Design Template

Hello Durso, Software Solutions

American Video Game Company

AVGC CRM Proposal

Zachary Durso

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WESTERN GOVERNORS UNIVERSITY

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A. INTRODUCTION

Our company (Hello Durso, Software Solutions) is proposing a customized CRM solution for American Video Game Company, to replace the current system that is quickly being outgrown. Below you may see a detailed discussion of the requirements our solution will meet, the methodology that will be used throughout the process of configuration and implementation, as well as testing that ensures the system will meet AVGC's needs both now and in the future.

A.1. PURPOSE STATEMENT

The purpose of this document is to define requirements for a new CRM solution to replace AVGC's current system.

A.2. OVERVIEW OF THE PROBLEM

AVGC has seen sales improve by 42% within the past two years and is currently outpacing the capabilities of their current CRM system. Currently, employees are using a mismatched collection of tools and processes, and the current legacy system leaves them open and vulnerable to the everlasting risk of cyber-attacks.

A.3. GOALS AND OBJECTIVES

Our goals and objectives for this project are to ensure that the new system is:

- Scalable
- Secure
- Flexible
- Intuitive and user friendly.
- Compatible with AVGC's current in-house hardware.

A more in-depth exploration of these aspects can be seen throughout the remainder of this document.

A.4. PREREQUISITES

We only have two prerequisites which can be seen described below.

Number	Prerequisite	Description	Timeframe
1	Existing Data (CSV Format)	All current data must be transferred or copied into CSV (Comma Separated Value) format so that we can populate the new system with all current, existing data.	Must be completed at least 2 weeks before company-wide rollout of new system.
2	Environment	The infrastructure/environment of AVGC's choosing must be available and ready to accept the new system before full implementation.	Must be completed at least 3 weeks before company-wide rollout.

A.5. SCOPE

The following requirements are within scope:

- UAC (User Access Control)
- Hosting/Environment (Must work with AVGC's current infrastructure.)
- Data Reporting (Must be able to produce detailed data reports as well as simplified dashboard views.)
- Integration with MS Exchange/ MS Outlook
- Contact Management

The following items are out of scope:

- Infrastructure: AVGC must provide the infrastructure/hardware/environment on which the system will reside.
- Physical Safety/Compliance: AVGC is responsible for providing physical safety for their data and the environment in which the hardware will reside. If everything must stay within the United States border, it will not be the responsibility of Hello Durso Software Solutions to create such provisions.

A.6. ENVIRONMENT

AVGC has made clear, that their preferred environment for the new system is on the current in-house infrastructure that they already have. It is our goal to ensure that the new solution will be compatible with both the current, in-house infrastructure, and cloud-based infrastructure to make certain that the new solution meets AVGC's current and future needs.

The server operating system will be Windows Server 2022, which came out in 2021 as an upgrade to Windows Server 2019, being much more secure, flexible, and best of all, supports a hybrid integration, so you can be in-house while still using cloud storage. Any hardware you already have is perfectly fine to support this, so long as we may install the prerequisite software. The back end will use PHP 7.4, MySQL 8.0.28, and Apache 2.4.46. These are all the latest versions and should serve their purpose nicely while providing a stable, secure environment.

Vtiger uses Bootstrap, which is a design framework, and is compatible with all of the latest common browsers. Backwards compatibility is limited though, so anything earlier than Internet Explorer 10 will not be capable of rendering properly. Internet Explorer 10 and 11 as well as all versions of Edge are perfectly acceptable though, and all other major browsers are supported as well. Alternative browsers such as Brave or Epic are not explicitly supported and may only partially support bootstrap. You may try these at your own risk, but Edge, Chrome, or Firefox are strongly recommended.

B. REQUIREMENTS

The five requirements to be discussed below are as follows:

- *Contact Management/Communication*
- *Integration with MS Exchange/Outlook*
- *Data Reporting/Dashboard*
- *Hosting Options*
- *User/Data Access Control*

B.1. BUSINESS REQUIREMENTS

Contact management and communication is the heart of any successful business which just serves to further define the need for a great CRM system. In our proposed solution, you will find the ability to not only manage contacts based on their organization or role, but also through their contact records where you can store notes, quotes, and related documents. Not to mention, it's always easy to find a specific contact with our intelligent search feature. Even partial profile data will suffice, or you can filter through contacts based on their organization, lead source, or number of engagements.

Integration with Microsoft Outlook or Microsoft Exchange this becomes a single point of contact for all internal and external communications. With this provision you can easily sync all contact data from both Outlook and Exchange automatically, and with the duplicate prevention feature, you can check to ensure there will be no redundancy based on one or all of the contact information fields. This integration also allows for offline email viewing, calendar sharing, and consolidation of interactions.

B.2. USER REQUIREMENTS

Our solution provides the ability to create both detailed data reports and customized dashboards for a high level, birds eye view. You can build predefined, detailed data reports for monthly status meetings where you can always count on needing certain metrics for discussion or create an individualized dashboard for quick checkups to keep stakeholders well informed on a more regular basis. With endless widgets and charts, you can graph until your heart's content and even export your data into an all-encompassing CSV file.

B.3. FUNCTIONAL REQUIREMENTS

User access control is an incredibly important CRM provision, as nobody wants to be on the hook for accidentally deleting important business data. Vtiger allows for custom user permissions in terms of data access and alteration on a granular/individual level or based on their roles within the business. As an administrator, you can drag and drop permissions for profiles or groups, and even suspend or delete individual users.

B.4. NONFUNCTIONAL REQUIREMENTS

Vtiger CRM is open source and can be hosted on an internal server or with a cloud provider such as AWS (Amazon Web Services), making it the perfect choice to suit AVGC's individual needs. This means that in the future, as the company grows, if your current hardware can no longer support the amount of traffic received, the entire system can be migrated to the cloud with ease, for a more scalable, dependable

solution. This includes any customization or alterations that may have been made throughout the lifetime of the system.

C. SOFTWARE DEVELOPMENT METHODOLOGY

Waterfall methodology would be best suited for this operation as opposed to agile. To get a better understanding of why, see the reasoning below.

C.1. ADVANTAGES OF THE WATERFALL METHOD

- Waterfall methodology allows for a clear roadmap of the project's lifecycle up front, meaning no questions should be left unanswered. By the end of planning, all AVGC stakeholders should have a very clear picture of the end product.
- Using a waterfall model produces ample documentation up front which can be incredibly helpful to turn to at any point within the timeline when somebody inevitably forgets something, and also to ensure the project is continually meeting stakeholders' pre-defined goals and metrics.
- Phase gates ensure everything is in tip-top shape before moving on to another activity, meaning that there will be no delay if anything needs to be changed or doesn't meet expectations. Everybody's already in the mindset of the current phase, so there's no need to go back and look at documentation or get re-acquainted before jumping in and fixing the issue.

C.2. DISADVANTAGES OF THE WATERFALL METHOD

- Not very open to sudden changes.
- Not well suited for very large projects.
- Depends on phase-gate approval before moving on from one stage to another, which could result in significant delays if only one person has such an authority.

C.3. ADVANTAGES OF AGILE

- Allows for incremental delivery and testing.
- Well suited for sudden changes
- Heavy emphasis on teamwork and communication which can be great for morale.

C.4. DISADVANTAGES OF AGILE

- Little to no resource planning (because the team is self-directed).
- Minimal planning, which makes things less predictable and may lead to frustration and lower morale.
- Documentation tends to be created at the last minute which can lead to drastically lower quality.

C.5. BEST SUITED

There's no need to overcomplicate things by training employees on a new methodology and new practices when the way they already do things works very well. The waterfall methodology is what AVGC is already accustomed to, and as the age-old adage goes, don't fix it if it isn't broken. This is a relatively simple, modular solution for a more complex need, and it's because of this modularity and familiarity that the waterfall method is best suited for this application.

D. DESIGN

Below you will find a flow chart demonstrating the dashboard functionality and an example of the contact management GUI.

D.1. FLOWCHART

This is a flowchart demonstrating the dashboard functionality. On the main dashboard page you can see overall on time progress and budget at a glance, but if you click one of the phases in the timeline chart below, you can see the phase gate review for that task as well as the key progress indicators for that month.

Figure 1: Sample Flowchart

D.2. CONTACT PAGE GUI

Provide a set of UML diagrams that cover the proposed solution. This can include but is not limited to class diagrams, database diagrams, and use case diagrams. Also, ensure that all diagrams are clearly discussed and noted.

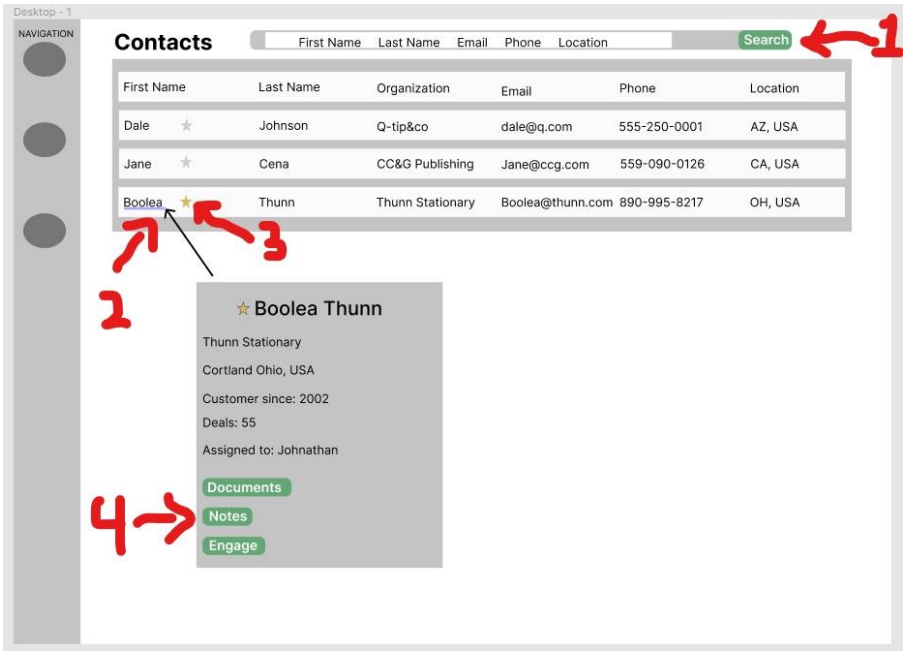

Figure 2: Contact Page Control Mapping

Number	Control	Description
1	Text Input & Button	This is a Search bar. You can search through contacts based on any data field, such as first name, email, or location, and even partial data will work.
2	Hover or Click	Hover over any data within an entry and One View will pop up as a tooltip displaying more information and actions related to that contact entry. You may also click on any data within an entry to have One View pop up and lock in place.
3	Button	You can favorite a single contact or multiple. This is helpful for large databases with many contacts because it enables you to distinguish specific contacts for later convenience, such as an important meeting coming up or different people you need to contact throughout the day.
4	Buttons	These are quick action buttons within One View. You can click any of these to see notes about a contact, or documents related to that account, or even contact them directly.

E. TESTING

You may see below, the results of our preliminary testing.

- Usability Testing (Is it intuitive?)
- Stress Test (Can the system handle 2,000 total and 500 active users?)
- Hosting Migration (can we migrate from the current, in-house infrastructure to a cloud environment?)

E.1. USER TESTING

To conduct user testing, you typically gather a group of test users and actively observe them as they try to complete a single task or a set of tasks. This gives the observer an idea of how intuitive a system is, and an opportunity to make adjustments, such as labeling of buttons, before full product release.

E.1.1. USABILITY TESTING

Requirement to be tested Intuitive navigation and successful contact creation.
Preconditions: The system must reside on a live environment and be fully functional to conduct usability testing, and a pool of testers is necessary.
Steps: 1. Log on to an existing account or create a new one with proper permissions such as an Admin account. 2. Navigate from the default screen to the Contacts page. 3. Locate and click on “Create New Contact” button. (Must have proper permissions.) 4. Fill out some or all available form fields. (Name and fictitious email address, minimum.) 5. Submit form for contact creation. 6. Verify that the newly created contact appears on Contacts page with all other records.
Expected results: The expected result is a newly created contact record and intuitive flow of the process.
Pass The newly created contact records display properly in the appropriate destination, and users had minimal to no trouble doing so.

E.1.2. STRESS TEST

Requirement to be tested Total user capacity and active user capacity.
Preconditions: The system must reside on a live environment and be fully functional to enable stress test.
Steps: 1. Run a shell script to automate the user account creation process. This is known as a batch file. 2. Ensure system is still active and fully functional once all 2,000 accounts have been created. 3. Run another shell script to have 500 users simultaneously log onto the system. 4. Ensure full functionality and performance during use. The 500 active user accounts don't need to be doing anything, but at least one account does need to navigate around the system to ensure performance meets expectations while there are several users logged on.
Expected results: The expected result is that the system is fully capable of handling 2,000 user accounts and 500 user accounts logged on simultaneously without system disruption or performance degradation.
Pass The system has proven to be fully capable of handling a load of 500 simultaneous users without performance degradation or full system failure.

E.1.3. HOSTING

Requirement to be tested AVGC is open to cloud hosting but would prefer to host internally, so we're going to test migration of the system from an environment very much like AVGS's in-house infrastructure to a cloud-based environment in case their needs change or they outgrow their current hardware.
Preconditions: The system must be fully functional and pre-populated with data.
Steps: 1. Create a secure backup of the entire system. 2. Copy all data to CSV (Comma Separated Value) files. 3. Install Vtiger on the new cloud environment. 4. Configure necessities from previous state such as plug-ins, integrations, or any proprietary components. 5. Run a script to populate the system with data stored on CSV files. 6. Ensure full functionality and performance. 7. Ensure all data was transferred and entered successfully and properly.
Expected results: The expected result of this test run is a successful migration from an in-house hosting environment to a cloud-based environment with successful data transfer/population, and an exact mirrored image of the previous system.
Pass All data was successfully migrated, and the previous state was fully replicated on the new environment.