MJ Logistics Gaming Company

CRM Software Proposal

Customer Relationship Management System

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[Version 1.0]

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A. INTRODUCTION

A1. INTRODUCTION AND PURPOSE STATEMENT

The proposed system will support the sales of the MJ Logistics Gaming Company using a web-based Customer Relationship Management (CRM) solution. The CRM will be able to manage client contacts, track sales, oversee activity management, and provide predefined and customizable reports. This new system will replace the company's current tools and manual processes to provide a more efficient and scalable solution that will integrate smoothly with current systems.

The new CRM will allow MJ Logistics to streamline business processes, improve data sharing, and provide better service to customers. The system will be a key factor in the company's future growth and maintaining relationships with its customers. The new CRM will easily support the company's long-term business strategies and enable MJ Logistics Gaming Company to remain competitive in the market.

A2. OVERVIEW OF THE PROBLEMS

MJ Logistics Gaming Company is currently facing problems due to its reliance on systems that are disconnected and require manual processing. Currently, the sales team at MJ Logistics spends 20% of their time manually entering data into spreadsheets, leading to inconsistent reporting and delays in decisions. These systems are inefficient and difficult to scale as the company grows. The existing tools consist of custom-built solutions involving spreadsheets and database management systems which are spread across multiple offices and frequently require manual input. This results in inconsistent data and difficulty tracking customer interactions and sales.

The new web-based CRM solution will address these issues by centralizing all customer data into a single, integrated system. This will facilitate higher data accuracy, streamline workflows, and allow real-time reporting and sales tracking. This new system will also scale properly with the growth of the company and connect seamlessly with other business systems, providing the efficiency and future-proofing MJ Logistics needs.

A3. GOALS AND OBJECTIVES

Goals of the CRM:

- Centralize data by consolidating all customer, business, and contact information into a unified system to improve data accuracy.

- Improve decision-making by providing customizable reports and dashboards for executives and stakeholders.

- Streamline sales activities by providing a robust platform for tracking sales, managing activities, and integrating with existing tools like Microsoft O365.

- Verify that the system can scale to meet future growth and adapt to the business needs.

- Provide a secure system that complies with data privacy laws.

Objectives of the CRM:

- Centralize all customer, business, and contact information into a unified system to improve data accessibility.

- Enhance reporting capabilities to provide detailed, customizable dashboards, performance metrics, and summaries for executives.

- Integrate sales tracking and activity management features, providing a system for sales teams to track opportunities, meetings, and contacts.

- Ensure the CRM can scale with the growing business by verifying its ability to handle additional capacity and integrate new tools when needed.

- Implement role-based access control to protect sensitive data.

- Expected 15% sales efficiency increase within 6 months of CRM implementation.

- The CRM will streamline reporting time by 30%, allowing executives to make faster decisions.

A4. PREREQUISITES

Number	Prerequisite	Description	Completion Date
1	System Selection	Choose a Commercial Off-The-Shelf (COTS) CRM solution that meets the needs of MJ Logistics.	04/1/2025
2	Data Migration Plan	Define a strategy to migrate existing business data to the new CRM system.	04/15/2025
3	Network Bandwidth and Server Capacity Assessment	Evaluate and ensure that MJ Logistics' network infrastructure can handle the CRM's data transfer and peak usage load. Include an assessment of the server's capacity for handling user volume and transaction throughput.	04/15/2025
4	Backup and Disaster Recovery Plan	Establish a data backup strategy, including offsite storage, and a disaster recovery plan. This plan will ensure minimal data loss and downtime in case of system failure or outages.	04/25/2025
5	Integration Plan	Determine integration requirements with existing systems (Like Microsoft O365)	04/30/2025
6	User Training and Onboarding Plan	Create a user training plan to ensure user adoption and a smooth transition.	05/15/2025

A5. SCOPE

What the proposed solution will cover:

- Customer Relationship Management (CRM) – A centralized system for managing customer contact information, relationships, and sales tracking.
- Reporting – Dashboards with predefined and customizable reporting capabilities.
- Activity Management – Tracking meetings and communications with stakeholders.
- Sales Tracking – Monitoring sales opportunities and performance metrics.
- Integration – Seamless integration with MicrosoftO365 and other internal systems.
- Security – Compliance with data protection laws and security protocols.

What the proposed solution will not cover:

- Custom software development – There will be no custom-built features outside of the standard COTS configurations.
- Non-CRM Functions – The system will not cover anything unrelated to customer relationships (e.g., game design or Human Resources)
- On-Site IT Infrastructure – The CRM software will not address any server or hardware issues, anything related to the infrastructure will need to be handled separately.

A6. ENVIRONMENT

Operating Systems:

- The front-end system will be optimized for iOS and Android mobile systems.
- The front end and back end will support the latest operating systems (iOS, Linux, Windows 11) to offer a responsive design for a smooth user interface.

Browsers:

- The CRM will have a web-based interface that is user-friendly and accessible through modern browsers (e.g., Chrome, Edge, Safari, Firefox).

Back-End (Database):
- The solution will be hosted in a secure cloud environment that will focus on scalability and performance.
- The back end will rely on an Oracle SQL Database to store and manage CRM data securely.
- The back end will have integration points with existing systems, such as MSO365 or other internal databases, business tools, or software.
- The back-end environment will be able to handle heavy workloads and scale efficiently with the growth of the business. Data backup and recovery processes will be in place to ensure data integrity.

The following key issues will also require special attention:

- Connectivity Outages: The CRM will rely on cloud-based redundancy across multiple data centers to provide continuous availability. There will be systems in place for automatic failover to backup servers during outages.
- Service Level Agreements: The cloud hosting service will adhere to a strict SLA that specifies uptime guarantees of 99.999%. The SLA will define the expected performance levels.

- Upgrades: Regular upgrades will be scheduled to ensure that the CRM stays up to date with the latest features and security patches. The cloud service provider will manage any infrastructure upgrades, while the application will be handled by the development team.
- Custom Development: These requests will be handled by the development team. The CRM will remain flexible and allow for easy customization to meet business requirements. Any custom development will be tested in a separate staging area before deployment.
- Support: Technical support will be available through the cloud hosting provider for any issues with the infrastructure. The development team will provide any application-level support including troubleshooting and bug fixes. Support will be available 24/7 based on the SLA and tickets can easily be placed using the ServiceNow platform which will be accessible by end users.
- Maintenance: Ongoing maintenance will include regular database backups, reindexing, security patches, and performance optimization tasks. The CRM will include automated maintenance reminders for the support teams to ensure the CRM remains secure and efficient.
- Testing Environments: Prior to the full deployment, the CRM will be tested in a dedicated sandbox environment that mirrors the production environment. This environment will allow automated or manual tests for functionality, performance, and integration with other systems. Testing will simulate real-world usage, and the environment will also serve to test system upgrades and custom developments before they are moved to production.

B. REQUIREMENTS

BUSINESS REQUIREMENTS

Requirement: Reporting Capabilities

The proposed solution will provide both predefined and customizable reports, including detailed dashboards and executive-level summaries. This will allow MJ Logistics Gaming Company to have access to real-time business metrics and provide the basis for improved decisions. Users will be able to query, filter, and export data to provide reports that will meet various needs throughout the business.

USER REQUIREMENTS

Requirement: Scalability for Concurrent Users

The system is designed to handle up to 500 concurrent users, with the scalability to accommodate future growth. This ensures MJ Logistics can support an expanding user base without sacrificing performance. The system will undergo performance testing during peak hours to verify a smooth user experience.

FUNCTIONAL REQUIREMENTS

Requirement: Sales Tracking and Activity Management

The CRM will introduce robust sales tracking and activity management capabilities. Users will be able to track stakeholder visits, meetings, and contacts. The system will integrate with Microsoft Outlook for improved communication tools and will include a ticket functionality with an audit trail to be sure all interactions are properly logged.

NON-FUNCTIONAL REQUIREMENTS

Requirement: Data Security and Compliance

The proposed CRM solution will ensure all data is stored securely within the United States and complies with data protection laws. The system will also have role-based access controls to ensure users are only able to access information related to their role in the company. It will also provide audit trails for both "soft" and "hard" deletions to maintain data integrity. All customer data will be encrypted using AES-256 encryption both at rest and in transit to ensure compliance with GDPR and data protection regulations.

C. SOFTWARE DEVELOPMENT METHODOLOGY

C1. ADVANTAGES AND DISADVANTAGES

ADVANTAGES OF THE AGILE METHOD

1. Flexibility and Adaptability: Agile focuses on iterative development and frequent modifications based on user feedback. For the CRM project, this flexibility will ensure the system can evolve based on ongoing stakeholder feedback and reduce the risk of a product that does not meet the business needs.
2. Faster Delivery of Features: In the Agile methodology, the system is developed in small manageable iterations called sprints, allowing some parts of the CRM to be delivered quickly. This would mean MJ Logistics can benefit from those CRM functions earlier, rather than waiting for the entire system. Using Agile allows us to deliver key CRM features, such as sales tracking, in early sprints, providing immediate value to the business.
3. Continuous Collaboration and Communication: Agile emphasizes constant stakeholder communication. This way, everyone is aligned and aware of the project's progress, enhancing collaboration.

DISADVANTAGES OF THE AGILE METHOD

1. No Defined End Goal: Because Agile focuses on iterative development, a clear, fixed end goal is not usually defined. This can result in potential scope creep for the CRM project, which would make it difficult to set firm expectations on features and timelines.
2. Requires an Experienced Team: For Agile to work effectively, the team will need to be skilled and experienced. If the project team at MJ Logistics lacks either of these, it may cause delays and lead to miscommunications.
3. Difficulties in Budget and Resource Allocation: With Agile being an iterative process, it can be difficult to predict the total cost of the project. Resource allocation may be an issue for the same reason. This could become an issue depending on if the scope of the CRM changes during the project.

ADVANTAGES OF THE WATERFALL METHOD

1. Clear, Defined Requirements: The Waterfall methodology outlines all the requirements upfront. For the MJ Logistics CRM project, this would ensure the scope is well-understood from the beginning to the end, allowing for a more predictable project timeline.
2. Structured Phases: Waterfall's linear approach would contain clearly defined stages that would make progress tracking easier for the project. This would also allow for specific milestones and goals throughout the CRM development.
3. Easier to Manage for Large Teams: Waterfall methodology works well for larger teams on a complex project. The clear separation of phases and responsibilities could help to maintain organization and ensure that each piece of the CRM is developed in a systematic and controlled manner.

DISADVANTAGES OF THE WATERFALL METHOD

1. Inflexibility: Because Waterfall has a more rigid structure, it does not allow for quick changes once the project is underway. If MJ Logistics encounters the need for changes or additional business requirements, implementing those changes could be challenging and costly.
2. Later Testing and no Iterative Feedback: Testing within a Waterfall methodology usually is saved for the very end of the process. This would mean that any issues with features or the user experience may not be identified until late in the development, which can lead to costly changes.
3. Longer Time to Deliver Value: Because the entire system needs to be developed before being deployed, MJ Logistics would not have the option to see the functional product until all development was completed. This would delay the time to market and would not be acceptable if the company intends to use the CRM early in the schedule.

C2. BEST SUITED

The Agile methodology is best suited for MJ Logistics' CRM project. Agile will provide higher levels of flexibility and adaptability, by allowing for quick adjustments based on evolving business needs. This will be crucial for MJ Logistics as the company's needs may change during development.

Agile will also be quicker to provide value to the business. Because it delivers the features in iterations, this may allow the company to begin using some features (like sales tracking and reporting) earlier in the process. The iterative approach will also allow for easier future enhancements and system scaling.

Due to the Agile methodology's emphasis on collaboration and feedback, it will also be easier to ensure that the CRM aligns with various departmental needs to fine-tune the system.

With the alternate (Waterfall) methodology, the project would struggle with flexibility and late-stage changes, resulting in potential frustration and higher costs.

## D. CREATE TWO REPRESENTATIONS OF THE SOFTWARE SOLUTION

REPRESENTATION 1

The following flowchart illustrates the step-by-step workflow for generating a report in the CRM system, ensuring data validity and proper user interaction. This new process will eliminate manual errors caused by the previous spreadsheet-based system.
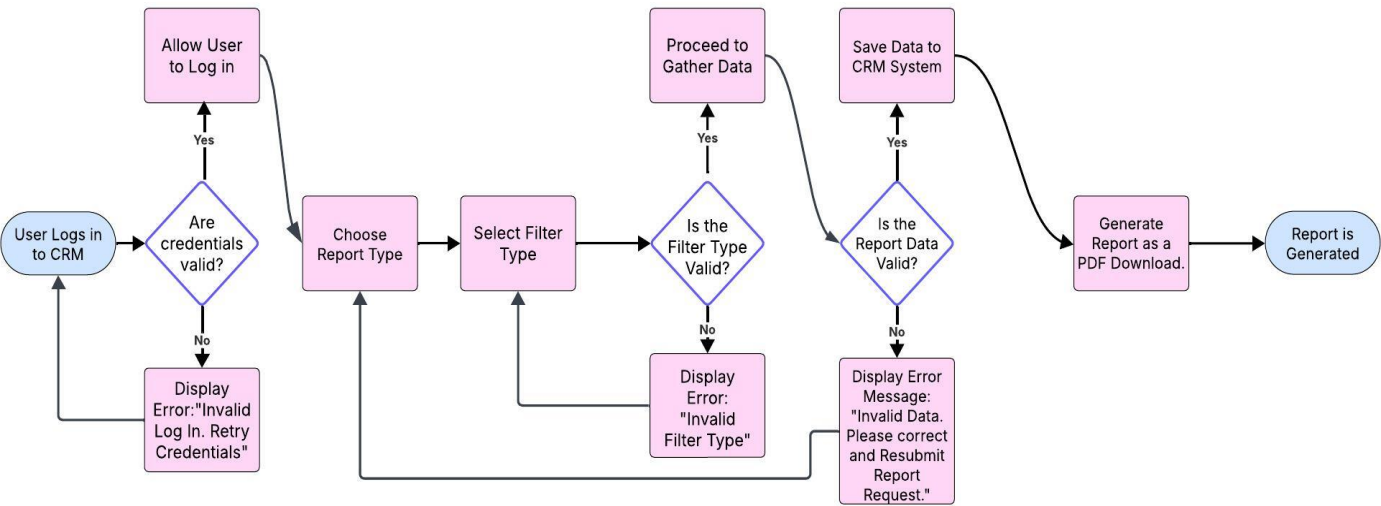
This flowchart outlines the process for generating a report to provide customer sales data within the proposed CRM system for MJ Logistics Gaming Company. It begins with the user authentication process before moving on to the selection of report and filter types. These report types could include sales performance, customer activity, or order tracking with filters on date ranges or product categories. It then guides the user through corrections if any of the selections are invalid. Once the data is confirmed to be valid, the report is generated and downloaded as a PDF document.

REPRESENTATION 2

The Entity Relationship Diagram below represents the structure of the CRM for the MJ Logistics Gaming Company. It details how key business entities are related and how data flows between them. The diagram focuses on customer relationships, sales activities, and reporting.
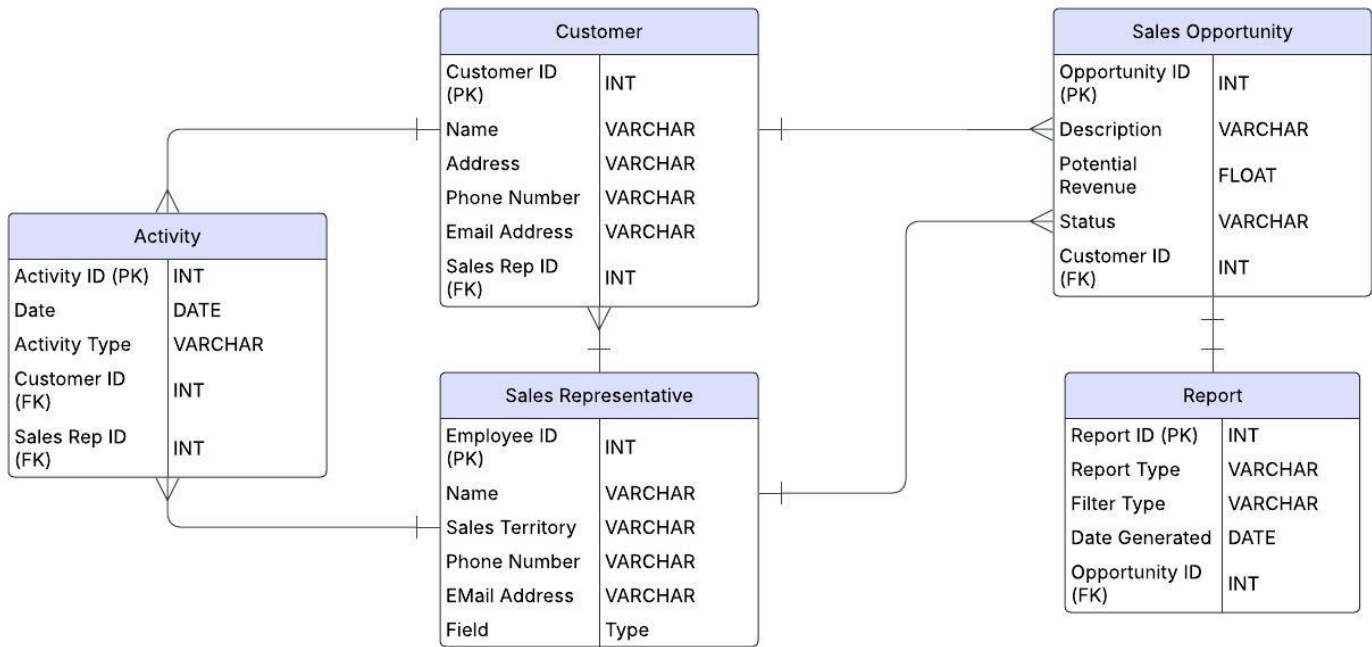
The ERD outlines the key entities in the proposed CRM system, including Customer, Sales Representative, Activity, Report, and Sales Opportunity. The Customer entity stores customer information, while the Sales Representative entity tracks the employees managing customer interactions. The Activity entity creates logs for all customer interactions by type, which are associated with both a specific customer and sales representative (many-to-one). The Report entity contains the data used to generate the reports on each Sales Opportunity lead (one-to-one). Additionally, the Sales Opportunity entity tracks the potential sales leads associated with customers and is connected to both the Customer and Sales Representative entities via many-to-one relationships. Foreign key relationships between these entities ensure data integrity and streamline workflows across the system.

E. TESTING

USER LOGIN FUNCTIONALITY

The requirement to be tested:

Ensure that users can log in to the CRM system using valid credentials.

Preconditions:

- The user has a valid username and password.

- The CRM system is up and running

Steps:

1. Open the CRM login page.
2. Enter a valid username in the "Username" field.
3. Enter the corresponding password into the "Password" field.
4. Click the "Log In" button.
5. Wait for the system to process the log-in request.
6. Check if the user is redirected to the CRM dashboard.

Expected results:

- The user should successfully log in and be redirected to the CRM dashboard.

- No error message should appear.

- The user should have role-based access to the features they require.

Pass/Fail:

- Pass: If the user successfully logs in and is redirected to the CRM dashboard, the test passes.

- Fail: If the user is unable to log in or is shown an error message with verified credentials, the test fails.

REPORT GENERATION

The requirement to be tested:

Verify that the system can generate a report based on selected filter criteria.

Preconditions:

- The user is logged in to the CRM system.

- The user has access to the reporting module.

- There is data available in the CRM to generate the report.

Steps:

1. Navigate to the "Reports" tab within the CRM.
2. Select a report type (e.g., Sales Report).
3. Select a filter type (e.g., Date Range).
4. Click the "Generate Report" button.
5. Wait for the system to process the request.
6. Review the report and verify that the data is accurate.

Expected results:

- A report is generated that reflects the report type and criteria selected.

- The report should be formatted correctly.

- If an invalid filter is chosen, an error message should appear prompting the user to select a valid filter type.

Pass/Fail:

- Pass: If the report data and formatting are correct and match the filter criteria, the test passes.

- Fail: If the report does not match the selected criteria, contains invalid data, or an error message is displayed, the test fails.

SALES OPPORTUNITY ASSIGNMENT

The requirement to be tested:

Ensure that a sales representative can assign a new sales opportunity to a customer.

Preconditions:

- The user is logged in to the CRM system.

- The user has a sales representative role.

- The customer exists in the system.

- The sales opportunity feature is available.

Steps:

1. Navigate to the "Sales Opportunity" tab in the CRM.
2. Click "Add New Opportunity".
3. Enter the required sales opportunity details (e.g., Description, Potential Revenue).
4. Select an existing customer from the dropdown list.
5. Click "Save" to assign the opportunity to the customer.
6. Verify that the customer record has been updated with the new sales opportunity.

Expected results:

- The sales opportunity should be successfully saved in the system.

- The customer profile should be updated with the new sales opportunity.

Pass/Fail:

- Pass: If the sales opportunity is correctly assigned and visible in the customer profile, the test passes.

- Fail: If the sales opportunity is not assigned correctly or does not appear in the customer's profile, the test fails.

TESTING FOR CONCURRENT USERS

The requirement to be tested:

Ensure the CRM system can handle 500 concurrent users, maintain performance and responsiveness, and scale for future user growth.

Preconditions:

- The CRM system is deployed and fully functional.

- The system is accessible from client machines with a network connection.

- A load testing tool (e.g., LoadRunner) is available and properly configured to simulate concurrent users.

- 500 Test accounts are created to simulate concurrent user activity.

- The system has baseline performance metrics (including response time, server load, etc.) established before testing.

Steps:

1. Start load testing tool to simulate 500 concurrent users accessing the CRM system. Set parameters to replicate typical usage patterns.
2. Simulate user interactions for a specific period (10 minutes) by executing common user workflows such as logging in, accessing reports, and creating sales opportunities.
3. Gradually increase the load if required, to simulate future scaling (for instance, testing with 1000 users).
4. Monitor system performance metrics such as response time, server CPU usage, memory consumption, and network latency throughout the test.
5. Measure user experience by checking response times and error rates.
6. Evaluate system stability and data integrity under load, ensuring no data loss or corruption occurs during the test.

Expected results:

- The system should be able to handle 500 concurrent users without significant degradation in performance and responsiveness.

- Response time for crucial transactions (logging in, generating reports, updating sales opportunities) should remain below 3 seconds.

- Server resource usage (CPU and memory) should be within acceptable limits under load.

- The system should be able to scale and handle additional concurrent users if required, without errors.

- No critical system failures should occur during testing.

Pass/Fail:

- Pass: If the CRM can handle 500 concurrent users with acceptable performance (response times below 3 seconds, error rate under 1%, no crashes), then the test passes.

- Fail: If any of the following occur:

  -Performance degradation above acceptable levels (response times > 3 seconds).

  -Server errors.

  -High resource utilization leads to crashes or slowdowns.

  -System crashes during testing.

  -Error rate above 1%.

F. SOURCES

No external sources were used.