

Editor-in-Chief



Editorial

The Iranian Society of Cryptology (ISC) is pleased to bring you the second issue of ISeCure, the ISC's International Journal of Information Security. ISeCure aims to provide a forum for the publication of high-quality original research results in all areas of information security and cryptology. ISeCure is published using an open access publishing model, which makes the full-text of all accepted peer-reviewed papers freely available online on the journal website (<http://isecure-journal.org>) with no subscription or registration barriers.

For the first volume of ISeCure, we received the cooperation of paper editors and peer reviewers who have contributed significantly to the quality of such a scientific scholarly journal. We would like to offer our sincere appreciation to them and also to the authors who had close cooperation in the reviewing and publishing process to prepare the both issues of this volume in a timely manner. We are looking forward to receiving their future contribution as well.

Starting from this issue of ISeCure, the "Invited Papers" are being published. The "Invited Papers" from pioneers in information security which are aimed at presenting the state-of-the-art research in different fields of information security and cryptology. This makes ISeCure the leading publication for young researchers within its scope. There is also the possibility of opening the "Comments Papers" section, in future volumes, in case there are any approved comments on the published papers in ISeCure. Valued readers who have comments or corrections are invited to submit their "Comments Papers", for which our review process will be initiated and if approved, they will be included in the earliest issue. A "Comments Paper" should not typically exceed a couple of pages.

This issue of ISeCure includes four papers. We would like to extend our thanks to Professor Jovan Dj. Golić who accepted our invitation to submit his paper to ISeCure. We are much delighted in having such a quality paper as our first Invited Paper. It is worth mentioning that, in accordance with the author's request, the Invited Paper has undergone the journal's regular review process. After a survey on anomaly-based intrusion detection systems, the first (invited) paper proposes a unified method for statistical anomaly detection in intrusion detection systems that is based on estimating various dispersion measures of numerical or symbolic data in time. The described techniques can be used for detecting network traffic anomalies due to network failures and network attacks such as (distributed) denial of service attacks, scanning attacks, SPAM and SPIT attacks, and massive malicious software attacks. It is expected that this paper will be a basis for many follow-up papers which will be testing the proposed techniques experimentally.

The second paper presents a tool which generates a test input sequence designed to reveal security vulnerabilities in a 'Voice over IP' (VoIP) phone application. The input sequence includes network messages and external graphical user interface (GUI) events which can contribute to triggering a vulnerability.

The third paper presents Image Flip CAPTCHA technique, a new image-based CAPTCHA method in which a composite CAPTCHA image of reasonable dimension and resolution is shown to the user. To prove human interaction, a user has to identify and click on embedded images that are not flipped. Various issues pertaining to the usability and security of the presented CAPTCHA technique have been evaluated through careful analysis, user studies, and experiments.

The fourth paper proposes an untraceable blind signature scheme whose security is based on the difficulty of solving discrete logarithm over an elliptic curve. The performance of the proposed scheme is quite commendable in comparison with the previous works in terms of security and time complexity.

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ISeCure