

How to use the website:

1. <http://ec2-18-222-62-125.us-east-2.compute.amazonaws.com/gradeCalc/> is the “home” page you where you will learn about how to calculate your GPA/ Final Grade. Some useful information will be found here about how the website works.
 - a. **Note:** This is running on my ec2 that I have used for all of my lectures and challenges so stay in this directory if you are looking for relevant code.
2. In the navigation bar at the top you will have 4 choices.
 - a. Home
 - i. Here is where you will be directed to the homepage every time you click
 - b. GPA Calculator
 - i. Here is where you will be directed to the GPA calculator every time you click
 - ii. To use the GPA calculator, simply fill out the form with up to 8 classes (not required), you will be prompted with a modal with the result upon submission.
 - c. Final Grade Calculator
 - i. Here is where you will be directed to the Final Grade Calculator every time you click
 - ii. **Note:** You must be logged in to view the Final Grade Calculator, otherwise you are redirected to the home page (even if you try to “URL hack”

- iii. To use the Final Grade Calculator, simply fill out the form, then you will be prompted with a bootstrap modal with the result upon submission.
- d. Login/Logout
 - i. Here is where you can either be directed to the login page if you are logged out, or you will logout and be directed to the home page if you are logged in.
 - ii. **Note:** Use the username **test** and the password **pass** in order to log in

Requirements:

1. Proper Web Techniques:
 - a. All pages use the 5 required tags and have passed the validator by URL.
2. Consistent design:
 - a. All pages use the same navigation bar. This file can be found under the folder gradeCalc/navbar/navbar.php. One change to this file changes the navbar in all documents. For example the navbar is loaded into the launch page on line 44 on gradeCalc/index.php.
 - b. All pages use the same CSS stylesheet, this can be found under gradeCalc/styles/styles.css. One change to this file changes the look of common elements with the same class, etc.
3. Changes reflected everywhere for common elements
 - a. See section about navbar above.
4. Public/Private content
 - a. All users have access to the home page and the GPA calculator, however you must be logged in to use the Final Grade Calculator

- b. You will be redirected to the home page if you try and access the Final Grade Calculator without being logged in
- c. This is done on lines 8-18 in gradeCalc/finalgradecalc/index.php using cookies to check if a user is logged in. If not, it will use session variable ERROR to give a message to the home page (gradeCalc/index.php) after being redirected from the restricted content

5. Logging in

- a. Logging in with username: test, password: pass will work

6. PHP

- a. PHP is used to set cookies and declare/read session variables for errors. (gradeCalc/phpscripts/validateForm.php) All files use .php extension such that they can access this server-side functionality

7. GET and POST

a. Get

- i. At line 87 in gradeCalc/finalgradecalc/index.php GET is used to retrieve an image from the server based on the grade parameter sent through get.
 - 1. GET is used because it is retrieving info based on non-sensitive parameters.
- ii. This is the thumbs up/down/ok you see based on the grade you need to get on your final exam in the result window

b. Post

- i. At line 50 in gradeCalc/login/index.php POST is used to send user credentials to the server to check for validation

- 1. POST is used because it is dealing with sensitive data

8. Form Elements

- a. The GPA calculator and The Final Grade Calculator both use forms in order to get data from the user, send it to a server, and then display a result based on the result from the server.

- i. GPA Calculator

- 1. gradeCalc/gpacalc/index.php Line 304

- ii. Final Grade Calculator

- 1. gradeCalc/finalgradecalc/index.php Line 114

9. Form Validation

- a. GPA Form

- i. gradeCalc/gpacalc/index.php Line 74

- ii. If user gives incorrect input a js alert is presented

- b. Final Grade Form

- i. gradeCalc/finalgradecalc/index.php Line 48

- ii. If user gives incorrect input a js alert is presented

- c. Login Form

- i. gradeCalc/login/index.php Line 33

- ii. If user gives incorrect input a js alert is presented

10. Multiple Photos

- a. The Final Grade Calculator page has two photos

- i. gradeCalc/finalgradecalc/index.php Line 140

11. YouTube Video

- a. The home page has two embedded YouTube videos using iframe in order to demonstrate how grade calculations are done.

- i. gradeCalc/index.php Lines 77 and 79

12. JavaScript

- a. JavaScript is used to validate forms across the webpage

- i. Example: gradeCalc/finalgradecalc/index.php Lines 38-99

13. jQuery

- a. jQuery is used to get quick access to elements by id, as well as use ajax for GET/POST

- i. Example: gradeCalc/finalgradecalc/index.php Lines 78-94;

14. Bootstrap

- a. Bootstrap is used to display modals to the user for the results of both the GPA and final grade calculations. It is also used to style the submit buttons on those forms.

- i. Example: gradeCalc/finalgradecalc/index.php Lines 149-163 -> modal setup, Line 94 -> called

- ii. Example gradeCalc/finalgradecalc/index.php Line 159 (Button)

15. AJAX

- a. AJAX is used on both of the submission forms for the grade calculations. Data is sent by POST to the server or retrieved by GET from the server using the jQuery .post() or .get() methods.

- i. Example: gradeCalc/finalgradecalc/index.php Lines 78-92
- ii. Example: gradeCalc/gpacalc/index.php Lines 271-286

16. Purpose

- a. I always find myself calculating my GPA or seeing what I need to get on the final to get an A in a class, so I made my own version. Especially around this time of year, I think it is a useful tool to have at my disposal.

17. References

- a. I used W3 a lot to learn how to use jQuery .get() and .post() along with other miscellaneous CSS questions along with forms
- b. I used php documentation to learn about cookies and session variables
- c. I used bootstrap documentation to learn about how to make a good looking modal (grade result window)
- d. Of course lecture code was used extensively as well