Transport informatics BMEKOKKM223

Transport system, mobility service and information system concept development and the presentation of the results

on the chosen topic

Outline points for the elaboration of the task:

I. Current situation and purpose of the information system development (approx. 2 pages)

1. Challenges
2. Current practices (State-of-the-Art)
3. Objectives, goals
4. Stakeholders (interested parties)

II. Plan of the information system (approx. 12 pages)

5. Components of the transport system

    subsystems, machine and human components
    organisational characteristics
    transport/logistics infrastructure
    vehicles
    energy supply system
    information management infrastructure (back-end and front-end systems

6. Mobility services - physical processes

    flowcharts - logical and temporal dependencies of sub-processes
    operational characteristics: key performance indicators (KPIs)

7. Information services - information management processes

    the source, authenticity and up-to-dateness of the data processed
    data security
    flowcharts - logical and temporal dependencies of sub-processes
    user interfaces, processing of displayed information
    value and utility of information

8. Connections (data flows)

    structural model
    operational model
    data model
    characteristics of the information flows associated with internal and external connections

III. Operational environment of the information system (approx. 2 pages)

9. Business processes
10. Regulatory environment
11. Impacts
12. Barriers and risks

IV. Bibliography (including at least 2 scientific references in English)

The length of the homework should be approximately 16 pages.

Submission: electronically, in editable **Word** format.
The results of the homework can be presented in a PowerPoint presentation. The assignment can be presented by those who have submitted the Word documentation and the .ppt file by the deadline. The maximum length of the presentation is 10 minutes.
Please upload the Word and PowerPoint files to Moodle.

Consultation:
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Topics

1. station-based car-sharing services with public vehicles
2. free-flow car-sharing services with public vehicles
3. car-sharing services with private vehicles ("key cars", condominiums)
4. station-based bike-sharing (shared bicycle) services
5. free-flow bike-sharing / scooter-sharing services
6. car-pooling (ride-sharing) services
7. ride-sourcing services
8. taxi management services
9. chauffer services
10. parking facility information systems
11. information systems for intermodal hubs
12. multimodal travel support (routing) systems (walking, cycling, public transport, parking, personal transport)
13. airport information systems (autonomous airports - passenger handling services)
14. airline information systems
15. systems connecting airport terminals (terminal and car park)
16. airport automated transport systems
17. modular shared mobility services based on autonomous vehicles
18. DRT (demand-response/demand-based) minibus transport systems (school bus, airport shuttle, etc.)
19. BRT (Bus Rapid Transit) systems
20. advanced urban public transport fare payment (e-ticketing) systems
21. urban access restriction systems
22. systems for tolls (volume-based charging)
23. HOV (High Occupancy Vehicles) infrastructure management
24. operational management of road infrastructure reservations (bookroad)
25. electric vehicle charging infrastructure system and its operation
26. electric vehicle trip planning system
27. urban electric van systems
28. autonomous (driverless) urban freight transport
29. cable car passenger transport systems
30. urban water passenger transport systems
31. urban home delivery systems