

MOVO

A Distributed Ledger Technology-based software package for the Intelligent Transportation System

Abstract

MOVO is a software package that includes components for interaction with Distributed Ledger Technologies and simulation of use cases in the context of Intelligent Transportation Systems. MOVO components include: (i) a prototype client application for the interaction with DLTs and the acquisition of users' personal data; (ii) a software framework for "offline" interaction between devices; (iii) a component for the simulation of intelligent vehicle data sharing. First, the prototype consists of an Android application intended for use inside a smart vehicle, which helps the user/driver to collect context-aware generated data (e.g., the stress level of a driver, the battery level of an electric vehicle), which can then be shared through the use of DLTs (i.e., IOTA DLT and Ethereum Blockchain). The second component, consists of an implementation of a communication channel that, via Wi-Fi or Bluetooth, allows two devices to exchange data and payment information with respect to DLT assets (i.e., cryptocurrencies). Finally, the third component consists of a set of smaller components for the simulation of a single intelligent vehicle generating context-aware data and the simulation of a multitude of vehicles/users interacting with a DLT.

Note:

Questo software è stato descritto in: *"M. Zichichi, S. Ferretti and G. D'angelo, "A Framework Based on Distributed Ledger Technologies for Data Management and Services in Intelligent Transportation Systems," in IEEE Access, vol. 8, pp. 100384-100402, 2020, doi: 10.1109/ACCESS.2020.2998012."*

Download:

Il software è disponibile in formato open source presso le seguenti repository:

- <https://github.com/miker83z/movoApp>
- <https://github.com/miker83z/Mycropayments>
- <https://github.com/miker83z/testingIOTA>

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