Thesis B.Sc.

Thesis M.Sc.

GE Practical Course

Guided Research

Anonymous Micro-Payments for Continuous Service Delivery

Motivation

Micro-payments are payments involving very little amounts of money that makes them not viable for exiting payment service providers like credit-card payment processors due to the incurred overhead in processing them. They, however, facilitate a unique set of service delivery guarantees and discourages cheating on part of service providers. This is because a service consumer will pay for utilizing the service in short amounts of time, and if the service's quality is not satisfactory the micro-payments are stopped.

An interesting use-case is that of charging stations for E-mobility: electric vehicles pay the charging station in micro-payments for each minute of charging instead of having a subscription or paying a bulk amount in the beginning. Moreover, combined with the anonymity properties, it helps protect the privacy of the service consumer from being profiled by the service providers.

As a means of providing anonymous micro-payments, this thesis looks at the TALER payment system (https://taler.net/).

Your Task

- Familiarise with TALER API
- Design a payment receiving service which continues to seek micro-payments as long as the service is being delivered
- Design a management service which starts and stops service delivery on the basis of received micro-payments
- Design a payment sending service which sends micro-payments to service providers as long as the service is consumed

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