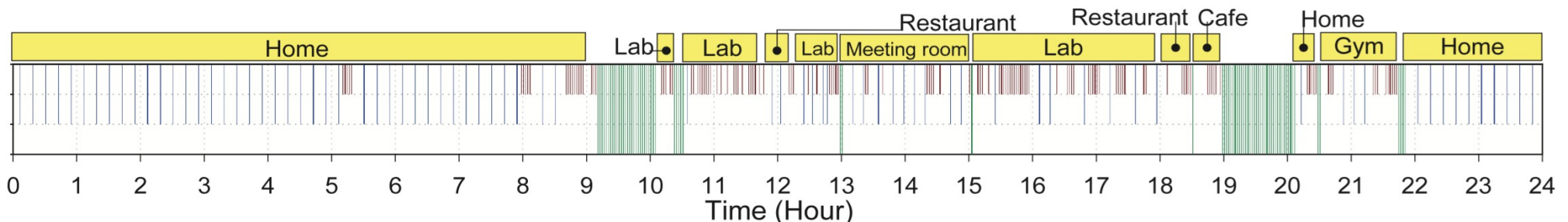




Mobility Prediction-Based Energy-Efficient Location Monitoring

Monitoring a user's mobility during daily life is an essential requirement in providing context-aware mobile services. A simple choice for monitoring mobility is to periodically sense a user's location context. Such a scheme, however, significantly reduces the battery's lifetime in mobile devices. New solutions are needed in order to optimize energy consumption for continuous sensing.

Our research goal is to develop a framework that continuously provides location context with minimum energy consumption. The key technical challenges are 1) simultaneous learning and predicting a user's mobility, 2) adaptive duty cycling that covers both the regularity and the randomness in human mobility, and 3) minimizing energy consumption. The work is based on Reality Mining Dataset provided by MIT Human Dynamics Lab.



Project type	MSc Thesis, MSc Seminar
Starting date	Summer semester 2016
Work distribution	50% theory, 50% programming
Useful knowledge	Machine Learning, Python
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