

DISSERTATION
DEFENSE

Privacy-aware task management for mobile crowd sensing

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Abstract: Location-aware Mobile crowd sensing (MCS) has numerous applications in a wide range of domains including syndromic surveillance, crime mapping, traffic monitoring, and emergency response. Preserving the privacy of participants in such applications is one of the main challenges in developing effective task management solutions. Moreover, the inherent dynamic environment of MCS characterized by continuous change and uncertain participant movement information pose further challenges for coordination of tasks and participants. Therefore, we propose novel methods to build robust task management frameworks to handle uncertainty and ensure privacy in MCS applications. Our solutions not only increase the disposition of the participants to engage in data collection and sharing activity, but also ultimately lead to more effective MCS applications.

Friday, February 3, 2017, 11:00 am
Mathematics and Science Center: E408

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MATHEMATICS AND COMPUTER SCIENCE
EMORY UNIVERSITY