# Student learning Channel by Using Cloud Computing for Advanced Computer Science Course

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**Abstract - The cloud has become a widely used term in academia and the industry. Education has not remained unaware of this trend, and several educational solutions based on cloud technologies are already in place, especially for software as a service cloud. However, an evaluation of the educational potential of infrastructure and platform clouds has not been explored yet. An evaluation of which type of cloud would be the most beneficial for students to learn, depending on the technical knowledge required for its usage, is missing. Here, the first systematic evaluation of different types of cloud technologies in an advanced course on network overlays with 84 students and four professors is presented. This Evaluation tries to answer the question whether cloud technologies (and which specific type of cloud) can be useful in educational scenarios for computer science students by focusing students in the actual tasks at hand. This study demonstrates that platform clouds are valued by both students and professors to achieve the Course objectives and that clouds offer a significant improvement over the previous situation in labs where much effort was devoted to setting up the software necessary for course activities. These results most strongly apply to courses in which students interact with resources that are non-self-contained (e.g., network nodes, databases, mechanical equipment, or the cloud itself), but could also apply to other science disciplines that involve programming or performing virtual experiments. Higher education is characterized by "the tension between the offered quality and the drive to provide affordable higher education to more and more people". Information technologies (IT) have an increasing role as supporting elements to improve the quality (access to more resources that can be globally widespread) and to reduce the cost of resource usage, thus easing the sustainability of education.**

***Key words:*** *Cloud, Course, Education, Evaluation.*

## 1. Introduction

### 1.1. GENERAL

The cloud has become a widely used term in academia and the industry. Education has not remained unaware of this trend, and several educational solutions based on cloud technologies are already in place, especially for software as a service cloud. However, an evaluation of the educational potential of infrastructure and platform clouds has not been explored yet. An evaluation of which type of cloud would be the most beneficial for students to learn, depending on the technical knowledge required for its usage, is missing. Here, the first systematic evaluation of different types of cloud technologies in an advanced course on network overlays with 84 students and four professors is presented. This evaluation tries to answer the question whether cloud technologies (and which specific type of cloud) can be useful in educational scenarios for computer science students by focusing students in the actual tasks at hand.

### 1.2 OBJECTIVE

These tasks often distract students from the real goals of the course since they are focusing their effort on peripheral tasks more related to system administration than to the course topics. Cloud computing is a new paradigm for the provision of every network-available resource (X) as a service (XaaS). The required resources (machines, online libraries, version control systems, data management APIs, etc.) do not need to be online or deployed beforehand. Pay-per-use model. Users pay only for the actual usage of resources. Quality of service is guaranteed by the provider by the usage of service level agreements (SLAs). Infrastructure-as-a-Service (IaaS) clouds supply virtual hardware resources such as machines, networks, or storage.

### 1.3 EXISTING SYSTEM:

Computer science course management has some problems in knowledge life cycle. That is acquiring, modeling, retrieving, reusing, publishing, and maintaining knowledge. Grid are how to acquire, formally model, explicitly represent, store, maintain, and update them, and

to use them to support seamless resource sharing and interoperability, so as to achieve a high degree of automation.

**1.4 DISADVANTAGES:**

- In the Existing system there is having some problems
- Computer Science Course management is very complicate

**1.6 PROPOSED SYSTEM:**

These tasks often distract students from the real goals of the course since they are focusing their effort on peripheral tasks more related to system administration than to the course topics. Cloud computing is a new paradigm for the provision of every network-available resource (X) as a service (XaaS). The required resources (machines, online libraries, version control systems, data management APIs, etc.) do not need to be online or deployed beforehand. Pay-per-use model. Users pay only for the actual usage of resources. Quality of service is guaranteed by the provider by the usage of service level agreements (SLAs). Infrastructure-as-a-Service (IaaS) clouds supply virtual hardware resources such as machines, networks, or storage. A well-known example is Amazon users must adapt, deploy, and control the entire software stack their applications rely on. Platform-as-a-Service (PaaS) clouds provide a container environment for users to run their software components for instance, an application container, an online database management system shared with several users, other mechanisms for data persistence to be used by online applications deployed over the platform.

**1.7 ADAVANTAGES IN PROPOSED SYSTEM**

- This increasing number of tools and architectures for IaaS/PaaS supported education has not been accompanied *by* a real assessment on the effectiveness of these approaches missing for IaaS and PaaS in order to ascertain their real potential in some scenarios.
- This paper using different type of clouds and the educational outcome obtained (average qualification, perceived ease of usage, time to obtain the desired results, etc)

**1.8 PROBLEM DEFINITION**

Computer science course management has some problems in knowledge life cycle. That is acquiring, modeling, retrieving, reusing, publishing, and maintaining knowledge. Grid are how to acquire, formally model, explicitly represent, store, maintain, and update them, and to use them to support seamless resource sharing and interoperability, so as to achieve a high degree of automation. **In the Existing system there is having some problems Computer Science Course management is very complicate**

## 2. Methodologies

**2.1 Module name:**

**Students Modules:**

- Students Register
- Login
- Asking Questions
- Observation answers

**Professors Modules:**

- Professors Register
- Login
- Observe student questions and through answers

**2.2 MODULE DESCRIPTION:**

**2.2.1 Students Register:**

In this module help to recognize the authorized user of the application as Student. Registration module helps to provide authentication to new user. The new students has to register the application and then to login. In this module help to recognize the authorized user of the application as professors. Registration module helps to provide authentication to new user. The new student has to register the application and then to login. The new student is registering the module. Student enter the personal details might be register. And select the security question in the website. All the details will be registering the particular process.

**2.2.2 Login :**

User verification is needed for every system to keep security and for any other misuses. Each authorized

user will have a user-id /name and a password for login. This is directly giving from the cloud provider to the users who are authorized. The users want to follow some rules and conditions while using the system, and any misbehave will lead to block of particular user-id/name.

**2.2.3 Asking Questions:**

The login students if you have need to any answers and they ask the questions to send to the cloud provider and then provider forward to the questions in professor. First student's entry then enters the details from the side first select the professor's name which professor is best knowledge in the particular domain. Then select the domain in dotnet, java, and network etc…. Which professors in the online to the process to find out and select the professors name. Finding the question level in the part and two type of question level one advanced and another one is Elementary. Students select the question level in the side. All the details must be entered then post back to the queries in the particular professor.

**2.2.4. Observation answers:**

Students receive the answers and verify them. If uses have wants and other questions he will be asking the questions in the particular professors. All the information has been enter and throw the question in particular professors the may view in the question. The professors find out the question and question level and might be transfer in the particular students. Professor view the question and select the mail in the particular question. Particular question they will be reply in the students. They students will receive the mail and view the answer in the side.

**2.2.5 Professors Register:**

In this module help to recognize the authorized user of the application as professors. Registration module helps to provide authentication to new user. The new professors has to register the application and then to login. The new professor is registering the module. Professor enter the personal details might be register. How many years in experience and currently work. Which domain has been good knowledge? And select the security question in the website. All the details will be registering the particular process.

**2.2.6 Login :**

User verification is needed for every system to keep security and for any other misuses. Each authorized user will have a user-id /name and a password for login. This is directly giving from the cloud provider to the users who are authorized. The users want to follow some rules and conditions while using the system, and any misbehave will lead to block of particular user-id/name.

**2.2.7 Observation Students Questions Throw answers:**

The professor views the student's level, college, categories and etc... Then professor analyses the questions and they throw answers. A professor verifies the student's details and sends the answers in cloud provider. Professor enters the site and views the student's details. That means view the students question level and which college. They show the all information for the student. Select the particular students and write the answer to send. The answers will be store in cloud provider. And view the answer in the student's side.

**2.3 GIVEN INPUT EXPECTED OUTPUT**

**2.3.1 Student login:**

**Input:** Students give the username and password

**Output:** students given the username and password if they valid username and password then go to the next process. And then the username and password is not valid the not submit the cloud provider and they not access another process.

**Ask Questions:**

**Input:** Students first enter the student name, department, Qualification, Domain then select the professor's name.

**Output:** Then given the all data's are stored in the cloud provider and the data's transfer to another form.

**View answer:**

**Input:** Students throw the question in professor.

**Output:** Respected professor throw the answer in the students and student view the answer.

**Professor's login:**

**Input:** Professor gives the username and password

**Output:** professor given the username and password if they valid username and password then go to the next

process. And then the username and password is not valid the not submit the cloud provider and they not access another process.

**Observation the students question and throw answer:**

**Input:** Students ask the question to the professor and the professor view the questions.

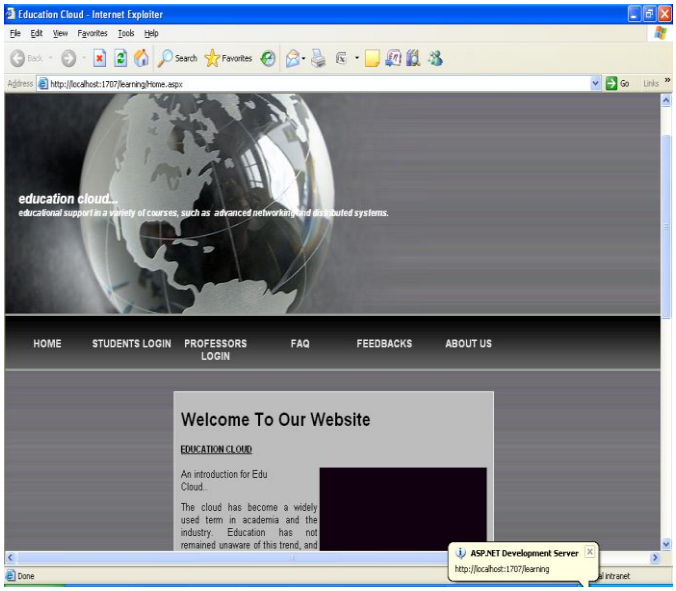
**Output:** Professor views the question and gives the answer to the particular students.

### 2.3.2. TECHNIQUE USED OR ALGORITHM USED:

Platform-as-a-Service (PaaS) clouds provide a container Environment for users to run their software components—for instance, an application container, an online database management system shared with several users, other mechanisms for data persistence to be used by online Applications deployed over the platform, etc. Examples are Google App Engine2 (GAE) and Microsoft's Azure. Cloud platform services, also known as plat form as a service (PaaS),deliver a computing platform and/or solution stack as a service, often consuming cloud infrastructure and sustaining cloud applications. It facilitates deployment of applications without the cost and complexity of buying and managing the underlying hardware and software layers. Cloud computing is becoming a major change in our industry, and one of the most important parts of this change is the shift of cloud platforms. Platforms let developers write certain applications that can run in the cloud or even use services provided by the cloud. There are different names being used for platforms which can include the on-demand platform, or Cloud. It's your choice on what you would like to call the platform, but they all have great potential in developing. When development teams create applications for the cloud, they must build its own cloud platform.

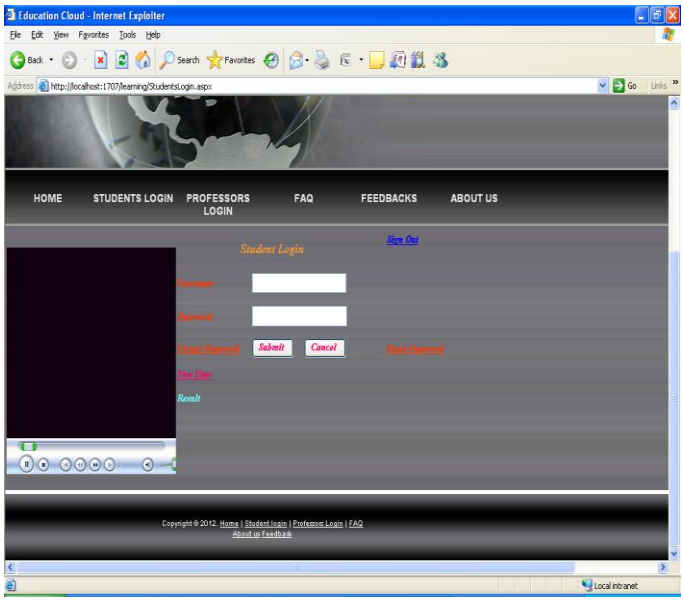
## 3. Screen Shorts

### 3.1. Home page



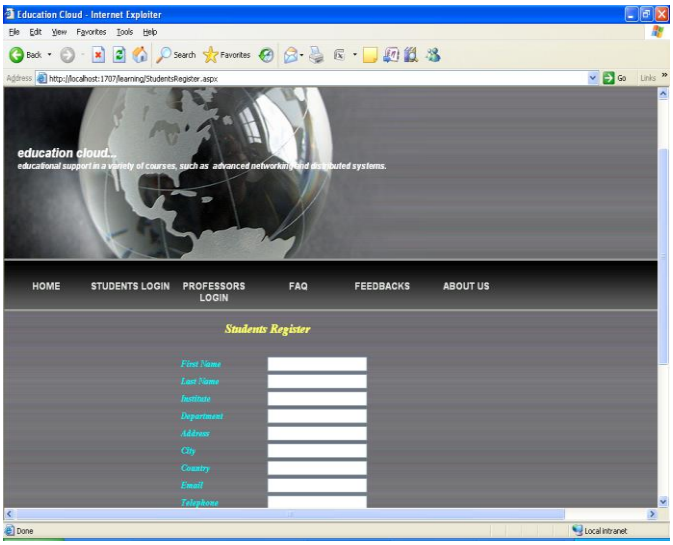

**Description About Home Page:** Project home page it's one part of the project. Overview of the site and brief explanation of the overall the site. Students gather the all details in the home page or overview page.

### 3.2 Student login



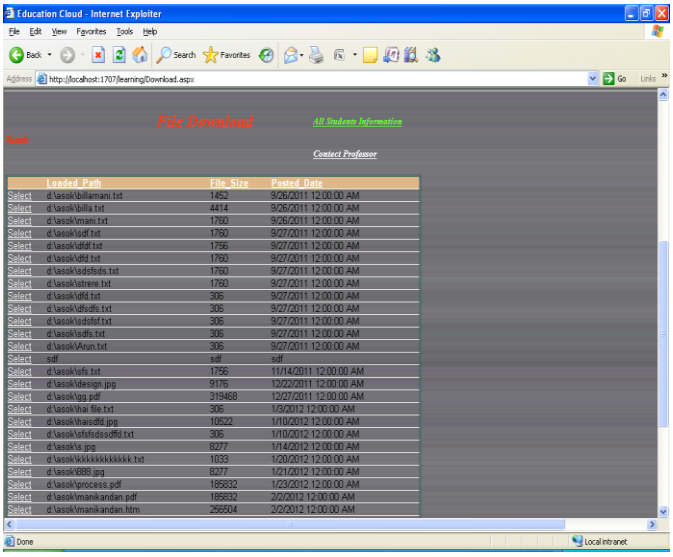

**Description About Student Login Page:** Student's login page. If you want to access the site first students enters the username and password in the particular content. The input values verify in the database. If the values are true then access the next level. And any one value is false they can't access the website

### 3.3 Student register



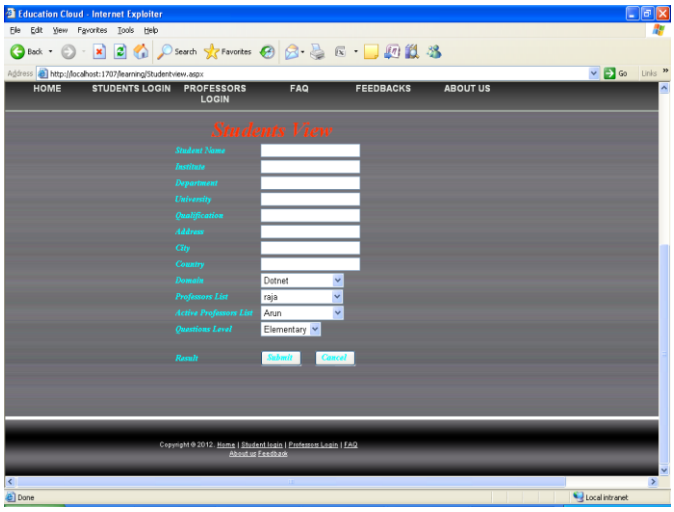

**Description About Student Register page:** In this module can process in new students only. The new students first enter the register form of the site. Students enter the all personal information in the page. If given input data type is correct the data's will be store in the database else they will not register the database.

### 3.4. File download



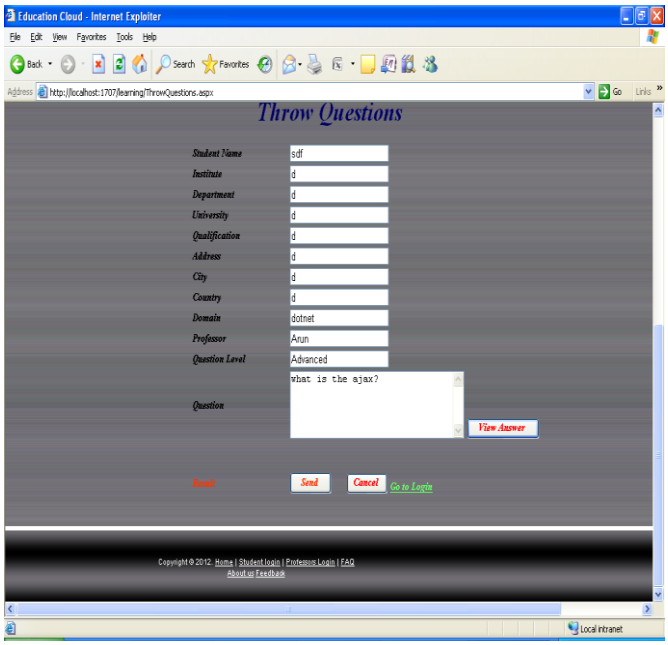

**Description About File Download page:**In this module professors uploading the data's in the website. Educational notes and information they will be stored. Downloading the is the students side process. Students want to any information for education side they will be downloading the data's.

### 3.5 Student view

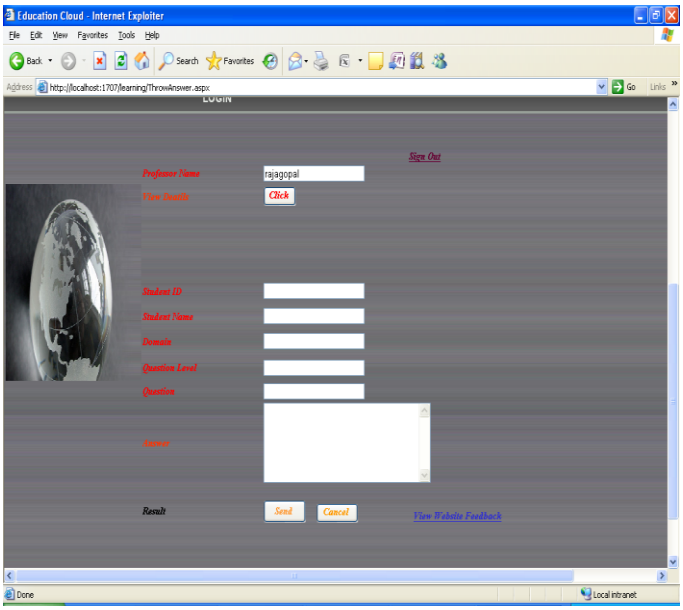



**Description About Student view page:** In this module they access in students side. Students downloading the data's. They can't access the particular data in the situation the student communicate the professors through online. Students enter the details in the name, college, department, qualification and which domain they want to the information. And view the professors list. They select which professors are currently in online and enter the question level in advanced or elementary. All the information stored in online database management (Paas).

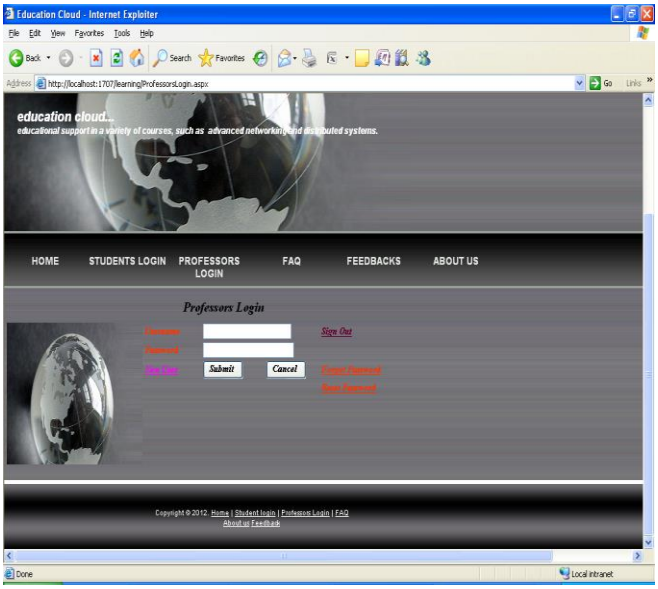
### 3.6 Throw question and view answer



**Description About Throw question and view answer:** In this module students ask the question in the particular professors. The student select the domain, professor name, question level students write the question in the question content they will be send in the question in particular professors. And professors reply the answer will be store in the cloud provider then forward to the particular student.




### 3.7. Professors login

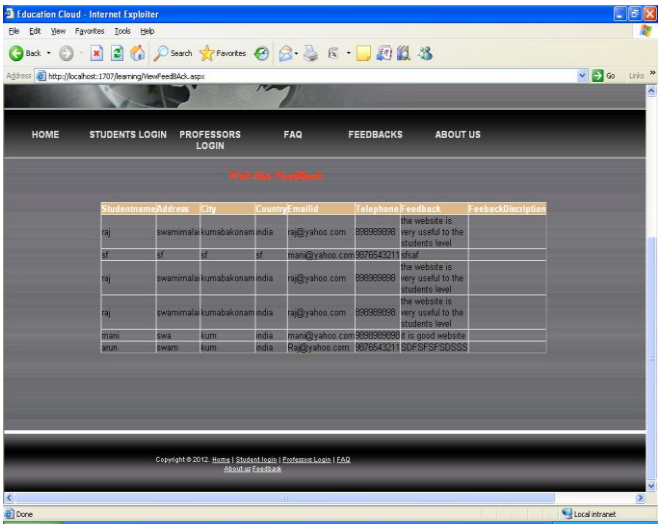



**Description About Professor login page:** Professor's login page. If you want to access the site first professor enters the username and password in the particular content. The input values verify in the database. If the values are true then access the next level. And any one value is false they can't access the website.

### 3.8. Professor throws answer

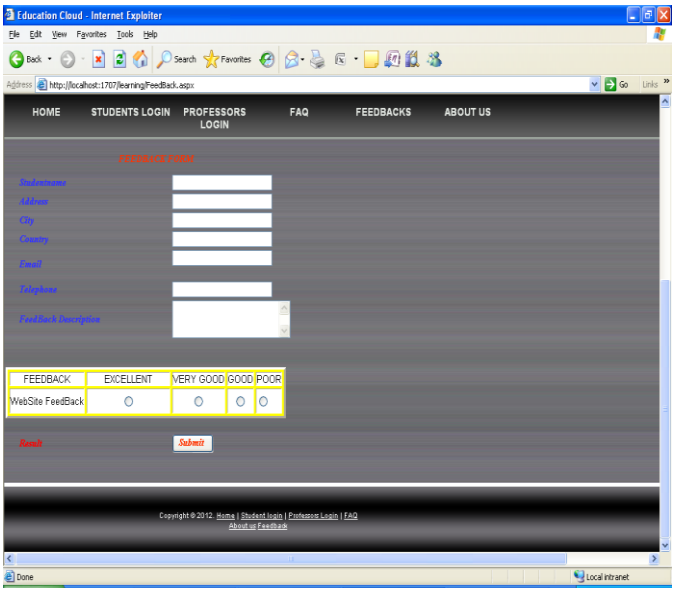
**Description About professor throws answer page:** Students throw the questions for the professors they will store in cloud provider and forward to the particular professors. In this module first professors they will login to the site and view the questions then professors choose the questions and write the answers to send the answer to the students.

### 3.9. View feedback




**Description About View feed back page:** In this module students given to the feedback for the website. The professors can be view in the website for this module. These processes do how to reach in the website to the students.

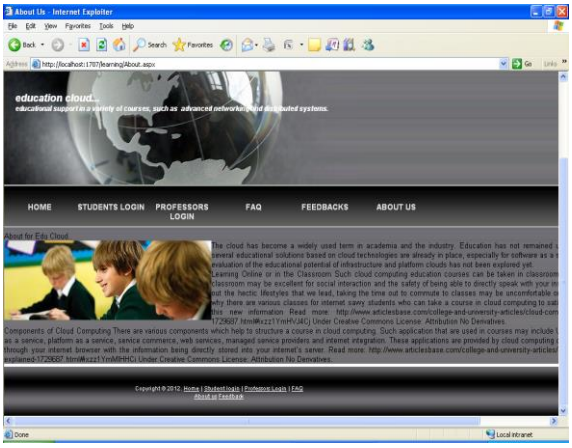
### 3.10 Feedback





**Description About Feedback page:** In this module can be used in website development. The website how to reach the students education to the world. The students can be entering the feedback of the website.

### 3.11. About us




**Description About us page:** In this module they will tell over all future of the website. How to use the website and what is the future to use this application.

## 4. GENERAL

The cloud has become a widely used term in academia and the industry. Education has not remained unaware of this trend, and several educational solutions based on cloud technologies are already in place, especially for software as a service cloud. However, an evaluation of the educational potential of infrastructure and platform clouds has not been explored yet. An evaluation of which type of cloud would be the most beneficial for students to learn, depending on the technical knowledge required for its usage, is missing.

### 4.1. APPLICATION:

This project it contain the online e-learning process. Students and professors how to communicate the online. The best exam in on line education. It is use for only develop the student's education.

### 4.2. FUTURE ENHANCEMENT:

An inconvenience highlighted by professors was that the cloud itself did not only fail to help in boosting evaluation, but also it increased the time evoted to lab assignment preparation. The fact that they were doing this for the first time and did not have an in-depth knowledge of the technological environment was pointed out by most of the professors. These factors will diminish as technologies get established in the course curriculum and should not be a problem for future offerings of the course.

### 5. CONCLUSTION:

This paper presents the first evaluation of the actual benefits of cloud computing for a course on overlay networks with a focus on probing and routing algorithms. The results reveal that the introduction of cloud technologies is appropriate to maintain students' focus and save time on non-course-related tasks (reducing the problem inherent to the use of technological support for education), while it does not help to motivate students and does not actually improve the average results. PaaS clouds are almost unanimously considered as easy to learn and use and may become a prevalent option for high-level courses. In turn, IaaS clouds will serve for medium abstract-level courses (such as those on operating systems, containers, or software configurations), while the traditional approach

where students are in charge of everything should be kept for advanced system management courses only.

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