April 1, 2022
DIGITAL HEARTS HOLDINGS Co., Ltd.

AGEST announces the establishment of “AGEST Testing Lab.”

- Promoting Research on Software Testing Technologies under Industry-Academia Cooperation with The University of Electro-Communications, WASEDA University and University of Nagasaki -

AGEST, Inc. (hereinafter referred to as "AGEST"), a subsidiary of DIGITAL HEARTS HOLDINGS Co., Ltd., announces the establishment of "AGEST Testing Lab." and the launch of new initiatives of R&D. AGEST supports the improvement of software quality and safety through the use of advanced quality technologies and AGEST Testing Lab. conducts researches on software testing methods for cutting-edge technologies and it launches new R&D initiatives on software testing methods and technologies to support a digital society under industry-academia cooperation with Nishi Laboratory, Department of Informatics, Graduate School of Informatics and Engineering, The University of Electro-Communications, Washizaki Laboratory, Department of Computer Science and Engineering, School of Fundamental Science and Engineering, WASEDA University and Kato Laboratory, Department of Information Security, Faculty of Information Systems, University of Nagasaki.

UEC x WASEDA University x UNIVERSITY OF NAGASAKI x AGEST

Aim and Background of “AGEST Testing Lab.” Establishment

In recent years, the popularization of IoT and the promotion of DX have rapidly expanded the scope of what to be controlled by software from traditional information terminals such as PCs and smartphones to home appliances, automobiles, and living environments.

With this background, software has become more complex and the risk of fatal defects leading to product failure or service outages has increased and software testing has become increasingly important to ensure product reliability and safety.

Faced with these challenges, “AGEST Testing Lab.” will research new testing technologies to support society and will pursue the improvement in quality and reliability of software from both academic and industrial perspectives, from the three directions of "AI (Artificial Intelligence)," "Agile," and "Security" under cooperation with three renowned academics in each thematic area. Going forward, through making a further cooperation with researchers inside and outside Japan, we will expand and deepen our research themes in the area of software testing, aiming to publish research results in papers, conferences and so on. Also, we are supposed to develop testing related tools using the results.

AGEST Testing Lab. Overview

Name：AGEST Testing Lab.
Director：Juichi Takahashi（Executive Officer CTSO, AGEST, Inc.）

AGEST Testing Lab.’s Research Themes and Researchers

【AI】:Adaptation of Software Testing to AI Products

In this research, for the purpose of establishing testing techniques for AI using neural networks called deep learning, we will research and learn existing testing methods and will evolve new testing techniques and then apply the evolved ones to well-known AI.

Researcher：Dr. Yasuharu Nishi
Assistant Professor, Management Science and Social Informatics Program, Department of Informatics, Graduate School of Informatics and Engineering, The University of Electro-Communications
President, Non Profit Organization ASTER (Association of Software Test EngineeRing)

【Agile】:Research on Agile Testing
In this research, we will quantitatively evaluate the quality of products, processes and other factors in more than one actual agile development through a variety of agile metrics in order to reveal effects and limitations on the quality of employed practices, patterns, etc. taking into account various characteristics and to develop useful guides and realize indicators in using them.

Researcher：Dr. Hironori Washizaki
Professor and Director of Global Software Engineering Laboratory, WASEDA University
Professor, Department of Computer Science and Engineering, School of Fundamental Science and Engineering, WASEDA University

【Security】:Research on Security Testing Using Fuzzing Testing Methods
In this research, we will evaluate various security fuzzing tools including OSS(Open Source Software) and study methods to apply the best fuzzing tools to every IoT. AGEST Testing Lab. will conduct important researches to prepare for possible future large-scale attacks by hackers on IoT devices.

Researcher：Dr. Masahiko Kato
Professor, Department of Information Security, Faculty of Information Systems, University of Nagasaki

【About AGEST Testing Lab】
AGEST Testing Lab. aims to create rich values and experiences for all DX with advanced quality technologies through researches on testing techniques in order to support a new software society. https://agest.co.jp/lab/

【About AGEST】
AGEST, with the vision of " Bringing high value and rich experiences through Digital Transformation using advanced QA technology", is contributing to the development of an advanced digital society through the provision of next-generation QA solutions by promoting researches on advanced technologies and the cultivation of engineers expected to lead QA teams with the ability to deal with the latest technologies. https://agest.co.jp