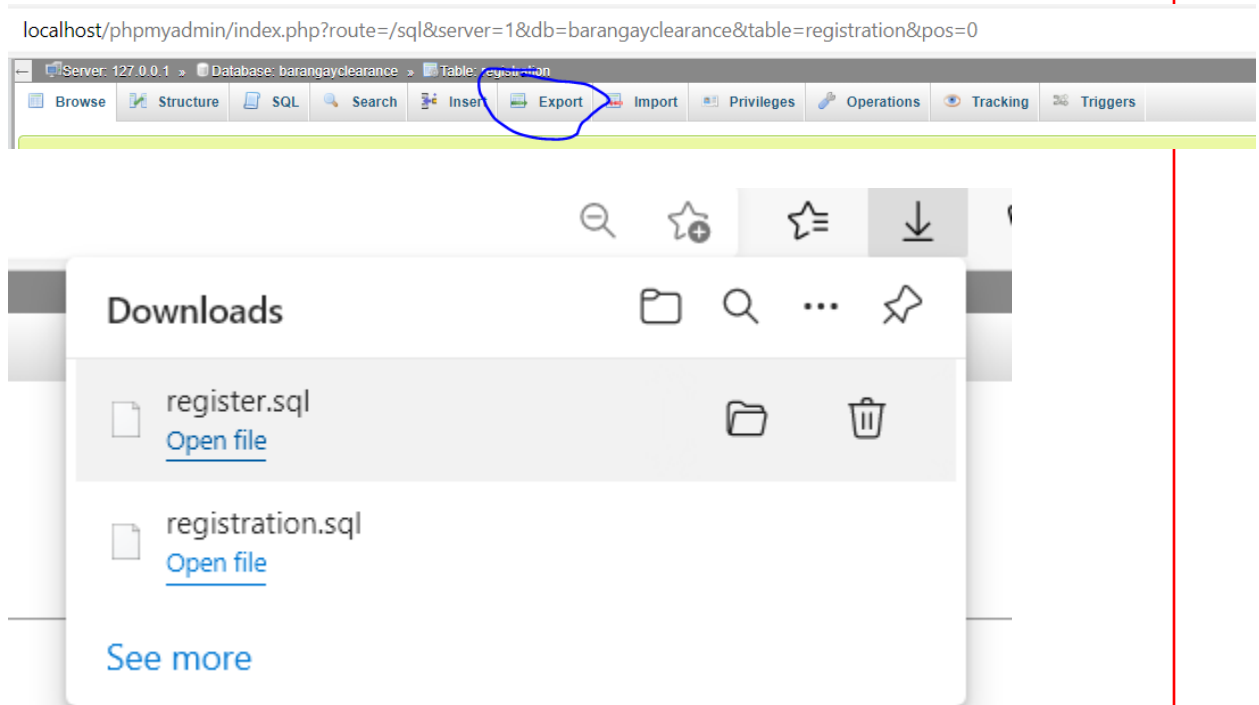
## Barangay Clearance registration



The screenshot shows the phpMyAdmin interface for a database named 'barangayclearance'. The table 'registration' is selected, and its contents are displayed. The table has columns for id, fname, lname, email, dob, pob, gender, address, purpose, image, remarks, and contactnumber. The data includes entries for various individuals with their respective details.

id	fname	lname	email	dob	pob	gender	address	purpose	image	remarks	contactnumber	
25	Denzel	Joseph	Tolosa	djaytolosa18@gmail.com	2021-06-09	San Pablo	268 Barangay San Agustin Alamos, Lagun	Barangay Clearance	tarpaulin.jpg	College	978456123	
26	Jan	dale	Austria	jandaleaustria30@gmail.com	2000-01-30	St Cabrini Stotomas Batangas	Stotomas	Job	Plane9_3840x2160.jpg	None	5042666	
27	leonell	bais	leonell@gmail.com	2000-02-02	lipa	male	Lipa	Job interview	Plane9_3840x2160.jpg	hahaha	999999	
28	Jan	Dale	jdaustrin@gmail.com	1000-01-01	Santiago	male	Stotomas	Interview	Plane9_3840x2160.jpg	none	9091019	
29	JAN	DALE	AUSTRIA	jandaleaustria@putaguna.edu.ph	2000-06-01	Batangas City	Stotomas City	Internship	love.jpg	none	99999999	
30	JAN	DALE	AUSTRIA	jandaleaustria@putaguna.edu.ph	2000-03-02	Santiago	Santiago stotomas batangas	JOB	Plane9_3840x2160.jpg	none	98888889	
31	denzel	dale	dave	bsit	denzeldaleadave@putaguna.edu.ph	2000-02-02	Batangas	Tanauan City	Internship	Plane9_3840x2160.jpg	none	7887788
32	Juan	Dela	Cruz	juandelacruz@gmail.com	2000-01-06	Pasay City	Pasay City	Job	Plane9_3840x2160.jpg	none	99999	

Export: In this backup, the admin will export or save the database in the computer to have a backup data files.



The screenshot shows the phpMyAdmin interface with the 'Export' button circled in blue. Below it, a Windows Downloads folder is open, showing two files: 'register.sql' and 'registration.sql'. Both files have 'Open file' links next to them.



### User's Barangay clearance



Maharlika Highway  
City of ~~Stotomas~~ Batangas  
BARANGAY SANTIAGO



## BARANGAY CLEARANCE

TO WHOM IT MAY CONCERN

This certify that as per verification to the records on file in this office shows that the photo and signature appear here on, the following data exist

User Picture:



First Name:

Last Name:

Purpose:

Date of Birth:

Place of Birth:

Gender:  Male  Female

Phone Number:

Address:

Remarks:

Date Issued:

\_\_\_\_\_  
Applicant's Signature

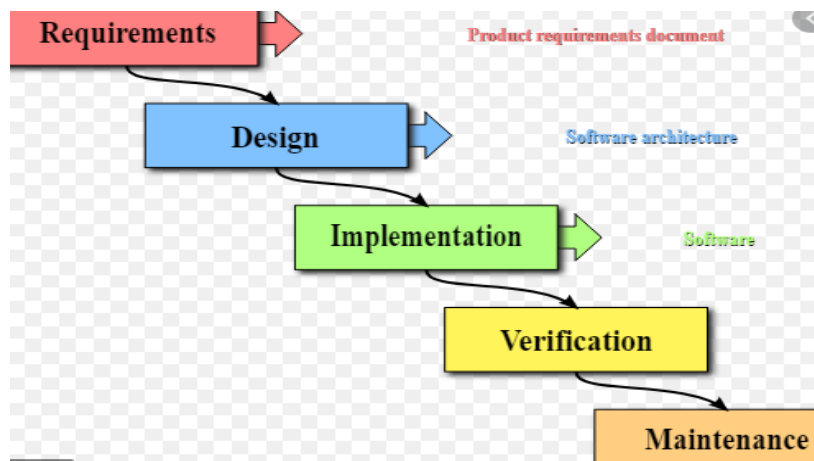
Approved by:  
  
\_\_\_\_\_  
Barangay Chairman

This is the final process of getting barangay clearance, the users will wait few minutes or hours to transfer the barangay clearance in their email accounts.

### Why User Friendly? (IN GUI)

The system has a user friendly which the website is simple and easily to locate on when to register for their barangay clearance and for the admin page, it contains a simple design and make it easier to monitor all the registered residents and accounts that was stored in the data table. In the function of system, when you use the system, it is easy to understand the functions in the system, and it is easy to take barangay clearance in the system.

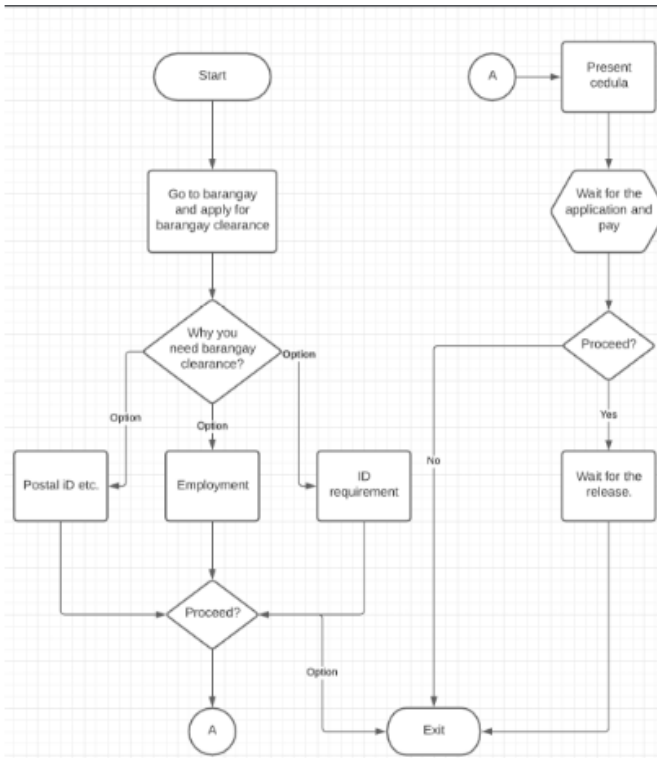
### SDLC



The Proponents used the SDLC modified Waterfall Model, In this part it shows the SDLC Waterfall model and the process of this SDLC it is a linear application improvement show that employments inflexible stages: When one stage closes, the another starts. Steps happen in arrangement, and, if unmodified, the show does not permit developers to go back to past steps

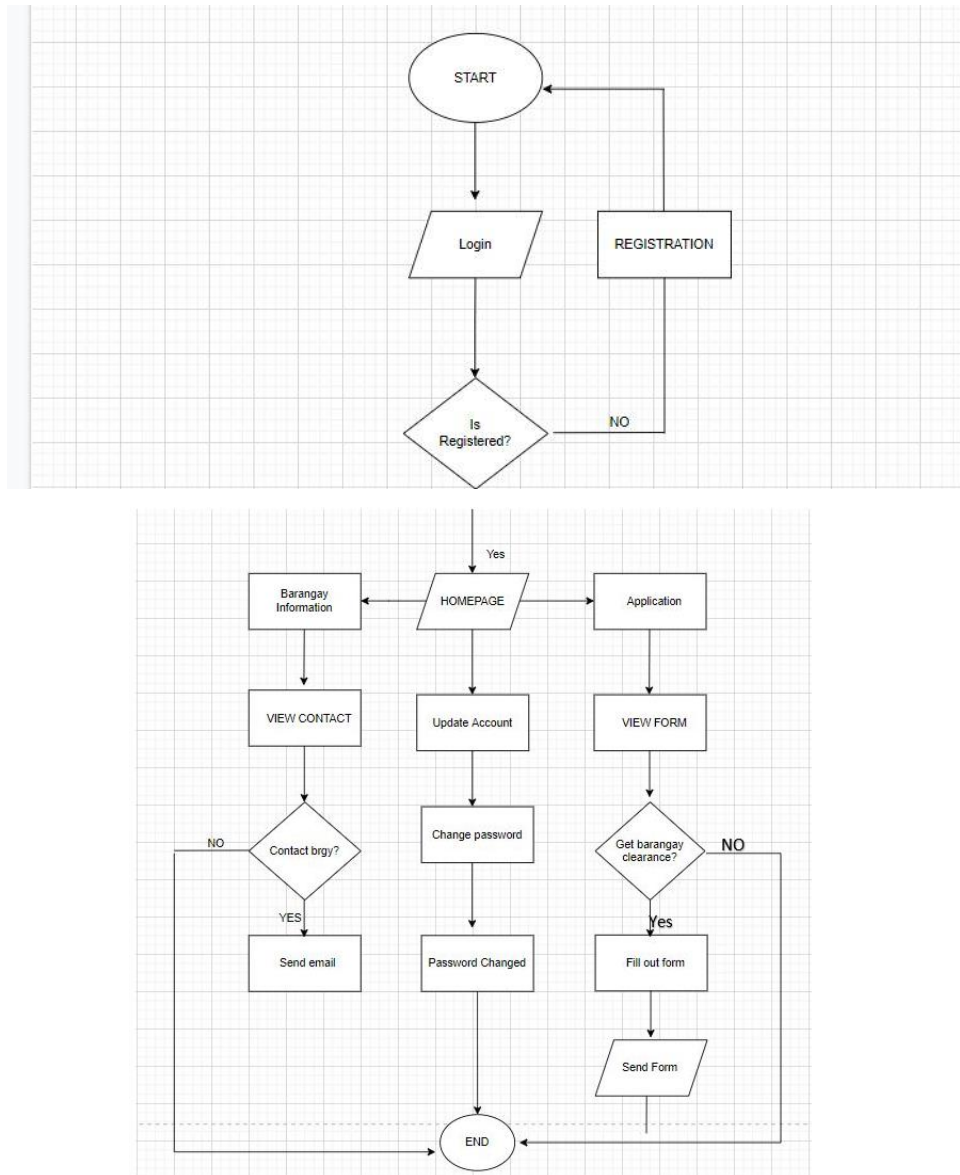
The proponents used Modified Waterfall model because it is the best model to the system, the water fall model is suitable in our system because requirements are well defined

### Current SYSTEM Diagram



In this process it shows the process of getting barangay clearance in the barangay Santiago, and it has no application yet

**Proposed system.**



In this process, it shows the process of getting barangay clearance, and it shows the process of the system, and we put registration and login page to go in the homepage, and to see our barangay clearance application to get barangay clearance.



## Ethical Consideration in Software Development

Many harmful and bad actions are the problem in developing a software system, it can cause a mistake, when you apply right approach in development system can avoid this kind of bad actions and this bad actions can be solved or addressed in a professional way.

## Deployment of the System



After the proponents finished the system, the proponents went immediately in the barangay to show our system, and they agree to our system, because based on the user friendly, they said the barangay clearance system are easy to use in the barangay, it can help many people in the barangay to get barangay clearance easily.

## VI. RESULTS AND DISCUSSION

### ISO-25010 with verbal interpretation

5- STRONGLY AGREE

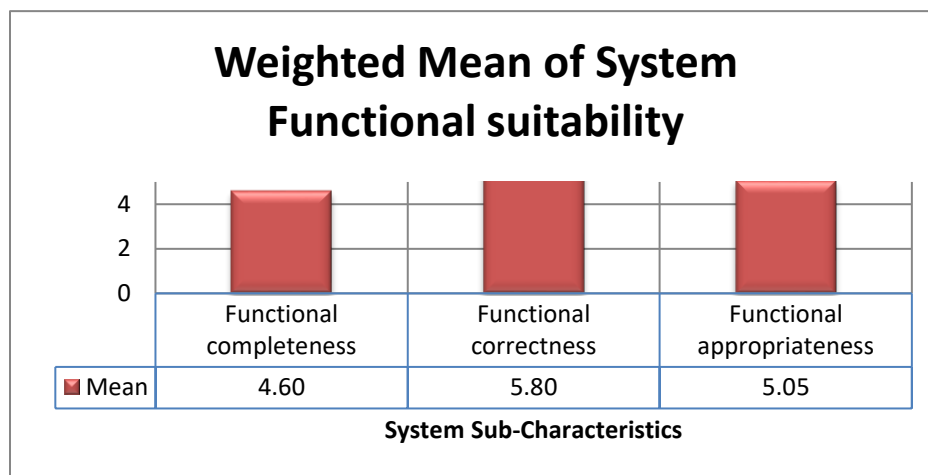
4- AGREE

3- NEUTRAL

2- Disagree

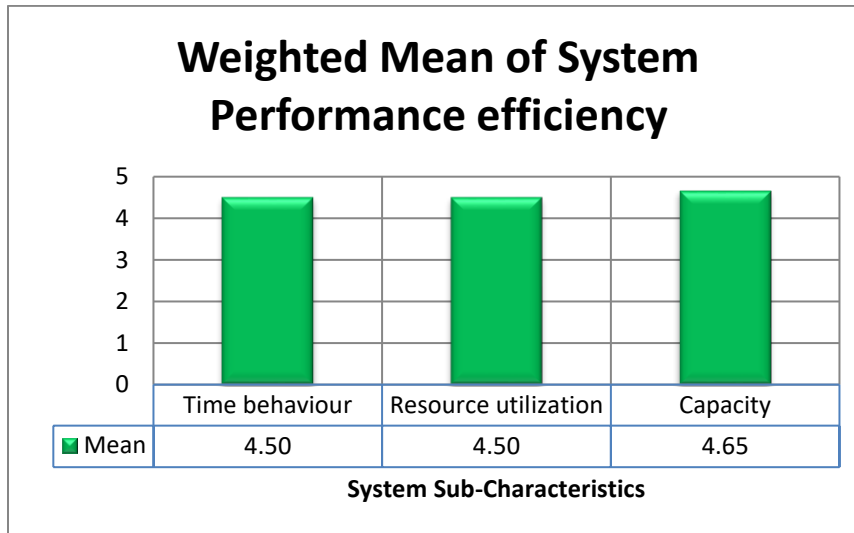
1- Strongly Disagree

### FUNCTIONALITY SUITABILITY



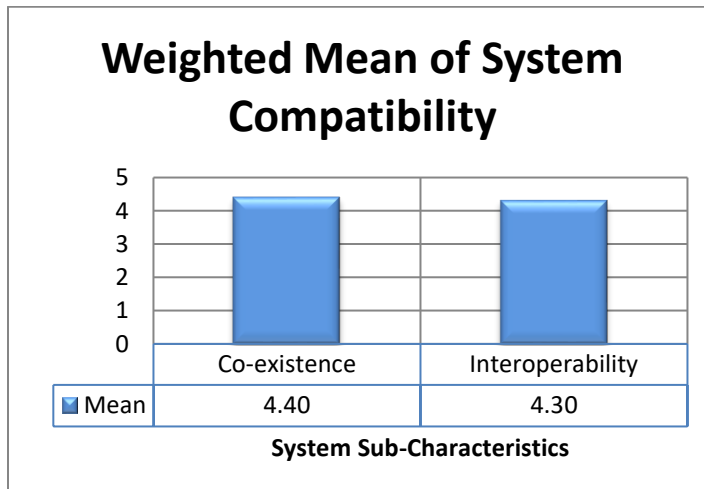
This chart shows the weighted mean of the system the Functional Suitability and in the chart shows the respondents who answered strongly agree, agree, neutral, disagree and strongly disagree, in the Functional completeness the mean is 4.60, in the functional correctness the mean is 5.80, and in the functional appropriateness is 5.05.

### PERFORMANCE EFFICIENCY



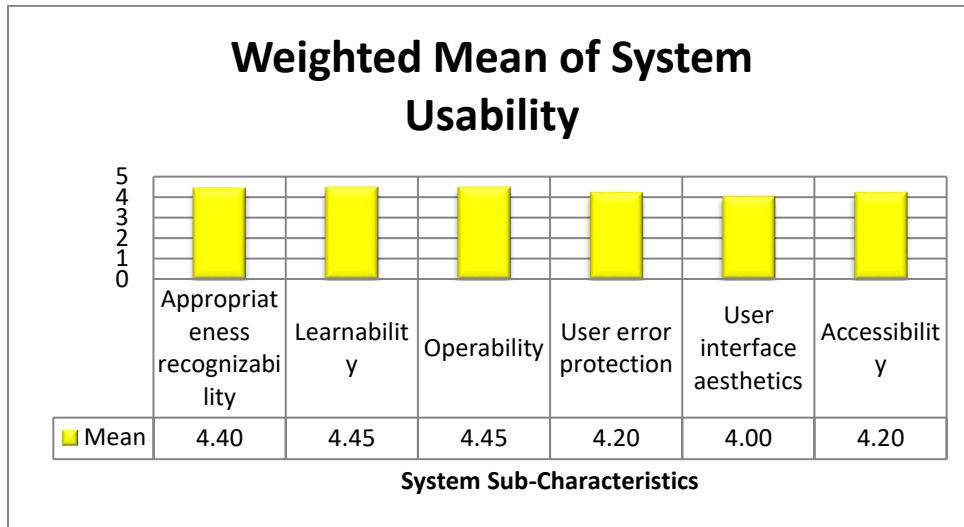
This chart shows the weighted mean of the system the performance efficiency and in the chart shows the respondents who answered strongly agree, agree, neutral, disagree and strongly disagree, the mean of time behavior is 4.50, in the resource utilization the mean is 4.50, and the mean of capacity is 4.65.

### Compatibility



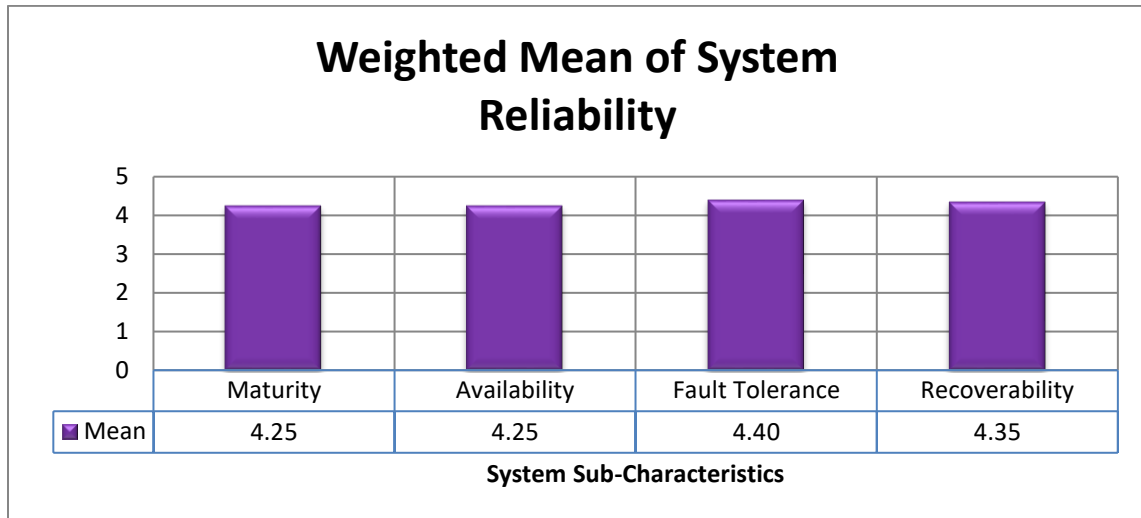
This chart shows the weighted mean of the system the compatibility and in the chart shows the respondents who answered strongly agree, agree, neutral, disagree and strongly disagree, the mean of Co-existence is 4.40 and in the interoperability is 4.30.

## USABILITY



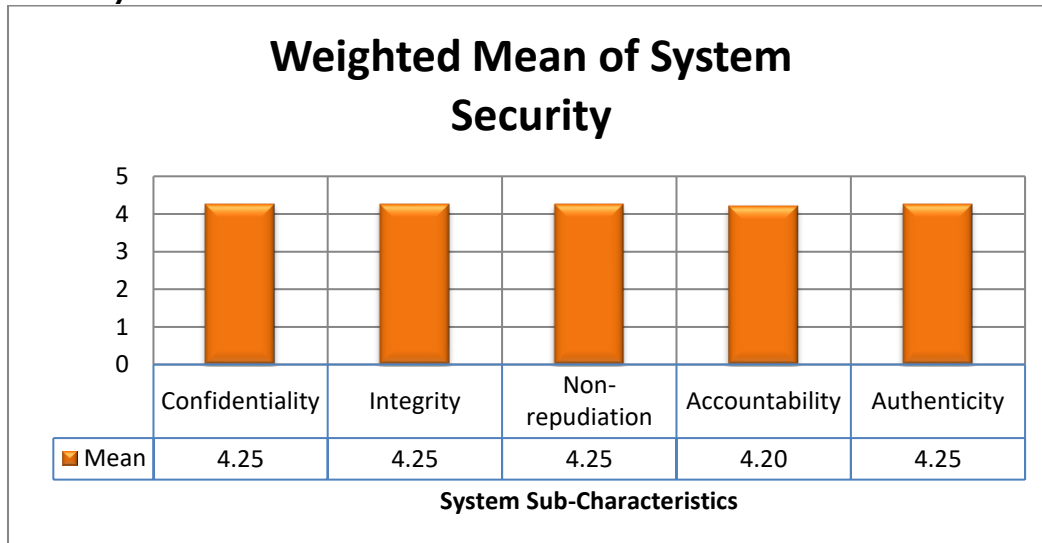
This chart shows the weighted mean of the system the usability and in the chart shows the respondents who answered strongly agree, agree, neutral, disagree and strongly disagree, the mean of the appropriateness recognizability is 4.40, in the learnability is 4.45, in the operability is 4.45, in the user error protection is 4.20, in the user interface aesthetics is 4.00 and in the accessibility is 4.20.

### Reliability



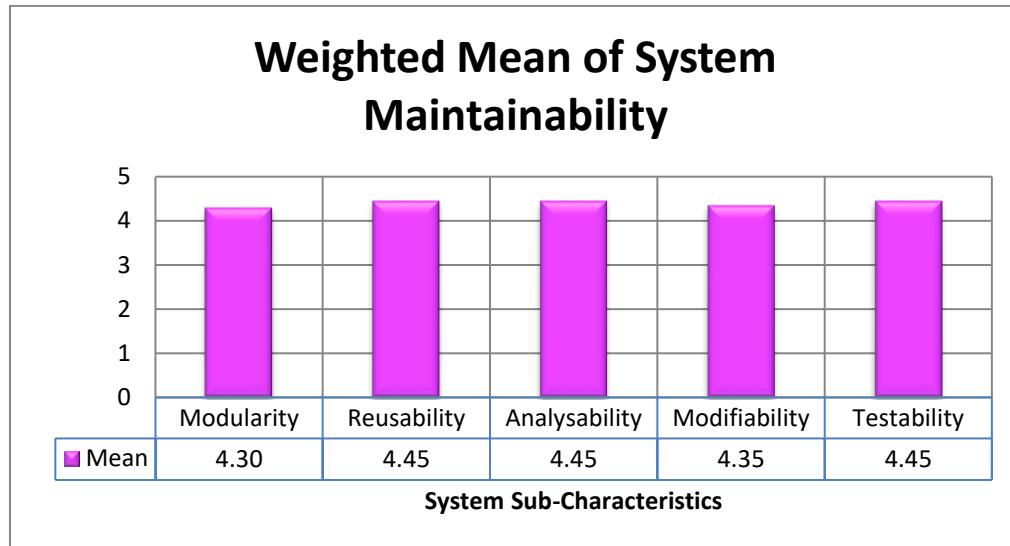
This chart shows the weighted mean of the system the Reliability and in the chart shows the respondents who answered strongly agree, agree, neutral, disagree and strongly disagree, the mean of maturity is 4.25, in the availability is 4.25, in the fault tolerance is 4.40 and in the recoverability is 4.35.

### Security



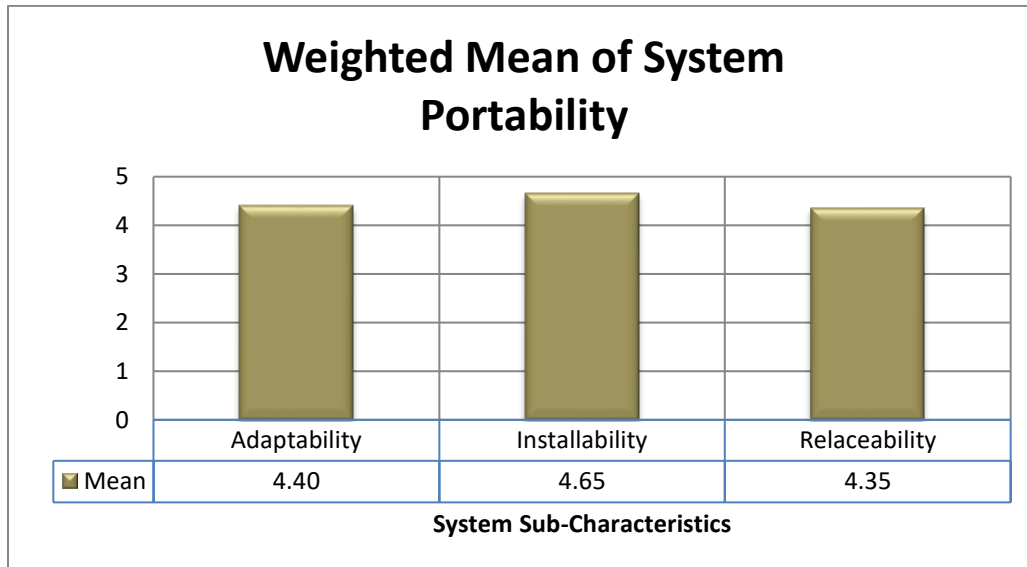
This chart shows the weighted mean of the system the Security and in the chart shows the respondents who answered strongly agree, agree, neutral, disagree and strongly disagree, in the confidentiality the mean is 4.25, in the integrity the mean is 4.25, in the non-repudiation is 4.25, in the accountability is 4.20 and in the authenticity is 4.25

## MAINTAINABILITY



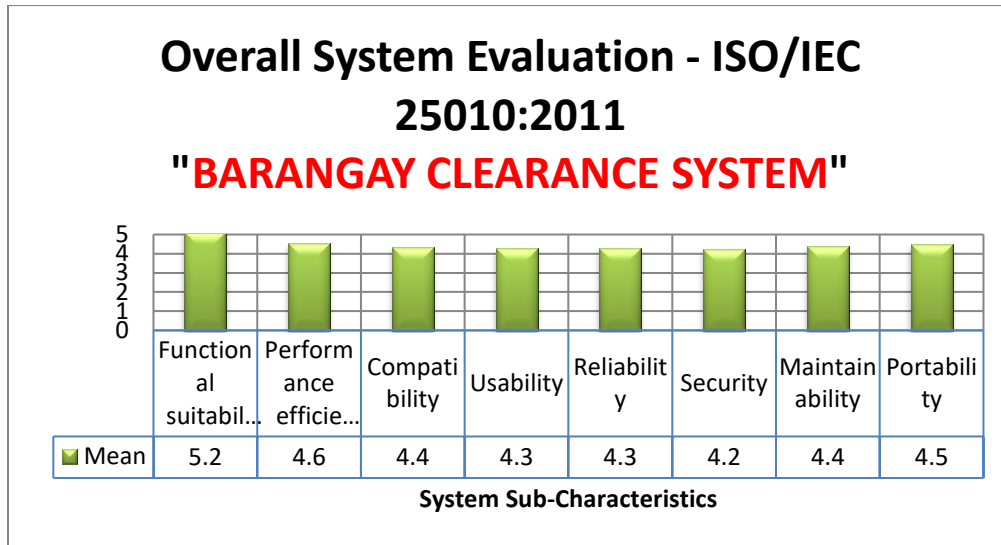
This chart shows the weighted mean of the system the Maintainability and in the chart shows the respondents who answered strongly agree, agree, neutral, disagree and strongly disagree, in the modularity the mean is 4.30, in the reusability 4.45, in the analyzability 4.45, in the modifiability 4.35 and in the testability is 4.45

### PORTABILITY



This chart shows the weighted mean of the system the portability and in the chart shows the respondents who answered strongly agree, agree, neutral, disagree and strongly disagree, in the adaptability the mean is 4.40, in the installability is 4.65, and in the relacability 4.35

**OVERALL SYSTEM EVALUATION**



This chart shows the overall system evaluation and, in the chart, shows the respondents who answered strongly agree, agree, neutral, disagree and strongly disagree, in the functional suitability the mean is 5.2, in the performance is 4.6, the compatibility is 4.4, in the usability is 4.3, in the reliability is 4.3 in the security is 4.2, in the maintainability is 4.4 and in the portability is 4.5





## V. CONCLUSION and RECOMENDATION

### Conclusion

The results of the barangay clearance system that the proponents made were good, the GUI they made was good and efficient, and the process to get barangay clearance using the system was good and efficient.

When the proponents created the system, first they conducted an interview to their barangay to get user stories and the system that they create, and the proponents used the test cases for the system, and in the programming part they use programming tool and codes, like the proponents use the visual studio to program the html and CSS of the GUI and the proponents use programming language the proponents used Java script to have the system function and the proponents used XAMPP MYSQL database to manage the data of the users, when the proponents are done to created the system, the proponents are immediately deploy the system, and after deployment, they use evaluation tool, like google form survey to know the background and efficiency of the system.

the survey went so well that they computed the mean of a system function, like in the functional suitability the mean is 5.2, in the performance efficiency the mean is 4.6, in the compatibility the mean is 4.4, in the usability the mean is 4.3, in the reliability the mean is 4.3, in the security the mean is 4.2, in the maintainability the mean is 4.4 and in the portability the mean is 4.5.

This system can be used in the barangay because the functions of the system have been completed and it can also help people who need barangay clearance that they will use.



### **Recommendation**

- 1) The user should need to know what technologies will be used to access the system.
- 2) The user needs to know what to install the technology to process the system.
- 3) The user can ask the admin for help if they don't know the system process, and the admin will instruct them to access the system.
- 4) Those who want to ask about the barangay they can contact the barangay via messenger or sending an email.
- 5) May our system help you to make it easier for you to obtain barangay clearance using the system the proponents have created



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