SAHYADRI
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E-Journal
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Streams

- Engineering
- Management
- Health Sciences
- Technology
- Science

Contents

~PRESIDENT'S MESSAGE~

Dear Readers,

Knowledge and experience should be shared to all, keeping this as our intention, we plan to bring out the E-Journal. The Sahyadri E-Journal is the first of its kind, bi-monthly online publication which is a platform for our students and the faculty members to showcase their expertise and talents in their respective domains. The E-Journal will comprise of Engineering, Management, Health Science, Research, Project work, Technology and Science respectively. The main intention for bringing out this journal is to publish the Technical Papers, research papers authored by our students and faculty members, in turn to give them a head start along with proper guidance and support to publish the same in international journals and conferences.

The journal will also feature the latest trends in technology and the advancement of science in the respective domains so that our readers can be well acquainted with the on goings in this competitive world. The E-Journal will also publish the summary of workshops, seminars conducted and attended by , industry interaction by the experts and sharing the industrial visit experience by the students. The E-Journal will be published on our portal and any one who wishes to subscribe can enter their email id and it will be added in our mailing list. The previous editions of the journals would be archived and can be viewed from our portal as well. This will help the other students and faculty members to aware about the subject and also this may motivate them to involve in the same activity.

I therefore request especially all the students and also the staff members to actively engage in publishing papers, attending workshops and seminars in your corresponding domains which will in turn benefit you to become better and more knowledgeable in your subject as well as benefit the society at large, thus will be a help us make our country the world leader in Science and Technology. The whole of science is nothing more than a refinement of everyday thinking.

We are also working on launching another E-Magazine, that includes our students talents, articles by the students, faculty members and all the staff on Art, literature, Culture Details regarding this will be announced soon in Sahyadri Campus Buzz. We are trying explore our students talents and the same should share with others. I am requesting the E- Journal team to publish the latest article on research activity and guide the students for project works in different area this will help the students.

I wish the best of luck to the team of Sahyadri E-Journal to bring out interest engaging and innovative publications.

Regards,
Manjunath Bhandary
President,
Bhandary Foundation.

~DIRECTOR'S MESSAGE~

Dear Readers,

It gives me immense pleasure to learn that Sahyadri Educational Institutions have started E-Journal, a platform to showcase the technical talents amongst our students and staffs.

The main purpose of a scientific paper is to report new results, usually experimental, and to relate these results to previous knowledge in the field. Papers are one of the most important ways that we communicate with one another.An objective of organizing a research paper is to allow people to read your work selectively. When I research a topic, I may be interested in just the methods, a specific result, the interpretation, or perhaps I just want to see a summary of the paper to determine if it is relevant to my study. To this end, many journals require the following sections, submitted in the order listed, each section to start on a new page. There are variations of course. Some journals call for a combined results and discussion, for example, or include materials and methods after the body of the paper. The well-known journal Science does away with separate sections altogether, except for the abstract.

Writing an efficient paper is hard work, but will repay you with increased impact on the world by enticing people to read your publications. Make sure that all the components of a good paper are included in the next one you write.

Wishing Sahyadri E-Journal the best of success ahead.

Regards,

Dr. D. L. Prabhakara
B.E, M.Tech.(IIT-M),Ph.D.(IIT-K)
Director
Sahyadri Educational Institutions

The Future Problems by the Rights Provided for the User by the Operating System

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This paper presented in:
VTU - Belguam and selected as the Best paper

Abstract - The main aim of this paper is to show the problems in the operating system and all the things in this paper is tried several times in many of the systems and implementation of my own idea to avoid such problems in an operating system. Here I am mainly presenting the problems in security of the operating system. Whenever we speak about the security, the main thing which comes into our mind is of virus. In this paper I am stressing about the virus, means not only the files like Trojan, worms, horses, logic bomb etc. It may also be the small files which are written in vbs scripts, batch files, or any other executable files of small scripts, which contain proper instructions to operating system. The operating system is providing some extra features and some of the rights to create and execute some types of files for the user to feel more comfortable while using the operating system. But the main problem is for these kinds of files there's no security and what ever the instructions may be, it will directly execute and especially there's no checking for these files neither from the operating system nor from the antivirus using in this present world. By using the rights provided by the operating system for these kinds of files it is possible for some other user to completely hack or destroy the operating system including all the data stored in the system. According to my knowledge the present antivirus is just working like a linear search program and as the update for antivirus is more, the ability for detecting the virus also increases, so according to me there's no life at all for the antivirus. My main aim is to provide some extra features and ability for the antivirus to work more efficiently. I am involving few of the my own virus codes which have ability to work in these fashion and make the user to loose the control over the operating system and perform some actions which cannot be controlled and also without the knowledge of the user. Especially till now there is no existence of these types of files in the region of hacking. So these files may be most dangerous to an operating system in future if a programmer or a hacker start creating these types of files in the real world.

Here I am presenting my own idea which may have ability to avoid these kinds of files and provide more security to the operating system. This whole paper is discussed with the Microsoft. But if we consider their reply not only in these files there is problems in the versions of operating system using in Asian countries and I am involving some of the proofs by Microsoft for showing the difference in versions of the operating system.

Use this link to access the full text -
http://www.sahyadri.edu.in/e-journal/thefutureproblems.pdf

Intelligent Scheduling in Health Care Domain

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This paper appears in:
IJCSI International Journal of Computer Science Issues, Vol. 8, Issue 5, No 3, September 2011 ISSN (online): 1694-0814 www.IJCSI.org

Abstract - Healthcare organizations are facing the challenge of delivering high-quality services through effective process management at all levels-locally, regionally, nationally, and internationally. Patient scheduling becomes an integral part of daily work for healthcare professionals. The presented work is to build an agent based information services for mobile users. An agent is characterized by the concepts of situatedness, autonomy and flexibility. Multi-Agent systems (MAS) are appropriate in many medical domains, due to the characteristics of the problems in this area and are the basis of an emerging technology that promises to make it much easier to design and implement. The paper work integrates accessing distributed health care services in multi-agent environment to achieve better Quality of service by using java platform. This develops a framework to schedule the meeting between the patients and the relevant doctors meeting in an efficient way for routine and emergency services.

Use this link to access the full text -
http://www.sahyadri.edu.in/e-journal/intelligentscheduling.pdf

Plain Text Compression using Combination of Pitman Shorthand and Dictionary Inspired Models

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This paper appears in:
National Conference on Modern Trends in Science & Technology - MIST -2011

Abstract - Generally text is coded in ASCII format. Huffman coding or any other run length encoding techniques compresses the plain text. Here is a proposed new method for plain text compression, which is mainly inspired by the concepts of Pitman Shorthand, Huffman and Dictionary methods. In the Pitman Shorthand method, 2 to 3 characters are combined to form a single new character. The same concept is used here wherein we replace a sequence of 5 characters by a new character, thus file compression can be achieved. The coding scheme successfully codes the text characters with high degree of compression ratio.

In this new system, the input text is first compressed through a variation of dictionary method. This compressed file is given as input to the Pitman shorthand inspired algorithm. Giving this file as input to Huffman algorithm results in a high degree of compression ratio of about 50%, which is generally harder to achieve in lossless text compression algorithms. Since there is a growing demand for speedy transmission of data nowadays, a model of this kind may be a useful one.

Use this link to access the full text -
http://www.sahyadri.edu.in/e-journal/plaintext.pdf

Privacy and Security Aspects of RFID

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This paper appears in:
International Conference on Computer Science and Information Technology ICCSIT 2010
Organized By Dept. of ISE, R.L.Jalappa Institute of Technology, Doddaballapura,
17th and 18th Sept. 2010

Abstract - This paper addresses the issues concerned with deployment of RFID, privacy and security issues. No doubt RFID made our life more automated including passport verification, inventory management, toll collection, and health care management systems etc, now totally we can say thank to the technology. If we see the other side of the RFID, certainly there are certain issues left on us like snatching our privacy, private information without our knowledge. Here I made little effort to throw the light on such issues and possible remedies. These RFID tags are very small wireless devices which identify objects and people, these tags track objects and supply chain managements and even bodies of the customers in wall marts. This survey study the remedies proposed for the present issues also.

Use this link to access the full text -
http://www.sahyadri.edu.in/e-journal/privacyandsecurity.pdf

Robust Multi Person Tracking from Outdoor Platform

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Abstract - The moving object tracking in video pictures has attracted a great deal of interest in computer vision. For object recognition, navigation systems and surveillance systems. Object tracking is an indispensable first-step. We propose a novel algorithm for multi person tracking in video pictures, based on image segmentation. With the image segmentation, we can detect all objects in images no matter whether they are moving or not. Using image segmentation results of successive frames, we exploit blob tracking for tracking of the objects. We have addressed this person tracking in four different techniques. Consequently, the proposed algorithm can be applied to multiple moving and still persons even in the case of a moving camera. We describe the algorithms in detail and perform simulation experiments on object tracking which verify the tracking algorithm's efficiency.

The application of the proposed algorithm is in the field of pedestrian tracking in smart video surveillance system. The output of the proposed algorithm can be applied to advanced driver assistance systems and also in the security applications.

Use this link to access the full text -
http://www.sahyadri.edu.in/e-journal/robust.pdf

Evaluation of the Influence of Interface Elements for Structure - Isolated Footing - Soil Interaction Analysis

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This paper appears in:
International Journal on Interaction and Multiscale Mechanics, Vol. 4, No. 1 (2011) 65-83 65

Abstract - In this study, two extreme cases of compatibility of the horizontal displacements between the foundation and soil are considered, for which the pressure and settlements of the isolated footings and member end actions in structural elements are obtained using the three dimensional models and numerical experiments. The first case considered is complete slip between foundation and soil, termed as the uncoupled analysis. In the second case of analysis, termed as the coupled analysis, complete welding is assumed of joints between the foundation and soil elements. The model and the corresponding computer program developed simulate these two extreme states of compatibility giving insight into the variation of horizontal displacements and horizontal stresses and their intricacies, for evaluation of the influence of

using the interface elements in soil-structure interaction analysis of three dimensional multiscale structures supported by isolated footings.

Use this link to access the full text -
http://www.sahyadri.edu.in/e-journal/evaluation.pdf

Relevance of Interface Elements in Soil Structure Interaction Analysis of Three Dimensional and Multiscale Structure on Raft Foundation

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Abstract - Effects of horizontal stresses and horizontal displacements in loaded foundation have not been adequately studied. Horizontal stresses and horizontal displacements are much affected by the nature of bonding between foundation and soil. In soil-structure interaction analysis of a structure, adopting finite element method, usage of link/interface elements between two elements of different materials is assumed to be a standard procedure. In this study two extreme cases of compatibility of horizontal displacements between raft foundation and soil elements are considered to obtain pressure settlement relations of raft foundation by developing three dimensional mathematical model and performing numerical experiments. The first case being complete slip between foundation and soil, termed as un-coupled analysis. The second case of analysis, termed as coupled analysis, adopts complete welding of joints between foundation and soil elements. The model and the computer program developed simulate responses like pressure, settlements and member end actions in structure. These two extreme states of compatibility gives insight into variation of horizontal displacements and horizontal stresses and their intricacies which lead to relevance usage of interface elements.

Use this link to access the full text -
http://www.sahyadri.edu.in/e-journal/relevanceofinterface.pdf

Formal Verification of OAuth 2.0 using Alloy Framework

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This paper appears in:
IEEE International Conference on Communication Systems and Network Technologies (CSNT-2011)

Abstract - Over the past few years, the paradigm of social networking has grown to such a degree that social networking websites have evolved into full-fledged platforms, catering to a wide range of consumer interests. The near-ubiquity of Internet access has facilitated the proliferation of users that indulge in social networking. However, this wide spread usage of the Internet and social networking in particular brings with it the need to design and implement a plethora of security enhancing and privacy preserving protocols and standards. Several protocols and security mechanisms have been proposed to ensure primary security features such as confidentiality, integrity, authenticity and non repudiation. However, ensuring the correctness of these protocols is crucial in ensuring user confidence in system security. Therefore, these protocols need to be verified in some formal sense that involves an exhaustive examination of the protocol flow and its state transitions. In this paper, we formalize OAuth, an authentication standard which has found wide acceptance in the Internet community. We formalize the protocol using a method called knowledge flow analysis, using the Alloy modeling language for specification and the Alloy Analyzer for verification. We show how the Alloy Analyzer successfully discovers the known security vulnerability in OAuth.

Use this link to access the full text -
http://www.sahyadri.edu.in/e-journal/formal.pdf

Impact of Occupational Stress on Employee Performance in Banks - an Empirical Study

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Abstract - Occupational stress is a much commented upon phenomenon of the 20th and now the 21st century society. In the present scenario, employees are struggling with the growing, and often conflicting, demands of the workplace and family life. The lack of work-life balance results in a worrying increase on stress which could result in employee burn-out. It can cause even committed employees to lose motivation and become disillusioned. In this direction an attempt was made to study the banking sector and the occupational stress, the employees have undergone in this sector because this is one important sector where sweeping changes have taken place which puts pressure on the employees to deliver more and more sophisticated nature of work.

Use this link to access the full text -
http://www.sahyadri.edu.in/e-journal/impactofoccupational.pdf

Comparison of Pulmonary function between Beedi, Cigarette and Combined Smokers

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Abstract - This study was aimed to compare pulmonary function parameters in beedi smokers, cigarette smokers and both a type of smokers on the basis of the pulmonary function tests. The pulmonary function tests were done on 447 subjects which included, 150 beedi smokers, 160 cigarette smokers, 137 who smoked both beedi as well as cigarette . In beedi smokers the values of Forced vital Capacity(FVC), Forced Expiratory Volume in 1st second (FEV1), Peak Expiratory Flow Rate (PEFR), Forced Expiratory Flow (FEF) 25%–75%, were significantly lower ($P<0.01$) than those of cigarette smokers and both a type of smokers. Moreover, the Forced Vital Capacity (FVC) and FEV1 of beedi smokers were significantly ($P<0.0001$) lower than those of Cigarettes-smokers. It may be concluded that pulmonary functions are more affected in beedi smokers than in cigarette smokers and both a type of smokers.

Use this link to access the full text -
http://www.sahyadri.edu.in/e-journal/comparisonofpulmonaryfunction.pdf

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