Driving Safety Support and Navigation for Mobile Object, and Environmental Information Monitoring

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Research Contents — Driving Safety Support, Navigation and Sensor Network

The field of the research are Driving Safety Support and Navigation System for the mobile object in Intelligent Transport Systems. Further, I am researching the Field Sensor Information Monitoring using Unmanned Aerial Vehicle (UAV). And then, I am studying the element technologies to implement these systems.

○ Hazardous Object Detection System (Fig.1)

To ensure the mobility of elderly people, it is important to ensure the safety of the handle type electric wheelchair. This system estimates the height of the hazardous object using Kinect sensor for game, judges the hazard using the height information, and alerts the user (elderly person).

○ WYSIWYAS Navigation System (Fig.2)

This system is an WYSIWYAS electric wheelchair Navigation system. WYSIWYAS is a basic concept of HMI. WYSIWYAS means What You See Is What You Are Suggested by the System or the environment. As an example of WYSIWYAS, we superimpose an arrow on the display with the front view as shown in Fig.2.

○ Environmental Information Monitoring System (Fig.3)

The collection of the environmental information is very important in the agricultural field. The research to collect the environmental information stably is not enough. To solve this problem, I proposed the environmental information monitoring system by autonomous flying of UAV as shown in Fig.3.

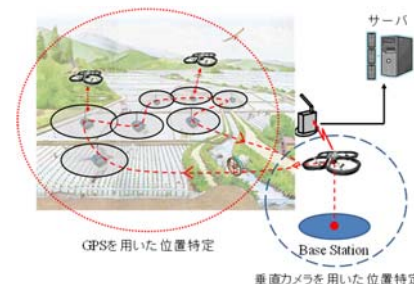Fig.1 Hazardous Object Detection System

Fig.2 Navigation System

Fig.3 Environmental Information Monitoring System

Available Facilities and Equipment