

THE DEPENDENCE OF INFORMATION ENTROPY ON THE MEASUREMENT ERROR OF THE SENSOR NETWORK DESIGNATED TO THE TARGET LOCALIZATION

Peter RINDZÁK

Abstract: The Information from the sensors and resources which are available to the commander are important during his decision-making process. An important parameter of this information is their quality. This article describes the approach to processed signals using information entropy as a parameter for evaluating the quality of information. Initial precondition for applying the information entropy model, the individual optimization strategies are used in 2D and 3D space. In the previous work, we dealt with sensors which were capable to scan without measuring error. In this publication, we are dealing with the simulation of sensors dislocation which is affected by the same measurement error or different error for each individual sensor. Lastly, the thesis for possible future studies can be found at the end of this article.

Keywords: NEC, Network enabled capability, UAV, sensors, TDOA, information entropy.

CULTURAL IDENTITY AS TOOL OF RUSSIAN INFORMATION WARFARE: EXAMPLES FROM SLOVAKIA

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Abstract: Nowadays, the „information warfare“ is becoming more and more common term within the international relations, as an effective tool of combat involving minimal cost. Since March 2014, several European countries have faced massive propaganda and disinformation campaigns originating in the Russian Federation. The Central European countries are no exception. Disinformation portals, which are being visited at least once or twice a week by up to 34 % of Slovaks, use the concept of Pan-Slavism and the idea of Slavic culture and identity. Statistics prove that many people in the V4 countries do not want to be part either of “the East” nor “the West”, many people consider Vladimir Putin more sympathetic than Angela Merkel, and many people also think NATO is no longer relevant to European security. In contrary, they believe Russia should become part of the European security structures.

Keywords: information warfare, Russian Federation, Slavs, Pan-Slavism.

SOME ASPECTS OF TECHNOGENE SAFETY AND THEIR IMPACT ON FUNCTIONING OF PUBLIC SYSTEMS

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Abstract: The questions of technogenic safety are observed at the example of situation at Ukrainian Donbas. It is shown that dust generated by enterprises refers to the factors that gradually accumulate and then disrupt the human health. The greatest danger is represented by dust particles whose dimensions are 5 μm or less. The exposure time of dust particles per person depends on the settling speed of dust particles which is found from the following considerations. For calculating the time of exposure an analytical study was made. It was established that the dust that has arisen as a result of man's anthropogenic activity is deposited extremely slowly - for hours. Based on the time of dust exposure, the certain rules recommended that minimize man-caused hazards.

Keywords: technogenic safety, dust. exposure time, man-caused hazards.

DECOMPILING JAVA BYTECODE: FROM COMMON JAVA TO NEWEST JDK8 FEATURES, FROM OBSOLETE DECOMPILERS, TO CUTTING EDGE TECHNOLOGY

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Abstract: Countless various malware families provide huge variety of functionalities which allow them to do many malicious activities. These conditions led to the development of many different analysis methods. In this paper, we focused on reverse engineering, which is elementary part of static analysis. We evaluate current Java bytecode decompilers. We evaluate the output from current Java bytecode decompilers in this paper using test samples and metrics from previous surveys in 2003 and in 2009. Quality boost is really significant between actual results and the results based on research from 2009, in contrast with only slight improvement between researches in 2003 and 2009. Even though we were witnesses of rapid quality boost, still any of the decompilers pass all the tests acceptably. We also give reasons why outdated decompilers from previous research perform almost in the same way.

Keywords: java, reverse engineering, bytecode, decompilation.

THE EXPEDIENCY OF IMPROVEMENT OF ARMED FORCES MANAGEMENT BY AUTOMATIZATION OF THEIR BASE FUNCTIONS

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Abstract: The article deals with the management process of the team of people that represents as a system of certain sequential interrelated activities called management functions. It is introduced general (basic) management functions that are specific for the Armed Forces. It is disclosed operation of Commander and his staff on the organization preparations for the operation (combat actions). It is proved the necessity of automation of basic management functions of the Armed Forces, as well as modelling of possible actions and processes. It is shown the relevancy of studying at leading military higher education institutions the discipline "Mathematical Principles of Military Art" for future use of military cybernetics in their practice by specialists of command and staff structure.

Keywords: general management functions, automation of management, operational planning, single automated management system.

ACTIONS OF POLICE AND LOCAL AUTHORITIES AFFECTING IMPROVEMENT

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Abstract: All modern countries strive to provide their societies with security. The basic safety determinants are hazards and risks. Assessment of the sense of safety of residents of local communities should be assessed using the above-mentioned determinants. Local police and authorities seeking to improve the sense of security of these communities should minimize threats and risks occurring in a given area.

Keywords: safety, police, safety determinants, local community.

GENDER AND LEADERSHIP IN THE MILITARY

Veronika MARENČINOVÁ

Abstract: Since time immemorial, the world has known female soldiers and warriors. Some very brave women have gone down the annals of history for their heroic acts in the military of their individual countries. However, one thing still stands clear the achievements of the previous female generations notwithstanding – the role of the female soldier, especially in combat remains a highly controversial subject. Several arguments have been advanced for the exclusion of female soldiers in real combat and other senior military positions in some countries. These arguments range from what many consider as sexism to what qualifies as serious food for thought worth exploring. It is really interesting that inasmuch as the emancipation of women is much evident in other careers, their ability is highly doubted when it comes to most militaries in the world. This paper discusses the role of women and the obstacles they face all over the world in their attempts at military leadership.

Keywords: female, soldier, military, leadership, role of women, model, gender, femininity.