

zTimeView

Zoomable TimeView

Implementing a zoomable version of "PlanningLines" with Piccolo, a Java framework for Zoomable User Interfaces (ZUIs)

UE Informationsvisualisierung, SS 2004

Gruppe 3

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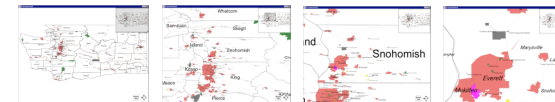
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Task description (1/2)

Zoomable User Interfaces

support view navigations (zoom and pan)

semantic zoom



Piccolo

successor of Jazz

Java framework for
Zoomable User Interfaces



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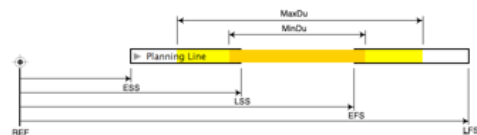
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Task description (2/2)

Basic idea

Using Piccolo to implement a zoomable version of "PlanningLines"

PlanningLines



REF: Reference Point

ESS: Earliest Starting Shift

LSS: Latest Starting Shift

EPS: Earliest Finishing Shift

LFS: Latest Finishing Shift

MinDu: Minimum Duration

MaxDu: Maximum Duration

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Our Implementation

Data

temporal data

events, intervals, intervals with uncertainty

e.g. project related data or medical treatment data

Visualizations

Install new fuse box
Upgrade wiring

Plumbing

Electrical

encapsulated
LifeLine

LifeLine+

PlanningLine

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Live Demo

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zTimeView Features

MS Project file import

(or test data generated from file system)

Two basic visualization methods

Overview+detail representation

Smooth zooming and panning

Semantic zoom

Auto zoom and pan

Interactive exploration aid

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Implementation Details

Programming environment: **Java JDK 1.4.2**

Used Libraries:

Ant 1.4.1

Java-based build tool

Piccolo 1.0

Java framework for ZUs

MPXJ

Java library for manipulating Microsoft Project files

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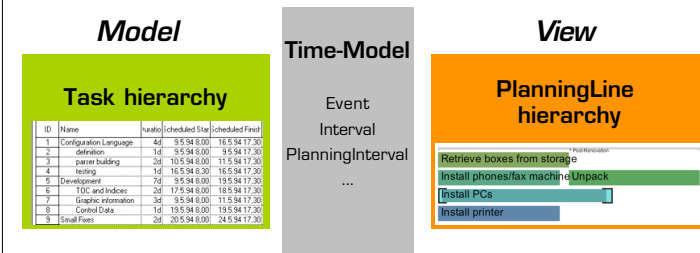


Architecture

Model-View-Controller (MVC) Paradigm

clear separation between Model and View

coupling via Interfaces (Time-Model)



"lazy creation" of visual nodes

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Experiences with Piccolo

different approach than standard GUI

scene graph model, camera, nodes, layer, ...

work within “virtual” coordinate system

not pixel space

clipping and zooming integrated

good smoothing

stable

simple

but takes a while to get acquainted with

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Improvements / Future Work

Arrows for relationship between tasks

as in GANTT (finish-start, ...)

Usage of temporal uncertainties of MS Project

Take missing attributes into account

currently full set of attributes

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