

# **Hitchhiker's Guide to the NetBeans Platform**

**Henry Arousell, Björn Lundén Information  
Thomas Boqvist, Björn Lundén Information  
Eirik Bakke, MIT  
Bruce Schubert, Emxsys  
Geertjan Wielenga, NetBeans**

# NetBeans: What Is It?

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- NetBeans IDE
- NetBeans Platform
- NetBeans Community

# December 1997





# December 2011

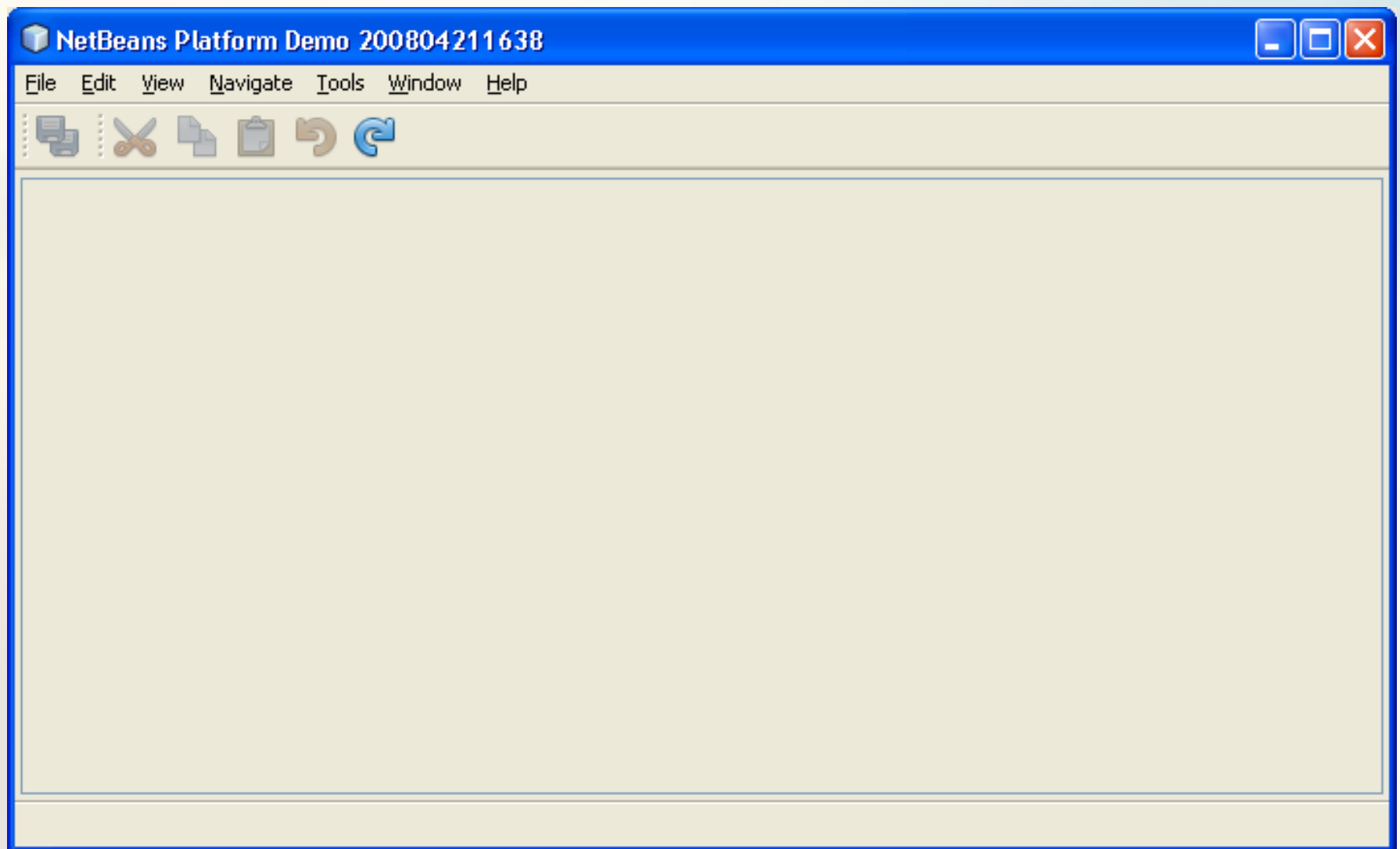


# NetBeans Platform

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- Overview
  - > Framework for developing large Java desktop applications.
  - > Provides
    - > Runtime container.
    - > APIs solving typical desktop problems.

# NetBeans Platform



# Why Use the NetBeans Platform?

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- Pre-defined generic features.
- Code generators for custom features.
- Less boilerplate code, less cycles.
- Consistency of user interface.
- Modularity & loose coupling.

# NetBeans Platform Features

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- Pluggable:
  - > menubar
  - > toolbar
  - > window system/docking framework
  - > Options settings
  - > JavaHelp
  - > custom features
- Update Mechanism
- Modularity
- Generators for launchers, ZIP distributions, installers, and JNLP.



# Examples

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<http://platform.netbeans.org/screenshots.html>

- Boeing
- Northrop Grumman
- South African Defence Force
- Swedish Defence Force
- Banks
- Bioinformatics
- Mining
- ...



Berechnete Route		
München		
2	Nord auf <b>Marstallplatz</b> Richtung <b>Salpeterstraße</b>	275 m
3	Bei <b>Hofgartenstraße rechts</b> abbiegen	< 1 min 426 m
4	Bei <b>Franz-Josef-Strauß-Ring links</b> abbiegen	1 min 733 m
5	Bei <b>Prinzregentenstraße rechts</b> abbiegen	2 min 1,5 km
6	Bei <b>Widenmayerstraße links</b> abbiegen	4 min 2,4 km
7	Weiter auf <b>Ifflandstraße</b>	5 min 3,1 km
8	Die Auffahrt auf <b>B2R</b> nehmen	6 min 5,6 km
9	Die Ausfahrt nach <b>A9</b> nehmen	9 min 161,4 km
10	Bei Ausfahrt <b>51-Kreuz Nürnberg links</b> in <b>A3</b> Richtung <b>Frankfurt a.M./Würzburg/Bamberg/A73/Nürnberg-Nord</b> einfädeln	1h 32 min 263,5 km 2h 23 min
11	Bei Ausfahrt <b>73-Kreuz Biebelried</b> Richtung <b>Kassel/Schweinfurt</b> fahren	265,2 km 2h 24 min
12	Auf <b>A7</b>	405,3 km 3h 36 min
13	Die Ausfahrt nach <b>A7</b> nehmen	510,1 km 4h 32 min
14	Bei Ausfahrt <b>73-Göttingen</b> in <b>B3</b> Richtung <b>Göttingen/Rosdorf</b> einfädeln	514,0 km 4h 37 min
15	Weiter auf <b>Groner-Tor-Straße</b>	514,1 km 4h 37 min
Göttingen		

## Kartenfenster

Streckenabschnitte



Hinzufügen



Entfernen

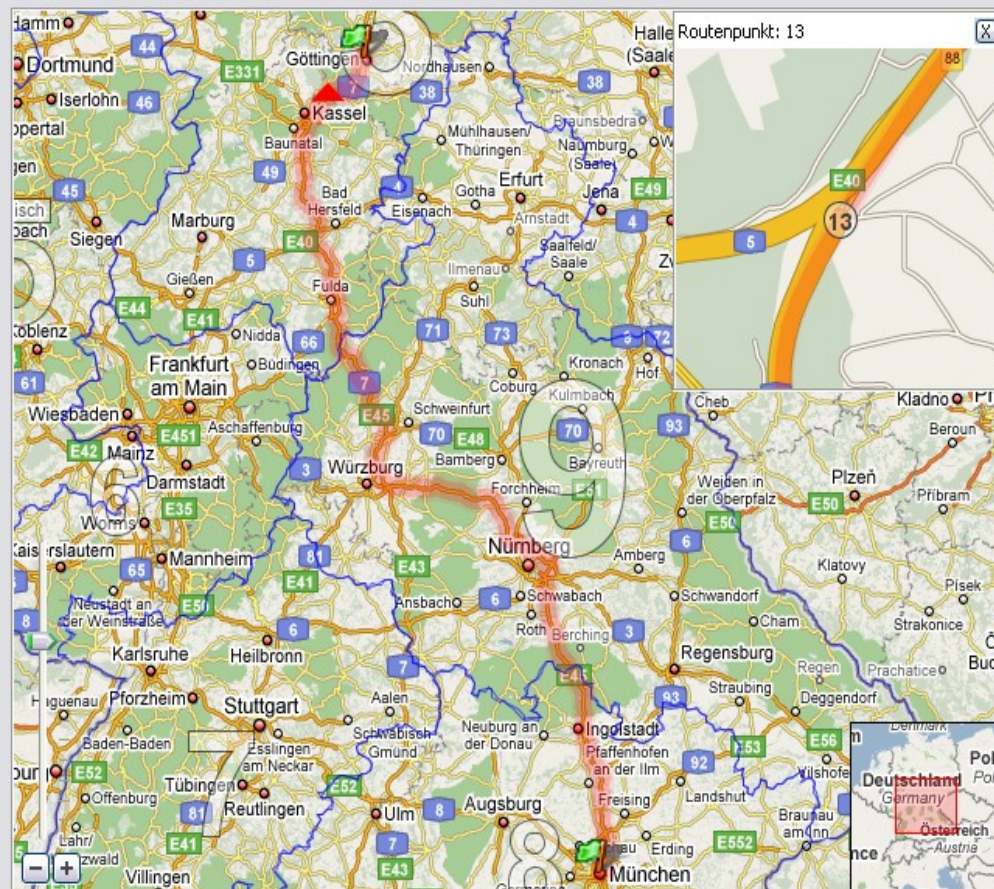


Auf



Ab

Route berechnen


☒ Region anzeigen


## Verwendete Ebenen



Aus Bibliothek

## Ebenen

- PLZ Region
- Ausgewählte PLZ Region
- Regionale Verteilung Adressen
- Aktuelle Region
- Adress-Orte
- Berechnete Route
- Streckenabschnitte
- Routenzwischenpunkte

## Göttingen - Eigenschaften

Rutenabschnitt: Göttingen

Deaktivieren	<input type="checkbox"/>
Aus Termin generiert	<input type="checkbox"/>
Fester Termin	<input type="checkbox"/>
Koordinaten berechnet	Erfolgreich
Koordinaten	[51.53263]
Eigenschaften	{}

Göttingen



### Properties

ED009E

Attributes Symbol Attributes Correlation Results

Trademark	CASE 0345-01
DTG	051005:00Z JUL 07
Time Lats	8064:39:41
Position	310200N 1180400W
Num Rpts	1
Course	321.10 T
Short Name	2002
Speed	08.10 KTS
Altitude	
Flag	
Category	SUR
Threat	PND
Ship Class	UNEQUATED
SCONUM	
Ship Type	
Alert	

Prev Next OK Cancel Apply

### Track Summary

Edit Delete Xmit Resolve Compare Reprocess New Track

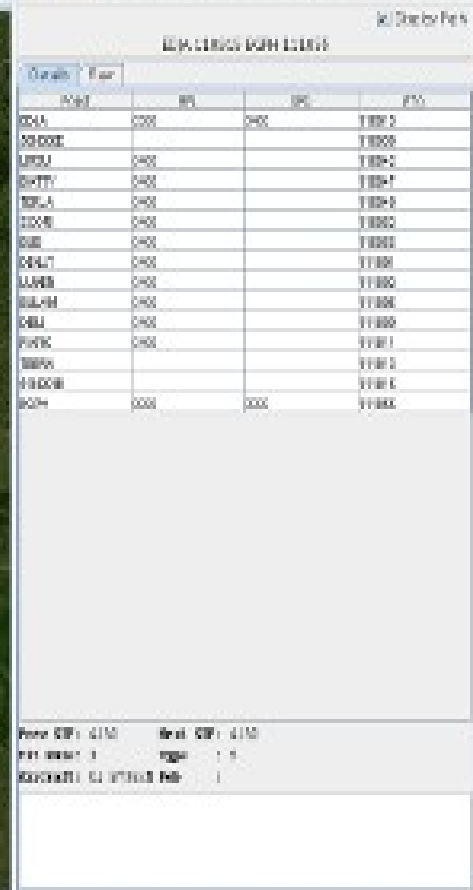
Number of Entries: 484

Track Name	LTN	Parent	Last Rpt Pos	T	TLate	CC	NRpt
UNKNOWN	A0008R		551900N 1245600W	R	7010:00:07		1
ANZA	T000A5		294400N 0484800E	R	10308:05:...	A5	4
2004	A0009C		284400S 1205800W	R	7014:22:07		1
ENGAGER	T000P7		000000N 000000E	R	354:22:14		5
TARAWA	A00017		290200N 0485300E	R	10147:53:...	US	1
FLETCHER	A00016		130100N 0431400E	R	10148:43:...	US	1
TEST01	T000VC		335123N 0775056W	R	337:47:30		2
OTCHYANNV	A0006Q		380300N 1613400W	R	7015:04:07	UK	1
HENDIAN	T000H0		265100N 0561700E	R	10159:46:...	IR	1
UNKNOWN	A0000U		303503N 0455624E	R	431:41:38		1
APRY QUEEN...	T0006T		312600N 1181500W	R	7014:20:07	UK	2









ID	REF	POS	D	A	REF1	PA	APR	CLASS	REF2	CLASS2	DATE	DOCAT	PR	PI	S	REF	REF2
C3004	118		F	X	894	M	1008	11001	000	11000	10000	10000	1	0	X	118	118
C3008	188		F	X	A000	M	1000	11004	1000	11000	10000	10000	1	0	X	188	2000
P3036 N	1107		F	X	9000	M	10000	11001	1000	11001	10000	10000	1	0	X	1107	2100
BH4008	3070		F	X	A000	M	1011	11040	1007	11110	10040	10000	1	0	X	3070	3070
00000	1000		F	X	1000	L	1000	10100	1000	10000	10000	10000	X	0	X	1000	1000
P30000	1100		F		0100	M	0000	11000	0000	11000	11000	11000	1	0		1100	4100
AGAP0	1100		F	X	0100	11	1007	11000	0100	11000	10000	11000	1	0	X	1100	0000
14001	004		F	X	A000	M	1001	11001	1001	11000	10000	11000	1	0		004	0004
P30004	000		F	X	0100	M	1001	11001	1000	11000	11000	11000	1	0		000	0000
000000	000		F		0000	X	0000	11000	0000	11000	11000	11000	1	0		000	0000

Gleis  
**21**

**RE**

Abfahrt **15:35**

**Solothurn**

ohne Halt in Büren zum Hof

mit Halt in  
Jegenstorf - Grafenried -  
Fraubrunnen - Schalunen -  
Bätterkinden - Lohn-Lüterkofen -  
Biberist

Linie	Nr.	An	Ab	Ziel	Skt	Hinweis
58	J224	22:30		Bern		
58	J231		23:11	Solothurn		
58	J230	23:20		Bern		
58	J235		23:41	Solothurn		
58	J234	23:50		Bern		
58	J241		00:11	Solothurn		
58	J240	00:20		Bern		
399L			00:22	Dienstfahrt		Bitte nicht einsteigen

Gleis  
**22**

**S9**

Abfahrt **15:32**

**Unterzollikofen**

Felsenau-Tiefenau-Worblau-Steinbach



Linie	Nr.	An	Ab	Ziel	Skt	Hinweis
59	Z190	19:14		Bern		
59	Z193		19:17	Unterzollikofen		Felsenau-Tiefenau-Worbla...
59	Z192	19:29		Bern		
59	Z195		19:32	Unterzollikofen		Felsenau-Tiefenau-Worbla...
59	Z194	19:44		Bern		
59	Z197		19:47	Unterzollikofen		Felsenau-Tiefenau-Worbla...
59	Z196	19:59		Bern		
381L			20:00	Dienstfahrt		Bitte nicht einsteigen

Gleis  
**23**

**S8**

Abfahrt **15:22**

**Jegenstorf**

Worblau-Zollikofen-Moosseedorf-Schönbühl



Linie	Nr.	An	Ab	Ziel	Skt	Hinweis
58	J153		15:22	Jegenstorf		Worblau-Zollikofen-Moo...
58	J150	15:33		Bern		
58	J155		15:37	Utenen		Worblau-Zollikofen-Moo...
58	J152	15:48		Bern		
58	J157		15:52	Jegenstorf		Worblau-Zollikofen-Moo...
58	J154	16:03		Bern		
58	J161		16:07	Utenen		Worblau-Zollikofen-Moo...
58	J156	16:18		Bern		

**S8**

**S8** Abfahrt **15:22**  
**Jegenstorf**  
Worblau-Zollikofen-Moosseedorf-Schönbühl

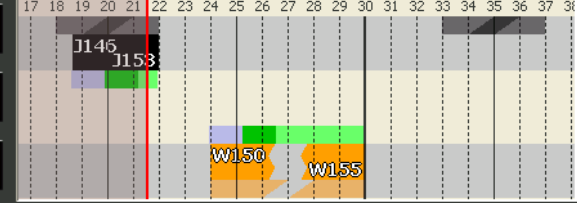
Gleis **23** ↑

**S7**

**S7** Abfahrt **15:30**  
**Worb Dorf**

Gleis **24** ↑

Tür  
SPS  
Tür  
SPS  
Stw



**J153**    
**78 s** **78 s**

**W155**    
**78 s** **78 s**

Gleis  
**24**

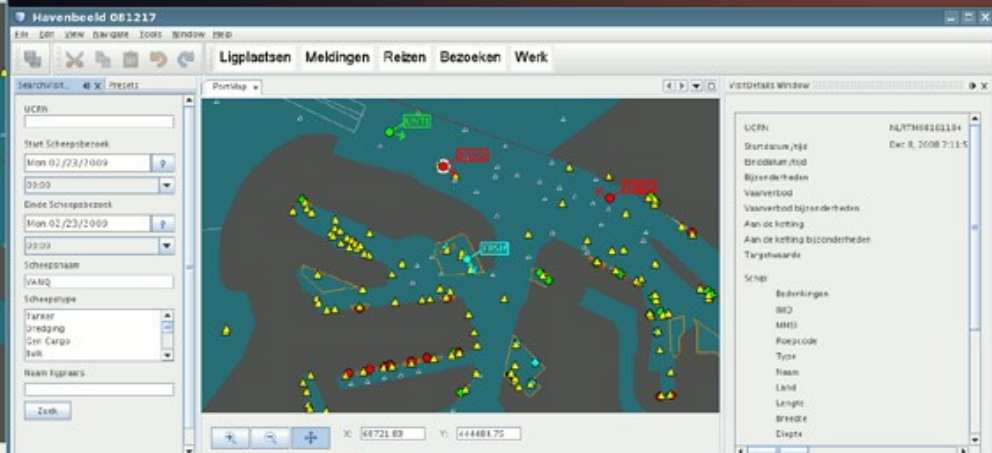
**S7**

Abfahrt **15:30**

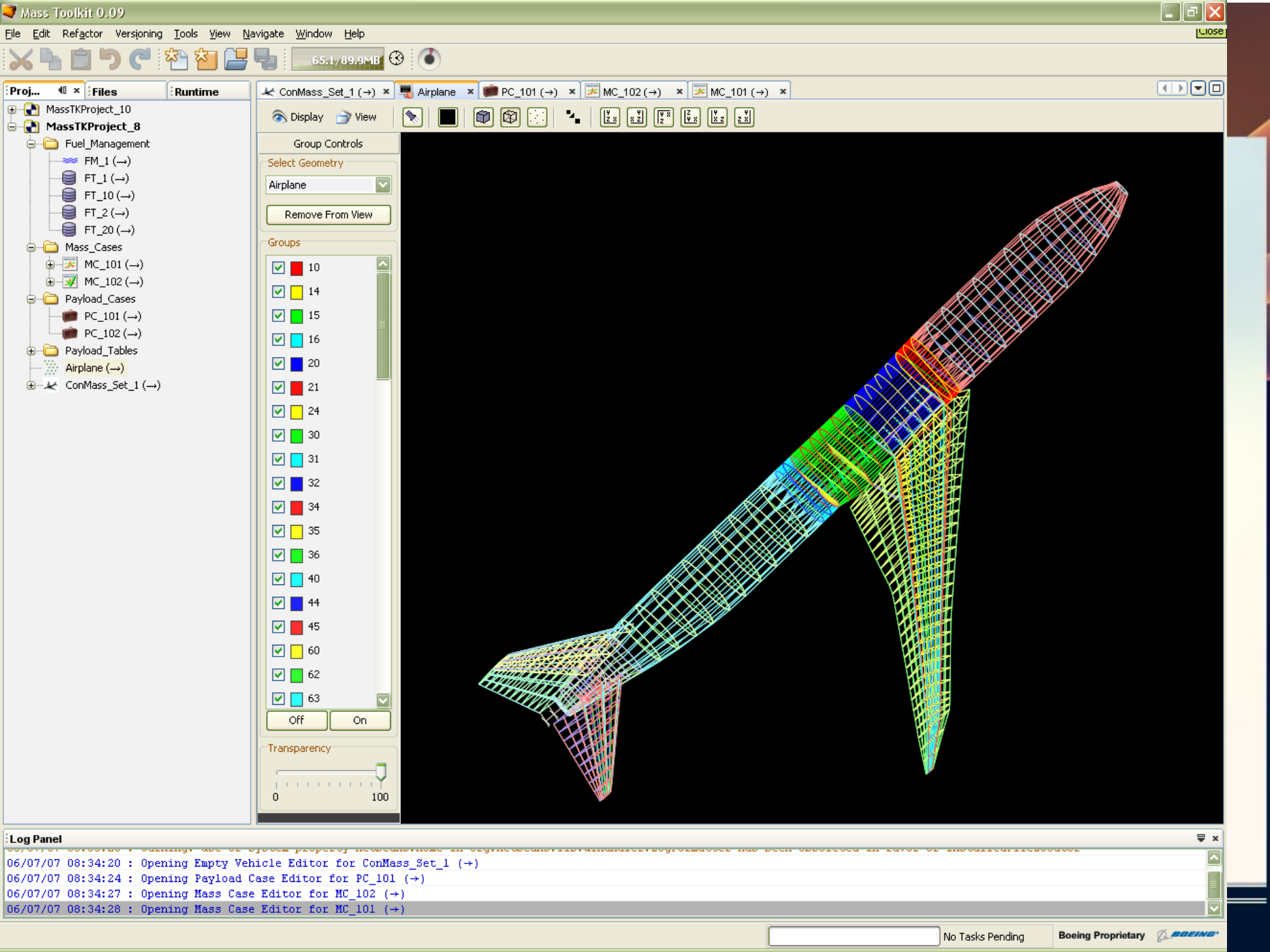
**Worb Dorf**

mit Halt in  
Worblau - Papiermühle - Ittigen -  
Bolligen - Deisswil - Stettlen - Boll-  
Utzigen - Vechigen - Worbboden

Linie	Nr.	An	Ab	Ziel	Skt	Hinweis
57	W150	15:24		Bern		
57	W155		15:30	Worb Dorf		
57	W152	15:39		Bern		
57	W157		15:45	Worb Dorf		
57	W154	15:54		Bern		
57	W161		16:00	Worb Dorf		
57	W156	16:09		Bern		
57	W163		16:15	Worb Dorf		

[illegible]

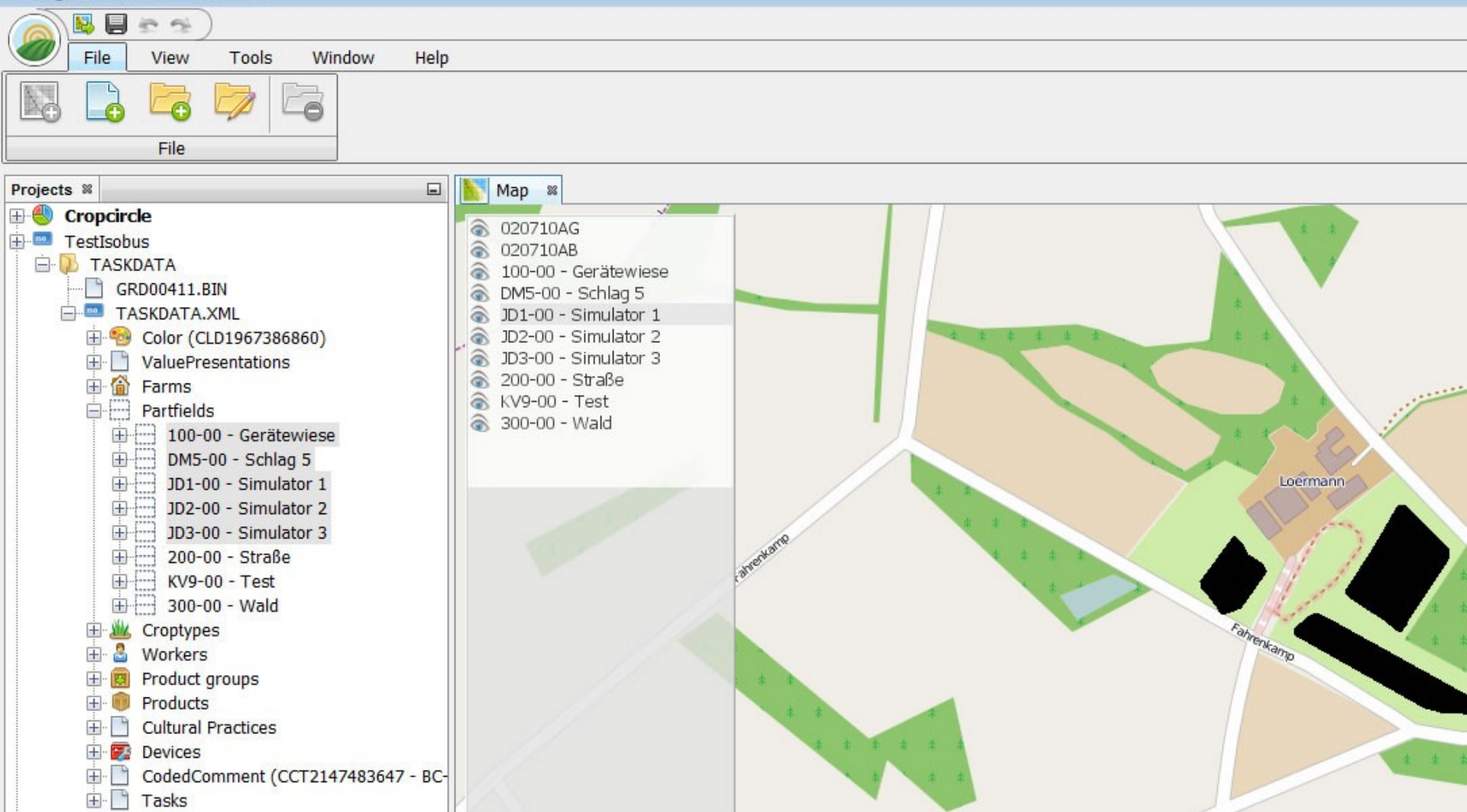
id	UCIR	Exec date	start date	verbod	Aan de ketting	doel score	lms	type	Naam	Land	length	breedte
000552	NLRTM05159	Wed Nov 19 0	Sun Nov 09 1					CEIL_CARGO	YAN-QUEIR	NLD	99.0	147.0
000552	NLRTM05159	Wed Nov 19 0	Sun Nov 09 1					CEIL_CARGO	YAN-QUEIR	NLD	99.0	147.0
000797	NLRTM05159	Wed Nov 24 0	Mon Nov 27 0					CEIL_CARGO	YAN-QUEIR	NLD	99.0	147.0
000567	NLRTM05159	Wed Dec 03 0	Mon Nov 24 0					CEIL_CARGO	YAN-QUEIR	NLD	99.0	147.0
000567	NLRTM05159	Wed Dec 03 0	Mon Nov 24 0					CEIL_CARGO	YAN-QUEIR	NLD	99.0	147.0
000562	NLRTM05161		Mon Dec 06 0					CEIL_CARGO	YAN-QUEIR	NLD	99.0	147.0
000562	NLRTM05161		Mon Dec 06 0					CEIL_CARGO	YAN-QUEIR	NLD	99.0	147.0
000552	NLRTM05161		Wed Dec 03 0					CEIL_CARGO	YAN-QUEIR	NLD	99.0	147.0
000552	NLRTM05161		Wed Dec 03 0					CEIL_CARGO	YAN-QUEIR	NLD	99.0	147.0
000745	NLRTM05161	Wed Dec 10 0	Sat Nov 29 08					CEIL_CARGO	YAN-QUEIR	NLD	99.0	147.0
000753	NLRTM05161	Wed Dec 10 0	Sat Nov 29 08					CEIL_CARGO	YAN-QUEIR	NLD	99.0	147.0

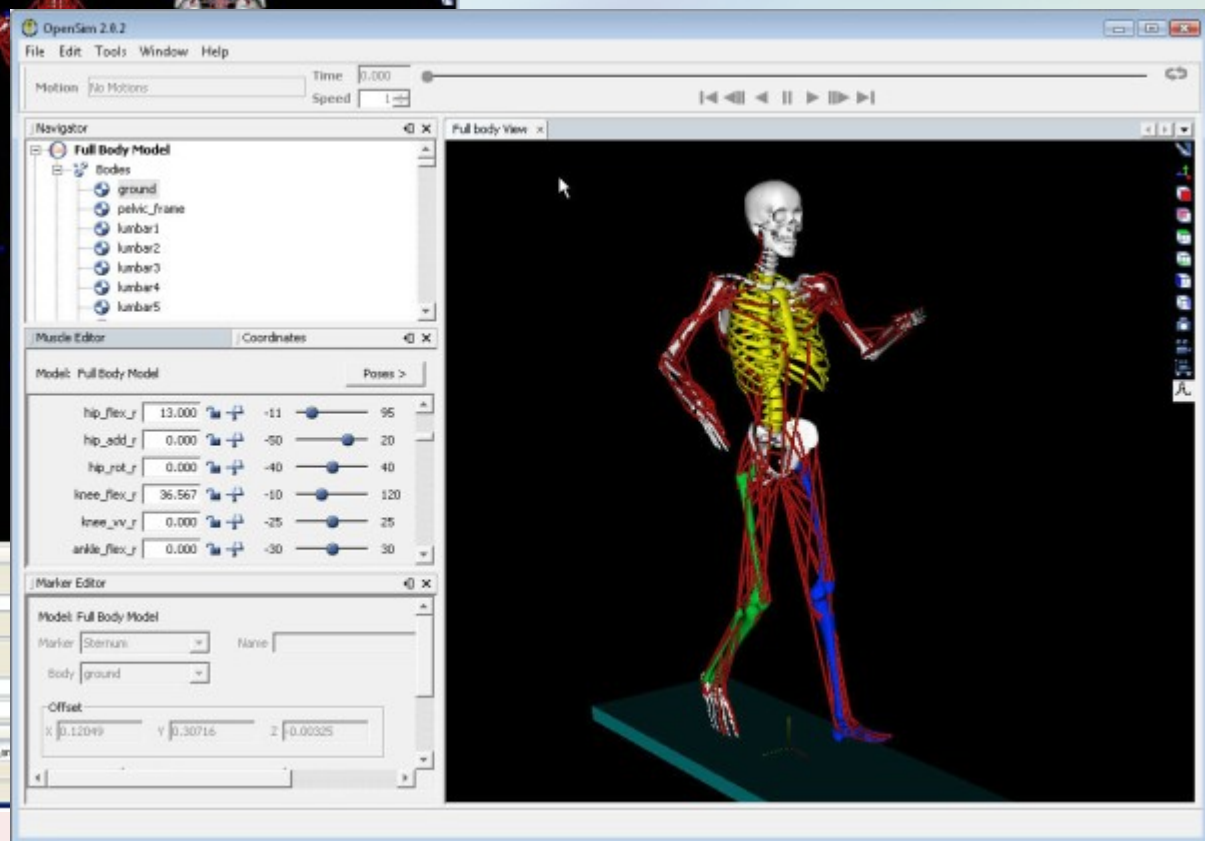


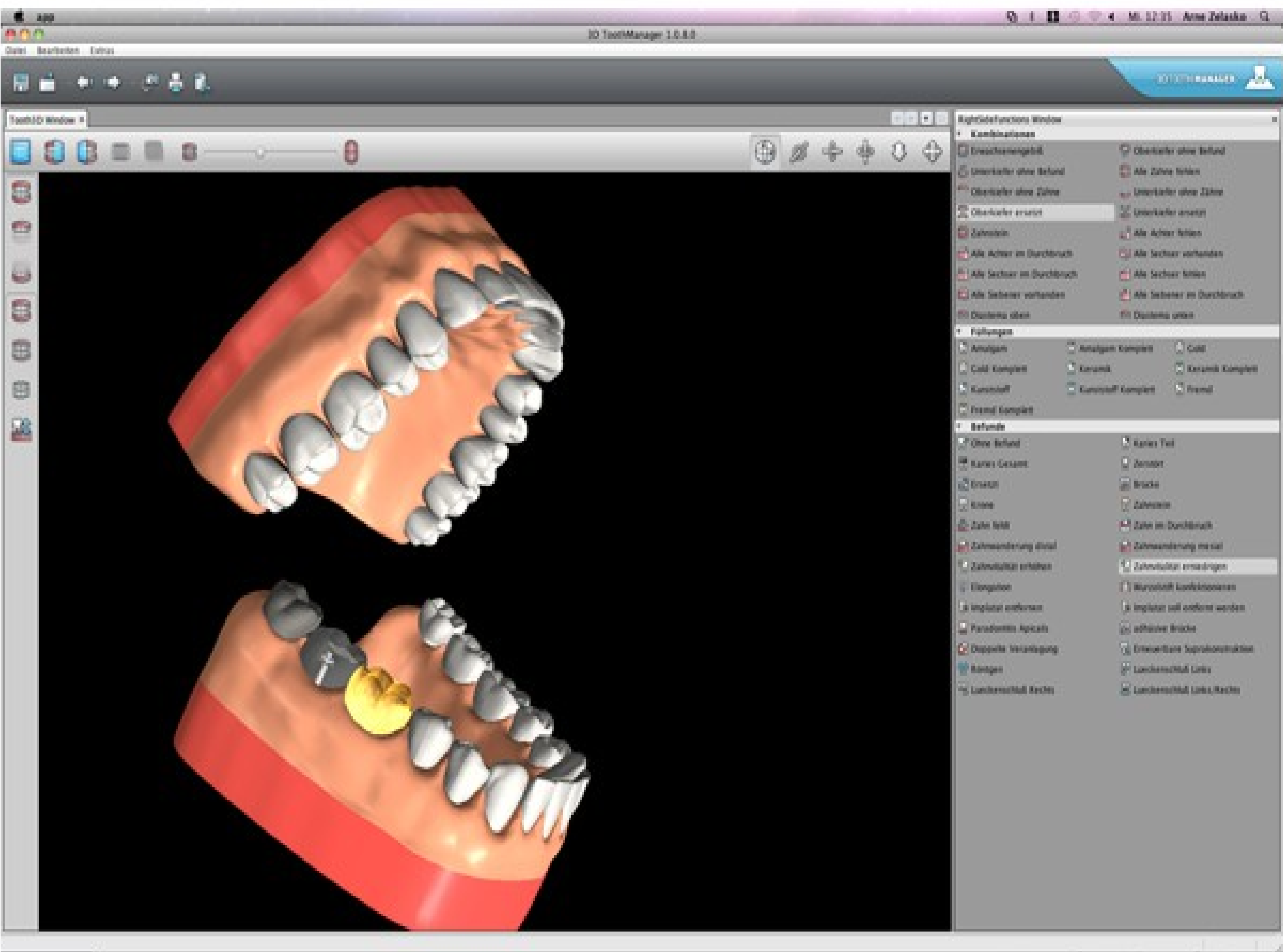


# <http://agrosense.nl>

AgroSense 201112071828







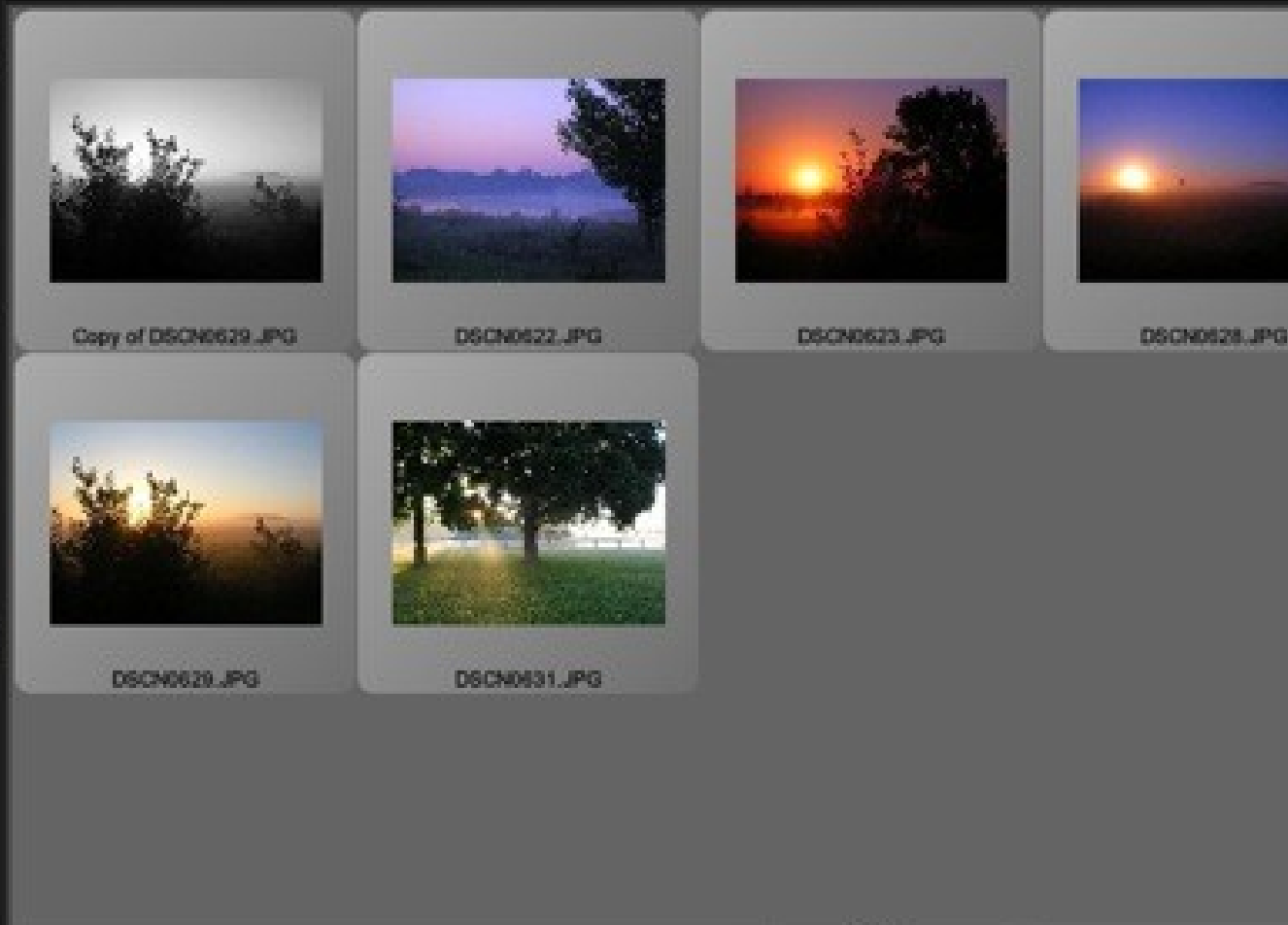


# Calendar

- Thursday, July 26, 2007
- Friday, July 27, 2007
- August
  - Saturday, August 4, 2007
  - Monday, August 5, 2007
  - Tuesday, August 7, 2007
  - Thursday, August 9, 2007
- September
  - Saturday, September 1, 2007
  - Monday, September 3, 2007**
  - Tuesday, September 4, 2007
  - Wednesday, September 5, 2007
  - Saturday, September 8, 2007
  - Tuesday, September 11, 2007
  - Wednesday, September 12, 2007
  - Saturday, September 15, 2007
  - Wednesday, September 19, 2007

## September 2007

Mon	Tue	Wed	Thu	Fri	Sat	Sun
					1	2
<b>3</b>	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

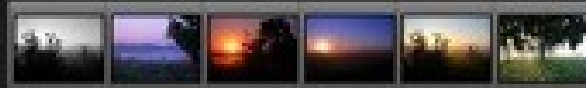


6 items in "Sep 3, 2007"

sort by path name

sort by path name

## Film Strip: "Sep 3, 2007"







Applications

▼ Local

VisualVM

Remote

VM CoreDumps

Snapshots

Start Page x

VisualVM x

Overview

Monitor

Threads

Sampler

## VisualVM

Threads

☒ Threads visualization**Live threads:** 23**Daemon threads:** 19

Thread Dump

Timeline

Table | Details



Show: All Threads

**Threads**

0:30

[m:s]

□ pool-3-thread-1

■ pool-2-thread-1

■ Attach Listener

Running Sleeping Wait Monitor



Application Navigator

Application1

Projects

Client

Application Resources

Recently Opened Files

Client.jpr - Structure

No Structure

Start Page

# Oracle JDeveloper 11g

*Learn how to.*

Model Applications

Design Databases

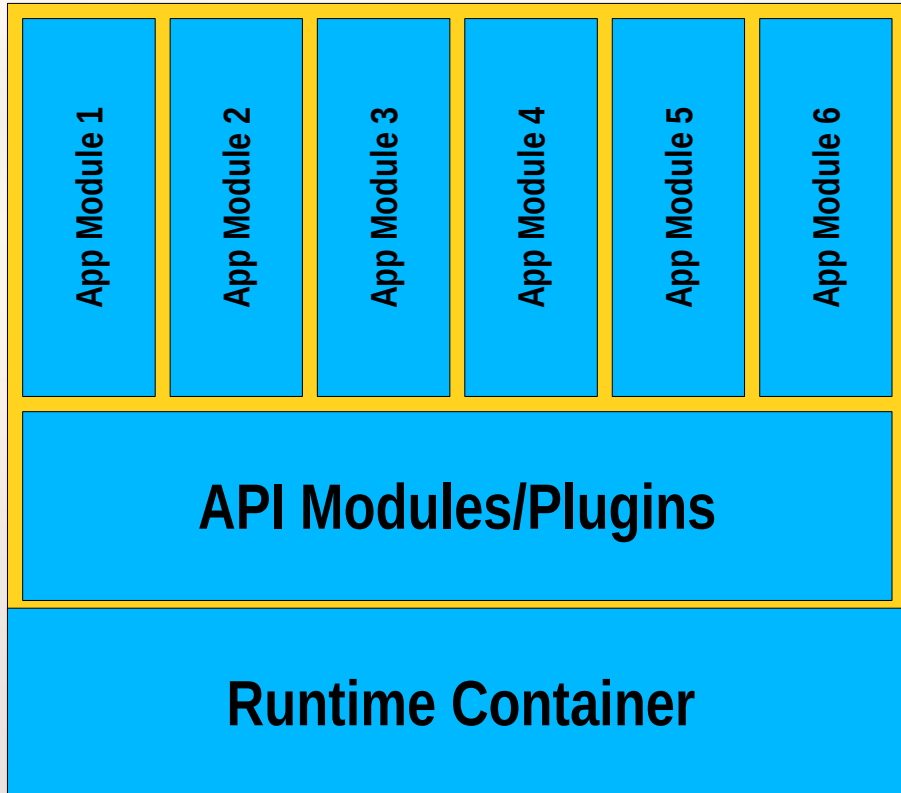
Build Applications

Integrate Applications

[What's New](#) | [Release Notes](#) | [Samples](#) | [Discussion Forum](#) | [Books and Training](#) | [Online Resources](#)

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# Common Basis



Runtime container  
handles lifecycle.

APIs provide extension  
points & utilities.

# Example Scenarios

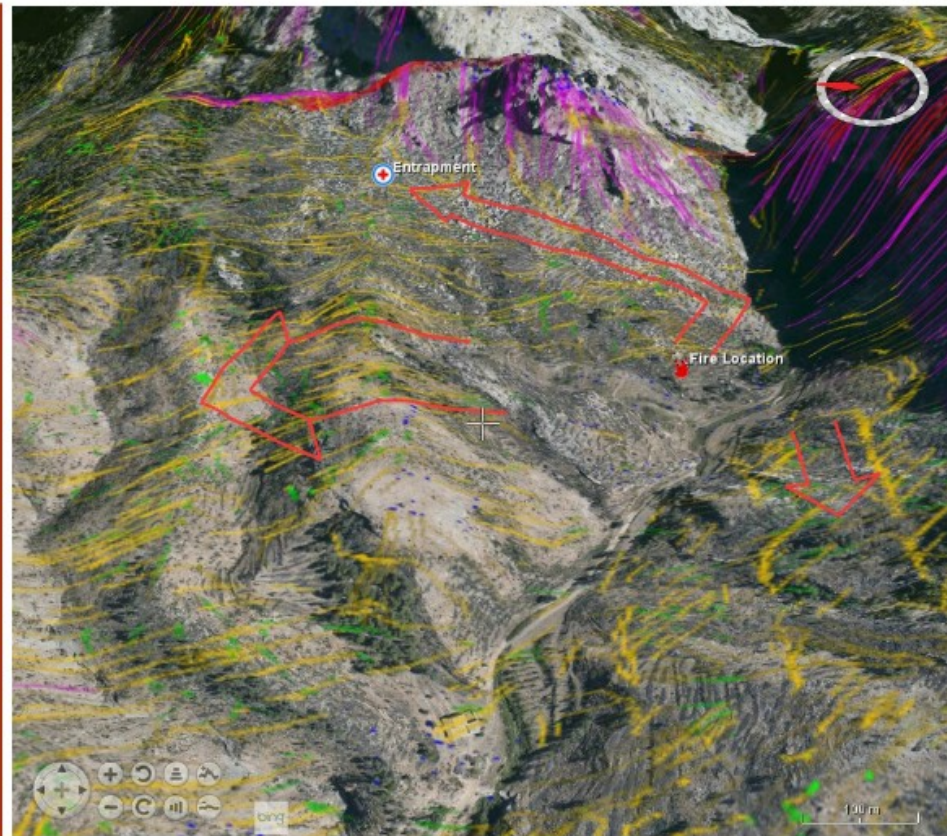
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- Bruce Schubert, Emxsys
- Eirik Bakke, MIT
- Henry Arousell, Björn Lundén Information
- Thomas Boqvist, Björn Lundén Information



# Wildfire Management Tool

See How Wildfire  
Moves Over the  
Terrain

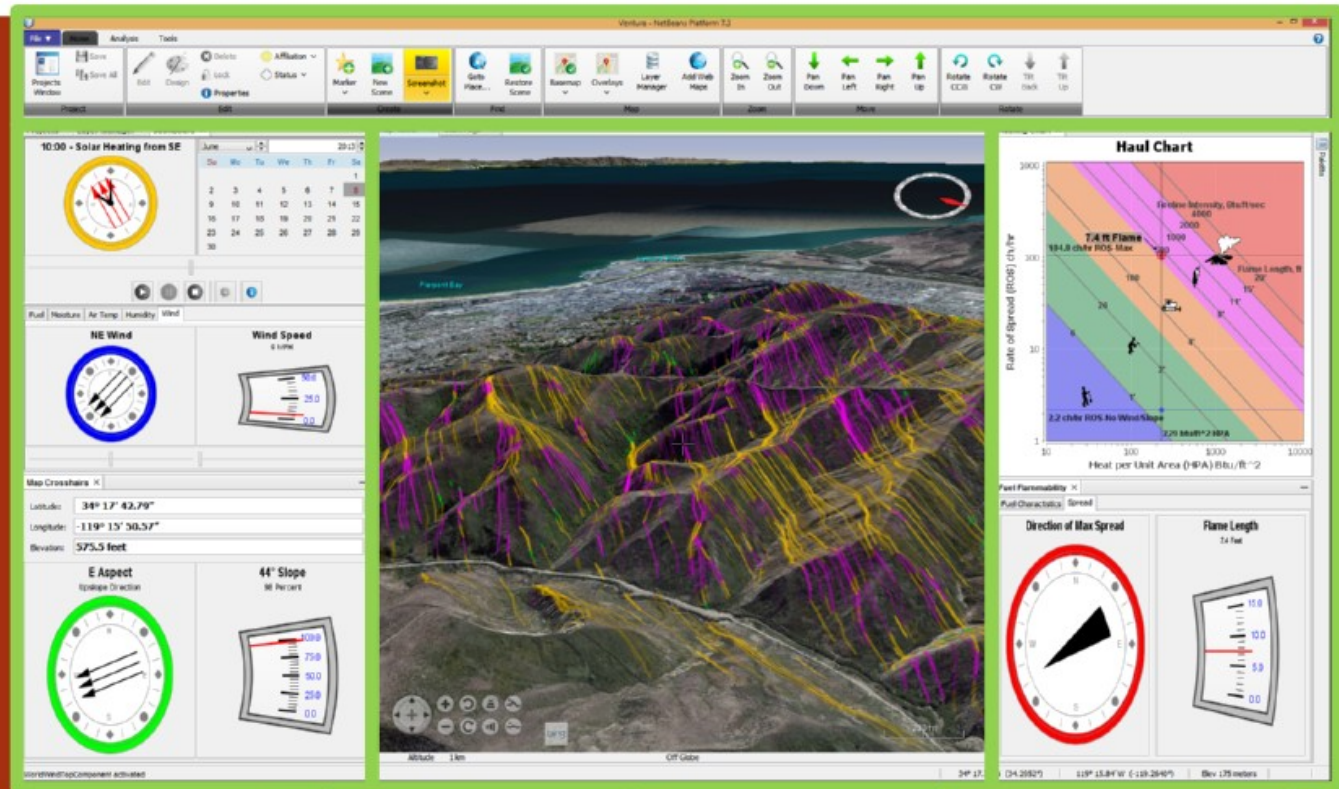


*Animated vapor trails show highways of fire and windows of opportunity.*

EMXSYS

# Wildfire Management Tool

Simplified  
Display of  
Complex Data



Controls

Inputs

Location

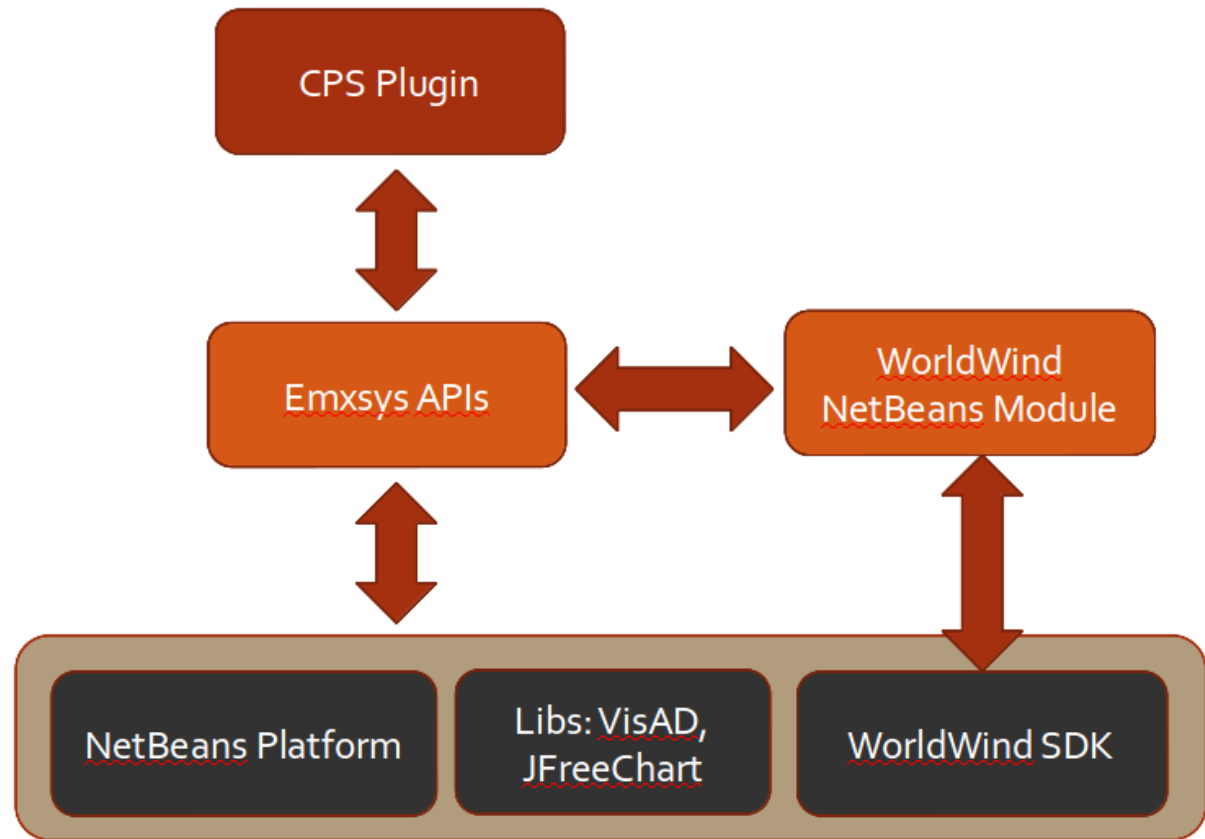
Outputs

*Fire Behavior is worse when the three primary forces are aligned.*



# Wildfire Management Tool

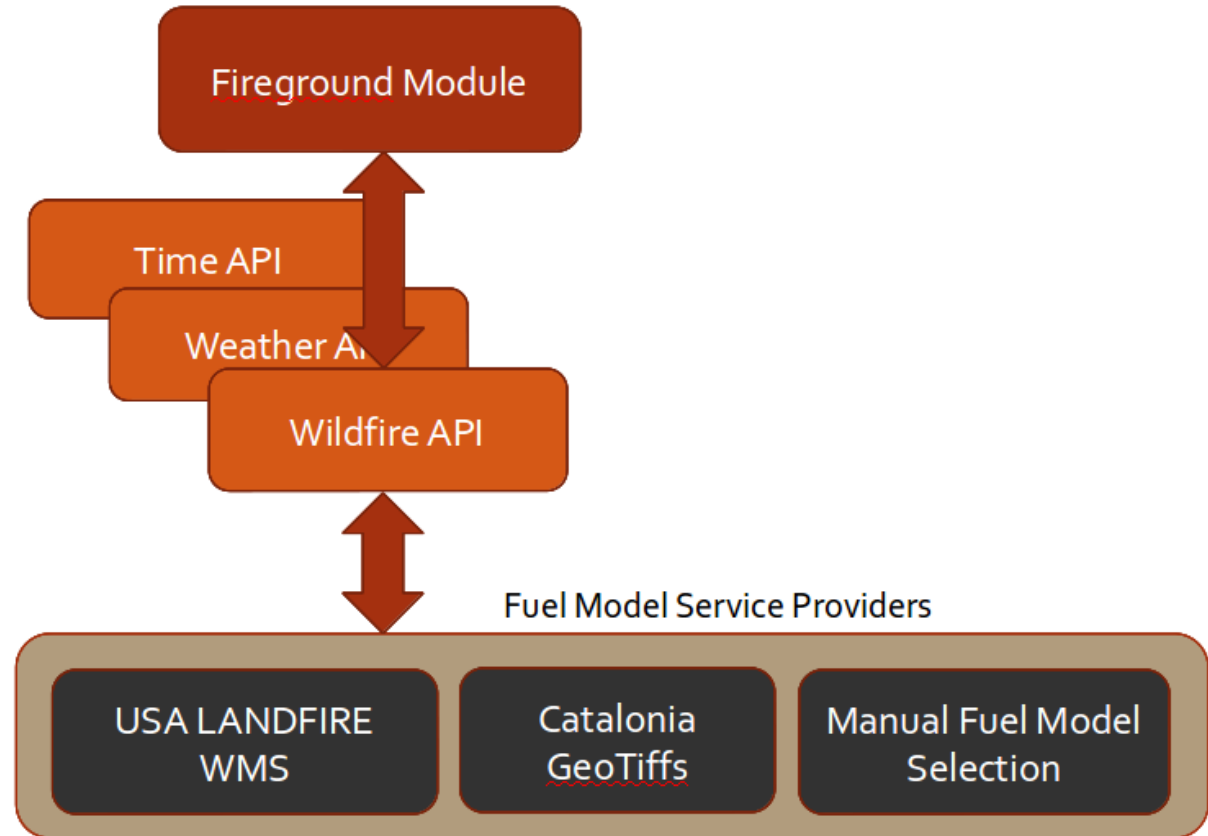
## Software Architecture



NetBeans manages the installation, discovery and update of service providers and ancillary modules.

# Wildfire Management Tool

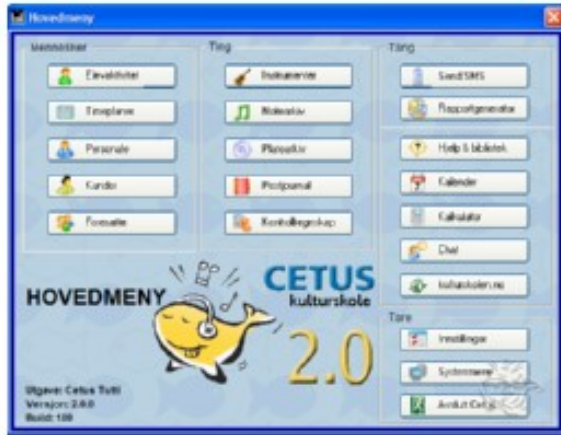
NetBeans  
Modular  
Architecture



NetBeans manages the installation, discovery and update of service providers and ancillary modules.



# A Common Class of Business-Oriented Database Applications



## Switchboard

## Search form

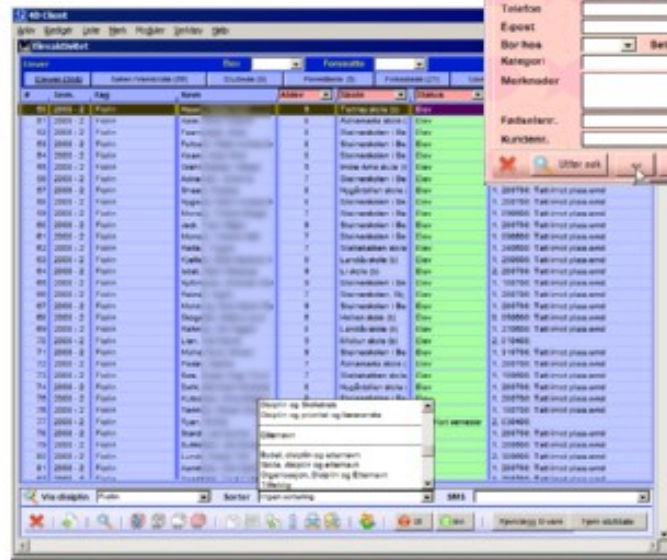
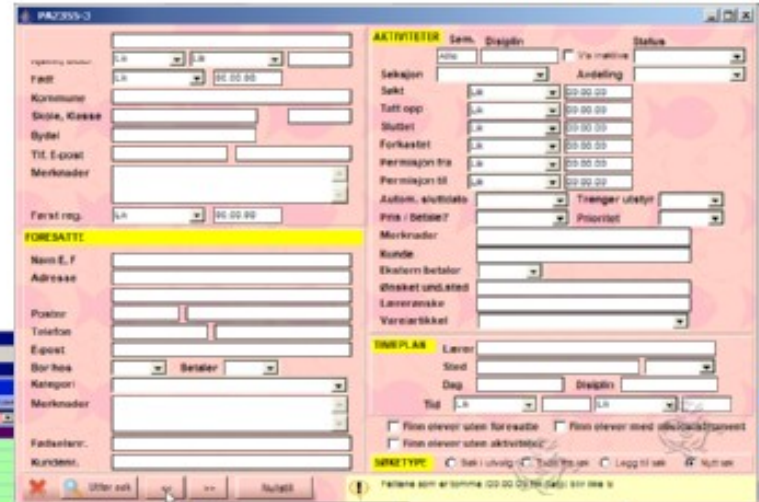
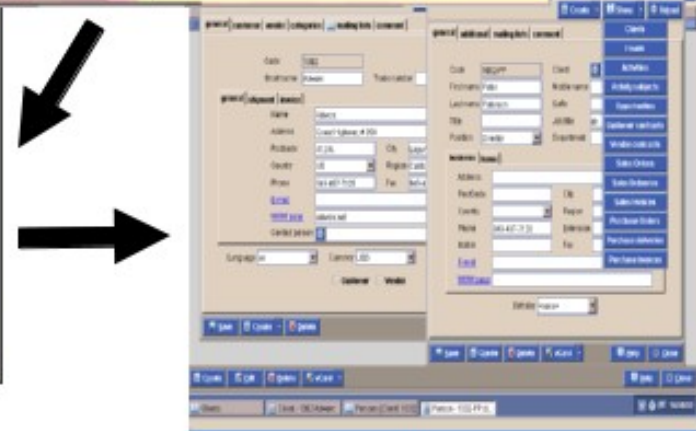


Table view



Form view

## Reports



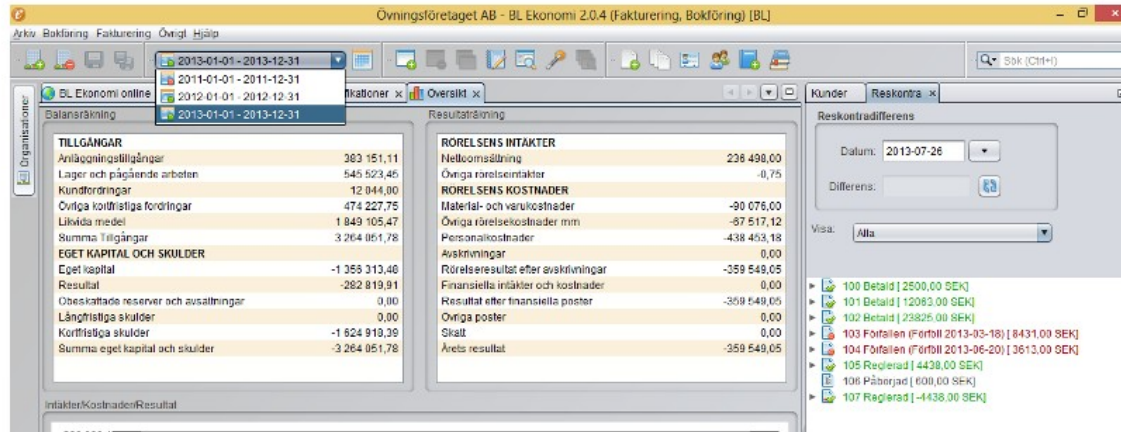
Course Code	Code	Section	Home Dept	Title	Topic	Subtopic	Description
207	207			A Guided Tour of the Solar System			This course examines the major bodies of our solar system, emphasizing their surface features, internal structures, and atmospheres. Topics include the origin of the solar system, habitability of planets, and the evolution of planetary systems. Terrestrial and giant planets will be studied as well as satellites, comets, and asteroids. Recent discoveries from planetary missions are emphasized. The course is aimed primarily at non-science majors.
207	207						

A **custom Swing component** that provides a **spreadsheet-like** user interface to **arbitrary table-, form-, and report views**

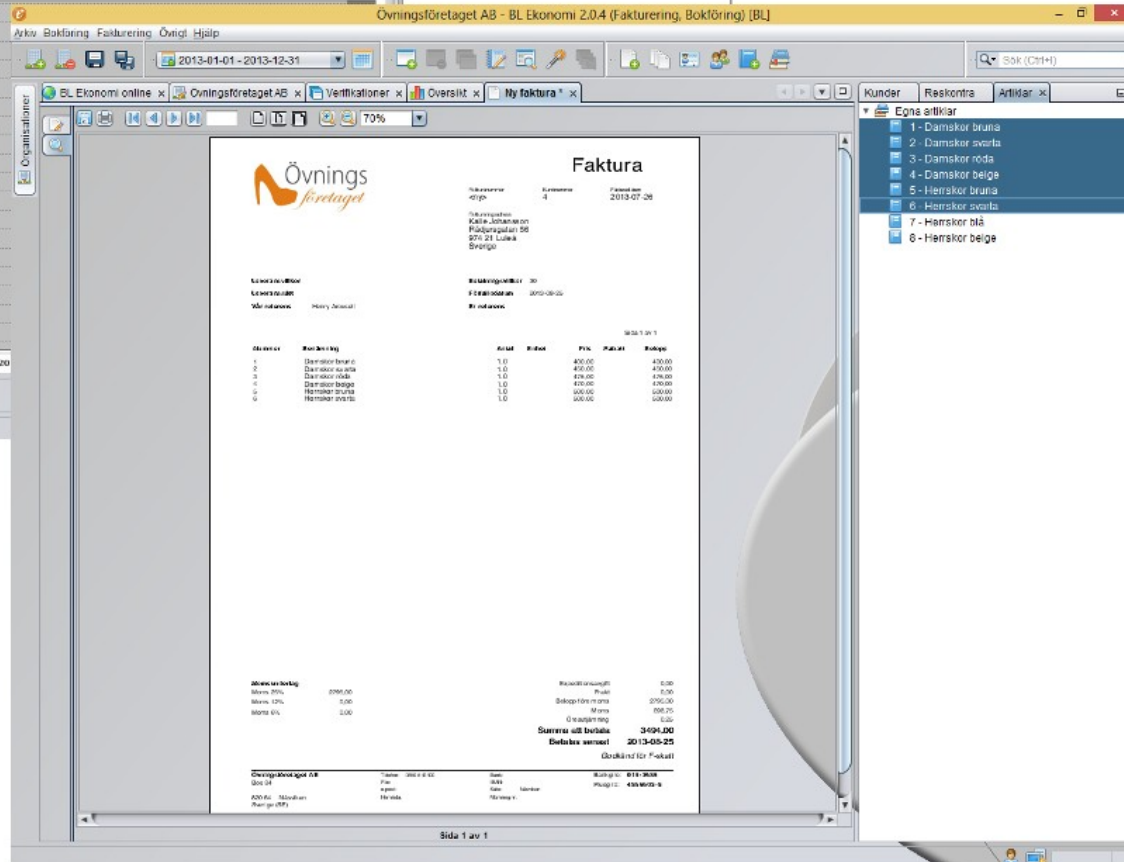
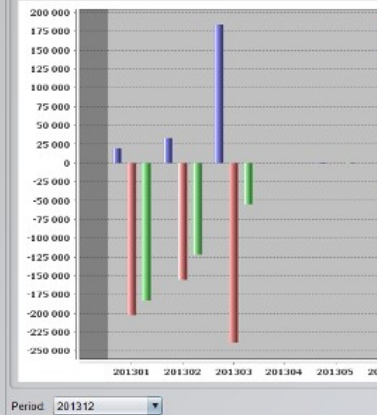




# BL Ekonomi – example screenshots



Intäkter/Kostnader/Resultat





# BL Ekonomi – spreadsheet component

Övningsföretaget AB - BL Ekonomi 2.0.4 (Fakturerings, Bokföring) [BL]

Arkiv Bokföring Fakturerings Övrigt Hjälp

2013-01-01 - 2013-12-31

BL Ekonomi online x Övningsföretaget AB x Verifikationer x Översikt x Ny faktura \* x

Anteckningar

Organisationer

**Övningsföretaget AB**

Faktura

Leveransvillkor

Leveranssätt

Vår referens Henry Arousell

Fakturadatum 2013-07-26

Fakturanummer <ny>

Förfallodatum 2013-08-25

Betalningsvillkor 30

Kundnummer 4

Kund Kalle Johansson

Adress

Visa

Art.nr	Benämning	Antal	Enhet	Styckpris	Rabatt	Rabattenhet	Moms	Summa
1	Damnskor bruna (1 Egna artiklar)	1,00		400,00			25%	400,00
2	Damnskor svarta (2 Egna artiklar)	1,00		450,00			25%	450,00
3	Damnskor röda (3 Egna artiklar)	1,00		475,00			25%	475,00
4	Damnskor beige (4 Egna artiklar)	1,00		470,00			25%	470,00
5	Herrskor bruna (5 Egna artiklar)	1,00		500,00			25%	500,00
6	Herrskor svarta (6 Egna artiklar)	1,00		500,00			25%	500,00
	Herr							
	Herrskor beige (8 Egna artiklar)	480:00						
	Herrskor blå (7 Egna artiklar)	520:00						
	Herrskor bruna (5 Egna artiklar)	500:00						
	Herrskor svarta (6 Egna artiklar)	500:00						

Herrskor beige

Nummer: 8

Pris: 480:00

Moms: 25%

Vikt: 0 kg

F-skatttext Godkär

Belopp före moms 2795,00

Moms 698,75

Öresutjämning 0,25

Summa 3494,00

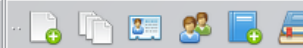
Kunder Reskontra Artiklar x

Egna artiklar

- 1 - Damnskor bruna
- 2 - Damnskor svarta
- 3 - Damnskor röda
- 4 - Damnskor beige
- 5 - Herrskor bruna
- 6 - Herrskor svarta
- 7 - Herrskor blå
- 8 - Herrskor beige



2013-01-01 - 2013-12-31



Sök (Ctrl+I)

## Övningsföretaget AB

Faktura

Leveransvillkor

Fakturadatum 2013-07-26

Fakturanummer &lt;ny&gt;

Leveranssätt

Förfallodatum 2013-08-25

Betaltvillkor 30

Vår referens Henry Arousell

Kundnummer 4

Adress

Kund Kalle Johansson

Visa

## Egna artiklar

- 1 - Damskor bruna
- 2 - Damskor svarta
- 3 - Damskor röda
- 4 - Damskor beige
- 5 - Herrskor bruna
- 6 - Herrskor svarta
- 7 - Herrskor blå
- 8 - Herrskor beige

Art.nr	Benämning	Antal	Enhet	Styckpris	Rabatt	Rabattenhet	Moms	Summa
1	Damskor bruna (1 Egna artiklar)	1,00		400,00			25%	400,00
2	Damskor svarta (2 Egna artiklar)	1,00		450,00			25%	450,00
3	Damskor röda (3 Egna artiklar)	1,00		475,00			25%	475,00
4	Damskor beige (4 Egna artiklar)	1,00		470,00			25%	470,00
5	Herrskor bruna (5 Egna artiklar)	1,00		500,00			25%	500,00
6	Herrskor svarta (6 Egna artiklar)	1,00		500,00			25%	500,00

Herr

Herrskor beige (8 Egna artiklar) 480:00  
Herrskor blå (7 Egna artiklar) 520:00  
Herrskor bruna (5 Egna artiklar) 500:00  
Herrskor svarta (6 Egna artiklar) 500:00



## Herrskor beige

Nummer: 8  
Pris: 480:00  
Moms: 25%  
Vikt: 0 kg

F-skatttext Godkär

Belopp före moms 2795,00

Moms 698,75

Öresutjämning 0,25

Summa 3494,00

# Migrating to NetBeans Platform

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- Keep all algorithms, processors, etc.
- Port everything to modules.
- Wrap JPanels in TopComponents.
- Wrap business objects in Nodes.
- Move to BeanTreeView from Jtree, etc.
- Integrate NetBeans RCP features.
- Leverage/reuse as much as you can.
- Focus on domain, not infrastructure.
- Porting is a process.

# Technical Concepts

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- Module
- Lookup for Loose Coupling
- Central Registry
- TopComponent
- Cookies/Capabilities
- Node
- Explorer Views
- Actions: Global/Context Sensitive

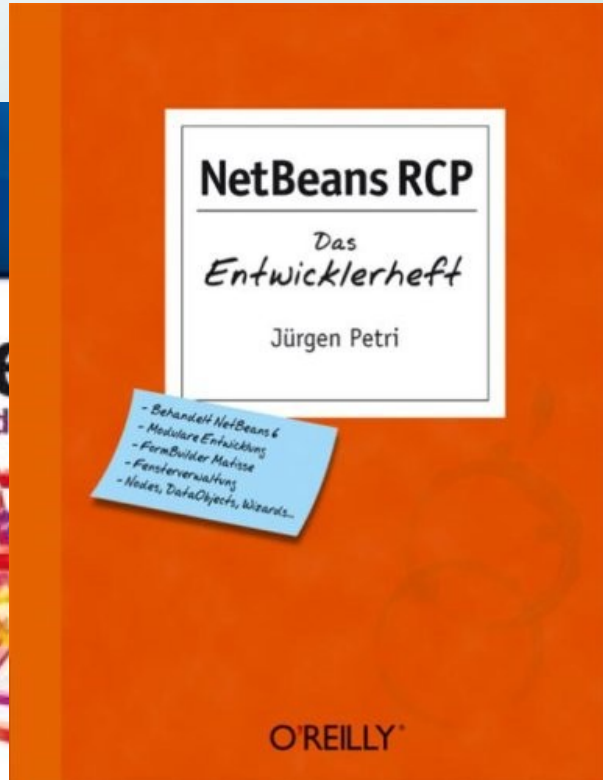
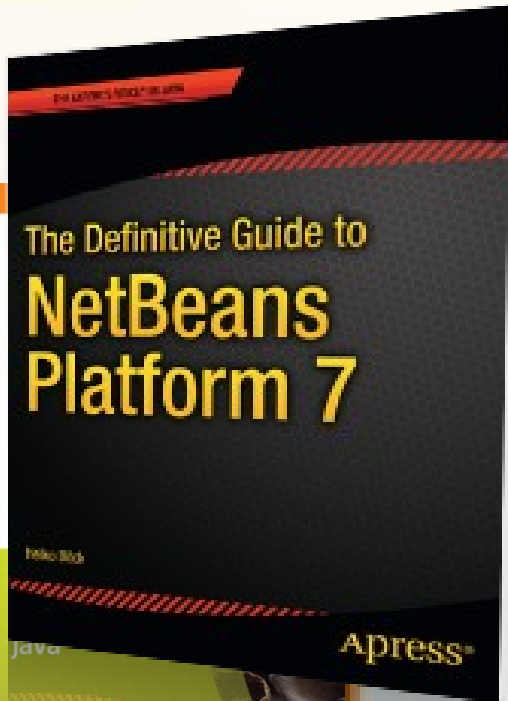


# Summary

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- NetBeans Platform:
  - > Framework simplifying the development of modular, scalable, Swing applications.
  - > Free & open source.
  - > Stable & very extensive.
  - > Used internationally in many companies.

# Books



# Course

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- Basic Course
  - > Cover all the basic NetBeans APIs.
  - > A lot of hands on work & coding.
  - > One lecture/one workshop pattern.
  - > Very practically oriented, free book.
- Porting Workshop
  - > Brief overview of NetBeans APIs.
  - > Step by step guided migration of your app.
  - > Simple prototype ready for demo.
- 3 or 5 days, X number of engineers

# Resources

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- <http://wiki.netbeans.org/NetBeansDeveloperFAQ>
- <http://platform.netbeans.org/tutorials/nbm-porting-basic.html>
- <http://edu.netbeans.org/courses/nbplatform-certified-training/>
- [dev@platform.netbeans.org](mailto:dev@platform.netbeans.org)
- <http://platform.netbeans.org>



# Questions & Answers

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