

An Event-based Wireless Navigation and Healthcare System for Group
Recreational Cycling

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Abstract

Recreational cycling is a popular leisure activity in which the cyclist mostly is involved for a whole day at a time. This makes safety and comfort some of the most important factors to be attended to, especially when cycling in group. Group recreational cycling (GRC) is a new kind of tourism involving a courier and a number of tourists. Beside safety and comfort, tracking the cyclists, monitoring their health, and guiding and warning along the way are important in GRC. Information exchanging among cyclists is essential to achieve above goals. In this paper, an event-based wireless navigation and healthcare system for group recreational cycling (EWS) using an ad hoc network with multi-hop protocol to transmit data among devices is proposed. EWS can plan a route, warn about bad road conditions, play multimedia attractions for guiding, track cyclists and monitor their heart rate. Two scenarios were designed to observe and verify the feasibility of EWS.

Keyword : recreational cycling, ad hoc network, 3G network, route planning, heart pulse monitoring