

ASSIGNMENT 2 FRONT SHEET

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Student Name	Nguyen Trung Duc	Student ID	GCH17377
Class	GCH0705	Assessor name	Truong Cong Doan
Student declaration I certify that the assignment submission is entirely my own work and I fully understand the consequences of plagiarism. I understand that making a false declaration is a form of malpractice.			
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Introduction:

In assignment 1, our team discussed and made decisions about the appropriate technologies and methods that will be applied in the FPT co (CMS) system. It is a blueprint that includes sections such as requirements, existing technologies and methods for managing and developing a cms system and, ultimately, an objective evaluation of the selection, to make the most appropriate decision.

We have built a system based on the plan given earlier. In this section, we act as testers, perform system performance tests against initial requirements, conduct a small survey by the programmers, and evaluate the strengths. weaknesses as well as giving solutions.

I Peer review

Formal questionanarie:

The following is a set of questions for survey research. Our target audience is IT students (They are technologically savvy people, aged 18-25). The questionnaire includes both quantitative and qualitative questions. We hope this study will gain the necessary evaluation information for our system.

1. If you are to rate the cleanliness of the code, what will it be?

a.1*

b.2*

c.3*

d.4*

e.5*

2. On a scale of 1 to 5 how will you rate the web interface?

a.1*

b.2*

c.3*

d.4*

e.5*

3. On a scale of 1 to 5 how will you rate the web features?

a.1*

b.2*

c.3*

d.4*

e.5*

4. Presentation Skill

a.1*

b.2*

c.3*

d.4*

e.5*

5. Personal recommendation

6. What system features need improvements?

7. Problems needed to changed when selecting tools?

8. Is the scope and purpose of the system reasonable?

a. Yes

b. No

9. Evaluation of the display of the group on a scale of 1 - 5.

a.1*

b.2*

c.3*

d.4*

e.5*

10. Is the SRS Good enough?

- a. Yes
- b. No
- c. May be

Feedback analysis

Here are the results we have obtained after conducting survey research:

1. If you are to rate the cleanliness of the code, what will it be?

7 câu trả lời

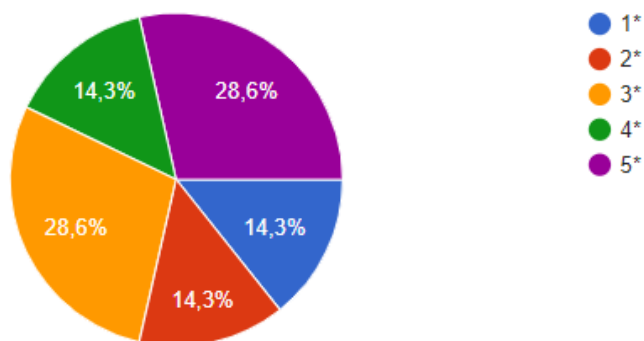


Figure 1 result diagram of question 1

The survey results show positive feedback from the audience for the cleanliness of code when 28.6 percent voted for 5 stars and 14.3 percent for four stars. The low rating of design is only about 14.3 percent choosing 1 or 2 stars. As such, the interface of the website is relatively satisfactory for the interviewees and it is necessary to continue to make improvements to the code to be cleaner.

2. On a scale of 1 to 5 how will you rate the web interface?

7 câu trả lời

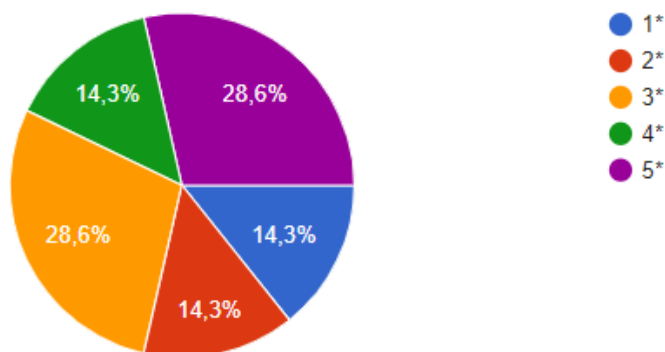


Figure 2 result diagram of question 2

The survey's results showed positive feedback from the audience to the interface of the website when 28.6 percent voted for 5 stars and 14.3 percent for four stars. The low rating of design is only about 14.3 percent choosing 1 or 2 stars. Thus, the interface of the website was relatively pleasing to the interviewees

3. On a scale of 1 to 5 how will you rate the web features?

7 câu trả lời

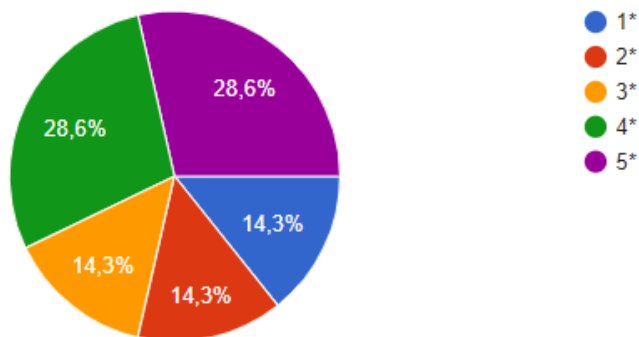


Figure 3 result diagram of question 3

Data from the graph shows that the majority of respondents feel satisfied with the features available on the website when 28.6 percent voted 4 or 5 stars for this section. The average or low rating rate is only 14.3 percent.

4. Presentation Skill

7 câu trả lời

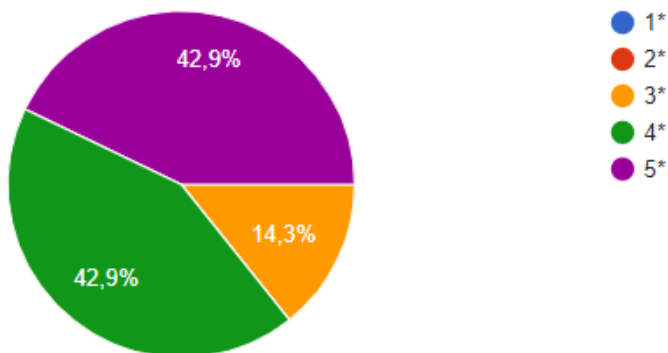


Figure 4 result diagram of question 4

A very positive number from the respondents when they voted 4 or 5 stars for the presentation skills of the group (up to 42.9 percent voted for each type). And only 14.3 percent rated the average.

8. Is the scope and purpose of the system reasonable?

7 câu trả lời

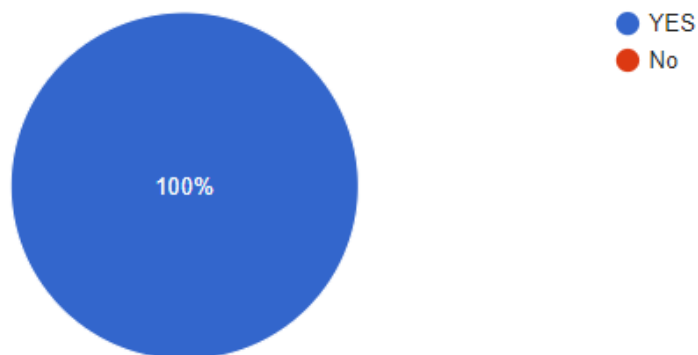


Figure 5 result diagram of question 5

The graph above shows that 100 percent of the audience agree with the view that the scope and purpose of the system is appropriate and in the right direction.

9. Evaluation of the display of the group on a scale of 1 - 5.

7 câu trả lời

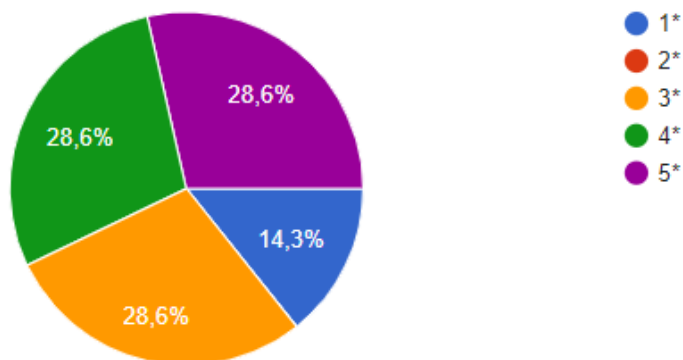


Figure 6 result diagram of question 6

A graph showing the members' productivity shows inequality. 28.6 percent rated the effectiveness of teamwork when voting 5 stars or 4 stars. Similarly, they voted 28.6 percent for an average of 3 stars. The low rate of evaluation for teamwork efficiency is only 14.3 percent.

10. Is the SRS Good enough?

7 câu trả lời

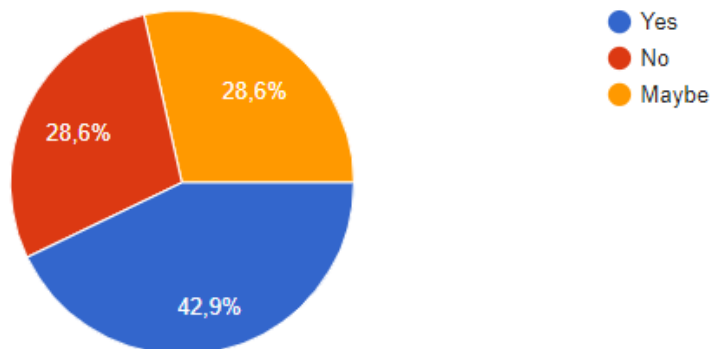


Figure 7 result diagram of question 7

The survey results show that 42.9 percent of the audience agree that the system has fully met the initial requirements. This is considered a fairly low rate. 57.1 percent of the audience were confused or disagreed with the system's ability to meet initial requirements.

5. Personal recommendation

7 câu trả lời

the website looks a little faulty, but brilliant ideas

the website looks amazing.

Good all round.

amazing interfaces and quick responses

good job. keep it up

The HTML design can be improved

Amazed by the work done

Figure 8 result diagram of question 8

6. What system features need improvements?

7 câu trả lời

Nothing much

nothing

very good system doesn't need any further improvement

Log-in design

nothing is bad. so website features is good

Just the Front-end designs

Everything is perfectly fine

Figure 9 result diagram of question 9

7. Problems needed to changed when selecting tools?

7 câu trả lời

NO

nothing

don't need change everything looks ok

very suitable for the project carried out.

no changes needed.

no

Figure 10 result diagram of question 10

The majority of the audience agreed with the current system but did not want to change. However, some of them still want to change the look of the website.

Suggestions and possible improvement

After performing the analysis from the results of the survey, we realized things that need to be fixed or improved in our system such as:

- Interface design requires improvements or changes to become more beautiful and easier to use.
- The function code in the system should be handled more cleanly by splits for reuse.
- Continue to add missing features compared to the initial requirements set for the system.
- There are improvements in teamwork skills to be more effective in projects.

II Application development

2.1 Current system interface

The following is the educational management system for FPT employees. The interface is divided into 3 parts with specific roles: admin, trainer, trainee. To sign in with admin role, user click on admin region to go to admin login form. It also is same with trainer and trainee.

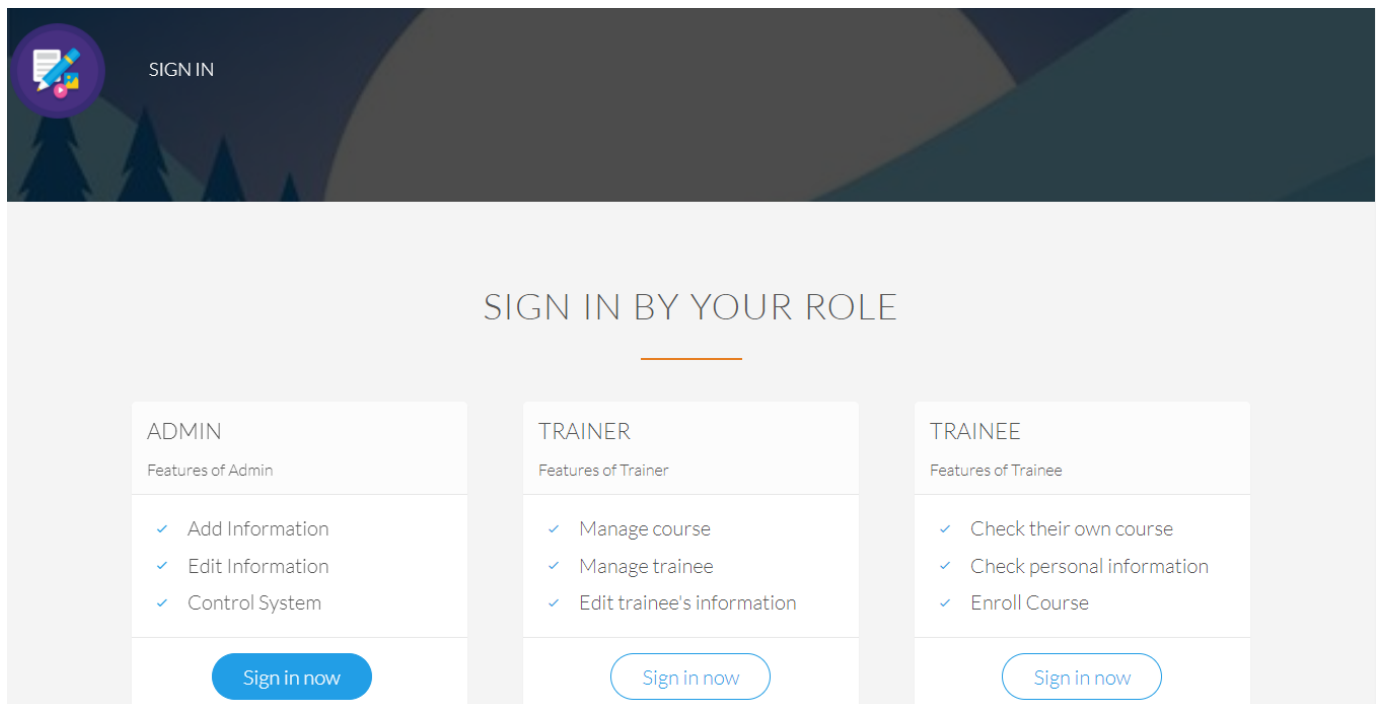
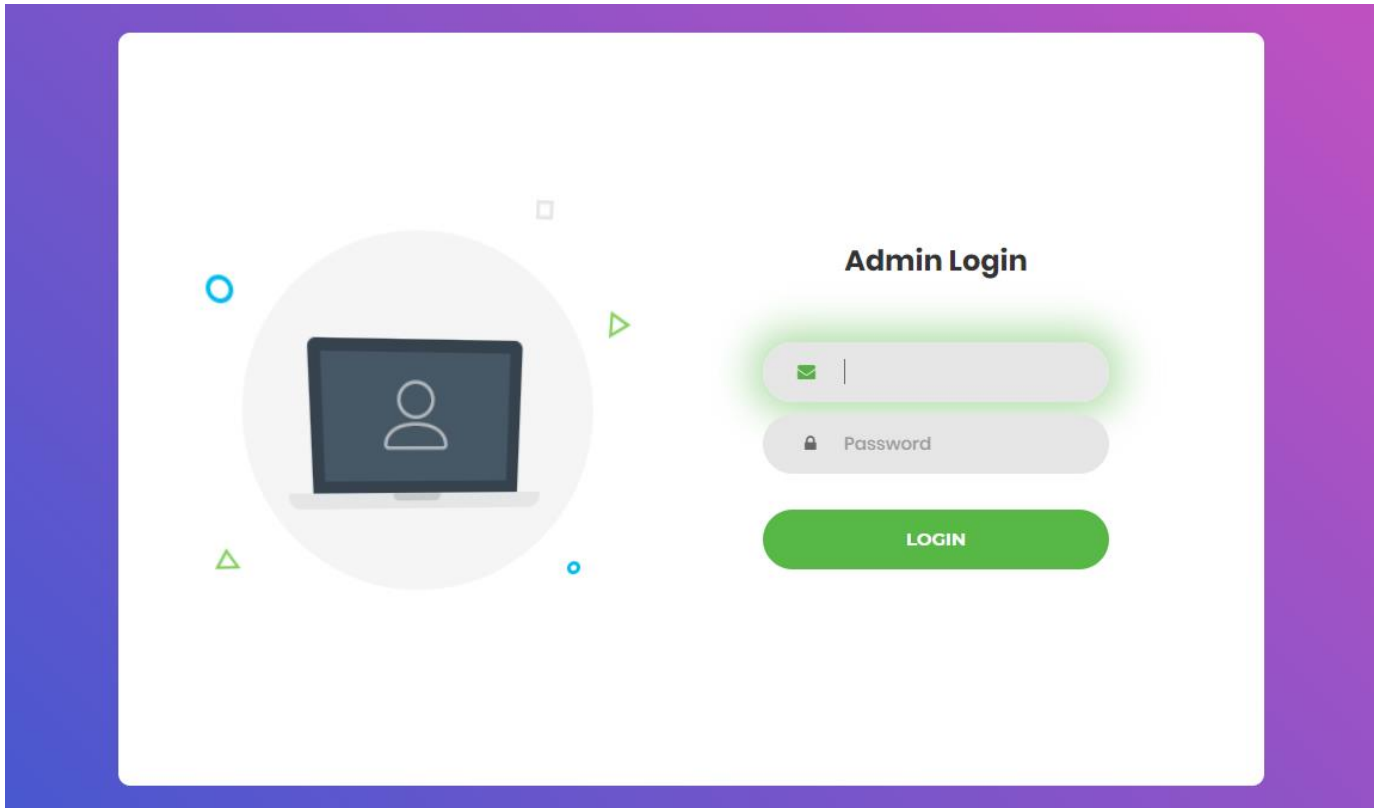


Figure 11 general home page interface

Admin:

Login function: This is admin login interface, if you have an admin account with username and password. Please, enter username and password on right place and submit by login button to go to home page of admin.



The image shows a login interface for an administrator. It features a central graphic of a laptop with a user icon on its screen, surrounded by decorative geometric shapes (a circle, a square, and two triangles). To the right of this graphic is the 'Admin Login' section. It includes a text input field with a green checkmark icon, a password input field with a lock icon and the placeholder text 'Password', and a prominent green 'LOGIN' button.

Figure 12 admin login form interface

Home page of admin: In admin home page interface has a nav bar to control every tasks of admin. So, pressing add trainer button to go to adding trainer form. And if you want to delete or update trainer profile, please press manage trainer button. To log out press button under the name of admin.

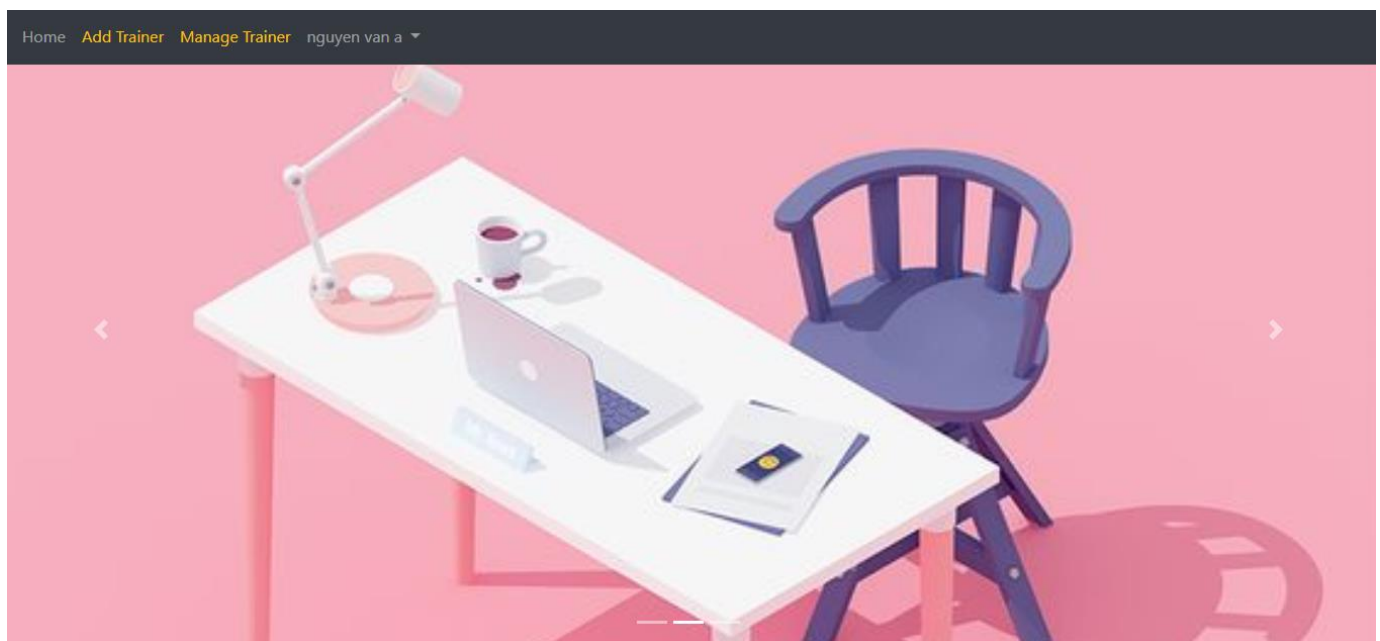


Figure 13 Home page of admin

Adding new trainer account: the following picture is adding trainer form interface. In here, after you finish all fields like as name of trainer, username and password, you can register a trainer account by press register button.

Home **Add Trainer** Manage Trainer nguyen van a ▾

Adding new Trainer




Figure 14 adding new trainer interface

Management Trainer account: This is the interface for manage all information of trainer. To delete a record, pressing on delete button for each record. And if you want to modify trainer profile, pressing update button.

Home [Add Trainer](#) [Manage Trainer](#) nguyen van a ▾

Name	UserName	Password	Modify
Michel Omar	michelomar1	omar123	Update Delete

Figure 15 Trainer management interface

Home [Add Trainer](#) [Manage Trainer](#) nguyen van a ▾

Update trainer

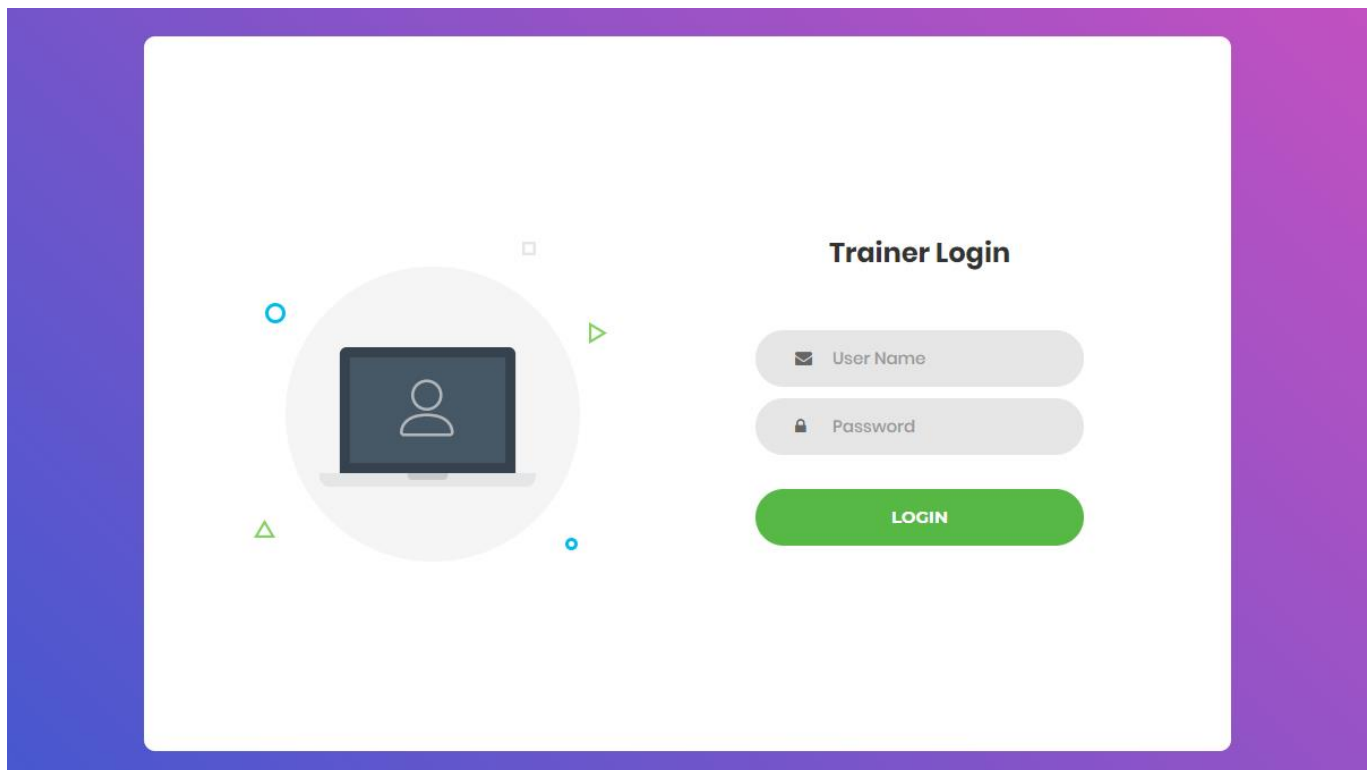
[Update](#)

Figure 16 Update trainer interface

After you pressed update button, the interface to update profile will appear. In here, if you want to edit some information, please remind that press update button when everything is done.

Trainer:

Login form of trainer: This is triner login interface, if you have a trainer account with username and password. Please, enter username and password on right place and submit by login button to go to home page of trainer.



The image shows a 'Trainer Login' interface within a purple-bordered container. On the left, there is a circular graphic with a laptop icon displaying a user profile. To the right of this graphic, the text 'Trainer Login' is displayed. Below the text, there are two input fields: 'User Name' with an envelope icon and 'Password' with a lock icon. A green 'LOGIN' button is positioned below these fields.

Figure 17 Trainer login interface

Home page of trainer: In trainer home page interface has a nav bar to control every tasks of trainer. So, pressing manage trainer button to go to adding trainer form or edit profile. And if you want to add, delete or update category, course, class, please press manage course button. To log out press button under the name of admin.



Figure 18 trainer home page interface

Adding new Trainee account page: the following picture is adding trainee form interface. In here, after you finish all fields like as Id, name of trainer, date of birth, language, toEIC, username and password, you can register a trainer account by press register button. So, please remind that Id, Name, Username and Password is required.

Home
Manage Trainee
Manage Course
Michel Omar

Adding new Trainee

Description about trainee: Experience

Figure 19 Adding trainee form interface

Management Trainee page: This is the interface for manage all information of trainee. To delete a record, pressing on delete button for each record. And if you want to modify trainer profile, pressing update button. The view button to show more detail trainee profile.

Home
Manage Trainee
Manage Course
Michel Omar

Name	Date of Birth	Address	Manage
Ly chita	2019-12-25	Vinh Phuc	<input type="button" value="View"/> <input type="button" value="Update"/> <input type="button" value="Delete"/>
Nguyen Minh Khanh	1999-02-06	Thanh Hoa	<input type="button" value="View"/> <input type="button" value="Update"/> <input type="button" value="Delete"/>

Figure 20 Trainee adding form interface

View detail trainee profile page: This is interface of detail trainee profile. In here, you can see more detail of trainee account.

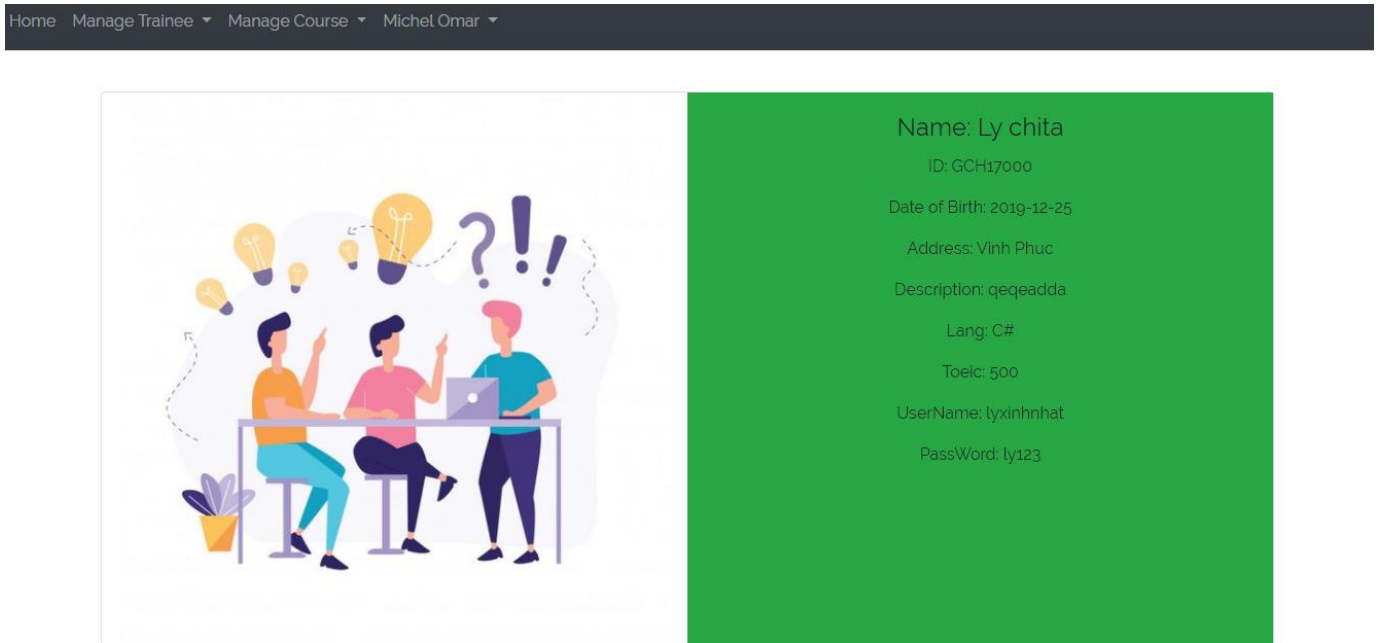


Figure 21 detail trainee profile interface

Update trainee profile page: After you pressed update button, the interface to update profile will appear. In here, if you want to edit some information, please remind that press update button when everything is done.

Home
Manage Trainee
Manage Course
Michel Omar

Update Trainee Profile

Ly chita

12/25/2019

Vinh Phuc

qeqeadda

C#

500

lyxinhnhat

ly123

Update

Figure 22 trainee updating interface

Management page for categories, courses: This is interface for course management. The available categories are display on screen. If you want to adding new category, pressing add new category button. The add button on each category for adding new course in category. It's same with delete button.

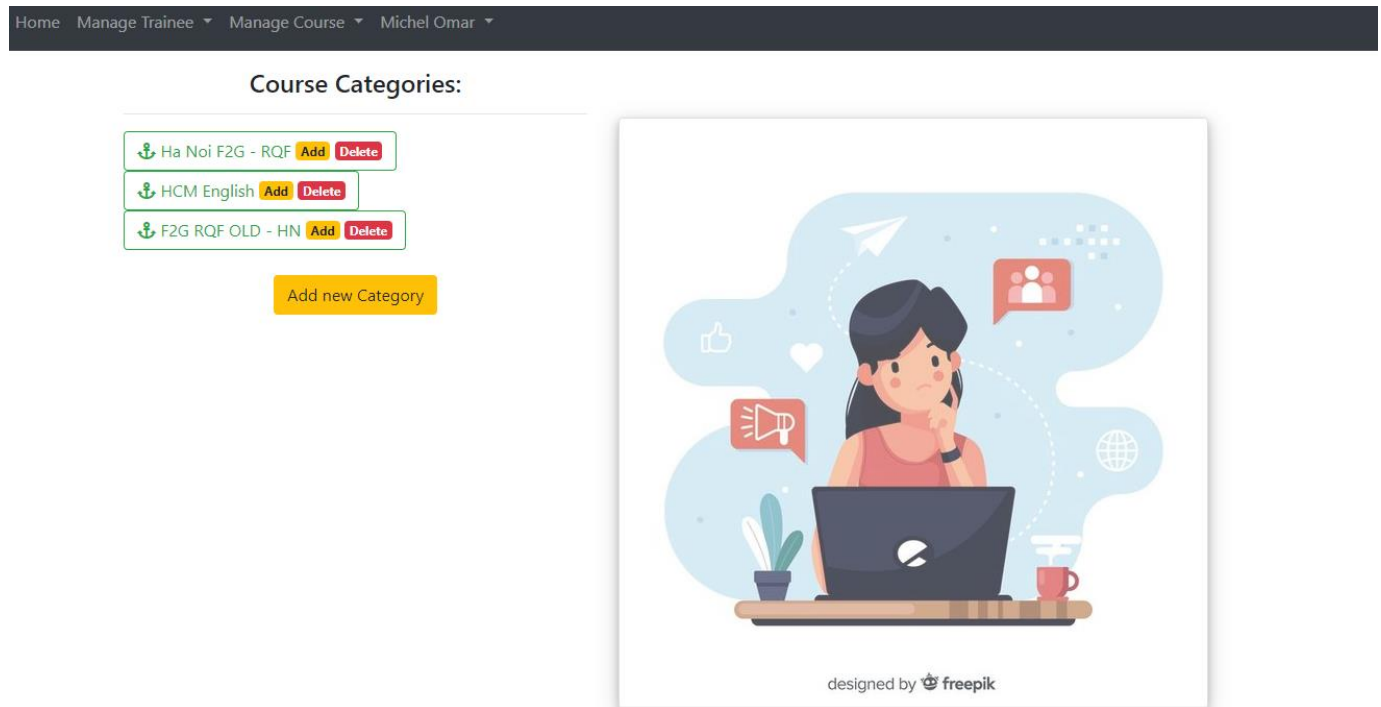


Figure 23 course management interface

Adding new category: To add new category, fill in a category and submit on create button.

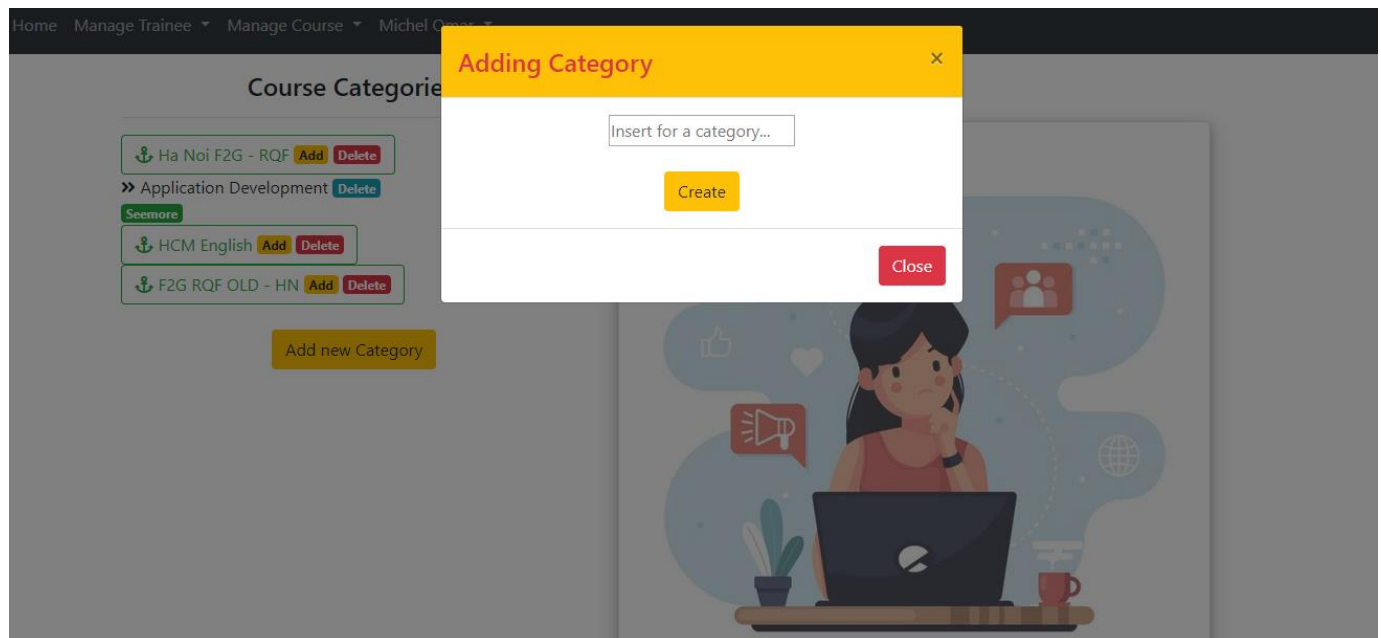


Figure 24 adding category interface

Adding new course: To add new course in category, fill in a course name, description and submit on create button.

Home
Manage Trainee
Manage Course
Michel Omar

Course Categories:

Ha Noi F2G - RQF
Add
Delete

HCM English
Add
Delete

F2G RQF OLD - HN
Add
Delete

Add new Category

Adding new Course

Ha Noi F2G - RQF

Name of Course

Description about Course

Create

designed by freepik

Figure 25 Adding course interface

Management classes in course: The management class interface is place that all available classes in course is showed. In here, you can view more detail or delete class.

Home
Manage Trainee
Manage Course
Michel Omar

Classes of Course:

Name	Trainer	Course	Modify
GCH0705	Michel Omar	Application Development	View Delete

Create new class

Figure 26 Class management interface

View class detail: Every information of a class is showed in here.

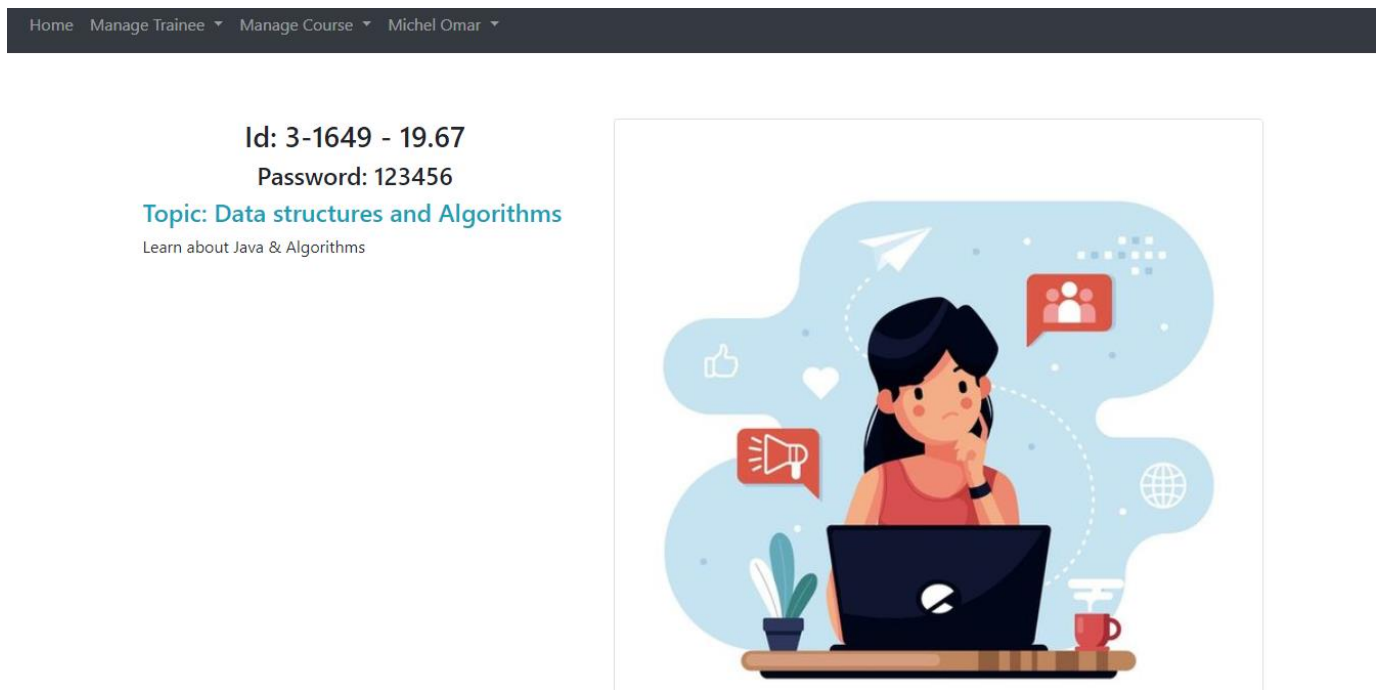


Figure 27 Detail class interface

Adding new class: To add new class in course, fill in a class name, password, topic, description, choosing course, lecture and submit on create button.

The screenshot shows a web form titled "Adding new Class". The form is located on the left side of the page, and to its right is a large illustration of a desk setup with a monitor, a white chair, a lamp, and a framed picture on the wall. The form contains the following fields and elements:

- Name of class**: A text input field.
- Pass for class**: A text input field.
- Topic title...**: A text input field.
- Description for topic...**: A text input field.
- Course Selection**: A dropdown menu currently showing "Ha Noi F2G - RQF : Application Development".
- Lecturer**: A dropdown menu currently showing "Michel Omar".
- Create**: A yellow button to submit the form.

The illustration on the right shows a desk with a computer monitor, a white chair, a desk lamp, and a framed picture with the letters "W&B". The background is a solid yellow color.

Figure 28 Class adding interface

Trainee:

Login form of trainee: This is trainer login interface, if you have a trainer account with username and password. Please, enter username and password on right place and submit by login button to go to home page of trainer.

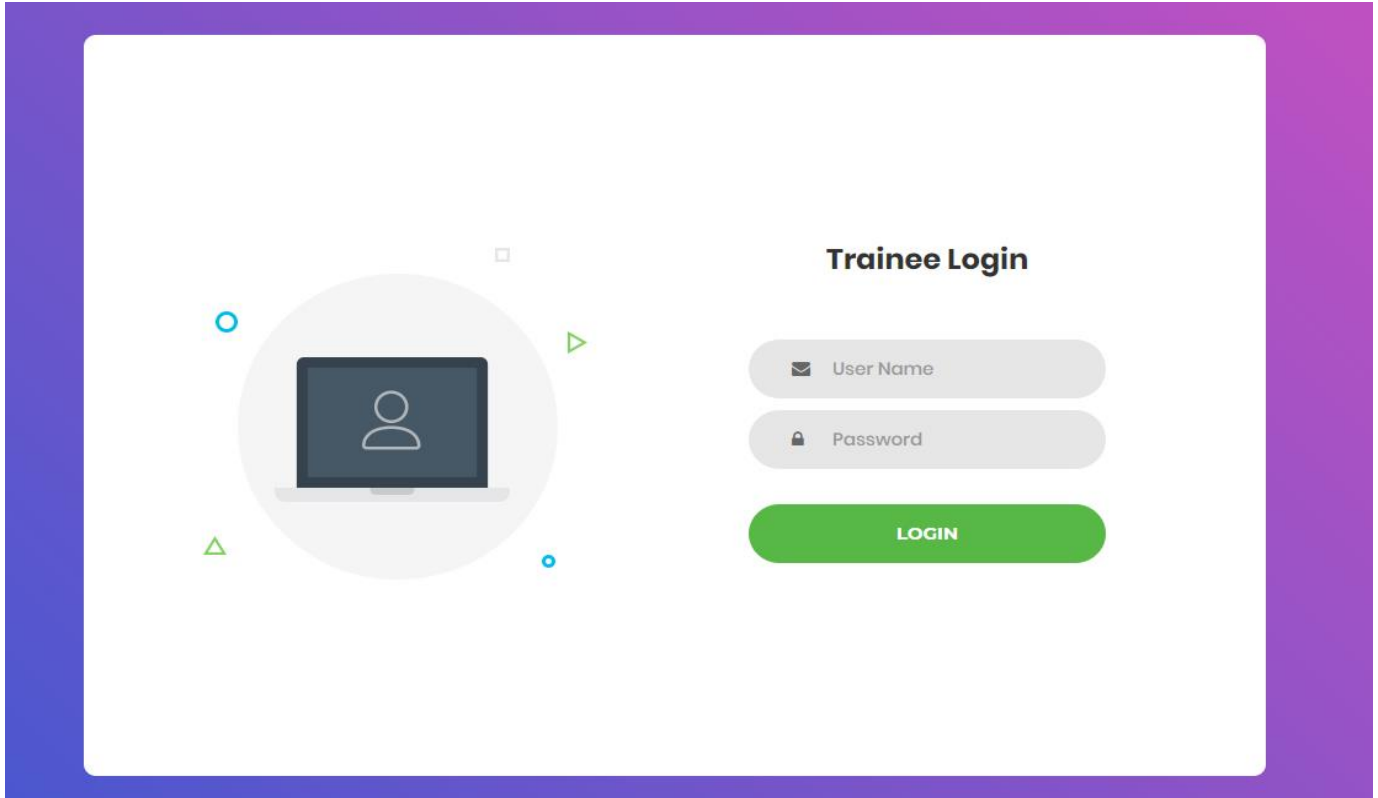
The image shows a 'Trainee Login' form interface. It is set against a white background with a purple border. On the left, there is a graphic of a laptop with a user icon on its screen, surrounded by four small geometric shapes (a square, a circle, and two triangles) in blue and green. To the right of this graphic, the text 'Trainee Login' is displayed in bold. Below the text, there are two input fields: 'User Name' with an envelope icon and 'Password' with a lock icon. Both fields are light gray with rounded ends. Below these fields is a green 'LOGIN' button with white text.

Figure 29Trainee login form interface

Home page of trainee: In trainee home page interface has a nav bar to control every tasks of trainee. So, pressing add View class button to go to view category, course or available class.



Figure 30 Trainee home page interface

View categories, courses, classes of course and registered class: This interface shows information like available categories and courses, class that trainee registered. To see more detail class, pressing see profile button. And if you want to register new class, find out them in category, course and enroll.

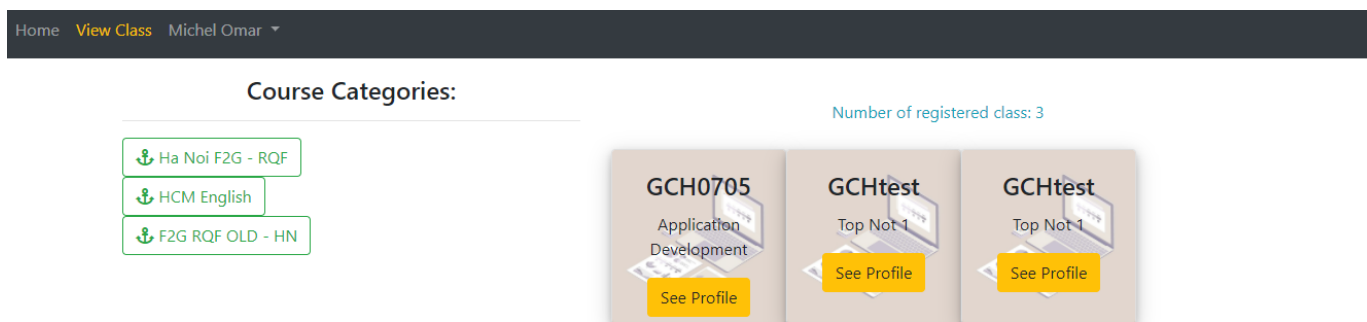


Figure 31 Class viewing for trainee interface

View topic in class: This is interface to show more detail information of class like Name, Trainer, Topic, Description.

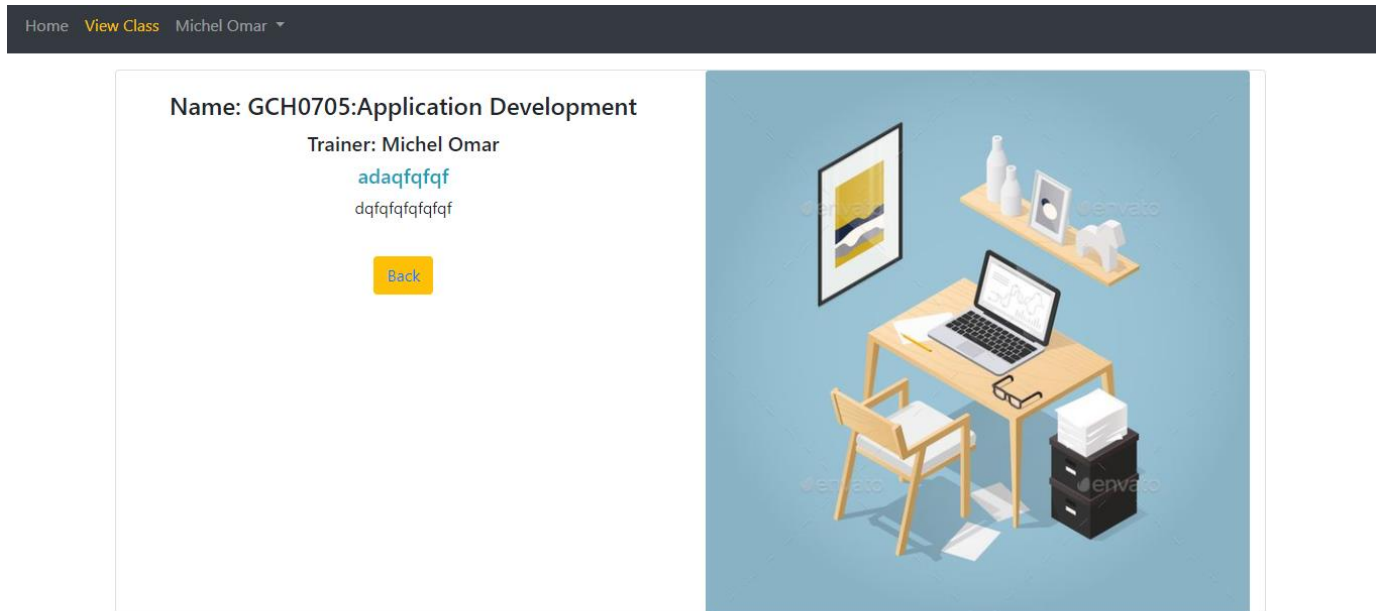


Figure 32 Detail class interface

Register for a class: After trainees find a class that they need, entering pass word for this class and press enroll me button to register.

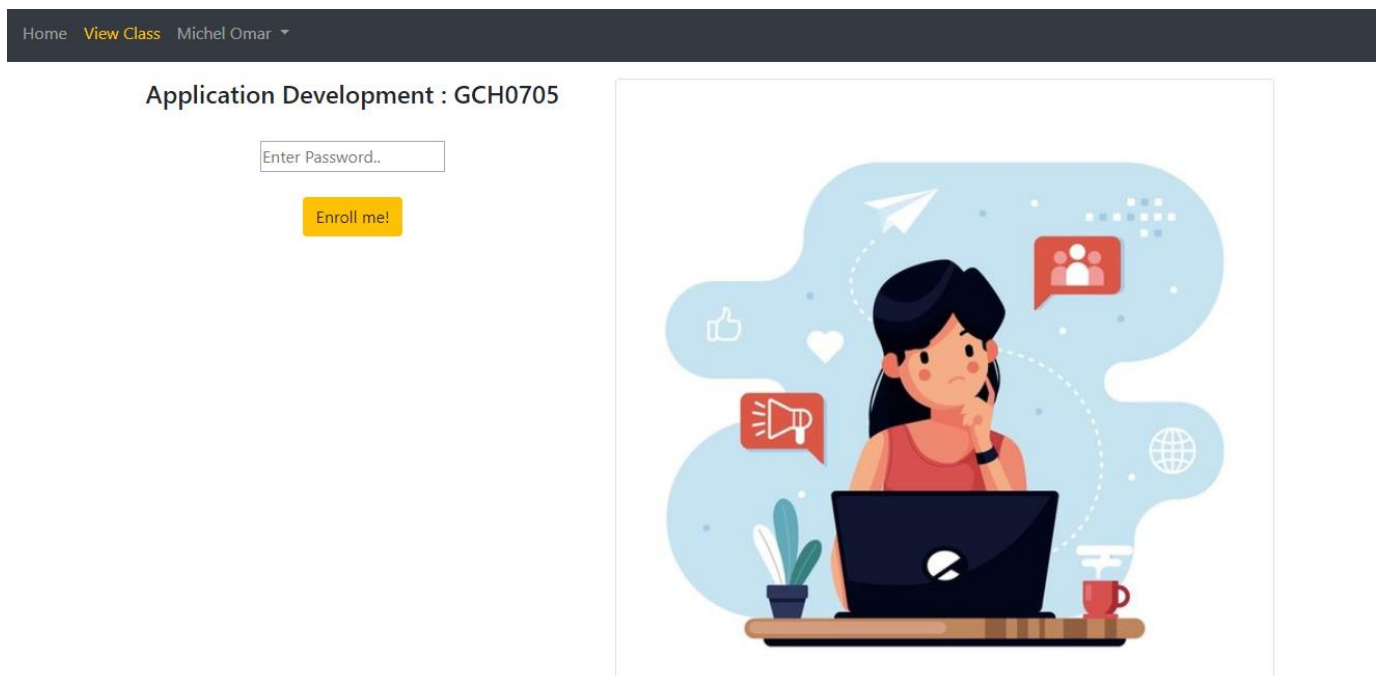


Figure 33 Class registering interface

2.2 Test case:

2.2.1 Admin function testing:

- Login function:

Test	What is being tested	How	Test data used	Expected results	Time	Actual result	Action taken
1	Order of input on data entry screen	Enter the data following the instructions from the screen into the form with correct data	Data set: Username: admin Pass: admin123	Logged in successfully	12/31/2019	OK	None
2	Validation of input	Performs a login without leaving any input values	Data set: Leave the username blank	The system will issue a prompt to provide sufficient information	12/31/2019	OK	None
3	Sql injection	Enter values that generate sql errors	Data set: Username: 1' or '1' = '1' Password: 1' or '1' = '1'	Login unsuccessful	12/31/2019	OK	None

Table 1 Admin login function test case

- Adding trainer function:

Function	What is being tested	How	Test data used	Expected results	Time	Actual result	Action taken
1	Validation of input	Execute register without inputting data	Data set: Leave the username blank	The system will issue a prompt to provide sufficient information	12/31/2019	OK	None
2	Validation of input	Enter typical values, boundary value, values that should be rejected	Data set: Name of trainer: %\$*&*@ Username: 12\$#^ Pass: """"	The system makes a request to change the input data	12/31/2019	Fail	Perform validate input value

3	Order of input on data entry screen	Enter the data following the instructions from the screen into the form with correct data	Data set: Name: Mr teacher Username: Teacher123 Pass: 12345	Notice adding successfully	12/31/2019	OK	None
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Table 2 Adding trainer function test case

- **Manage trainer function:**

Function	What is being tested	How	Test data used	Expected results	Time	Actual result	Action taken
1	Delete a record	Perform delete 1 trainer account	Data set: none	The notification system deleted the object successfully	12/31/2019	OK	None
2	Update a record with a correct data	Perform update 1 trainer account with correct data type	Data set: Name: Mr teacher Username: Teacher123 Pass: 1234578	The notification system updated the object successfully	12/31/2019	OK	None
3	Update a record with values that should be rejected	Perform update 1 trainer account with values that should be rejected	Data set: Name: ^*&\$ Username: &&\$@123 Pass: 1234578	The system makes a request to change the input data	12/31/2019	Fail	Perform validate input value

Table 3Manage trainer function test case

2.2.2 Trainer function testing:

- **Login funtion:**

Test	What is being tested	How	Test data used	Expected results	Time	Actual result	Action taken
1	Order of input	Enter the data following the	Data set: Username: michelomar1	Logged in successfully	12/31/2019	OK	None

	on data entry screen	instructions from the screen into the form with correct data	Pass: omar123				
2	Validation of input	Performs a login without leaving any input values	Data set: Leave the username blank	The system will issue a prompt to provide sufficient information	12/31/2019	OK	None
3	Sql injection	Enter values that generate sql errors	Data set: Username:1' or '1' = '1' Password: 1' or '1' = '1'	Login unsuccessful	12/31/2019	OK	None

Table 4 Trainer Login function test case

- Adding trainee function:

Function	What is being tested	How	Test data used	Expected results	Time	Actual result	Action taken
1	Order of input on data entry screen	Enter the data following the instructions from the screen into the form with correct data	Data set: Id: GCH17377 Name: Nguyen Van A Date of Birth: 01/01/1990 Address: Ha Noi Description: Fpt intern Language: english Toeic: 800 Username: ahandsome Password:a123	Notice adding successfully	12/31/2019	OK	None
2	Validation of input	Execute register without inputting data	Data set: Leave the username blank	The system will issue a prompt to provide sufficient information	12/31/2019	OK	None
3	Validation of input	Enter typical values, boundary	Data set: Id: GCH17377	The system makes a request to	12/31/2019	Fail	Perform validate

		value, values that should be rejected	Name: %\$@^#@ Date of Birth: 01/01/1990 Address: Ha Noi Description: Fpt intern Language: english Toeic: 800 Username: ^@#\$%&#% Password:a123	change the input data			input value
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Table 5 Adding trainee function test case

- Manage trainee functions:

Function	What is being tested	How	Test data used	Expected results	Time	Actual result	Action taken
1	Delete a record	Perform delete 1 trainee account	Data set: none	The notification system deleted the object successfully	12/31/2019	OK	None
2	View a detail record	See detailed information of a trainee	Data set: none	The trainee's information display system needs to see	12/31/2019	OK	None
2	Update a record with a correct data	Perform update 1 trainer account with correct data type	Id: GCH17380 Name: Nguyen Van A Date of Birth: 01/01/1990 Address: Ha Noi Description: Fpt fresher Language: english, france Toeic: 800	The notification system updated the object successfully	12/31/2019	OK	None

			Username: ahandsome Password:a123456				
3	Update a record with values that should be rejected	Perform update 1 trainer account with values that should be rejected	Id: GCH17380 Name: @@\$*&@&* Date of Birth: 01/01/1990 Address: Ha Noi Description: Fpt fresher Language: english, france Toeic: 800 Username: handsome Password:a123456	The system makes a request to change the input data	12/31/2019	Fail	Perform validate input value

Table 6 Manage trainee functions test case

- Search for a trainee function:

Test	What is being tested	How	Test data used	Expected results	Time	Actual result	Action taken
1	Validation of input	Do a search using any keyword in the alphabet	Data set: ly	Display expected results containing the character "ly"	12/31/2019	OK	None
2	Validation of input	Enter typical values, boundary value, values that should be rejected	Data set: '	The system reported that no results were found	12/31/2019	Fail	Perform validate input value
3	Sql injection	Enter values that generate sql errors	Data set: Username:1' or '1' = '1' Password: 1' or '1' = '1'	No results were displayed	12/31/2019	OK	None

Table 7 Search trainee function test case

- Manage category and course function:

Function	What is being tested	How	Test data used	Expected results	Time	Actual result	Action taken
1	Delete a category	Perform delete 1 category	Data set: none	The notification system deleted the object successfully	12/31/2019	OK	None
2	Adding new category	Make a new category	Data set: F2G Da Nang	The notification system created successfully	12/31/2019	OK	None
3	Adding new category	Make a new course on category	Data set: Advanced programming	The notification system created successfully	12/31/2019	OK	None
4	Delete a course	Perform delete 1 course in category	Data set: none	The notification system deleted the object successfully	12/31/2019	OK	None

Table 8 Manage category and course function test case

- Adding a new class function:

Test	What is being tested	How	Test data used	Expected results	Time	Actual result	Action taken
1	Order of input on data entry screen	Enter the data following the instructions from the screen into the form with correct data	Data set: Name: GCH0705 Pass: 12345 Topic: MVC Description: Try to manage and develop a web application	Display expected results containing the character "ly"	12/31/2019	OK	None
2	Validation of input	Enter typical values, boundary value, values	Data set: Name: ^@&&\$ Pass:	The system makes a request to	12/31/2019	Fail	Perform validate input value

		that should be rejected	12345 Topic: MVC Description: Try to manage and develop a web application	change the input data			
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Table 9 Adding a new class function test case

2.2.3 Trainee function testing:

- Login function:

Test	What is being tested	How	Test data used	Expected results	Time	Actual result	Action taken
1	Order of input on data entry screen	Enter the data following the instructions from the screen into the form with correct data	Data set: Username: lyxinhnhat Pass: ly123	Logged in successfully	12/31/2019	OK	None
2	Validation of input	Performs a login without leaving any input values	Data set: Leave the username blank	The system will issue a prompt to provide sufficient information	12/31/2019	OK	None
3	Sql injection	Enter values that generate sql errors	Data set: Username: '1' or '1' = '1' Password: '1' or '1' = '1'	Login unsuccessful	12/31/2019	OK	None

Table 10 Trainee Login function

- Enroll for a new class:

Test	What is being tested	How	Test data used	Expected results	Time	Actual result	Action taken
1	Order of input on data entry screen	Enter the correct password to register for a course	Data set: Pass: 12345 (for class GCHtest)	Successful registration notification system	12/31/2019	OK	None

2	Validation of input	Enter the wrong password	Data set: Pass: 713hc (for class GCHtest)	The system notifies the wrong password and requires re-enter	12/31/2019	OK	None
3	Sql injection	Enter values that generate sql errors	Data set: Password: 1' or '1' = '1	Registration notification system failed	12/31/2019	OK	None

Table 11 Enroll for a new class funtion test case

III Application review

3.1 Comparison to initial requirements

After the development of the first version of the system has been completed, we will continue to sit back to check that the system's functions and non functional features meet the needs of FPT. The below directly compares the current system requirements and functions.

3.1.1 Functional features:

Admin:

Function	Initial requirement	On track	Conclusion about function of system
1	Can login to the system through the first page of the application	100%	We have designed a login interface exclusively for the admin. Here with username and password, admin can log into the system easily. In addition, the system has features that validate not allowed and prevent sql injection
2	Can create and manage new user account for trainer (edit/delete)	100%	After making login. List of trainer accounts is displayed with delete or update options with information such as name, username, password. The function meets the requirement

Table 12 Compare functions of admin with initial requirement

Trainer:

Function	Initial requirement	On Track	Conclusion about function of system
1	Can login to the system through the first page of the application	100%	We have designed a login interface exclusively for the Trainer. Here with username and password, trainer can log into the system easily. In addition, the system has features that validate not allowed and prevent sql injection
2	Can add new user account for trainee	100%	After making login. Administrators can create a new trainee account with information such as trainee name, trainee accounts, age, date of birth,

			education, main programming language, TOEIC score, experience details, department, location, etc. on an easy web interface easy. Besides, the error values are also valid at the input.
3	Can save the information of trainee accounts in the database and from the list of trainees searchable by programming language keywords, TOEIC score etc	80%	All information from the trainee account after being created by the trainer is saved in the database. When needed, it is easy to search by the name of the trainee. However, we still lack the invalid value validating features.
4	Can update, delete trainee accounts	0%	Trainee cannot edit his own profile, he has to rely on the admin
5	Can manage categories such as searching, adding, updating and deleting course categories	75%	The system provides trainers with features for managing adding and deleting categories. But there is no updating feature yet
6	Can manage courses such as searching, adding, updating and deleting courses	75%	The system provides trainers with features for managing adding and deleting courses. But there is no updating feature yet
7	Can add topics such as topic name and topic descriptions into a course, add courses into a category	100%	The trainer can create new topics and descriptions for a new class after performing the login session.
8	Can manage trainer profile such as adding, updating and deleting the information	0%	The Trainer cannot directly edit his profile on our system but must rely on the admin.
9	Can assign trainer to a topic	100%	Trainer can register teachers for specific classes on the system
10	Can assign trainee to a course	0%	The system does not have this feature

Table 13 Compare functions of trainer with initial requirement

Trainee:

Function	Initial requirement	On track	Conclusion about function of system
1	Can login to the system through the first page of the application	100%	We have designed a login interface exclusively for the Trainee. Here with username and password that resigntered by trainer, trainee can log into the system easily. In addition, the system has features that validate not allowed and prevent sql injection
2	Can view courses which have a topic he is assigned to	75%	Trainee can view the class that you have registered on the system. There is

			no feature registered by the trainer
3	Can update own profile	0%	The system does not have this feature

Table 14 Compare functions of trainee with initial requirement

3.1.2 Non-functional features:

In this section we will continue to compare the existing non-functional features in the system with the initial requirements in terms of performance, security, UX / UI, etc:

Non-function features	Initial requirement	On track	Conclusion
UX/UI	The system needs to provide a nice user friendly interface.	100%	Our system provides a beautiful interface, selected colors are very bright, using trendy designs such as gradient, bootstrap, jquery. Besides, the interface is easy to use and not tangled, users always take the control role with the nav which is located at the top of the website. Logical user script, and there's always a navigation button to go back or show what to do next.
Performance	Website response time is short	75%	Using MVC model helps the website wait time for response from 0.2 to 0.5 seconds. However, the code is not really clean, increasing the highest speed
Security	Ensuring information security and safety features, preventing hackers from infiltrating and stealing information.	50%	The security features available on the site are prevention of sql injection, html and javascript code. However, the biggest minus point is that it has not done data encryption before putting into the database, which poses great risks to customer privacy.
Capacity and expandability	The system can cater to about 1,000 people or more	10%	Currently the system has not provided the domain name, so it is not possible to grasp the ability to store and expand on the cloud

Table 15 Compare non-functions with initial requirement

3.2 Assessment of the system's strength and weakness:

After completing the work of developing the learning environment management system within FPT co. Now is the time for us to make an objective assessment of what the system has done and has not done (strengths and weaknesses) in the first version of the system to make improvements in the next versions.

Advantage:

- In the front-end, the system possesses a beautiful interface but it is very simple and easy to use for users. Using technologies like bootstrap, jquery makes the interface more interesting.

- The user script is simple, there are always navigation buttons that make the user feel in control of everything. Short website processing times increase the experience.
- Regarding security, the system implements features to prevent html and sql injection to avoid the risk of hackers logging directly into the system.

Disadvantage:

- The system did not fully meet the requirements put forward. The simple design is not really attractive to users; sometimes complex designs are difficult to understand.
- In the back-end, using the php language to design is somewhat outdated compared to the current trend.
- In terms of security, there are no steps to encrypt data before saving to the database, as well as decryption when using data. This poses a huge risk when hackers can use the data directly in case of theft.
- The system still lacks some validation features for the input, which makes the data not clean.
- In terms of coding, the functions are not clean, the code is still quite long, making it difficult to reuse.
- The system has not provided backup data in case of emergency, backup features to restore information have not been provided.
- The scalability of the system is limited. Only meet for more than 1000 people.

3.3 Identified risks

According to Cody, L (2016, online), The launch is the crucial first step in any website or web app's journey. The truth is not so, your website or web application is successful and growing, then you need to constant update and improve your website before the risks may occur. Here are the risks to avoid and solutions:

Number	Risks	Solution
1	Site Security: every day thousands of websites are under attack, especially large or new ones. Personal and financial information are most at risk of being stolen. (Rean, J, 2015, online)	Hiring an expert to check your website's source code for potential security flaws: the latest hacks, cracks, SQL injections, and XSS vulnerabilities. "If you are using a WordPress website, I highly recommend installing WordFence Security." (Rean, J, 2015, online)
2	Legal Pages: Risks when users, developers and managers do not implement or violate legal policies (information security, etc.) (Rean, J, 2015, online)	Set up pages to commit legality regarding people who use your site, from copyrights, cookies and information about your company. If you are using WordPress, you can install a plugin called Terms of Service and Automated Privacy Policy. (Rean, J, 2015, online)
3	Website Copy: Risks from information or content on the website that has not been proofread before launching. Mistakes in the content or information provided, however small, will take away the reputation of the entire site.	Don't launch if you don't have untested content or for important pages like About. Also provides full information about copyright,

		version, author (Rean, J, 2015, online)
4	JavaScript Independence: Some browsers may have JavaScript disabled implicitly for any reason but do not indicate how to enable it. If you do not guarantee the independence of JavaScript, your website may look like it is broken. (Rean, J, 2015, online)	"Try turning off your browser's JavaScript and browse around your website. If it looks broken, then you need to fix that." (Rean, J, 2015, online)
5	Backup: Most web hosts are not good at keeping backups of websites. This may result in loss or inability to recover data in an emergency.(Rean, J, 2015, online)	Pay them to set up recurring jobs for backups depending on your needs and save backups on a separate location independent of your server. (Rean, J, 2015, online)
6	Unexpected risk: Unexpected risk: Sometimes a problem in your site will occur and people will visit pages that do not exist. Sometimes, they even visit pages they shouldn't. (Rean, J, 2015, online)	"Check for all possible security risks on your site and block public access to those pages, and of course, when you block people on specific pages, you need to let them know why." (Rean, J, 2015, online)

Table 16 Risks to website after launch

Conclusion

As such, our group is under the help of lecturers and the spirit of cooperation and cooperation of our team members, our team has completed the process of developing the educational environment system within FPT co. We have really come a long way with a lot of new things in managing a project for the first time. We start with making a plan for the right tools and methods, then applying that plan to develop and manage the entire project throughout its life cycle. Finally, as testers we learn how to test and evaluate system features and offer improved solutions. Because this is the first time, we have been exposed to a large project, so it is inevitable that mistakes. If given the opportunity, we hope that there will be conditions to develop the next version of the system.

References:

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