

Application For Managing and Reporting Financial data Case Study: Imanuel Lalao Chruch

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Abstract

Rapid technological developments provide opportunities for every organization to increase efficiency in managing and reporting financial data in a structured manner. However, until now, the Imanuel Lalao Church still manages finances conventionally, using books and Microsoft Excel, which are prone to recording errors, data inaccuracies, and the risk of losing information. The lack of transparency in financial reports is also a major problem, because it causes the congregation to distrust the management of church finances. Therefore, a more transparent, structured, and accountable system is needed to facilitate the process of managing and reporting finances. This study uses the waterfall method with the aim of building an application that can replace conventional methods in managing and reporting church financial data. The results of the study are an application that is able to increase transparency and accountability in financial management, as well as produce faster, more accurate, and more efficient financial reports.

Keywords: Application, Financial Data, Imanuel Lalao Church, Manager

1. Introduction

A church is a building or house where people pray and perform Christian religious ceremonies which also functions as a Christian body or organization with the same beliefs, teachings, and ceremonial procedures, such as Catholicism [1]. The Imanuel Lalao Injil Church in Timor is located in RT/RW: 007/004, Lalao Hamlet, Lakamola Village, East Rote District, Rote Ndao Regency, East Nusa Tenggara Province which consists of six categories of family areas called rayons and has a congregation of 609 people. In spiritual activities involving the congregation and God's servants, there is income and expenditure. The Imanuel Lalao Church routinely holds congregational news to announce financial reports periodically, both weekly, monthly, and annually. In addition, the Imanuel Lalao Church holds an annual budget meeting to determine actions to develop church services based on financial reports. However, the recording and reporting of church finances is currently still done conventionally. The current process of managing congregation finances is carried out by recording every income with the categories of church services, household services, worship for fathers/mothers, elderly services, youth services, thanksgiving services, funeral services and expenses with the categories of development expenses, KMDP deductions (Chairman, council, deacons and teachers), inventory and church activity expenses into a book before being transferred to excel to be added to the congregation's cash balance. Therefore, the financial management process becomes complicated, not centralized, prone to errors and at risk of losing data resulting in delays in financial reporting that must be accounted for in the congregation's news and in the congregation's annual budget meeting or PJ (Accountability).

Imanuel Lalao Church often experiences monthly expenses that do not match the monthly income received. Routine monthly church expenses can reach 80% of the total monthly income. This imbalance requires the church to allocate funds for church activity programs such as sick financing programs, grief assistance, and long-term activity programs for other needs. Transparency in financial management at Imanuel Lalao Church is also often a challenge because the conventional financial reporting system is prone to errors and lacks transparency of information to the congregation. This creates a distrust of the congregation towards the management of funds, which should be managed honestly and accountably. Lack of access to structured and timely financial reports also makes it difficult for the congregation to understand how the donations they give are used to support church activities, while the congregation's financial news carried out at church services does not cover the financial management that occurs in detail. Therefore, to overcome the problems that have been described, Imanuel Lalao Church can implement a financial data management and reporting application to facilitate automatic financial recording and reporting, reduce errors, and increase transparency. With clear and timely access to financial reports, the congregation can better understand how their donations are used. In addition, a financial data management and reporting system can also help churches plan budgets and expenditures efficiently, as well as quickly identify imbalances in income and expenditure.

Previous research that discussed the financial report information system that successfully increased the efficiency of financial reporting time and reduced errors in reports [2], other research also discussed the implementation of financial applications that can be used in the process of managing financial data more effectively [3], research related to financial management applications that help and facilitate in providing fast and accurate church financial information and addressing the accuracy of financial reports [4], research that also discussed the design of a financial management information system that helps church treasurers manage financial data to be more organized and

detailed so that reporting is more accurate [5]. However, from this research there are still shortcomings in the output results or financial reports due to the absence of a financial report printing feature based on the period, so from these studies, this research will be developed to produce a system that can overcome the problems that have been described.

Based on the description above, the researcher is interested in taking the title "Financial Data Management and Reporting Application: Case Study of Imanuel Lalao Church" with the aim of making it easier for treasurers to manage and report finances efficiently and faster.

2. Methodology

The research method used is the waterfall method which is a systematic approach, starting from the requirement, design, implementation, verification, to maintenance stages so that in the application of this method, each stage is carried out sequentially and in a structured manner, where the next stage can only be started after the previous stage is completed, which means that the next stage will not be implemented if the previous stage has not been completed, and it is not possible to return or repeat the stages that have been passed [6]. The first stage in the waterfall model is the requirement which aims to understand the software needs desired by the user and the limitations that exist in the software. Information for this stage can be obtained through interviews conducted with Mrs. Ratna Ndun as the treasurer of the Imanuel Lalao Church, who is the main source of information regarding financial data. Literature studies are conducted by reviewing the literature to the library and collecting books, written materials and references that are relevant to the research being conducted. The second stage is the system design which includes determining the hardware requirements, system specifications to assist in defining the overall system architecture. The third stage is the system implementation which was first developed in the form of a small integrated unit for the next stage, namely the verification and testing stage to ensure that the system created successfully meets the system requirements. The final stage of the waterfall method is the Maintenance stage.

3. Result and Discussion

3.1. Analysis system

The system built aims to meet every need of the system user, so it is analyzed that the system built must have features that can meet user needs based on interviews and observations that have been carried out. The features needed are financial data validation features so that if there is an error in financial recording, it can be submitted and verified to make improvements, changes, or deletions of financial data and can prevent fraud that results in losses. The following features are the output results of the system built in the form of pdf reports that can be printed based on the period so that it is easier to report financial reports. Based on the system features that have been analyzed, users of the system must have the following capabilities:

- Treasurer: a system user who is tasked with managing financial data. Therefore, the user's ability to manage this financial system is to be able to operate a computer and understand the system that will be created so that there are no errors in data processing.
- Church leader: the church leader must be able to operate a computer or mobile phone and understand the system.
- Assembly and congregation: the assembly and congregation must be able to use a mobile phone to access the system to be built.

3.2. Design

3.2.1. Use case diagram

This research focuses on creating a use case diagram involving four actors, namely the congregation, the assembly, the treasurer and the congregation leader. This use case diagram aims to describe the functions and interactions carried out by the treasurer, the congregation leader, the assembly and the congregation in the system.

- Congregation use case diagram

The congregation use case diagram explains that the congregation must log in first to be able to make changes to congregation data and view financial news.

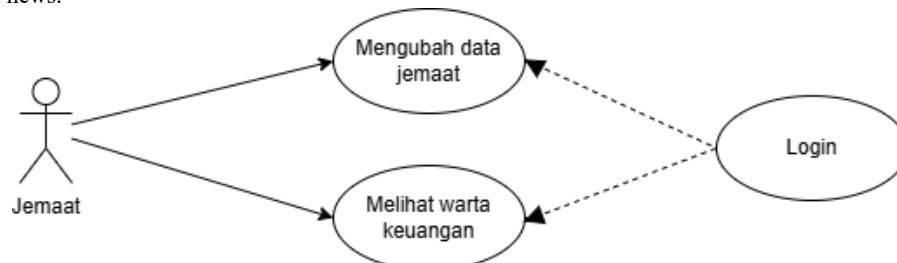


Fig. 1: Congregation use case diagram

- Assembly use case diagram

The assembly use case diagram can be explained that the assembly must log in first to be able to make changes to assembly data, view financial news and print financial reports.

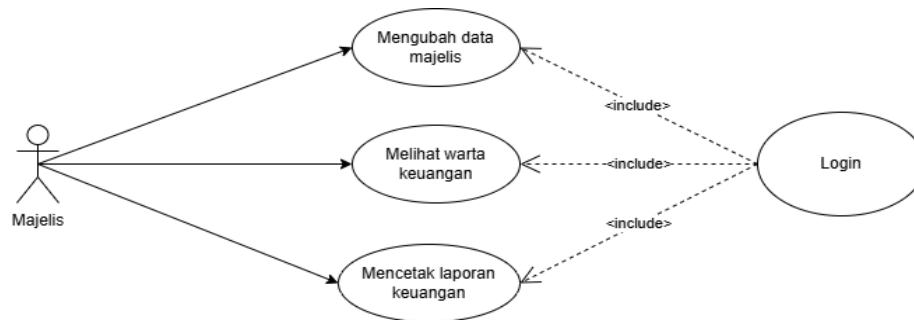


Fig. 2: Assembly use case diagram

c. Treasurer use case diagram

Treasurer use case diagram, it can be explained that the treasurer must first log in to be able to manage add, change, and delete actions on the available data. Managing data includes managing treasurer data, managing congregation data, managing KMDP position data, managing KMDP data, managing income type data, managing financing type data, managing church service income data, managing worship income data, managing development expenditure data, managing inventory expenditure data, managing KMDP deduction expenditure data (Chairman, council, deacon and teacher), managing church activity expenditure data, managing financial news, validating submission data, and printing financial reports.

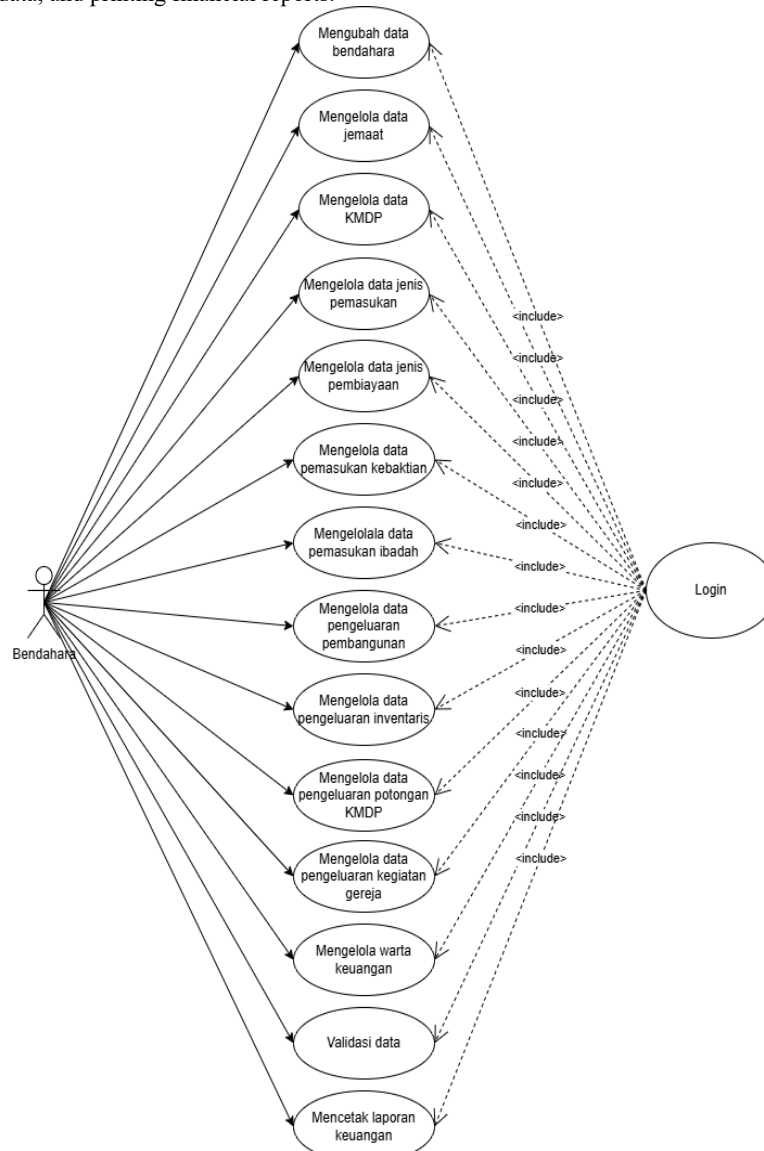


Fig. 3: Treasurer use case diagram

d. Use case diagram of the congregation leader

The congregation chairman use case diagram, can be explained that the congregation chairman must log in first in order to make changes to the congregation chairman's data, manage KMDP data, view financial news, verify submission data and print financial reports.

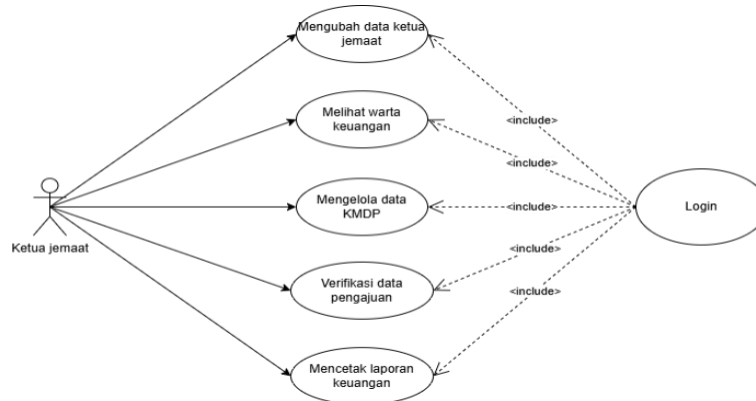


Fig. 4: Use case diagram of the congregation leader

3.2.2. Entity relation diagram

Entity relation diagram describes the relationship or relation of tables and their attributes. In this study, there are 9 tables in the ERD (Entity relationship diagram) that have a one-to-many relationship, the KMDP table has a relationship with the KMDP deduction expenditure table, worship income, and worship income, the financing type table has a relationship with all cash expenditure tables, while the income type table has a relationship with the worship income table and worship income.

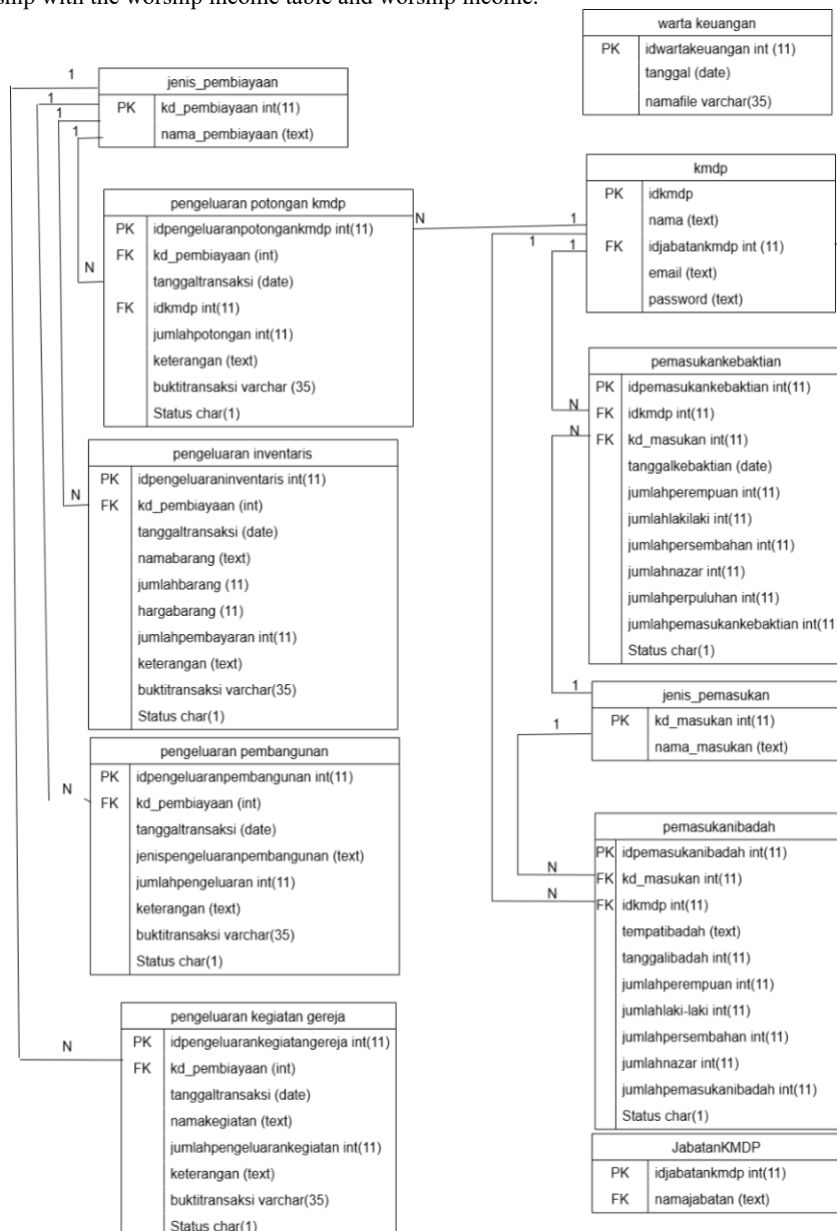


Fig. 5: Entity relation diagram

3.3. System Implementation

The implementation of the system displays the results of the design that has been implemented in a system. This website is focused on assisting in the process of managing and reporting financial data to assist the treasurer in managing and reporting the finances of the Imanuel Lalao church more quickly, precisely, accurately and transparently to the congregation leader, council and congregation.

1. Main page view

This home page display is the main page displayed on the website when a user performs a search.



Fig. 6: Main page view

2. Treasurer login form page view

On the treasurer login page, the treasurer is asked to fill in the email and password. After the treasurer fills in the email and password, then presses the login button. If the email and password entered are correct, the treasurer will be given access. However, if the email and password entered are incorrect, the admin will not provide access..

Fig. 7: Treasurer login form page view

3. Home page view

This page is displayed after the treasurer has successfully logged in. This page displays the total congregation cash, total expenditure, total income from the Imanuel Lalao church. The total expenditure and income displayed are the totals that have been permanently saved by the treasurer. This page also displays a list of financial news.

Fig. 8: Home page view

4. Display the page for managing worship data input

This view of the manage worship income data page provides access to the treasurer to add, change, delete, and send requests for verification of worship income data.

Fig. 9: Display the page for managing worship data input

5. View the Manage worship income data page

Figure 10 shows the appearance of the worship income data management page. This page provides access to the treasurer to add, change, delete, and send requests for verification of worship income data.

Fig. 10: View the Manage worship income data page

6. View the development expenditure data management page

The display of the development expenditure data management page which can be seen in Figure 11 provides access to the treasurer to add, change, delete and send requests for verification of development expenditure data.

Fig. 11: View the development expenditure data management page

7. View KMDP deduction expenditure data management

This KMDP deduction expenditure management page provides treasurers with access to add, change, delete and submit verification requests for KMDP deduction expenditure data.

Data Pengeluaran Potongan KMDP

Jenis Pembiayaan: --Pilih--
 Tanggal Transaksi: dd/mm/yyyy
 KMDP: --Pilih--
 Jumlah Potongan:
 Keterangan:
 Bukti Transaksi (Foto): Choose File No file chosen
 Status: Sementara
 Simpan

No	Jenis Pembiayaan	Tanggal Transaksi	KMDP	Jumlah Potongan	Keterangan	Bukti Transaksi	Status	Aksi
1	Loomba paskah	17 Feb 2025	Sastian Lenggu	Rp150.000		Tidak Ada	Pending	

Showing 1 to 1 of 1 entries
 Total Pengeluaran: Rp 150.000,00

Fig. 12: View KMDP deduction expenditure data management

8. View inventory expenditure data management

This inventory expenditure management page provides treasurers with access to add, change, delete and submit verification requests for inventory expenditure data.

Data Pengeluaran Inventaris

Jenis Pembiayaan: --Pilih--
 Tanggal Transaksi: dd/mm/yyyy
 Nama Barang:
 Jumlah Barang:
 Harga Barang:
 Jumlah Pembayaran:
 Keterangan:
 Bukti Transaksi (Foto): Choose File No file chosen
 Status: Sementara
 Simpan

No	Jenis Pembiayaan	Tanggal Transaksi	Nama Barang	Jumlah Barang	Harga Barang	Jumlah Pembayaran	Keterangan	Bukti Transaksi	Status
1	Pembelian Laptop Acer	17 Feb 2025	Bbb	1	Rp12.000.000	Rp120.000.000	Lunas	Tidak Ada	Pending

Showing 1 to 1 of 1 entries
 Total Pembayaran: Rp 120.000.000,00

Fig. 13: View inventory expenditure data management

9. View Manage church activity expenditure data

This church activity expenditure management page provides access to the treasurer to add, change, delete and submit verification requests for church activity expenditure data.

Data Pengeluaran Kegiatan Gereja

Jenis Pembiayaan: --Pilih--
 Tanggal Transaksi: dd/mm/yyyy
 Nama Kegiatan:
 Jumlah Pengeluaran:
 Keterangan:
 Bukti Transaksi (Foto): Choose File No file chosen
 Status: Sementara
 Simpan

No	Jenis Pembiayaan	Tanggal Transaksi	Nama Kegiatan	Jumlah Pengeluaran	Keterangan	Bukti Transaksi	Status	Aksi
1	Loomba paskah	17 Feb 2025	Lari karung	Rp300.000			Pending	

Showing 1 to 1 of 1 entries
 Total Pengeluaran: Rp 300.000,00

Fig. 14: View Manage church activity expenditure data

10. Treasurer verification page view

Figure 15 shows the financial data verification page, both income and expenses submitted by the treasurer to be verified by the congregation leader. The submitted data is displayed on the page with the status awaiting verification. Data that has the status awaiting is given access rights to cancel the submitted data if it has not been verified by the congregation leader by displaying the cancel button in the action column. If the data that has been verified by the congregation leader with the status accepted, the treasurer will be given access to change or delete the approved data. However, if the submitted data is rejected, the data displayed on this page will change its status to rejected and the treasurer is asked to perform the confirm action provided in the action column to remove the data rejected by the treasurer on this page.

/ Validasi Data Keuangan

Informasi: Jika data yang memiliki status "Ditolak", Anda dapat melakukan aksi "Konfirmasi" agar data dapat dihapus dari halaman validasi.

No	Jenis Pemakaian	KMDP	Tanggal Ibadah	Tempat Ibadah	Jumlah Pemakaian	Status	Aksi
1	Pemakaian Ibadah Pemuda	Baktian Lenggu	17 Feb 2025	Rmh. Saudari Eida	Rp175.000	Ditolak	Konfirmasi

No	Jenis Pembiayaan	Tanggal Transaksi	Nama Pengeluaran	Jumlah Pengeluaran	Keterangan	Bukti Transaksi	Status	Aksi
1	Lomba panjat	19 Feb 2025	Beli oborrr	Rp100.000	-		Diterima	Ubat Buku

No	Jenis Pembiayaan	Tanggal Transaksi	Nama Kegiatan	Jumlah Pengeluaran	Keterangan	Bukti Transaksi	Status	Aksi
1	Lomba panjat	17 Feb 2025	Lari karung	Rp300.000	-		Diterima	Ubat Buku

Fig. 15: Treasurer verification page view

11. View the church leader validation page

This page displays the data submitted by the treasurer to be verified by the congregation leader. The congregation leader can press the confirmation button to verify. After the data has been verified, the status of the data will change according to the verification results from the congregation leader. If the data is rejected, the status will be rejected, but if the data is accepted, the data status will print accepted so that the treasurer can use the change and delete buttons on the submitted data. Data that has been verified by the congregation leader does not have any action buttons and the data will be lost if the treasurer has followed up on the verified data.

/ Validasi Data Keuangan

No	Jenis Pemakaian	KMDP	Tanggal Ibadah	Tempat Ibadah	Jumlah Laki-laki	Jumlah Perempuan	Jumlah persembahan	Jumlah Nazar	Jumlah Pemakaian	Status	Aksi
1	Pemakaian Ibadah Pemuda	Baktian Lenggu	17 Feb 2025	Rmh. Saudari Eida	11	17	73000	100000	Rp175.000	Ditolak	-

No	Jenis Pembiayaan	Tanggal Transaksi	Nama Pengeluaran	Jumlah Pengeluaran	Keterangan	Bukti Transaksi	Status	Aksi
1	Lomba panjat	19 Feb 2025	Beli oborrr	Rp100.000	-		Diterima	Ubat Buku

No	Jenis Pembiayaan	Tanggal Transaksi	Nama Kegiatan	Jumlah Pengeluaran	Keterangan	Bukti Transaksi	Status	Aksi
1	Lomba panjat	17 Feb 2025	Lari karung	Rp300.000	-		Diterima	Ubat Buku

Fig. 16: View the church leader validation page

4. Conclusion

Based on the research results, it can be concluded that the application of financial data management and reporting at the Imanuel Lalao Church has succeeded in increasing efficiency and effectiveness in managing and reporting financial data. The APPGIL system makes it easier to report every income and expense more easily because every income and expense is managed based on predetermined categories. The APPGIL system also provides transparency in management by providing a financial report news feature so that the congregation can easily access each report and also provides a data validation feature so that each financial data cannot be changed or deleted without the approval of the congregation leader. With this system, the Imanuel Lalao Church can improve the accuracy, speed and efficiency of financial data reporting and can increase the congregation's sense of trust.

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