Development of an E-learning System and Applications of Embedded System

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Research Topics

- E-learning System for Embedded Systems
- Brain Machine Interface
- Analysis of EEG using Principal Component Analysis and Genetic Algorithms
- Development of a Walking Support Devices for Sightless People

Research Seeds

- Remote Practice System for Learning of Embedded Systems
  To develop an embedded system, we must master technology that integrates hardware and software designs. Today, it is possible to confirm the operation of hardware and software design easily through simulations using a PC at home. Furthermore, it is very important to confirm the actual operation of the design using an embedded board. However, students cannot confirm the actual operation at home because they can use the board only in the practical room. We developed a remote practice system that enables students to control the embedded board remotely using the internet. Using this system, students can confirm their design on the actual remote board. The remote practice system will contribute to support self-learning at home.

- Applications of Embedded System for Welfare Equipment
  We attempt to apply embedded systems to welfare equipment to improve the QOL of physically handicapped persons. A Brain Machine Interface (BMI) is one of our studies. Results of this study will enable handicapped persons to use a PC easily. Furthermore, we are developing walking support devices for blindness. This device supports walking by informing the user of danger detected through differences in the environment surrounding the user.

Related Technology

- Technology related to embedded systems
- Application of embedded system
- Application of genetic algorithms and genetic programming
- WEB application