

Poster Presentations

COMPLEX EVENT PROCESSING IN BUILDING MANAGEMENT SYSTEMS – A PROTOTYPE

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Abstract
The complexity of building management systems (BMS) is increasing due to the integration of various systems and the need for real-time data processing. This paper presents a prototype for complex event processing in BMS, which aims to improve the efficiency and reliability of BMS operations.

The goals
The main goal of this research is to develop a prototype for complex event processing in BMS that can handle large volumes of data and provide real-time monitoring and control. The specific goals are to: 1) design a scalable architecture, 2) implement a robust data processing engine, and 3) develop a user-friendly interface.

Building, Monitoring, and Managing Building Data
The architecture consists of three main components: data collection, data processing, and data visualization. The data collection component uses sensors and actuators to collect real-time data from the building. The data processing component uses a distributed processing engine to handle the data and detect events. The data visualization component provides a user-friendly interface for monitoring and controlling the building.

Building and Technology Aspects
The prototype is built using a distributed processing engine (Apache Storm) and a data visualization tool (Grafana). The architecture is designed to be scalable and flexible, allowing it to be adapted to different building types and sizes.

Building conceptual data architecture
The conceptual data architecture shows the flow of data from sensors and actuators through the processing engine to the visualization interface. It highlights the use of a distributed processing engine to handle the data and detect events.

System prototype – Data analysis and visualization
The system prototype is shown in a screenshot, displaying real-time data and event detection. The interface is designed to be intuitive and easy to use, allowing building managers to monitor and control the building effectively.

Developing the ICT partners network

(project of F150)

Q: Best economy
The project aims to develop a network of ICT partners that can provide cost-effective solutions for building management systems. The network will consist of various stakeholders, including building owners, system integrators, and service providers.

Platform for Industrial Cooperation
The platform is designed to facilitate collaboration and knowledge sharing between the ICT partners. It includes a central database of partners, a communication platform, and a framework for joint projects.

From idea to realisation
The project has been implemented through a series of steps: 1) identifying potential partners, 2) establishing a network structure, 3) developing a communication plan, and 4) implementing the platform.

Q: What is it for me?
The network provides several benefits for its members, including access to a wide range of ICT services, cost savings, and improved efficiency. It also provides a platform for sharing best practices and staying up-to-date with the latest trends in the industry.

Design of a system for the analysis of social media content

(project of F150)

Introduction
Social media content is a rich source of information, but it is often difficult to analyze and extract meaningful insights from. This paper presents a system for the analysis of social media content, which aims to improve the efficiency and accuracy of social media analysis.

Methodology
The system is designed using a combination of machine learning and natural language processing techniques. It includes a data collection component, a preprocessing component, and an analysis component. The analysis component uses machine learning algorithms to detect patterns and trends in the data.

Platform for social media analysis
The platform is designed to be scalable and flexible, allowing it to be adapted to different social media platforms and types of content. It includes a user-friendly interface for monitoring and analyzing social media content.

Conclusion
The system provides a powerful tool for the analysis of social media content, allowing building managers to gain valuable insights into their customers and the market. It is designed to be easy to use and integrate with existing systems.

Implementation of the internship model in ICT area

(project of F150)

Platform for Industrial Cooperation
The platform is designed to facilitate collaboration and knowledge sharing between the ICT partners. It includes a central database of partners, a communication platform, and a framework for joint projects.

Two-phase model
The implementation of the internship model is divided into two phases: 1) identifying potential partners and 2) establishing a network structure. The first phase involves identifying building owners, system integrators, and service providers who are interested in the internship model. The second phase involves establishing a network structure that allows for collaboration and knowledge sharing.

Q: What is it for me?
The internship model provides several benefits for its members, including access to a wide range of ICT services, cost savings, and improved efficiency. It also provides a platform for sharing best practices and staying up-to-date with the latest trends in the industry.

DISTRIBUTED EVENT-DRIVEN MONITORING MODEL FOR CLOUD DATACENTERS

(project of F150)

Introduction
Cloud datacenters are becoming increasingly complex and data-intensive, making it difficult to monitor and manage them. This paper presents a distributed event-driven monitoring model for cloud datacenters, which aims to improve the efficiency and reliability of datacenter operations.

Research Goals
The research goals of this project are to: 1) design a scalable architecture, 2) implement a robust data processing engine, and 3) develop a user-friendly interface.

Architecture
The architecture consists of three main components: data collection, data processing, and data visualization. The data collection component uses sensors and actuators to collect real-time data from the datacenter. The data processing component uses a distributed processing engine to handle the data and detect events. The data visualization component provides a user-friendly interface for monitoring and controlling the datacenter.

Advantages and Disadvantages
The distributed event-driven monitoring model has several advantages, including scalability, flexibility, and real-time monitoring. However, it also has some disadvantages, such as increased complexity and the need for specialized hardware and software.

Conclusion
The distributed event-driven monitoring model provides a powerful tool for the monitoring and management of cloud datacenters, allowing building managers to gain valuable insights into their datacenter operations and improve their efficiency and reliability.

Semantically Partitioned Peer to Peer Complex Event Processing Exploiting Information Loss

(project of F150)

Introduction
Complex event processing (CEP) is a powerful tool for analyzing and processing data in real-time. However, it is often difficult to scale CEP to large data volumes. This paper presents a semantically partitioned peer-to-peer CEP system, which aims to improve the scalability and efficiency of CEP.

Methodology
The system is designed using a combination of semantic partitioning and peer-to-peer processing techniques. It includes a data collection component, a preprocessing component, and an analysis component. The analysis component uses semantic partitioning to divide the data into smaller, more manageable chunks that can be processed in parallel.

Conclusion
The semantically partitioned peer-to-peer CEP system provides a powerful tool for the analysis of complex events in real-time, allowing building managers to gain valuable insights into their data and improve their efficiency and reliability.

Graphics design of a mobile UI for primary school administration

OBJECTIVE
The objective of this research is to design a mobile user interface (UI) for primary school administration that is user-friendly, intuitive, and easy to use. The UI will be designed for use on smartphones and tablets.

RESEARCH PROBLEM
The research problem is to identify the needs and requirements of primary school administrators and design a mobile UI that meets those needs. The research problem is to identify the needs and requirements of primary school administrators and design a mobile UI that meets those needs.

METHODOLOGY
The methodology used in this research is a combination of user research and prototyping. The user research component involves conducting interviews and surveys with primary school administrators to identify their needs and requirements. The prototyping component involves designing and testing a mobile UI prototype.

EXPECTED RESULTS
The expected results of this research are a mobile UI that is user-friendly, intuitive, and easy to use. The UI will be designed for use on smartphones and tablets and will be tested with primary school administrators.

Indoor User Localization Using Mobile Devices

(project of F150)

Introduction
Indoor user localization is a challenging task due to the complex and dynamic nature of indoor environments. This paper presents a method for indoor user localization using mobile devices, which aims to improve the accuracy and reliability of indoor localization.

Methodology
The method is designed using a combination of machine learning and signal processing techniques. It includes a data collection component, a preprocessing component, and an analysis component. The analysis component uses machine learning algorithms to detect patterns and trends in the data.

Advantages and Disadvantages
The method has several advantages, including accuracy, reliability, and ease of implementation. However, it also has some disadvantages, such as the need for specialized hardware and software.

Conclusion
The method provides a powerful tool for indoor user localization, allowing building managers to gain valuable insights into the movement and behavior of users in indoor environments.

Supporting the Process of Learning Mobile Application User Interfaces

(project of F150)

Introduction
Mobile application user interfaces (UIs) are becoming increasingly important in education. However, it is often difficult to design mobile UIs that are user-friendly and easy to use. This paper presents a method for supporting the process of learning mobile application UIs, which aims to improve the efficiency and accuracy of mobile UI design.

Methodology
The method is designed using a combination of machine learning and user research techniques. It includes a data collection component, a preprocessing component, and an analysis component. The analysis component uses machine learning algorithms to detect patterns and trends in the data.

Advantages and Disadvantages
The method has several advantages, including accuracy, reliability, and ease of implementation. However, it also has some disadvantages, such as the need for specialized hardware and software.

Conclusion
The method provides a powerful tool for supporting the process of learning mobile application UIs, allowing building managers to gain valuable insights into the design and use of mobile UIs.

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