

Gaboto

Tim Pizey

Gaboto the Ideal

Gaboto is designed to answer queries of the form
"Which department occupied this building in 1952".

Temporal Logics - here be dragons

Non-Monotonic Logics are not Monotonic.

This means that true axioms cannot be relied upon to remain true when new axioms are added.

A Monotonic logic cannot contain contradictory statements

- Fred is alive
- Fred is not alive

Frame based logics

- At Time T1 Fred is alive
- At Time T2 Fred is not alive

Yale Shooting Problem

Steve Hanks and Drew McDermott (1987)

Critique of naive frame-based temporal logics.

Minimisation of change rule fails.

Solved problem: situation calculus, fluent calculus and action description languages.

Further Reading

- Nonmonotonic logic and temporal projection. Artificial Intelligence 33, no.3, pp. 379–412
- <http://www.stanford.edu/~laurik/fsmbook/examples/YaleShooting.htm>
- Tim Fernando, Entailments in finite state temporality

Gaboto as Implemented

Gaboto was implemented in a very short time by Arno Mittelbach. Arno chose to implement Gaboto using Named Graphs for Jena. Gaboto also provides a number of domain specific utilities.

Jena

Jena provides RDF, OWL and SPARQL.

Jena includes a rule-based inference engine.

Jena allows for the addition of new types and properties without the overhead of traditional RDBMSen.

Named Graphs for Jena

Jena stores all triples within a single graph.

This makes Jena only useful to store sentences of Monotonic logics.

NG4J enables multiple, named graphs to be stored within a single store.

This enables Gaboto to implement a timeframe based query engine.

Converting Faithware to Software

You should be able to change software without risk.

Unchangeable software is not soft.

Tame change with a repeatable build process, then repeat it.

Establish contract between design and implementation.

Build : Maven

Maven is the most popular Java build system.

Ant is not a Build system.

Maven introduces convention to the build process.

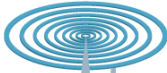
Maven Site


Erewhon Projects - About - Konqueror

File Edit View Go Bookmarks Settings Window Help

http://oucs-timp.oucs.ox.ac.uk:8080/www/

SUSE Old Transaction Analysis Cendio ThinLinc — pport for rdesktop Cable Modem Troubl Web Proxy Caches

 **Project erewhon**
[er-uh-hwon]
[erə,ˈhwɒn]


 UNIVERSITY OF OXFORD
JISC

Last Published: 2009-05-20 Hudson | Repository

OxPoints
[College map](#)
[URI Interface](#)

Gaboto
[Project](#)
[Sourceforge](#)

Mathew's
[GPSTracker](#)
[FaB](#)
[statOUCS](#)
[oxpods](#)

Built by: 

About Erewhon Projects

Erewhon subprojects.

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Maven Reports

Generated Reports

This document provides an overview of the various reports that are automatically generated by [Maven](#). Each report is briefly described below.

Overview

Document	Description
Checkstyle	Report on coding style conventions.
Cobertura Test Coverage	Cobertura Test Coverage Report.
JDepend	JDepend traverses Java class file directories and generates design quality metrics for each Java package. JDepend allows you to automatically measure the quality of a design in terms of its extensibility, reusability, and maintainability to manage package dependencies effectively.
Source Xref	HTML based, cross-reference version of Java source code.
StatSCM	Source Code Management Metrics.
Surefire Report	Report on the test results of the project.
Tag List	Report on various tags found in the code.
Test Source Xref	HTML based, cross-reference version of Java test source code.

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Coverage

The screenshot shows a web browser window titled "Coverage Report - Konqueror". The address bar displays the URL `http://oucs-timp.oucs.ox.ac.uk:8080/www/uriinterface/cobertura/index.html`. The browser's status bar at the bottom indicates "Page loaded."

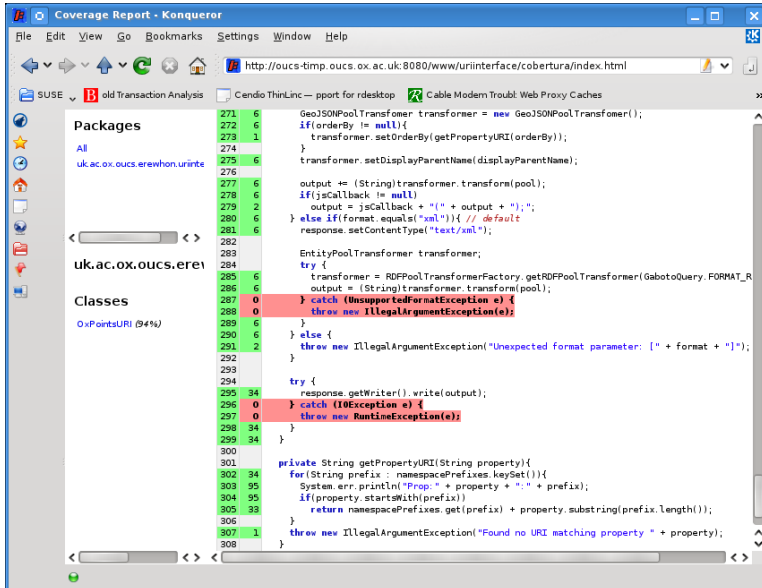
The main content area is titled "Coverage Report - All Packages" and contains a table with the following data:

Package	# Classes	Line Coverage	Branch Coverage	Complexity
All Packages	1	94% 137/146	95% 63/66	0
uk.ac.ox.oucs.erewhon.uriinterface	1	94% 137/146	95% 63/66	0

Below the table, it states: "Report generated by Cobertura 1.9 on 19/05/09 09:45."

On the left side of the browser window, there is a sidebar with a "Packages" section showing a tree view with "All" and "uk.ac.ox.oucs.erewhon.uriinte". Below this is a "Classes" section showing "OxPointsURI (94%)".

Coverage Exceptions



The screenshot shows a web browser window titled "Coverage Report - Konqueror". The address bar displays the URL: <http://oucs-timp.oucs.ox.ac.uk:8080/www/uriinterface/cobertura/index.html>. The browser window includes a menu bar (File, Edit, View, Go, Bookmarks, Settings, Window, Help) and a toolbar with navigation buttons.

The main content area displays a coverage report for the package `uk.ac.ox.oucs.erehwhon.uriinterface`. The report is organized into three sections: Packages, Classes, and a detailed view of the package's code.

Packages

Package	Lines	Statements
All	271	6
uk.ac.ox.oucs.erehwhon.uriinterface	272	6
	273	1
	274	6
	275	6
	276	6
	277	6
	278	6
	279	2
	280	6
	281	6
	282	6
	283	6
	284	6
	285	6
	286	6
	287	0
	288	0
	289	6
	290	6
	291	2
	292	6
	293	6
	294	6
	295	34
	296	0
	297	0
	298	34
	299	34
	300	6
	301	6
	302	34
	303	95
	304	95
	305	33
	306	6
	307	1
	308	6

Classes

Class	Lines	Statements
OxPointsURI (94%)	271	6

Code View

```
GeoJSONPoolTransformer transformer = new GeoJSONPoolTransformer();
if(orderBy != null){
    transformer.setOrderBy(getPropertyURI(orderBy));
}
transformer.setDisplayParentName(displayParentName);

output += (String)transformer.transform(pool);
if(jsCallback != null)
    output = jsCallback + "(" + output + ")";
} else if(format.equals("xml")){ // default
    response.setContentType("text/xml");

    EntityPoolTransformer transformer;
    try {
        transformer = RDFPoolTransformerFactory.getRDFPoolTransformer(GabotoQuery.FORMAT_R
        output = (String)transformer.transform(pool);
    } catch (UnsupportedFormatException e) {
        throw new IllegalArgumentException(e);
    }
} else {
    throw new IllegalArgumentException("Unexpected format parameter: [" + format + "]");
}

try {
    response.getWriter().write(output);
} catch (IOException e) {
    throw new RuntimeException(e);
}

private String getPropertyURI(String property){
    for(String prefix : namespacePrefixes.keySet()){
        System.err.println("Prop: " + property + ":" + prefix);
        if(property.startsWith(prefix))
            return namespacePrefixes.get(prefix) + property.substring(prefix.length());
    }
    throw new IllegalArgumentException("Found no URI matching property " + property);
}
```

Current Gaboto Coverage

Coverage Report - Konqueror

File Edit View Go Bookmarks Settings Window Help

http://oucs-timp.oucs.ox.ac.uk:8080/www/gaboto/cobertura/index.html

SUSE Old Transaction Analysis Cendio ThinLinc - pport for rdesktop Cable Modem Troub Web Proxy Caches

Coverage Report - All Packages

Package	# Classes	Line Coverage	Branch Coverage	Complexity
All Packages	112	21% 106/5152	22% 458/2080	1.191
org.oucs.gaboto	3	7% 51/780	10% 28/276	1.667
org.oucs.gaboto.beans	3	31% 16/52	0% 0/16	0
org.oucs.gaboto.entities	39	23% 188/822	11% 37/352	0
org.oucs.gaboto.entities.pool	7	0% 0/352	0% 0/174	1
org.oucs.gaboto.entities.pool.filters	6	0% 0/82	0% 0/10	0
org.oucs.gaboto.entities.time	4	0% 0/281	0% 0/126	0
org.oucs.gaboto.entities.util	11	9% 28/300	6% 10/176	0
org.oucs.gaboto.exceptions	14	0% 0/45	N/A	1
org.oucs.gaboto.helpers.ccripts	2	0% 0/38	0% 0/20	2.75
org.oucs.gaboto.helpers.ccripts.importing	1	89% 255/288	84% 140/166	0
org.oucs.gaboto.model	6	19% 107/566	14% 25/182	1
org.oucs.gaboto.model.events	3	32% 8/25	N/A	1
org.oucs.gaboto.model.listener	1	N/A	N/A	1
org.oucs.gaboto.model.query	2	0% 0/66	0% 0/49	1
org.oucs.gaboto.model.query.defined	3	0% 0/75	0% 0/4	0
org.oucs.gaboto.reflection	3	43% 92/191	49% 42/86	1
org.oucs.gaboto.sample	4	0% 0/115	0% 0/32	0
org.oucs.gaboto.timedim	3	72% 211/292	71% 172/243	0
org.oucs.gaboto.timedim.index	2	22% 11/50	5% 1/20	0
org.oucs.gaboto.transformation	3	0% 0/9	0% 0/10	2
org.oucs.gaboto.transformation.json	2	0% 0/101	0% 0/56	1.5
org.oucs.gaboto.transformation.xml	1	0% 0/104	0% 0/34	0
org.oucs.gaboto.util	7	8% 22/278	6% 3/48	0
org.oucs.gaboto.vocabulary	9	34% 82/240	N/A	1

Report generated by Cobertura 1.9.0 on 20/05/09 11:44

Address (50%)
AllEntities (0%)
BagComplexProperty (N/A)
BagLiteralProperty (N/A)
BagURIPProperty (N/A)
Building (16%)
BuildingsOccupiedByColle
Carpark (40%)
College (42%)
CollegesNearEntity (0%)
ComplexProperty (N/A)
CorruptDataException (0%)
CorruptTimeIndexExcepti
CreateClassesFromConfig
DC (0%)

Report generated by Cobertura 1.9.0 on 20/05/09 11:44



CI :Hudson

You are using CI, aren't you?

Just works

Try it.

Hudson Dashboard

Dashboard [Hudson] - Konqueror

File Edit View Go Bookmarks Settings Window Help

http://oucs-timp.oucs.ox.ac.uk:8080/hudson/

Hudson

search ?

ENABLE AUTO REFRESH

[edit description](#)

Hiya

Hudson

- [New Job](#)
- [Manage Hudson](#)
- [People](#)
- [Build History](#)
- [Project Relationship](#)
- [Check File Fingerprint](#)
- [Leader board](#)

Build Queue

No builds in the queue.

Build Executor Status

#	Status
1	Idle
2	Idle

Icon: [S](#) [M](#) [L](#)

S	W	Job ↓	Last Success	Last Failure	Last Duration
		deployjetty	21 min (#51)	N/A	6.1 sec
		erewhonSite	50 sec (#7)	3 min 52 sec (#6)	9.2 sec
		fab	5 days 19 hr (#8)	5 days 19 hr (#3)	8.2 sec
		gaboto	20 hr (#65)	2 days 17 hr (#53)	47 sec
		gabotoAnt	20 hr (#54)	8 days 21 hr (#18)	22 sec
		gpstracker	5 days 19 hr (#27)	7 days 1 hr (#22)	10 sec
		oxpods	6 days 17 hr (#1)	N/A	10 sec
		statOUCS	6 days 17 hr (#1)	N/A	8.8 sec
		uriinterface	22 min (#105)	1 day 22 hr (#53)	29 sec

Legend for all for failures for just latest builds

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Hudson Gaboto Project

gaboto [Hudson] - Konqueror

File Edit View Go Bookmarks Settings Window Help

http://oucs-timp.oucs.ox.ac.uk:8080/hudson/job/gaboto/

Hudson

Hudson » **gaboto** ENABLE AUTO REFRESH

[Back to Dashboard](#)

[Status](#)

[Changes](#)

[Workspace](#)

[Build Now](#)

[Delete Project](#)

[Configure](#)

[Modules](#)

[Subversion Polling Log](#)

Project gaboto

[add description](#)

[Workspace](#)

[Recent Changes](#)

[Latest Test Result \(no failures\)](#)

Test Result Trend

[\(just show failures\)](#) [enlarge](#)

Build History (trend)

Build #	Timestamp
#65	19-May-2009 18:16:16
#64	19-May-2009 15:46:45
#63	19-May-2009 14:02:01
#62	19-May-2009 13:47:01
#61	19-May-2009 13:16:58
#60	19-May-2009 12:16:58
#59	19-May-2009 11:32:00
#58	19-May-2009 09:46:58
#57	18-May-2009 17:16:52
#56	18-May-2009 15:46:22

Downstream Projects

[urlinterface](#)

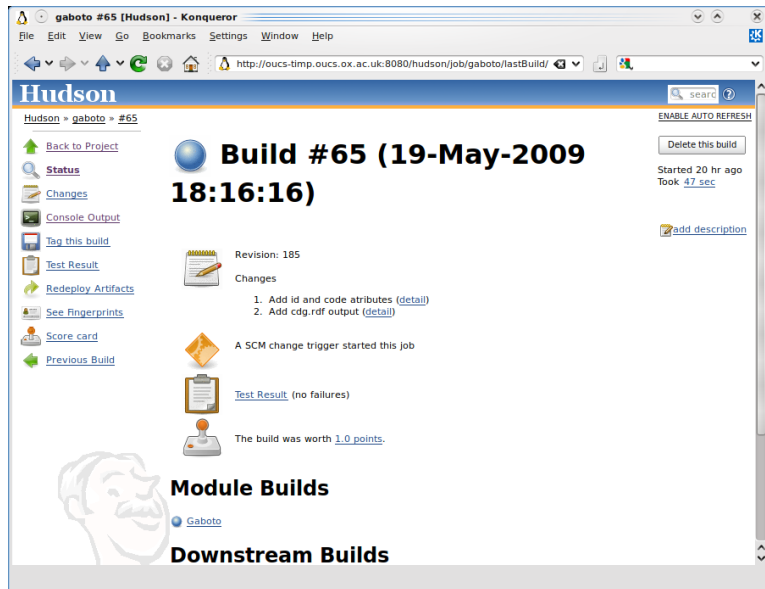
Permalinks

- [Last build \(#65\), 20 hr ago](#)
- [Last stable build \(#65\), 20 hr ago](#)
- [Last successful build \(#65\), 20 hr ago](#)
- [Last failed build \(#53\), 2 days 17 hr ago](#)



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Hudson Gaboto Build



The screenshot shows a web browser window with the address bar displaying `http://oucs-timp.oucs.ox.ac.uk:8080/hudson/job/gaboto/lastBuild/`. The page title is "gaboto #65 [Hudson] - Konqueror". The main content area features a large blue header with the word "Hudson" and a search bar. Below the header, the breadcrumb "Hudson » gaboto » #65" is visible. On the left sidebar, there are links for "Back to Project", "Status", "Changes", "Console Output", "Tag this build", "Test Result", "Redeploy Artifacts", "See Fingerprints", "Score card", and "Previous Build". The main content area displays "Build #65 (19-May-2009 18:16:16)". To the right of the build title, there are links for "ENABLE AUTO REFRESH", "Delete this build", "Started 20 hr ago", "Took 47 sec", and "add description". Below the build title, there is a section for "Revision: 185" and "Changes", which lists two items: "1. Add id and code attributes (detail)" and "2. Add cdg.rdf output (detail)". A message states "A SCM change trigger started this job". Below this, there is a "Test Result" section indicating "no failures". At the bottom, a message says "The build was worth 1.0 points." The page also includes a "Module Builds" section with a link to "Gaboto" and a "Downstream Builds" section. A faint watermark of a man's face is visible in the bottom left corner.

gaboto #65 (19-May-2009 18:16:16)

Revision: 185

Changes

1. Add id and code attributes ([detail](#))
2. Add cdg.rdf output ([detail](#))

A SCM change trigger started this job

[Test Result](#) (no failures)

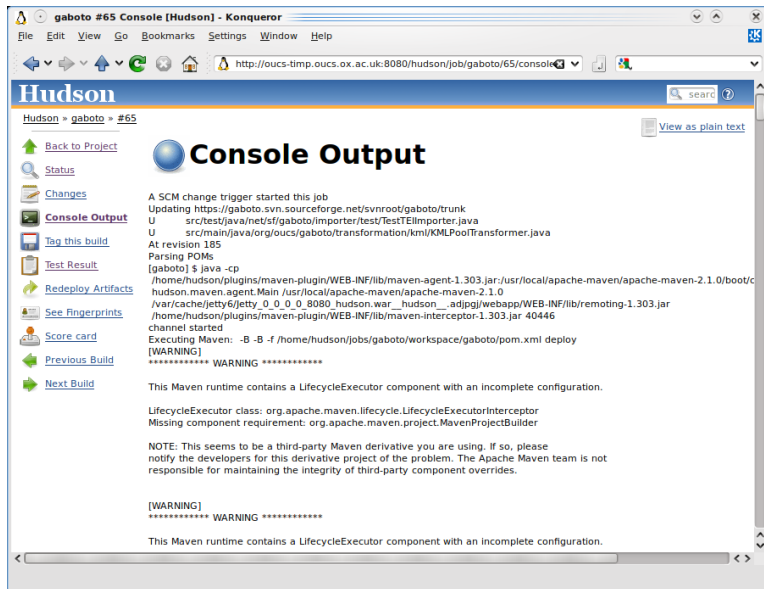
The build was worth [1.0 points](#).

Module Builds

[Gaboto](#)

Downstream Builds

Hudson Gaboto Build Console



The screenshot shows the Hudson web interface for the 'gaboto' job. The browser window title is 'gaboto #65 Console [Hudson] - Konqueror'. The address bar shows the URL 'http://oucs-timp.oucs.ox.ac.uk:8080/hudson/job/gaboto/65/console'. The left sidebar contains navigation links: 'Back to Project', 'Status', 'Changes', 'Console Output' (selected), 'Tag this build', 'Test Result', 'Redeploy Artifacts', 'See Fingerprints', 'Score card', 'Previous Build', and 'Next Build'. The main content area is titled 'Console Output' and displays the following text:

```
A SCM change trigger started this job
Updating https://gaboto.svn.sourceforge.net/svnroot/gaboto/trunk
U   src/test/java/net/sf/gaboto/importer/test/TestTEIImporter.java
U   src/main/java/org/oucs/gaboto/transformation/kml/KMLPoolTransformer.java
At revision 185
Parsing POMs
[gaboto] $ java -cp
/home/hudson/plugins/maven-plugin/WEB-INF/lib/maven-agent-1.303.jar:/usr/local/apache-maven/apache-maven-2.1.0/boot/c
hudson.maven.agent.Main /usr/local/apache-maven/apache-maven-2.1.0
/var/cache/jetty6/jetty_0_0_0_8080_hudson.war_hudson_.adjpgi/webapp/WEB-INF/lib/remoting-1.303.jar
/home/hudson/plugins/maven-plugin/WEB-INF/lib/maven-interceptor-1.303.jar 40446
channel started
Executing Maven: -B -f /home/hudson/jobs/gaboto/workspace/gaboto/pom.xml deploy
[WARNING]
***** WARNING *****

This Maven runtime contains a LifecycleExecutor component with an incomplete configuration.

LifecycleExecutor class: org.apache.maven.lifecycle.LifecycleExecutorInterceptor
Missing component requirement: org.apache.maven.project.MavenProjectBuilder

NOTE: This seems to be a third-party Maven derivative you are using. If so, please
notify the developers for this derivative project of the problem. The Apache Maven team is not
responsible for maintaining the integrity of third-party component overrides.

[WARNING]
***** WARNING *****

This Maven runtime contains a LifecycleExecutor component with an incomplete configuration.
```

The bottom of the console output is partially obscured by a watermark logo in the bottom right corner.

A Reified Contract

The continuously run Gaboto build guarantees that it conforms to its ideal.

There is no role for faith in engineering.