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The content of this issue of JITA consists of eight papers.

The first paper, entitled “Computer control systems with critical safety applications: problems and some solutions” by H.Hristov and M. Hristov, presents SCS (Safety Critical Systems) as an important class in the area of real-time control systems. Their essential distinction from the other classes within this area is the mandatory requirement not only to provide the necessary functions as intended, but also to ensure that the system is safe to operate and safe in the event of failures.

The next paper is “Encryption based on Ballot, Stack permutations and Balanced Parentheses using Catalan-keys” by M. Saračević, E Korićanin and E. Biševac. This paper examines the possibilities of applying Catalan numbers in cryptography. It also offers the application of appropriate combinatorial problems (Ballot Problem, Stack permutations and Balanced Parentheses) in encryption and decryption of files and plaintext. The paper analyzes the properties of Catalan numbers and their relation to these combined problems.

The third article entitled “The Use Of Energy Storage Devices Of Uncontrolled Type On The Moscow Metro (Theory And Practice)” by Shevlyugin Maxim Valerievich, A.N. Stadnikov, and A.E. Golitsyn describes the problem of increasing energy saving and energy efficiency in the system of traction power supply of the Moscow Metro is considered due to the use of energy storage devices of uncontrolled type. The results of simulation modeling of the operation of an energy storage device of uncontrolled type in the system of traction power supply of the subway are presented. A particular line was studied, on which experiments on the introduction of energy storage devices based on electrochemical supercapacitors were conducted.

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In the fourth article “Road traffic accidents analysis using data mining techniques” by G. Janani and N. Ramya, traffic accident data of Coimbatore is collected and cleaned in order to use it to test the predictive model. The endeavor of this paper is to spot the factors behind an accident and severity of accidents. The assessment of the Classification model showed that Naive Bayes algorithm outperforms with an accuracy of 92.45 % when compared with other algorithms.

The next paper is “The application of online platforms in open innovation”, R. Milutinović, B. Stošić and V. Štavljanin, presents novel approach to the innovation process in companies is presented. The open innovation model was built on the premise of expanding the network of companies and collecting new knowledge needed to create new products, services. The main driver of openness and involvement of users in the process of new product development is the development of technology, primarily internet and new web 2.0 tools.

The sixth article is “Implementation of Fog computing in IoT-based healthcare system” by M. Maksimović gives general survey of IoT health care system. Despite numerous benefits Fog computing brings in IoT-based environments, the privacy and security issues remain the main challenge for its implementation. The reasons for integrating the IoT-based healthcare system and Fog computing, benefits and challenges, as well as the proposition of simple low-cost system are presented in this paper.

The seventh article “Influence of information technologies on the company’s competitive advantage on the market in conditions of the global crisis” by N. Djurić and M. Paunović analyzes the existing effects of IT at the level of competitive advantage of companies on the market in the global crisis conditions. The research was carried out on the territory of Republika Srpska, on the sample of 136 small and medium enterprises.

The last article in this issue “Web based decision support system to determine the appropriate packaging of ethnic and traditional Indonesian foods” by Latifah Nurbaiti, Kudang Boro Seminar and Nugraha Edhi Suyatma, focuses on identifying snacks, types of packaging and active packaging parameters to build a decision support system in order to determine appropriate packaging. Types of packaging are determined using fuzzy Sugeno 4 parameters: fat, water activity, shelf-life and price. Active packaging of the snacks is done using the if-else rule with parameterized types of packaging, preservatives, oxygen barriers and water vapour barriers. The end result of this research is a web based decision support system, which recommends types of packaging and active packaging for snacks.

On behalf of the Editorial Board we would like to thank the authors for their high quality contributions, and also the reviewers for the effort and time invested into the preparation of this issue of Journal of Information Technology and Applications (Banja Luka).

Editors, Gordana Radic, Editor-in-Chief, Zoran Avramović, Dušan Starčević