**WGU Software Engineering**

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| American Video Game Company |
| Proposal |
| Customer Relationship Management System Upgrade |

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| Daniel Roberts  2-24-2023  [Version 1.0] |

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# Introduction

American Video Game Company *(hereafter referred to as AVGC)* needs a CRM solution that will withstand the company’s growing needs. This document presents a proposal for a CRM software that will accommodate those needs to include details about requirements, design, software development methodology, and testing.

# A.1. PUrpose Statement

The purpose of this document is to outline the goals and objectives of the new CRM solution that will meet the needs of AVGC. This document is intended to give AVGC a detailed view of Project: “Customer Relationship Management System Upgrade”. Our company is proposing a fully customized CRM system hosted through Salesforce’s platform. Salesforce would allow AVGC to customize their system to support the needs of the company.

# A.2. Overview of THE PROBLEM

The AVGC has a Customer Relationship Management System that is falling short of meeting their growing needs. The company needs an upgraded system that will combine high-level efficiency with a user-friendly design. With the company looking to expand into other areas outside of gaming, the AVGC will need a system that will manage contacts, track sales and activity, and provide management of reporting.

# A.3. Goals and Objectives

Goals and Objectives for Project: “Customer Relationship Management System Upgrade”:

Provide key technical components such as centralize contact and business information, tracking sales and activity reports, provide essential security roles and permissions for the company’s users, and the functionality of integrating with other internal systems for data sharing.

Meet the company’s expectations of providing a user-friendly interface, a well-designed structure for future updates, and a well-defined licensing model with ownership rights.

Ensure data requirements are met by being housed in the United States with high-level security to protect sensitive information.

The system will be able to withstand the company’s growth in active users, be compatible with multiple operating systems, and provide a method for hosting the system that will meet a minimal interruption standard.

# A.4. Prerequisites

*Required Prerequisites prior to initializing Project: “Customer Relationship Management System Upgrade”:*

|  |  |  |  |
| --- | --- | --- | --- |
| **Number** | **Prerequisite** | **Description** | **Completion Date** |
| 1 | None | Ensure a Change Control Board is in place for any potential change requests made to the project | 02/26/2023 |
| 2 | None | Ensure a well-documented list of project members are in place and shared in order to facilitate proper channels for communication regarding project details | 02/26/2023 |
| 3 | None | Ensure a timeline for project milestones are documented and a well-defined workflow established | 02/26/2023 |
| 4 | None | Budget established for each element of the project | 02/27/2023 |
| 5 | 1, 2, 3, 4 | Proper approvals made for 1, 2, 3, and 4 | 03/10/2023 |
| 6 | None | Ensure all company desktops, laptops, and mobile devices that AVGC will be utilizing to run the CRM software meet certain minimum requirements for the most stable experience. The following list is an example of such requirement but is not meant to be a list of all requirements:   * Network Latency of 200ms or less * At least 5 GB of Ram, with 2 GB specifically for Salesforce browsers * Download speeds of 1 MBPS or greater | At least 1 month prior to project start date |

# A.5. Scope

Project: “Customer Relationship Management Upgrade” was initiated to update AVGC’s existing customer relationship management system. AVGC’s current system lacks functionality and growth potential to sustain the needs of the company. This project intends to upgrade the CRM system to provide key technical components, ensure necessary data requirements, to support the company’s exponentially growing platform, and to support functionality with the company’s other platforms and systems. This project will centralize the company’s contact and business information, track sales and company activity, provide a user-friendly interface with a well-designed structure for updates, and will meet a minimal standard established by AVGC for system interruptions. Therefore, the following list will be within the scope of our project:

1. Custom metrics and charts designed for AVGC to monitor performance.
2. Ability to track AVGC’s sales and company activity.
3. Custom user roles and permissions.
4. Custom report options.
5. AVGC’s CRM activity will be recorded with the ability to audit user activity.
6. The CRM system will be available for use with desktop and mobile devices as well as multiple browsers that Salesforce has compatibility with to include Chrome, Safari, and Internet Explorer.

Certain customizations will be outside the scope of this project. Each of these customizations can be added later by AVGC. Those features include:

1. Multi-factor Authentication for employee login (Salesforce has this feature available and can be set up for each user account at a later time dependent on AVGC company policy).
2. Although Salesforce offers forecasting categories, AVGC will be responsible for customizing the forecasting feature to meet AVGC’s specific needs.
3. Our project will cover the scope of meeting AVGC’s custom user roles and permission requirement, and we will test the roles and permissions feature utilizing two test accounts. However our project will not cover setting those roles and permission for each AVGC employee. AVGC will be responsible for setting parameters that cover their specific needs in reference to user permissions and access.

# A.6. Environment

The new CRM system will be compatible with the following:

* Desktop, laptop, and mobile devices.
* Multiple browser system to include Chrome, Safari, Internet Explorer, etc.
* Latest versions of IOS and Android

AVGC’s custom CRM solution will be hosted through Salesforce that utilizes Amazon Web Services *(hereafter referred to as AWS)* as its primary cloud provider. Salesforce provides an offline feature available with IOS and Android devices. This will be a beneficial feature for AVGC employees in the case of internet outage. Another beneficial feature offered by Salesforce is the ability to test new updates prior to implementation. Organizations can test how an update will affect their platform by testing it in the developer sandbox. Salesforce, also, provides complete details of each update that can be viewed by the organization prior to implementation. Salesforce’s “Critical Updates” are made mandatory by Salesforce, however, AVGC will have the ability to disable the update to allow for further testing prior to Salesforce’s automatic activation date. Salesforce provides a very detailed Service Agreement laying out specific details of their service. Salesforce also provides a view of current and historical outage incidents and claims to have a 99.9% uptime record. With Salesforce, AVGC would be given advance notice of any planned service downtime. These features will meet what AVGC is seeking with a CRM solution.

# Requirements

The new CRM system will meet the following requirements:

* Be able to integrate with the company’s current active directory.
* Manage and track sales and company activity.
* Manage and generate reports.
* Ability to record and audit user activity.
* Custom user permissions and parameters.

# Business Requirements

AVGC needs the capability to track sales, manage activities, generate leads, provide quotes, and perform a multitude of sales analysis to continue the growth of their operations. The proposed CRM system through Salesforce provides a performance chart to display data from different sales’ teams. Salesforce provides access to the most up-to-date contacts, automated lead scoring, and provides tracking across a multitude of channels to include social media. The CRM system will also have software for providing quotes, pricing, and billing where rules can be implemented to ensure each business document is error-free.

# User Requirements

Salesforce provides an extremely user-friendly interface where most processes can be handled VIA mouse interaction, instead of code. AVGC will be able to set roles and permissions for its users, allowing each user access to only the work functions needed to complete their tasks. Salesforce CRM software also provides some of the most advanced automation features within the CRM industry. These features will be instrumental for AVGC employees. A few examples include the ability to automate workflows, recommend next steps on deals, assign follow up tasks, and the automation of business requests.

# Functional Requirements

The new CRM software through Salesforce will have the functionality to create adaptive forecasts, monitor AVGC’s sales pipeline in real-time, and provide customizable reporting and visualization for viewing AVGC’s data. Salesforce would allow AVGC to integrate, easily, third-party applications. Some of Salesforce’s CRM core features provided by financesonline.com, includes:

1. Contact Management
2. Workflow Creation
3. Opportunity Tracking
4. Collaboration Tools
5. Email Integration
6. Standard Sales Forecasting

These are all requirements that AVGC has requested to be available with their new CRM software.

# NonFunctional Requirements

Salesforce CRM would meet AVGC’s nonfunctional requirements of security, performance, and scalability. Salesforce, being 100% cloud implemented, would allow AVGC to scale its applications and data as needed and required. Salesforce leads enterprise software companies in management of customer relationships. From small businesses to Fortune 500 companies, over 150,000 companies trust and utilize Salesforce daily. Salesforce CRM has replication, backup, and disaster recovery planning. It provides encryption in transit of data, as well as threat detection features. Salesforce offers additional security measurements in their Salesforce Shield application to include event monitoring and encryption. Salesforce provides its customers with accountability to assist customers with data protection laws.

# SOFTWARE DEVELOPMENT METHODOLOGY

The AVGC has decided to go with the waterfall method for its CRM implementation. The below subsections will cover advantages and disadvantages to the waterfall method, as well as provide advantages and disadvantages to choosing a different methodology for its software implementation.

# Advantages of the waterfall method

With the waterfall methodology, each phase of the project, including start and end points, will be clearly defined. This will allow the project to be easily measured in terms of progression. With the timeline for the CRM project being on a set schedule, it will allow the project team and AVGC to have a clear timeline for the rollout and implementation of the new system.

# disAdvantages of the waterfall method

Due to the strict timeline of utilizing the waterfall method, the project will need to be regularly monitored to ensure it will meet all deadlines. The strict timeline will also make it difficult for any changes to be made to the project once it has been initiated. The project will have to be carefully examined with all requirements being made prior to project kickoff. This may delay the start of the project by several months. AVGC would also not have much input on the project once it had begun. AVGC would be able to make very few, if any, changes to the project after the planning phase.

# Advantages of agile METHOD

Agile is one of the most popular project management methodologies due to its flexible nature. Utilizing the Agile method would allow AVGC to be more involved in the overall ending product. AVGC would have more involvement in the development and changes made to the project once it has begun. This could lead to the new CRM system being more in line with what AVGC was looking for. Our intended goal is to build a customizable CRM system hosted through Salesforce. To be a high-quality system tethered to the wants of AVGC, the company would benefit from more involvement during all phases of the project. AVGC and its stakeholders would also benefit from Agile’s continuous progress reports and the ability to predict potential risks.

# disAdvantages of agile method

Due to Agile’s nature, it would be nearly impossible to predict an accurate cost of the final product or what the final product will look like. Due to Agile’s very limited initial planning, there will be no way to predict a timeline for the ending of the project prior to the project start. This may not be in line with what AVGC currently needs as their current CRM system is failing in terms of company growth. Agile would also fall short to the waterfall method in terms of measuring progress. Since Agile operates in increments, it would be difficult to set key performance indicators prior to the project kicking off.

# best SUITED

The Agile methodology would best suit this project, in my opinion. AVGC has set some very detailed requirements for the needs of the new system. Salesforce would provide AVGC with the option to have a fully customizable CRM system. With that level of customization, it would benefit AVGC to have input and the ability to request changes during the entire lifecycle of the project. Utilizing the Agile method, AVGC would have a better view of progression and risk factors during each cycle. Utilizing the waterfall method may lead to an ending product that AVGC is not content with. AVGC would benefit from customizing the CRM system as it is designed with the requirements that are going to best suit the company’s needs.

# Design

From the initial login page, you will enter your credentials to access the AVGC CRM system. You will be taken to the main dashboard where different options are available. Some specific options may not be available depending on each user’s specific role in the company *(some features that may be included would be assigning roles, deleting items, updating system components, etc.).* In the main dashboard view, the user will also see certain key performance charts and graphs *(items that may be included would be total sales for the year, total sales for a specific game or item, sales leaderboard, etc.).* Each user can dictate which performance charts will be on view in their dashboard. Some users may have limited access to certain charts depending on their permission set.

In the dashboard view, users will have options to choose from. This may include contacts page, email page, tools section, settings, etc. Those options may differ depending on user permission sets. If a user was to click on the tools section, the system would take the user to a page where links are available to different applications and tools compatible with Salesforce. These tools may include applications such as JIRA, Adobe Sign, email integration tools, etc. If a user was to click the contacts section, the system would go to a page where all user saved contacts were listed. From there, users would be able to add and delete contact information.

# Design Flowchart

Diagram

Description automatically generated

Figure : Sample Flowchart

# UML Diagram

The below diagram depicts a AVGC sales ticket and the data that would be associated with that specific sale:

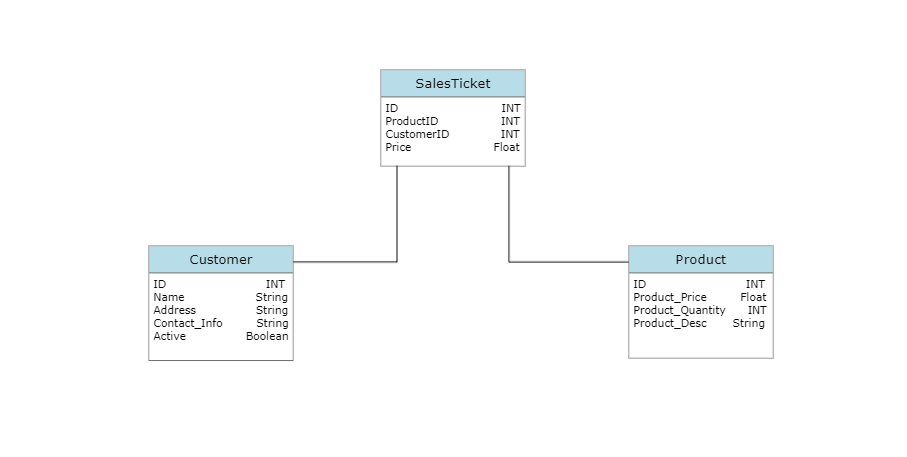


Figure : Sample Database

# GUI Create Contact

Graphical user interface

Description automatically generated with medium confidenceProposed design of entering a new contact

**1**

**5**

**4**

**2**

**7**

**6**

**3**

**10**

**9**

**8**

**11**

*Created with Paint3D*

Figure : Sample GUI Mock-up

|  |  |  |  |
| --- | --- | --- | --- |
| **GUI Control Mapping** | | | |
| **ID** | **Control** | **Property** | **Data Source** |
| **1** | **Label** | **Text=”Edit Contact”** | **NA** |
| **2** | **Label** | **Text=”Contact Information”** | **NA** |
| **3** | **Label** | **Text=”Address Information”** | **NA** |
| **4** | **Button** | **On click of button, new or edited contact information is saved. Page is returned to the Main Contact Section.** | **CRM** |
| **5** | **Button** | **On click of button, nothing is saved, and page returns back to the Main Contact Section** | **CRM** |
| **6** | **Label** | **Labels created for phone number information to include “Phone Number”, “Home”, “Work”, “Mobile”, “Fax”, “Email”** | **NA** |
| **7** | **Label** | **Labels created for identification information to include “First Name”, “Last Name”, “Account Name”, “Title”, “Reports To”** | **NA** |
| **8** | **Label** | **Labels created for Address Information to include “Address”, “City”, “State”, “Zip Code”, “Country”.** | **NA** |
| **9** | **TextField** | **User entered text to be saved for Name section** | **NA** |
| **10** | **TextField** | **User entered text to be saved for Phone section** | **NA** |
| **11** | **TextField** | **User entered text to be saved for Address section** | **NA** |

# Testing

The following CRM functionality tests will be performed to ensure accurate and reliable results:

1. Creating and saving a new contact.
2. Utilizing the AVGC CRM system, hosted with Salesforce, VIA a mobile application.
3. Ensuring permission and role settings work as intended.

# Contact Creation

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| Requirement to be tested:  Creating a new contact and saving the data to the CRM system. |
| Preconditions:  No preconditions will be needed as the data being saved would be hosted through Salesforce who utilizes AWS as its primary cloud provider. |
| Steps: The steps the tester must execute to test the feature.   1. Login to the AVGC CRM system hosted with Salesforce utilizing issued employee credentials. 2. Go into the contact section from the list of available options. 3. Click on **New Contact**. 4. Ensure all required fields are generated and a TextField is available to add data. 5. Enter data into each TextField to include contact name, phone information, and address information. 6. Click the save button inside the panel. 7. Go into CRM’s contact section and ensure the new contact data was saved accurately. |
| Expected results:  The result should be the new contact information saving to the system. The contact data should also be compatible with other operations such as access to the contact from the email section, reporting section, sales, etc. |
| **Passed**  The test was successful. The new contacted was added and saved into the CRM system’s contact. |

# Mobile application

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| Requirement to be tested:  Utilizing our Salesforce AVGC CRM system from a mobile application (EX: phone, tablet, etc.) |
| Preconditions:   1. Ensure our mobile device we are utilizing meets the following requirements:  * Android 8.0 or later or IOS 14.0 or later * A phone or tablet listed by Salesforce that has been tested to meet their mobile application standards. * Ensure login credentials have been made for the test account. |
| Steps:   1. Download Salesforce application on our IOS or Android device. 2. Utilize testing account login credentials to access the AVGC CRM account. 3. Ensure all aspects of the CRM account work correctly on a mobile device to include all customized features, dashboard settings, accessible mobile tools, emails, contacts, etc. |
| Expected results:  After logging into our test account, the CRM system should be optimized for our mobile device. We should be able to access all mobile enabled features of our CRM system. This should include emails, contacts, performance charts, sales functions, reports, etc. We will want to ensure, during the test, that all of our customized CRM features that are mobile enabled work accurately in a mobile device. Testing should not be limited to just Salesforce application itself. |
| **Passed**  The test was successful. Test account credentials were successfully used to login to our CRM Salesforce account from an IOS device. All mobile enabled customized features of our AVGC CRM system work correctly and accurately to include access to contacts, our sales and reporting functions, performance charts, etc. |

# Permissions and roles

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| Requirement to be tested:  Ensure our roles and permission settings work as intended. |
| Preconditions:  Create 2 test accounts, one as an “Admin” account with all access unlocked and one as a “Regulated” account with limited access and visibility to certain AVGC CRM features. |
| Steps:   1. First, we will login to our CRM system VIA our “Admin” account as it will be the easiest to test. Access to all CRM features should be available. 2. Once we have tested our “Admin” account, we will login to our “Regulated” account. This test will be more complex as we will need to test and ensure two factors: 1. We have access and visibility to all CRM features that have been previously set; 2. We have either restricted access or no access to features that have been restricted for this test. 3. Each function will need to be accessed to ensure we either do or do not have access to that specific feature and ensure it meets the correct permission that we had previously set. |
| Expected results:  In our “Admin” account, our result should be that we have access to all CRM features, this should include access to create and delete accounts, set permission, etc.  In our “Regulated” account, our result should be that we have limited access to certain predefined features. All features that we have previously granted access to, should be accessible, and all features that we have granted either limited or no access to, should not be accessible. |
| **Passed**  We were able to create and test two different test accounts. One as an “Admin” account with all functions unlocked, and one as a “Regulated” account with certain features of the account locked. Both cases worked as intended. |

# Sources

Goldberg, A. (2023, January 6) *What Does Salesforce CRM Do? Features & Benefits of a leading CRM Software.* Finance Online. <https://financesonline.com/what-does-salesforce-crm-do-features-benefits-of-a-leading-crm-software/>

Salesforce (2023) <https://www.salesforce.com/privacy/products/#:~:text=Salesforce%20has%20security%20built%20into,%2C%20authentication%2C%20and%20user%20permissions>.

Lvivity Team (2018, March 15) *Waterfall Methodology: Advantages, disadvantages and when to use it?* Lvivity. <https://lvivity.com/waterfall-model>

*Note: See the sources section in the requirements and rubric. If you did not use any outside sources, you may delete this section.*