Graphiti Creation Review

Planned Review Date April 28, 2010

Communication Channel: Modeling Forum

Project Lead: Michael Wenz

Overview

The goal of Graphiti is to support the fast and easy creation of unified graphical tools, which can graphically display and edit underlying domain models using a tool-defined notation.

Scope

Graphiti provides

- An easy to use and well structured plain Java API for building graphical tools in RCP scenarios
- Documentation and tutorials for doing so
- Optional components beyond the RCP use case to ease e.g. IDE integration
- The ability to use any existing layout algorithms for auto layouting diagrams (GEF layouting integrated as default)

Concepts (1)

Graphiti allows definition of

- Diagram types
- Editors responsible for a diagram type

Functionality is defined by providing Features

- A Feature implements an operation for a domain object and defines in which case the operation is available
- Specialized Features for common user interactions available (add, create, delete …)

Concepts (2)

An editor is provided by writing a Diagram Type Agent

- Defines a diagram type and one or more editors for it
- Defines a set of features

Diagram Type Agent

- Is triggered by the framework for any user interaction (e.g. moving a shape, using a tool in the palette, etc.)
- Modifies domain objects and their graphical representation
- The framework reacts to those changes and updates the screen

Concepts (3)

Graphiti offers a flat learning curve

- GEF /Dram 2D APIs are hidden

Extensive functionality already implemented within the framework and default implementations

- Very little coding necessary for initial editor
- Iterative way to build an state-of-the-art graphical editing tool

Common look&feel

- Standard look&feel was designed in cooperation with usability specialists
- Standard can be changed easily

Option to support different platforms

- Rendering engine may be exchanged

Relationship to other Eclipse Projects

EMF

- Used to manage the diagram metamodel
- Preferred storage for domain model

GMP

- Graphiti will be a subproject of the new GMP umbrella project besides GMF
- Restructuring is currently happing, see Bugzilla 304589

GEF/Draw 2D

- Used for rendering diagrams

JPA Editor

- Uses Graphiti as its underlying graphical framework

Initial Committers (1)

Michael Wenz, SAP AG, Project Lead

Michael holds a diploma in computer science at TU Kaiserslautern (Germany) and works since 1998 for SAP AG within various development infrastructure projects. He started with developing Eclipse-based tools in 2002 and concentrated over the last five years in the area of Eclipse tooling infrastructure and model-driven development. He joint the Graphiti team last year.

Christian Brand, SAP AG

Christian holds a diploma in electrical engineering at TU Kaiserslautern (Germany). Since 1998 he works for SAP AG within various development infrastructure projects. He started with developing Eclipse-based tools in 2001 and concentrated over the last five years in the area of Eclipse tooling infrastructure and model-driven development. He is one of the creators of Graphiti.

Initial Committers (2)

Matthias Gorning, SAP AG

Matthias holds a diploma in computer science at University of Applied Sciences in Wiesbaden (Germany). Since 2001 he works as a Senior Developer for SAP AG within various development infrastructure projects. He started with developing Eclipse-based tools in 2001 and concentrated over the last five years in the area of Eclipse tooling infrastructure and model-driven development. He is one of the creators of Graphiti. Prior to joining SAP AG Matthias worked at Audi AG and Deutsche Bank AG.

Tim Kaiser, SAP AG

Tim works as Eclipse developer at SAP AG since 2004. His focus has been on development infrastructure tooling. Lately, he turned to graphical modeling.

He holds a doctorate in mathematics from TU Dresden (Germany).

Jürgen Pasch, SAP AG

Jürgen works as Eclipse developer at SAP AG since 1992. His focus is on developing tools with the MDSD area. Since 2005 works in SAP's modeling infrastructure development team and was involved in several projects in this area. He joined the Graphiti team last year. Jürgen holds a doctorate in computer science from TU Berlin (Germany).

Mentors

Cédric Brun – Obeo

Bernd Kolb – SAP AG

Code Contribution and Licensing

Initial code contribution

- Will come from SAP AG
- Code has been developed over the last 5 years within Graphiti team at SAP AG
- Several SAP tools already use the framework today

Licensing

- All source code will be released using EPL license

IP Policy

Graphiti will use the parallel IP process

- No IP issues expected since all coding is currently owned by SAP AG

Plan

EclipseCon 2010

Project Presentation

June 2010

First incubator version available

Graphiti aims to participate in the annual Eclipse release train starting 2011

Graphiti Proposal -
http://www.eclipse.org/proposals/graphiti/

Modeling Forum -
http://www.eclipse.org/forums/modeling

Introductory talk at EclipseCon 2010 –
http://www.slideshare.net/michaelwenz/short-talk-on-graphiti-at-eclipsecon-2010

Restructoring of the EMF project (bundling graphical modeling projects) -
https://bugs.eclipse.org/bugs/show_bug.cgi?id=304589