**DEPLOYMENT DOCUMENTATION**

**CHURCH MEMBER EVENT TRACKING SYSTEM**

A Requirement Specification Document Presented to the

Faculty of Datamex College of Saint Adeline, Inc.

In Partial Fulfillment of the Requirements for the

Degree of Bachelor of Science in Information Technology

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**INTRODUCTION**

This document provides a comprehensive guide for the deployment of the Church Member Event Tracking System; a standalone desktop application designed for Touching Heart Christian Assembly. The purpose of this system is to replace the church's manual, paper-based record-keeping with a secure, efficient, and centralized digital platform. Developed using VB.NET and a local SQL Server database, the application enables administrators to manage member profiles, create and organize church events, and accurately track attendance in an offline environment.

The primary objective of this deployment is to successfully install, configure, and launch the Church Member Event Tracking System (Version 1.0) onto the designated computer in the church office, making it fully operational for daily administrative use. This process involves setting up the required software dependencies, configuring the database, and ensuring the application runs smoothly and is ready for the initial data entry of all church member records.

The scope of this deployment is a full, single-machine production deployment. This means that the complete and fully tested version of the application (v1.0) will be installed on one dedicated computer for immediate, real-world use by the church administrator.

This is not a pilot or staged deployment; the system will be considered "live" and will become the primary tool for member and event management upon the successful completion of the steps outlined in this guide. The scope is limited to the installation on a single machine, as per the system's design as a standalone application.

**DEPLOYMENT PLAN**

The deployment strategy for the Church Member Event Tracking System is designed to be straightforward and minimally disruptive to the church's daily operations. The approach is a "Clean Install" on a single, dedicated machine. This strategy involves three distinct phases: a Pre-Deployment phase for preparing the hardware and software environment, a Deployment phase for the actual installation and data setup, and a post-deployment phase for verification, user training, and final handover. This phased approach ensures that each step is completed successfully before moving to the next, guaranteeing a smooth and successful transition to the new system.

**Deployment Schedule and Milestones**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Phase** | **Description & Key Milestones** | **Start Date** | **End Date** | **Status** |
| **Pre-Deployment** | **Environment Preparation:**  - Verify that the target computer meets all hardware and software requirements.  - Install all necessary dependencies: .NET Framework and SQL Server Express.  - Secure a digital copy of the application installer and the database creation script. | 08/25/2025 | 08/26/2025 | **Completed** |
| **Deployment** | **System Installation & Configuration:**  - Install the SQL Server database engine.  - Execute the SQL script to create the MemberInfo database and its tables.  - Manually create the initial administrator account directly in the Users table.  - Copy the application files to the designated folder.  - Perform a first-run test to ensure the application connects to the database successfully. | 08/27/2025 | 08/28/2025 | **Completed** |
| **Post-Deployment** | **Verification, Training & Handover:**  - Conduct a final smoke test by performing key user tasks (adding a test member, recording test attendance).  - Provide a hands-on training session for the church administrator.  - Oversee the initial data entry of the first few member records.  - Hand over the User Manual and finalize the deployment. | 08/29/2025 | 08/30/2025 | **Completed** |

**Table 1**. Deployment Schedule and Milestones

**DEPLOYMENT ENVIRONMENT**

This section specifies the required hardware, software, and hosting environment for the successful deployment and operation of the Church Member Event Tracking System.

**Hardware Requirements**

The system is designed to run on a single client machine. The following are the minimum specifications for the target computer:

**Hardware:**

* Device Type: Desktop PC or Laptop
* Processor: Intel i3 or higher
* RAM: Minimum 4GB
* Storage: At least 500MB free space

**Software:**

* Operating System: Windows 10 or a newer version
* Database Engine: Microsoft SQL Server Express 2019 (or newer)
* Framework: .NET Framework 4.7.2 or higher

**Software Requirements**

The target computer must have the following software and frameworks installed and configured prior to deployment:

* **Operating System:** Windows 10 or a newer version
* **Database Engine:** Microsoft SQL Server Express Edition 2019 (or a newer version)
* **Framework Dependency:** Microsoft .NET Framework Version 4.7.2 or higher
* **Database Management (Optional):** Microsoft SQL Server Management Studio (SSMS) is recommended for advanced database management and manual backups.

**DEPLOYMENT PROCEDURES**

This section provides a detailed, step-by-step guide for the complete deployment of the Church Member Event Tracking System. Follow these instructions in the exact order to ensure a successful installation.

**Phase 1: Pre-Deployment - Environment Setup**

To prepare the target computer by installing all necessary software dependencies.

* **Step 1: Install .NET Framework**
  1. Verify if the required .NET Framework version (4.7.2 or higher) is already installed. Most modern Windows 10/11 systems have this by default.
  2. If not, download the .NET Framework installer from the official Microsoft website and run it. Follow the on-screen prompts to complete the installation.
* **Step 2: Install SQL Server Express**
  1. Run the SQL Server Express 2019 (or newer) installer.
  2. Select the "Basic" installation type. This is the simplest and is sufficient for the system's needs.
  3. Read and accept the Microsoft License Terms.
  4. Click "Install". The installer will download and install the necessary packages.
  5. Once the installation is successful, a summary screen will appear. Take note of the SQL Server instance name displayed (e.g., SQLEXPRESS). This is important. Click "Close".

**Phase 2: Deployment - Database and Application Setup**

To create the database and install the main application.

* **Step 3: Create and Configure the Database**
  1. Open SQL Server Management Studio (SSMS).
  2. In the "Connect to Server" window, ensure the Server Name matches the instance name from Step 2 (e.g., YOUR-PC-NAME\SQLEXPRESS). Click "Connect".
  3. In the Object Explorer pane on the left, right-click the "Databases" folder and select "New Database".
  4. In the "Database name" field, type MemberInfo exactly as written. Click "OK".
  5. Locate the provided SQL script file named schema.sql. Open this file.
  6. Copy the entire content of the schema.sql file.
  7. Go back to SSMS, make sure the MemberInfo database is selected in the dropdown menu at the top, and click "New Query".
  8. Paste the copied script into the query window and click the "Execute" button. This will create all the required tables (Users, Members, Events, Attendance).
* **Step 4: Create the First Administrator Account**
  1. In the SSMS Object Explorer, expand the MemberInfo database, then expand the Tables folder.
  2. Right-click the table named **dbo.Users** and select **"Edit Top 200 Rows"**.
  3. Manually enter the details for the first administrator account in the empty row (e.g., username: admin, a secure password, a security question, and an answer).
  4. Close the table editor to save the record.
* **Step 5: Install the Application**
  1. Locate the application folder provided (e.g., Church System v1.0).
  2. Copy this entire folder.
  3. Paste it into a permanent location on the computer, such as C:\Program Files\ or a dedicated folder like C:\ChurchSystem\.
  4. Open the folder, find the main application file (e.g., ChurchSystem.exe), right-click on it, and select "Send to > Desktop (create shortcut)". This will place an easy-to-access shortcut on the user's desktop.

**Phase 3: Post-Deployment - Verification**

To verify that the application is running correctly and can connect to the database.

* **Step 6: First Run and Verification**
  1. Double-click the newly created shortcut on the desktop to launch the application.
  2. The **Login Form** should appear without any database connection errors.
  3. Log in using the administrator credentials created in Step 4.
  4. A successful login, which leads to the main **Dashboard**, confirms that the deployment is complete and the system is ready for use.

**PRE-DEPLOYMENT STEPS**

This section outlines the critical preparatory steps that must be completed before initiating the main deployment procedure. Completing this checklist ensures that the target environment is ready and minimizes the risk of installation failures.

**Pre-Deployment Checklist**

|  |  |  |  |
| --- | --- | --- | --- |
| **Step** | **Task** | **Verification / Notes** | **Status** |
| **1** | **Verify Hardware Requirements** | Ensure the target computer meets or exceeds the minimum hardware specifications outlined in the "Deployment Environment" section. Check the Processor, RAM, and available disk space. |  |
| **2** | **Verify Software Requirements** | Confirm that the computer is running a compatible operating system (Windows 10 64-bit or newer). |  |
| **3** | **Install .NET Framework Dependency** | Check if **.NET Framework 4.7.2 or higher** is installed. If not, download and install it from the official Microsoft website. This is a critical prerequisite for the application to run. |  |
| **4** | **Install SQL Server Express** | Download and install **Microsoft SQL Server Express 2019** (or a newer version). It is recommended to use the "Basic" installation and note the instance name (default is SQLEXPRESS). |  |
| **5** | **Install Database Management Tool** | (Recommended) Install **SQL Server Management Studio (SSMS)**. This tool is essential for creating the database, running scripts, and performing manual backups in the future. |  |
| **6** | **Backup Existing Data** | This is a **clean installation**, so no direct data migration from a previous system is supported. However, if the church has existing member data in digital files (e.g., Excel spreadsheets), ensure these files are **backed up and stored securely**. They will serve as the primary reference for manual data entry after the system is deployed. |  |
| **7** | **Secure Installation Files** | Obtain the final deployment package from the developer. This package must include:   - The application folder (with the .exe file).   - The database creation script (schema.sql). |  |
| **8** | **System Compatibility Check** | Perform a final check to ensure there is no conflicting software on the machine that might interfere with SQL Server's operation. It is recommended to deploy on a machine with a clean software environment. |  |

**Table 2**. Pre-Deployment Checklist

**DEPLOYMENT EXECUTION**

This section provides the step-by-step instructions for the live execution of the deployment. These steps should be performed after all pre-deployment checks have been completed.

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| --- | --- | --- | --- |
| Step | Action | Detailed Instructions | Verification Check |
| 1 | Create the Database | 1. Open SQL Server Management Studio (SSMS) and connect to the local SQL instance (e.g., (local)\SQLEXPRESS).  2. Right-click on the "Databases" folder and select "New Database."  3. Name the database MemberInfo and click "OK." | The MemberInfo database appears in the Object Explorer list. |
| 2 | Execute the Schema Script | 1. Open the provided schema.sql script file in a text editor and copy its contents  2. In SSMS, select the MemberInfo database and click "New Query."  3. Paste the script into the query window and click "Execute." | A "Query executed successfully" message appears. The Users, Members, Events, and Attendance tables are now visible under the MemberInfo database. |
| 3 | Deploy Application Files | 1. Navigate to the location of the provided application folder (e.g., Church System v1.0).  2. Copy the entire folder.  3. Paste the folder into a permanent, stable directory on the local machine (e.g., C:\ChurchSystem\). | The application folder and all its contents are successfully copied to the target directory. |
| 4 | Configure Initial User Account | 1. In SSMS, right-click the dbo.Users table and select "Edit Top 200 Rows."  2. Manually enter the credentials for the initial administrator account (username, password, security question, and answer).  3. Close the table editor to save the new user record. | The new administrator account is visible and saved in the Users table. |
| 5 | Perform System Initialization (First Run) | 1. Create a desktop shortcut for the main executable file (ChurchSystem.exe) for easy access.  2. Double-click the shortcut to run the application for the first time. | The application's Login Form appears without any database connection errors. |
| 6 | Final Verification Check | 1. Log in to the application using the credentials created in Step 4.  2. Navigate through the main sections (Dashboard, Member List, Attendance) to ensure all forms load correctly. | A successful login leads to the main Dashboard, and all major forms open without errors. The system is now successfully deployed and operational. |

**Table 3**. Deployment Execution

**USER TRAINING & SUPPORT**

This section outlines the plan for training the end-users and providing ongoing support after the system has been successfully deployed. The goal is to ensure a smooth transition and empower the church administrator to use the application effectively.

**User Training**

* **Training Schedule:**
  + Date: [September 11, 2025]
  + Time: [10:00 AM - 12:00 PM]
  + Venue: Touching Heart Christian Assembly Office (on-site)
  + Duration: Approximately 1.5 to 2 hours
* **Training Agenda:**
  + **System Overview:** A brief introduction to the system's purpose and benefits.
  + **Logging In and Security:** How to log in, change the password, and manage the security question.
  + **Core Task: Member Management:** A guided, hands-on exercise on how to add, search, update, and delete member records.
  + **Core Task: Attendance Tracking:** A practical demonstration of how to record and view attendance for a church event.
  + **Other Features:** A walkthrough of the Dashboard, ID card generation, and data filtering.
  + **Q&A Session:** An open forum for the user to ask any questions.
  + **Backup Procedure:** A simple demonstration on how to manually back up the database file for safekeeping.
* **User Documentation** 
  + **User Manual:** A comprehensive, easy-to-follow manual (digital or printed) containing step-by-step instructions and screenshots for all system features. This manual will serve as the primary reference for day-to-day tasks.
  + **Troubleshooting Guide:** A section within the manual that lists common issues, error messages, and their corresponding solutions.
* **Post-Deployment Support**
* **Initial Support Period:** For the first two (2) weeks after deployment, the developer will provide high-priority support to resolve any immediate concerns and ensure a smooth adoption period.
* **Support Contact Details:** For any technical issues that cannot be resolved using the Troubleshooting Guide, the administrator can contact the developer directly.
  + Name: [Go, Justin Paul T.]
  + Email: [justingo006@gmail.com]
  + Contact Number: [09947247515]
* **Support Hours:**
  + Monday - Friday, 9:00 AM to 5:00 PM

**RISKS & CONTINGENCY PLAN**

This section identifies potential risks that could specifically arise during the deployment phase and outlines a contingency plan to mitigate their impact.

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| --- | --- | --- | --- |
| **Risk** | **Impact** | **Mitigation Strategy** | **Contingency Plan (If Risk Occurs)** |
| **Database Connection Failure** | **High** | The database connection will be thoroughly tested immediately after installation. The developer will be on-site with the necessary tools (SSMS) to diagnose and fix connection string or SQL Server configuration issues. | 1. Verify that the SQL Server service is running.  2. Check the server/instance name in the connection string.  3. Ensure that the computer's firewall is not blocking the SQL Server port. |
| **Incomplete Installation of Dependencies** | **Medium** | A pre-deployment checklist will be used to ensure that the correct versions of the .NET Framework and SQL Server are installed and running before the application is deployed. | The installer for all required dependencies will be available on-site (e.g., on a USB drive) for immediate installation if a component is found to be missing. |
| **Initial Data Entry Errors** | **Medium** | The initial training session will include a hands-on, guided data entry exercise. The User Manual provides clear, step-by-step instructions for adding new members. | The developer will be available during the initial support period to assist with correcting any data entry mistakes and to provide additional guidance to the user. |
| **User Resistance or Low Confidence** | **Low** | A comprehensive and user-friendly training session is scheduled. The User Manual is provided as a constant reference. The system's interface is designed to be simple and intuitive. | Extended, personalized support will be offered. The developer will schedule a follow-up session after one week to address any further questions and build the user's confidence. |

**Table 4**. Risks Contingency Plan

**Deployment Verification & Sign-off**

This section serves as the formal confirmation that the deployment of the Church Member Event Tracking System has been successfully completed and accepted by the client.

**Deployment Verification Summary**

The deployment was executed following the procedures outlined in this document. Post-deployment verification tests were conducted on-site to confirm the system's operational readiness. The following key tests were successfully passed:

* **Database Connectivity Test:** The application successfully connected to the MemberInfo database without errors.
* **Authentication Test:** The initial administrator was able to log in successfully using the manually created credentials.
* **Core Functionality Test (Smoke Test):** A new test member was successfully added, an attendance record was created for that member, and the records were correctly displayed in their respective lists.

#### **Deployment Sign-off**

The undersigned stakeholders hereby acknowledge the successful deployment and handover of the Church Member Event Tracking System, Version 1.0. The system has been installed, configured, and verified to be working as per the agreed-upon requirements.

|  |  |  |  |
| --- | --- | --- | --- |
| Stakeholder | Role | Signature | Date |
| Name | Project Manager  Justin Paul T. Go |  |  |
| Name | Client Representative  ( Bishop Alex) |  |  |

**Table 5.**