

Abstract: Design and Implementation of a Ubiquitous Homecare Service System using a Wearable User Interface Device

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Abstract

This paper presents design and implementation of a ubiquitous homecare system that provides home control assistance and fall detection/alarm services using a wrist-watch type wireless user interface device for motion and location sensing. The proposed wearable user interface device is equipped with a Zigbee radio transceiver to communicate with a home gateway and track indoor location of the user wearing the user interface device. The user interface device is also equipped with a 3-axis accelerometer to measure 3-dimensional motion data of the user so that the home gateway can recognize the user's command motions or fall status. The proposed system would make an essential ubiquitous healthcare service for the handicapped or senior citizens living alone.