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AN APPROACH TO EDUCATIONAL SYSTEM: COLLABORATIVE INFORMATION SYSTEM

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ABSTRACT

In the Age of Computer Technology, We need to communicate and improveour life with the help of Information and Technology (ICT). We require certain types of communication on online, which require less workout or interference of Human being. E-Governance is a live example of it. CIS is an application of Information and communication technology, which provide all Educational services online. Today all the Institutes, Universities, State DTEs, AICTE, PNS and other educational bodies work online, with their own separate system. Since all they are for educational purpose only, so to work them under a single system, so that they can percolate the information between them very well. This will be a web-based system, so all the work either internal or external will do in system by Institutes, Universities, and AICTE etc. Since all the data related to Educational purpose is together, Government can also involve in it while applying the new schemes, policies in Educational field. Recruiters from Industry can also look into system for placement, to find colleges with good academics results, projects.

Keywords: Collaborative system, ICT, governance

I. INTRODUCTION

The government of India, like governments all over the world, has begun investing large amounts inInformation and Communication Technology (ICT). The premise behind these investments seem to be that they improve the efficiency of government function by, especially enabling citizen centric services. Two universities had the same purpose in mind and went about leveraging Information & Communication Technology (ICT), in two different ways to achieve the purpose. If there are Collaborative approach then there is no need to achieve it by different way previously system can used.

1.1 Objectives of Collaborative Information System(CIS)

The objective of CIS is to support and simplify governance for allparties -Student, Institute and Other Educational Bodies. The use of ICTs can connect all threeparties and support processes and activities.

1.2 There are some important objectives of CIS

1. To Enhance Educational Services:

One of the important objectives of CIS is to be enhancing the services that are provided to Student by the Educational Bodies e.g. DTE, AICTE, Universities, Institutes etc. By providing all the services online, it reduces human effort.

2. To Increase Interplay between Student and Institute:

In today's speedy world, everyone needs to communicate fast speed as well as they need fast interaction with Institutes as well. So using CIS platform, it provides all the services at fast speed and they get all information in certain time.

3. Availability of Information at anywhere:

Due to The Internet, we can easily provide Educational related information (Academic detail, Placement detail) to any Student at anywhere they want using CIS.

4. To promote Student participation in Innovative Idea:

Increased in technology student should share innovative idea and get suggestions from an expert. In CIS student can share the idea as well as give suggestion to others Idea.

5. To Reduce The Cost Of Services:

By using CIS services our aim to reduce the cost of communication services. By reducing the spending on physical transfer of information and services. By using the digital transfer of all the information expenditures of Educational Bodies by reducing the cost on stationeries used for information transfer.

Important characteristics

- Accessibility – is a term which describes collaborative system is accessible by as many users as possible, with as less of support or none, preferable.
- Availability – is the characteristic which indicates the time in which a system is fullyWorking and users can access its processes without interference.
- Usability – describes the extent to which a collaborative system can be used by designated users to reach specified goals with effectiveness, efficiency.
- Reliability –Capacity of collaborative systems to perform tasks given acertain demanding setting without any unpredictable stops.
- Efficiency – determines the connection between the level of accomplishment of a collaborative system and the amount of resources used for generating results.

1.3 Collaborative System as a middleware:

The broker is becoming popular as a standard middleware in many domains across the Internet based application. A suggested architecture for CIS as e-Governance is shown in the fig 1. where it is illustrated that Student and Educational bodies (AICTE, University, NBA etc) can be integrated together, so as to be accessed by any system from anywhere through the network. This is because of the characteristics of Broker it is location transparent, architecture and Operating System independent.

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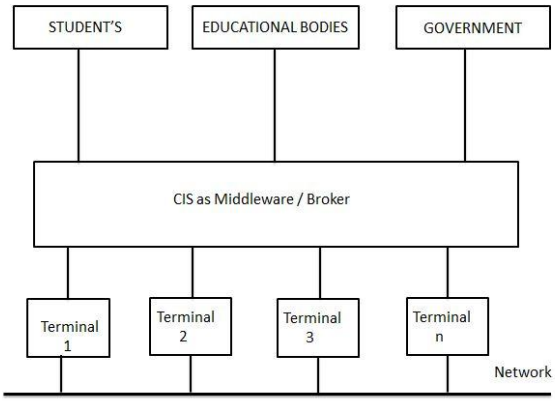

Fig 1 : CIS as Middleware / Broker

The Broker is responsible for communication, such as sending requests, as well as transmitting results and exceptions.

Responsibility

- Registers (Unregister) servers
- Offers APIs
- Locates servers
- Transfer messages

Collaborators

- Client
- Client-side Proxy
- Server
- Server-side Proxy

Client-side proxies represent a layer between Users and the CIS, which provides transparency, the object appears to the client as a local one.

It hides detail such as:

- Interprocess communication is used for message transfer between clients and CIS
- The creation and deletion of memory blocks

II. ARCHITECTURAL DESIGN

Nowadays various educational bodies like AICTE, DTE, Universities, Institutes etc. work individually with their own system and communicates with each other whenever necessary. This process takes a huge amount of time and efforts for doing communication. Also collecting the educational statistics throughout the India is a very complex task, it needs interaction with various bodies, gathering the information and analysis of gathered information. After this process, we need to reformat the data in our own format. So, by considering all these issues, we are developing a common platform so that all the educational bodies can work under a single roof and percolate the information very easily without any difficulty.

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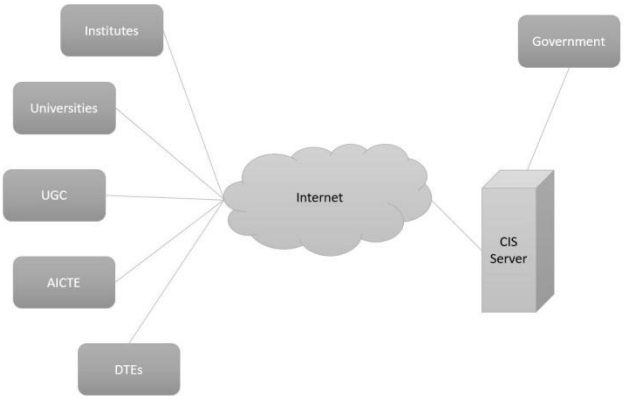

Fig 2: Architecture diagram

• as shown in fig 2, System is divided into various modules.

• All the modules are connected to the cloud with the use of Internet.

• On cloud CIS server will handle all the transactions made by various modules

• The server is administrated by Government.

• Machine Learning algorithms are implemented to take out the effective Statistics from the system

III. DESCRIPTION OF MODULES

The whole project can be divided into various modules.

- AICTE Module

  Role: - Monitor Institutes, Conduct InspectionsInteraction with other Modules (Institutes, Universities)
- UGC Module

  Role: - Responsible for staff selection and allocation to various institutes across wholenation Interaction with other Modules (Universities, Institutes)
- University Module

  Role: - Conduct exams, circulars, declare results. Interaction with other Modules (Institutes).
- Institute Module

  Role: - Maintain student details, update daily work Interaction with other Modules (Universities, DTE, AICTE).
- DTE Module

  Role: - Admission, College Intake Interaction with other Modules (Institutes, AICTE)
- Industry Module

  Role: - Interact with Institute of recruitment process Interaction with other Modules.
- Government Module

  Role: - Monitor & control the overall working and collect the required statistics &information for implementation of the future project, policies and all Educational bodies.

IV. ADVANTAGES OF COLLABORATIVE SYSTEM

1. Speed – Technology makes communication Faster. The Internet, Communication devices have reduced the time taken in simple communication.
2. Cost Reduction – Most of the Education System spending is sequestrated towards the cost of stationary. On paper communication needs lots of stationary, Computer etc. which calls for continuous heavy paying. Internet and Communication devices make communication cheaper saving valuable money for the Educational System.
3. Transparency – Use of ICT makes governing announce transparently. All the information of the Education made available on the internet. The Student and Educational System can get access to and see the information when they want. But this is only possible when every chunk of information of the Educational detail is uploaded on the internet and is available for the public to the user. The current governing process leaves many ways to hide the information from all the Users. ICT helps make the information available online removing all the possibilities of keep out of sight of information.
4. Accountability – Once the information is made transparent the Educational Bodies is automatically made accountable. Accountability is the responsibility of answering of the Educational Bodies to the student.

V. CONCLUSION

The educational system should have the characteristics of flexibility, scalability, and interoperability. But with the rapid growth of Institution and learning organization Educational bodies meets more and more challenges. The collaborative system will improve efficiency in terms of interoperability and transparency. It can reduce the cost of communication. What we should do next is to design a flexible and efficient strategy of access control in order to achieve secure collaborative environment.

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