

# Implementation of electronic money that can be replaced with cash

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## Abstract

Recently, Japan has become more familiar with electronic payments such as payments at convenience stores and train tickets. However, the electronic money instead of cash has not been, because, electronic money is not compatible. In this paper, we propose a system for implementing electronic money fungible cash and ensure the privacy and safety obtained by using a discrete logarithm problem.

近年, 日本では電車の乗車券, コンビニエンスストアでの支払いなどの場面で電子的な決済が身近になってきている. しかし, 電子マネー間には互換性がなく, 現金に替わるまでは至っていない. 本稿では, 離散対数問題を用いる事で安全性とプライバシーを確保した現金と代替可能な電子マネーを実装する為のシステムを提案する.