

1: CM30G IMS Database Performance and Tuning | Training Course

IMS (DL/I) Data Base Organization and Performance bridges the gap. It is the first comprehensive guide to clearly explain the major components of data base organizational and performance, thus enabling you to make cost effective choices when selecting design parameters for data base implementation and tuning.

In IMS, the hierarchical model is implemented using blocks of data known as segments. Each segment can contain several pieces of data, which are called fields. For example, a customer database may have a root segment or the segment at the top of the hierarchy with fields such as phone, name, and age. Child segments may be added underneath another segment, for instance, one order segment under each customer segment representing each order a customer has placed with a company. Likewise, each order segment may have many children segments for each item on the order. Unlike other databases, you do not need to define all of the data in a segment to IMS. A segment may be defined with a size of 40 bytes but only define one field that is six bytes long as a key field that you can use to find the segment when performing queries. IMS will retrieve and save all 40 bytes as directed by a program but may not understand or care what the other bytes represent. The database component of IMS can be purchased standalone, without the transaction manager component, and used by systems such as CICS. There are three basic forms of IMS hierarchical databases: MSDBs do not support secondary indexing. DEDB performance comes from use of high performance Media Manager access method, asynchronous write after commit, and optimized code paths. Logging is minimized because no data is updated on disk until commit, so UNDO before image logging is not needed, nor is a backout function. Uncommitted changes can simply be discarded. This function is included in the base product. Third party tools exclusively provided online reorganization prior to IMS V9. This "limitation" simply means that IMS customers will use multiple datasets for large amounts of data. Internally the data are linked using 4-byte pointers or addresses. IMS DB has grown and evolved over nearly four decades to support myriad business needs. Many large configurations involve multiple IMS systems managing common databases, a technique providing for scalable growth and system redundancy in the event of hardware or software failures. IMS TM uses a messaging and queuing paradigm. An IMS control program receives a transaction entered from a terminal or Web browser or other application and then stores the transaction on a message queue in memory or in a dataset. IMS then invokes its scheduler on the queued transaction to start the business application program in a message processing region. Once the output message is complete and available the IMS control program sends it back to the originating terminal. IMS TM can handle this whole process thousands or even tens of thousands of times per second. IMS TM provides a straightforward, easy-to-use, reliable, standard environment for high performance transaction execution. In general, IMS performs faster than DB2 for the common tasks but may require more programming effort to design and maintain for non-primary duties. Relational databases have generally proven superior in cases where the requirements, especially reporting requirements, change frequently or require a variety of viewpoint "angles" outside the primary or original function. A relational "data warehouse" may be used to supplement an IMS database. However, nightly copies of the IMS data may be copied to relational systems such that a variety of reports and processing tasks may be performed on the data. This allows each kind of database to focus best on its relative strength.

2: Distinguished Lecturer Program | Instrumentation & Measurement Society

This book is addressed to practitioners in the area of IMS (DL/1) database design, performance, and tuning. Performance aspects of DL/1 are treated quite comprehensively. The material is well organized and written, with excellent diagrams to help more.

Our lecturers are among the most qualified experts in their own field, and we offer our members a first-hand chance to interact with these experts during their lectures. All distinguished lecturers are outstanding in their fields of specialty. Although lectures are mainly organized to benefit existing members and Chapters, they can also be effective in generating membership and encouraging new chapter formation.

Computer Vision in Medical Imaging Measurements: When interpreting medical imaging data with computer vision, usually we are trying to describe anatomic structures or medical phenomena using one or more images, and reconstruct some of its properties based on imaging data like shape, texture or color. Actually, this is an ill-posed problem that humans can learn to solve effortlessly, but computer algorithms often are prone to errors. Nevertheless, in some cases computers can surpass humans and interpret medical images more accurately, given the proper choice of models, as we will show in this talk. Reconstructing interesting properties of real world objects or phenomena from captured imaging data involves solving an inverse problem, in which we seek to recover some unknowns given insufficient information to specify a unique solution. Modeling the real world in all its complexity still is an open problem. However, if we know the phenomenon or object of interest, we can construct detailed models using specialized techniques and domain specific representations, that are efficient at describing reliably the measurements or obtaining measurements in some cases. In this talk, we briefly overview some challenging problems in computer vision for medical imaging and measurements, with illustrations and insights about model selection and model-based prediction. Some of the applications discussed in this talk are: Therefore, medical images often are segmented into multiple elementary parts, simplifying their representation and changing the image model into something that is more meaningful, or easier to analyze and measure. Computer vision and modeling are interrelated. This issue can be approached by adapting machine learning and pattern recognition techniques to solve problems in medical imaging measurements. Typically, a model has tuning parameters, and these tuning parameters may change the model complexity. For example, estimating tumor growth or shrinkage in response to treatment requires modeling the tumor shape and size, which can be challenging for real tumors, and simplified models may be justifiable if the predictions obtained are informative. To conclude this talk, we outline the current trends in computer vision in medical imaging measurements, and discuss some open problems.

Distinguished Lecturer to Talk Title: Signals at these frequencies can easily penetrate inside dielectric materials and composites and interact with their inner structures. The relatively small wavelengths and wide bandwidths associated with these signals enable the production of high spatial-resolution images of materials and structures. Incorporating imaging techniques such as lens-focused and near-field techniques, synthetic aperture focusing, holographical methods based on robust back-propagation algorithms with more advanced and unique millimeter wave imaging systems have brought upon a flurry of activities in this area and in particular for nondestructive evaluation NDE applications. These imaging systems and techniques have been successfully applied for a wide range of critical NDE-related applications. Although, near-field techniques have also been prominently used for these applications in the past, undesired issues related to changing standoff distance and slowness of image production process have resulted in several innovative and automatic standoff distance variation removal techniques. Ultimately, imaging techniques must produce high-resolution 3D images, become real-time, and be implemented using portable systems. Subsequently, efforts were expended to design and implement several different variations of this imaging system to accommodate one-sided and mono-static imaging, while enabling 3D image production using non-uniform rapid scanning of an object, as well as increasing the operating frequency into higher millimeter wave frequencies. These efforts have led to the development of a real-time, portable, high-resolution and 3D imaging microwave camera operating in the GHz frequency range which was recently completed. This presentation provides an overview of these techniques,

along with illustration of several typical examples where these imaging techniques have effectively provided viable solutions to many critical NDE problems. Accurate linearity testing for high performance data converters using significantly reduced measurement time and relaxed instrumentation Semiconductor chip manufacturing cost consists of die cost, package cost, and test cost. The trends of increasing design complexity, increasing quality needs, and new process nodes and defect models are pushing test cost to the forefront. This is especially true for high-resolution data converters, whose accurate testing requires expensive instruments and is extremely time-consuming. As a result, linearity test of data converters often dominates the overall test cost of SoCs. This talk will present several recently developed techniques for reducing linearity test cost by dramatically reducing measurement time and dramatically relaxing instrumentation requirements. To relax this stringent requirement, the SEIR stimulus error identification and removal algorithm is developed to accurately test high resolution ADCs using nonlinear stimuli. It has been demonstrated by industries that more than 16 bits of ADC test accuracy were achieved using 7-bit linear ramps instead of bit linear ramps as required by IEEE, a relaxation of well over times on the instrumentation accuracy requirement. The biggest contributor to test cost is the long measurement time. With a system identification approach using a segmented model for the integral nonlinearity, the algorithm can reduce the test time by a factor of over and still achieve test accuracies superior to the standard histogram test method. This method has been extensively validated by industry and has been adopted for production test for multiple product families. One signal is shifted by a constant voltage with respect to the other nonlinear signal. By subtracting the two sets of output codes, input signal is canceled and the nonlinearity of ADC, modeled by a segmented non-parametric INL model, will be identified with the least square method. The silicon measurement results show accurate test results. According to the United Nations the median age for all world countries will rise from 28 now to 38 by In this context, governments and private investors, in addition to work for increase efficiency and quality of healthcare, are searching for sustainable solutions to prevent increase expenditure on healthcare related with higher care demands of elderly people. This presentation reviews the recent advances in the development of sensing solutions for vital signals and daily activity monitoring. The strength and drawbacks regarding cardiac and respiratory assessment capabilities, the studies on cardiac sensing accuracy estimation and artefacts influence on cardiac function sensing through capacitive coupled electrocardiography, electromechanical film sensor and microwave Doppler radar ballistocardiography, reflective photoplethysmography will be discussed. Blood pressure, heart rate variability and autonomous nervous system activity estimation based on virtual sensors included in wearable or object embedded devices will also be presented. Acquisition and conditioning of signals for motion assessment and theragames based on motion sensing and recognition will be presented. Using a set of metrics that are calculated using the information delivered by the unobtrusive sensors for motion capture, objective evaluation of rehabilitation session effectiveness can be performed. Several methods for diagnosis and therapy monitoring, as time frequency analysis, principal component analysis and pattern recognition of motion signals with application to gait rehabilitation evaluation will be described. Concerning the embedded processing, communication and interoperability requirements for smart sensing devices a critical analysis of the existent solutions and a proposed innovatory solutions are discussed. Special attention is granted to wireless sensor network, M2M and IoT as so as to ubiquitous computing particularly smartphone apps applications for healthcare. A fast prototyping vital signs and motor activity monitor as so as the usage of IEEE X smart sensor standards for biomedical applications are included in the presentation. The creation of novel smart environments including remote vital signs and motor activity monitoring devices for health monitoring and physiotherapy interventions promote preventive, personalized and participative medicine, as in-home rehabilitation that can provide more comfort to the patients, better efficiency of treatments, and lower recovery periods and healthcare costs. The use of unobtrusive smart sensing and pervasive computing for health monitoring and physiotherapy interventions allow better assessment and communication between health professionals and clients, and increase likelihood of development and adoption of best practice based on adopting recognized research-based techniques and technologies, and sharing knowledge and expertise. Smart Tailored Environments for Neuro-Motor Rehabilitation Monitoring in IoT Era The convergence of healthcare, instrumentation and measurement technologies will transform healthcare as we know it, improving quality of

healthcare services, reducing inefficiencies, curbing costs and improving quality of life. Smart sensors, wearable devices, Internet of Things IoT platforms, and big data offer new and exciting possibilities for more robust, reliable, flexible and low-cost healthcare systems and patient care strategies. These may provide value-added information and functionalities for patients, particularly for those with neuro-motor impairments. In this talk the focus will be on: As part of these interactive environments, 3D image sensors for natural user interaction with rehabilitation scenarios and remote sensing of user movement, represented by Leap Motion Controller and Kinect, as well as thermographic camera for muscle activity evaluation will be presented. Instrumented daily used equipment for rehabilitation, such as smart walkers and crutches, force platform and wearable motor activity monitors based on smart sensors embedded in clothes and accessories for muscular activity monitoring by electromyography EMG, force and acceleration measurement capabilities will be presented and discussed. Sensing technologies as part of smart tailored environments, such as piezo-resistive force sensors, e-textile EMG, microwave Doppler radar, MEMS inertial devices for motion measurement and optical fiber sensors will be presented in the context of IoT technologies, where RFID is used for smart object identification and localization in the augmented reality scenarios for therapy. Challenges related to simple and secure connectivity, signal processing, data storage, risk on data loss, data representation, data analysis including the development of specific metrics that can be used to evaluate the progress of the patients during the rehabilitation process will be discussed. Additional remote sensing technologies including thermography for training effectiveness evaluation will be also considered. Training using these technologies may improve patients rehabilitation outcomes, may allow objective evaluation of the rehabilitation progress, early communication between health professionals, health professionals and their patients but also may support the research based on analysis of big data. This is the main trend that is revolutionizing vehicles and mobility of people and goods, and is also making smart our cities. The economic and social impacts of this application field are huge. Worldwide every year 90 millions of vehicles are sold, but 1. Assisted driving and autonomous driving aim at increasing safety, at improving fuel efficiency and our lifestyle by avoiding traffic congestion, at ensuring mobility for elderly and disabled people inclusivity. The interest in this research subject is demonstrated by the huge investments of companies like Google, Intel, Tesla, Uber, Ford, GM, to name just a few, and by technology alliances, e. An example of this convergence is the 5G Automotive Association [http:](http://) The lecture will be divided in multiple sections. Then, new Radar and Lidar systems, appearing on-board vehicles beside array of imaging cameras, will be discussed for measurement of obstacle positions, distance and relative speed. A trade-off has to be found between power and size of active sensing systems like Radar and Lidar and their maximum measurement range. Examples of X-band mobility surveillance Radar and mm-wave automotive Radar will be provided. On the other hand, MOEMS micro opto electro mechanical systems -based scanned systems, used to reduce size and cost of Lidars are causing distortions that are worsening the accuracy of light-based measurements. Distortions due to fish-eye lenses, used to enlarge the field-of-view, are decreasing measurement performance of imaging sensors. Techniques to mitigate such artefacts will be discussed. Practical examples of traffic sign recognition systems, road signs recognition, image mosaicking for all around view will be discussed. In addition, Lidar and imaging cameras suffer of decreased measurement performance in case of harsh operating conditions e. Concerning on-board sensors for positioning and navigation, recent advances in MEMS accelerometers and gyroscope will be discussed. A careful analysis will be carried out about the measurement errors they cause on position and navigation, due to their bias and random walk output noise. Advanced Reliability, Availability and Safety Design Tools for Industrial Applications Scientific and industrial worlds have started recently to look again with interest to the basic rules to perform reliability, availability and safety analysis and design on complex electro-mechanical systems. The main failure modes on electronic devices and sensors as well as the main techniques for failure mode investigation are of interest in modern system design. Statistical characterization of the main probability density functions and degradation models of innovation is mandatory to build lasting and safe products. The main reliability design techniques such as: The aim of this talk is to enable companies to develop inner confidence on advanced modelling techniques involving reliability, availability and safe design. Modern control algorithms in the emerging power systems process information delivered mainly by distributed,

synchronized measurement systems, and available in data streams with different reporting rates. Multiple measurement approaches are used: There are several applications where synchronized data received with high reporting rate has to be used together with aggregated data from measurement equipment having a lower reporting rate complying with power quality data aggregation standards and the accompanying question is how adequate are the energy transfer models in such cases. For example, state estimators need both types of measurements: Another example is given by emerging active distribution grids operation, which assumes higher variability of the energy transfer and consequently a new model approximation for its characteristic quantities voltages, currents is needed. The main constraint so far is put by the existing standards where several aggregation algorithms are recommended, with specific focus on the information compression. The further processing of rms values already the output of a filtering algorithm results in significant signal distortion. Presently there is a gap between i the level of approximation used for modeling the current and voltage waveforms which is implicitly assumed by most of the measurement devices deployed in power systems and ii the capabilities and functionalities exhibited by the high fidelity, high accuracy and high number of potential reporting rates of the newly deployed synchronized measurement units. The talk will address: Impedance Spectroscopy for Measurement and Sensor Solutions Impedance Spectroscopy is a measurement method used in many fields of science and technology including chemistry, medicine and material sciences. The possibility to measure the complex impedance over a wide frequency range involves interesting opportunities for separating different physical effects, accurate measurements and measurements of non-accessible quantities. Especially by sensors a multifunctional measurement can be realized, so that more than one quantity can be measured at the same time and the measurement accuracy and reliability can be significantly improved.

3: Course: CM30G: IMS Database Performance and Tuning - IBM Skills Gateway - Global

Title / Author Type Language Date / Edition Publication; 1. IMS (DL/I) data-base organization and performance: 1.

4: IMS High Performance Unload V - Basic JCL requirements

Ims (DL/I Data Base Organization and Performance) by George U. Hubbard () Hardcover - Be the first to review this item See all 4 formats and editions Hide other formats and editions.

5: SAS/ACCESS(R) Interface to IMS: Reference

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6: IBM - IMS Database Performance and Tuning

Learn how to tune Information Management System (IMS) databases for use in IMS/Batch, IMS/Data Communications (DC), CICS-Local-Data Language One (DL/I), and Data Base Control (DBCTL) environments. Explore the IMS database features that affect performance such as data set considerations and buffers for VSAM and OSAM.

7: IBM Information Management System - Wikipedia

IMS DB DL/I Application Programming Performance Objectives SYS-EDÂ®\COMPUTER EDUCATION TECHNIQUES, INC.(IMS DB DL/I: -) Perf Obj: Page ii Chapter 4: Database Retrieval Calls.

8: Formats and Editions of IMS (DL/I) data-base organization and performance [www.enganchecubano.com

International Technical Support Organization IMS Performance and Tuning Guide Database performance . IMS Performance and Tuning Guide www.enganchecubano.com

9: Mainframe Trainings | Training & development | DB2 Database Administration on z/OS

The basic JCL requirements for IMS High Performance Unload are for the IMS High Performance Unload runtime environment initializer (FABHX). Many programs of IMS High Performance Unload and user-written HSSR application programs require that the basic JCL requirements are met.

*Response by the government to the fourth report from the social services committee session 1988-89 on res
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