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# A New Trend for E-Learning in KSA Using Educational Clouds

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## ABSTRACT

Cloud computing provides a shared pool of computing resources that can be rapidly and elastically provisioned and released based on users' demand to serve a wide and constantly expanding range of information processing needs. Due to its tremendous advantages this technology is maturing rapidly and is being adopted in many applications including government, business, and education. In this paper, we study how cloud computing can benefit e-learning education in KSA. We discuss the cloud computing educational environment and explore how universities and institutions may take advantage of clouds not only in terms of cost but also in terms of efficiency, reliability, portability, flexibility, and security. We present several case studies for educational clouds introduced by popular cloud providers which reflect the increasing interest in this new trend. We also discuss future challenges to cloud education.

## KEYWORDS

Cloud Computing, E-learning, Online Learning, Web-based Learning, Utility Computing, Learning Management Systems, Distance Learning, Education Systems.

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## Cloud Computing And Privacy Regulations: An Exploratory Study On Issues And Implications

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### ABSTRACT

Cloud computing is a new paradigm in the world of Information Technology Advancement. Considerable amount of cloud computing technology is already being used and developed in various flavors. Cloud Computing affects people, process and technology of the enterprise. In spite of having benefits with Cloud computing paradigm such as efficiency, flexibility, easy set up and overall reduction in IT cost [22], cloud computing paradigm could raise privacy and

confidentiality risks. “Not all types of cloud computing raise the same privacy and confidentiality risks. Some believe that much of the computing activity occurring today entirely on computers owned and controlled locally by users will shift to the cloud in the future”[11]. In Cloud computing, users connect to the CLOUD, which appears as a single entity as opposed to the traditional way of connecting to multiple servers located on company premises. Public Private Partnership these days is a usually adopted pattern of governance to meet the diverse needs of their citizens with confidence and providing quality of these services. Cloud Computing Technology can also act as a facilitator between public and private partnership. In such cases there is a possibility that an external party can be involved in providing Cloud Services having partial control over the data storage, processing and transmission of data and privacy regulations become relevant [20]. Cloud computing has significant implications for the privacy of personal information as well as for the confidentiality of business and governmental information. A survey by EDUCAUSE involving 372 of its member institutions revealed that a great proportion of the respondents with use cases that involved cloud-based services reported that data privacy risks and data security risks were among their top barriers to overcome [22]. A principal goal of this paper is to identify privacy and confidentiality issue that may be of interest and concern to cloud computing participants and users [11]. Thus this paper explores to elicit possible issues and regulations in the area of privacy that affect the implementation of Cloud Computing Technologies.


## KEYWORDS

Cloud Computing, Privacy Regulations, Privacy Issues, Security Issues

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# Secure Cloud Architecture

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## ABSTRACT

Cloud computing is set of resources and services offered through the Internet. Cloud services are delivered from data centers located throughout the world. Cloud computing facilitates its consumers by providing virtual resources via internet. The biggest challenge in cloud computing is the security and privacy problems caused by its multi-tenancy nature and the outsourcing of infrastructure, sensitive data and critical applications. Enterprises are rapidly adopting cloud services for their businesses, measures need to be developed so that organizations can be assured of security in their businesses and can choose a suitable vendor for their computing needs. Cloud computing depends on the internet as a medium for users to access the required services at any time on pay-per-use pattern. However this technology is still in its initial stages of development, as it suffers from threats and vulnerabilities that prevent the users from trusting it. Various malicious activities from illegal users have threatened this technology such as data misuse, inflexible access control and limited monitoring. The occurrence of these threats may result into damaging or illegal access of critical and confidential data of users. In this paper we identify the most vulnerable security threats/attacks in cloud computing, which will enable both end users and vendors to know a bout the k ey security threats associated with cloud computing and propose relevant solution directives to strengthen security in the Cloud environment. We also propose secure cloud architecture for organizations to strengthen the security.

## KEYWORDS

Cloud Computing; Security and Privacy; Threats, Vulnerabilities, Secure Cloud Architecture.

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# Effective Ways Cloud Computing Can Contribute to Education Success

**BV Pranay kumar, Sumitha kommareddy and N.Uma Rani, CJITS, Jangaon, Warangal**

## ABSTRACT

Cloud computing and education sounds ambiguous on the face of it. Naturally, it's because, very few individuals, publishers and users alike come from the education sector. In most cases, cloud computing is only associated with businesses and how they can leverage their efficiencies. Just to introduce how the cloud deserves a place in our current education institution, it's important to reiterate the education philosophy. Its essence is knowledge. It's this knowledge which brings advancement, achievement and success. However, there are several things which make these parameters unattainable. In blunt language, this is failure. Small classrooms, lack or resources, short-handed staff, lack of adequate teachers…the list is endless. One way or the other, cloud computing can be utilized to improve education standards and activities. The end result will be to curb the above problems and instead, boost performance.

## KEYWORDS

Cloud Computing, Web service, Virtualization, Grid Computing, Virtual Computing Lab, Higher education institutions, Remote areas.

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**Citation Count – 08**

## Dynamic Allocation Method For Efficient Load Balancing In Virtual Machines For Cloud Computing Environment

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### ABSTRACT

This paper proposes a Dynamic resource allocation method for Cloud computing. Cloud computing is a model for delivering information technology services in which resources are retrieved from the internet through web-based tools and applications, rather than a direct connection to a server. Users can set up and boot the required resources and they have to pay only for the required resources. Thus, in the future providing a mechanism for efficient resource management and assignment will be an important objective of Cloud computing. In this project we propose a method, dynamic scheduling and consolidation mechanism that allocate resources based on the load of Virtual Machines (VMs) on Infrastructure as a service (IaaS). This method enables users to dynamically add and/or delete one or more instances on the basis of the load and the conditions specified by the user. Our objective is to develop an effective load balancing algorithm using Virtual Machine Monitoring to maximize or minimize different performance parameters(throughput for example) for the Clouds of different sizes (virtual topology depending on the application requirement).

## KEYWORDS

Cloud computing, Infrastructure-as-a-Service, Amazon ec2, Optimizing VM Load, Load balancing.

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**Citation Count – 06**

# Security Implementation through PCRE Signature over Cloud Network

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## ABSTRACT

With invention of new tools and technologies, the attackers are designing new methods to evade present security models. One of such security models is Intrusion detections. Intrusion detection systems work on signature based analysis and anomaly based detection, which makes it vulnerable for new evasion techniques. This work describes the mitigation of evasion techniques by implementation of better PCRE based rules approach.IN this paper we are designing improved PCRE based rules to prevent evasion techniques on cloud systems.

## KEYWORDS

Cloud Computing, PCRE Signature, Virtual Machine

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**Citation Count – 04**

## Controlled Multimedia Cloud Architecture And Advantages

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### ABSTRACT

Cloud computing is the next generation computing platform that offers many applications to the users in seamless way and access the resources across the network without any boundary. Multimedia content management and processing is among the important aspect of the cloud and it brings the advantages of processing and delivering of Multimedia in the distributed environments. Cloud users are having interest to access and share the media within the community by using the devices with limited capability. With current cloud architecture, restrictive multimedia content access and processing within the cloud community is not possible. To overcome this problem, we propose the private controlled cloud architecture for the media which stores, processing and delivering the media content to the authenticated clouders on the go. Also we captured some of the key advantages of this architecture over the existing methods.

## KEYWORDS

Streaming, Media cloud, mobility, Controlled cloud, clouders

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**Citation Count – 03**

## 'Code Aliker' - Plagiarism Detection on the Cloud

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### Abstract

Plagiarism is a burning problem that academics have been facing in all of the varied levels of the educational system. With the advent of digital content, the challenge to ensure the integrity of academic work has been amplified. This paper discusses on defining a precise definition of plagiarized computer code, various solutions available for detecting plagiarism and building a cloud platform for plagiarism disclosure. 'CodeAliker', our application thus developed automates the submission of assignments and the review process associated for essay text as well as computer code. It has been made available under the GNU's General Public License as a Free and Open Source Software.

### Keywords

Plagiarism, String matching, Cloud Computing

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# Improving Privacy and Security in Multi-Tenant Cloud ERP Systems

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## ABSTRACT

This paper discusses cloud ERP security challenges and their existing solutions. Initially, a set of definitions associated with ERP systems, cloud computing, and multi-tenancy, along with their respective challenges and issues regarding security and privacy, are provided. Next, a set of security challenges is listed, discussed, and mapped to the existing solutions to solve these problems. This thesis aims to build an effective approach to the cloud ERP security management model in terms of data storage, data virtualization, data isolation, and access security in cloud ERP. The following proposed techniques are used to improve the security for multi-tenant SaaS: database virtualization, implementation of data encryption and search

functionality on databases and developed systems, distribution of data between tenant and ERP providers, secure application deployment in multi-tenant environments, implementation of the authentication and developed systems together as a two-factor authentication, and improved user access control for multi-tenant ERP clouds.


## KEYWORDS

ERP, ERP system, ERP problems, ERP security challenges, ERP security solutions, ERP and cloud computing

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# Maintaining Data Integrity for Shared Data in Cloud

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## ABSTRACT

Cloud computing is defined as a type of computing that relies on sharing computing resources rather than having local servers or personal devices to handle the applications. User can easily modify the shared and stored data in the cloud. To overcome this data modification in cloud the signature is provided to each individual user who accesses the data in cloud. Once the data is modified by the user on a block, the user must ensure that the signature is provided on that specific block. When user misbehaves or misuses the system the admin has authority to revoke that particular user from the group. After revoking that user, the existing user must re-sign the data signed by the revoked user. In addition to this, the security of the data is also enhanced with the help of public Auditor who is always able to audit the integrity of shared data without retrieving the entire data from the cloud.

## KEYWORDS

Cloud Computing, PublicAuditor, Revoke User, Signature, Data Integrity

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