

## MASTER'S THESIS

### Broadcast algorithms and caching strategies for mobile transaction processing

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Broadcast Algorithms and Caching Strategies for  
Mobile Transaction Processing

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# Abstract

In the near future, millions of users will be carrying a portable computer that use a wireless interface to access the worldwide information network for business or personal use. The broadcasting approach has attracted considerable attention as means of disseminating information to large client populations. On-demand and push-based broadcast are shown to be suitable for different architecture in mobile environment.

In this research, we feature two broadcasting algorithms which operate on on-demand broadcast environment and push-based broadcast environment respectively.

An on-demand broadcast algorithm and a caching strategy, which is based on GSM network, are being investigated. The aim of this research is to develop an algorithm that not only provides on-time delivery, but also can improve the response time on the data requests. On the other hand, a push-based multiversion broadcast algorithm is proposed to tradeoff between data freshness and commit rate for mobile transactions. Both broadcasting algorithms are aimed to delivery on-time data and to improve the commit rate for mobile transactions.

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