**Design Document**

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| American Video Game Company |
| CRM Proposal |
| Business Requirement/Business Vision Document |

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| Aaron George  12-13-2020  Version 1.0 |

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# Introduction

American Video Game Company is in need of a new customer relationship management (CRM) to further the company’s growth. I will go over the business plan needed to revamp their sales force’s requirements, outline the goals for this project, and explain the testing process.

# A.1. PUrpose Statement

This document is to address American Video Game Company’s solution for a new CRM system for its sales force.

# A.2. Overview of THE PROBLEM

American Video Game Company has seen a 42% growth in the past two years, and they desperately want to upgrade their current CRM system to keep up with its new consumers. This new solution will allow American Video Game Company a way to handle these high demands.

# A.3. Goals and Objectives

We want to create a system that will allow management even at high volumes, not just for current problems, but also for future ones. In order to meet the company’s needs, the main goal is to implement a system that addresses both the functional and technical side. A string of objectives will be wired out to make this project a success. Some of these requirements are:

Reliability

High Performance

Security

Easy for Users

Scalability

# A.4. Prerequisites

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| --- | --- | --- | --- |
| Number | Prerequisite | Description | Completion Date |
| 1 | N/A | Establishing a proposed project budget and approval | 12/12/2020 |
| 2 | 1 | Configuring security needs based on business traffic | 12/20/2020 |
| 3 | 2 | CRM system must be fully functional and support for future growth | 12/25/2020 |

# A.5. Scope

This document will focus on establishing a concrete solution to AVG’s current problem. It will focus on the functionality requirements for the business and user. We will also go into specific detail about the compatible environments the system will operate on. There will also be testing and validation of the specific subsystems as well. We will cover areas that are crucial to the project’s infrastructure, including rollout and definition. Some of the solutions not included in our scope are ones currently found on salesforce.com. Modules including, Contact Management, Order Management, and Contract Management.

# A.6. Environment

Cloud Infrastructures

* Linux based server
* Microsoft Azure
* SQL Database Oracle Enterprise

Browsers supported:

* latest Chrome and Chromium
* latest Firefox
* I.E 9 and above
* Safari 6.0

Mobile & tablet support will be available:

* iOS7 Safari
* iOS7 Third Party Browsers (Chrome and Firefox)
* Android 4.0 Chrome

# Requirements

There currently 2,000 users who will have access to the new system. We also expecting an increase of over 500 new users to operate the system during high usage periods. The new system must be capable of handling these new clients and support uptimes.

* Consolidate clients and other important information needed
* Report and manage all activities and interactions with users
* Operate and manage a role-based access control system for managed permissions for internal and remote users
* Allow access for system procedures by 3rd party marketing companies under contract
* Track and manage sales reporting
* Integrating with other systems for data sharing
* A focus on security, scalable, and easy usability
* Have a clear and concise maintenance and support structure
* Have clearly defined roadmap for development and patches
* Have a clearly identifiable licensing model and defined ownership rights with development
* Integrate with the company’s internal hosting infrastructure or have a good reason to do so otherwise
* Cloud based operations will be supported, concurrent performance and users

The following requirements that were chosen for this project

* Have the capabilities of backing up data on a scheduled basis
* Support multiple internet browsers and platforms
* Cloud based operations supporting concurrent performance and users
* A ticketing system to monitor all communications with important contacts
* Follow different security procedures and policies

# Business Requirements

Cloud based operations will be supported, concurrent performance and users

Requirement Overview

* With the company’s rapid growth, a system with scalability for the future is important. A cloud-based operation is important for security. It will serve as the intermittent between users and the server. It will authenticate and authorize users before allowing access to the database.

Purposed System

* Microsoft Azure can be used for production and testing situations, can be used for cloud monitoring and maintenance, and use for Oracle enterprise 12c DB

# User Requirements

Support multiple internet browsers and platforms

Requirement overview

* The functionality to support multiple browsers and operating systems will cover a wide range of devices. The operating system and browser support different hardware such as, phone, tablets, and desktops. If an users operating system or browser is not compatible with our server, a warning message should appear to advise the user to use the correct operating system or browser suitable for the application.

Proposed System

* The server will include a plugin integrated to notify the user of using the incorrect operating system or browser. The server will relay a message to the user letting them know that they can’t connect, and it will proceed to list the compatible platforms.

# Functional Requirements

A ticketing system to monitor all communications with important contacts

Requirement overview

* With busy uptimes, a ticketing system is heavily needed to keep monitor all users, statistics, and to remediate problem tickets. The system should be either automatically or manually done to track all communications with clients

Proposed System

* The procedure will provide a simpler solution of managing customer information, with the help of a simple, easy to use, user interface. It will handle time/date, client information, escalation issues, and any important inquires.

# NonFunctional Requirements

Have the capabilities of backing up data on a scheduled basis

Requirements Overview

* The company must be able to provide back-ups in case of a dire situation where that data is important for availability. The system is required to do full scheduled back-ups to keep information update and ensure everything is recent

Proposed System

* The system will perform scheduled back-ups when needed or automatically. Redundancy will be implemented to ensure constant data uptimes.

# SOFTWARE DEVELOPMENT METHODOLOGY

The company has selected the waterfall software development methodology for this project. “The waterfall model is a breakdown of project activities into linear sequential phases, where each phase depends on the deliverables of the previous one and corresponds to a specialization of tasks. The approach is typical for certain areas of engineering design.” (Wikipedia, 2020)

# Advantages of the waterfall method

The waterfall method is good for smaller projects where not much is needed to complete and doesn’t have many complexities. It provides a flowchart method of handling operations and provides a clear, cut route.

# disAdvantages of the waterfall method

The waterfall method isn’t so reliable with bigger projects, since the scale is more intense and other factors are at play. Also, once you finish a project, you have to commit to the final version. The waterfall method leaves little room for revisions, which can hinder a project greatly.

# Advantages of Aglie

The Agile method provides more flexibility compared to the waterfall method. Changes can be made throughout the projects’ lifespan, making you commit less. The agile method also promotes collaborative effort of self-organizing and cross-functional teams. It ensures planning and delivery happens. Testing is constantly being done after each stage, this ensures code is bug and issue free.

# disAdvantages of Aglie

Agile also has its share of disadvantages. Usually, at the beginning of a project it is difficult to determine the allocated cost and time needed. A strong level of communication between developer and client is important to ensure completed jobs with little error, which is not always possible at times.

# best SUITED

Waterfall I believe is best suited for the CRM project, it supports a lot of the functionality we are looking for. American Video Game Company is looking for a clear and concise solution to their problem. We will be able to complete the deliverables on time with waterfall method. The project will greatly benefit greatly from using the waterfall method. Also, it’s more convenient that they already use the waterfall method. This will save time on switching procedures and helps things flow better

# Design

This flowchart provides the visual representation of the new environment that will have scalability, reliability, performance, and access control needed to ensure constant uptimes. This keeps management to a minimal of activity, reports, sales, and clients.

# Flowchart

Describes the basic flowchart of the ticketing system in the company

Diagram

Description automatically generatedFigure 1: Sample Flowchart

# UML Diagram

A UML ERD of the customer database which includes, customer credentials, employees, logs, and tickets

Figure 2: Sample Database

**Timeline

Description automatically generated**

# GUI

Provide a mock-up of the proposed GUI forms that will be used in the proposed solution. Also, clearly indicate where the GUI components point inside the application.



Figure 3Graphical user interface, application, website

Description automatically generated: Sample GUI Mock-up

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| GUI Control Mapping | | | |
| ID | Control | Property | Data Source |
| 1 | Textbox | On application open text = “CRM login” or null | NA |
| 2 | Textbox | On click of button text = “” user enters Username credentials | Internal Variable |
| 3 | Textbox | On click of button text =”” user enters Password credentials | Internal Variable |
| 4 | Hyperlink | Click to redirect user for forgotten passwords | NA |
| 5 | Checkbox | Click to save Username and Password credentials | NA |
| 6 | Button | Logs user in when both Username and Password are entered | NA |

# Testing

We are going to test three specific subsystems regarding the ticking system and the functionality. It will make data retrieval much easier. This also will cut down time massively on errors. We are going to test the functionality of the tickets.

# User Interface testing

The user interface is an important aspect of the procedure. We will test the GUI and how it operates during daily business. Things including buttons and inputs are commonly used features and needs to be stable at all times.

# Ticket Test

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| Requirement to be tested  A client generating a ticket. |
| Preconditions: Conditions that must be present before test case can successfully run  During the creation process, the ticket is created in the schema. There will be a fully functional user interface with the capabilities to show the ticketing system for testing. We need to make sure all properties of the CRM are operatable for business. |
| Steps: The steps the tester must execute to test the feature.   1. Customer information is collected 2. Customer information is added in the appropriate fields 3. Save ticket to database 4. Make sure that ticket was successfully processed 5. Notify appropriate personal about the ticket 6. Confirm the ticket was successfully completed |
| Expected results: Expected results and any side effects such as updating a database, writing to a file, etc.  The ticket will be successfully generated in the schema. The ticket will show within the system. |
| Pass/Fail: Passed |

# HArd Delete Test

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| Requirement to be tested  Successful hard delete of user information. |
| Preconditions: Conditions that must be present before test case can successfully run  This requires for the user to communicate to the correct schema and also have the necessary user privileges to hard delete information containing a client before proceeding. A GUI associated with contact management is needed before the delete can happen. |
| Steps: The steps the tester must execute to test the feature.   1. GUI for contact management is opened 2. Find the contact information needed for the test 3. Open the contact overview 4. Press the delete button 5. Authorization is required to proceed with deletion 6. A successful “Information successfully deleted “message appeared |
| Expected results: Expected results and any side effects such as updating a database, writing to a file, etc.  A quick search within the database with user information will be missing. The proof of deletion will be stored in the logs. |
| Pass/Fail: Passed |

# Logging user activity

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| Requirement to be tested  Users activity and logging information must be stored within the company’s system for analysis for management. It also can be retrieved and examined when needed. |
| Preconditions: Conditions that must be present before test case can successfully run  A repository of user activity and logs are stored in the database for inspection, only for authorized users. |
| Steps: The steps the tester must execute to test the feature.   1. Individual of authorized authority signs into the login page 2. User navigates to enter data screen 3. User navigates to update data screen 4. User navigates to delete data screen 5. The user signs off |
| Expected results: Expected results and any side effects such as updating a database, writing to a file, etc.  Data was successfully added, updated, and deleted within the repository. |
| Pass/Fail: Passed |

# Sources

1. Waterfall model. (2020, November 27). Retrieved December 13, 2020, from https://en.wikipedia.org/wiki/Waterfall\_model