CLOUD COMPUTING, (A CASE STUDY OF COMPUTER SCIENCE DEPARTMENT) JIGAWA STATE POLYTECHNIC

BY

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JIGAW SATTE POLYTECHNIC,

BY

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BEING A RESEARCH PROPORSAL SUBMITTED TO THE DEPATMENT OF COMPUTER SCIENCE DEPARTMENT .IN PARTIAL FULFILMENT OF THE REQUIREMENT OF THE AWARD OF DIPLOMA IN INFORMATION TECHNOLOGY.

JIGAWA STATE POLYTECNIC DUTSE

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APPROVAL PAGE

This project has been approved for the department of computer science, College of science and technology, Jigawa State Polytechnic Dutse.

By

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CERTIFICATION

We, Ya'u Yahaya Idris with registration number DP/IT/16/051A, Usman Adamu A. with registration number DP/IT/16/013A, Haruna Shu'aibu Sabo with registration number DP/IT/16/033A, Nafisa Sale Musa with registration number DP/IT/16/026A and Sani Habibu with registration number DP/CSN/16/013A a diploma graduate student in the department of computer science with has satisfactory completed the requirements for project research in the partial fulfillment of the requirement for the award of Diploma in Information Technology

The work embodied in this project work is not just copy directly, it has been sourced from primary and secondary data, and has not been submitted in part or full for any other diploma or degree of this or any other university.

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DEDICATION

This work is dedicated to the Almighty God for his infinity mercies and blessings upon ours and our lovely parents; I also dedicated this project work to my great lecture like Mal. Sadiq Yushau and Dr. Basheer Abdulhameed

ACKNOWLEDGEMENT

We begin this acknowledgement with almighty, the beneficent, the most merciful who does what the wishes, when he wishes and to whom he wishes.

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May the almighty god crown our effort with much gratitude and success. Amen

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CHAPTER FIVE

Abstract

Several computing paradigms have promised to deliver this computing vision, of which the latest one is known as Cloud computing. The term of cloud denotes the infrastructure as a "Cloud" from which businesses and users are able to access applications from anywhere in the world on demand. Cloud Computing is a new paradigm for the provision of computing infrastructure, and provides all the resources including networks, servers, storage, applications, and services as a service. This paradigm shifts the location of this infrastructure to the network to reduce the costs associated with the management of hard-ware and software resources. This paper intends to provide comprehensive review on Cloud computing in terms standardization in de jure standardization organizations such as ITU-T and JTC1, and de facto standardization organizations.

CHAPTER ONE

1.0 Introduction

As Green IT has been issued, many companies have started to find ways to reduction IT cost and overcome economic recession. Cloud Computing service is a new computing paradigm in which people only need to pay for use of services without cost of purchasing physical hardware. For this reason, Cloud Computing has been rapidly developed along with the trend of IT services. It is efficient and cost economical for consumers to use computing resources as much as they need or use services they want from Cloud Computing provider. Especially, Cloud Computing has been recently more spotlighted than other computing services because of its capacity of providing unlimited amount of resources. Moreover, consumers can use the services wherever Internet access is possible, so Cloud Computing is excellent in the aspect of accessibility.

Cloud Computing is a fused-type computing paradigm which includes: Virtualization, Grid Computing, Utility Computing, Server Based Computing (SBC), and Network Computing, rather than an entirely new type of computing technique. Cloud computing has evolved through a number of implementations. Moving data into the cloud provides great convenience to users. Cloud computing is a collection of all resources to enable resource sharing in terms of scalable infrastructures, middleware and application development platforms, and value-added business applications. The characteristics of cloud computing includes: virtual, scalable, efficient, and flexible.

Cloud computing application

Email Communication

The emails are among the most popular ways used by people to communicate today and the service is constantly evolving to become faster and more reliable. Email clients are popular way to check your emails, but they often use your physical memory to store communication data.

Cloud computing enables webmail clients to use cloud storage and give you the opportunity to check your emails from any place in the world. All big technology corporations use cloud computing to make their email messaging service more reliable.

No Need to Upgrade Local Storage

Data saved on your home or business computer is accessible only when you use the particular device. With cloud computing users are able to store all the files they need to access later on over the internet.

When reading this you probably asks yourself how safe it is to use online storage services – you will be provided with unique username and password allowing only you to access the files in your online storage space. All cloud storage solutions have several layers of security making it nearly impossible for you to lose any of your data.

The Virtual Office

Probably the most popular use of the cloud computing is to enable business owners to "rent" software instead of buying it. Google Docs is the most popular

suite for running virtual office, but there are lots of other solutions available such as Think Free and Microsoft Office Live.

The main benefit of using virtual office applications is that you will not overload your PC with tons of heavy programs, but instead transfer most of the work online. Other benefits that come with using virtual office suites include improved accessibility, options for collaboration and secure cloud storage space.

Examples of cloud computing services include:

1. Software-as-a-Service Models

2. Virtual IT (information technology): Configure and deploy remote external servers as extensions to a company's local IT network.

3. **Network storage:** Archive data across the internet to a provider without needing to know the physical location ordinary storage.

1.1 Problems statement

The fully distributed and open structure of cloud computing and services becomes an even more attractive target for potential intruders. It involves multi-mesh distributed and service oriented paradigms, multi-tenancies, multi-domains, and multi-user autonomous administrative infrastructures which are more vulnerable and prone to security risks.

It's to solve the problems of overcoming the loosing information by using ordinary storage, by applying cloud computing it's reduce that.

1.2 Significant impact of the project

1. To provide comprehensive cloud storage for DIT STUDENTS in jigawa state polytechnic dutse. It increases performance and support by updating the fact that all your software and applications automatically.

2. It provides security and compliance.

3. It provides anytime anywhere access to information.

4. It increases performance and support by updating the fact that all your software and applications automatically.

5. It provides security and compliance.

6. It helps in economic cost reduction in running a particular application.

7. It provides humans with effective resource management.

8. It provides anytime anywhere access to information.

1.3 Scope of the project

Is occupying in the Department of computer science, DIT STUDENT previous, current and feature.

For the purpose of this research work, the researcher shall be limited to developing an address book application which will be installed

1.4 Objectives

1. Provide comprehensive storage in computer science department.

2. Reduce manual handling of information

3. Provide simple way of looking of student profile.

4 To increase resource availability of Cloud Computing system.

5. To handle the potential threats by deploying Multi-level IDS and managing user logs per group according to anomaly level.

6. To develop an address book application that will be launch as a cloud application

1.5 limitation of the study

1. This project is limited to the computer science department (DIT)
2. Fund: There was limited fund to take care of the research properly especially when test running the application.

3. Research Material: Lack of access to research materials on the topic in the school library and even public libraries were also a major constraint in the cause of this project.

1.6 definitions of terms

Cloud Computing: is a paradigm, where a large pool of system are connected in private or public network to provide infrastructure for application data and files storage.

CHAPTER TWO

1.0 LITRRETURE REVIEW

This chapter reviews the literature related to the topic covered by the project work. It examines cloud computing in general touching on its history, application and importance. It explains cloud oracle and highlights its importance in developing cloud computing applications. The chapter concludes by giving a brief on cloud computing.

2.1 cloud overview

There are some debates on the definition of cloud computing. Confusing problem like the lack of Agreed-upon definitions, always appeared in the cloud, as different experts provide different Definitions. Different types of services will be provided by cloud computing to the subscribers through the internet. Cloud computing is something that all applications and services moved into "Clouding cloud computing architecture, there are four main layers. The first layer, fabric,

contains all Physical, computational devices and hardware resources such as network bandwidths, computing units, storage system etc.

The second layer, unified resource, contains virtualized resources which act as integrated resources? The physical machines have been encapsulated in order to act as integrated resources for the end users. In third layer, which is the platform layer, contains new resources such as specialized tools, middleware and services. The main purpose of this layer is to reduce the burden of deploying applications directly into virtual machine container.

The Development environment is provided for the developers to develop applications. Finally, the top Layer, application, contains the applications that run and execute in the cloud.

According to the users can use cloud services provided by cloud providers without having any operational system.

2.2 history of cloud computing

The underlying concept of cloud computing was introduced way back in 1960s by john McCarthy. His opinion was that computation may someday be organized as a public utility. Also the characteristics of cloud computing were explored For the first time in 1966 by (douglas park hill) in his book. The history of the term "cloud" is rom the telecommunications world, where telecom Companies started offering virtual private network (vpn) services with comparable quality of service at a much lower cost.

Initially before vpn, they provided dedicated point-to point data circuits which were wastage of bandwidth. But by using vpn services, they can switch tragic to balance utilization of the overall network. Cloud computing now extends this to cover servers and network infrastructure. Many players in the industry have jumped into cloud computing and implemented it. Amazon has played a key role

and launched the amazon web service in 2006. Also goggle and imp have started research plans in cloud computing. Eucalyptus became the fast open source platform for deploying private clouds.

Cloud mining is the process of bit coin mining utilizing a remote data center with share processing power. This type of cloud mining enable users to mine bit coin or alterative crypto currencies wit out managing the hardware.

2.3 characteristics of cloud computing

In cloud computing, users access the data, applications or any other services with the help of a browser regardless of the device used and the user's location.

The infrastructure which is generally provided by a third -party is accessed with the help of internet. Cost is reduced to a significant level as the infrastructures is Provided by a third-party and need not be acquired for occasional intensive computing tasks.

Less IT skills are required for implementation reliable service can be obtained by the use of multiple sites which sharing of resources and costs amongst a large Collection of users allows efficient utilization of the infrastructure.

- Maintenance is easier in case of cloud computing applications as they need not be installed on each user's computer.
- Pay per use facility allows measuring the usage of application per client on regular bases.
- Performance can be monitored and thus it is scalable.
- security can be as good as or better than traditional systems because providers are able to devote resources to solving security issues that many customers cannot quite confidential this delays afford. However, security still remains an important concern when the data is adoption of cloud computing

2.4 How can you use the cloud?

The cloud makes it possible for you to access your information from anywhere at any time. While a traditional computer setup requires you to be in the same location as your data storage device, the cloud takes away that step. The cloud removes the need for you to be in the same physical location as the hardware that stores your data. Your cloud provider can both own and house the hardware and software necessary to run your home or business applications.

This is especially helpful for businesses that cannot afford the same amount of hardware and storage space as a bigger company. Small companies can store their information in the cloud, removing the cost of purchasing and storing memory devices. Additionally, because you only

need to buy the amount of storage space you will use, a business can purchase more space or reduce their subscription as their business grows or as they find they need less storage space.

One requirement is that you need to have an internet connection in order to access the cloud. This means that if you want to look at a specific document you have housed in the cloud, you must first establish an internet connection either through a wireless or wired internet or a mobile broadband connection. The benefit is that you can access that same document from wherever you are with any device that can access the internet. These devices could be a desktop, laptop, tablet, or phone. This can also help your business to function more smoothly because anyone who can connect to the internet and your cloud can work on documents, access software, and store data. Imagine picking up your smartphone and downloading a document to review instead of having to stop by the office to print it or upload it to your laptop. This is the freedom that the cloud can provide for you or your organization.

2.5 types of clouds

There are different types of clouds that you can subscribe to depending on your needs. As a home user or small business owner, you will most likely use public cloud services.

1. Public cloud - a public cloud can be accessed by any subscriber with an internet connection and access to the cloud space.

2. Private cloud - a private cloud is established for a specific group or organization and limits access to just that group.

3. Community cloud - a community cloud is shared among two or more organizations that have similar cloud requirements.

4. Hybrid cloud - a hybrid cloud is essentially a combination of at least two clouds, where the clouds included are a mixture of public, private, or community.

2.6 choosing a cloud provider

Each provider serves a specific function, giving users more or less control over their cloud depending on the type. When you choose a provider, compare your needs to the cloud services available. Your cloud needs will vary depending on how you intend to use the space and resources associated with the cloud. If it will be for personal home use, you will need a different cloud type and provider than if you will be using the cloud for business. Keep in mind that your cloud provider will be pay-as-you-go, meaning that if your technological needs change at any point you can purchase more storage space (or less for that matter) from your cloud provider.

2.7 Three cloud providers

Software as a service (saas), platform as a service (paas), and infrastructure as a service (iaas). These three types differ in the amount of control that you have

over your information, and conversely, how much you can expect your provider to do for you. Briefly, here is what you can expect from each type.

2.7.1. Software as a service:

A saas provider gives subscribers access to both resources and applications. Saas makes it unnecessary for you to have a physical copy of software to install on your devices. Saas also each provider serves a specific function, giving users more or less control over their cloud depending on the type. When you choose a provider, compare your needs to the cloud services available. Your cloud needs will vary depending on how you intend to use the space and resources associated with the cloud. If it will be for personal home use, you will need a different cloud type and provider than if you will be using the cloud for business. keep in mind that your cloud provider will be pay-as-you-go, meaning that if your technological needs change at any point you can purchase more storage space (or less for that matter) from your cloud provider. Once by accessing it on the cloud in a saas agreement, you have the least control over the cloud.

2.7.2. Platform as a service - a paas system goes a level above the software as a service setup. A paas provider gives subscribers access to the components that they require to develop and operate applications over the internet.

2.7.3. Infrastructure as a service - an iaas agreement, as the name states, deals primarily with computational infrastructure. in an iaas agreement, the subscriber completely outsources the storage and resources, such as hardware and software, that they need. As you go down the list from number one to number three, the subscriber gains more control over what they can do within the space of the cloud. The cloud provider has less control in an iaas system than with a saas agreement. What does this mean for the home user or business looking to start [illegible]? It means you can choose your level of control over your types of services that you want from a cloud provider.

For example, imagine you are starting up your own small business you cannot afford to purchase and store all of the hardware and software necessary to stay on the cutting edge of your market. By subscribing to an infrastructure as a service cloud, you would be able to maintain your new business with just as much computational capability as a larger, more established company, while only paying for the storage space and bandwidth that you use. However, this system may mean you have to spend more of your resources on the development and operation of applications. As you can see, you should evaluate your current computational resources, the level of control you want to have, your financial situation, and where you foresee your business going before signing up with a cloud provider.

If you are a home user, however, you will most likely be looking at free or low-cost cloud services (such as web-based email) and will not be as concerned with many of the more complex cloud offerings.

After you have fully taken stock of where you are and where you want to be, research into each cloud provider will give you a better idea of whether they are right for you.

2.8 Security

The information housed on the cloud is often seen as valuable to individuals with malicious intent. There is a lot of personal information and potentially secure data that people store on their computers, and this information is now being transferred to the cloud. This makes it critical for you to understand the security measures that your cloud provider has in place, and it is equally important to take personal precautions to secure your data.

The first thing you must look into is the security measures that your cloud provider already has in place. These vary from provider to provider and among the various types of clouds. What encryption methods do the providers have in

place? What methods of protection do they have in place for the actual hardware that your data will be stored on? Will they have backups of my data? Do they have firewalls set up? If you have a community cloud, what barriers are in place to keep your information separate from other companies? Many cloud providers have standard terms and conditions that may answer these questions, but the home user will probably have little negotiation room in their cloud contract. a small business user may have slightly more room to discuss the terms of their contract with the provider and will be able to ask these questions during that time. There are many questions that you can ask, but it is important to choose a cloud provider that considers the security of your data as a major concern.

No matter how careful you are with your personal data, by subscribing to the cloud you will be giving up some control to an external source.

This distance between you and the physical location of your data creates a barrier. It may also create more space for a third party to access your information. However, to take advantage of the benefits of the cloud, you will have to knowingly give up direct control of your data. on the converse, keep in mind that most cloud providers will have a great deal of knowledge on how to keep your data safe. A provider likely has more resources and expertise than the average user to secure their computers and networks.

2.9 Advantages of Cloud Computing

2.9.1 Easy management

The maintenance of the infrastructure, be it hardware or software is simplified, thus, less headaches for their team. Also applications that are quite storage extensive is easier to use in the cloud environment compared to the same when

used by the organization by its own. Also at the user level, what you mostly need is a simple web browser with internet connectivity.

2.9.2 Cost reduction

The main advantage for some lies here cloud computing drastically reduces it spending for sums. Costly systems need not be required for occasional use of intensive computing resources also the man power required for such systems is not required. Even simple applications like email can be set up and mostly Through applications like goggle apps. Also as most of the time such providers are quite reliable in terms of availability, it is clear winner.

2.9.3 Uninterrupted services

Lower outages are provided by cloud computing services, thus providing uninterrupted services to the user. However, some occurrences of outages have occurred in the past, like the Gmail outage in 2009. Also other clouds Vendors like have failed at some point of time, but however, they are much more dependable compared to the infrastructure installed on the organization.

2.9.4 Disaster management

In case of disasters, an offsite backup is always helpful keeping crucial data backed active using cloud storage amenities is the need of the hour for most of the organizations. Also cloud storage services not only keep your data off site, but they also ensure that they have systems in place for disaster recovery.

2.9.5 Green computing

Harmful emissions due to extensive use of systems in organizations, electronic waste generated as the time passes and energy consumption is the main disadvantage of the present day computing systems this can be reduced to some extent by using cloud computing services. This leads to environment preserving.

2.10 Dis Advantage Of Cloud Computing

Cloud computing, which some people claimed as a new technology, has helped a lot of organizations in doing business. Although cloud computing brings some benefits to the organizations as aforementioned, there are some shortcomings for decision makers that need to be taken into consideration cloud network traffic will be pernicious to the performance of cloud.

When cloud capacity is more than 80% occupied, the computers will be irresponsible there is chance of crashing between servers and computers.

This will lead to the loss of valuable data such as customers' data, organizations' sales report etc. cloud attack is also a major issue in cloud computing.

Cloud computing is a place for the users to host their web services such as web hosting and cloud storage.

This has attracted the hackers to steal the business data, such as daily sales, profit reports, financial reports etc.

Highlighted the types of cloud attacks such as malware injection attack, wrapping attack, MY SQL injection, an authentication attack.

2.10.1 Data stealing

The number of users and organizations connected to the internet is increasing. This also increases the probability of probing and attacking using viruses, worms and cyber terrorists. An incident has happened in one of the service providers, goggle Inc., which their servers have been hacked illustrates the percentage of key concerns issues in cloud computing.

2.10.2 Malware injection attack

The hackers will try to damage the applications and websites hosted on the cloud. Usually hackers will find the vulnerabilities of a web application or website and make some changes to it thus change the normal execution.

Hackers will program a malicious application and use the virtual machine to inject the malware into the cloud services. Through this the hackers can do whatever they want such as data theft or eavesdropping among different types of malware Injections, the most common form are sql injection.

The concept of sql injection is to change the query structure. The hackers will use the improper validation of data to take advantage. Usually their target is sql servers or databases. Besides, hackers will try to inject a malicious code.

2.10.3 Wrapping attack

Wrapping attack which uses extensible mark-up language (xml) signature element in order to weaken the web servers' validation requests .When a user requests for a service, it isinteracted using simple object access protocol (soap) and submitted in xml format. this type of attack usually occurs during the translation of messages in transport layer service layer between web server and valid user the message body will be duplicated and send to server as a valid user. The hacker will copy the user's account login details. During the login session, the hackers will inject a spurious element in the message structure. They will modify the original content with malicious code. After that, the message is sent to servers. The Server will approve the message as the body is unchanged as a result, the hackers will be able to access to the server resources to unauthorized access.

2.10.4 Authentication attack

Authentication attack is also a type of attack that occurs in a cloud environment stated that authentication is always a weak point in web server and always become a target to attack especially the one with ineffective encryption system. Every service provider will use three types of authentication such as something a person knows has during the authentication process; the hackers try to access the user's credential and confidential information. If they succeed, the hackers are able to access users' confidential data, organizations' sensitive information etc.

2.10.5 Denial of service (dos) attack

denial of service (dos), which also called as distributed denial of service (dos) or flooding attack has become one of the most concern issue in cloud computing and a major trouble to the services availability. Although the network security experts have been putting efforts for decades to solve this attack, attack continues to grow and have more impacts recently and highlighted the types of dos attack such as surf attack, flood attack, of death attack, tear drop and ip spoofing attack. The attackers can launch different types of dos attack, including resource-focused (network, memory, cpu etc.) and application-focused web Applications, database services etc. they make the services on cloud inaccessible, intolerably slow or unavailable, thus degrade the quality of services and the network connectivity of the ways that usually attackers will do is to send large amount of data packets. The main purpose is to overload the servers' capacity and bandwidth and make the services unavailable .according to attacks can occur at any layer in network. for example, attack at network level to make the server unreachable, flood attack at the transport layer to get the server busy and send fake requests to the application layer to consume the servers memory .

2.10.6 Data privacy

In cloud computing, data will be accessed in unencrypted form by different organizations.

According to data privacy risks can be illustrated from different perspectives such as insufficient user control and regulatory compliance. Some organizations will upload files to cloud for sharing purposes. However, this would lead to confidentiality and data privacy issues such as protection of personal or organizations' business information. Sometimes, the location of data international

2.11 Risks security issues

Cloud computing brings conveniences to the organizations, but there are some risks threatening organizations too. In order to provide a better quality of services, the providers have responsibilities to ensure that cloud environment is highly secured. Providers have to make enhancement on security to gain users' trust. There are some solutions to enhance the security of cloud.

2.11 .1 Data stealing solution

Data stealing is usually widely occurred the attackers will try to steal users' account credentials. To prevent this, a special and distinct number should be generated at login session every time the session ends, the users are required to send an email about the usage and duration together with the unique number for the next login. Through this, the users will be more aware of the usage and unique number to be used for every login. For example, in amazon cloud service, a unique number is used to verify the users. For retail organizations, it requires the users to register as a user first before purchasing something. The information includes credit card details. Stated that it is necessary to enhance registration system to reduce the chance of customers' data stolen. This can be done by applying credit card fraud monitoring system. Security policy, rules and regulations can reduce the risks of improper use of cloud computational power.

2.11.2 Malware attack solution

In cloud computing, the users' requests are processed based on authorization and authentication and these will be done between web servers and web browsers. Hackers will try to inject harmful code to the cloud environment. To prevent this, cloud service providers need to store the information about the operating system (os) the users use during the first time registration.

Since cloud computing is a fully independent os platform, cross checking will be done before launching an instance on a cloud. This is to check whether the os information stored on the cloud is matched with the instance requested from.

2.11.3 Wrapping attack solution

Wrapping attack can be prevented by enhancing the security between the communication with the Web server and a web browser. This can be done by adding an extra bit which called Stamp bit contains signature value to the soap message.

This type of bit is used to prevent the value being changed by the attackers. If there is any interfere during the communication, the stamp bit will be toggled and new signature value will be produced in Browser and is sent to the server.

CHAPTER THREE

3.0 METHODOLOGY

This chapter details how the system is created from scratch. It gives details about the applications that are used to develop the system and gives snapshots of various interfaces of the system.

3.1 Procedure

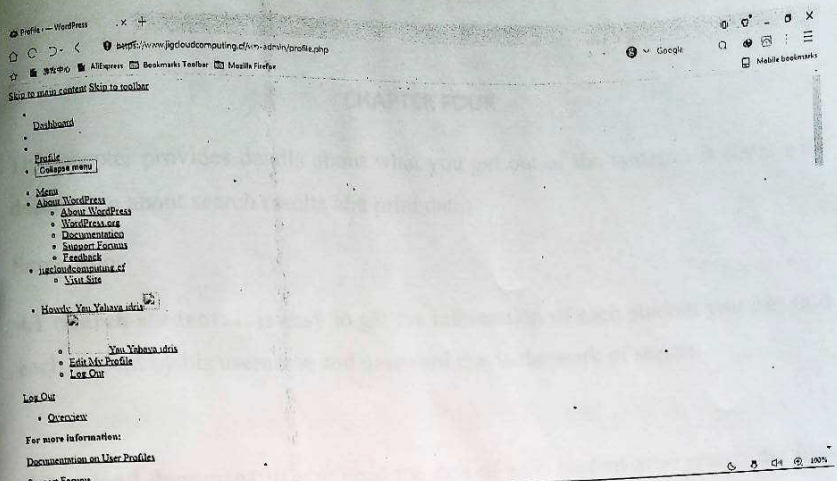
The word press is used to create the beautiful, website interface that will display the welcome screen and prompt the use to provide their log in to access information. (Backup) The user interface looks like this:

MySQL is used to design the query to the system

MS Access is used to store all the data collected about the students. Below is a snapshot of the data as it is entered on an MS Access file

3.2 DATA COLLECTION

In this data collection of the student your cant fields all the data of student of this department.



3.3 System Requirement

5.0.1 Hardware Requirement

- Processor : Standard Processor with a speed of 1.6GHz
- Ram : 1 GB of RAM or More
- Hard Disk : 30 GB or More

Software Requirement

- Operating System : Windows OS or Linux
- Front End : Word press
- Back End : my sql, Access

CHAPTER FOUR

This chapter provides details about what you get out of the system. It starts with description about search results and print data

Screenshot

4.1 Search student: it is easy to get the information of each student you can find each student by his username and password that is the work of search.

4.2 upload document: if you need the data of each student after search the files then you can print the files of the student

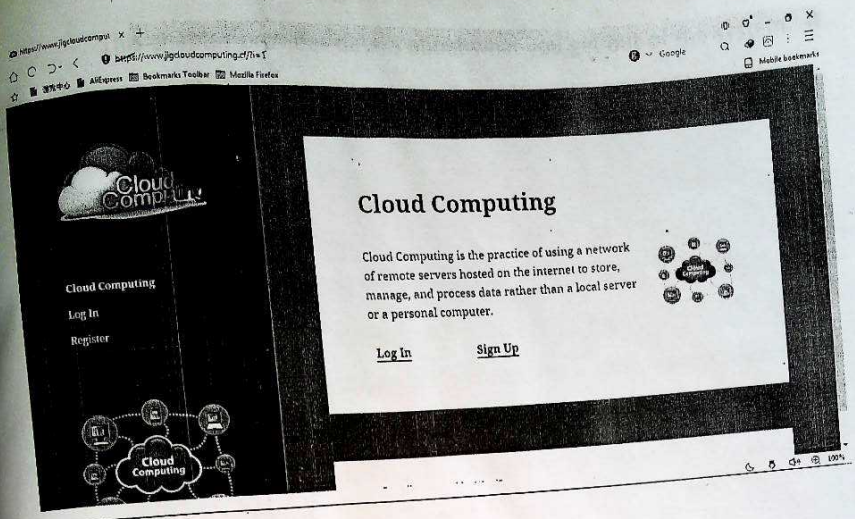
4.3 How to Use cloud computing site

You can access Cloud computing using the Console (a browser-based interface) in the www.jigcloudcomputing.cf Instructions for the Console and are included in topics throughout this guide.

4.4 To access the system

You must use a supported browser. You can use the **Console** link at the top of this page to go to the sign-in page. You will be prompted to enter your cloud tenant, your user name, and your password.

Step 1: login form



4.4results, analysis and findings

This chapter provides details about what you get out of the system. It starts with description about search results and print the file.

CHAPTER FIVE

5.0 Conclusion

Cloud computing is the most popular notion in IT today; even an academic report from UC Berkeley says "Cloud Computing is Likely to have the same impact on software that foundries have had on the hardware Industry." They go on to recommend that "developers would be wise to design their next generation of systems to be deployed Into Cloud Computing.

5.1 Recommendation

We advise the student that wish to improve this design to look into: creation of cloud computing using word press and user login form to be design perfectly.

5.2 Reference

[1] a. knighted and s. lee, "forging a new world for standards", iso focus+, pp.11~12.

[2] "above the clouds: a Berkeley view of cloud computing", uc Berkeley TR 2009, **(2009)** February.

[3] cloud computing interoperability forum web site, http://www.cloudforum.org/.

[4] Distributed management task force web site, http://www.dmtf.org/.

[5] e. newcomer and g. lomow, "understanding soa with web services", addison-wesley, **(2005).**

[6] j. Staten, "is cloud computing ready for the enterprise?", forester research, **(2008)** march 7.

[7] m. goiaclose, "cloud computing, grid computing, utility computing – list of top providers".

[8] Oasis reference model for service oriented architecture 1.0 (2006), oasis standard, **(2006)** October 12, http://www.oasis-open.org/specs/index.php#soa-rmv1.0.

[9] Oasis web site, http://www.oasis-open.org/home/index.php.

[10] omg web site, http://www.omg.org/.

[11] Open cloud consortium web site, http://www.opencloudconsortium.org/.

[12] Open grid forum web site, http://www.ogf.org/.

[13] W3c web site, http://www.w3.org/.

[14] cloud computing, http://en.wikipedia.org/wiki/cloud_computing.

[15] Grid computing, http://en.wikipedia.org/wiki/grid_computing.

[16] Utility computing, http://en.wikipedia.org/wiki/utility_computing.

[17] l. m. vaquero, *et al.*, "a break in the clouds: toward a cloud definition", acm sigcomm computer communication review, vol. 39, issue 1, (2009) January.

[18] Cloud security alliance web site, http://www.cloudsecurityalliance.org/.

[19] s. bandyopadhyay, *et al.*, "cloud computing: the business perspective", http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1413545, **(2009)** June 3.