VOLCAN, A LOGICAL SOLUTION

ALL4CRM SMP

American Video Game Company

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CONTENTS

1. INTRODUCTION

Customer Relationship Management, or CRM facilitates a company's ability to maintain and manage a superb affinity with its customer base. Volcan, Logical Solutions is honored to propose a CRM that is tailored specifically for the American Video Game Company (AVG). Our software solution will fulfill the needs of AVG and provide room for future growth. Our ALL4CRM software will complement and preserve current and future customer relations.

1.1. PURPOSE STATEMENT

The purpose of this document is to depict how Volcan, Logical Solutions will transcribe the CRM requirements document into a workable solution for AVG. This documents composition outlines non-functional and functional requirements and elucidates the development cycle, and planned test scenarios. This document provides a complete, understandable, and concise outline of the project.

1.2. OVERVIEW OF THE PROBLEM

AVG faces sale growth rates of 42% over the past two years. As a result, AVG is outgrowing its existing system that govern all CRM aspects, and some of those systems are 3rd party integrations. Consequently, redundant data fragmentation increases costs while making it difficult to plan for growth. It's paramount that a ticketing system be implemented to log all contact interactions. AVG requires functionality that can manage customer data, facilitate quote generation and conversion into invoices, and be able to track the process in its entirety.

1.3. GOALS AND OBJECTIVES

Our goal and objectives are to provide AVG with a solution bringing all customer data together into a single system that greatly reduces redundant workloads and improves usability and fosters informed employees while improving the bottom line for its customers.

ALL4CRM addresses AVG's goals by delivering a customer management system to manage all customer data, ticketing system, and logs their activity. The feature allows employees to be notified of potential deals based on customer interactions with AVG personnel.

ALL4CRM enables management personnel to create tailored workflows that keep teams on the same page. Workflows combined with procedures ensure departments efficiency and provides employees better understanding of workflow guided by procedures.

A order management system generates quotes from captured customer data provided by the system is desired because a single system contained all relevant data and facilitates the quick generation of quotes. This makes turning a quote into an invoice seamless.

1.4. PREREQUISITES

Number	Prerequisite	Description	Completion Date
1	Operating System	Windows 8 or above, and MAC OS X, or above	
2	Web Browser	MS EDGE 32+ Mozilla Firefox 56+ Google Chromium 60+ I.E 9+ Safari 6.0 IOS7 Safari & 3rd party (Chrome and Firefox) Android 4.0 & 3rd party (Chrome)	
3	CPU	1.4 GHz +	
4	RAM	4GB minimum | 8GB recommended	

1.5. SCOPE

The scope includes the following:

- Consolidate processes into one application.
- Reducing fragmentation of workloads.
- Facilitating tailored workflows and procedures for different departments within the organization.
- Implement a ticketing system to Log customer activity.
- Enable quotes to easily generate to invoices.
- Depict a composite of important information on a single screen providing an in-depth view by clicking.

The project scope doesn't include the following:

- Negotiations for any hardware or software needed to run this application.

1.6. ENVIRONMENT

A three-tier architecture will separate a client from server with a middle tier. A relational database server will be established. Development components consist of Java, JavaFX, and FXML.

2. REQUIREMENTS

Requirements are a cornerstone for a successful solution. Undefined requirements lead to loss of resources and an overall unsuccessful project that goes in directions that rob productivity. Exploring a client's needs and current system helps making informed decisions on what to propose is a ritual. This document outlines requirements that satisfy AVG's needs.

The proposed comprehensive CRM system will offer categorized contacts and a ticket system tracking communication with clients. The CRM also manages orders with tracking. Each user will have a customized dashboard with a snapshot view with filter for detailed reporting.

2.1. FUNCTIONAL REQUIREMENTS

- **Sales Workflow**

  AVG can create a working sales cannon that can be reused for sales personnel.

- **Ticketing System**

  Our ticketing tracker will maintain communication with contacts. AVG users can track the following data points within the ticketing system:

  - Communication type (Email, social medias, phone, chat, sms, etc.)
  - Reason for communication.
  - Date/time of communication.
  - Who communicated.
  - Reason for communication.
  - Client notes.

- **Quote Generation**

  The Quote Management module allows for seamless quotes generation. All4CRM stores customer data needed for a quote, product, and service. This creates a seamlessly slick way in create a compelling offer that can be submitted from the CRM.

- **Order Tracking System**

  Submitted quotes accepted by the customer can transition into an order within the order tracking system (OTS). The OTS will track progression of the order from start to finish.

- **Dashboard System**

  ALL4CRM visual aspect appealing dashboard system can be configured to show snapshots of the metrics of stakeholders, businesses, and contacts activities. The filter options of the dashboard assist in granularity of data.

2.2. NONFUNCTIONAL REQUIREMENTS

- Method of notifications for the sales process will be customizable.
- The ticketing system will support integration with Microsoft Outlook, Google G-Suite.
- Electronic signatures will allow for a speedy quote to order conversion.
- The CRM system will be incrementally backed up to prevent data loss.
- Analytical processing allows filter to drill down data in less than 3 seconds.

3. SOFTWARE DEVELOPMENT METHODOLOGY

The waterfall method is well suited for small projects with a clear requirement with a result that works best with seasoned team members. This method works in steps and when completed the team moves on to the next step. The waterfall method doesn't allow much in the way of mistakes or sudden changes because you cannot work steps backwards.

Agile methodology anticipates change and contains a level of practicality into the project's development. Short cycles don't leave enough time for the design thinking process, so designers have to redevelop the experience over and over due to negative feedback (Olic, 2019).

3.1. ADVANTAGES OF THE WATERFALL METHOD

Both Agile and Waterfall methodologies offer advantages in the development process. In this unique case AVG supplied a thorough CRM requirement document and will benefit from the Waterfall Method, thus making it easy to implement. It will worth noting that it's easier to work on a project with a finish line in sight. Other advantages worth noting include:

- Every step is completed sequentially.
- Simplified project management.
- Best for smaller projects.
- Best for well-defined projects.

It should be considered that during projects clients will decide to revise parts of the project in the testing phase. This is where incorporating a Agile methodology will benefit a project because development is done in small sprints which happen all through the development process. Worthy advantages of the Agile method include:

- A more bug and error free product.
- Priorities are revised after sprints and allows client input.
- Deadlines more likely due to the testing process.
- Client involvement helps ensure expectations are met.

3.2. DISADVANTAGES OF THE WATERFALL METHOD

While the combined methodologies of the Agile and Waterfall method can be beneficial there are disadvantages to take into consideration. Critics of Waterfall felt that there was too much room for problems to remain unnoticed until the project neared completion, which left large, costly changes as the only solution, so they created Agile (Lucidchart.com., 2019). With the Agile method you don't have a clear picture of the end product and this makes it difficult getting started and demands great patience from creative developers. Some worthy disadvantages to consider below:

- Projects derailments with undecisive clients.
- Greater commitments from both developer and client.
- Leaves almost no room for unexpected changes or revisions

The Waterfall method tends to facilitate risky assumptions due to little communication. A sudden parameter change could render much of the work carried out up to that point useless, which can throw off the entire timeline (Lucidchart.com., 2019). Some worthy disadvantages to consider below:

- Spells doom with unclear requirements.
- Changes are less likely to be tolerated.
- Not ideal for ongoing, or large projects.

In conclusion both methodologies have distinct advantages and disadvantages. The final decision depends on the project and the merry of preferences between the development team and customer every time.

3.3. BEST SUITED

Initially waterfall method is the best method for the AVG project due to the CRM requirements being well defined and organized. However, small conflicts present themselves within the document and experience points out there are internal processes undiscovered during requirements gathering. In this case Agile methodology will ensure success with this project because the sprint aspect will provide inclusion, and ultimately iron out features. In conclusion Waterfall initially seems an initial choice, but no project isn't without its changes and for that reason Agile methodology is best suited to ensure a well-polished product free from bugs.

4. DESIGN

A sample workflow can be saved and reused, and a GUI mockup has been provided below to showcase the ticketing system that's for logging client/log activity.

4.1. SALES WORKFLOW

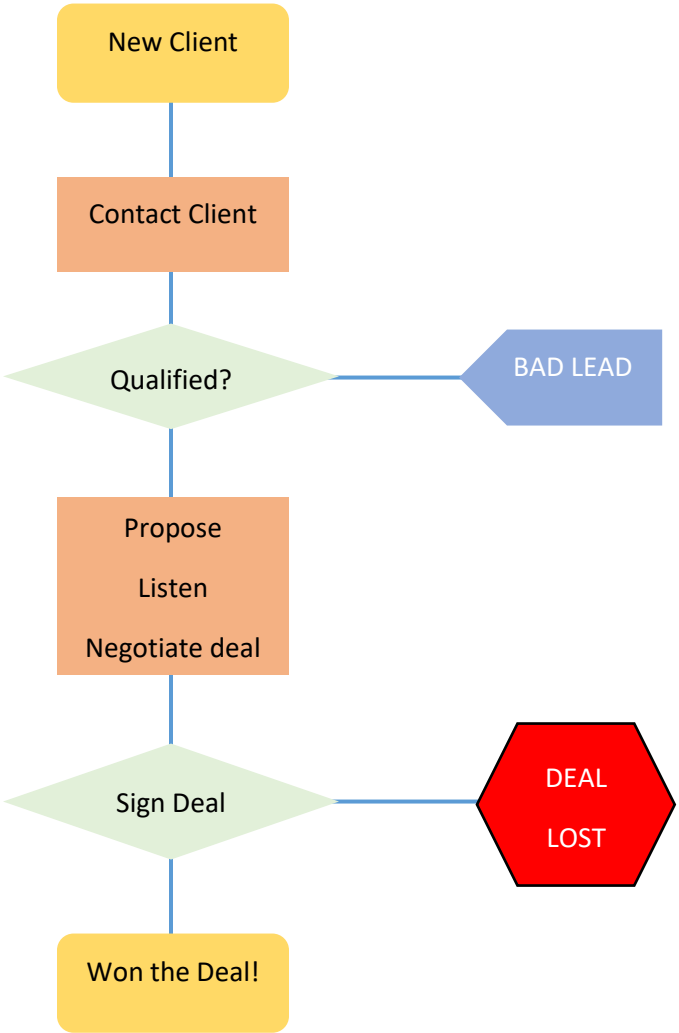
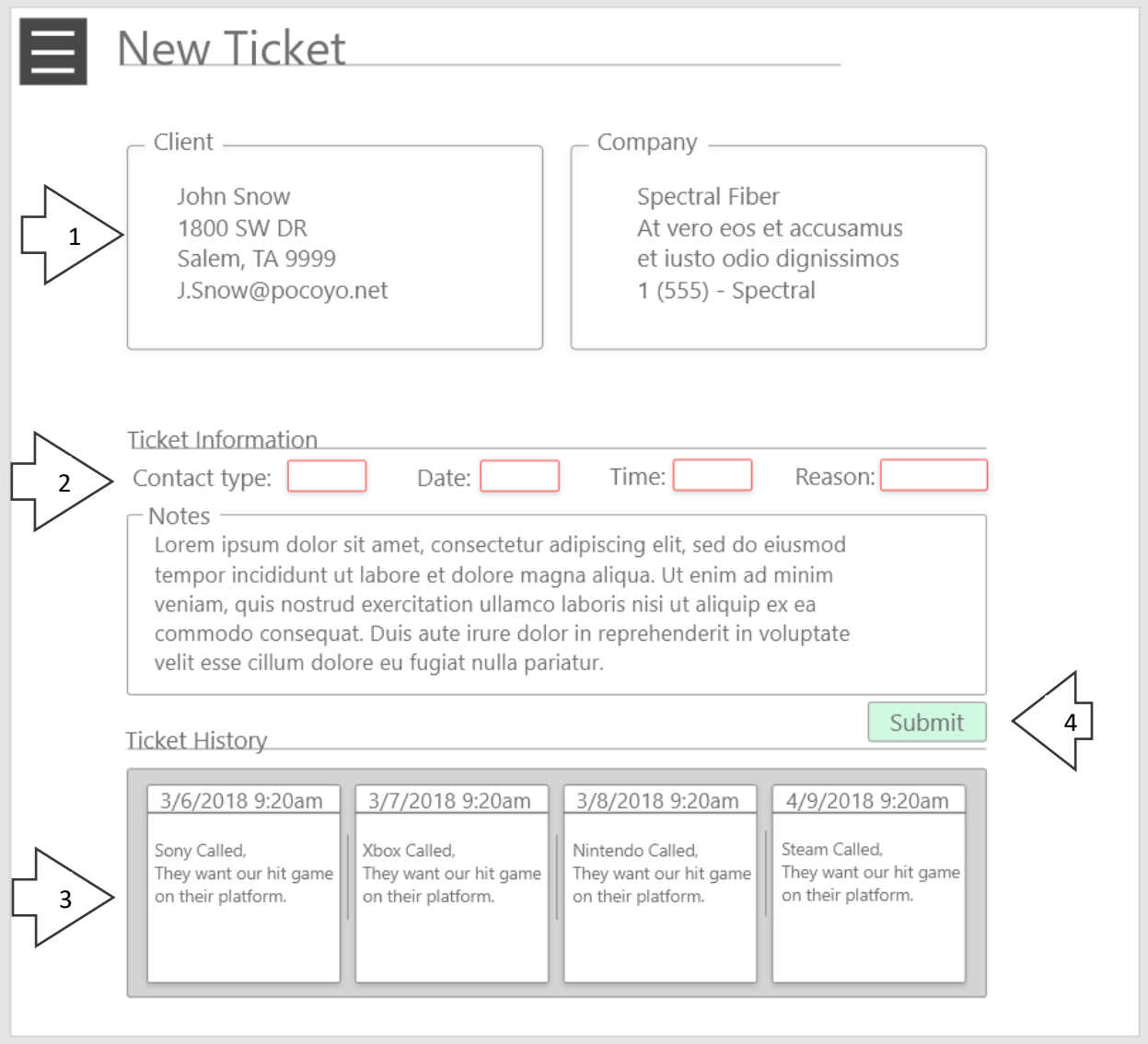


Figure 1: Sample workflow

4.2. GUI



1. Data in this area is populated from the customer table.
2. Entered information is saved to the ticket table.
3. Information in this area is populated from the ticket table.
4. This button when clicked will send data to the ticket table for saving.

Figure 2: Sample GUI Mock-UP

5. TESTING

Testing will follow the Black Box method where features are tested by periodically trying different inputs. The focus is to ensure functionality and not necessarily the coding of the methods.

5.1. FUNCTIONAL TESTING

Test one will test the ticketing system of the CRM system. Our second test will generate a quote, and the third test will convert a quote into an invoice. All test validate data can be entered and submitted to the appropriate datamart.

5.1.1 CREATING A TICKET

Ticketing system
Preconditions: 1. Testers must be logged in. 2. Customer data should already be entered.
Steps: Each test must follow the steps below. 1. Log into the system. 2. Click new ticket under the hamburger menu. 3. Start typing into the customer field their name and select the correct autocomplete. 4. Press enter or click ok to proceed. 5. Enter Contact: Type, Date, Time, Reason, and enter notes about the contact. 6. Click submit button.
Expected results: Clicking NEW Ticket opens a new form in the window. Data entered and shown is from the customer table where a ticket can be created, or a customer can be found. Once enter is pressed, or ok is clicked the form closes. When new information is submitted a ticket card will present itself in the ticket history at the bottom of the screen.
Pass/Fail: The test passed. The steps were followed easily in this scenario.

5.1.2. GENERATING A CUSTOMER QUOTE

Quote Generation
Preconditions: 1. Tester should be logged in. 2. Customer data should be entered. 3. Products and services offerings should be entered.
Steps: The steps the tester must execute to test the feature. 1. Click Quote under the main menu after clicking the hamburger icon. 2. Click new quote button. 3. Start typing the customer's name in the customer field, select correct autocomplete when presented. 4. Press enter or click OK. 5. Select item field and enter the product or service for the quote from the reason menu. 6. Ensure a correct quantity goes in the quantity field. 7. When needed adjust the rate in the rate field. 8. Insert terms within the terms field. 9. Click or press save.
Expected results: Quotes from the menu should open a new quote window with a new form, when clicked. The new form is connected to the customers table for the new quote. Upon pressing enter or ok the form window closes and is replaced with screen with contain the customer information. When finished entering quote information you should see totals and grand totals for the quote. Only when clicking or pressing enter will the quote be saved.
Pass/Fail: The given scenario passed. All steps were performed as expected.

5.1.3. CONVERTING A QUOTE TO INVOICE

Order Tracking System
Preconditions: 1. Tester should be logged in. 2. Customer data should be entered. 3. Company services and products should already be entered. 4. A approved quote should be generated by the customer already.
Steps: tester must execute steps to test the feature. 1. Click quote from main menu under the hamburger icon. 2. Click find quote button. 3. Select the right customer name in the customer field after typing a customer name. 4. Select correct quote from the list of quotes. 5. Press enter or click ok. 6. Double check quote and when correct click approved. 7. Click convert quote to invoice button with option at bottom at page. 8. Double check the validity of the invoice and make changes if necessary. 9. Click or press enter on submit invoice.
Expected results: Quotes when clicked from the menu should open a new window and new form. Utilizing Find quote bottom should yield a form connected to the quote and customer table. This find method lets you search a customer for create an invoice. Selecting any customer their quoted will display for selection. Clicking ok closes the current form screen and the quote screen will be filled desired customer quote information. When clicking convert quote into invoice a screen changes to fresh/new invoice screen with original quote information. Clicking and pressing enter on the submit button yields the status of the invoice as processing.
Pass/Fail: Test passed! This scenario each step was followed, and performance was excellent.

6. SOURCES

Lucidchart.com. (2019). The Pros and Cons of Waterfall Methodology. [online] Available at: https://www.lucidchart.com/blog/pros-and-cons-of-waterfall-methodology [Accessed 8 Mar. 2019].

Olic, A. (2019). Advantages and disadvantages of Agile Project Management · Activecollab Blog. [online] ActiveCollab. Available at: https://activecollab.com/blog/project-management/agile-project-management-advantages-disadvantages [Accessed 8 Mar. 2019].