Masaaki Tanizaki

Industrial domain

- Position in a Industrial field at Hitachi, Ltd. : Senior Engineer
- Tasks: Promoting Public Business, Building and Operating an Innovative Business
- Market: Central/Local Government, Public Institution and University
- Career Background Outside Hitachi:
  - ISO/TC204WG3 ITS Databases, Specialist (2009-2011)
  - OGC Technical Committee Member (2008-2011)

Academic domain

- Position in an academic field at Kyoto University: PhD. Student
- Department: Social Informatics
- Theme: “Spatio-temporal Information Management Technique for Urban Transportation Efficiency”
- Specialized field: GIS, ITS, DBMS

HITACHI
Inspire the Next

京都大学
Kyoto University

Topics

- Current Situation and Issue of Urban City Transport Systems in Japan
- Situation and Activity of Small City in Japan
- Mutual Utilization of Techniques based on Standardized Specification
  - OGC Indoor GML/CityGML
  - References of Standardized Specifications

Current Situation and Issue of Urban City in Japanese Transport Systems

- Current Situation
  - equipped public transportation network: train, subway and bus
  - congested train schedule: train comes at five mins interval
  - sharing tracks with another railway company: among train and subway
- Issue
  - weakness for accident and emergency
    - influence of an accident spread among railway companies which share their tracks
    - information broadcast by railway operation company is correct but slow
- My Proposal (My Research Theme)
  - development of gathering and broadcasting information system which utilizes two kind of resources
    - SNS information: quick but low reliability (Ex. twitter)
    - public information: high reliability but slow (by railway company)

Situation and Activities of Small City in Japan: Compact City Toyama

- Current Situation and Issues
  - Extreme dependence on their cars
    (gasoline consumption per household is second highest consumption in Japan)
  - High maintenance cost of social infrastructure because of city area expansion and low population density (water/gas/electricity/road utility)
- Activities
  - Building public transport systems (expanding an extensive and user-friendly light rail transit network)
  - Intensification of the urban function (private residences and commercial facilities)
- Expected Goal
  - With this activity of "Compact City", the distances citizens have to travel are shortened and CO2 emission decrease because of modal shift from their cars to public transportation services.
- Issues
  - Gathering method of people movement (car, bus, LRT, and so on)
  - Incentive design for activation of modal shift
- Reference http://www.jetro.org/documents/green_innov/TOYAMA.pdf

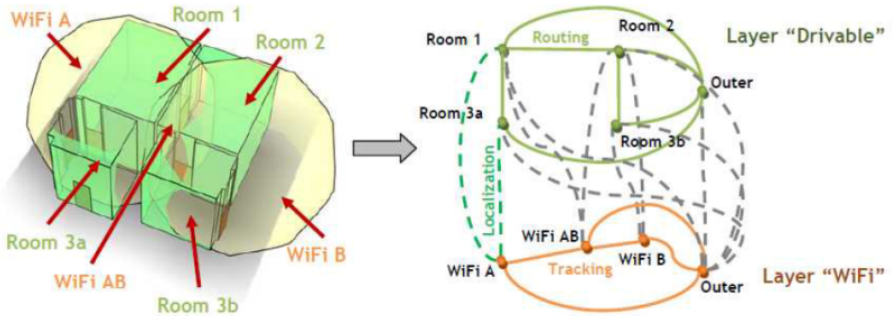
Light Rail Transit in Toyama

Mutual Utilization of Techniques based on Standardized Specification

- In order to promote utilization of technique and business among developed/developing countries, it is important to consider mutual utilization of techniques based on standardized specification of data model.
- Utilization of Standardized Specification
  - Road Network:
    - ISO 14825:2011 ITS Geographic Data Files(GDF5.0) [1]
    - ISO17267:2009 ITS Navigation Systems API [2]
    - ISO 24099:2011 Navigation data delivery structures and protocols [3]
  - Public Transportation Network:
    - CEN/TC278 IFOPT (Identification of Fixed Objects in Public Transport) [4]
  - Indoor Network:
    - OGC Indoor GML/CityGML [5]

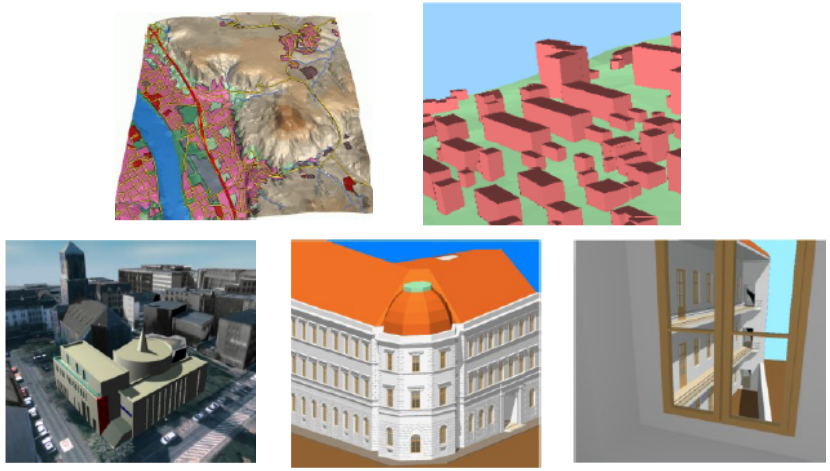
OGC IndoorGML/CityGML

- IndoorGML
  - A common XML-based schema framework for geoinformation that is required to build and operate indoor navigation systems



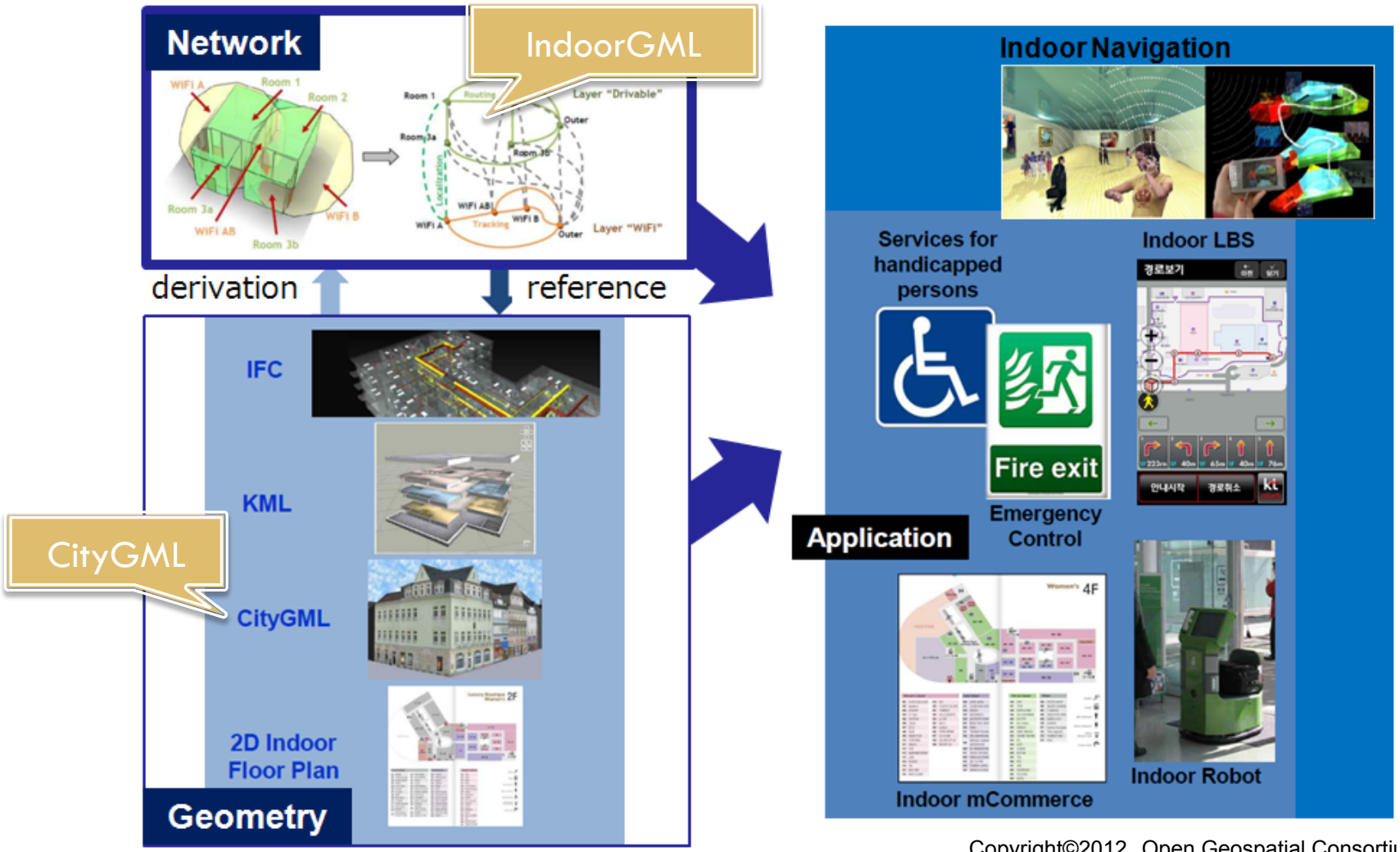
Indoor area connection network

- CityGML
  - Open data model and XML-based format for the storage and exchange of virtual 3D city models



3D city models of various levels of details

OGC IndoorGML/CityGML



References of Standardized Spec.

[1] ISO 14825:2011 ITS Geographic Data Files(GDF5.0)
http://www.iso.org/iso/home/store/catalogue_tc/catalogue_detail.htm?csnumber=54610

[2] ISO 17267:2009 Navigation API
http://www.iso.org/iso/iso_technical_committee?commid=54706

[3] ISO 24099:2011 Navigation data delivery structures and protocols
http://www.iso.org/iso/catalogue_detail?csnumber=44700

[4] CEN/TC278 IFOPT http://www.dft.gov.uk/naptan/ifopt/

[5] OGC Indoor GML/CityGML
http://portal.opengeospatial.org/files/?artifact_id=41727
http://www.opengeospatial.org/standards/citygml
https://portal.opengeospatial.org/files/?artifact_id=47842