Abstract

Mobile computing has developed during recent years. Location dependent services are most popular services that the mobile environments support. Data caching is a critical issue that plays an important role in improving these services and system performance. In mobile environments, due to the limited cache size of mobile devices, the main problem in data caching is cache replacement which is finding a suitable subset of items for eviction from cache. In this paper, to solve this problem, A Distance-Based Predicted Region Policy for Cache Replacement in Mobile Environments is proposed. The proposed policy uses the root-mean squared distance that based on the distance between a client current location and the locations of each object whose data is cached for predicted region. Simulation results show that the proposed policy improves the system performance compared to existing schemes.
Index Terms

Computer Science

Information Sciences

Keywords

Mobile computing, Data dissemination, location-dependent data, cache replacement, predicted region, DPRP.