An open platform for modular mobility services

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*Motivation*

The current digital revolution triggers innovation in personal mobility. It is difficult for developers of mobility solutions to gather the data needed. This data is available in a smart city, but it is not made accessible to external developers.

This paper proposes a concept for the architecture of an open platform for modular mobility services. The developed concept for the architecture for the platform consists of:

- Data sources
- Layers of modular services
- Integration layer
- Solutions

**Theoretical Background**

**Digital mobility services**

The current digital revolution triggers innovation in personal mobility as journey planning, ride-share matching, maps, navigation, etc. and use a variety of data sources.

**Existing Mobility data & services platform**

Platforms providing raw data through open interfaces [1], [2] and digital mobility services [3] [4] exist, but face current issues:

- Data sharing regulations
- The need to process the data
- Current standardized
- Not open services

**Motivation**

Small and medium-sized businesses often drive through the city and still have capacity for transporting goods. On the other hand, there are members in the crowd that have transportation demands not fulfilled by the standard transportation service providers. These unfilled demands result in a competitive disadvantage for small- and medium-sized businesses.

In order to match those demands and capacities for transportsations, ExCELL Transport offers the possibility that users can request and offer transportations.

**Development**

ExCELL Transport is currently developed by TUM students under the supervision of the chair for information systems. The development of the first prototype was quite rapid due to the reuses of the platform services of TUMitährer.

In general the overall research approach follows the design science research approach [5].

**Integration layer**

This creates a secure and safe environment. This is the only way to access to the modular services. It regulates the amount of calls for services and manages the users.

**Solutions**

Created by the users of the platform, the solutions can be end-user services or other modular services inside or outside the platforms.

**References**


