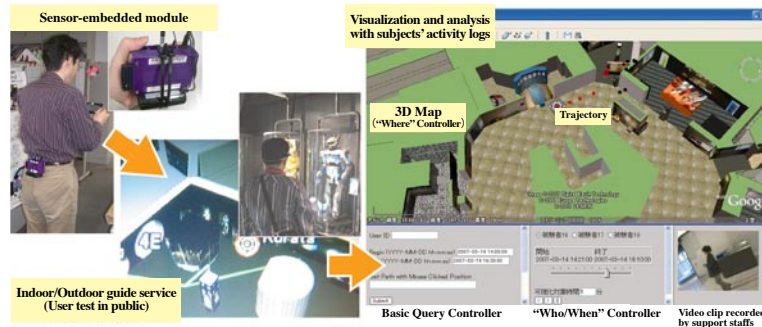


A 3-D pedestrian guide system usable indoors and outdoors

We have developed a 3-D pedestrian guide system using a dead-reckoning method based on walking locomotion measured by wearable self-contained sensors in combination with the error compensation method with GPS, RFID, and map information. This system is promising for making a ubiquitous information society more sustainable since it can provide indoor and outdoor location-based information services not only seamlessly, but pervasively without excessive dependence on infrastructure-side sensors. A pilot user study of the system was conducted at the Science Museum (five floors, 2500 to 2700 m²/floor) in cooperation with twenty-two subjects. This was an unprecedented indoor 3-D guide experiment in terms of the scale. In addition, we have developed an augmented-reality log browser capable of retrieving and visualizing the trajectory, voice, and video of each subject in a cross-sectional way using queries such as time, place, subject ID, etc.



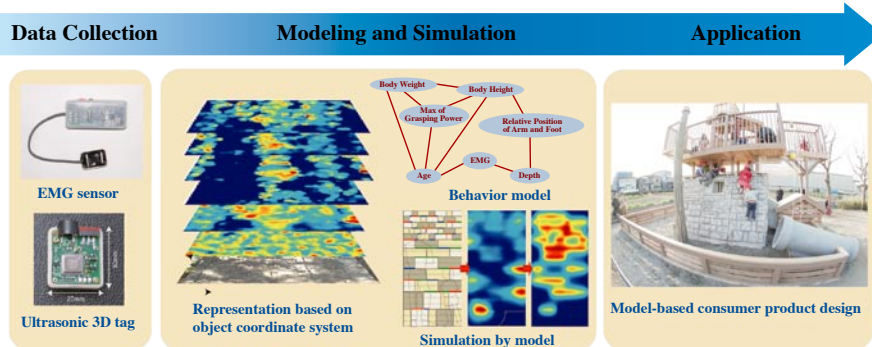
Left: Sensor-embedded module for measuring the user's position and orientation, Middle: Case example at the Science Museum, Right: Augmented-reality log browser.

Takeshi Kurata
 Information Technology
 Research Institute
 t.kurata@aist.go.jp
 AIST TODAY Vol.7, No.8
 p.20 (2007)

Design of safe and enjoyable playground equipments for children

Serious injuries at playgrounds where children play and exercise occur frequently in Japan due to playground equipments. This leads to the removal of a large number of inappropriate playground equipments from parks. The removal of playground equipments has three kinds of implications: less chances for children to play which can be an invaluable experience, a decline in the manufacturing technology of the equipments, and a resulting economic loss.

To solve these problems, a new design methodology for safe and enjoyable playground equipment is necessary. The Playground Equipment Project was set up for studying this certain design methodology and applying it to the development of new playing equipments. This article introduces the activities of the Playground Equipment Project.



A process for making design of safe and enjoyable playground equipment

Yoshifumi Nishida
 Digital Human
 Research Center
 y.nishida@aist.go.jp
 AIST TODAY Vol.7, No.9
 p.15 (2007)