Information and Computer Technologies

interference, Open-loop, closed loop, uplink power, industrial networks

R Butin

This paper focuses on design and evaluation of control system for ambient assisted living system based on voice and gestures recognition by using Microsoft Kinect. Many modern and innovative applications use voice and gestures as input. These programs span a wide variety of genres, platforms and input technologies, from the touch screen of a smart phone to the full-motion, natural input of devices like the Kinect for Windows Sensor. There are some project's objectives: analyzing of existing voice and gestures recognition algorithms; development of a Kinect-based voice and gestures recognition system for better human-computer interaction; integration of the command system with other parts of AAL environment.

Keywords: smart-home, multi-agent systems, Kinect, voice recognition, gesture recognition, human-computer interaction, natural user interface

Review of the current state of a problem of processing big data

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The problem around the processing of large amount data sets is solved within the Big Data paradigm. Big data is important in many diverse areas, such as science, social media, enterprise and etc. This paper refers to various ways to store data to define the differences between traditional storage systems and current approaches to dealing with large data sets. Technologies such as MapReduce, NoSQL and processing of event streams in real time are discussed.

Keywords: Big Data, MapReduce, Hadoop, NoSQL, MongoDB

Simulations of the implementation of primary copy two-phase locking in distributed database systems

S Vasileva

This paper considers algorithms for concurrency control in Distributed database (DDB) systems. Below are the simulating models of the implementation of two-phase locking (2PL) in DDB. From four types 2PL in DDB (Centralized 2PL, Primary copy 2PL, Distributed 2PL and voting 2PL) is viewed Primary copy 2PL, as this protocol is a "transitional" protocol of Centralized 2PL to the Distributed 2PL. The paper describes specifically the simulations of two-version 2PL and 2PL with integrated timestamp ordering mechanism. In concurrency control method 2PL may take place deadlocks of the transactions. Therefore, in the modelling algorithms described here are integrated algorithms for deadlock avoiding: two-version architecture of database and timestamp ordering strategy "wait-die". There are also presented, the results of the simulations of these two variants of the 2PL method at different scales of the networks for the transmission of data and at different intensities of inflow transactions. Modelling algorithms are developed by means of the system for simulation modelling GPSS World Personal Version.

Keywords: Simulation models, concurrency control, distributed transactions, 2PL, distributed database

Dialogue expert system at command line interface – DES – CLI Ryahovetz

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The article describes the construction of a dialog expert system that supports the work of the system administrator. In its operation it uses the command line, which greatly improves its functionality and flexibility.

Keywords: Expert system, Command Line Interface - CLI, Data Hoard - DH, Logical Unit - LU, Dialogue Interface - DI