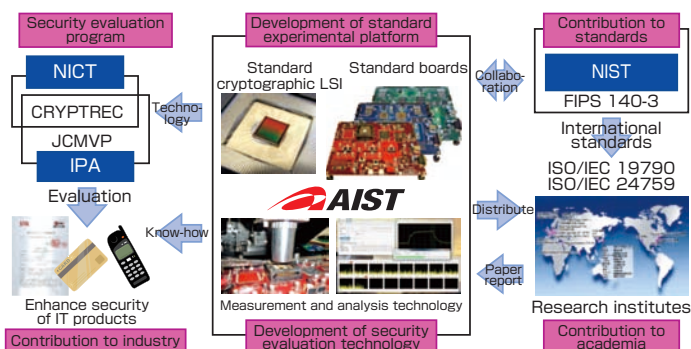


Standard evaluation circuit board for cryptographic modules

For enhancement of hardware security and establishment of international standards

We have developed an FPGA board, the SASEBO-GII, to serve as a standard platform for evaluating the security of a cryptographic module with respect to side channel attacks. Side channel attacks extract secret information from a cryptographic module by analyzing power consumption and electromagnetic radiation. The SASEBO-GII board provides a uniform environment for researching side-channel attacks, making possible the development of international standards and metrics for security testing of cryptographic modules. The SASEBO-GII board supports dynamic reconfiguration, so that the board's functionality can be updated and its malfunctions can be repaired without stopping or rebooting the system. On-demand hardware implementation made it compact and low-power consuming. By advancing research on dynamic reconfiguration of hardware using the SASEBO-GII board, more secure, more reliable, and higher performance systems can be developed.



Development of security evaluation technology for cryptographic modules and activities on international standardization

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AIST TODAY Vol.10, No.2, p.16 (2010)

An assistant robot "TAIZO" for rehabilitation exercises for seniors

To increase the motivation of the elderly for the exercises

We have developed an assistant robot "TAIZO" for rehabilitation exercises for seniors that is a set of exercises to help rehabilitation of the elderly with some disability. TAIZO is 70 cm tall and has 26 degrees of freedom with a familiar appearance, and can be operated easily by a senior instructor of the exercises through speech recognition and a remote controller. TAIZO can execute about thirty kinds of the exercises and talk with the instructor and the elderly. The robot has been applied to help the instructor of the exercises, and it has been observed that the robot can increase the motivation of seniors to learn the exercises.



Assistant Robot "TAIZO"

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AIST TODAY Vol.10, No.1, p.21 (2010)