

New Development of Remote Control System for Air Vehicle using 3G Cellular Network

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Abstract—For obtaining various observation data in a dangerous disaster area where human beings cannot easily enter, a Delay Tolerant Network (DTN) based sensor network system using autonomous air vehicles has been developed. However, the existing system cannot help to observe disaster conditions of congested areas where sensor nodes cannot be easily deployed, although it can be used to collect sensor data from the sensor nodes deployed on a vast field. Therefore, in this study, we propose and develop a new air vehicle which can be controlled through a 3G cellular network so that an operator can obtain various sensor data in the disaster area from everywhere. Furthermore, the proposed air vehicle can be equipped with sensing devices because it has many analog/digital interfaces. Through the experimental evaluation, it is clarified that the remote control of the air vehicle can be done even when both the vehicle and the user terminal exist inside NAT devices.

Keyword—Air Vehicle, Remote Control System, 3G Cellular Network, Sensor Network, DTN



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