# Assignment 3

## Part B

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## Subject

CSCI 5410 (Serverless Data Processing)

## Professor

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# Synopsis on the "Identity and access management in cloud environment: Mechanisms and challenges"

A paper on "**Mechanisms and challenges of the Identity and access management in cloud environment**" by **I. Indu , P.M. Rubesh Anand and Vidhyacharan Bhaskar** examines the issues and techniques proposed to address authentication, access management, security, and cloud services in a cloud environment. A comparative evaluation of existing approaches from the viewpoints of cloud service providers and cloud users is also highlighted, which includes identity and access management, security issues, and cloud services. This paper also includes a comprehensive overview of the market-leading identity and access control suite of products and solutions as well as an analysis of the major security threats to Cloud IAM systems and how to avoid them.

**Firstly**, for Authentication Mechanisms, the researcher has explained the common authentication methods in a network environment and their various mechanisms, which include Physical security mechanisms, Digital security mechanisms, and SSO & federation.

**Secondly**, there's also a wide explanation of authorization mechanisms, which refers to granting or denying access to a resource based on an authenticated user's entitlements. This subject is divided into two categories: access control mechanisms and access control governance. There are five types of access control mechanisms: Mandatory access control, Discretionary access control, Entitlement/Task based access control, Role based access control, and Attribute based access control. Access control governance delves deeper into the topics of certification and risk score, life cycle management, and segregation of duties.

**Following that**, identity and access management systems are discussed, which can handle tasks such as management, exploration, maintenance, policy enforcement, management, information exchange, and verification. IAM (Identity and Access Management) ensures that the same identity is used and managed across all applications while also ensuring security.

**Finally**, industry best practices for authentication and authorization models for various scenarios are recommended in this research paper. As part of this study, the security aspects of each model are examined in depth to provide academic and business professionals with a comprehensive overview of IAM systems.

**My opinions on this paper**: After reading this paper, I believe that existing identity and access management frameworks need to be improved, based on a survey of various identity and access management mechanisms as well as the various services provided by cloud technology. This will draw attention to the possibility of new research and the development of useful methodologies for young researchers.

## References

[1] Indu, P.M. Rubesh Anand, Vidhyacharan Bhaskar, "Identity and access management in cloud environment: Mechanisms and challenges", Engineering Science and Technology, an International Journal, Volume 21, Issue 4, 2018,