

PROFESSIONAL DETAILS



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- [Presidency of Duhok Polytechnic University \(DPU\)](#)
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LANGUAGE

- **Kurdish** (Native)
- **Arabic** (Native)
- **English** (Intermediate)

SPECIALTIES

Database Systems Data Warehouse and Information Systems Distributed Information Systems
Healthcare Information Systems (HISs) Cloud Computing Web Application Development
E-Government

E-Commerce and E-learning Decision Support System Management Information System (System design) Management Information System (Distributed Data Processing) Communication Technology (ICT) Information Systems knowledge base

TEACHING MATERIAL

Database Systems Data Warehousing CCNA1 Networking Basic Information system and analysis E-learning Object-oriented programming Knowledge Management Research Methodology Web Application Development

SOCIAL LINKS

[A fractal-based model to improve cooperation among physicians in distributed healthcare information systems](#)

PUBLICATION JOURNAL

Dec, 2019

[A User-Based Method To Test The Usability of University of Zakho Website](#)

Science Journal of University of Zakho (Issue: 4) (Volume: 7)

Websites developed for an organisation, especially a university, always need maintenance and improvements to increase user satisfaction and to provide an environment that provides up-to-date information and services in efficient ways. Unfortunately, academic websites are often designed depended on the structure and objectives of an organisation, rather than on whether students, lecturers, and administrative staff find the website usable. This leaves the website users' needs and expectations unsatisfied. The University of Zakho (UoZ), a public university in the Kurdistan Regional Government, is developing its website to include most of the information required. However, the usability of this website still needs to be checked to know whether or not it satisfies users. This study employs a user-based method to get the rate of usability satisfaction from the perspective of students and academic staff, and it investigates whether the occupation has significant impacts on usability satisfaction. This method is achieved by using a Website Analysis and Measurement Inventory (WAMMI) questionnaire, which is including five factors: attractiveness, controllability, helpfulness, efficiency, and learnability. The study offers recommendations and suggestions to the UoZ web developers for improving the website during the maintenance period. Further, this

study proposes ways to enhance the academic websites usability.

Sep, 2019

[Classifying and Predicting Students' Performance using Improved Decision Tree C4.5 in Higher Education Institutes](#)

journal of computer science (Issue: 9) (Volume: 15)

Students' information in higher education institutions increases yearly. It is hard for them to extract meaningful information from the huge amount of data manually. Such information can support academic staff to stop students from dropping out at the end of courses. This can be done by evaluating the students' performance for the course and also by predicting their performance in the final exam early by using classification algorithms. Four classification algorithms, which are Decision Tree C4.5, Random Forest, Support Vector Machine (SVM) and Naive Bayes, were used in this research in order to classify and predict the students' performance. Furthermore, this research aimed at improving the Decision Tree C4.5 algorithm by adding a grid search function in order to improve prediction accuracy in classifying and predicting the students' performance. Also, the features of this evaluation have been extracted through the interviews with academic staff of three universities (University of Zakho, Duhok Polytechnic University and University of Duhok), in Duhok province, Kurdistan Region, Iraq and through the review of the literature. A new prototype has been proposed as a tool to classify and predict the students' performance by using Accrod.Net library. Three datasets were utilized in this research in order to test the improved Decision Tree C4.5 with the traditional C4.5 and three other selected algorithms. The results showed that the improved Decision Tree C4.5 outperformed the traditional C4.5 and also performed better when compared to C4.5 (J48) in Weka tool and other algorithms used in this research.

Jun, 2017

[A Web-Based Management Information System for Human Resources in Selected Universities of Duhok Province](#)

Science Journal of University of Zakho

Today, all managers use the information system to manage their organization efficiently and effectively. Moreover, a management information system (MIS) is a type of computerized information systems. Hence, human resource management information system (HRMIS) has a fast processing to produce accurate information within the organization environment. Therefore, many researchers proposed numerous HRMISs for university campuses. However, some universities, including Kurdistan Region universities are still relying paper-based system in managing their human resources. Based on that, this study aims to identify and analyze current systems which are used for managing and accessing human resource information in the university campus. Further, the study tries to design a web-based HRMIS based on the requirements achieved from aforementioned aim. The data collection of this study has been carried out at three universities, as a case study, in Duhok province. A mixed method of data

collection was done. Then, the qualitative method of data collection conducted using interviews and observation instruments. Also, the quantitative method conducted using system usability scale (SUS) to evaluate the designed web-based HRMIS. Further, the analysis of collected data was based on the strategic planning technique using SWOT (Strengths, Weaknesses, Opportunities and Threats) to identify strengths, weaknesses, opportunities and threats points. Then, the requirements of designing a proposed web-based HRMIS were achieved. After implementing of the proposed system, the evaluation results of SUS were conducted to be acceptable (i.e. total score is 72.03%) based on the end-user viewpoints. Further, the reliability of the proposed HRMIS will be conducted at the University by using reliability measurement tools after implementing such system for a period of time.

Aug, 2016

[A Strategic Planning of Developing Student Information Management System Using SWOT Technique](#)

Journal of University of Human Development (Issue: 3) (Volume: 2)

The strategic planning of developing any information system is the key factor of progress any organization. Hence, SWOT (Strength, weakness, opportunities and threats) analysis for the strategic planning of developing information system has proved to be a good analysis tool for further development and progress of the universities/organization. Further, the implementation of computerized student information management system has become an important issue within the university campus to exchange such information between students and staff. Many studies have developed student information system through the converting of paper-based system to computerbased system in order to facilitate the work of staff. However, none of these studies focused on the development of such systems based on the strategic planning using SWOT technique. Therefore, this research focuses on the requirements needed to develop student information system based on the aforementioned strategic planning technique. Some universities located in the Kurdistan Region, Iraq have been tacking to do the investigation. Moreover, SWOT technique was selected to find strengths, weaknesses, opportunities and threats of developing such system. The findings of this research were processed as matching strengths with opportunities and converting weaknesses or threats to strengths or opportunities. Based on the results, it has been found that the need to address student information systems is of utmost importance now more than ever in order to survive and continue in the competition environment.

Jan, 2014

[Factors affecting cooperation among physicians in sharing information within the hospital environment: a study of two hospitals](#)

Journal of Computer Science (Issue: 5) (Volume: 10)

Healthcare Information Systems (HISs) in hospitals have become an influential factor to provide cooperation among physicians in sharing healthcare

information. Many cooperative HIS models were proposed. However, they focused on management of the patients' information and do not address the issue of improving the physicians' skills due to many factors. In this study, a mixed data collection approach is used first to determine the current levels of cooperation among physicians with regard to the sharing of information and skills in the patient treatment within selected hospitals in Kurdistan region of Iraq. The second, it is first used to determine factors affecting such cooperation and second to determine how the activities of Research and Development (R&D) units affect this cooperation. The results of this study showed that the cooperation among physicians in sharing information and skills is poor due to the six important factors. The study also founded that there is positive relation between R&D unit activities and cooperation among physicians in sharing patient information and their skills. The study findings provided that the development of cooperative HISs environment should be adapted based on an open, autonomic, flexible and cooperative model to support exchange of productive information among physicians in real time in order to improve their skills by acquiring new knowledge from each other within same and between different hospitals.

Feb, 2012

[Improvement the Cooperation Feature in Distributed Healthcare Information Systems Based on the Fractal Approach: An Empirical Study](#)

Advanced Materials Research

The cooperation becomes an important requirement in distributed Healthcare Information Systems (HISs). It is used to provide patients with a good and fast treatment. To achieve the cooperation feature, a fractal approach has been proposed by many researchers in different areas. Also, many approaches have been proposed in cooperative HISs to share patients' information between different healthcare centres in order to provide a good treatment. However, most of these researches did not address the required improvement on physician skills and the possible enhancement on the healthcare services. This empirical study proposes a way to adjust fractal approach in HISs in order to improve the cooperation feature among physicians which may enhance both physician skills and healthcare services. The analysis of the collected data shows there are problems that associated with current system and therefore a set of requirements have been initiated. It has been found that there is a need to adapt the fractal features in current HIS environment.

Jan, 2011

[Towards Fractal Approach in Healthcare Information Systems: A Review](#)

International Journal on Advanced Science, Engineering and Information Technology (Issue: 2) (Volume: 1)

Recently, traditional information systems need adaption capabilities in order to overcome modifications and maintains of external environment. For that, researchers proposed many solutions from the Fractal method to improve the

flexibility and quick adaptive of the system. Computer Information System, as widely used systems, needs modifications and adaptations to real changes. The most important action is to circulate and updating new data and information among the hosts in agent-based information systems. This paper presents the review of using features of fractal method to solve many problems in different fields. The paper is also suggesting employing fractal features for improving the flexibility and adaption of Healthcare Information System (HIS).

Sep, 2010

[Inspiring a fractal approach in distributed healthcare information systems: A review](#)

International Journal of the Physical Sciences (Issue: 11) (Volume: 5)

The structure of healthcare information systems (HISs) need flexibility to overcome modifications and maintain system requirements, such as quickly and accurately circulating and updating productive information among system units. This paper proposes the incorporation of fractal features in HISs. Fractal features can provide many solutions to improve the flexibility and quick adaptability of the system to environmental changes. The fractal theory, its features and its implementations are reviewed in this paper to investigate the possibility of developing cooperative HISs based on fractal theory. This paper proposes an integrated cooperative HIS conceptual framework to explain the roles of fractal features in improving the flexibility and adaptability of the HIS. This research includes a survey conducted in two healthcare centers in North Iraq. The survey shows the necessity of fractal-based HIS to improve the cooperation among system units.

CONFERENCE

Aug, 2022 - Aug, 2022

[Review of Performance Analysis Technique of High-Resolution Imaging in Mobile Telemedicine System](#)

Greece, Athens As Presenter

Abstract. Mobile telemedicine system provides the facility of exchanging medical information from one location to another with information and communication technology. This work aims to review the performance analysis techniques implemented in a mobile telemedicine system for managing high-resolution medical imaging in order to improve the flexibility and accuracy of healthcare services. In this secondary review analysis, journal articles focused on high-

resolution imaging and mobile telemedicine systems were reviewed. It was observed from this study that performance analysis of the high-resolution medical images provides efficient transparency as well as robustness in the information transmission.

Aug, 2022 - Aug, 2022

[Automated Tracking and Navigation of Spine Surgery with the Aid of Augmented and Virtual Reality: A Review and Taxonomy](#)

Greece, Athens As Presenter

Abstract. Background and Aim: The application of augmented reality (AR) navigation & tracking in spine and orthopedic have been very limited during spinal surgeries because the component of AR has not been subjected to objective evaluation and validation. This study aimed to evaluate and validate the application of AR in tracking and navigation of spine surgery to be sure that they can guarantee intraoperative accuracy and precision by reviewing journals on the focused subject. Methodology: We introduce the augmented reality surgical navigation (ARSN) which consists of the Data acquisition, automated tracking and navigation, and navigation feedback (DANF) workflow that we consider the necessary factors for seamless, accurate, precise, and flexible operation during spinal surgery. We propose that these system components should become a yardstick for evaluating and validating the applicability, and appropriateness of any navigation and tracking systems that have existed or that will exist. Result: DANF is evaluated based on its fitness for purpose. A comparison of this system was carried out with the models presented in existing pieces of literature. Findings reveal that AR is feasible and provides high precision and can deploy in surgery

Aug, 2022 - Aug, 2022

[Nanotechnology Based Photodynamic Therapy for Cancer Treatment](#)

Greece, Athens As Presenter

Abstract. The application of Nanotechnology based photodynamic therapy (PDT) in the medical area is considered as a promising alternative treatment modality to others current treatments against different types of cancer. The targeted treatment method has not been considered yet for the effective treatment for the cancer cell. The aim of this research is to propose a new taxonomy that can be used to implement nanotechnology-based photodynamic therapy for cancer treatment which is based on a targeted treatment method. The components that we have considered in this system are data, delivery of nanoparticles, and laser light emission (LLE). These components are used to determine the side effects of the therapy. Based on the review of numerous articles and publications, we found synergic effects of nanotechnology and photodynamic therapy by providing focused treatment without side effects to the therapist during treatment. This work demonstrates the synergic effects of light and nanoparticles in the field of

cancer treatment through the critical analysis of different research. Furthermore, the therapist will learn more about tumor targeted therapy systems, and cancer patients will get fewer side effects.

Oct, 2018 - Oct, 2018

[Clarify of the random forest algorithm in an educational field](#)

Iraq, Duhok As Presenter

2018 International Conference on Advanced Science and Engineering (ICOASE)