

# Distributed Software Development



13-12-18



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MÄLARDALENS HÖGSKOLA



The Development Group



# Real-Time Bridge Monitoring Beta Prototype



# Overview



- Team Organization
- Project Schedule
- Documentation
- Verification & Validation
- Effort

# Overview



- Alpha Prototype
- Beta Prototype
- Integration
- New Functionalities
- Demo & Screenshots

# Team Organization



- The Development Group



Andrea Bottoli (PoliMi)



Lorenzo Pagliari (PoliMi)



Marko Brčić (FER)



Dzana Kujan (MDH)



Jörn Tillmanns (MDH)



Miraldi Fifo (MDH)



Nikola Radisavljevic (MDH)

# Team Organization



- Roles

| Name                  | Initials  | Responsibility (roles) |
|-----------------------|-----------|------------------------|
| <b>Andrea Bottoli</b> | <b>AB</b> | <b>Project Manager</b> |
| <b>Dzana Kujan</b>    | <b>DK</b> | <b>Team Leader</b>     |
| Marco Brčić           | MB        | Documentation Manager  |
| Lorenzo Pagliari      | LP        | Design Manager         |
| Miraldi Fifo          | MF        | Testing Manager        |
| Jörn Tillmanns        | JT        | Database Manager       |
| Nikola Radisavljevic  | NR        | Integration Manager    |

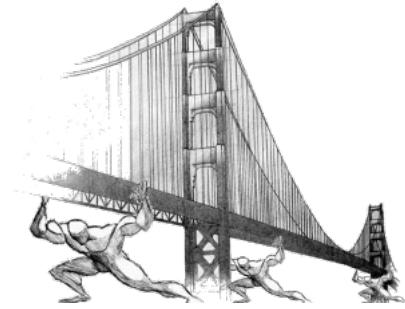
# Team Organization



- Management
  - Managing Meetings
    - Dzana & Andrea
  - Meeting Agendas
    - Before each meeting
  - Meeting Summaries
    - Customers, Supervisors, Group ...



# Project Schedule

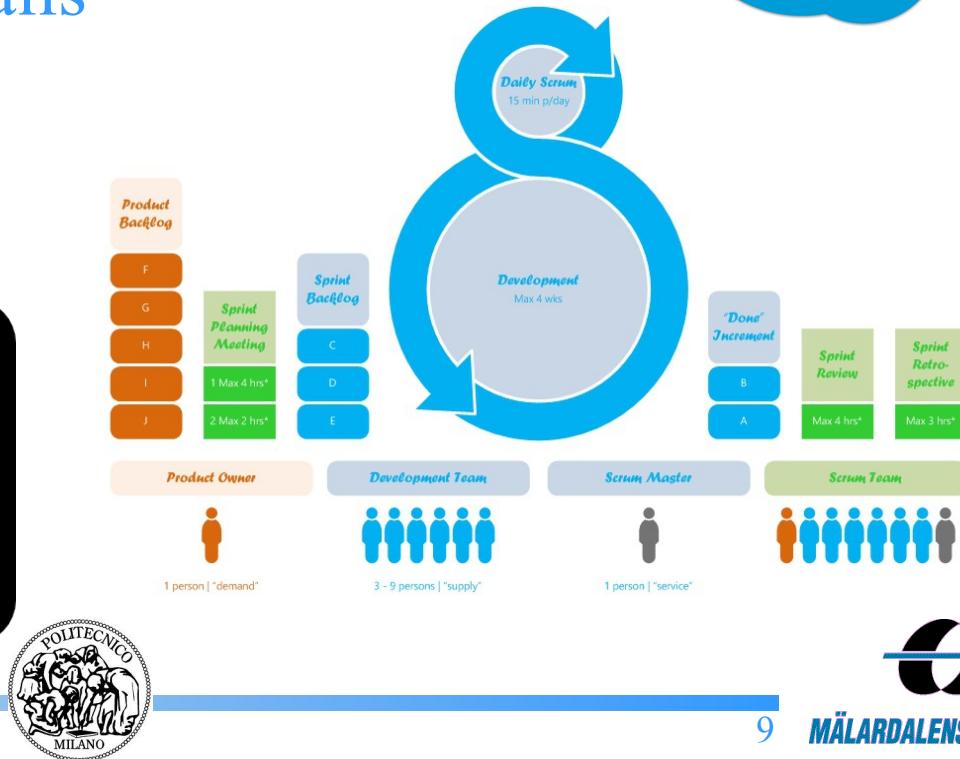


- Project Plan and Current State
    - Where we are and what we have to do

# Project Schedule



- Development Process
  - SCRUM
  - Every day chat meetings
  - Some hangouts calls
  - Lot of commits



# Documentation



- Versioning
  - Requirements Documentation v1.3
  - Design Documentation v1.5
  - Technical Documentation v1.1
- New Documents
  - User Guide v1.0
  - Installation Guide v1.0
  - Acceptance Test Documentation v1.0

# Verification & Validation



- Meetings with customers
- Check on requirements and functionalities
- An acceptanc test document
- Local and Remote Tests
- JUnit test classes

# Effort



- Hours spent

| Member               | W42       | W43        | W44        | W45        | W46        | W47        | W48        | W49        | W50        | Total       |
|----------------------|-----------|------------|------------|------------|------------|------------|------------|------------|------------|-------------|
| Andrea Bottoli       | 11        | 40         | 50         | 45         | 47         | 68         | 40         | 41         | 14         | 356         |
| Lorenzo Pagliari     | 10        | 37         | 53         | 51         | 46         | 57         | 37         | 51         | 43         | 385         |
| Dzana Kujan          | 9         | 36         | 43         | 36         | 27         | 36         | 27         | 49         | 24         | 287         |
| Marko Brcic          | 11        | 40         | 54         | 60         | 28         | 36         | 26         | 15         | 15         | 285         |
| Jorn Tillmanns       | 9         | 37         | 51         | 43         | 20         | 13         | 39         | 16         | 15         | 243         |
| Nikola Radisavljevic | 9         | 37         | 45         | 36         | 26         | 35         | 26         | 46         | 25         | 285         |
| Miraldi Fifo         | 9         | 38         | 45         | 35         | 16         | 28         | 14         | 18         | 18         | 221         |
| Ghazaleh Shojaee     | -         | -          | 53         | 13         | 32         | 26         | -          | -          | -          | 124         |
| <b>Total</b>         | <b>68</b> | <b>265</b> | <b>394</b> | <b>319</b> | <b>242</b> | <b>299</b> | <b>209</b> | <b>236</b> | <b>154</b> | <b>2186</b> |

# Effort



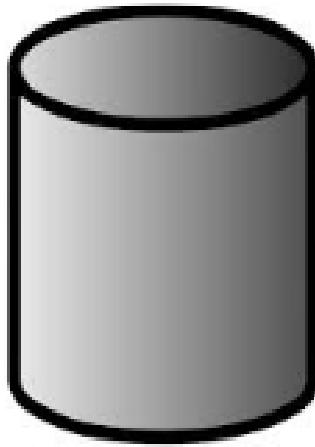
- Important Events
  - Changes in Desing
  - Changes in Requirements
  - Comply with NTC 08 and EU 305/2011
  - New Technical Documentation
  - Fly to Sweden ;-)



# Alpha Prototype



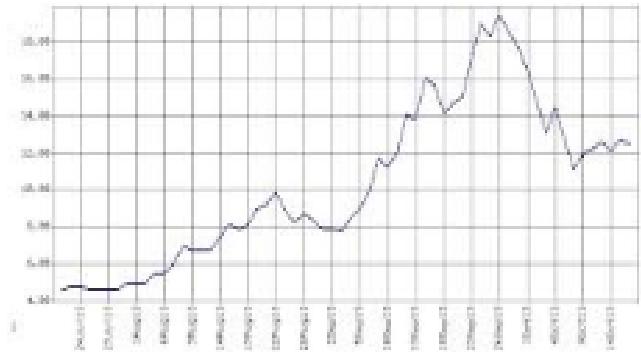
Parser  
→



Files

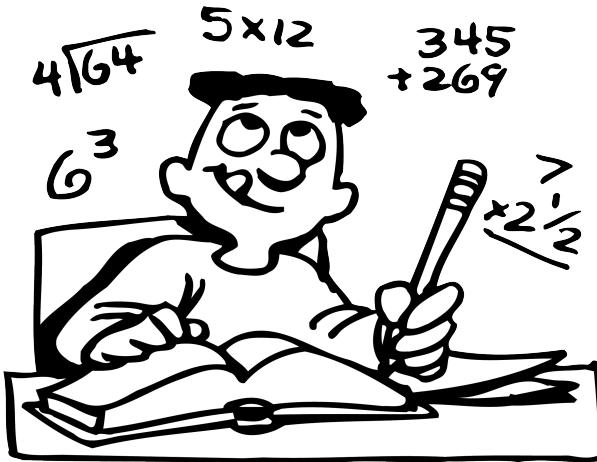
Database

Servlet  
→  
JSP



Presentation

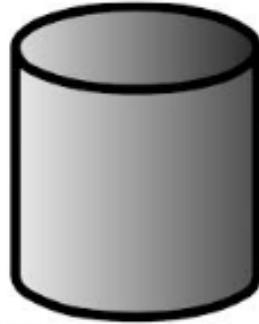
# Beta Prototype



Math Engine



Parser



Files

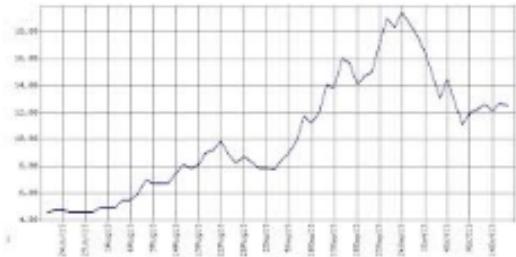
Database

Authentication  
System



Servlet

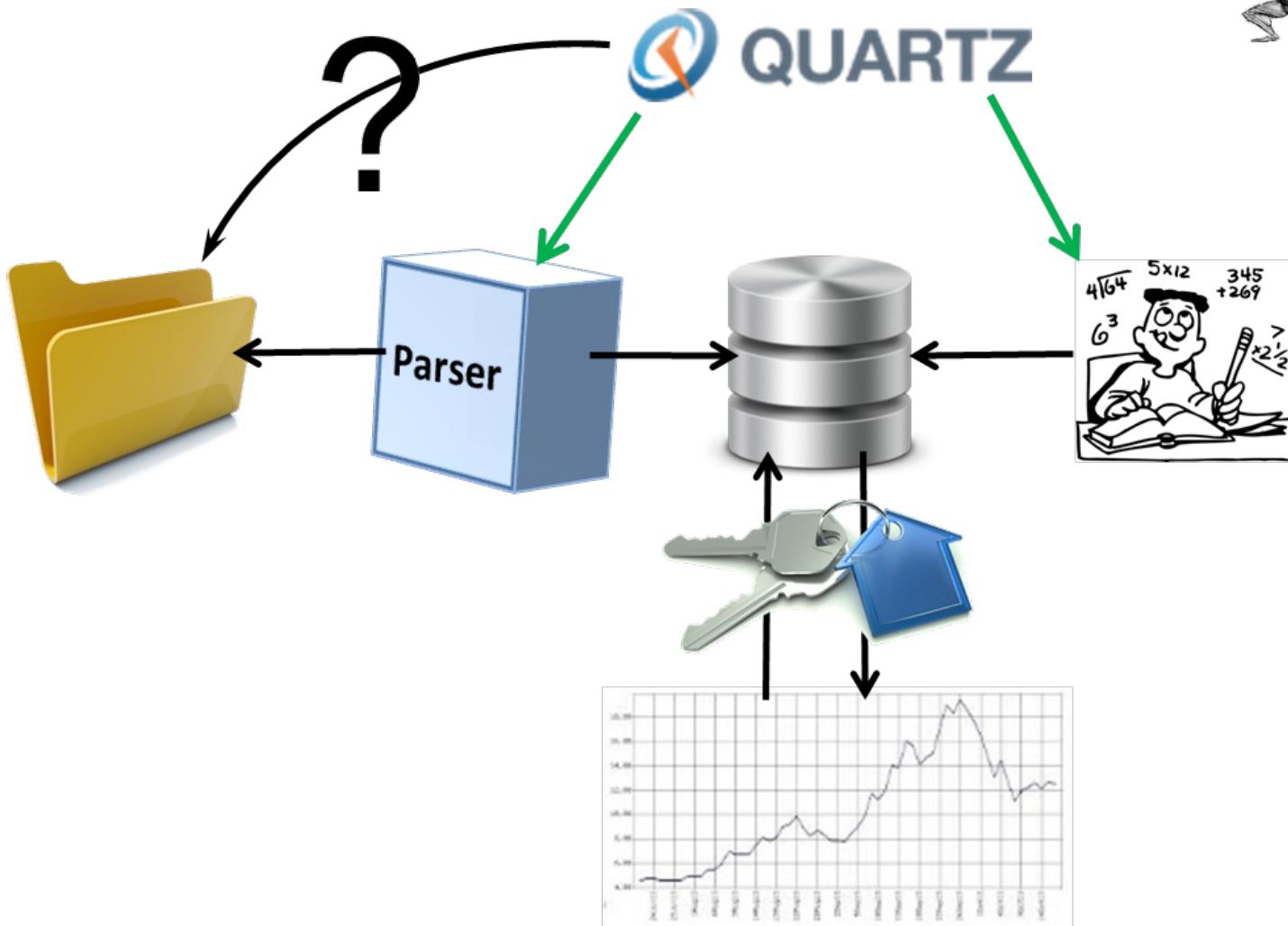
JSP



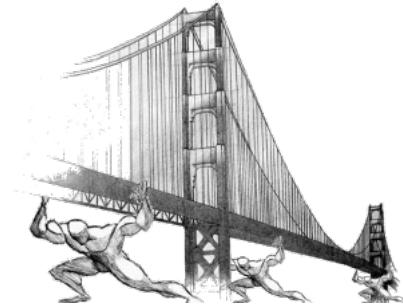
Presentation



# Integration

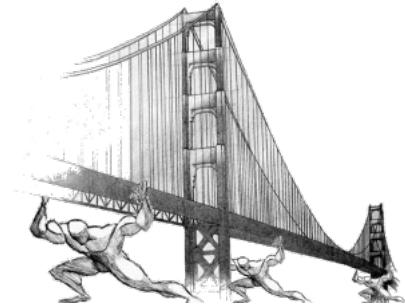


# New Functionalities



- Math Engine
  - Library for making
    - Structural calculations
    - Statistical calculations
    - Algebraic calculations
  - Used by the Calculation Controller
  - Used to produce the Safety Factor (CS)

# New Functionalities



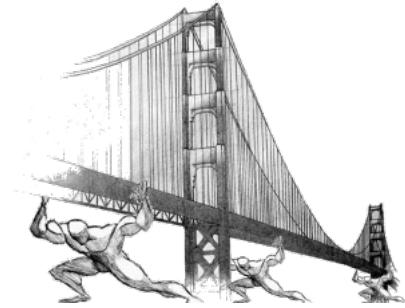
- Calculation Controller
  - Controls the calculations logic
  - Manages calculations
    - A lot of threads in parallel
  - Uses the Math Engine
  - Stores the results in the DB

# New Functionalities



- Quartz scheduler
  - Schedules
    - The loading of the system settings
    - The checking for new data
    - The parsing of new data
    - The calculations
  - Uses Job Classes and Servlets
  - Interfacing with Tomcat

# New Functionalities

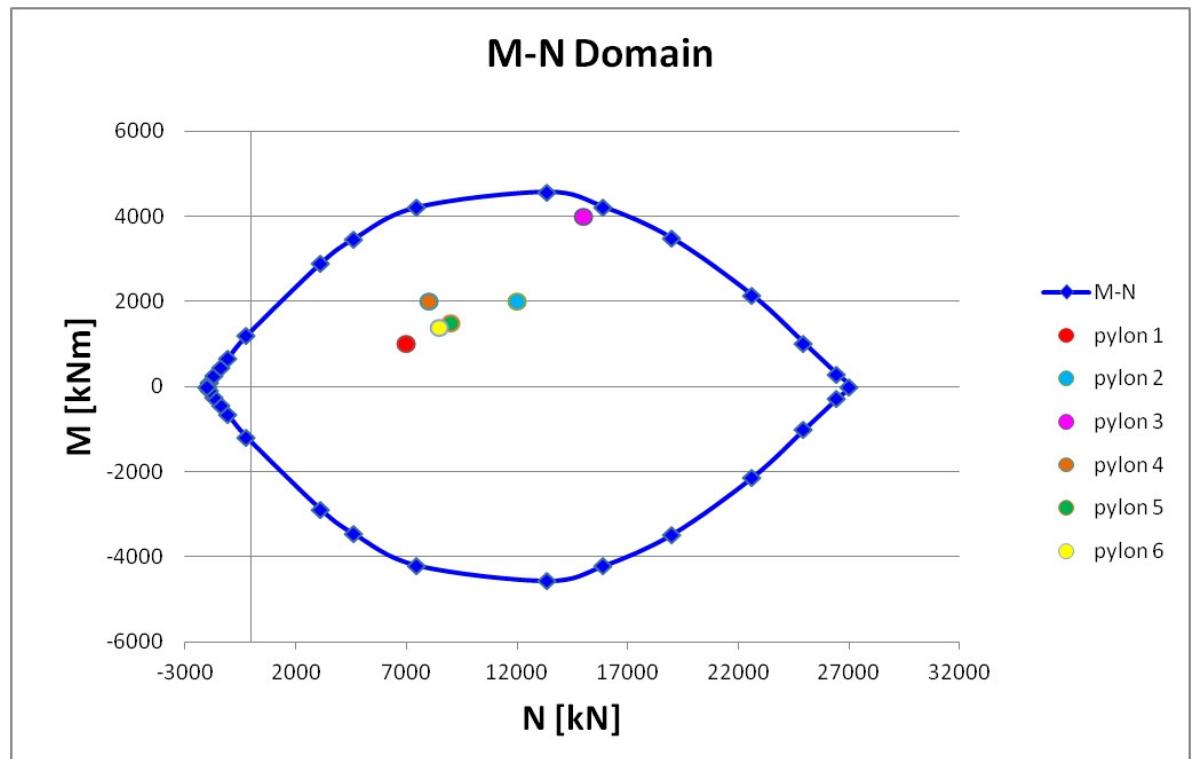
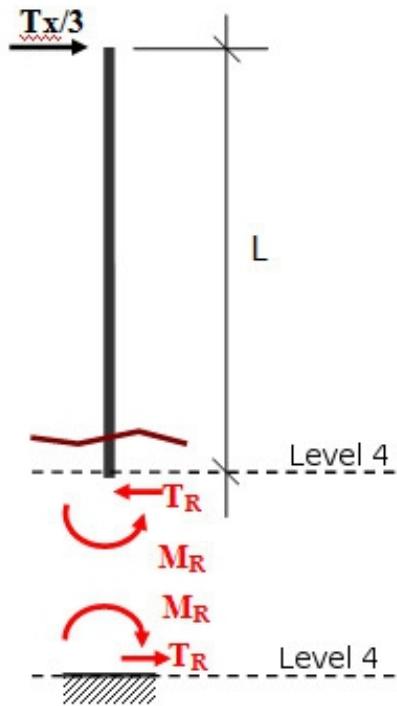


- Authentication System
  - Allowed a first authentication
  - Permits to see different pages
  - Permits to see different contents & data
  - Works with Tomcat

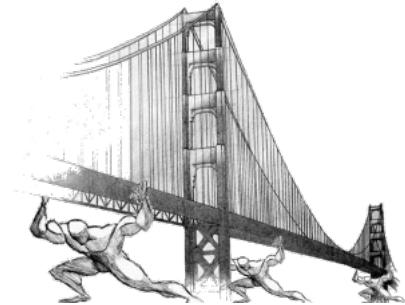
# New Functionalities



- M-N Domain



# Demo



- Localhost
- VM: <http://161.53.67.134/BridgeMonitoring/>

# Screenshots



# Question Time





# Thank you for your attention

