RAC2017 System Test Plan

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# Introduction

The following test cases are meant to be run on a regular basis to ensure the application is running as intended. Any of these tests failing means the system is running in a way that is not intended by the developers, the client, and the College.

Functional test cases confirm that the systems behaves in a way the users are expecting.  
Usability test cases ensure the user interface is consistent throughout the application.  
Compatibility test cases ensure the application works across many operating systems, devices, and web browsers.  
Security test cases ensure the system is not susceptible to common security exploits.  
Business cycle test cases ensure common transactions and activates can execute without fail.

# Functional Test Cases

| **Test ID** | **Purpose** | **Expected Result** |
| --- | --- | --- |
| FN01 | Verify mandatory fields are filled before a Candidate is allowed to register an account. | Candidates cannot click the register button until they have accepted the privacy policy.  Candidate cannot register until they have filled out:   * First Name * Last Name * Email * Home Phone * Password * Confirm Password * Program * reCAPTCHA   Candidates cannot register unless their password:   * Contains between 8 and 20 characters * Contains only numbers and letters * Contains at least one number   Candidate cannot register with an email that already exists within the system. |
| FN02 | Verify the Candidate has entered an email address they have access to. | Candidates cannot log into their account until they have verified their email address.  Candidates receive an email after registering with a link to a unique verification URL.  Candidates can log in after visiting their unique verification URL, verifying their email. |
| FN03 | Verify the Candidate has filled in their self-evaluation before submitting. | Candidates cannot submit their self-evaluation until they have given an answer in all of the elements.  Candidates cannot enter an example of experience if they have selected only “I can’t do this” for a competency.  Candidates can enter an example of experience if they have selected either “I can do this” or “I can somewhat do this” in at least one element in the competency.  Candidates cannot submit their self-evaluation if they have left an enabled example of experience section blank.  Candidates cannot submit their self-evaluation if they have not uploaded at least one document. |
| FN04 | Verify the Candidate is uploading a valid document to their self-evaluation. | Candidates cannot upload a single document greater than 10MB.  Candidates can upload documents to a total combined size of 30MB.  Candidates can only upload documents from this list of file types:   * bmp * doc & docx * jpg & jpeg * ods * odt * pdf * png * rtf * tif & tiff * txt * xls & xlsx   Documents are automatically uploaded if they meet the constraints.  Candidates are given an error message if their document has not met at least one of the constraints. |
| FN05 | Verify the Candidate has entered valid information while changing their password. | Candidates must enter their current password before changing their password.  Candidates must enter their new password twice before changing their password.  Candidates cannot create a new password unless their password:   * Contains between 8 and 20 characters * Contains only numbers and letters * Contains at least one number   Candidates are given a success message upon changing their password. |

# Usability Test Cases

| **Test ID** | **Purpose** | **Expected Result** |
| --- | --- | --- |
| US01 | Users clicking on the back button expect to be sent to the previous page they were on within the RAC System. | Clicking on the back button should always return them to the previous RAC application page.  Clicking on the back button after logging out should not log the user back into their account.  The back button should not be enabled if there is no previous page of the RAC application. |
| US02 | Users clicking on links within the navigation bar expect to land on the same pages no matter where they are on the site. | Clicking the Home button should bring the User to their landing page (RAC Dashboard or Candidate Dashboard).  Clicking the About buttons should bring the User to the about page.  Clicking on the Contact button should bring the user to the contact page.  Clicking Account should bring the Candidate to their account page.  Clicking on the Register button should bring the user to the registration page.  Clicking on the Log-In button should bring the user to the log in page.  Clicking on the Log Off button should log the user out of the system.  Clicking on the Candidates button should bring the RAC Advisor to the manage candidates page.  Clicking on the Programs button should bring the RAC Advisor to the manage programs page.  Clicking on the Heritage College logo should bring the user to the RAC Application home page. |
| US03 | Users expect hitting the “tab” key on a page with a form focuses on the first form field on the page. | Hitting “tab” on the Registration page should focus on the “First Name” field.  Hitting “tab” on the Log-In page should focus on the “Email” field.  Hitting “tab” on the Forgot Password page should focus on the “Email” field.  Hitting “tab” on the Self-Evaluation page should focus on the first radio button.  Hitting “tab” on the Update Account page should focus on the “First Name” field.  Hitting “tab” on the Change Program page should focus on the “Program” field.  Hitting “tab” on the Change Password page should focus on the “Current Password” field.  Hitting “tab” on the Manage Candidates page should focus on the “First Name” field.  Hitting “tab” on the View Elements page should focus on the “Filter Table” field.  Hitting “tab” on the Import Program From Clara page should focus on the “Program Code” |
| US04 | Users expect the jump buttons to change based on their location in the page. | While on the top of the page, the “up” jump button should not be visible.  While on the bottom of the page, the “down” jump button should not be visible.  While in-between the top and bottom of the page, both jump buttons should be visible.  The jump buttons should not be visible on a page that does not require scrolling. |
| US05 | Candidates expect their experience on desktop and mobile to be as similar as possible. | The registration page fields should be presented in a similar order on desktop and mobile. They are grouped horizontally on desktop and vertically on mobile.  The log-in page fields should be presented in a similar order on desktop and mobile.  The self-evaluation page fields should be presented in the same order on desktop and mobile.  Errors on all pages should occur in the same locations on desktop and mobile. |

# Compatibility Test Cases

| **Test ID** | **Purpose** | **Expected Result** |
| --- | --- | --- |
| CO01 | Verify the application works and looks the same on the big four of web browsers[[1]](#footnote-1): Google Chrome, Safari, Microsoft Edge, Mozilla Firefox. | The application is 100% compatible with Google Chrome, with no graphical or flow issues.  The application is 100% compatible with Safari, with no graphical or flow issues.  The application is 100% compatible with Microsoft Edge, with no graphical or flow issues.  The application is 100% compatible with Mozilla Firefox, with no graphical or flow issues. |
| CS02 | Verify the application works on the most used version[[2]](#footnote-2) of Internet Explorer: IE 11. | The application flow is 100% compatible with Microsoft Internet Explorer 11 with few graphical issues. |
| CS03 | Verify the application works on the top three desktop operating systems: Microsoft Windows (7, 8.1, 10), MacOS (10.13, 10.12, 10.11), and Linux (Ubuntu 16.04.x LTS, Ubuntu 17.10.x, ChromeOS) | The application is 100% compatible with Microsoft Windows version 7, 8.1, and 10 with no graphical or flow issues.  The application is 100% compatible with MacOS version 10.11, 10.12, and 10.13 with no graphical or flow issues.  The application is 100% compatible with the Linux distributions Ubuntu 16.04 LTS, Ubuntu 17.10, and ChromeOS. |
| CS04 | Verify the application works on the top two mobile operating systems:  Apple iOS (8+), and Android (4+) | The application is 100% compatible with Apple iOS versions 8 and above with no graphical or flow issues.  The application is 100% compatible with Android versions 4 and above with no graphical or flow issues. |
| CS05 | Verify the application works on all screen widths: desktop, laptop, tablet, phone. | The application has no graphical issues when displayed on a desktop screen width (1080px to 1366px).  The application has no graphical issues when displayed on a laptop screen width (1366px to 960px).  The application has no graphical issues when displayed on a tablet screen width (960px to 360px).  The application has no graphical issues when displayed on a phone screen width (360px or less). |

# Security Test Cases

| **Test ID** | **Purpose** | **Expected Result** |
| --- | --- | --- |
| SE01 | Users should not be able to truncate/concatenate URLs to reach pages they do not have authorization for. | A Candidate cannot modify their self-evaluation URL to reach another Candidates self-evaluation.  A Candidate cannot modify their account information URL to reach another Candidates account information.  A Candidate cannot enter the URL for the RAC Advisors pages and reach the RAC Advisor pages.  A Candidate cannot download another user’s documents by modifying their own document download URL.  A RAC Advisor cannot modify a Candidates self-evaluation by entering their self-evaluation URL.  A RAC Advisor cannot modify a Candidates information by entering their view account URL. |
| SE02 | All data entered by any user should be cleaned to ensure no injection attacks can take place (XSS or SQL). | JavaScript code written into a field where their input is displayed should be displayed as raw text and not interpreted by the browsers.  SQL Scripts written into a field where their input is sent to the database should be sent as raw text and not interpreted by the database. |
| SE03 | Entering the RAC Advisors LDAP credentials outside of the College network should be rejected. | A user cannot log-in as a RAC Advisor if they are outside of the College network. |
| SE04 | Documents uploaded to the application should never be read/executed within the application. | Documents containing harmful content are never interpreted by the application to prevent unwanted interactions. |
| SE05 | Users expect their passwords to be handled securely. | All password transactions must occur over SSL.  Passwords should be handled by an industry standard library.  Passwords should be hashed and salted before being stored on the database.  The passwords plaintext should never be visible, not on the server, the network, the webpage, or database. |

# Business Cycle Test Cases

| **Test ID** | **Purpose** | **Expected Result** |
| --- | --- | --- |
| BC01 | Verify updating a program does not disrupt/corrupt previous self-evaluations. | Updating a program does not change any self-evaluations in progress.  Updating a program does not change any self-evaluations that have been completed. |
| BC02 | Verify removing a program does not disrupt/corrupt previous self-evaluations. | Removing a program does not delete any self-evaluations in progress.  Removing a program does not delete any self-evaluations that have been completed. |
| BC03 | Verify adding a new program makes the program accessible to Candidates. | Adding a program allows it to be selected by new Candidates, or Candidates changing their program. |
| BC04 | Verify archiving/deleting a Candidate does not corrupt their self-evaluation and can no longer log-in. | Archiving/removing a Candidate still does not delete/corrupt their self-evaluation.  Archiving/removing a Candidate frees the associated email and prevents them from logging in. |
| BC05 | Verify deleting an uploaded document is properly deleted from the database. | A Candidate deleting a document results in the document being completely removed from the database. The documents must be deleted as per legal requirements. |

# Conclusion

A conclusion will be provided once the tests have been executed.

1. https://www.w3counter.com/globalstats.php [↑](#footnote-ref-1)
2. https://www.w3counter.com/globalstats.php [↑](#footnote-ref-2)