

SYSTEM TESTING PHASE TEST PLAN

for

“Digitalization of Church Records Management System” Web-based System for the Ecclesiastical Province of Manila

DCRMS-WBS-PTP1.0.0

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SYSTEM TESTING PHASE TEST PLAN

1 TEST PLAN IDENTIFIER

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2 REFERENCES

Test Plan Outline (IEEE 829 Format)

3 INTRODUCTION

In this project, a phase test plan will be implemented in a web-based system of digitalization of the church records management system in The Ecclesiastical Province of Manila. In this plan, the different features, components, and interfaces will be evaluated using only one test plan, the system testing. The various functional and non-functional aspects will be addressed based on their purpose.

In testing this web-based system, the testers are only given a small amount of time which will only take seven months. Taking this into consideration, the high-level test cases will be the priority, this may be limited to conducting more system testing and having a compromised product quality. Additionally, this project will use system testing to determine the workflow, validate requirements, and identify any issues and problems in the operational process.

4 TEST ITEMS

The following is the list of items to be tested:

- A. Log in Module
- B. Dashboard Display Module
- C. Data Accuracy and Insertion Module
- D. Admin Management Module
- E. Deletion Module
- F. Navigation Module
- G. Report Generation Module
- H. File Upload Module
- I. Correction Management Module
- J. Search Module
- K. Profile Management Module

5 SOFTWARE RISK ISSUES

The following features have been identified to ensure that the results from this test plan's execution will meet expectations and shall be thoroughly verified:

- A. Features or functionalities are added late in the features or functionalities process, such as new user roles, like archdiocese-level access, or reporting tools. These may well have an impact on the test schedule and escalate risk.
- B. Integration with external systems such as storing member details of the church or third-party services for backup may lead to unexpected failures or inconsistency in the testing process.
- C. The system may face performance bottlenecks, especially when large scale data is involved, and the possibility of thousands of simultaneous logins.
- D. Failure by the application to properly back up and recover at a time when the system fails that may compromise essential church records.
- E. Failure in the test environment, such as non-stable servers, databases crashing or incomplete setup may lead to inconsistent or incomplete execution.
- F. Once test data is not available or the test data does not represent the actual record of the church, this could skew the accuracy of test results, leading to undetected defects or false positives.
- G. Failure to comply with data protection laws such as R.A. 10173 (The Data Privacy Act of the Philippines), could result in the church facing dire legal and financial consequences.

6 FEATURES TO BE TESTED

The following is a list of the features to be tested and focused on during testing, arranged per level of priority:

A. HIGH PRIORITY

- i. Log in Feature
 - Log in test with valid and invalid username and password credentials
 - Test proper session management and log out.
- ii. Dashboard Display Feature
 - Make sure the statistics given are accurate.
 - Checks if the numbers are in the correct place and category and proportional totals are true.

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iii. Data Accuracy and Insertion Feature

- Ensure that data that entered the system is properly stored.
- Confirm that what is displayed corresponds to the records stored in the database

iv. Admin Management Feature

- Test adding, editing, and managing admin profiles.
- Validate that any administration accounts or access work in the way which they're meant to.

v. Deletion Feature

- Assess the capability of removing records, with necessary checks and balances to do the deletion.
- Verify that deleted records are no longer accessible and are removed from the system.

vi. Profile Management Feature

- Ability of creation, editing, and deletion of user profiles is tested.
- Ensure that the profile information is saved correctly and displayed appropriately.

B. MEDIUM PRIORITY

i. Navigation Feature

- Check to make sure all menu items lead to the appropriate application sections.
- Make sure that when a menu item is selected, the active state is highlighted.

ii. Report Generation Feature

- Test the report generation for various sections (such as Confirmation and Baptism).
- Verify the correct formatting and accuracy of the reports that have been generated.

iii. File Upload Feature

- Verify that uploading files (such as documents and photos) in the proper sections works as intended.
- Make sure any files it uploads can be recovered when needed and are saved correctly.

iv. Correction Data Feature

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- Examine the capacity to make changes to current records, such as altering profile or baptismal information.
- Verify that updates are accurately stored and reflected in the database.
- v. Correction History Feature
 - Ensure that the system keeps track of and shows the past corrections made to records.
 - Assure users have access to historical correction details for auditing purposes.
- vi. Profile Management Feature
 - Examine the functionality of adding, deleting, and editing user profiles.
 - Verify that profile information is saved correctly and displayed accurately.

C. LOW PRIORITY

- i. Search Feature
 - Test search functionality across different sections

7 FEATURES NOT TO BE TESTED

1. Code Functionality

- Server-side processes and backend logic will not be tested because testers do not have access to the source code.

2. Data in User-uploaded Files

- User-uploaded files are not included in the testing scope. The users bear full responsibility for the content contained in these files.

3. Data in System-Generated Files

- System-generated files will not be tested independently; instead, it will only be tested indirectly as a component of the report generation process.

8 APPROACH

8.1 Testing Levels and Design Techniques

Phase Test Plan will be utilized in this project to evaluate the functionalities, performance, modules, and other important aspects of the system using ONLY ONE (1) phase of the testing strategy. This is a crucial part that serves as a blueprint for the software development process. System testing is one of the testing levels that is essential in validating all the user requirements and demands. This approach can produce high-

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quality software and will be integrated into the Digitalization of the Church Records Management System of The Ecclesiastical Province of Manila.

In the development process of this web-based system, there are various software tools and equipment that will be used to innovate a good performance and smooth website. For project documentation, scheduling, and operational procedures will be listed and recorded using the Notion application. Selenium and Robot Framework will be utilized to navigate the system, test every feature, and assess all the user expectations. Lastly, J-Meter will be employed in performing the load testing of the web system.

The non-functional and functional aspects will be evaluated in the system testing of this plan. All the types are listed below:

- A. Functional Testing.** This will guarantee and check if all the given features and requirements of the client are met and detect the software issues presented in the system.
- B. Usability Testing.** It analyzes whether the system is user-friendly and identifies any problems users may encounter while performing tasks.
- C. Load Testing.** This measures the performance of the project across different levels of user activity.
- D. Compatibility Testing.** It will determine if the web system is flexible throughout various devices, operating systems, networks, and web browsers.

These will serve as vital elements of having a high-quality web-based system of catholic records management system. Additionally, it offers a good user experience, and controlled functionality during peak sessions, and the system can work seamlessly in different platforms.

Moreover, the following testing techniques will be employed in the development process to create efficient test cases of the system:

- A. Boundary Value Analysis.** Emphasize on testing the extreme margins or boundaries of input data, where mistakes are more likely to occur.
- B. Decision Table Testing.** Evaluate every potential combination of various conditions or inputs to determine how each will impact the outcome.
- C. Equivalence Partitioning.** Divides data into groups and tests if each input in each groups behave similarly.
- D. State Transition Testing.** Test how the system transforms from one state to another, particularly when operations rely on the prior state.
- E. Use Case Testing.** Test certain procedures or scenarios that a user could encounter when using the system.

8.2 Configuration Management/Change Control

In the Digitalization of Church Records Management System, there are changes that will be implemented using formal documentation and control measures. All modification requests, such as data field adjustments, user role updates, or changes to the reporting structure, must be reported using a Change Request Form. This form will collect information on the proposed change, its priority, and the possible impact on the system.

An impact evaluation will be executed to establish whether the change would affect current church records, system functionality, and user responsibilities. An authorization is required before any modifications are executed. A Change Log will be kept to track all authorized modifications, their descriptions, and consequences. This log will also detail any human inputs required, such as record updates or user access adjustments, to ensure a visible audit trail for any system changes.

8.3 Test Tool

A. Notion (for Project Documentation)

This platform will be utilized for the project management of software development testing, from scheduling, organizing roles, and assigning tasks. Notion will be also use in progress monitoring, tracking of problems, and verifying the resolved issues. It will serve as a repository for project documentation and have a collaborative environment for the team.

B. Selenium IDE (System Testing Types)

The Selenium IDE is an open-source framework that enables every tester to assess functionality and user interaction. In this web-based system, the login procedure is one of the features that will be tested to determine the valid and invalid inputs. The navigation and search components will also assess in this framework to verify all the sections.

C. Robot Framework (System Testing Types)

The robot framework is an automation test tool that the team will employ in this project. All of the advanced and heavy tasks will be assigned in this application. For instance, the CRUD operation in adding church records, using robot framework is much comprehensive and provides structural approach.

D. J-Meter Framework (Load Testing)

In performing and evaluating the load testing of a web-based system and application, J-meter is the best tool and it will be use by the testers. This will create building blocks for the scalability of the project.

8.4 Meetings

In the seven-month duration of testing, the team will be conducting two meetings per week: one for identifying detected issues and discussing possible solutions, and the other for reviewing progress and deliverables. Meetings will be scheduled based on the team's availability, but if there is a dilemma in the testing process, assembly arranged as necessary.

By using this schedule, it will help the team to have an effective and open communication to each other about the project and ensure that the challenges and priorities are done properly according to its requirements.

8.5 Measures and Metric

Within the System Testing phase, the metrics listed below will be monitored by the development team and must be reported on the scheduled meetings to guarantee that there are progress and it improves the web-system's quality.

1. Number of Identified Defects
2. Test Coverage
3. Test Case Executions
4. Test Case Outcome Rates
5. Determining the compatibility and usability of web-based system in each platform

9 ITEM PASS/FAIL CRITERIA

The pass criteria for the website will make sure that all core functionalities work effectively and perform as intended by stakeholders. The accuracy of data presented by the system, the manner in which the users are handled, and the nature of engagement should be reliable. All essential elements should perform satisfactorily with regards to their dependable performance, usability, and integrity of information. Further, these parameters will ascertain that the system is ready for stakeholders' review and is in accordance with the set requirements and objectives.

The test item will be considered failed if it does not satisfy the criteria as stated in the test cases. This includes failing to complete the intended purpose, processing data inaccurately, or deviating in any way from the standards.

10 SUSPENSION CRITERIA AND RESUMPTION REQUIREMENTS

10.1 Critical Flaws:

A critical flaw or system failure that prevents the execution of basic functions such as file management, retrieval, or user authentication. Security vulnerabilities that reveal personal data of members in the church, sacramental records, or other confidential information.

10.2 Non-Available Testers:

The appointed test team is unavailable; perhaps for the reason they were scheduled or assigned resource, or for any other reasons, to execute the planned test cases.

10.3 Incomplete Dependencies:

Features that were required to exercise or validate other functionality of the system were not implemented or would not have worked, and which hindered end-to-end testing between inter-related functionalities. Third party services, APIs, or database connections that are integral to the functioning of the system are not available or didn't work, which stops the test flow.

10.4 Environment Issues:

Problem in the testing environment such as server failures, hardware failures or events which could not be controlled from the natural environment that hindered the running of tests efficiently.

11 TEST DELIVERABLES

Test Plan

Test Cases

Test Summary

12 REMAINING TEST TASKS

TASK	Assigned to	Status
Verify prototypes of Screens	Dev, PM, TM	
Verify prototypes of Reports	Dev, PM, TM	
Execution of Test Cases	TM	

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13 ENVIRONMENTAL NEEDS

The following items are required to cover the execution of this test plan:

- A. Access to the web-based system of Digitalization of Church Records Management System using different web browsers (Chrome, Edge, Firefox).
- B. A web-based testing tool for automation testing (Selenium IDE) installed on the web browser.
- C. Availability of a stable internet connection.

14 STAFFING AND TRAINING NEEDS

It is advised to have two (2) testers for each testing level, and during system testing, assistance from developers may be necessary to address any technical issues that arise.

- A. The entire team shall be trained in using Notion Productivity Software as it will be utilized for monitoring and management of the project's development.
- B. The testers should be trained in using JMeter as they will use it for Load Testing.
- C. The testers as well as the developers shall be trained in utilizing the Selenium IDE as it will be used in System Testing to verify that the web application fulfills business requirements and delivers a positive user experience.

15 RESPONSIBILITIES

	Project Manager	Test Team Manager	Developer Team Manager	Test Team	Developer Team
Notion Software Training	X	X	X	X	X
Selenium IDE Training		X	X		
JMeter Training		X			
Test Execution		X	X	X	X
Test Documentation		X		X	
Conflict Management	X				
Risk Analysis	X	X	X		

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Test Validation	X				
Test Completion Validation	X				

The table outlines responsibilities across different roles within the project and testing phases. This helps in clearly defining the roles and responsibilities for both training and test execution, ensuring accountability and a smooth workflow throughout the testing phases.

The project manager must oversee Notion Software Training that ensures the project progress is followed and makes sure the team attains proficiency with the outcome.

The Test Team Manager oversees training in Selenium IDE that captures the focus given to test automation.

The Developer Team Manager participates in Notion Software Training along with overseeing the conduct of both Selenium IDE and JMeter Training. This is a basic requirement which means that developers are expected to be able to perform the load testing too.

The Test Team is expected to provide Selenium IDE Training and JMeter Training. That just aligns to their role in determining the performance and functionality of the system.

The Project Manager is responsible for conflict management and risk analysis to ensure that the risks and complications that occur during the testing process are managed appropriately.

The Test Team Manager oversees test execution, test documentation, conflict management, test validation, and test completion validation, which means full engagement in managing the whole testing process.

The Developer Team Manager oversees test documentation and ensures that all details are precisely documented to be used as reference later.

The Test Team is actively participating in executing, validation, and completion validation towards test quality and success

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The Developer Team is working on risk analysis in collaboration with other stakeholders to identify the issues that would arise before a release.

16 SCHEDULE

The allocation of time and resources for each test is specified in the timeline of the master project plan. The entire team must work in coordination. Adjustments can be made depending on the complexity of the project and the capabilities of the team. Team leaders should document these adjustments and report them to the project manager.

- A. The meetings are scheduled twice a week. The team leaders may request additional meetings if necessary.
- B. System Testing will be conducted by the Test Team. The Development Team may support the Test Team in minimum.
- C. Load testing should take place until every feature has undergone validation. Load testing will only go on in the case that there is a minor bug. A maximum of one major defect is allowed, if it doesn't interfere with the system's primary function.

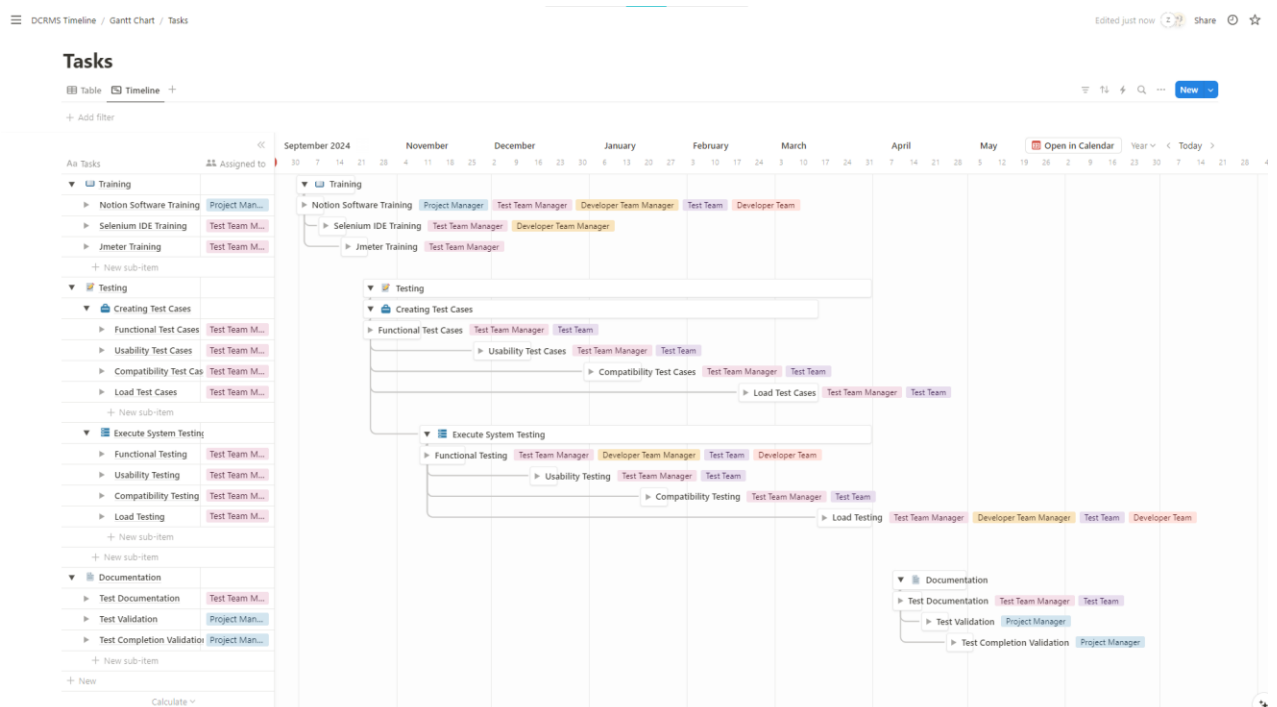


Figure 1.0 DCRMS Project Gantt Chart

Figure 1.0 shows the Gantt chart that describes the project's execution plan. Testing will take place concurrently with development using a sprint-based methodology, with a cycle of testing being used throughout the project.

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Before development and testing start, the initial period will be devoted to team training to make sure everyone is on the same page. The integration of multiple components into a solid, testable system will take place over the coming months. Every stage of the development process will take roughly a month, with specific testing planned for every stage. Several teams will work on some tasks at the same time to make the most of the 6-to-7-month project timeline.

17 PLANNING RISKS AND CONTINGENCIES

A. Reallocating Workforce

In urgent situations, such as unscheduled leave because of illness or layoffs, an emergency workforce reallocation plan should be considered. Further, if workload is not balanced across the team with some testers or developers overloaded and others not working up to their capacity, a workforce reallocation plan should be considered. Members of the team who have relatively lighter loads should be reallocated to assist with more intensive tasks. This ensures resources are used in an effective way and there are no bottlenecks in areas of importance.

B. Adjusted Testing Coverage

If testing time is limited due to project delays or resource constraints, the testing team should prioritize high-risk regions, important functionalities, and core user workflows. Non-essential or low-priority test cases may be postponed to later cycles. This ensures that important components are fully evaluated in the constrained time frame.

C. Delayed User Interface (UI) Enhancements

If UI features or UI enhancements have fallen behind schedule, the project might be delivered with the current UI design but note the known issues or expected changes. All the delayed UI improvements would be part of a future release. Testing will include testing to ensure that existing functionalities work as designed, and all UI changes will be tested if developed.

D. Deferred Non-Critical Bug Fixes

If non-critical bugs are found and can't be completed as part of this cycle, they have to be delayed until the next update cycle. The bugs should be documented and organized according to their severity. In subsequent development cycles, the team will review the delayed bugs and attempt them according to their importance and resources available at that point of time.

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E. Deferred High-Priority Features

In the case where the development of a high-priority feature is delayed, an extended time may be allowed to finish its development. While still on the extension period, more resources or overtime may be assigned to urge the completion. The updated time span needs to be disclosed clearly, and implications on other project deliverables should also be analyzed and reported.

F. Hardware or System Failure

In case of hardware or system failure, the testing and development work can be switched to pre-configured backup settings. To minimize interruption, these backup systems should closely replicate the primary environment. The team should be allowed to work in the backup environment until the time that the primary system is restored.

18 APPROVALS

Gaspar, Marie Therese S. – Test Team Manager	
Quilit, Zyrille Nichole V. – Test Team Assistant	
Gonzales, Ivan S. – Development Team Manager	
Castañeda, Danielle Claudette V. – Development Team Assistant	
Espineda, Hanah Mae V. – Project Manager & Software Tester	

19 GLOSSARY

A. Definition

Baptism	A holy ceremony using water that symbolizes the acceptance of Jesus Christ.
Chancellor	This is the individual that protects the acts of a church and responsible in its legal matter.
Chancery	A person that aiding with administrative and religious activities necessary to run the diocese's operations.
Conversion	In the Catholic context, conversion refers to the process of accepting the Catholic religion and viewed as a spiritual transformation and commitment to live the Christian life.

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Diocese	A diocese is a geographical part of the Church administered by a bishop that includes several parishes.
Disparity of Cult	This word refers to a marriage between a Catholic and a non-baptized individual, which requires special Church dispensation.
Episcopal Vicar	An episcopal vicar is a priest chosen by the bishop to help manage a certain region or issue within the diocese.
Judicial Vicar	The judicial vicar is the head judge of a diocese's ecclesiastical court, which handles cases such as annulments.
Matrimony	This is the Catholic Church's sacrament of marriage, is a lifelong commitment between a man and a woman.
Oeonomo	This is in charge of a cathedral or parish's financial administration, including budgeting, asset management, and resource allocation.
Ordination	Ordination is the Catholic Church's rite that consecrates men as priests, or bishops. It authorizes them to conduct divine ceremonies and give the sacraments.
Parish Secretary	The parish secretary is responsible for administrative activities such as scheduling, messages, and maintaining records for the church.
Parish Priest	Also known as a pastor, is the parish's leader that is in charge of the congregation's spiritual well-being.
Vicariate	This is a usual church organization that consists of parishes within Archdiocese that are identified geographically for parish administration.
Vicars Forane	It is a priest that is assigned to lead a collection of churches within a given diocese.
Vicar General	The diocese's highest-ranking official after the bishop, aiding with administrative and pastoral tasks.