

## Supplemental Materials

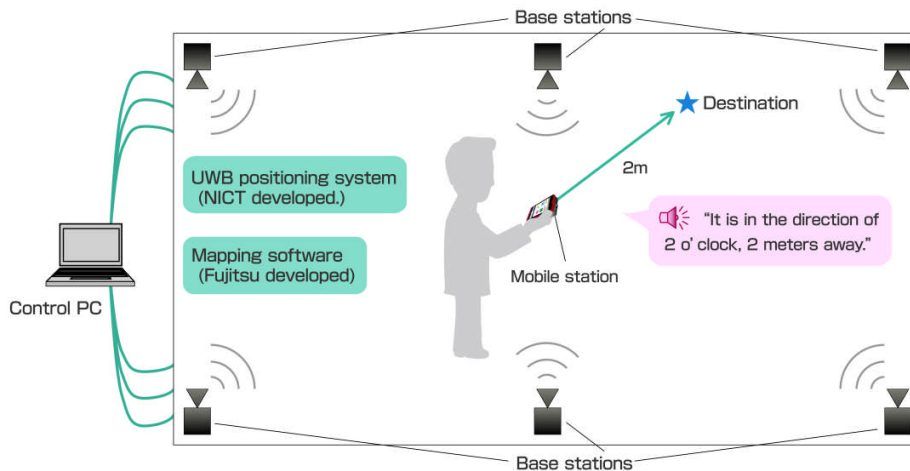


Fig.1 System Configuration and Usage Scenario

For any mobile terminal located in the area covered by base stations, the distance from all base stations within the communications range is automatically measured. When distances of two or more base stations are obtained, the control PC calculates the current location of the mobile station by using the measurement distances (from 2 to 6).

The location data is sent to the user's mobile station in the form of coordinates and is then further sent via Bluetooth to the user's smartphone.

Using a special application on the smartphone, the current location is displayed on the screen based on the location data received from the mobile station. Using the smartphone, the user can specify a destination that is already equipped with another mobile station, and its location can also be displayed on the screen using the same UWB positioning data. At the same time, the system prompts an audio reading of information on the direction and distance from the current location to the destination.

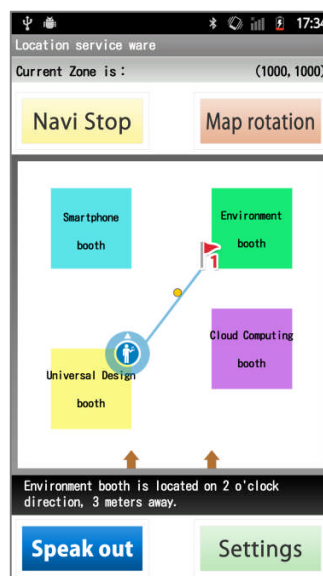


Fig.2 Example of Smartphone Display Screen