Recent advances in the development of MOST: an open-source, vendor and technology independent toolkit for building monitoring, data preprocessing and visualization

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Building Monitoring – Motivation

Status quo

• No comprehensive Data Collection
• No appropriate
  – Preprocessing
  – Aggregation
  – Software Interfaces for Batch Processing
• No Real-Time Data Access
  – Information Loss/ never used

What we want

• Continuous Reports
• Live Performance Visualization
• Fault Detection
• Recommendations for Operation
• Personal Feedback
Monitoring System Toolkit
Framework

- **Google Web Toolkit**
  - Plain Java -> converted to platform optimized JavaScript

- **User Interface Library**
  - **No** dedicated user interface
  - **Reusable** components

- **Drag and Drop**
  - **Primary** interaction method
  - **Highlighting** of droppable areas

- **Modular**
  - Use cases
3D-Viewer

- Use cases
  - Lead user within 3D building model
  - Datapoint location
  - Visualize critical information
3D-Viewer
Chart
Outlook – Usability Study

• Different User Groups
  – Mouse / Keyboard
  – Touch
  – Gesture

• Tasks
  – Select datapoints within the 3D-Viewer
  – Create chart plot of certain datapoint
  – Drag and Drop widget from module to module

• Usability Guidelines
  – Sustainable
  – Analysis of Input Process
Outlook - Data

- NoSQL
  - Big data tables
- Complex datatypes
  - Building models
- RESTful Webservice for MOST
  - Datapoints
  - Zones
- Moving towards Service Integration
  - BIM
    - BimServer
  - 3rd Party Services
- Optimize Model Transmission
  - Processing
    - Image Pyramids
Conclusion

- BIMsurfer 2012
  - http://bimsurfer.org
- BIMserver 2012
  - http://bimserver.org
- Highcharts JS 2012
  - http://www.highcharts.com
- Open-Source / Creative Common License
  - http://most.bpi.tuwien.ac.at