

Division of Electrical Engineering and Computer Science	Research field	Interface Device	Lab. ID EC06
Laboratory web site	<a href="http://ifdl.ip/">http://ifdl.ip/</a>		
Research subjects			
<p>Recent development of the computers and the ICT technologies realize the drastic advances of our daily life and social systems. They are extending their application areas from inside the virtual world to the physical, real world. The technologies related to the extended ICT application areas are also extended from the software technology to the hardware and the physical technologies.</p> <p>In our laboratory, we hold the LSI (large scale integrated circuits) technologies as a tool for system implementation, and aim at realizing the interface device, between man and machine, man and machine, or machine and man. In order to realize the target interface device, we use the possible technologies for implementation, including the specially designed LSIs, as well as the conventional electronic circuit components.</p>			
Master/Doctor course: Education policy, curriculum, typical activity in the laboratory			
<ol style="list-style-type: none"> <li>1. Setting Target: application systems of interface devices, especially those that deeply related to human interface.</li> <li>2. Choosing Tools: implementation technologies, such as PCB design, MCU circuit, LSI design, 3D modeling.</li> <li>3. Evaluation: evaluate the implemented system, especially how worth for human usability.</li> </ol>			
Daily life in the laboratory, etc.			
We provide training program for MCU, electronic building, and LSI design. The students' office desk are shuffled twice a year, so the students as to share the knowledges and skills.			
Message or comments by the laboratory faculty staffs			
Let us aim at realizing the actually worth systems and devices for human beings, with having the wide technical and social viewpoints.			
Recent Master theses in these 3 years (+ more if appropriate)			
year.month	Thesis title (including English translation of Japanese thesis title)		
2017.3	Node Position Estimation Method Using Inter-node Distance Information and Its Evaluation		
2017.3	A Method of Eye Area Extraction from Wide Angle Image of Head and Its Evaluation		
2017.3	Central Scotoma Simulator using High Speed Display and Line-of-Sight Measurement System		
2017.3	Design and Evaluation of Vision Chip for High Speed Line-of-Sight Measurement		
2016.3	Pixel Structure for Image Instrumentation and Jaggy Reduction using Pseudorandom Pixel Placement		
2016.3	Prototyping System for Interactive Devices using Block Devices with Power Line Communication		
2015.3	The motion detection algorithm and application to actual image in independent time axis system for each pixel		
2015.3	High speed and high accuracy saccade prediction algorithm		
2015.3	Design and Implementation of Block Device with Power Line Communication		
2014.3	Design and Evaluation of High-Speck Image Sensor for Line-of-Sight Detection Camera with Saccade Tracking Capability		
2014.3	Line-of-Sight Detection Camera with Saccade Tracking Capability and Its Applications for Interaction		
2014.3	Tangible System for Programming Education Using Matrix LED Blocks with Bi-color Pattern Draw and Display Capabilities		
2014.3	User interface of remote control device with user's operation history and pointing operation of target		
2014.3	Interactive Block Device with Function Definition Capability using Visible Light		
2014.3	Wireless Indoor Location Estimation Method Using Rotary Type Directional Antenna for an Autonomous Mobile Robot		
2014.3	Application of the Imaging System using Pseudorandom Pixel Placement to the Area Measurement and the Display Systems		
2014.3	Search of information presentation method in shape perception apparatus based on searching behavior		
2013.3	Multi-channel Electromyography Measurement System Using Power Line Communication on Conductive Cloth		
2013.3	Flexible display system composed of independent pixels with position detection capability		
Recent Doctoral theses in these 3 years (+ more if appropriate)			
year.month	Thesis title (including English translation of Japanese thesis title)		

Laboratory mail address	<a href="mailto:akita@is.t.kanazawa-u.ac.jp">akita@is.t.kanazawa-u.ac.jp</a>