Invited Guest Lecture
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TRANSPORTATION INFORMATICS: from simple to advanced use cases

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About Your Lecturer...

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How About You...?

- Please introduce yourself?
- What are your expectations for this lecture?
- What do you want and/or need to get out of it?
- Your experience in transportation informatics?
Today’s Lecture Workflow

1. What is transportation informatics?
2. Use case 1: Specification requirements for SUZA
3. Use case 2: Real-time GIS in public transport
4. Use case 3: SIJPRIS - GIS for the Management of Public Passenger Transport
5. Standardization of information models for public transport
1. What is transportation informatics?

“Transportation informatics” (alternatively “traffic informatics”, “Verkehrsinformatik” in German) is derived from the domains of traffic (technology, planning & design, traffic safety, mobility research), logistics and navigation. It aims to apply and develop computer science and informatics to solve practical and theoretical problems in these domains.

Early beginnings:

Today:
- new disciplines: freight informatics

Our research in transportation informatics:
What is transportation informatics?

Some fields of application:
- management and integration of traffic/transportation systems (ITS)
- integration of multimodal public transport systems (train, bus, coach, metro, tramway, ferry, ski lifts, aerial trams/cable cars)
- accessibility of public passenger transport
- public transport demand & supply
- electronic toll collection

What is the role of traffic engineer?

UK: Thames cable car

SLO: optimal radius <500m
2. Use case 1: SUZA

- SUZA = Sistem za Spremljanje Uporabe Žičniških Naprav (System for monitoring of ski lift usage)

Traffic engineer contributes to the writing of Software Requirements Specification Document
2. Use case 1: SUZA
3. Use case 2: Real-time GIS in public transport

- Use of GIS (Geographic Information Systems) for real-time GIS display of bus time schedules and vehicle positions
- City of Yakima (Washington, USA)
4. Use case 3: SIJPRIS - GIS for the Management of Public Passenger Transport

Project coordinated by KGPI, financed by Ministry of Transport in Slovenia

More about SIJPRIS in a paper here
4. Use case 3: SIJPRIS, bus line K6
4. Use case 3: SIJPRIS

Timetable exchange
Three possible itineraries between Maribor and Prague

Can we use single information service to plan entire journey?

**NO!**

Why not?

**Data are not interoperable!**

How to integrate data from all different passenger information systems when planning a journey?
5. Standardization of information models for public transport

- Standardization work at CEN (European Committee for Standardization) enables exchange of public transport data across different public passenger information systems.
- Diagram shows generations of information models in different countries for data exchange in public transport.
5. Standardization of information models for public transport

SIJPRIS upgrade for passenger information systems interoperability
I wish you to be great traffic engineers!

THANK YOU!
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