

Station Decision Problem in Bicycle Ad Hoc Networks

歐陽雯, 俞征武, 游坤明, 林克叡, 余若珩, 張馨文, 戴琳儷, 林忠漢

Computer Science & Information Engineering

Computer Science and Informatics

ouyang@chu.edu.tw

Abstract

Biking has been more and more popular recently where public bicycle systems have been adopted in many cities around the world. However, to develop and design a successful public bicycle system is challenging. This work proposes a novel problem called Station Decision Problem for Bicycle Ad Hoc Networks. The problem is to find minimum number of stations while satisfying reachability and richness conditions. A station decision (SD) algorithm using graph theory is provided with simulation conducted to prove the effectiveness of this method. A real site data is also plugged in to check the result of the SD algorithm.

Keyword : Station Decision Problem; Bicycle Ad Hoc Networks; Graph Theory; Public Bicycle Systems; reachability; richness