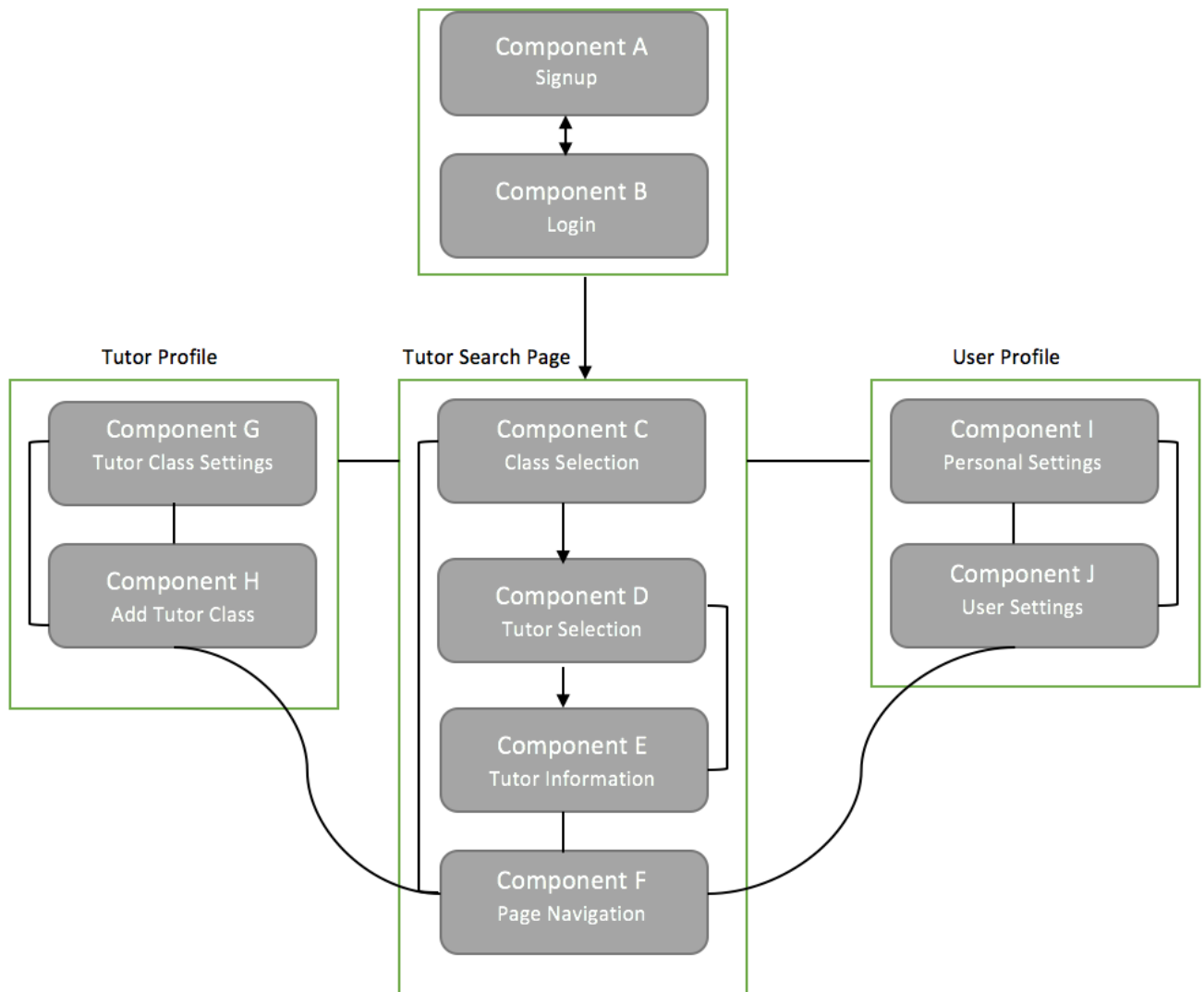


# CS408: Incremental Testing and Regression Testing

## Component Diagram

The component diagram below shows the different components of the “Find my tutor” application along with groupings and relations between subcomponents and components.



## Overview of Components

- Component A: Signup Page
  - Inputs - First Name, Last Name, Password, Confirm Password, E-Mail
  - Outputs - Redirect to TutorSearch page or Error Message
  - Input - Click Login button
  - Output - Redirect to Login page
- Component B: Login Page
  - Inputs - UserName, UserPass.
  - Outputs - Redirect to TutorSearch page or Failure Message.
  - Input - Click Signup button
  - Output - Redirect to Signup Page
- TutorSearch Page
  - ❖ Component C: Class Selection
    - Input - Class
    - Output - Tutors for class
  - ❖ Component D: Tutor Selection
    - Input - Tutor
    - Output - Tutor name, email, rating, available times, biography
  - ❖ Component E: Tutor Information
    - Input - Tutor rating
    - Output - Changed tutor rating
  - ❖ Component F: Page Navigation Buttons
    - Input - User Settings
    - Output - Page navigates to User Settings page
    - Input - Tutor Settings
    - Output - Page navigates to Tutor Settings page
    - Input - Logout
    - Output - Page navigates to login screen
- Tutor Profile Page
  - ❖ Component G: Tutor Class Settings
    - Inputs - Course Name, Course Number, Price per hour
    - Outputs - Success Message (Listing Updated Successfully)
  - ❖ Component H: Add Tutor Class
    - Input - Class name
    - Output - Filtered class list
    - Input - Filtered class
    - Output - Adds class to current tutor's class list
    - Input - Add non-existing class
    - Output - Adds class to class list in database, and to tutor's class list
    - Input - Tutor Description/Biography

- Output - Successful save message
  - ❖ Component F: Page Navigation Buttons
    - Input - User Settings
    - Output - Page navigates to User Settings page
    - Input - Tutor Search
    - Output - Page navigates to Tutor Search page
    - Input - Logout
    - Output - Page navigates to login screen
- UserProfile Page
  - ❖ Component I: Personal Settings Section
    - Inputs - First Name, Last Name, Email, Password
    - Outputs - Success Message
  - ❖ Component J: Student Settings Section:
    - Inputs - Add Classes, Add Free Time
    - Outputs - Success Message
  - ❖ Component F: Page Navigation Buttons
    - Input - Tutor Search
    - Output - Page navigates to Tutor Search page
    - Input - Tutor Settings
    - Output - Page navigates to Tutor Settings page
    - Input - Logout
    - Output - Page navigates to login screen

## Incremental Testing Method

For incremental testing, we decided to go with bottom-up approach testing. When coding our application we began writing the subcomponents first and then working our way to the main component, which was essentially the container for most of our sub modules (Tutor Search page). Utilizing bottom up approach enabled us to do more effortlessly characterize our test conditions and see the quick outcomes, which we observed to be more efficient as we had an expansive number of sub-segments whose usefulness was endless supply of numerous other sub-segments. We observed this to be a significantly more powerful method for testing to ensure that the various collaborations between the segments all worked rationally together by our normal prerequisites.

For eg. In order to check whether Tutor search page works or need, we needed to implement tutor profile page.

## INCREMENTAL AND REGRESSION TESTING

Module	Component A: Signup
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### Incremental Testing

Defect No.	Description	Severity	How To Correct
1.	Clicking signup creates a token without validation.	1	Modify the signup controller to check if the combination of email and password is not null and throw an error message
2.	Passwords of size less than 8 characters are successfully registered.	2	Within the signup controller, add a check for validating password length and display alert.
3.	Multiple registration of same account.	1	Check for email address before adding to the database.
4.	User unaware, if passwords does not match during account registration.	3	Modify the signup controller, add view to display an alert to the user and highlight the field.

### Regression Testing

Defect No.	Description	Severity	How To Correct
1.	Fixing the controller to generate valid tokens results in the crash of server, if there are way too many connections.	1	Have an expiry for each token.
2.	Fixing the account duplication of the same user did not resolve.	2	Manually delete the accounts to avoid account duplication.

<b>Module</b>	Component B: Login
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<b>Incremental Testing</b>
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Defect No.	Description	Severity	How To Correct
1.	User can login even if the email address does not exist in the database.	2	Have validation token in the database to check if that email exists or not and create alert.
2.	User is able to login with incorrect password.	2	Catch an exception when user tries to login with incorrect password and create alert.

<b>Regression Testing</b>
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Defect No.	Description	Severity	How To Correct
1.	Fixing the error in Component A caused no noticeable errors in the other components.	3	No need for correction.

<b>Module</b>	Component C: Tutor Search
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<b>Incremental Testing</b>
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<b>Defect No.</b>	<b>Description</b>	<b>Severity</b>	<b>How to Correct</b>
1	No classes available for tutoring	1	Add warning message for lack of class
2	No tutors available for selected class	1	Add warning message for lack of tutors
3	Can't leave tutor information page	2	Add 'close' button on tutor info
4	First time choosing a class shifts the sidebar to the left	3	Make navbar location absolute, and move to right
5	Choosing a tutor doesn't update tutor information for individual tutor	2	Load individual tutor info by comparing name to name stored locally

### Regression Testing

Defect No.	Description	Severity	How to Correct
1	Adding message in side bar removes ability to go back to class selection	2	Make 'back' panel populate no matter the number
3	After adding 'close' button, tutor list also closes	3	Prevent tutor list from retracting upon info close
4	Moving class navbar to the right makes right-most part of tutor navbar visible	3	Increase the width of the class selection bar
5	Loading tutor info loads wrong tutor's info	1	Tutor index was off by one, account for difference

<b>Module</b>	Component G: Tutor Profile
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### Incremental Testing

Defect No.	Description	Severity	How to Correct
1	Loading First/Last name combo lack a space between the two	3	Add non-breaking space between the two
2	Choosing 'add class' loads class detail module instead of add class module	1	Change method call in javascript file
3	If tutor has more classes than fits in list, class names overflow on top of screen	2	Make module vertically scrollable

4	Click 'logout' button gives page not found error	1	Fix href link on button
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<b>Regression Testing</b>
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Defect No.	Description	Severity	How to Correct
1	Adding non-breaking space between first and last name pushed tutor description box to the right	3	Fix positioning of description box
3	Making class list vertically scrollable makes "class list" header also scroll	3	Create separate 'navbar' specifically for header



<b>Module</b>	Component H: User & Student Settings
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<b>Incremental Testing</b>
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Defect No.	Description	Severity	How To Correct
1.	Empty First Name gets accepted when changing name	2	Make sure name_length = 0 is not accepted and an error message is displayed to tell user to correct it
2	Empty email address is accepted when changing email address	2	Make sure email_address length = 0 is not accepted and error message is provided to user, along with suggestions and example of email address format
3	Empty password gets accepted in changing password	1	Should check for min password length, and max password length, and show error to user, along with suggestions of a good password
4	Password of length < 8 gets accepted	2	Password length should check with min password length allowed, and if not okay, then it should show error message, and not let proceed.
5	"Show Password" button does not change text when pressed	3	JQuery if password has been changed from type password to type text. If yes, change text to "Hide Password". Same as in the opposite scenario.

### Regression Testing

Defect No.	Description	Severity	How To Correct
1	After Defect No. 5 was fixed, "Show Password" button changed to "Hide Password" even when there was no password	3	Make the JQuery implementation work only when length > 0
2	After Defect 3 was fixed, email address of wrong format was still being accepted.	2	Regex to check if email is correct format

### Updated Backlog

ID	Functional Requirement	Hours	Status
1	As a user, I would like a create an account.	6	Completed in: Sprint 1
2	As a student, I would like to see available tutors, for selected courses	4	Sprint 2
3	As a student, I would like to view available times for the tutor I've selected	4	Sprint 2
4	As a student, I would like to be able to rate tutors	3	Sprint 2
5	As a student, I would like to be able to see ratings of a tutor	3	Sprint 2
6	As a student, I would like to view tutor's contact information	8	Sprint 2
7	As a student, I would like to search for a specific course	6	Sprint 2
8	As a student, I would like to search for a specific tutor	6	Sprint 2
9	As a tutor, I would like to edit a tutor profile	8	In Progress: Moved to Sprint 2
10	As a student, I would like to edit a student profile	8	Incomplete: Moved to Sprint 2

11	As a tutor, I would like to input the classes I can tutor.	6	In Progress: Moved to Sprint 2
12	As a tutor, I would like to input the days I can tutor.	4	In Progress: Moved to Sprint 2
13	As a tutor, I would like to input the times I can tutor.	4	In Progress: Moved to Sprint 2
14	As a tutor, I would like to input the price I tutor for.	4	In Progress: Moved to Sprint 2
15	As a tutor, I would like to be able to create a bio.	4	In Progress: Moved to Sprint 2
16	As a tutor, I would like to be able to see my rating.	2	Sprint 2
17	As a tutor, I would like to remove my tutoring availability.	4	Sprint 2
18	As a tutor, I would like to modify my tutoring availability.	4	Sprint 2
19	As a student, I would like to input the classes I am taking	6	In Progress: Moved to Sprint 2
20	As a student, I would like to input the time I am available weekly.	4	In Progress: Moved to Sprint 2
21	As a tutor, I would like to decide if I am willing to tutor group sessions or not.	5	Sprint 2
22	As a student, when I click on a class, I want to see a master calendar displayed showing the timings of all the tutors.	7	Sprint 2
23	As a student, I would like to send a reservation notice to the tutor.	6	Sprint 2
24	As a tutor, approve or deny a student's reservation.	10	Sprint 2
25	As a tutor, I can check the maximum and minimum prices.	4	Sprint 2
26	As a student, I would like to see which time slots are for group/individual	5	Sprint 2

27	As a student, I would like to see the time of tutors that matches my free time.	6	Sprint 2
28	As a student, I would like to be notified when a new tutor signs for a class that I am taking.	6	Sprint 2
29	As a user, I would like to login back to my account created.	2	Completed in: Sprint 1
30	As a user, I would like to logout of my account.	2	Completed in: Sprint 1
31	As a student, I would like to view the tutor's profile {rating, price, bio etc.}.	1	In Progress: Moved to Sprint 2
	Total:	152	