

GABAY TULONG PARA SA LAHAT NG MALOLEÑO

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ABSTRACT

The researchers made the decision to create this system in order to make transactions less taxing for both requestors and organizations. Physical interactions are part of the system that is now being used in their transactions. This inspired the researchers to create the Gabay Tulong Para sa Lahat ng Maloleño system, which enables Maloleños to connect with various aid agencies in Malolos. Convenience and efficiency for their transaction could be achieved by giving the requestors and organization a platform to connect. With this approach, requestors wouldn't need to participate in any physical interactions to meet their needs. This study will employ a causal-comparative quantitative research design. The researchers selected this research design since the study is concerned with the creation of the Gabay Tulong Para sa Lahat ng Maloleños. The focus of the study would be on describing the unique characteristics, quality, and design of the system. The evaluation's final score of 4.45 and the descriptive interpretations of "very good" from the sample's average responses served as the foundation for drawing a conclusion about the system's functionality. Some respondents/users who were

not particularly computer literate but were satisfied with the system's functionalities gave it high marks for helping others ask for help and assisting them.

Keywords: *information technology, maloleño, assistance offered, application status, qr-code generation, e-government.*

Introduction

The study designed and developed the Gabay Tulong Para sa Lahat ng Maloleño system to assist Bulacan State University Maloleños. The goal of this project is to require requestors to put in less time and effort. Furthermore, corporations would have a more dependable method of handling and tracking the critical documents of their requestors. This inspired the researchers to create the Gabay Tulong Para sa Lahat ng Maloleños system, which allows Maloleños to connect with various Malolos organizations for assistance. Giving the requestors and organization a platform to connect could improve the convenience and efficiency of their transaction. This study will employ a quantitative causal-comparative research design. Because the study focuses on the development of the Gabay Tulong para sa lahat ng Maloleño, the researchers chose this research design. The research would concentrate on describing the system's distinct features, design, and quality. According to the survey results, the assessors were pleased with the system's utility and functionality, as well as its goal of providing users with the convenience of Gabay Tulong para sa lahat ng Maloleño.

Project Objectives

The project objectives guide the researchers to the overall goal, while the specific objectives go over the specific steps for achieving the project goal. The study's overarching goal is to connect requestors to organizations by creating a platform on which they can easily transact.

The study aims to complete the following:

1. To develop a system that would enable the processing of requests more efficiently and organized by including the following functionalities
 - 1.1 Approval System;
 - 1.2 QR Request Status Tracker;
 - 1.3 Reports Generation;
 - 1.4 Dashboard for Organizations to Manage Requests and Dashboard for Super Admin to Manage Organizations;
2. To provide requestors a convenient way of passing requirements to organizations and allowing them to view their request's status easily.
3. To help organizations manage all the received requests and process requests more efficiently.
4. To determine the level of acceptability of the developed system using ISO /IEC 25010 Standard in terms of the following criteria
 - 4.1 Functional Suitability;
 - 4.2 Performance Efficiency;
 - 4.3 Compatibility;
 - 4.4 Usability;
 - 4.5 Reliability;
 - 4.6 Security;
 - 4.7 Maintainability; and
 - 4.8 Portability.

Literature Review

DICT Introduction, and Overview of e-Government in the Philippines

The DICT is one of the most significant examples of how the Philippines is dealing with the difficulty of maintaining growth, particularly in ICT, with the accumulation of the line for face-to-face submission of needs.

E-Government in the Philippines: A Comparison to Global Best Practices E-Government

The study's findings demonstrate the use of ICT by various government agencies to improve their relationships with the public, as well as the difference between e-governance in the Philippines and other countries.

Asia's Digitalization of Public Service Delivery Around the world

According to the findings of this study, public sector organizations are seeking improved interaction between the public and the government in order to address the supply-demand imbalance.

The Impact of ICT on Political Development in Iran: A Qualitative Study

This study's findings focus on how ICT enters all spheres of society and influences how any nation develops. For example, using digital platforms to improve public service delivery, access, and deliverables to public utilities.

The History, Definitions, and Issues of E-Government Communications of the Association for Information Systems

The study's findings address the issues associated with the failure rate of e-government in LDCs and show how it is beginning to develop. This can then be related to the system being developed; because the Philippines is one of the Least Developed Countries.

Processing of Department of Social Welfare and Development (DSWD) Crisis Intervention Unit Client Assistance and Assistance to Walk-In Clients / Customers

The system that is currently being developed aims to reduce the amount of time that organizations and requestors spend on the procedure, which according to this study takes at least 45 minutes. As a result, they take three to five days to complete, beginning the day they are filed.

E-Gov.ph.: Examining e-Governance in the Philippines through the websites and social media sites of selected national government agencies

According to the findings of this study, e-government is an important component of good governance. Governmental technology empowerment is a significant step forward because it allows for easier working conditions and provides time and space for adaptation.

E-Government in the Philippines: An Assessment

This study suggests that there may not be a significant difference in public investment in e-government use. A lifetime investment in e-governments allows you to establish a long-term online presence.

Digital Government for E-Government Service Quality

The impact of the information system, information technology, and the internet on public services and government operations is being studied in connection to the system that will be constructed

The GOV.PH or National Government Portal (NGP)

Is a single window that unifies all web-based government. This system has helped its users by providing them with a convenient way of processing their government documents.

Methods and Design

Research Design

The causal-comparative quantitative research design will be used in this study. Because the study focuses on the development of the Gabay Tulong para sa lahat ng Maloleño and the effect it would bring to the population. The research would concentrate on describing the system's distinct features, design, and quality. Furthermore, it will use a Likert scale as a data analysis method to calculate the weighted average or mean to determine the system's quality rate to meet the eight ISO/IEC 25010:2011 criteria.

Project Development

The researchers will create the system using the System Development Life Cycle (SDLC), which is defined as a software development process by Alvater (2020). Agile is a software development process that entails building software piece by piece while keeping up with the changing needs of the business.

Requirements. The researchers gathered all the requestors and organizational information needed for the system's development during the requirement phase. The research began after gathering all the necessary information to begin the project by analyzing the current problem and what solutions could be implemented to resolve it.

Plan. During the planning phase, the researchers analyzed the previous phase's data to determine the system's required features to be developed.

Design. During the design phase, the researchers drafted the necessary features, specifications, and operations to meet the functional requirements and users of the developed system. The researchers identified and analyzed the problems that the system could solve

through research and data collection. The system will be designed based on the issues identified, and all system features will be aimed at resolving these issues. The requirement phase will be used to generate data flows and other diagrams.

Develop. The designs are built and tested during the development phase to ensure that they function as intended and to detect errors and bugs. The researchers began coding the web system based on project requirements and specifications, with some testing and implementation taking place along the way.

Review. After verifying the system, the researchers will oversee system maintenance, which means they will be the ones to keep the system running, whether to fix problems or perform upgrades. This is used to apply fixes after bugs, insufficient features, and other errors are discovered in production.

Research Instrument

The ISO/IEC 25010:2011 is the model used to evaluate this system. The respondents will evaluate the system using the Likert scale based on each criterion from the ISO/IEC 25010:2011 model. Google forms would be used as the research instrument the researchers would use to evaluate the system. They would disseminate the google forms to the respondents of the study.

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Section I: User Satisfaction

Section II: Usability

Section III: Performance Effectiveness

Section IV: Reliability

Data Gathering Procedure

The information required to assess the system was gathered by the researchers using the ISO/IEC 25010 Standard. Google forms, which served as the deployment platform for the questionnaire, are used to collect responses.

Population and Sample of the Study

The population of the study is composed of three kinds of respondents: requestors, organization admins, and IT (Information Technology) experts. It consists of ten requestors and five organization admins representing the evaluation respondents who are the system's target users. In addition to this, ten IT experts will test the developed system.

Statistical Treatment

The ISO/IEC 25010:2011 is the model used to evaluate this system. The respondents will evaluate the system using the Likert scale. Responses will be calculated by weighted average or by means of the system's quality rate. The weight score is with descriptive rating of:

Range	Descriptive Interpretation
4.50 – 5.00	Excellent
3.50 – 4.49	Very Good
2.50 – 3.49	Good
1.50 – 2.49	Fair
1.00 – 1.49	Poor

Results and Discussion

Approval System

The organization admin can review all the details and requirements of the requestor. The organization admin can also choose which remarks to use from the given options. Adding comments is also an option.

QR Request Status Tracker

The requestor can view their application status whether they will upload the QR code or use the references ID provided by the system. The requestor can view their request overview with the status of their request. The status can either be still pending, accepted, or declined.

Reports Generation

On the report's generation under organization admin view, this going to be the preview of the requestors' printed generated report. This report will show all the requestors' reference id, name, email, type of request, request date, and request status. For the super admin view, the generated report will show all the details of the organizations registered in the system. This includes the organization id, name, the admin, email, and organizations' status.

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Organization Reports
Organization Name: Malolos Local Government
Date: 2022/11/30

Reference ID	Name	Email	Type of Request	Request Date	Request Status
1637D0ED7CE497	Juana Reyes Dela Cruz	juana.reyes.1975@gmail.com	Tulong Pansiyal	2022-11-23	DECLINED
1637DF218A5E46	Sam John Carlson	Samj12345@gmail.com	Tulong Pansiyal	2022-11-23	APPROVED
1638196B46CF52	Howard Dela Cruz Reyes	HDCR.1234@gmail.com	Tulong Pansiyal	2022-11-26	DECLINED
16383558E51A5A	John Dela Cruz Howard	john.delacruz.howard@gmail.com	Tulong Pansiyal	2022-11-27	PENDING
16383604130D11	Albert Carlo Pasion Grupo	albalbert27@gmail.com	Tulong Edukasyon	2022-11-27	APPROVED

Malolos Admin

Gabay Tulong para sa lahat ng Maloleño

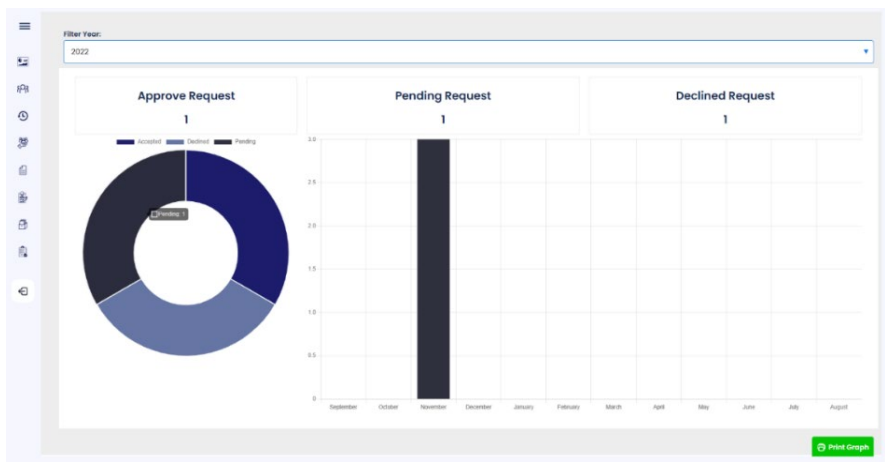
Organization Reports
Date: 2022/11/30

Organization ID	Organization Name	Organization Admin	Organization Email	Organization Status
16323DD2909ABC	Hynes Organization	Hynes Admin	hynes@gmail.com	ACTIVE
163343D2969D9U	Malolos Local Government	Malolos Admin	admin@gmail.com	ACTIVE
163343D2968D9E	Luzpes Bulacan	Harold Jorge	longos@gmail.com	ACTIVE
1638198E3F25DF	Quenzie D. Garrison	Quenzie D. Garrison	quenzie.garrison2022@gmail.com	PENDING

Super Admin

Dashboard for Organizations to Manage Request

The dashboard for organizations helps the admin to manage requestors’ requests. A monthly graph will be shown on the dashboard page. The admin can view the overview of approved, declined, and pending requests.



Dashboard for Super Admin to Manage Organizations

The dashboard for super admin helps them to manage organizations. A monthly graph will be shown on the dashboard page. The super admin can view the overview of organizations approved, declined, and pending in the system.



Conclusions

According to the data gathered from the survey, the evaluators were satisfied with the functionality and efficiency of the system in terms of usefulness, and its goal of giving the users the ease of use of *Gabay Tulong para sa lahat ng Maloleño* was agreeable. Based on the results gathered in the evaluation, the system's features were useful not only for requestors to find scholarship programs easily but also for organizations to easily manage their active scholarship programs. The result of the evaluation using the specified criteria was the basis for concluding the functionality of the system. According to responders'/users' ratings of the system, the system helped request assistance and assisted the requestors; some were not really into technology but were satisfied with the systems' functionalities.

Recommendations

The study's conclusions and findings led to the following recommendations, and future information technology researchers who intend to carry out similar research can use them:

1. Additional notification for the short message service (SMS). Gmail notice is already available, but given that most people use mobile devices today, it is advised to offer

SMS notifications so that users may learn the status of their requests and other information the system can provide.

2. Since most people today utilize mobile devices, another suggestion the researchers made was to create a mobile application that would allow users to access the system project without using a web browser. Being portable makes it more effective for both companies and requestors.
3. The researchers also proposed another idea, which they combined with the creation of a mobile application. The system would function more efficiently if cameras on smartphones or any type of device could read QR codes.

Research Implications

After the development of the *Gabay Tulong para sa lahat ng Maloleño* for both requestors and organizations residing in Malolos, the transaction between requestors and organizations would be improved. The digitization of the transaction would make it easier for requestors to find available requests and submit their requirements to organizations. They would also be given the convenience of checking the status of their request through the system. Moreover, organizations could manage requests efficiently, allowing them to attend to more requests. The system would ensure that data processing is correct and accurate. It would eliminate the possibility of physical files being misplaced or destroyed by an organization because it would all be digital. Additionally, fewer transactions and requirements would need to be submitted in person, saving time and energy while ensuring the safety of those using the system. This study, alongside its system, will help researchers in the future and provide them with a relevant reference for their research. This can also serve as a guide for them through the documentation of the study.

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References

- Castelnovo, W. (2013). A Stakeholder based approach to public value (ECEG 2013). Academic Conferences and Publishing International, Reading, 94-101
- Bekkers, R., & Ottoni-Wilhelm, M. (2016). Principle of care and giving to help people in need. *European Journal of Personality*, 30 (3), 240-257, doi: 10.1002/per.2057.
- Dela Rosa, A. P. M. (2022). Web-based management information system of cases filed with National Labor Relations Commission. *International Journal of Computing Sciences Research*, 6, doi: 10.25147/ijcsr.2017.001.1.113.
- Dela Rosa et al. (2022). Web-based database courses e-learning application. *International Journal of Computing Sciences Research*, 6, doi: 10.25147/ijcsr.2017.001.1.115.
- Kaushik, A. (2016). A literature review on Agile Software development. *International Journal of Advanced Research in Computer and Communication Engineering*, 5 (9) 337-339, doi: 10.17148/ijarce.2016.5971.

- Gerdenghi, J. L. (2020). Digitalization by means of a prototyping process: the case of a Brazilian Public Service. *Information Technology Research and Application Center (ITRAC)*, 11(9), 413, doi: 10.3390/info11090413.
- Bertot, J et al. (2016). Universal and contextualized public services: digital public services innovation framework. *Government Information Quarterly*, 33 (2), 211-222, doi: 10.1016/j.giq.2016.05.004.
- Lindgren, I., & Jansson, G. (2013). Electronic services in the public sector: conceptual framework. *Government Information Quarterly*, (30), 2, 163-172, doi: 10.1016/j.giq.2012.10.005.
- Bekkers, R., & Wilhelm, M. (2016). Principle of care and giving to help people in need: principle of care. *European Journal of Personality*, 30 (3), 240-257, doi: 10.1002/per.2057.
- Choi, J., & Xavier, J. (2021). Digitalization of public service delivery in Asia. *Asian Productivity Organization*. 9.
- Risal, N. (2020). E-governance: A study of the concept and implementation in the emerging economy. *University Grant Commission Nepal; Mini Research Project*, 4(2), doi: 10.22495/cgsrv4i2p9.
- Risal, N. (2020). E-governance: A study of the concept and implementation in the emerging economy. *University Grant Commission Nepal; Mini Research Project*, 4(2), doi: 10.22495/cgsrv4i2p9.
- Bajar, J.T.F. (2020). E-Government in the Philippines: An Assessment. *National Dong Hwa University*. 1(1), 26-47.
- Arias, M. I. A., & Maçada, A. C. G. (2018). Digital Government Service Quality. *National University of Ireland*. doi: 10.1145/3209415.3209422.
- Altwater, A. (2020). What is SDLC? Understand the software development life cycle. Retrieved April 8, 2020, from <https://stackify.com/what-is-sdlc/>.

OPS Website. (2017). PCOO turns over National Government Portal (NGP) domain to DICT. Retrieved March 01, 2017, from <https://ops.gov.ph/pcoo-turns-over-national-government-portal-ngp-domain-to-dict-01-mar-2017/>.

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