

Ho Chi Minh City International University

School of Computer Science and Engineering



Web Application Development

IT093IU

VEDUCAT

Submitted by

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CHAPTER I. INTRODUCTION

1. Abstract

This project was developed to meet the requirements of the course Principles of Web Application Development at the International University - Vietnam National University, Hanoi. The core objective of this course project is to develop a website to support students and lecturers in their studies. The system is designed to improve the efficiency of managing learning materials and grades for students. By implementing a user-friendly platform, the system facilitates easy uploading and downloading of documents. In addition, the website is created through the process of collecting and integrating data from many surveys and documents provided by reputable websites, ensuring the reliability and accuracy of the information in the database. The proposed website aims to create a flexible and advanced university environment within the university community. This project aims to provide a practical perspective on building and managing a basic website while developing teamwork skills and experience in solving problems that arise during the process of building and managing a database management system for each team member.

2. Key Feature

1.1 Introduction of website:

"Course Activity Management for Distance Learning" addresses a critical and growing need in modern education. With the shift towards online learning due to advancements in technology and increasing demand for flexible learning solutions, it's essential to develop efficient tools for managing course activities virtually. This system not only mirrors real-world classroom dynamics (like discussions, exams, and announcements) but also improves upon them by adding flexibility, structure, and accountability. By choosing this topic, we focus on solving challenges faced in distance learning, such as engagement,

assessment, and communication, while providing a practical and scalable solution for educators and students.

3. Achievement

The "Course Activity Management for Distance Learning" project achieved several key milestones:

1. **Efficient Course Management:** Enabled administrators to effectively manage courses, teachers, and students.
2. **Enhanced Learning Experience:** Provided tools for teachers to manage materials, assignments, grading, and announcements, and for students to complete tasks, view updates, and participate in discussions.
3. **User-Friendly Design:** Developed an intuitive interface using EJS and SCSS for seamless navigation.
4. **Secure and Reliable System:** Ensured secure authentication with JWT and bcrypt, and efficient data handling with MongoDB.
5. **Team Collaboration:** Fostered teamwork and practical application of web development knowledge using GitHub for version control.

These achievements highlight the project's success in delivering a robust solution for virtual education.

4. Techniques And Tools

- Programming Language:
 - Backend: JavaScript (Node.js)
 - Frontend: HTML (EJS), CSS (SCSS)

- Draw.io to draw ERD.
- Framework: Express.js
- Libraries: ejs, mongoose, socket.io, multer, jwt, bcrypt, nodemailer
- Database: MongoDB
- GitHub for Version Control: GitHub served as a central hub for collaborative development. Using Git, we maintained a detailed commit history, ensuring a streamlined collaboration process, code management, and issue tracking.
- Canva for Sprite Design: Canva has a user-friendly interface and flexible features facilitate presentation design.

CHAPTER II. CONTRIBUTION

Table 1: Group Contribution

Name	Responsibility	Contribution
Ung Huynh Phuc	UI/UX Design & Frontend Development	100%
Tran Thien	System Development & Backend Development	100%
Le Thien Ngan	Backend Development & Testing	100%

CHAPTER III. METHODOLOGY

1. Requirements analysis

Purpose: Develop a virtual education website

Environment: University

Target audience: Students, teacher

Features: Real time chat, submit and upload documents, send and receive data.

2. Approach analysis

2.1 Reviewed Materials:

Beginning J2EE 1.4: From Novice to Professional

2.2 Research Approach

The instructor starts the project with an organized plan and a focused configuration of product attributes, which serve as the project's checklist. During the sprint planning meeting, the team identifies items from the product backlog that they feel can be finished within the sprint. This provides a sprint backlog, which determines the sprint's features and related tasks. After the team comes to a decision on the sprint backlog, they can start working on the tasks, free from interruptions and focused on reaching the sprint goal. It is essential to point out that the sprint backlog remains unchanged throughout the sprint, however changes to the product backlog can be made before the following sprint.

Throughout the sprint, the team meets regularly for a 15-minute scrum meeting to present updates. They examine the accomplishments done, the task that remains, and any

roadblocks faced. After these conversations, everyone in the team presents their efforts to the group and gets comments to assist with the plan for the upcoming sprint and make any required changes. The meetings follow the Scrum principles of transparency, inspection, and adaptation, emphasizing their importance in the project's progress.

3. System Analysis

3.1 ERD diagram:



Figure 1: Schema diagram of Veducat

An Schema diagram is a visual representation of the relationships among entities in a database.

It's a powerful tool for database design and modeling.

4. Application structure

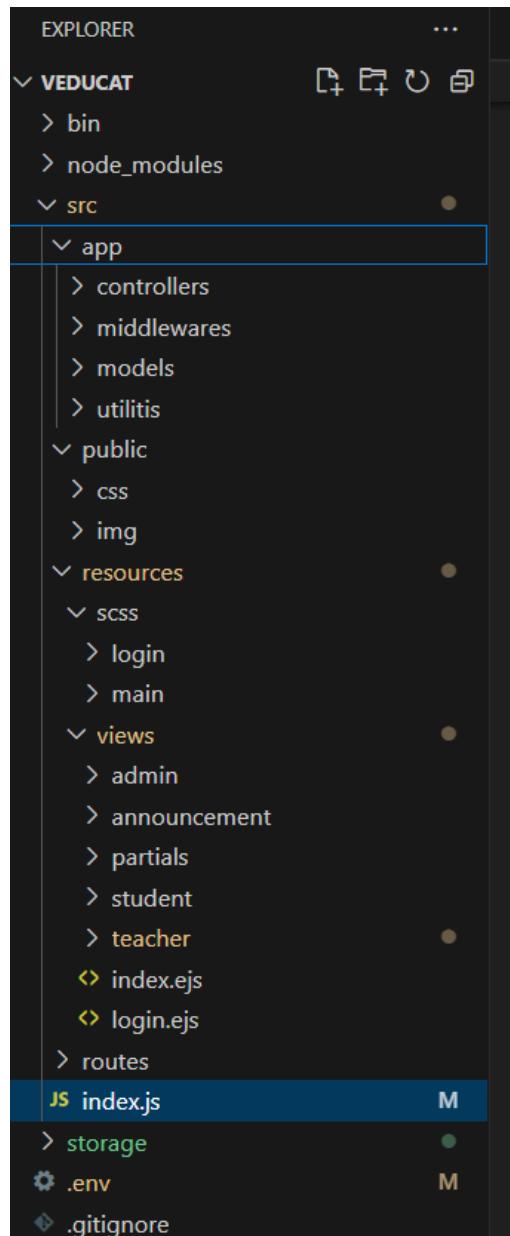


Figure 2: Class structure

CHAPTER IV. IMPLEMENTATION

1. Github

<https://github.com/thientr18/Veducat.git>

2. Teacher

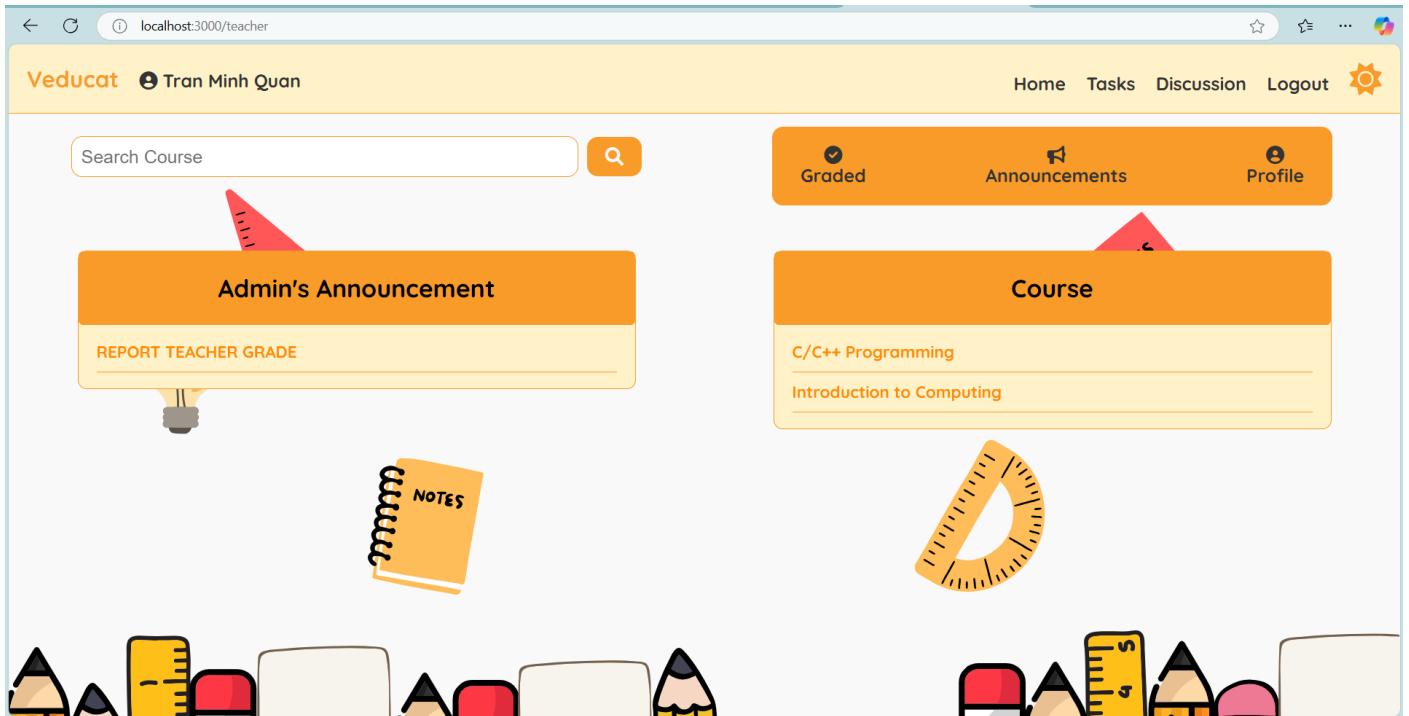


Figure 3: Teacher's home page

The screenshot shows a web browser window for the Veducat platform at localhost:3000/teacher/announcement. The header includes the Veducat logo, user profile for Tran Minh Quan, and navigation links for Home, Tasks, Discussion, and Logout. A gear icon is also present. The main content area has a yellow header bar with the title "Admin's Announcement". Below it, a box contains a report titled "REPORT TEACHER GRADE" posted on 12/15/2024, 2:42:45 AM. The message reads: "Dear, all the teacher! We need to have your grade list of student from you!" At the bottom of the page are decorative icons of school supplies: a lightbulb, a spiral notebook labeled "NOTES", a protractor, and various pencils and erasers.

Figure 4: Teacher's home announcement page

The screenshot shows a web browser window for the Veducat platform at localhost:3000/teacher/grade. The header is identical to Figure 4. The main content area has a yellow header bar with the title "Grade List". Below it, a box displays assignment details: "Course Name" (Homework 1), "Grade Completed" (See detail), and a "See detail" link. At the bottom of the page are decorative icons of school supplies: a spiral notebook labeled "NOTES", a protractor, and various pencils and erasers.

Figure 5: Teacher's page shows graded assignments

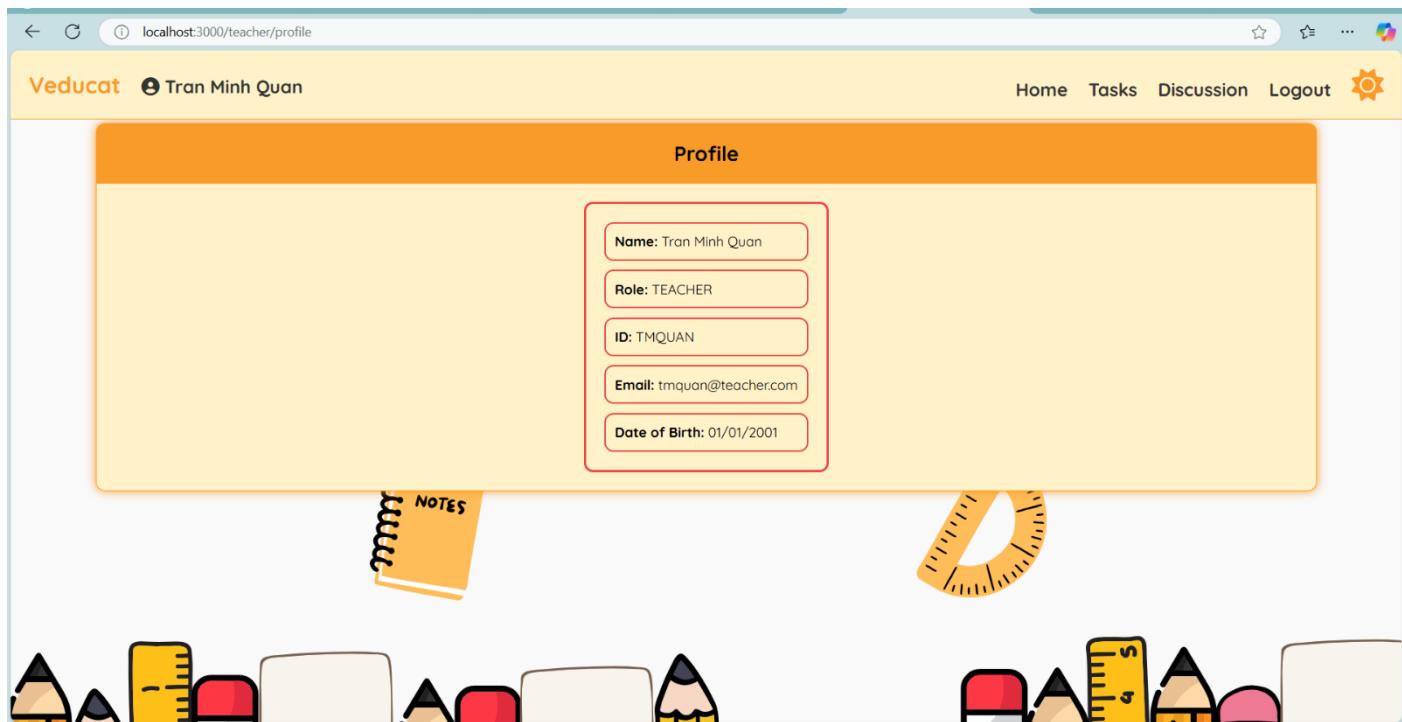


Figure 6: Teacher's profile page

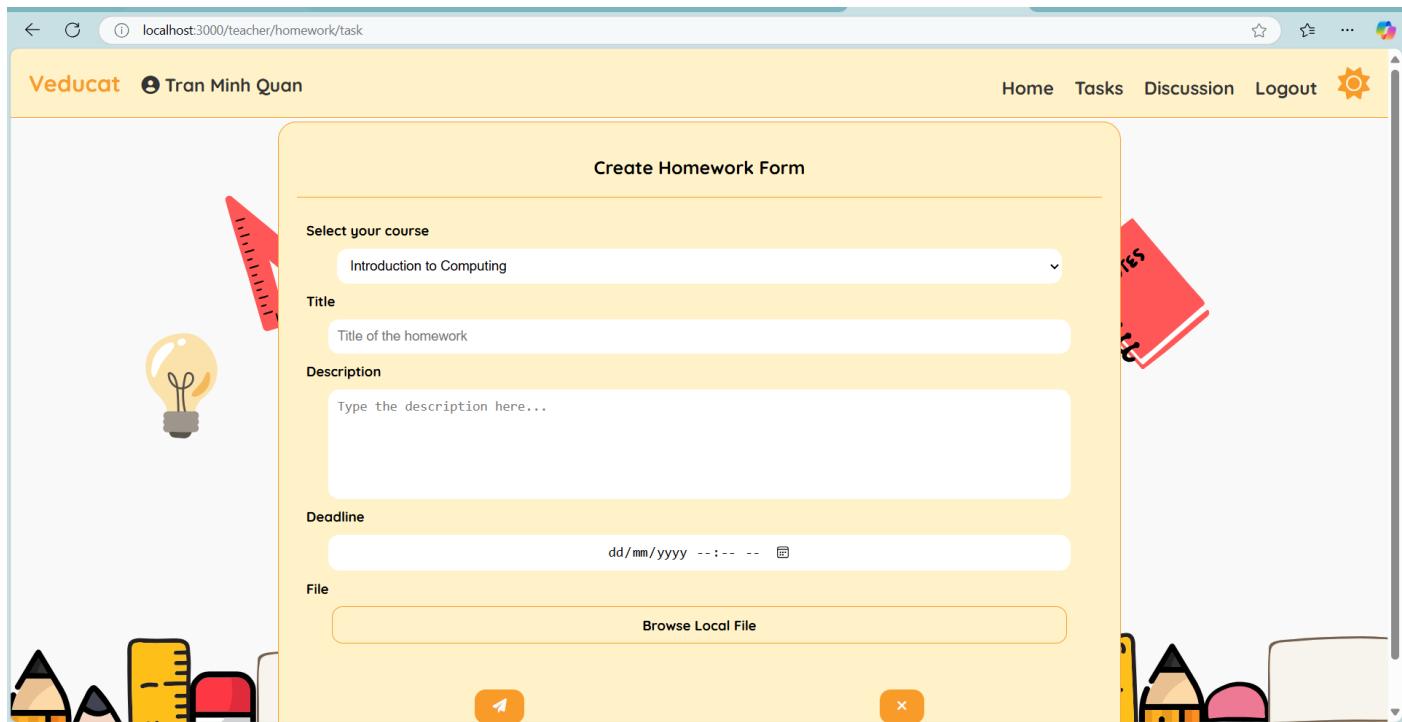


Figure 7: Teacher's page displays the form to create a new assignment

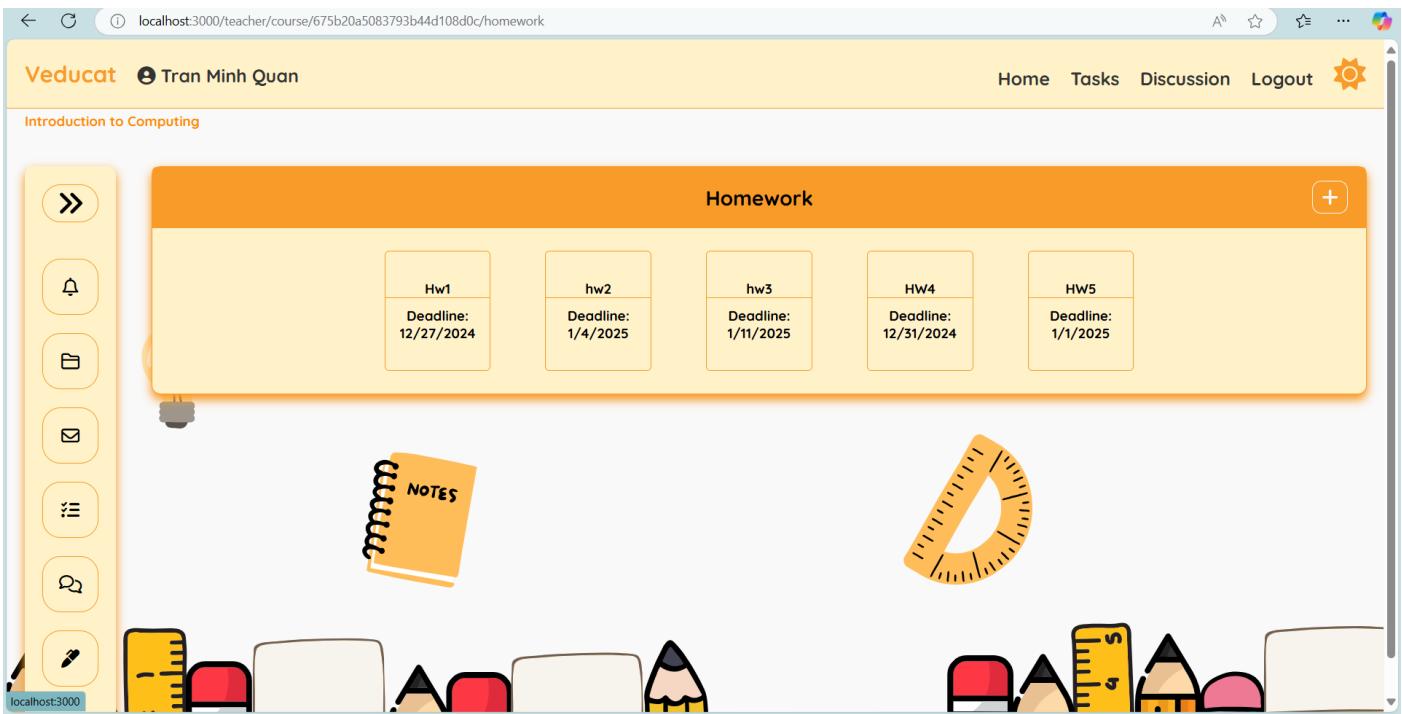


Figure 8: Teacher's homework page

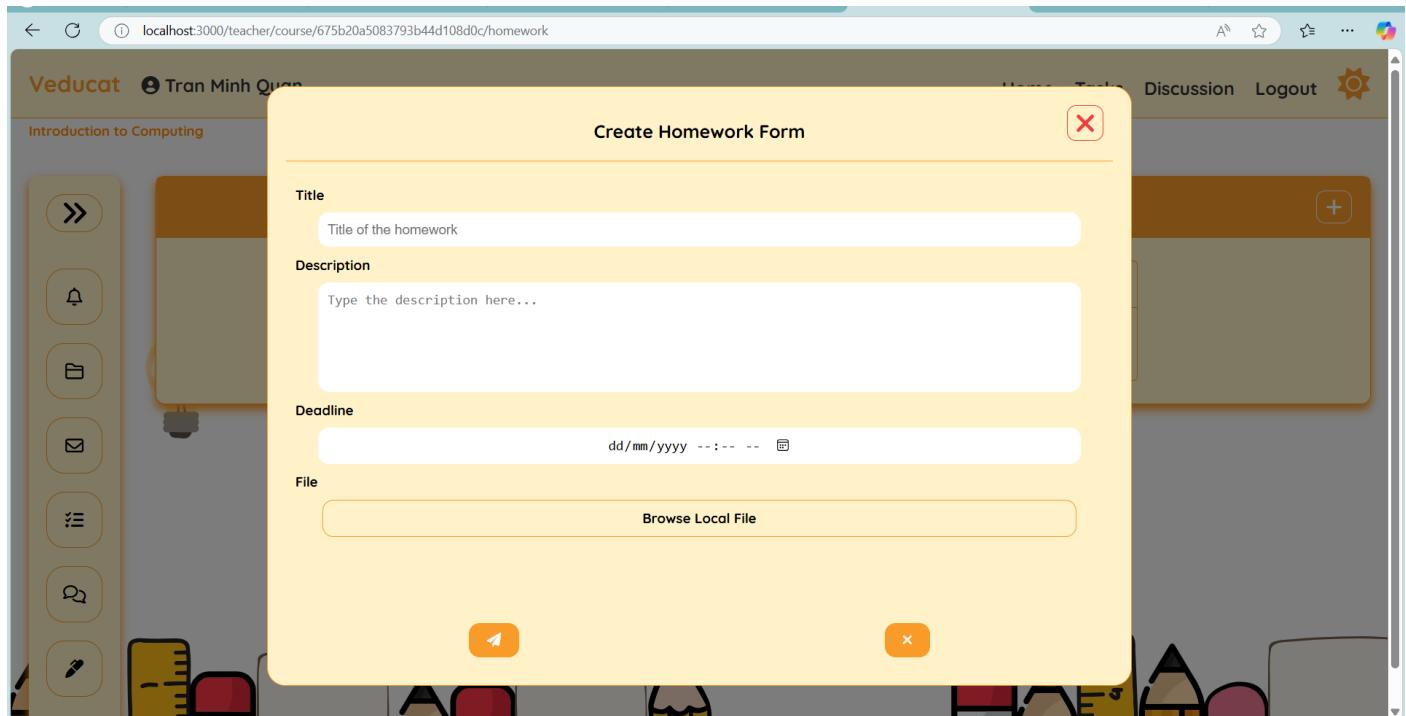


Figure 9: Teacher's page displays the form to create a new assignment in specific course

A screenshot of a web browser displaying the Veducat platform. The URL is `localhost:3000/teacher/course/675b20a5083793b44d108d0c/homework/675e12e86e108994f89eabfe`. The top navigation bar includes the Veducat logo, user profile (Tran Minh Quan), and links for Home, Tasks, Discussion, Logout, and a gear icon. Below the navigation is a breadcrumb trail: Introduction to Computing. The main content area shows an assignment titled "Hw1". It includes fields for Description (hw1), Due Date (12/27/2024), and Attachment, which lists two PDF files: "midtermreview-questions-answ.pdf" and "Quy_che_hoc_che_tin_chi_VN.pdf". The background features a decorative border with school-related icons like a notebook labeled "NOTES", a ruler, and various pencils.

Figure 10: Teacher's page shows details of the assignment

A screenshot of a web browser displaying the Veducat platform. The URL is `localhost:3000/teacher/discussion`. The top navigation bar includes the Veducat logo, user profile (Tran Minh Quan), and links for Home, Tasks, Discussion, Logout, and a gear icon. The main content area shows a "Create Discussion Form" dialog box. It has fields for Select your course (set to "Introduction to Computing"), Title (Title of discussion), Topic (Topic of the discussion), Description (Type the description here...), and File (Browse Local File). The background features a decorative border with school-related icons like a lightbulb, a red book, and various pencils.

Figure 11: Teacher's page displays the form to create a new discussion

A screenshot of a web browser displaying the Veducat platform. The URL in the address bar is `localhost:3000/teacher/course/675b20a5083793b44d108d0c/discussion`. The page title is "Introduction to Computing". The top navigation bar includes links for "Home", "Tasks", "Discussion", "Logout", and a gear icon. On the left, there is a vertical sidebar with orange icons for navigation: double arrows, a bell, a folder, an envelope, three horizontal lines, a magnifying glass, and a pencil. The main content area is titled "Discussion" and lists several messages from users "test02", "tets02", "test03", "test04", "hello", "Talk about midterm exam", "test77", "test07", and "testtttt".

Figure 12: Teacher's page shows all discussions of course

A screenshot of the Veducat platform showing a detailed view of a discussion thread. The URL in the address bar is `localhost:3000/teacher/course/675b20a5083793b44d108d0c/discussion/675d0dab73a659a2b1795469`. The top navigation bar and sidebar are identical to Figure 12. The main content area shows a message from "test02" with the text "ad". Below it, a user "itcsiu21091" has responded with three messages: "hello teacher" (a few seconds ago), "Good morning" (a few seconds ago), and "Have a good day" (a few seconds ago). At the bottom of the screen, there is a text input field with placeholder text "Type your message here..." and two orange send buttons.

Figure 13: Teacher's page shows details of the discussion

The screenshot shows a teacher's interface for managing student discussions. On the left, there is a vertical sidebar with various icons for navigation. The main area is titled "Discussion" and shows a list of student messages. One message from "test02: ad" is highlighted. A modal window titled "Grading Form" is open over this message, containing a table with student information and a text area for discussion contents.

Student ID	Student Name	Discussion Contents	Grade
itcsiu21091	Lê Thiên Ngân	hello teacher Good morning Have a good day	(empty)

Below the table is a text input field with placeholder "Type your message here..." and a send button. To the right of the message list, there is a sidebar with a message from "tmquan" and a reply button.

Figure 14: Teacher's page grading student discussions

The screenshot shows a teacher's interface for creating announcements. On the left, there is a vertical sidebar with various icons for navigation. The main area is titled "Announcement" and contains a "Create Announcement" form. The form includes fields for "Title" (with placeholder "Title of Announcement") and "Description" (with placeholder "Type your announcement here..."). Below the form is a text input field with placeholder "Hello" and a send button. To the right of the form, there is a sidebar with a message from "tmquan" and a reply button.

Figure 15: Teacher's page displays the form to create a new announcement

LÊ THIỀN NGÂN	Introduction to Computing: Hiiiii Baconmecon - Three Little Cats Announcement from Veducat Date: Sun D...	1. 📧 🗃 ⌂ ⌂
TRAN THIEN	Introduction to Computing: Hi Everyone VEDUCAT - Virtual Education Platform Announcement from Veduca...	11:10 CH
TRAN THIEN	Introduction to Computing: Hello Hello Announcement from Veducat Date: Sun Dec 15 2024 18:12:12 GMT+0...	6:12 CH

Student get announcements through email

The screenshot shows a web browser window for the 'Veducat' platform. The URL is 'localhost:3000/teacher/course/675b20a5083793b44d108d0c/material'. The top navigation bar includes 'Home', 'Tasks', 'Discussion', 'Logout', and a gear icon. On the left, there is a vertical sidebar with icons for 'Home', 'Tasks', 'Discussion', 'Logout', 'Material', 'Announcements', 'File', 'Email', 'Search', and 'Help'. The main content area has a yellow header 'Material' with four items labeled 'test01', 'test02', 'test03', and 'test01'. Below the header is a decorative background featuring school-related illustrations like a notebook labeled 'NOTES', a ruler, and various pencils.

Figure 16: Teacher's page shows all material of course

The screenshot shows a 'Upload Material Form' dialog box overlaid on the Teacher's page. The dialog has fields for 'Title' (with placeholder 'Title of Material'), 'Description' (with placeholder 'Type your material here...'), and 'File' (with a 'Browse Local File' button). There is also a small orange circular icon with the number '1' and a red 'X' button in the top right corner of the dialog. The background of the dialog is light yellow, matching the overall theme of the application.

Figure 17: Teacher's page displays the form to create a new material

The screenshot shows a web browser window for the Veducat platform. The URL is localhost:3000/teacher/course/675b20a5083793b44d108d0c/material/675ef4a1bf713a756fdf86f9. The page title is "Introduction to Computing". The main content area is titled "Lesson 7". It contains a "Description" field with the text "Application layer" and a "File Attached" section showing a PDF file named "07 - Application layer.pdf". On the left side, there is a vertical sidebar with icons for navigation: double arrows, bell, folder, mail, list, and a magnifying glass. Below the sidebar, there is a decorative footer featuring school-related icons like a notebook labeled "NOTES", a ruler, and various pencils.

Figure 18: Teacher's page shows details of the material

The screenshot shows a web browser window for the Veducat platform. The URL is localhost:3000/teacher/course/675b20a5083793b44d108d0c/contact. The page title is "Introduction to Computing". The main content area is titled "Students List". It displays a table with two rows of student information:

Student ID	Student Name	Email
ITCSIU21091	Lê Thiên Ngân	itcsiu21091@student.hcmiu.edu.vn
ITITIU21284	Üng Huỳnh Phúc	ititiu21284@student.hcmiu.edu.com

On the left side, there is a vertical sidebar with icons for navigation: double arrows, bell, folder, mail, list, and a magnifying glass. Below the sidebar, there is a decorative footer featuring school-related icons like a notebook labeled "NOTES", a ruler, and various pencils.

Figure 19: Teacher's page shows all contact of students

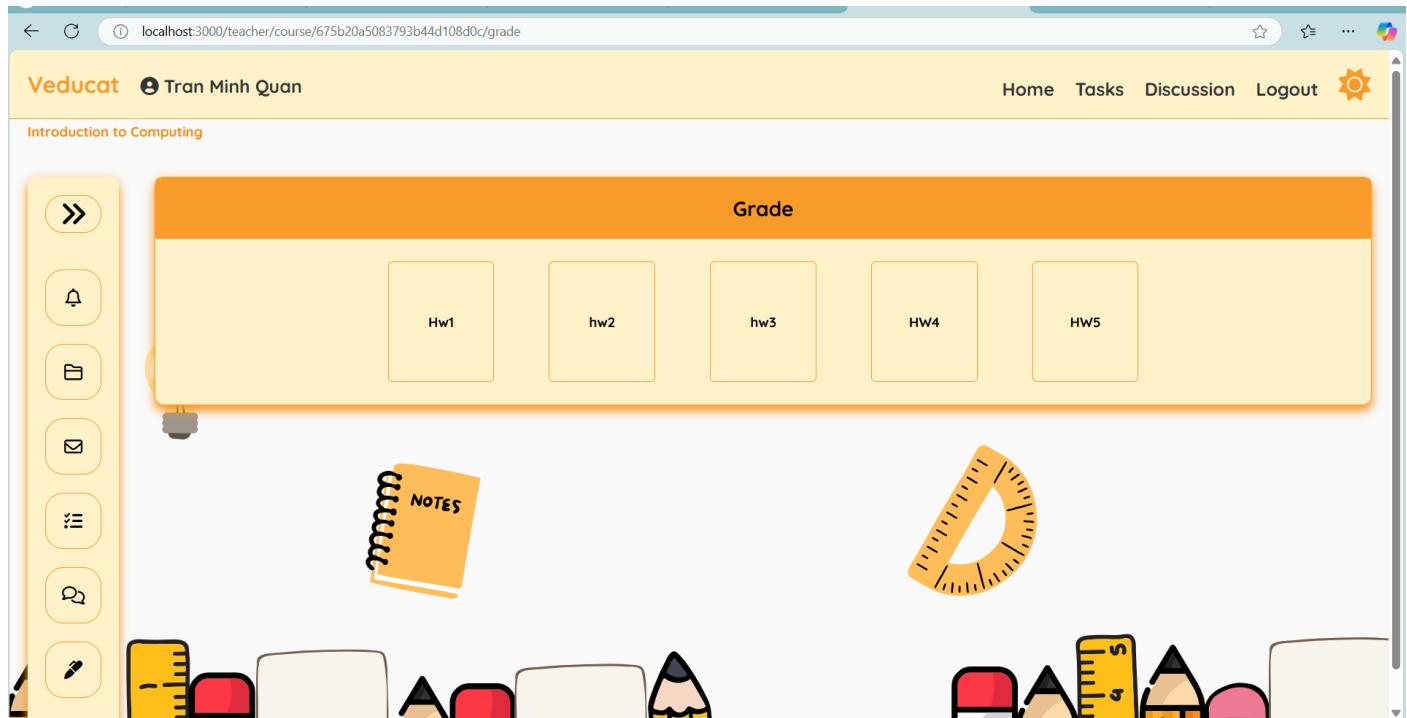


Figure 20: Teacher's page shows all tasks of course

This screenshot shows a detailed view of the teacher's page for grading student homework. The top navigation bar and sidebar are identical to Figure 20. The main content area displays a table for "Hw1" with columns for ID, Full Name, Writing, Attach, Submission Time, and Grade. One row is shown for a student named Lê Thị Tiên Ngân with ID itcsiu21091. The "Attach" column contains a link to a PDF file: "midtermreview-questions-answ.pdf Quy_cke_ho_c_cke_tin_chi_VN.pdf". The "Submission Time" is listed as 12/15/2024. A "Save" button is visible at the bottom right of the table. The background illustration remains consistent with Figure 20.

ID	Full Name	Writing	Attach	Submission Time	Grade
itcsiu21091	Lê Thị Tiên Ngân	hw1	midtermreview-questions-answ.pdf Quy_cke_ho_c_cke_tin_chi_VN.pdf	12/15/2024	<input type="text"/>

Figure 21: Teacher's page grading homework of students

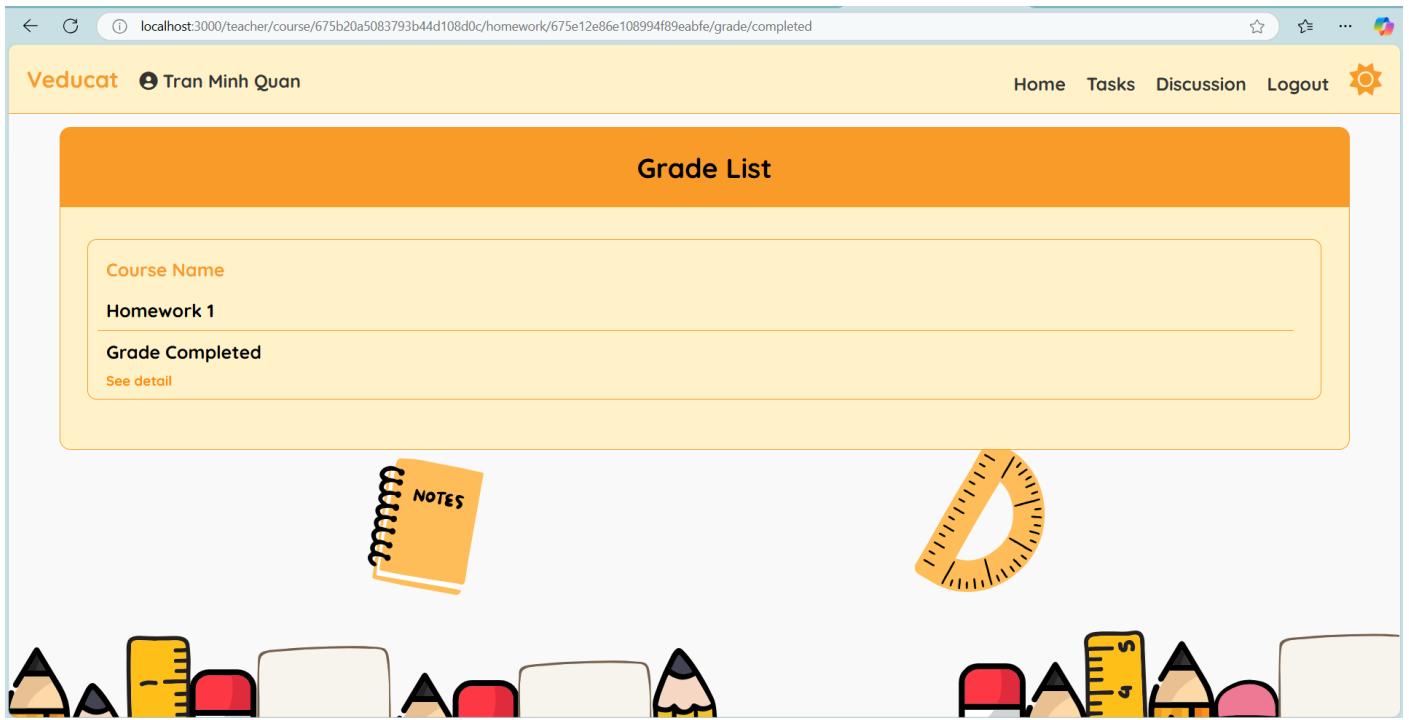


Figure 22: Teacher page complete grading

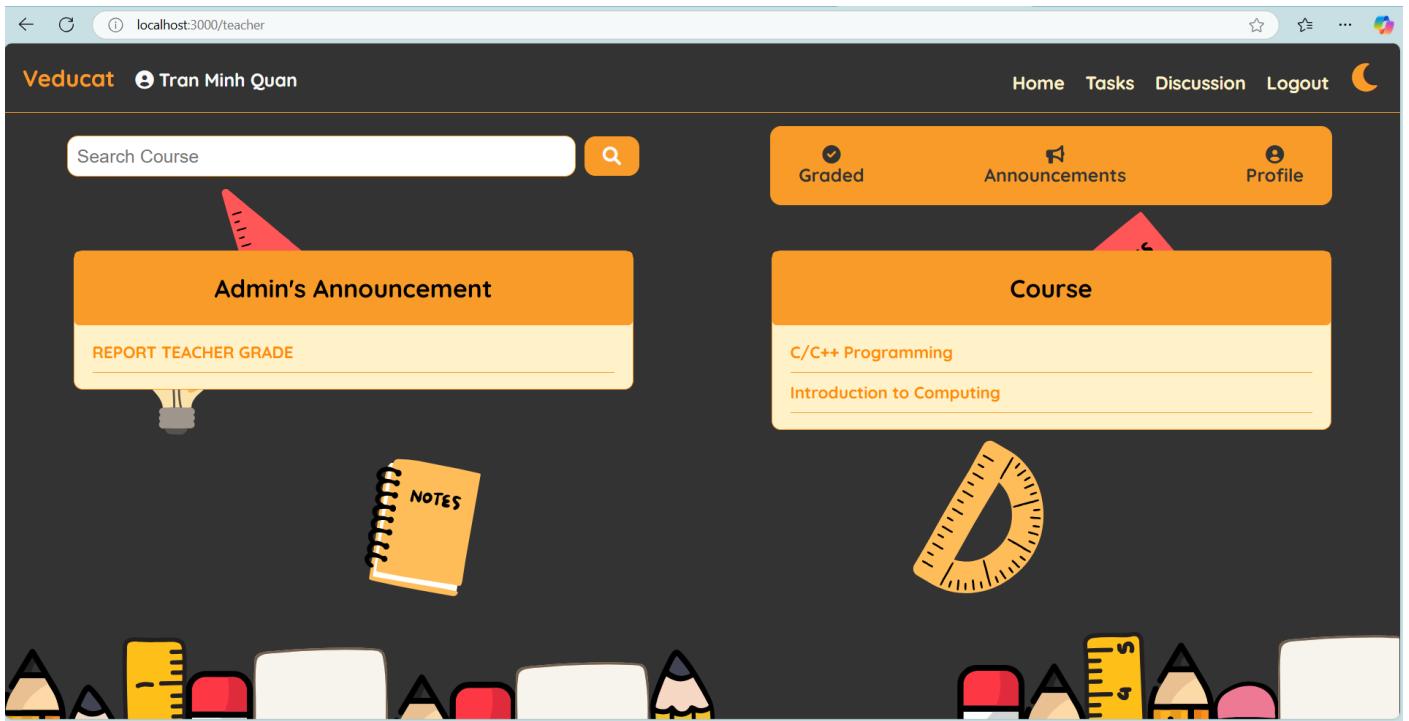


Figure 23: Teacher's page in dark mode

3. Student

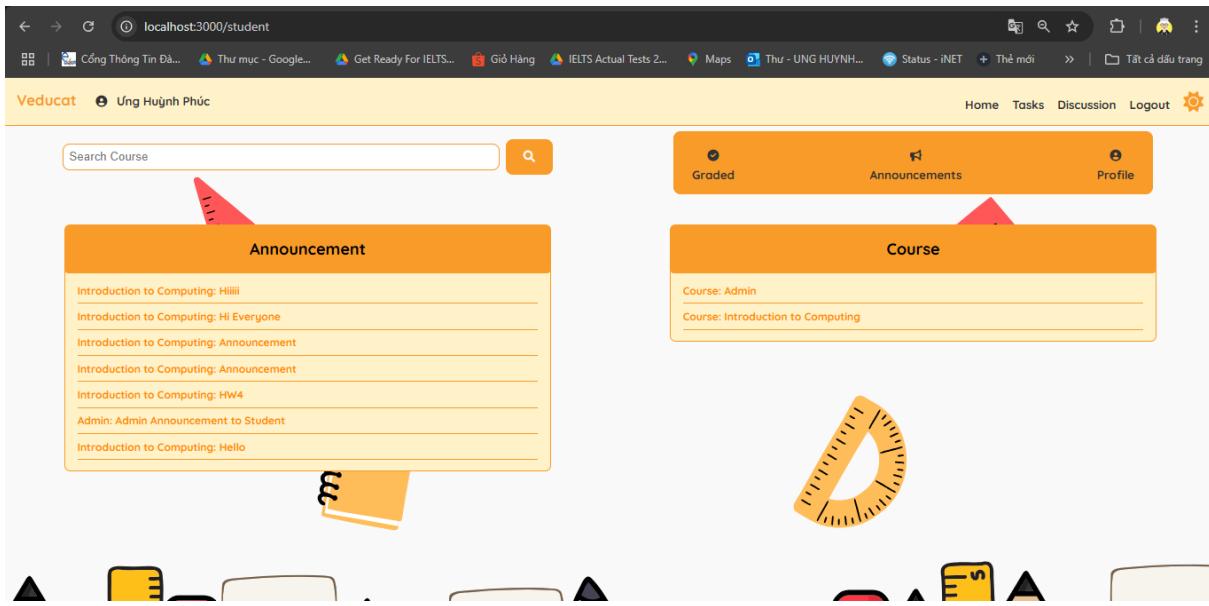


Figure 24: Student page in light mode

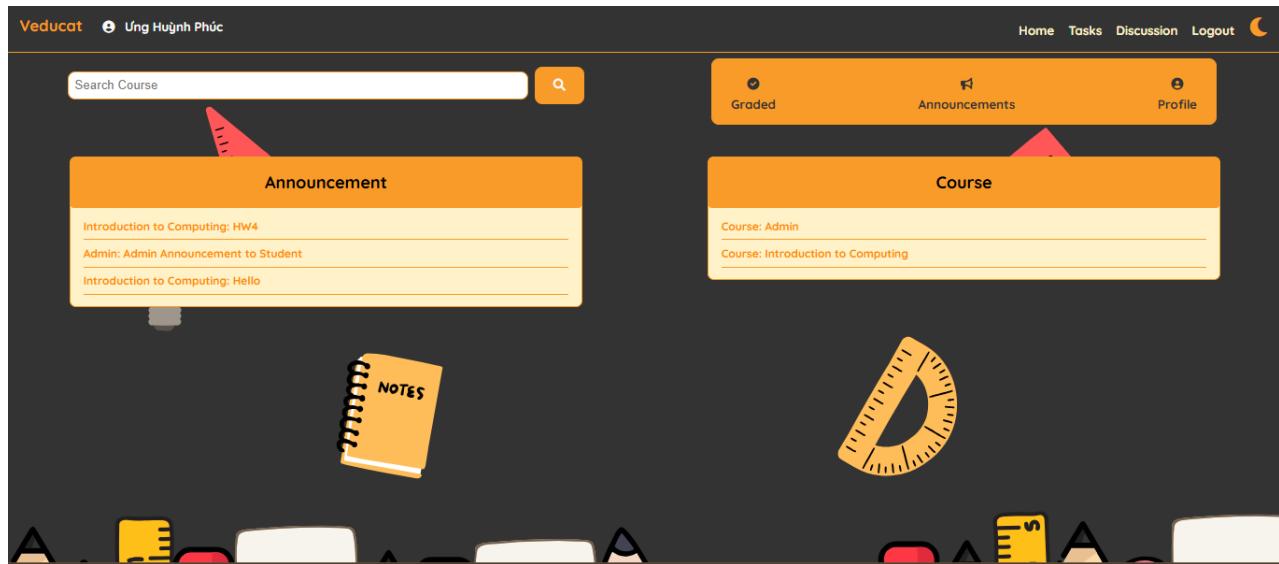


Figure 25: Student page in dark mode

The screenshot shows a web browser window for the Veducat platform. The URL is localhost:3000/student/course/675b20a5083793b44d108d0c/announcement. The page title is "Introduction to Computing". On the left, there is a vertical toolbar with icons for back, forward, search, and other navigation functions. The main content area is titled "Announcement" and contains several announcement cards. From top to bottom, the announcements are:

- Hill
Bacomeocon - Three Little Cats
- Hi Everyone
VEDUCAT - Virtual Education Platform
- Announcement
test01
- Announcement
test01
- HW4
test
- Hello
Hello

The background features a cartoon-style illustration of school-related objects like pencils, books, and a lightbulb.

Figure 26: Student's Page in Introduction to Computing Course with Announcements display first

The screenshot shows a web browser window for the Veducat platform. The URL is localhost:3000/student/course/675b20a5083793b44d108d0c/material. The page title is "Introduction to Computing". On the left, there is a vertical toolbar with icons for back, forward, search, and other navigation functions. The main content area is titled "Material" and contains several material items represented as cards:

- test01
- test02
- test03
- test01
- Lesson 7
- Lecture 1: Intro to Network Layer

There are also decorative icons on the left: a lightbulb, a spiral notebook labeled "NOTES", and a protractor. The background features a cartoon-style illustration of school-related objects like pencils, books, and a lightbulb.

Figure 27: Student's Material Display

The screenshot shows a web browser window for the Veducat platform. The URL is <localhost:3000/student/course/675b20a5083793b44d108d0c/material/675efdeb5bfd46a06a1d90c1>. The title bar says "Veducat | localhost:3000". The main content area displays a "Lecture 1: Intro to Network Layer" page. On the left is a vertical toolbar with icons for back, forward, search, file, message, list, and others. The right side has a navigation bar with Home, Tasks, Discussion, Logout, and a gear icon. Below the navigation is a sub-navigation bar for "Introduction to Computing". The main content includes a "Description" section with a detailed paragraph about course activity management for distance learning, mentioning its focus on solving challenges like engagement, assessment, and communication. It also lists two attached files: "SNA_Lab8.pdf" and "AdvThreads.pdf". Below the text are two decorative icons: a spiral notebook labeled "NOTES" and a protractor. At the bottom of the page are several small, colorful icons representing various school-related concepts like a lightbulb, a notepad, a ruler, and a desk.

Figure 28: Material's Detail in Course for Student

This screenshot shows the same Veducat platform interface as Figure 28, but the main content area is now titled "Contact". It displays the contact information for a teacher named Tran Minh Quan, with the email address tmquan@teacher.com. The vertical toolbar and right-side navigation are identical to Figure 28. The main content area includes a large empty text input field, a mail icon, and the teacher's name and email. Below the contact information are the same decorative icons as in Figure 28: a lightbulb, a spiral notebook labeled "NOTES", a protractor, and other school-related icons.

Figure 29: Course Contact for Student (show the contact of teacher)



Figure 30: Homework List for Student

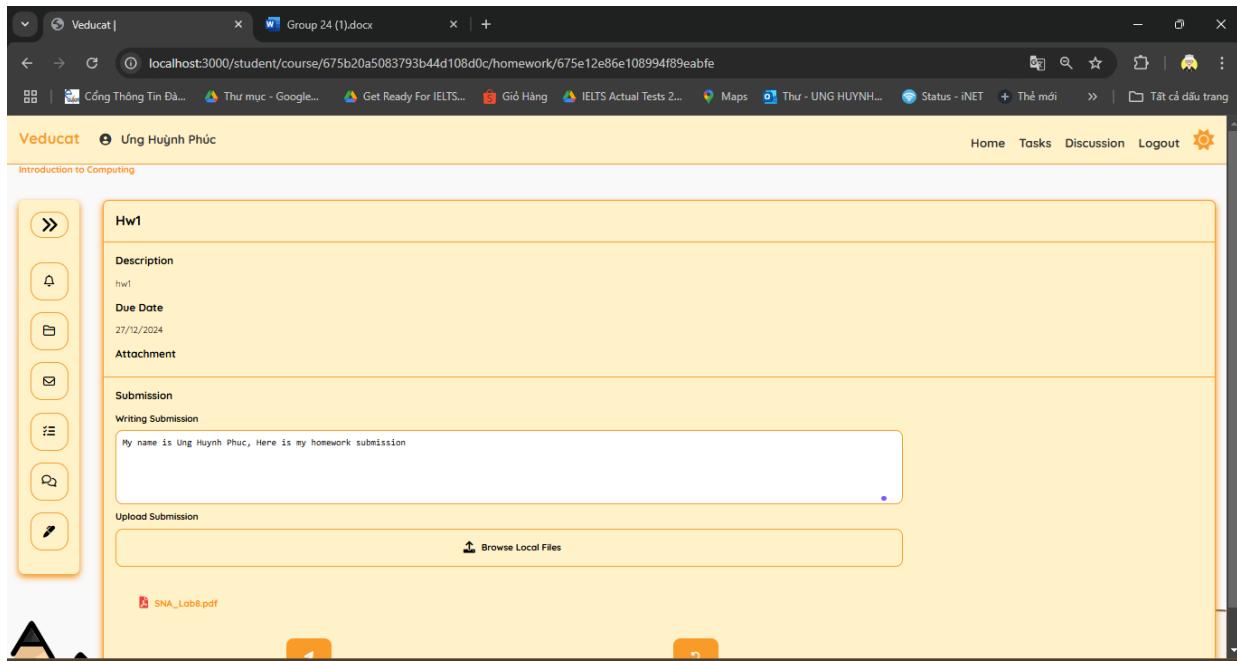


Figure 31: Homework Detail for Student and Form to submit Homework

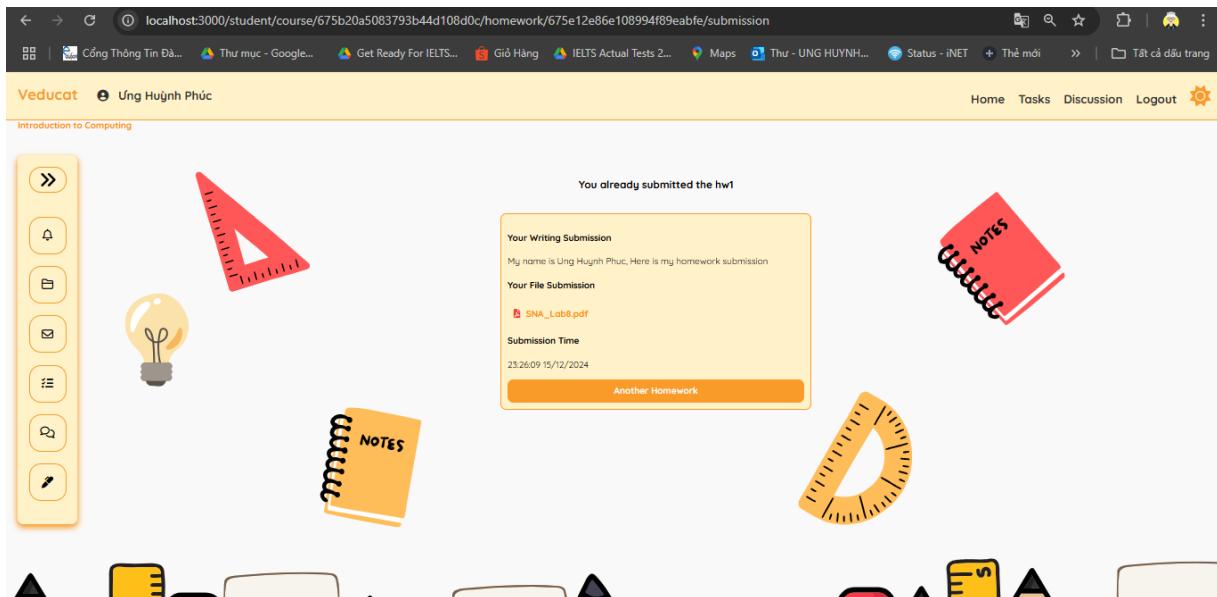


Figure 32: Student Submission Display

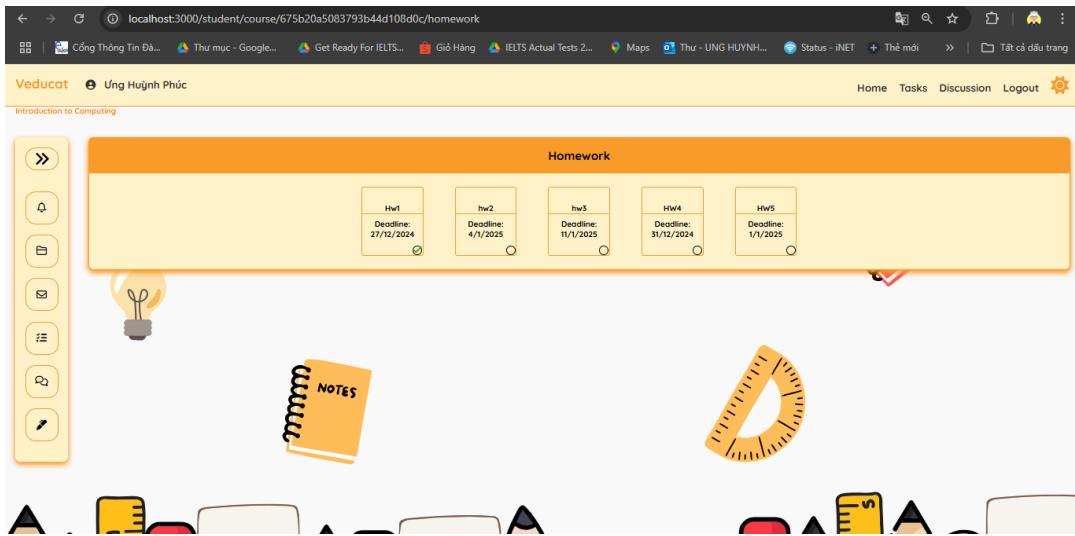


Figure 33: Automating check the homework if the homework is submitted

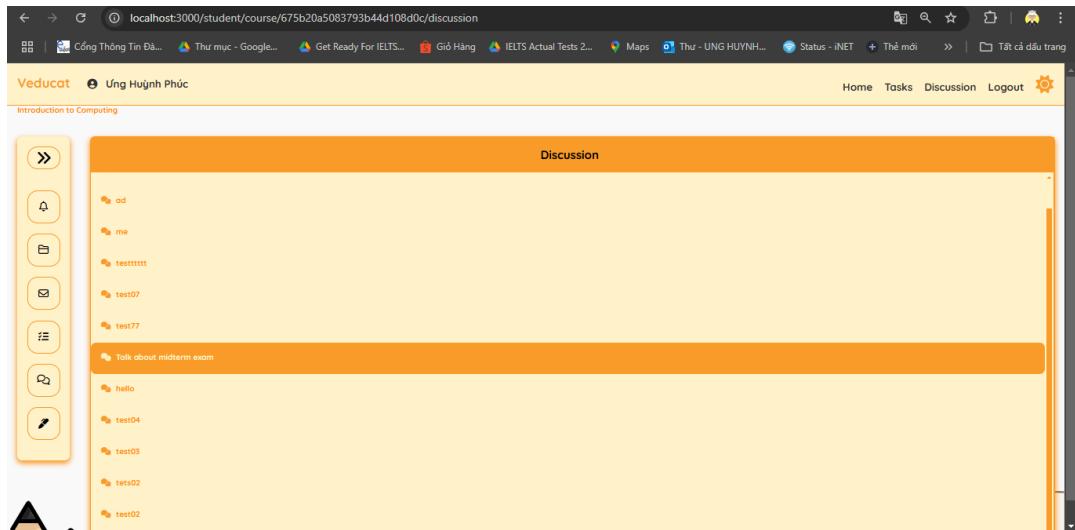


Figure 34: First loading of Discussion

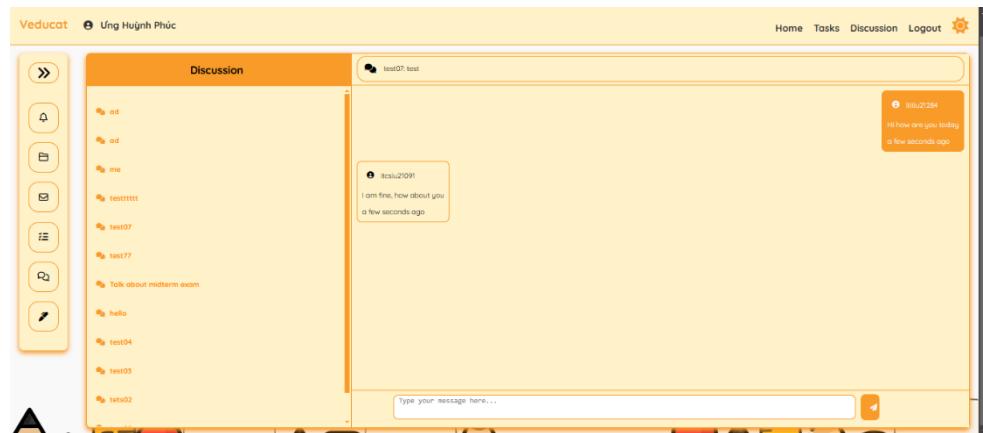
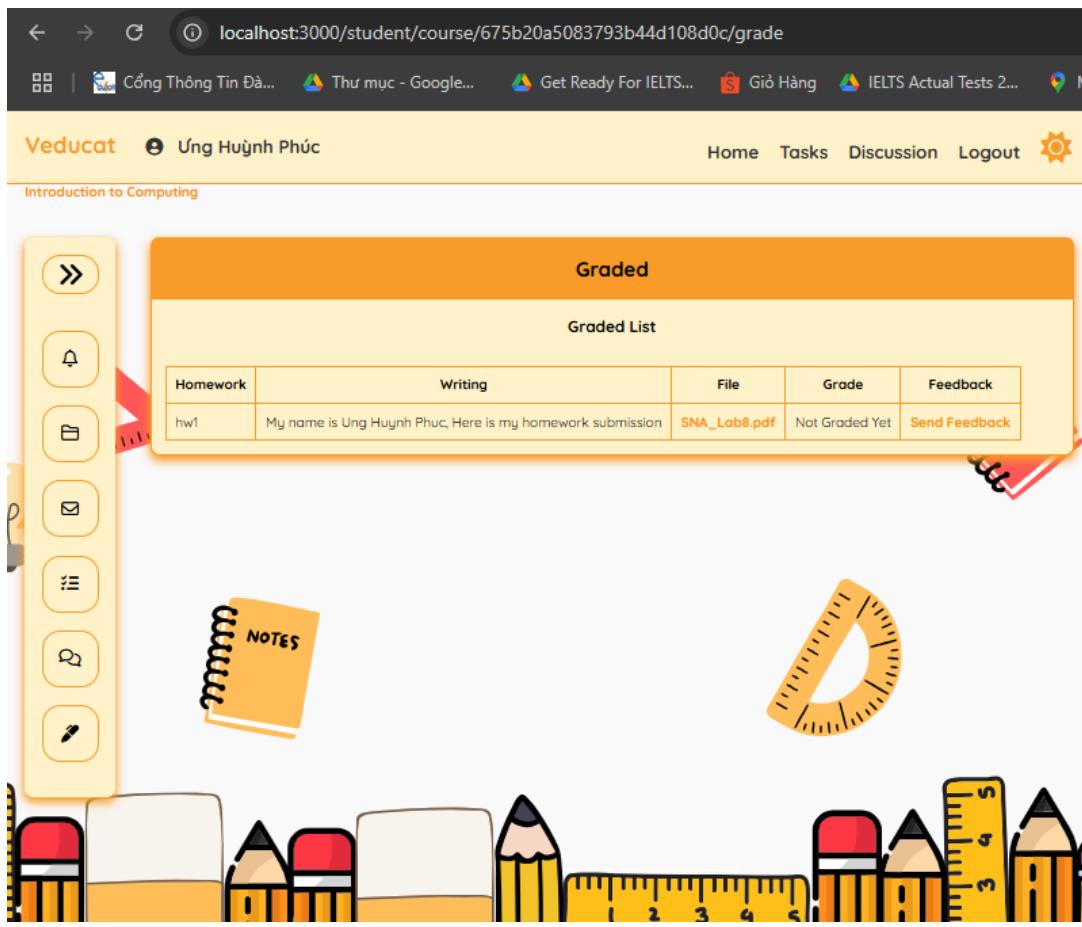


Figure 35: Chat Interface

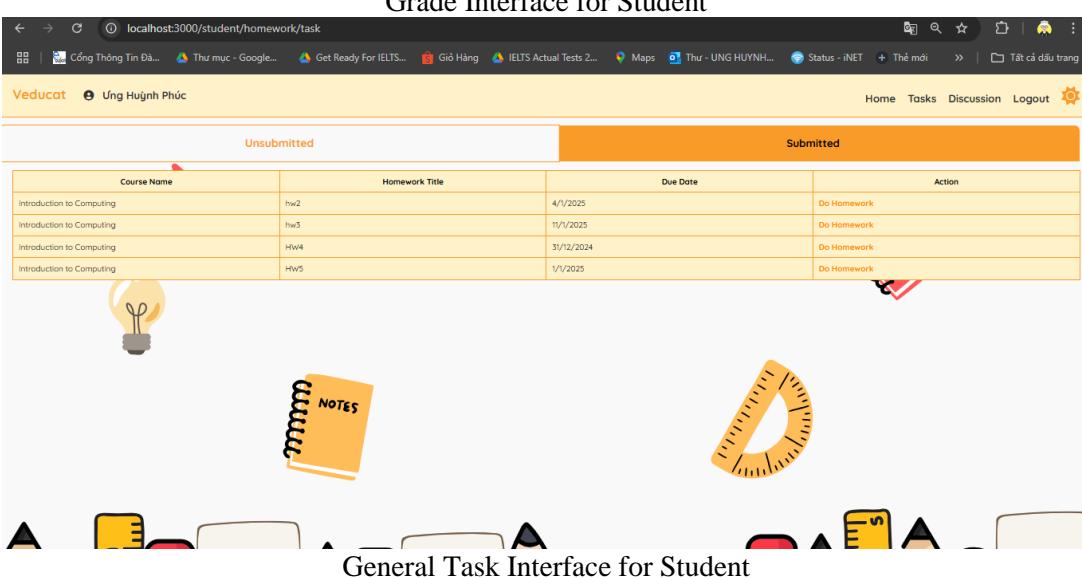


Graded

Graded List

Homework	Writing	File	Grade	Feedback
hw1	My name is Ung Huynh Phuc. Here is my homework submission	SNA_Lab8.pdf	Not Graded Yet	Send Feedback

Grade Interface for Student



Unsubmitted **Submitted**

Course Name	Homework Title	Due Date	Action
Introduction to Computing	hw2	4/1/2025	Do Homework
Introduction to Computing	hw3	1/1/2025	Do Homework
Introduction to Computing	hw4	3/12/2024	Do Homework
Introduction to Computing	hw5	1/1/2025	Do Homework

General Task Interface for Student

A screenshot of a web browser window titled "localhost:3000/student/discussion". The page has a header with the Veducat logo and the user "Ung Huynh Phuc". Below the header is a navigation bar with links for Home, Tasks, Discussion, and Logout. The main content area is titled "Discussion" and contains a list of posts from different users:

- ad
Course: Introduction to Computing | Posted on: 22:15:38 15/12/2024
- ad
Course: Introduction to Computing | Posted on: 22:13:27 15/12/2024
- me
Course: Introduction to Computing | Posted on: 22:08:30 15/12/2024
- testttttt
Course: Introduction to Computing | Posted on: 22:07:28 15/12/2024
- test07
Course: Introduction to Computing | Posted on: 22:05:49 15/12/2024
- test77
Course: Introduction to Computing | Posted on: 22:04:33 15/12/2024
- Talk about midterm exam
Course: Introduction to Computing | Posted on: 22:02:13 15/12/2024

General Discussion Interface for Student

A screenshot of a web browser window titled "localhost:3000/student/profile". The page has a header with the Veducat logo and the user "Ung Huynh Phuc". Below the header is a navigation bar with links for Home, Tasks, Discussion, and Logout. The main content area is titled "Profile" and displays the following user information:

Name: Ung Huynh Phuc
Role: STUDENT
ID: ITIUI21284
Email: itiui21284@student.hcmiu.edu.vn
Date of Birth: 05/11/2003

Below the profile information are two decorative icons: a spiral notebook labeled "NOTES" and a protractor. At the bottom of the screen, there is a decorative footer featuring various school-related icons like a book, a pencil, and a graduation cap.

Profile interface of student

4. Admin

Manage Teacher Option

Add List Announcement

Figure 36: Manage Teacher View

«

Teacher ID	<input type="text"/>
Teacher Name	<input type="text"/>
Teacher Mail	<input type="text"/>
Teacher Birthday	<input type="text"/> dd/mm/yyyy <input type="button" value=""/>

Figure 37: To insert new teacher

Mức sử dụng bộ nhớ: 980 MB

Veducat for Admin

Manage Teacher Manage Student Manage Course Manage Progressing Course Log out

Back to Manage		Insert New Teacher	
Teacher's List			
Teacher ID	Teacher Name	Teacher Birthday	Teacher Email
TMQUAN	Tran Minh Quan	01/01/2001	tmquan@teacher.com
TRANTHIEN	Tran Thien	18/08/2003	tranthien@teacher.hcmiu.edu.com

Figure 38: List of inserted teacher

Veducat for Admin

Manage Teacher Manage Student Manage Course Manage Progressing Course Log out

Back to Manage		Insert New Teacher	
Teacher's List			
Teacher ID	Teacher Name	Teacher Birthday	Teacher Email
TMQUAN	Tran Minh Quan	01/01/2001	tmquan@teacher.com
TRANTHIEN	Tran Thien	18/08/2003	tranthien@teacher.hcmiu.edu.com

Edit Teacher Information

Teacher ID:	TMQUAN
Name:	Tran Minh Quan
Email:	tmquan@teacher.com
Birthday:	01/01/2001 <input type="button" value="Edit"/>
<input type="button" value="Save"/> <input type="button" value="Cancel"/>	

Figure 39: Teacher's information can be edited

Insert Announcement to Teacher

Announcement Title	<input type="text"/>
Announcement Content	<input type="text"/>
Announcement Receivers:	<input type="checkbox"/> Select All <input type="checkbox"/> TMQUAN Tran Minh Quan <input type="checkbox"/> TRANTHIEN Tran Thien
Insert	Reset
Go to Home	Go to List

Figure 40: Admin sends announcement to teacher

Announcement to Teacher List

Announcement ID	Announcement Title	Announcement Content	Receivers	Sender	Created At	Action
675ddfb5ca6fa10c7514f313	REPORT TEACHER GRADE	Dear, all the teacher! We need to have your grade list of student from you!	tmquan,tranthien	admin	Dec 15, 2024, 02:42 AM	Delete
Go to Home	Go to Insert					

Figure 41: List of announcement sent to teacher

Manage Student Option

[Add](#) [List](#) [Announcement](#)

Figure 42: Admin can manage student

A form for adding a new student record. It includes fields for Student ID (text input), Student Name (text input), and Student Birthday (date input). Below the form are two orange buttons: "Insert" and "Reset". At the bottom right is a blue button labeled "Go to Student's List". A small orange circular icon with a double-left arrow is positioned to the left of the form.

Student ID	<input type="text"/>
Student Name	<input type="text"/>
Student Birthday	<input type="date"/> <input type="button" value=""/>
<input type="button" value="Insert"/>	<input type="button" value="Reset"/>
<input type="button" value="Go to Student's List"/>	

Figure 43: Insert new Student

Veducat for Admin

Manage Teacher Manage Student Manage Course Manage Progressing Course Log out

Back to Manage Insert New Student

Student's List

Student ID	Student Name	Student Birthday	Student Email	Participate In	Action
ITITIU21284	Üng Huỳnh Phúc	05/11/2003	ititiu21284@student.hcmiu.edu.com	<ul style="list-style-type: none"> admin it064iu 	<button>Edit</button> <button>Delete</button>
ITCSIU21091	Lê Thiên Ngân	No data	itcsiu21091@student.hcmiu.edu.vn	<ul style="list-style-type: none"> admin it064iu 	<button>Edit</button> <button>Delete</button>
ITITIU21318	Trần Thị Thiên	18/08/2003	ititiu21318@student.hcmiu.edu.vn	<ul style="list-style-type: none"> admin it116iu 	<button>Edit</button> <button>Delete</button>

Figure 44: List of the student

Veducat for Admin

Manage Teacher Manage Student Manage Course Manage Progressing Course Log out

Back to Manage Insert New Student

Student's List

Edit Student Information

Student ID: ITITIU21284

Name: Üng Huỳnh Phúc

Birthday: 05/11/2003

Save Cancel

Student ID	Student Name	Student Birth	Participate In	Action
ITITIU21284	Üng Huỳnh Phúc	05/11/2003	<ul style="list-style-type: none"> admin it064iu 	<button>Edit</button> <button>Delete</button>
ITCSIU21091	Lê Thiên Ngân	No data	<ul style="list-style-type: none"> admin it064iu 	<button>Edit</button> <button>Delete</button>
ITITIU21318	Trần Thị Thiên	18/08/2003	<ul style="list-style-type: none"> admin it116iu 	<button>Edit</button> <button>Delete</button>

Figure 45: Admin edit student information

Insert Announcement to Student

Announcement Title	<input type="text"/>
Announcement Content	<input type="text"/>
Announcement Receivers:	<input type="checkbox"/> Select All <input type="checkbox"/> ITITIU21284 Ưng Huỳnh Phúc <input type="checkbox"/> ITCSIU21091 Lê Thiên Ngân <input type="checkbox"/> ITITIU21318 Trần Thiện
<input type="button" value="Insert"/>	<input type="button" value="Reset"/>
Go to Home	Go to List

Figure 46: Admin send announcement to student

Announcement to Student List

Announcement ID	Announcement Title	Announcement Content	Receivers	Sender	Created At	Action
675eea712b66cfb5e804b6fb	Admin Announcement to Student	Every should join Tet holiday event!		admin	Dec 15, 2024, 09:40 PM	<input type="button" value="Delete"/>
Go to Home		Go to Insert				

Figure 47: List of the announcement sent to student

Manage Course Option

Add	List
-----	------

Figure 48: Manage course option

Course ID
Course Name
Course Description

Insert Reset

Go to Teacher's List

Figure 49: Add new course to the platform

Veducat for Admin

Manage Teacher Manage Student Manage Course Manage Progressing Course Log out

Back to Manage	Insert New Course
Course List	

Course ID	Course Name	Course Description	Actions
IT064IU	Introduction to Computing		Edit Delete
IT116IU	C/C++ Programming		Edit Delete
IT069IU	Object-Oriented Programming		Edit Delete
IT013IU	Algorithms and Data Structure		Edit Delete
IT093IU	Web Application Development		Edit Delete

Figure 50: List of add course in the platform

Veducat for Admin

Manage Teacher Manage Student Manage Course Manage Progressing Course Log out

Back to Manage	Insert New Course
Course List	

Edit Course Information

Course ID:	it064iu
Course Name:	Introduction to Computing
Course Description:	
Created At:	

[Save](#) [Cancel](#)

Figure 51: Can edit course information

Veducat for Admin

Manage Teacher Manage Student Manage Course Manage Progressing Course Log out

Manage Progressing Course Option

Add List

Figure 52: Manage progressing course option, those courses are courses that are in operation in a semester

Veducat for Admin

Manage Teacher Manage Student Manage Course Manage Progressing Course Log out

Back to Manage Go to List

Insert Progressing Course

Course:

Teacher:

Students:

- ititiu21284 | Ưng Huỳnh Phúc
- itcsiu21091 | Lê Thiên Ngân
- ititiu21318 | Trần Thị Hiệt

Figure 53: Insert new progressing course

The image consists of two side-by-side screenshots of a web application interface. Both screenshots show dropdown menus being used to select items from lists.

Screenshot 1 (Left): This screenshot shows a dropdown menu for 'Course' with the option 'Select a course' highlighted in blue. Below the dropdown, there is a list of student entries, each consisting of a name and a brief description. The entries are:

- it064iu | Introduction to Computing
- it116iu | C/C++ Programming
- it069iu | Object-Oriented Programming
- it013iu | Algorithms and Data Structure
- it093iu | Web Application Development
- admin | Admin

Screenshot 2 (Right): This screenshot shows a dropdown menu for 'Teacher' with the option 'Select a teacher' highlighted in blue. Below the dropdown, there is a list of teacher entries, each consisting of a name and a brief description. The entries are:

- tmquan | Tran Minh Quan
- nh Ngan
- tranthien | Tran Thien
- nh Phuc
- nhan
- nen

Both screenshots include a 'Reset' button in an orange box at the bottom left and a 'Insert' button in an orange box at the bottom right.

Figure 54: Select students and teacher for the progressing course

This screenshot shows the 'Veducat for Admin' dashboard. The top navigation bar includes links for 'Manage Teacher', 'Manage Student', 'Manage Course', 'Manage Progressing Course', and 'Log out'. Below the navigation bar, there are two buttons: 'Insert New Progressing Course' on the left and 'Back to Manage' on the right. The main content area is titled 'Progressing Course List'.

Course ID	Course Teacher	Students	Actions
admin	admin	ititiu21284,itcsiu21091,ititiu21318	
it064iu	tmquan	ititiu21284,itcsiu21091	<button>Edit</button> <button>Delete</button>
it116iu	tmquan	ititiu21318	<button>Edit</button> <button>Delete</button>

List of progressing courses, ‘admin’ is a specific course for admin to manage student in its own way, edit and delete action of this course is disable to prevent admin actions that may harmfully affect to the whole system.

Veducat for Admin

Manage Teacher Manage Student Manage Course Manage Progressing Course Log out

Insert New Progressing

Course ID	Course Teacher
admin	admin
it064iu	tmquan
it116iu	tmquan

Edit Progressing Course Information

Course ID:
it064iu

Teacher ID:
tmquan

Students:

ititiu21284	<button>Delete</button>
itcsiu21091	<button>Delete</button>

Insert Students:

ititiu21318	<button>Insert</button>
-------------	-------------------------

Save

Cancel

Back to Manage

Actions

<button>Edit</button>	<button>Delete</button>
<button>Edit</button>	<button>Delete</button>

Figure 55: Edit the progressing course, admin can remove or insert students to a course

CHAPTER V. CONCLUSION

The development of the "Course Activity Management for Distance Learning" project has been a meaningful experience, blending theoretical knowledge with practical application in web development. This project successfully addressed the growing need for virtual education tools by creating a platform that enhances the management of course activities, fosters collaboration, and improves communication between administrators, teachers, and students.

The system's key features, such as course management by administrators, assignment and grading tools for teachers, and task completion and discussion participation for students, offer a comprehensive and user-friendly solution to the challenges of distance learning. By integrating modern frameworks, libraries, and database management techniques, the platform ensures efficiency, scalability, and reliability in its operations.

Beyond its technical achievements, this project also provided valuable learning experiences for the team. We honed our skills in full-stack development, database management, and team collaboration while overcoming real-world challenges in software development. Additionally, by employing tools like GitHub, MongoDB, and Express.js, we demonstrated the ability to manage complex systems effectively and adapt to emerging technologies.

In conclusion, this project highlights the importance of leveraging technology to enhance the educational experience. It serves as a stepping stone for future innovations in distance learning, addressing the evolving demands of educators and students in a digital-first world. We believe this project not only fulfills the academic requirements but also contributes a meaningful solution to the field of education technology.

CHAPTER VI. REFERENCES

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