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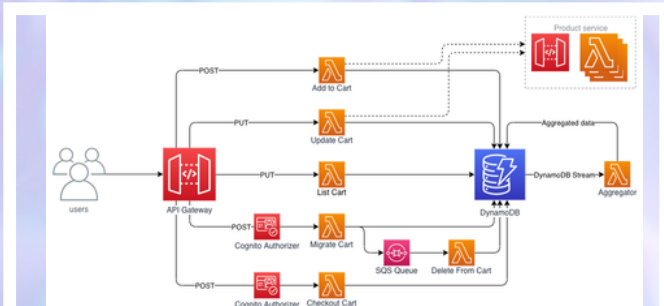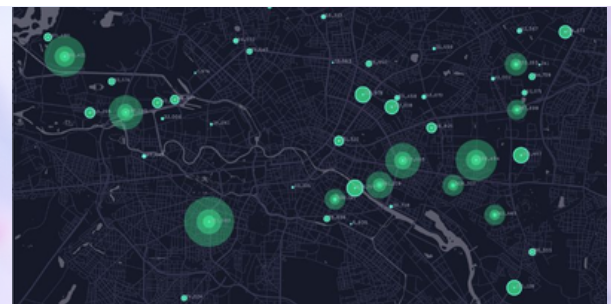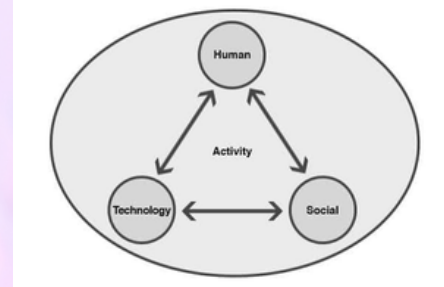
Department of
CSE

SERVERLESS ARCHITECTURE BEST PRACTICES

SPATIAL DATA ANALYSIS

DIGITAL RIGHTS MANAGEMENT

HUMAN-CENTERED DESIGN IN HCI

Department Vision

To be a center for academic excellence in the field of Computer Science and Engineering education to enable graduates to be ethical and competent professionals.

Department Mission

To enable students to develop logic and problem solving approach that will help build their careers in the innovative field of computing and provide creative solutions for the benefit of society.

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SERVERLESS ARCHITECTURE BEST PRACTICES

Serverless in production refers to the deployment and use of serverless architecture in a live, production environment. In this context, serverless refers to a <u>cloud computing</u> paradigm where the cloud provider manages the infrastructure and allocates resources as needed to run and scale applications and services.In a serverless production environment, applications and services are broken down into individual functions triggered by events, such as API requests or changes in data.
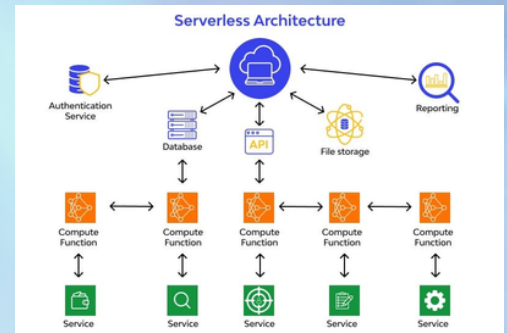
Serverless monitoring refers to the process of <u>monitoring serverless applications</u> and infrastructure, including serverless functions and event-driven computing services, without the need for dedicated servers or virtual machines. In a serverless architecture, computing resources are dynamically allocated and managed by the cloud provider, so there is no need for organizations to manage and maintain their own servers.
Serverless monitoring involves monitoring various aspects of serverless applications and infrastructure, including function execution, resource utilization and performance metrics.

SPATIAL DATA ANALYSIS

Spatial analysis is defined as the process of studying entities by examining, assessing, evaluating, and modeling spatial data features such as locations, attributes, and their relationships that reveal the geometric or geographic properties of data. This article explains the principles of spatial analysis, how it works, and a few examples.

Spatial analysis refers to studying entities by examining, assessing, evaluating, and modeling spatial data features such as locations, attributes, and relationships that reveal data's geometric or geographic properties. It uses a variety of computational models, analytical techniques, and algorithmic approaches to assimilate geographic information and define its suitability for a target system.
Spatial analysis is relevant to astronomy, wherein the process is used to study, explore, and understand the position of the star system in our infinite cosmos. It is also a part of the chip fabrication process where 'place and route algorithms' are used to develop wiring structures and frameworks.

DIGITAL RIGHTS MANAGEMENT

Digital rights management (DRM) is the use of technology to control and manage access to copyrighted material. Another DRM meaning is taking control of digital content away from the person who possesses it and handing it to a computer program.

Compliance	• GDPR, SOX, ITAR, FDA, EAR, FDA, DoE, HIPAA, other
Data Privacy	• Information Safety and Data privacy are hot topics in the board room
M&A/ERP Consolidation	• Keep sensitive data safe while integrating new businesses and leverage new assets faster
SoD/Financial Data Protection	• Enforce Segregation of Duties to ensure no violations
IP Protection	• Make sure only the right people have access to the right data
Automation	• Cut costs by automating Access Control, eliminating role explosion, etc.

DRM is increasingly important as digital content spreads through peer-to-peer file exchanges, torrent sites, and online piracy. It helps entertainment and media companies protect themselves from the cybersecurity challenges that all organizations face, such as protecting customer data, ensuring and demonstrating compliance, enhancing operational efficiency, and preventing downtime.

DRM enables authors, musicians, moviemakers, and other content creators to clarify and control what people can and cannot do with their content. It also allows them to protect their copyrighted material, safeguard the creative and financial investment they put into their work, and make it impossible for their media to be stolen or shared illegally. For example, they can prevent users from accessing specific assets, so they can avoid any legal issues that could come from unauthorized usage. This is crucial to protecting copyright and intellectual property.

The unauthorized distribution, sharing, and modification of digital content are covered by copyright laws, but monitoring the internet to prevent illegal activity is a challenging task. DRM addresses this by putting barriers in place to prevent digital content from being stolen. DRM typically involves the use of codes that prohibit content copying or limit the number of devices a product can be accessed from. Content creators can also use applications to restrict what users can do with their material or encrypt digital media, which can then only be accessed by anyone with the decryption key.

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HUMAN-CENTERED DESIGN IN HCI

Human-centered design is a problem-solving technique that puts real people at the center of the development process, enabling you to create products and services that resonate and are tailored to your audience's needs.

The goal is to keep users' wants, pain points, and preferences front of mind during every phase of the process. In turn, you'll build more intuitive, accessible products that are likely to turn a higher profit because your customers have already vetted the solution and feel more invested in using it.

THE PHASES OF HUMAN-CENTERED DESIGN

In Harvard Business School Online's Design Thinking and Innovation Course, HBS Dean Srikant Datar breaks human-centered design down into four stages:

1. Clarify
2. Ideate
3. Develop
4. Implement

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