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OPTIMIZED PATH TRANSMISSION SELECTION ROUTING ALGORITHM FOR REDUCING ENERGY CONSUMPTION IN OPPORTUNITY NETWORKS

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Abstract. Opportunity network uses human mobility and consequent wireless to contact between mobile devices in a peer-to-peer manner. Opportunity network is a kind of random network and does not communicate with each other among the communication areas, which leads to the message transfer process very difficult. Designing appropriate transmission routing algorithms and protocols for opportunity network is a challenging research as it requires understanding patterns of mobility, social relations and communication. In this paper, we proposed a reducing energy consumption optimization selection of path transmission routing algorithm (OSPT) for opportunity networks. OSPT is applied to design the dynamic random network topology, create the dynamic link, optimize and select the path. OSPT solves the problem of undeliverable messages for a long time in opportunity networks. The results show that the given algorithm achieves higher deliver ratio, reduce energy consumption, and transmission delay than that of epidemic algorithm and wait algorithm.

Keywords. opportunity networks; routing protocol; deliver ratio; energy consumption; transmission delay.

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