

Testing Plan

March 26, 2021

Team Success Starters

Version 2.0



Sponsor: Don Goffena

Mentor: David Failing

Team Members:

Carter Wrobel

Joshua Geyer

Zhicen Liu

Abdulaziz Alfort

Accepted as baseline software design for the project:

Client signature: *Carter Wrobel* Date: 4/5/2021

Team signature: *Don Goffena* Date: 4/5/2021

Table of Contents

Definitions.....	3
Section 1: Introduction	4
Section 2: Unit Testing.....	5
Section 3: Integrations Testing.....	8
Section 4: Useability Testing.....	9
Section 5: Conclusion.....	11

Definitions

Administrator(s): A school administrator from VCA.

Client/Sponsor: In this document, the client or sponsor refers to Verde Christian Academy, which is whom the team is building the project for.

Editor(s): An editor is a user that is able to create and send out surveys and view results. They do not have access to change the site

MVP: Short for minimum viable product; the version of the software that meets the minimum requirements set out by the client.

Site Administrator: A site administrator is a user that has access to the entire website and can make edits to the content within the pages, manage users, etc..

Survey Respondent(s): Survey Respondents consist of people who are taking the surveys. For example: parents, current students or alumni.

Team: The team working on this project, team Success Starters.

User(s): A user is defined as any user of the site whether that be a site administrator or an editor. All users are school administrators from VCA.

VCASS: Short for Verde Christian Academy for Student Success; the software project that the team is working on.

VCA: Short for Verde Christian Academy, a private K-8 school located in Cottonwood, Arizona.

Section 1 - Introduction

Verde Christian Academy (VCA) is a private K-8 school located in Cottonwood, Arizona. VCA wants to gather information about their alumni to determine if their students are prepared for middle and high school, but also for their adult lives. There should be tools in place to convert collected data into useful visuals, such as charts or graphs. VCA also wants to implement a system where students can reach out at any time about issues they are having, and VCA will be able to help those students.

The team's solution is creating the Verde Christian Academy for Student Success (VCASS) system. The goal of this web system is for the administrators of the school to create and send out surveys to selected survey respondents to collect information on the status of their education. The users will then be able to pull the responses from the survey results and see if there are trends in the data that they can use to better help their students and evaluate VCA's own internal programs.

The system will collect and store the data obtained from surveys. This data will consist of emails, names, and other information collected from students or alumni for user accounts. There will also be feedback collected about how the school is functioning. All feedback-specific surveys will have the option to be confidential, which should facilitate more honest and useful feedback. The system will then use the data collected from surveys to generate graphs or charts, allowing for easy viewing and understanding of collected data.

The three main areas of testing the team is performing to test VCASS are unit testing, integration testing and useability testing. The goal of this testing plan is to first, make sure that each individual component of the system is working properly. Second, make sure those components are working properly with one another. Then, finally make sure that the user is able to use the entire system in such a way that the processes are simple and flow correctly. The way the team is going to perform these tests might be different from other software testing processes. Instead of writing a test file to run against our system, the team will have a list of given inputs and expected outputs to check that components are working as expected within the website.

Section 2 - Unit Testing

Unit testing is a type of software testing where individual units or components of a software are tested. The purpose is to validate that each unit of the software code performs as expected. The team is going to perform unit tests by going through each component of the application and checking that the expected output is achieved.

Section 2.1 - Creating/Distributing Surveys

Section 2.1.1 - Custom Survey

- Custom Survey Button
 - The “Create a Custom Survey” button takes you to the survey creation tool
 - Ability to change the name of the survey
 - Option to add fields
 - Ability to save the survey

Section 2.1.2 - Survey Templates

- There is a drop down list with every survey in it
 - View button displays the selected survey
 - Edit button takes the user to the selected survey the user wants to edit
 - Delete button takes user to the correct page for deleting surveys

Section 2.1.3 - Distribute Surveys

- Student contact survey Button
 - The “Student Contact Survey takes you to the email template
 - Ability to edit the email template
 - Ability to send the email to a specific list recipients
- Parent contact survey Button
 - The “Parent Contact Survey takes you to the email template
 - Ability to edit the email template
 - Ability to send the email to a specific list of recipients
- General Survey Distribution
 - The “Distribute Selected Survey” button should take you to the general email template
 - Ability to paste the link to the survey in the email
 - Ability to edit the email template
 - Ability to send the email to a specific list of recipients

Section 2.2 - Survey Results

- Drop down list to select surveys that have been created
- “View selected survey” button should take you to the results page for that survey
 - View table of results from the survey
 - Visualization of questions from the survey in chart or graph form
 - Export option should link to a downloadable CSV file for the results

Section 2.3 - Account

Section 2.3.1 - Login

- Ability to type in an email address or username
- Ability to type in a password
- “Login” Button should take the user to the homepage of VCASS after authentication
- User should be directed back to the login after an incorrect login attempt

Section 2.3.2 - Registration

- “Register” button should take the user to the registration form
- Ability to enter information into each field
- “Register” will send the users registration form for approval
- User is able to sign in once approved

Section 2.3.3 - Manage Members

- The “Manage Members” option under the account tab will redirect to the members list page
- All members of the site will be listed
- The ability to search and filter out members
- Options to
 - Edit the users profile
 - Put the profile as pending review
 - Deactivate the account
 - Delete the user
 - Login as the user

Section 2.3.4 - Account

- The “Account” option under the account tab will redirect to the user account page
- Ability to change details of account
 - First name
 - Last name
 - Email address
 - Password
- Ability to delete the account

Section 2.3.5 - Password Reset

- The “Password Reset” option redirects to the password reset page
- When an email address associated with an account is entered, the a password reset email will be sent to that email address
- The email will contain instructions on how to reset the password

Section 2.3.6 - Logout

- “Logout” button will then redirect to the VCASS login page

Section 3 - Integration Testing

Integration testing is a level of software testing where individual units / components are combined and tested as a group. The purpose of this level of testing is to expose faults in the interaction between integrated units. The team is going to perform integration tests by going through each component of the application that is connected to another component and checking that the two components are working in tandem as expected.

Section 3.1 - Creating/Distribution Surveys

- Custom survey is linked to the custom survey creation tool (front-end to WPForms)
- Newly-created surveys are immediately available in the drop-down list of available surveys (front-end to database)
 - Database connection should be accurate
 - No caching (user should not need to restart browser in order to view new surveys)
- Edit survey updates the survey immediately (front-end to database)
 - If an edited survey is viewed, that survey should have its field up-to-date
- Delete survey functionality removes the survey from the database (front-end to database)
 - Survey should no longer show up in the drop down list
- When a contact survey is distributed, the respondents are added to the correct distribution list (front-end to MailPoet)

Section 3.2 - Survey Results

- When a survey is selected and viewed, the correct data from the database is displayed in the table (database to front-end)
- The link to the exportable file is accurate to the currently-viewed survey (database to front-end)
- Visualization tool gets up-to-date information from the database. (database to front-end)

Section 3.3 - Account

- When a new user registers for an account and it is approved, that account shows up in the manage members list (registration to Ultimate Member)
- When a new user is approved, that user is then able to login (registration to Ultimate Member)
- When a user account is deleted, they can no longer sign into VCASS (account to Ultimate Member)
- When a user account is deleted, it does not show up in the members list (account to Ultimate Member)

Section 4 - Useability Testing

Usability testing is a non-functional testing technique that is a measure of how easily the system can be used by end users. The team is going to perform useability testing by going through each process within the website and determining if the process flow is reasonable.

Section 4.1 - Creating/Distributing Surveys

- Custom Survey Button
 - Is it easy to find, and is its purpose obvious?
 - Is it in a similar style to the rest of the website?
 - Does it work properly when the user selects it?
- Survey Templates
 - Are all of the options self-explanatory?
 - Is it simple to use the drop-down list?
 - Does the edit confirmation page accurately warn the user of unintentional consequences?
 - Do all of the buttons/links work properly?
 - Is this section in a similar style to the rest of the website?
- Distribute Surveys
 - Is it self-explanatory what each of the buttons does?
 - Do the links work properly?
 - Is this section in a similar style to the rest of the website?

Our current testing plan for this section is to analyze the following:

- Process from start to finish for creating a custom survey
- Process from start to finish for viewing a survey
- Process from start to finish for editing a survey template
- Process from start to finish for deleting a survey
- Process from start to finish for distributing a survey
- Process from start to finish for submitting a survey response

Section 4.2 - Survey Results

- Viewing the results
 - Does it show the results properly?
 - Is the data from tables easily readable?
- Exporting the results
 - Does the button take the user directly to the viewed survey?
- Visualizing the results

- Is the displayed chart understandable?
- Does the chart display the entries properly?

Our current testing plan for this section is to analyze the following:

- Process from start to finish for viewing the results for a survey
- Process from start to finish for exporting the results for a survey
- Process from start to finish for visualizing the results for a survey

Section 4.3 - Account

- Logging into VCASS
 - Does it work properly when the user signs in?
- Registering for VCASS
 - Do the fields take in the correct information?
 - Does the register button take you to a confirmation page?
 - Can the user sign in after their registration has been approved?
- Editing an account
 - Is it easy to navigate to?
 - Does the edited information update when the user clicks "Update Account"?
- Resetting an account password
 - Does the user get an email to reset their password?
 - Does the new password work?
- Viewing the Member list
 - Is it easy to navigate to?
 - Are all members displayed in the list?
 - Can members be filtered?
- Logging out of VCASS
 - Is it easy to navigate to?
 - Is the user logged out and returned to the sign in page when the user logs out?
- Approving a new account
 - Is it easy to navigate to?
 - Is the approval instant?

Our current testing plan for this section is to analyze the following:

- Process from start to finish for registering for an account
- Process from start to finish for signing in and logging out of an account
- Process from start to finish for editing an account
- Process from start to finish for resetting a password for an account
- Process from start to finish for viewing members of the system

Section 5 - Conclusion

The project the team is working on is called Verde Christian Academy Student Success system, or VCASS for short. It is an information collection and analysis system, which will be used to help Verde Christian Academy obtain alumni information and statistically analyze the recent situation of alumni. The system will help school administrators to provide questionnaires to survey respondents. Administrators will then use the system to analyze the information and generate intuitive results analysis charts.

This document lays out the team's plan for testing our software. We first described the unit testing, which will help us to determine that each component of our system works on an individual level. After describing the individual components, we laid out the steps for testing the interactions between components. Finally, we looked at the process from the user's perspective in order to figure out the criteria for an intuitive user experience. These tests encompass every aspect of the system, from the front-end components to the back-end database components. The team believes that if the software is able to pass all of the tests we have laid out, we can deliver a satisfactory end-product to our client.