Project Milestone 3: Test Plan and Scripts (Due June 29, 2025 @ 11:59 PM)

Test Environment
- Backend: Python Flask with SQLAlchemy
 - Database: MySQL
 - Tools: MySQL Workbench, Web Browser (UI testing)
 - Session Handling: Flask Login and Flask Sessions

Testing Strategy

We will use grey box testing for each module, ensuring that functionality matches expectations without fully compromising code internals. To do so, people who worked on the backend more will test the frontend and vice versa. Tests are grouped by module and include all CRUD operations (Create, Read, Update, Delete), session management, and permission handling. This test plan includes manual test scripts describing the steps to be taken, the expected outcomes from each test, and a result field indicating whether the system passed or failed the test. Each script targets a specific feature or module.

Test Script: Valid Login

Test Case ID: T01

Description: Valid Login

Preconditions: User exists with correct credentials. User has login page open and ready.

1. Test Steps:
   - Navigate to login page
   - Enter "105386" as the User ID
   - Enter "MyDogButch2024" as the password
   - Click 'Login' button

Expected Result: User is redirected to dashboard and session is created

Actual Result: _____

Pass/Fail: _____

Test Script: Invalid Login

Test Case ID: T02

Description: Invalid Login

Preconditions: User has login page open and ready.

2. Test Steps:
   - Navigate to login page
   - Enter "105386" as the User ID
   - Enter "password" as the password.
   - Click 'Login' button

Expected Result: Error message displayed; user remains on login page

Actual Result: _____

Pass/Fail: _____

Test Script: Access Without Login

Test Case ID: T03

Description: Access Without Login

Preconditions: User is not logged in, web browser is open and ready.

3. Test Steps:
   - Navigate directly to /alumni/list URL

Expected Result: User is redirected to login page

Actual Result: _____

Pass/Fail: _____

Test Script: View Alumni List

Test Case ID: T04

Description: View Alumni List

Preconditions: User is logged into an account where viewPriveledgeYN is set to "Y" for the user account.

4. Test Steps:
   - Navigate to /alumni/list

Expected Result: All alumni records are displayed and match database

Actual Result: _____

Pass/Fail: _____

Test Script: Session Expiry

Test Case ID: T05

Description: Session Expiry

Preconditions: User has been logged in and reached 2 hours of inactivity.

5. Test Steps:
   - Login
   - Remain inactive for 2+ hours
   - Attempt an action

Expected Result: User is logged out and redirected to login page

Actual Result: _____

Pass/Fail: _____

Test Script: Add New Alumnus

Test Case ID: T06

Description: Add New Alumnus

Preconditions: User is logged in with any account that has insert privileges, aka insertPrivelege = Y. User is on the alumni list page.

6. Test Steps:
   - Navigate to /alumni/add
   - Enter first name "John" and last name "Smith"
   - Enter phone number of 111-111-1111
   - Enter email of jsmith@yahoo.com
   - Enter birthdate of 6/29/2025
   - Enter in a gender of "M"
   - Click 'Submit'

Expected Result: User is directed to /alumni/view page. Alumnus John Smith appears in the list and is saved in the database

Actual Result: _____

Pass/Fail: _____

Test Script: Edit Alumnus Details

Test Case ID: T07

Description: Edit Alumnus Details

Preconditions: User is logged in with an account where insertPriveledgeYN is set to "Y" for the user account. User is on the /alumni/list page and ready.

7. Test Steps:
   - Navigate to the alumnus "John Smith"
   - Click 'Edit' on the card for "John Smith"
   - Modify the "First Name" field to "Jane"
   - Modify the "Last Name" field to "Doe"
   - Modify the email to "jdoe@yahoo.com"
   - Modify the birthdate to 1/1/2000
   - Modify the gender to "F"
   - Click 'Save'

Expected Result: Changes are saved to both database and site UI, with all attributes matching the above changes.

Actual Result: _____

Pass/Fail: _____

Test Script: Add Primary and Active Address

Test Case ID: T08

Description: Add Address with Primary Flag

Preconditions: User is logged in with an account where insertPriveledgeYN is set to "Y" for the user account. User is on the /alumni/list page and ready. Test Cases T06 and T07 have been performed in the respective order.

8. Test Steps:
   - Navigate to alumnus "Jane Doe" and click "edit"
   - Navigate to the "Addresses" section.
   - Click "Add a new address" and enter "3391 Town Point Dr NW Kennesaw, GA 30144"
   - Click "Yes" radio buttons for both "Is this your home address?" and "Can we reach you by this address?"
   - Click "Save"

Expected Result: User is directed to the alumni view page. New address saved as "3391 Town Point Dr NW Kennesaw, GA 30144", shows as primaryYN = Y and activeYN = Y on both UI and database.

Actual Result: _____

Pass/Fail: _____

Test Script: Add Primary and Active Address to overwrite old Primary Address

Test Case ID: T09

Description: Add Non-Primary Address

Preconditions: User is logged in with an account where insertPriveledgeYN is set to "Y" for the user account. User is on the /alumni/list page and ready. Test Cases T06, T07, and T08 have been performed in the respective order.

9. Test Steps:
    - Navigate to alumnus "Jane Doe" and click "edit"
    - Navigate to the "Addresses" section.
    - Click "Add a new address" and enter "1400 Defense Pentagon Washington, DC 20301"
    - Click "Yes" radio buttons for both "Is this your home address?" and "Can we reach you by this address?"
    - Click "Save"

Expected Result: User is directed to the alumni view page. New address saved as "1400 Defense Pentagon Washington, DC 20301", shows as primaryYN = Y and activeYN = Y. Existing address saved as "3391 Town Point Dr NW Kennesaw, GA 30144", shows as primaryYN = N and activeYN = N on both UI and database.

Actual Result: _____

Pass/Fail: _____

Test Script: Add Current Job when there is no current job

Test Case ID: T10

Description: This is to test functionality for adding in a current job when there currently aren't any for an alumnus.

Preconditions: User is logged in with an account where insertPriveledgeYN is set to "Y" for the user account. User is on the /alumni/list page and ready. Test Cases T06 and T07 have been performed in the respective order.

10. Test Steps:
- Navigate to alumnus "Jane Doe" and click "edit"
- Navigate to the "Employment" section.
- Click "Add Current Employment"
- Enter in a company of "Microsoft"
- Enter in a city of "Atlanta"
- Enter in a ZIP code of "30363"
- Enter in a state of "GA"
- Enter in a job title of "Data Analyst"
- Enter in a start date of "1/21/23"
- Click "Submit"

Expected Result: User is directed back to Alumnus view page. Microsoft employment is visible and set to currentYN = Y. This should show both in UI and database.

Actual Result: _____

Pass/Fail: _____

Test Script: Add Current Job when there exists one already
Test Case ID: T11

Description: This is to test functionality for adding in a current job when a current job already exists.

Preconditions: User is logged in with an account where insertPriveledgeYN is set to "Y" for the user account. User is on the /alumni/list page and ready. Test Cases T06, T07, and T10 have been performed in the respective order.

11. Test Steps:
- Navigate to alumnus "Jane Doe" and click "edit"
- Navigate to the "Employment" section.
- Click "Add Current Employment"
- Enter in a company of "Microsoft"
- Enter in a city of "Atlanta"
- Enter in a ZIP code of "30363"
- Enter in a state of "GA"
- Enter in a job title of "Senior Data Analyst"
- Enter in a start date of "3/16/25"
- Click "Submit"

Expected Result: User is directed back to Alumnus view page. Microsoft employment is visible and set to currentYN = Y. This should show both in UI and database. Prior employment for Microsoft – Data Analyst should show currentYN = N in both UI and databse.

Actual Result: _____

Pass/Fail: _____

Test Script: Add Past Job

Test Case ID: T12

Description: Add Past Job

Preconditions: User is logged in with an account where insertPriveledgeYN is set to "Y" for the user account. User is on the /alumni/list page and ready. Test Cases T06 and T07 have been performed in the respective order.

12. Test Steps:
   - Navigate to alumnus "Jane Doe" and click "edit"
   - Navigate to the "Employment" section.
   - Click "Add Previous Employment"
   - Enter in a company of "Staples"
   - Enter in a city of "Alpharetta"
   - Enter in a ZIP code of "30022"
   - Enter in a state of "GA"
   - Enter in a job title of "Sale Associate"
   - Enter in a start date of "2/20/18"
   - Enter in an end date of "4/29/19"
   - Click "Submit"

Expected Result: User is directed back to Alumnus view page. Staples employment is visible and set to currentYN = N. This should show both in UI and database.

Actual Result: _____

Pass/Fail: _____

Test Script: Add Donation

Test Case ID: T13

Description: Add Donation

Preconditions: User is logged in with an account where insertPriveledgeYN is set to "Y" for the user account. The user is on the /alumni/list page and ready. Test Cases T06 and T07 have been performed in the respective order.

13. Test Steps:
    - Navigate to alumnus "Jane Doe" and click "edit"
    - Navigate to the "Donations" section.
    - Click "Add Donation"
    - Enter in a donation amount of $500
    - Enter in a donation date of 5/25/25
    - Enter in a reason of "Campus initiative"
    - Enter in a description of "A donation of $500 was made by Jane Doe on 5/25/25 in consideration of Memorial Day campus initiatives."
    - Click "Submit"

Expected Result: User is directed back to Alumnus view page. $500 donation is visible with all input attributes. This should show both in UI and database.

Actual Result: _____

Pass/Fail: _____

Test Script: Edit Donation Record
Test Case ID: T14

Description: In the case a donation is ever incorrect, it must have the ability to be adjusted. This tests the functionality of editing a donation.

Preconditions: User is logged in with an account where updatePriveledgeYN is set to "Y" for the user account. The user is on the /alumni/list page and ready. Test Cases T06, T07, and T13 have been performed in the respective order.

14. Test Steps:
    - Navigate to alumnus "Jane Doe" and click "edit"
    - Navigate to the "Donations" section.
    - Where the donation from 5/25/25 is visible, edit the amount to $250
    - Click "Submit"

Expected Result: User is directed back to Alumnus view page. $500 donation now shows as $250 with all input attributes. This should show both in UI and database.

Actual Result: _____

Pass/Fail: _____

Test Script: Delete Donation Record

Test Case ID: T15

Description: In the case a donation is ever invalid, it must have the ability to be removed. This tests the functionality of deleting a donation.

Preconditions: User is logged in with an account where deletePriveledgeYN is set to "Y" for the user account. The user is on the /alumni/list page and ready. Test Cases T06, T07, T13, and T14 have been performed in the respective order.

15. Test Steps:
    - Navigate to alumnus "Jane Doe" and click "edit"
    - Navigate to the "Donations" section.
    - Where the donation from 5/25/25 is visible, click the "Delete Donation" button.
    - Click "Submit"

Expected Result: User is directed back to Alumnus view page. The $250 donation is no longer visible on the page. The donation record is removed from the database.

Actual Result: _____

Pass/Fail: _____

Test Script: Add New Skill

Test Case ID: T16

Description: Add New Skill

Preconditions: User is logged in with an account where insertPriveledgeYN is set to "Y" for the user account. The user is on the /alumni/list page and ready. Test Cases T06 and T07 have been performed in the respective order.

16. Test Steps:
    - Navigate to alumnus "Jane Doe" and click "edit"
    - Navigate to the "Skills" section.
    - Click "Add new skill"
    - Enter a skill of "SQL"
    - Click the "Beginner" radio button

- Click "Submit"

Expected Result: User is directed back to Alumnus view page. Skill "SQL" appears with "Beginner" proficiency. Database shows identical values.

Actual Result: _____

Pass/Fail: _____

Test Script: Edit a Skill

Test Case ID: T17

Description: Edit an existing skill

Preconditions: User is logged in with an account where updatePriveledgeYN is set to "Y" for the user account. The user is on the /alumni/list page and ready. Test Cases T06, T07, and T16 have been performed in the respective order.

17. Test Steps:
- Navigate to alumnus "Jane Doe" and click "edit"
- Navigate to the "Skills" section.
- Where the skill of "SQL" is shown, click the "Intermediate" radio button.
- Click "Submit"

Expected Result: User is directed back to Alumnus view page. Skill "SQL" appears with "Intermediate" proficiency. Database shows identical values.

Actual Result: _____

Pass/Fail: _____

Test Script: Add New Degree

Test Case ID: T18

Description: Add New Degree

Preconditions: User is logged in with an account where insertPriveledgeYN is set to "Y" for the user account. The user is on the /alumni/list page and ready. Test Cases T06 and T07 have been performed in the respective order.

18. Test Steps:
- Navigate to alumnus "Jane Doe" and click "edit"
- Navigate to the "Degrees" section.
- Click "Add new Degree"
- Enter a major of "MIS"

- Enter in a minor of "Cybersecurity"
- Enter in a graduation date of 5/11/2023
- Enter in a university of Kennesaw State University
- Enter in a city of Kennesaw
- Enter in a state of GA
- Click "Submit"

Expected Result: User is directed back to Alumnus view page. The degree from KSU appears with all entered values. Database shows identical values.

Actual Result: _____

Pass/Fail: _____

Test Script: Accessing login with all permissions set to "N"
Test Case ID: T19

Description: View Without Permission

Preconditions: User is not logged in, web browser is open and ready. User account must have all privileges set to "N"

19. Test Steps:
- Navigate to login page
- Enter "105387" as the User ID
- Enter "Icantview2025" as the password
- Click 'Login' button

Expected Result: User is directed to the alumni view page. No alumni stats are populated

Actual Result: _____

Pass/Fail: _____

Test Script: Insert Without Permission
Test Case ID: T20

Description: Insert Without Permission

Preconditions: User is not logged in, web browser is open and ready. User account must viewPriveledgeYN = Y, but all other privileges set to N. Test Cases T06 and T07 have been performed in the respective order.

20. Test Steps:
    - Navigate to login page
    - Enter "105388" as the User ID
    - Enter "Icantinsert2025" as the password
    - Click 'Login' button
    - Navigate to alumnus "Jane Doe" and verify the "edit" button does not show.

Expected Result: "Edit" button does not show for all alumni on the view page.

Actual Result: _____

Pass/Fail: _____

Test Script: Update Without Permission

Test Case ID: T21

Description: Update Without Permission

Preconditions: User is not logged in, web browser is open and ready. User account must viewPriveledgeYN = Y, but all other privileges set to N. Test Cases T06 and T07 have been performed in the respective order.

21. Test Steps:
    - Navigate to login page
    - Enter "105389" as the User ID
    - Enter "Icantupdate2025" as the password
    - Click 'Login' button
    - Navigate to alumnus "Jane Doe" and verify the "edit" button does not show.

Expected Result: "Edit" button does not show for all alumni on the view page.

Actual Result: _____

Pass/Fail: _____

Test Script: Delete Without Permission

Test Case ID: T23

Description: Delete Without Permission

Preconditions: User is not logged in, web browser is open and ready. User account must deletePriveledgeYN = N, but all other privileges set to Y. Test Cases T06 and T07 have been performed in the respective order.

22. Test Steps:
    - Navigate to login page
    - Enter "105390" as the User ID
    - Enter "Icantdelete2025" as the password
    - Click 'Login' button
    - Navigate to alumnus "Jane Doe" and click the "edit" button

Expected Result: "Delete" button does not show for any alumni attributes on Jane Doe's page.

Actual Result: _____

Pass/Fail: _____

Test Script: Delete Alumnus

Test Case ID: T23

Description: Delete Alumnus

Preconditions: User has login page open and ready. User account must have all privileges set to "Y". All other test cases in this document must be performed.

23. Test Steps:
    - Navigate to login page
    - Enter "105386" as the User ID
    - Enter "MyDogButch2024" as the password
    - Click 'Login' button

- Navigate to alumnus "Jane Doe" and click the "edit" button
- Click "Delete Alumnus" button.
- Click "Submit"

Expected Result: User is directed back to Alumni view page. Jane Doe does not appear on page and is also not found in database.

Actual Result: _____

Pass/Fail: _____