

Lingoport: Agile & Internationalization

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President & CEO
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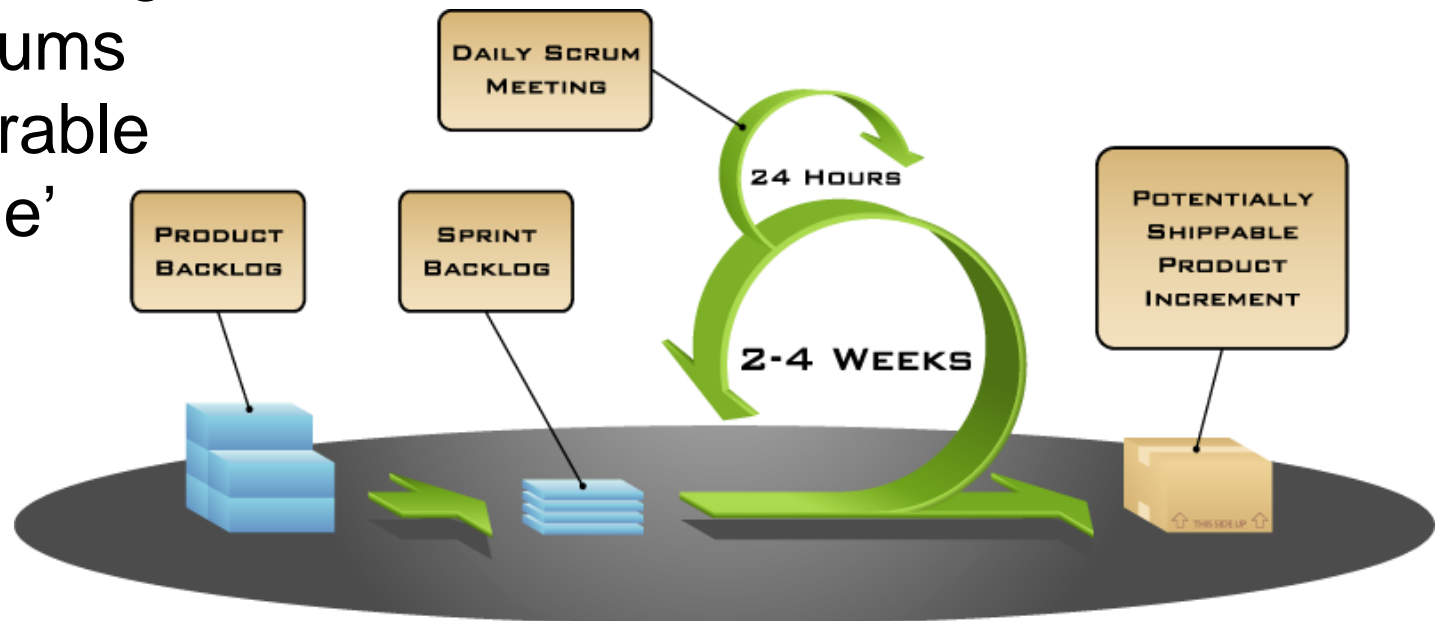
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Globalization Lead
Lingoport

Lingoport

- Founded in 2001
- Provides i18n Services and Products (Globalyzer)
- Wide breadth of i18n project experience
 - Banking
 - Medical
 - Commercial software & sites
 - Games
 - Travel
 - Enterprise systems
 - Networking
 - Embedded systems
 - Content management and distribution

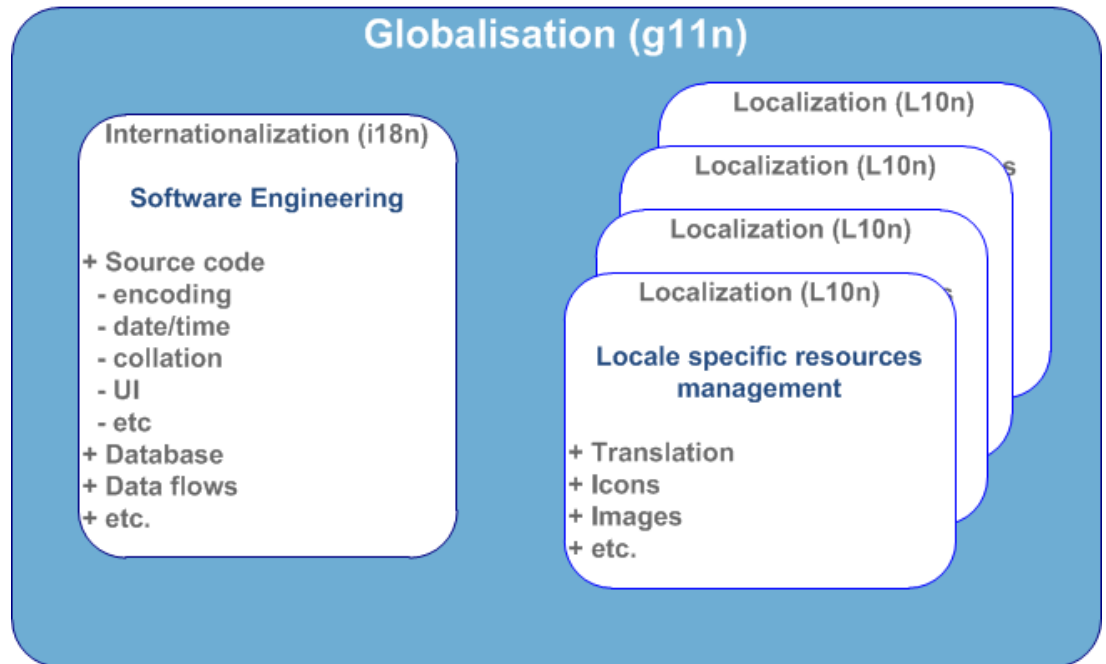
Agile in one slide (smallest nutshell)

- Roles (Product Owner, Scrum Master, Team)
- Product Backlog
- Sprints (user stories are designed, implemented, tested in a 'short' timeframe, e.g. 3 weeks)
- Sprint Backlog
- Daily Scrums
- Demonstrable
- 'Shippable'



I18n precepts

- Globalization (g11n) has two components :
 - **Internationalization (i18n)**: software engineering to enable localization
 - Localization (L10n): culture specific resources (translation ...)

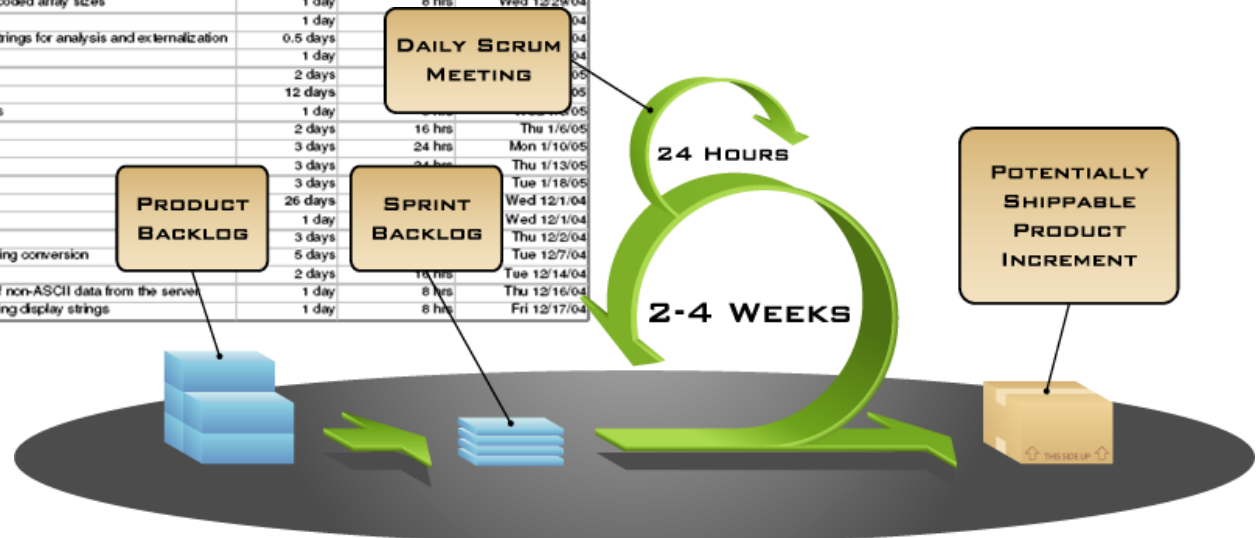


i18n and Agile Challenges

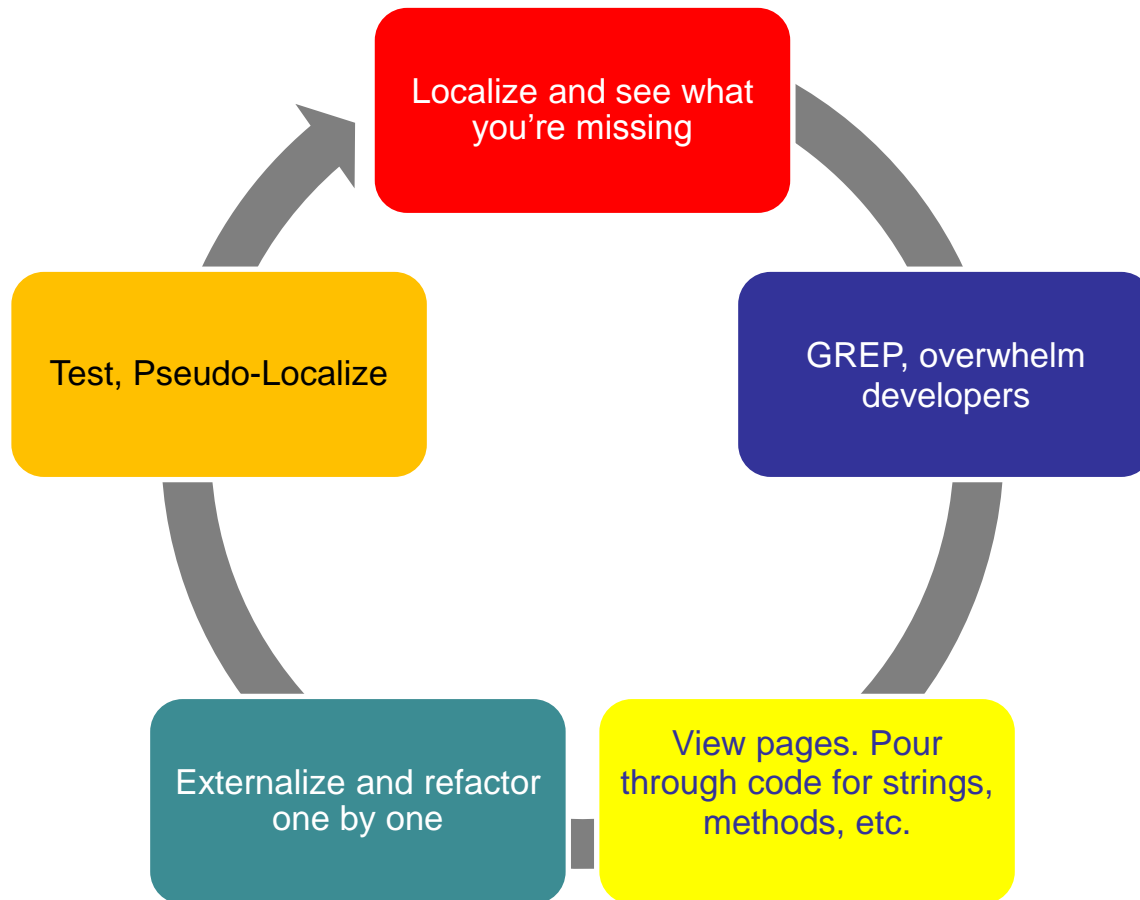
- Traditionally, Legacy i18n has followed a waterfall model:
 - i18n cuts across the code, for instance:
 - Encoding problems ...in all the code
 - Formatting issues ... in all the code
 - Externalize strings ...
 - i18n needs a systemic approach
 - I18n tend to have long project life cycles
 - (L10n: must get an entire locale done)
- From a methodology perspective Agile:
 - is feature driven
 - runs in “short” Sprint
- Sometimes a Hybrid approach works best

Agile & i18n Process Challenges

ID	Task Name	Duration	Work	Start
1	XYZ Widgets I18n Implementation	17.6 days?	4,503.2 hrs	Mon 11/1/04
2	Design Phase	22 days	228 hrs	Mon 11/1/04
3	Further research for LDAP character encoding	2 days	16 hrs	Mon 11/1/04
4	Further research for various third-party interfaces	10 days	80 hrs	Wed 11/3/04
5	Documentation of findings	10 days	80 hrs	Wed 11/17/04
6	Update project plan	1 day	8 hrs	Mon 11/1/04
7	Baseline architectural doc & place under change control	0.5 days	4 hrs	Tue 11/2/04
8	Integrate I18n requirements into traceability matrix	5 days	40 hrs	Mon 11/1/04
9	Construction Phase	82.5 days?	2,848 hrs	Wed 12/1/04
10	On Demand	25.5 days	204 hrs	Wed 12/1/04
11	Java Applet	16 days	144 hrs	Wed 12/1/04
12	Code scanning and report cleaning	2 days	16 hrs	Wed 12/1/04
13	Detailed Design	2 days	16 hrs	Fri 12/3/04
14	Alter and test applet launch page to pass Locale from server	0.5 days	4 hrs	Tue 12/7/04
15	Alter and test object tag in applet launch page to retrieve international JVM	0.5 days	4 hrs	Tue 12/7/04
16	Develop framework for locale handling	2 days	16 hrs	Wed 12/8/04
17	Analyze and refactor code that passes between OD & server via SOCKS or http for encod	3 days	24 hrs	Fri 12/10/04
18	Externalize Strings - approximately 150 java display strings for analysis and externalizati	1 day	8 hrs	Wed 12/15/04
19	Analyze 64 java locale-sensitive method calls and refactor as needed	1 day	8 hrs	Thu 12/16/04
20	Misc. refactoring	2 days	16 hrs	Fri 12/17/04
21	Unit testing	4 days	32 hrs	Tue 12/21/04
22	OD CPP	7.5 days	60 hrs	Mon 12/27/04
23	Code scanning and report cleaning	1 day	8 hrs	Mon 12/27/04
24	Detailed Design	1 day	8 hrs	Tue 12/28/04
25	Refactor char array sizes - approximately 60 hard-coded array sizes	1 day	8 hrs	Wed 12/29/04
26	Analyze and fix encoding issues at JNI interface	1 day	8 hrs	Thu 12/30/04
27	Externalize Strings - approximately 6 cpp display strings for analysis and externalization	0.5 days	4 hrs	Fri 1/1/05
28	Analyze and fix as needed 132 unsafe methods	1 day	8 hrs	Sat 1/2/05
29	Unit testing	2 days	16 hrs	Sun 1/3/05
30	Interrogators & Installer	12 days	96 hrs	Mon 1/10/05
31	Scan unknown quantity of source files and clean reports	1 day	8 hrs	Tue 1/11/05
32	Detailed Design	2 days	16 hrs	Thu 1/6/05
33	Applet-related installer i18n	3 days	24 hrs	Mon 1/10/05
34	ActiveX-related installer i18n	3 days	24 hrs	Thu 1/13/05
35	Unit testing	3 days	24 hrs	Tue 1/18/05
36	Connect	26 days	208 hrs	Wed 12/1/04
37	Scan 2,715 c++ source files and clean reports	1 day	8 hrs	Wed 12/1/04
38	Detailed Design	3 days	24 hrs	Thu 12/2/04
39	Refactor server interface as necessary to handle encoding conversion	5 days	40 hrs	Tue 12/7/04
40	Enhance locale-handling as necessary	2 days	16 hrs	Tue 12/14/04
41	Examine 400+ char buffers to ensure proper handling of non-ASCII data from the server	1 day	8 hrs	Thu 12/16/04
42	Examine 600 embedded strings and externalize remaining display strings	1 day	8 hrs	Fri 12/17/04

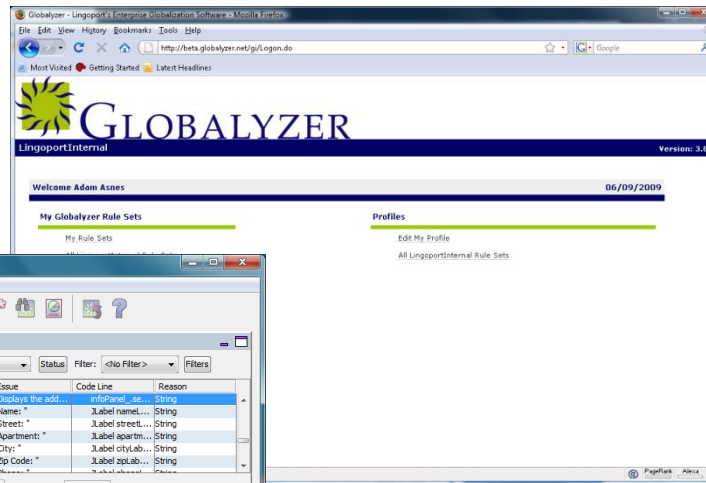
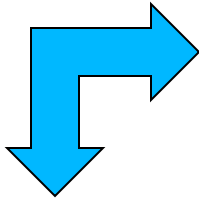


Traditional i18n Verification - repeat, and repeat, and repeat, and repeat

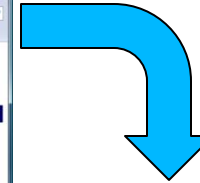


Globalyzer Server and Clients Static Analysis on the Source Code

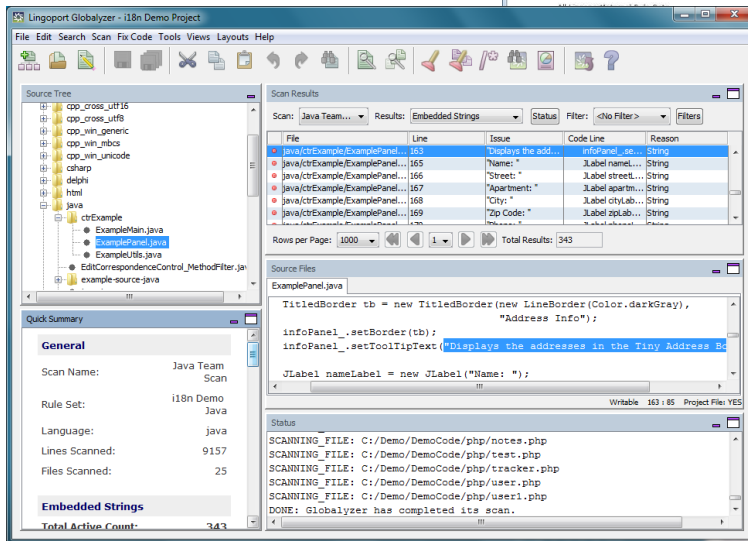
Client



Server



Command Line



Globalyzer is methodology agnostic. Project Managers may use it in a 'traditional' approach or Agile approach.

Lingoport i18n Services

- Software development focused
- Assessment
- Project planning
- i18n development
- i18n testing
- Localization integration

Lingoport Project Assessment - Legacy

- Uncover i18n potential issues from 2 perspectives:
 - Code perspective: Globalyzer reporting/metrics
 - Architectural: Locale/technical i18n requirements
- Allows to create the initial ‘i18n product backlog’
- Can, but does not need to be part of a Sprint
- Allows to have an overall scope and effort estimate
- Can feed into a number of processes
 - TDD, ADD, Waterfall, ... Agile
- Involve the Product Owner: communication resource

Lingoport Project Organization

Backlog identification and Scoping

- The i18n product backlog is a prioritized list of requirements, stories, features, etc.
- What the customer wants, described using the (Product Owner's) customer's terminology

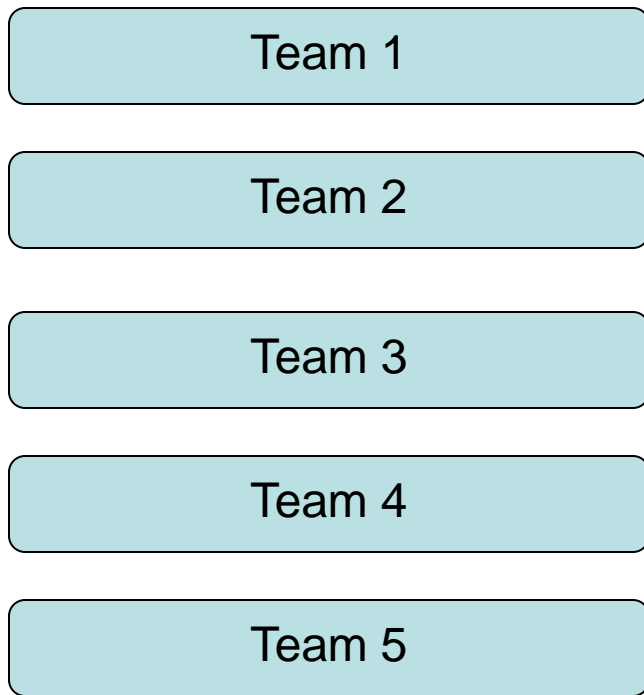
ID	Name	Imp	Est	How to demo	Notes
1	Locale Setting and Tracking	30	5	Log in,	If no login before, default locale
				Splash screen for Locale	If first time, otherwise remembers
			
			
2	Locale for languages	10	8	Log in for an 'en US' user	Locale is default
				Go to page 'www.'	
				Change Locale	Check pseudo localization
			

Lingoport Project Organization

Sprint Management

- i18n code branching
- Agile typically uses development build, CI environments
- Must pass 'regular' dev criteria
- Must be able to push i18n code branching easily and vice versa
- I18n tests must be available to other teams in CI
- Some items are more sensitive than others
 - Database schema changes and implications on all source

Continuous Integration - Basics



Dashboard [Jenkins] x

lingoport.net:9999

Jenkins

People

Build History

Build Queue

No builds in the queue.

Build Executor Status

#	Status
1	Idle
2	Idle

Lingoport CI Server

S	W	Job	Last Success	Last Failure	Last Duration
●	☀	client installer	20 min (#41)	N/A	35 sec
●		client installer clean	N/A	N/A	N/A
●	☀	client reports	12 hr (#17)	N/A	11 min
●	☀	client smoketests	11 hr (#5)	3 days 0 hr (#2)	18 min
●	☀	client source scan	5 hr 0 min (#1)	N/A	7 min 55 sec
●		Enterprise war	N/A	N/A	N/A
●		Enterprise war clean	N/A	N/A	N/A
●	☀	Flagstaff enterprise war	28 min (#22)	1 day 0 hr (#17)	1 min 26 sec

CI & Scan Results Summary

Globalyzer Scan Results. x

lingoport.net:9999/job/Globalyzer%20client%20source%20scan/lastSuccessfulBuild/artifact/c

Google Lingoport lingoport.net Globalyzer Bugzilla Lingoport Index of D:\eclipse-j...

Summary

Scan Results

- Embedded Strings
 - Active
 - Filtered
- Locale-Sensitive Methods
 - Active
- General Patterns
 - Active
- Static File References
 - Active

Summary Scan Results for project AgFix34

Summary Scan results for project AgFix34 scan JavaScan executed on 2011-02-24 07:59:46 using Rule Set smoke_java

Files Scanned	Line Count	Total Issues	Active	Invalid	Ignored	Resolved	TODO	Filtered
535	274475	17584	4191	0	0	0	0	13391

Result type Locale-Sensitive Methods, results status active, issues count 12

Pattern	Count
DateFormat\.getDateInstance	10
DateFormat\.getInstance	2
InputStreamReader	16
NumberFormat\.getNumberInstance	1
OutputStreamWriter	29
SimpleDateFormat	4
compareTo	29
compareToIgnoreCase	3
setContentTypes	1
setMnemonic	2
toLowerCase	160
toUpperCase	331

[Top](#)

Result type General Patterns, results status active, issues count 4

Pattern	Count
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CI & Scan Details Results

Globalyzer Scan Results.

lingoport.net:9999/job/Globalyzer%20client%20source%20scan/lastSuccessfulBuild/artifact/com. client.system/docs/scan-results/index

Summary

results for project

Result type Locale-Sensitive Methods, results status active, issues count 588

	Line#	Issue	Line
/database/hibernate/util/ProjectDao.java	788	toLowerCase	result.setStatus(ScanStatusType.RESOLVED.toLowerCase());
/database/hibernate/util/ProjectDao.java	1284	toLowerCase	scanResult.setStatus(ScanStatusType.FILTERED.toLowerCase(
/database/hibernate/util/ProjectDao.java	2261	compareTo	if (lastScan.compareTo(new Date(0)) == 0)
/database/hibernate/util/ProjectDao.java	2267	toLowerCase	ScanStatusType.ACTIVE.toLowerCase(), type));
/database/hibernate/util/ProjectDao.java	2269	toLowerCase	ScanStatusType.FILTERED.toLowerCase(), type));
/database/hibernate/util/ProjectDao.java	2271	toLowerCase	ScanStatusType.IGNORE.toLowerCase(), type));
/database/hibernate/util/ProjectDao.java	2273	toLowerCase	ScanStatusType.INVALID.toLowerCase(), type));
/database/hibernate/util/ProjectDao.java	2275	toLowerCase	ScanStatusType.RESOLVED.toLowerCase(), type));
/database/hibernate/util/ProjectDao.java	2277	toLowerCase	ScanStatusType.TODO.toLowerCase(), type));
/database/hibernate/util/ProjectDao.java	3406	toLowerCase	if (path != null && path.toLowerCase().startsWith(origBasePatl
/database/hibernate/util/ProjectDao.java	3406	toLowerCase	if (path != null && path.toLowerCase().startsWith(origBasePatl
/database/hibernate/util/ProjectDao.java	3413	toLowerCase	if (path != null && path.toLowerCase().startsWith(origBasePatl
/database/hibernate/util/ProjectDao.java	3413	toLowerCase	if (path != null && path.toLowerCase().startsWith(origBasePatl
/database/hibernate/util/ProjectDao.java	3420	toLowerCase	if (path != null && path.toLowerCase().startsWith(origBasePatl
/database/hibernate/util/ProjectDao.java	3420	toLowerCase	if (path != null && path.toLowerCase().startsWith(origBasePatl
/database/hibernate/util/ProjectDao.java	3427	toLowerCase	if (path != null && path.toLowerCase().startsWith(origBasePatl
/database/hibernate/util/ProjectDao.java	3427	toLowerCase	if (path != null && path.toLowerCase().startsWith(origBasePatl

Questions & Answers

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Resources

<http://www.lingoport.com>

Globalyzer

<http://www.globalyzer.com>

Blog

<http://i18nblog.com>

Join us in Santa Clara, March 15-17:

March 17:

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[IMUG Networking and Discussion](#)

Contact Chris Raulf (craulf@lingoport.com) or register at: www.lingoport.com or www.i18nblog.com