FUNCTION POINT MODELER

TAKE A LOOK INSIDE YOUR SOFTWARE

White Paper

Function Point Modeler™

Enterprise Edition

A Software Lifecycle Management Tool

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Introduction

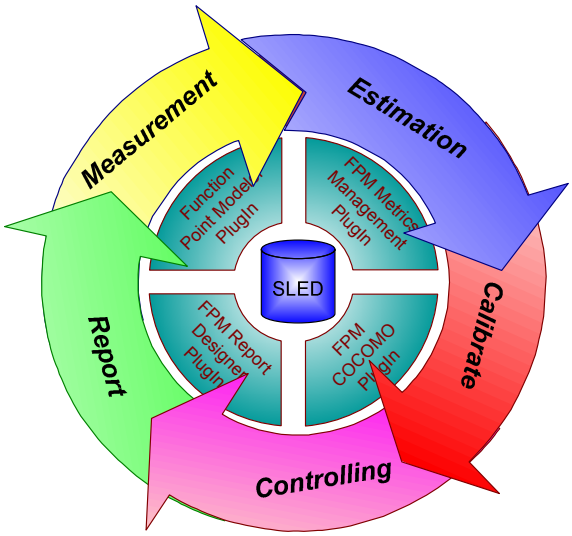
The Purpose of this paper is to give you an overview of the new ***Function Point Modeler™ Enterprise Edition***. It also summarizes the plug-ins of ***Function Point Modeler™ Enterprise* Edition** and presents some of the core features of this current version.

Overview

It is very important for IT companies to identify the software process, product and project metrics. A metric is a characteristic of a process, product and project to enhance business decisions in IT companies.
Function Point Analysis measures Software by measuring functional requirements. The Function Points are the foundation of Software metrics, but not the only one. There are another set of "*Software Metrics*" which are derived from technical requirements and quality requirements. The Software Project Metrics are to be identified from different aspects (like personnel, process, etc.). It is also very important for IT companies to manage these metrics centralized in order to make the best business decisions about processes and products.

Why *Function Point Modeler™ Enterprise Edition*

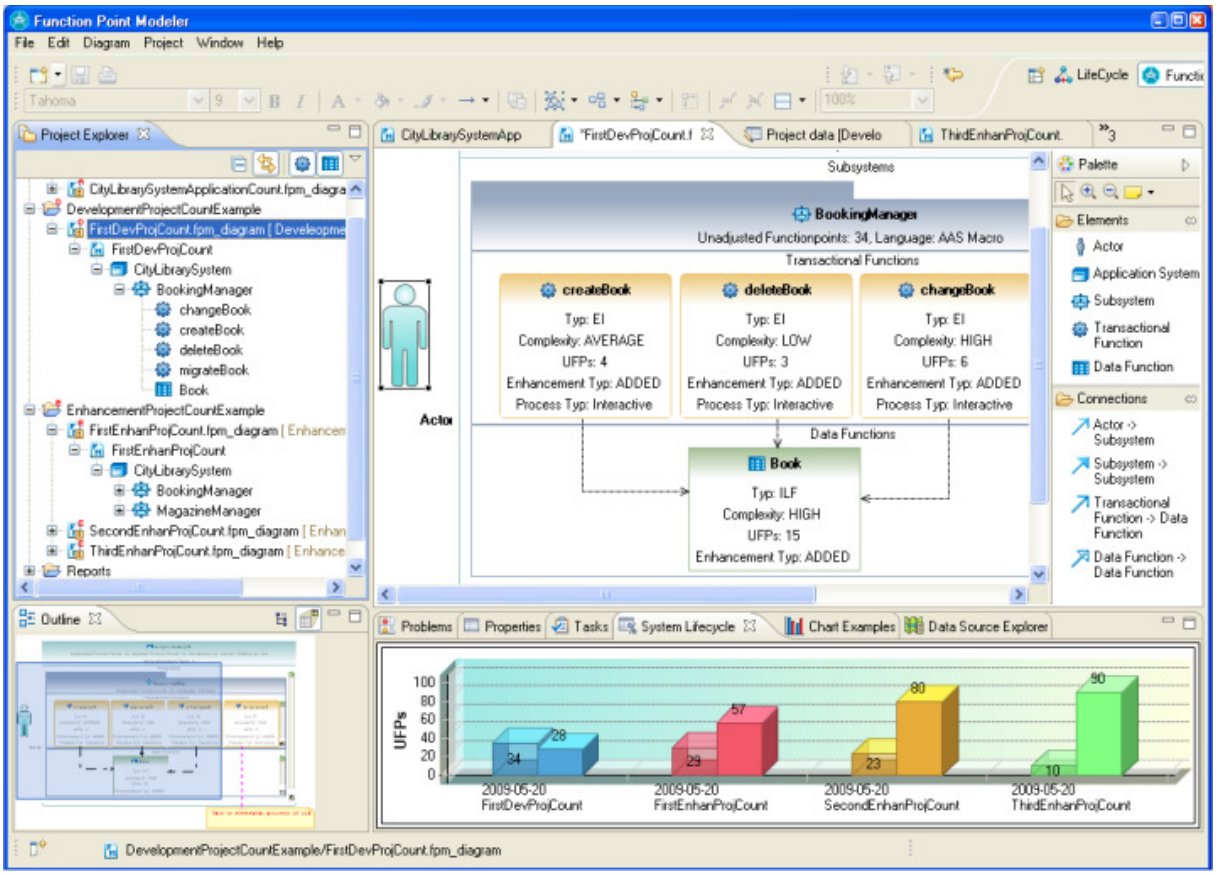
Function Point Modeler™ **Enterprise Edition** is the only product on the market today which not only counts or estimates software but also manages the whole IT-Metrics (Project, Product and Process Metrics) centralized in your company. It includes the following modules (plug-ins) :



- ***Function Point Modeler™*** conforms to the IFPUG ***C***ounting ***P***ractices ***M***anual (CPM),
- ***Function Point Modeler Metrics Management™*** is a metrics management tool with Software Life Cycle Experience Database (SLED) to manage whole metrics in your company,
- ***Function Point Modeler COCOMO II ™*** conforms to the COCOMO II. Your project estimates and factor calibrations are based on your data in the SLED.
- ***Function Point Modeler Report Designer™*** is a powerful report designer tool which allows you to create very complex reports from the SLED to meet nearly all business requirements in your company.
- ***Function Point Modeler Project Controlling™*** is based on Earned Value Management Method and is going to be included with the next release.

Function Point Modeler™

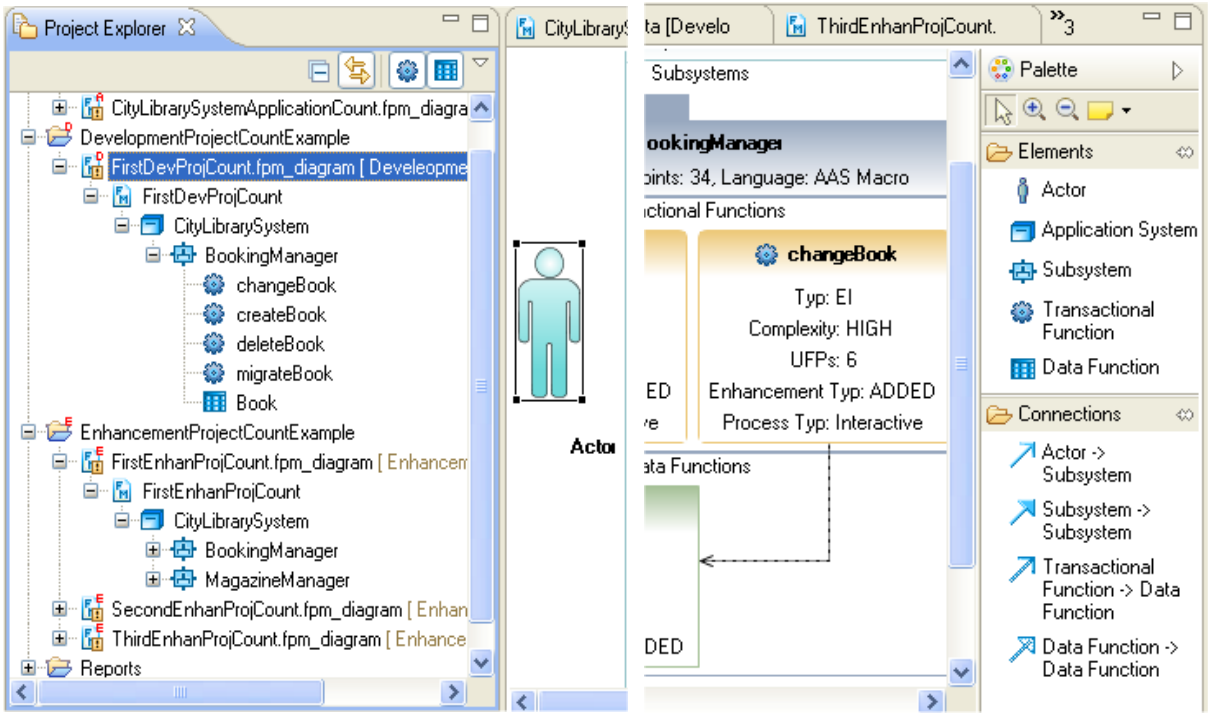
Function Point Modeler™ conforms to the IFPUG CPM. **Function Point Modeler**™ is designed by Certified Function Point Specialists to meet all project function point measurement requirements of a Function Point Specialists.



Function Point Modeler Perspective

UML like Syntax

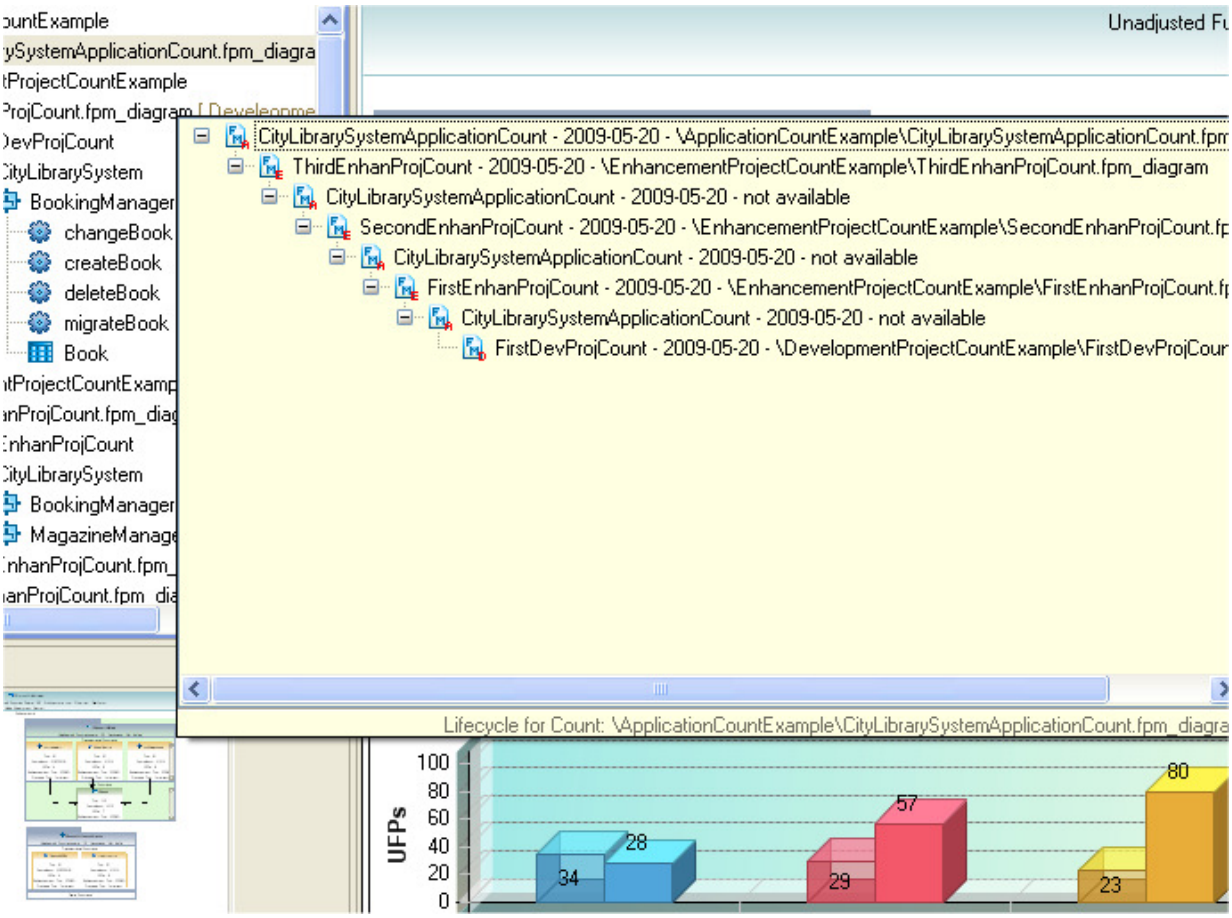
Function Point Modeler™ is the first Function Point Modelling tool that is based on the open source technology developed by the **Eclipse Graphical Modelling Framework** (GMF) project. Most of the **UML** modelling tools like **IBM Rational Software Architect (RSA)**, **Visual Paradigm**, etc are also based on the same platform. That means that they are easy to be integrated with each other and have same style guide and widgets. It also makes it very easy to use **Function Point Modeler™** without learning any syntax.



Function Point Modeler Project Explorer & Palette

IFPUG Counting Practices Manual (CPM) 4.2. and 4.x

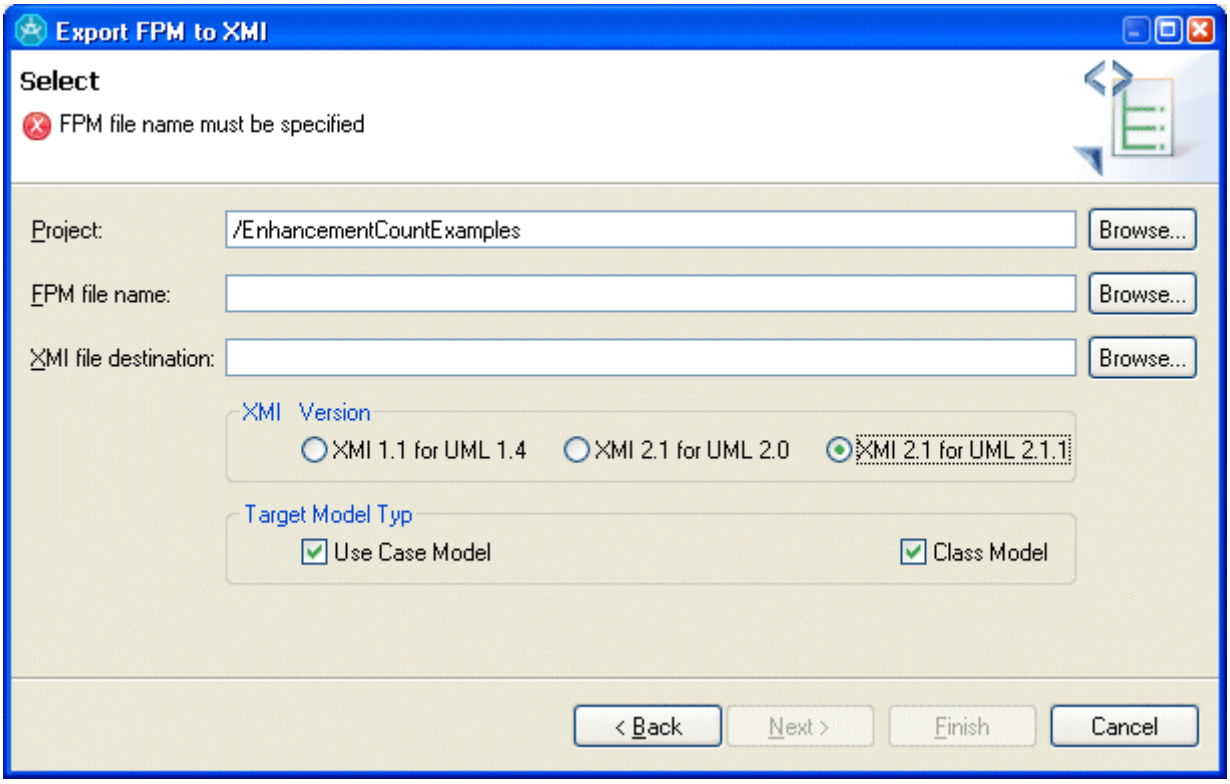
Function Point Modeler™ includes formulas to calculate the *three* types of function point counts—*development project, enhancement project, and application* according to *CPM 4.2. and 4.x*.



Function Point Modeler Enhancement Count from Application Count

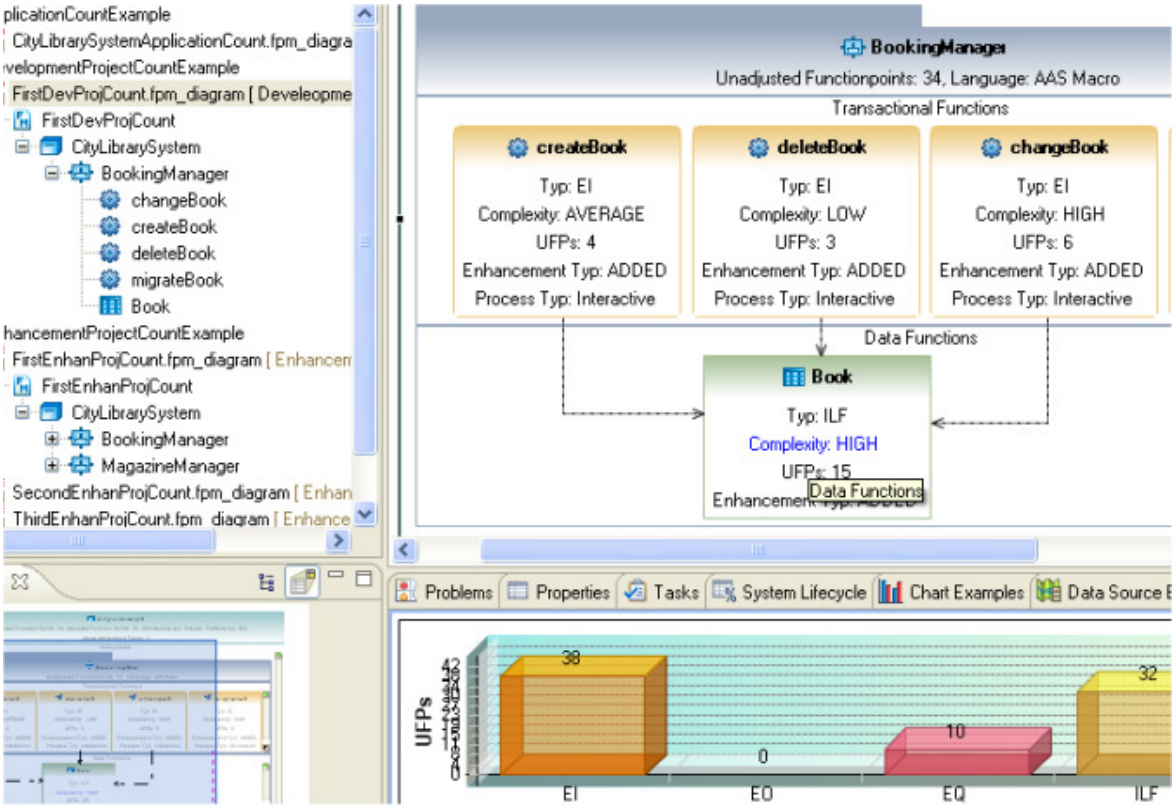
Support Model Driven Architecture

Function Point Modeler™ supports the **Model Driven Architecture** (MDA). **Function Point Modeler**™ is the first product to combine Function Point Model with other Models over XMI-API (*Use Case* Model, *Business Object Class* Model and *Data* Model).



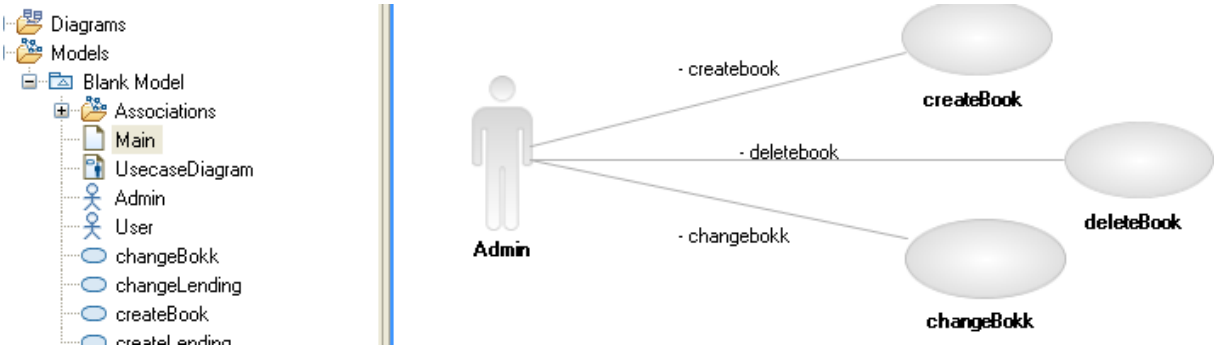
Function Point Modeler XMI (UML) Export / Import Wizard

Function Point Modeler™ supports MDA by using *XMI* **import/export**. The *XMI* describes *UML* models. **Function Point Modeler**™ exports its Function Point Model to *UML Use Case* Model or *Class* Model by using *XMI* standard for *UML*.



A Function Point Model in the Function Point Model (the model is exported / imported from IBM Rational Software Architect)

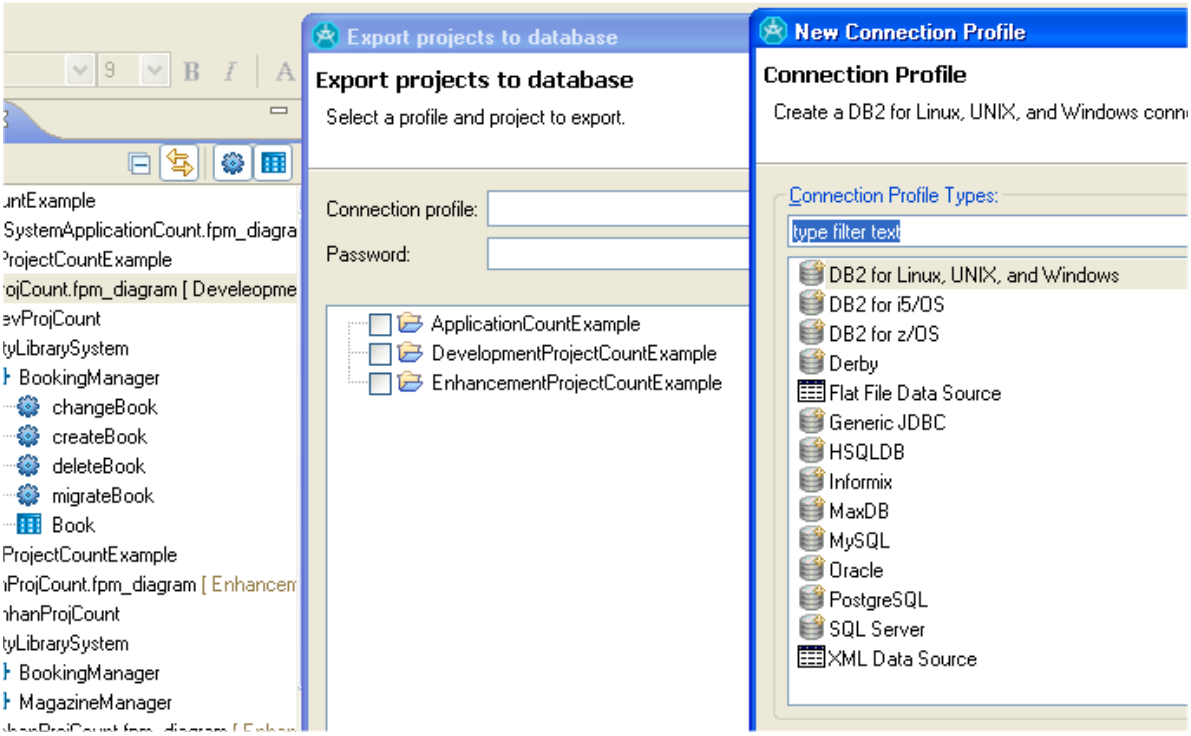
The MDA support means that **Function Point Modeler™** can **export/import** its Function Point Model to/from any XMI compliant UML modelling tool.



A Use Case Model in the IBM Rational Software Architect (the model exported/imported from Function Point Model)

Multi-user File or Database

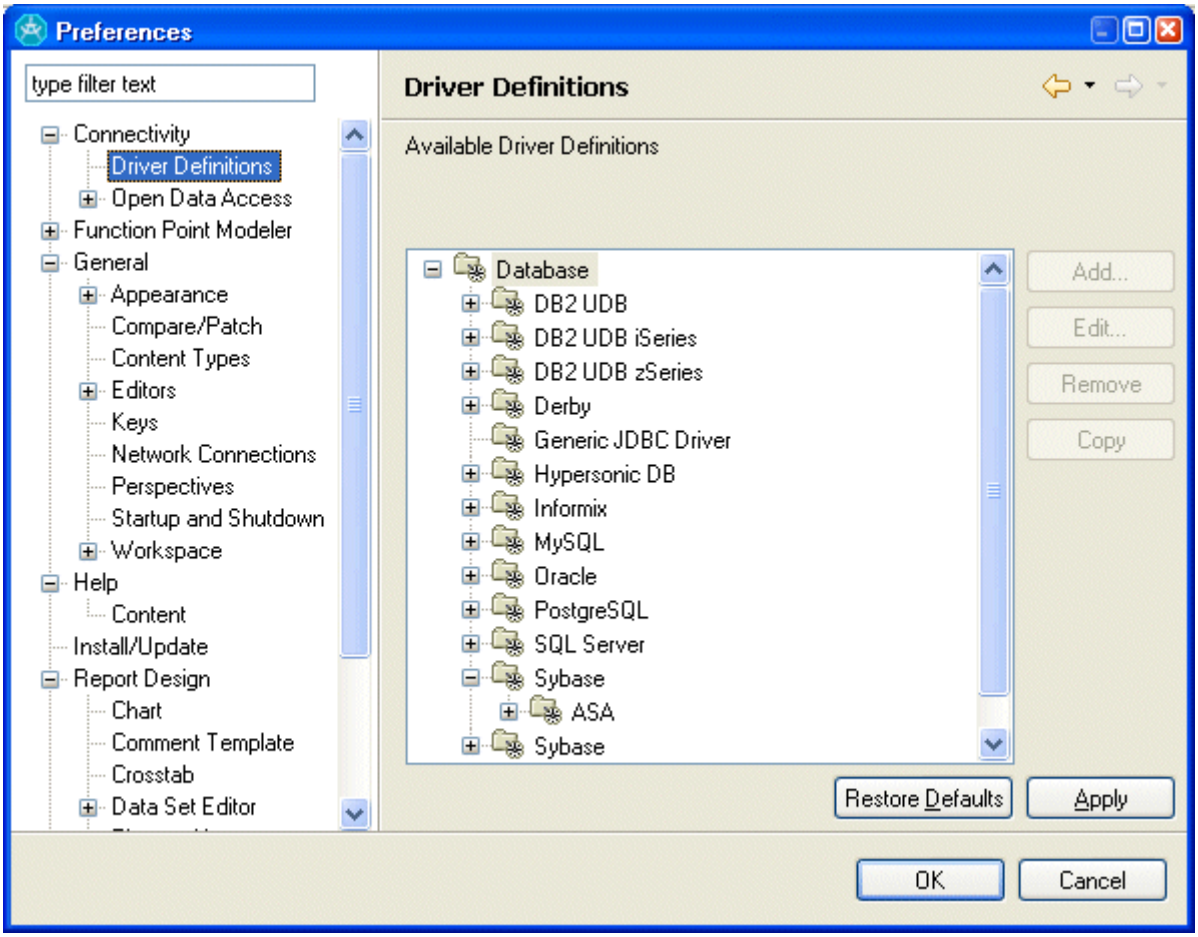
Function Point Modeler ™ saves the diagram default into the file system in your PC. You can also **export/import** this diagram file to any relational database management system (**RDBMS**).



Export / Import from / to any RDBMS

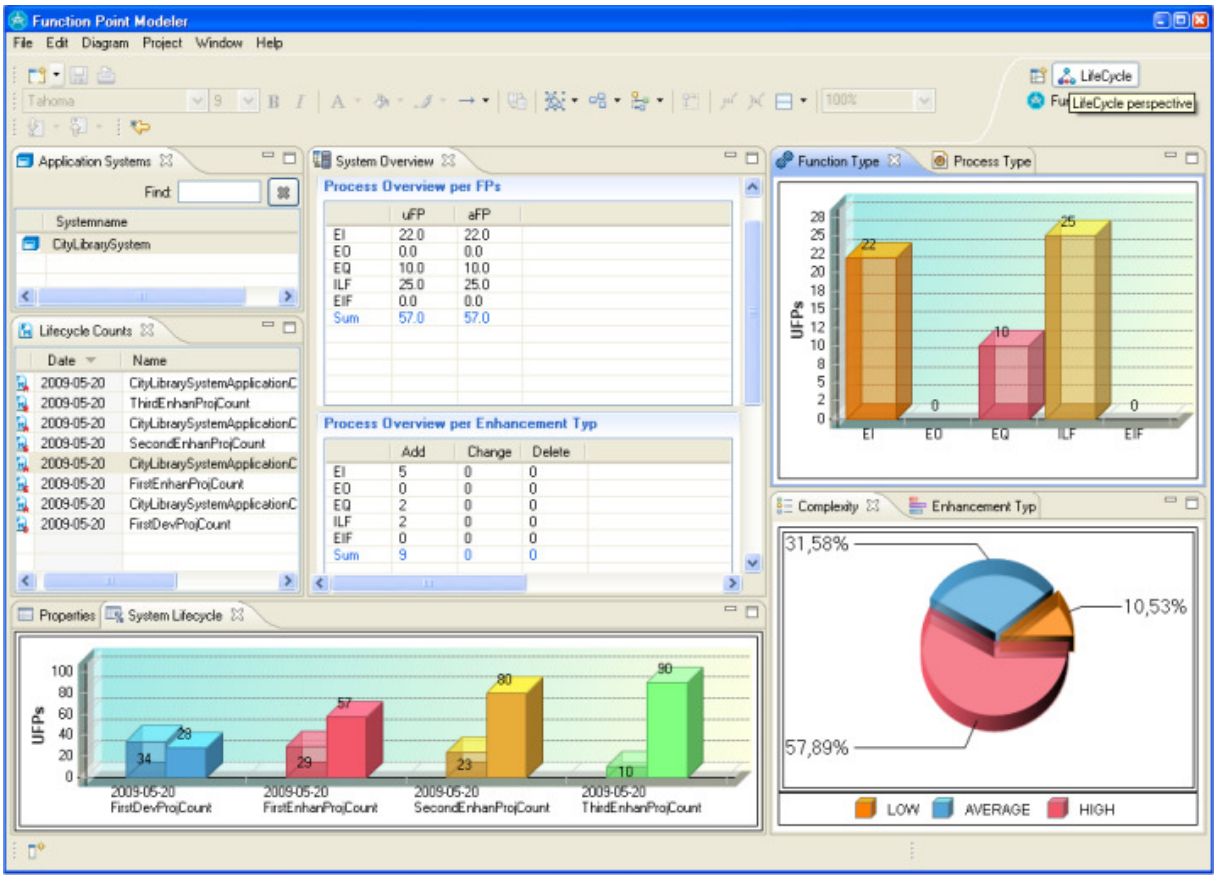
Function Point Modeler Enterprise™ also enables you to set up a ***Software Life Cycle Experience Database*** (SLED) in your company without any effort, since the data model of the SLED is the same model of the objects in the Function Point Modeler.

Function Point Modeler Enterprise™ supports the most RDBMS.



Function Point Modeler Supports the most RDBMS

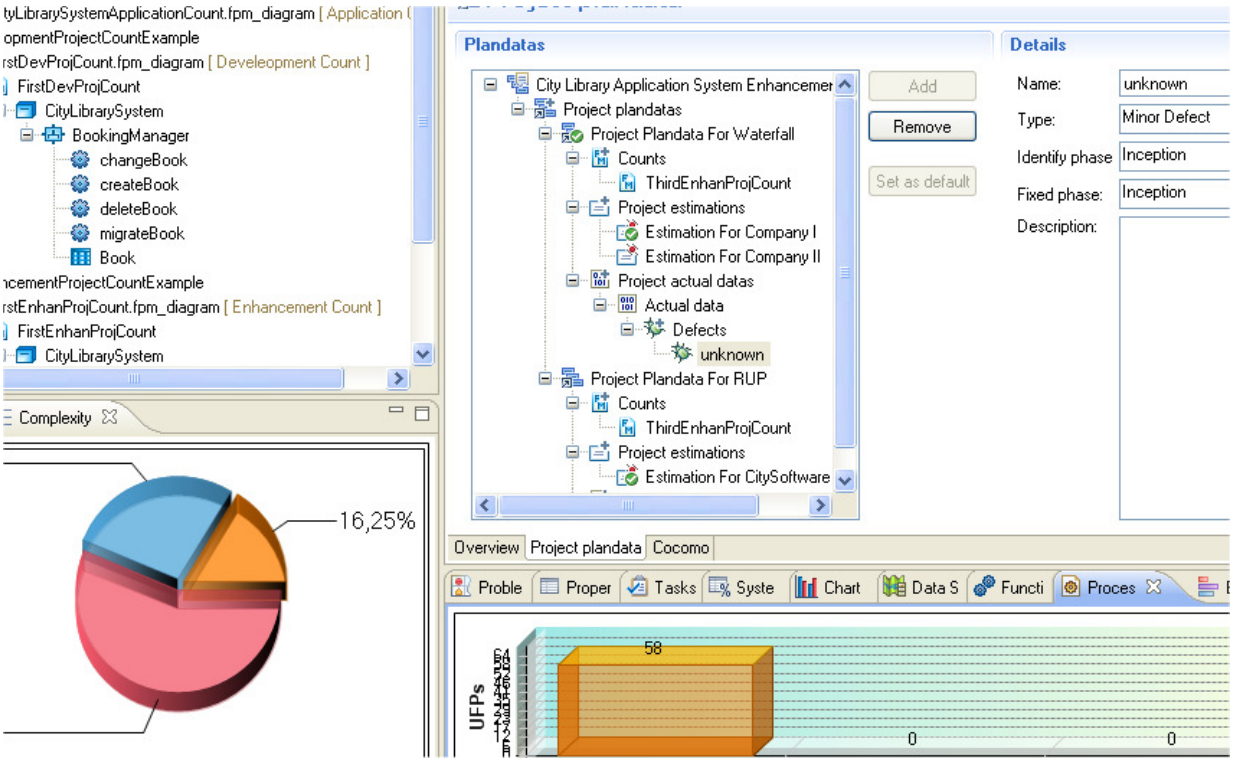
Function Point Modeler™ also manages the lifecycle of the *Elementary Processes*, *Logical Files*, *Sub Systems* and *Application Systems*. Each of this has its *unique key*. This unique key enables us to track the lifecycle of this components from the beginning (*creation or development time*) to the end (*deletion or end-of-life*). You are the able to track the **functional growing** of your application system as well as its cost during its life.



Function Point Modeler Application System Lifecycle Perspective

Function Point Modeler Metrics Management™

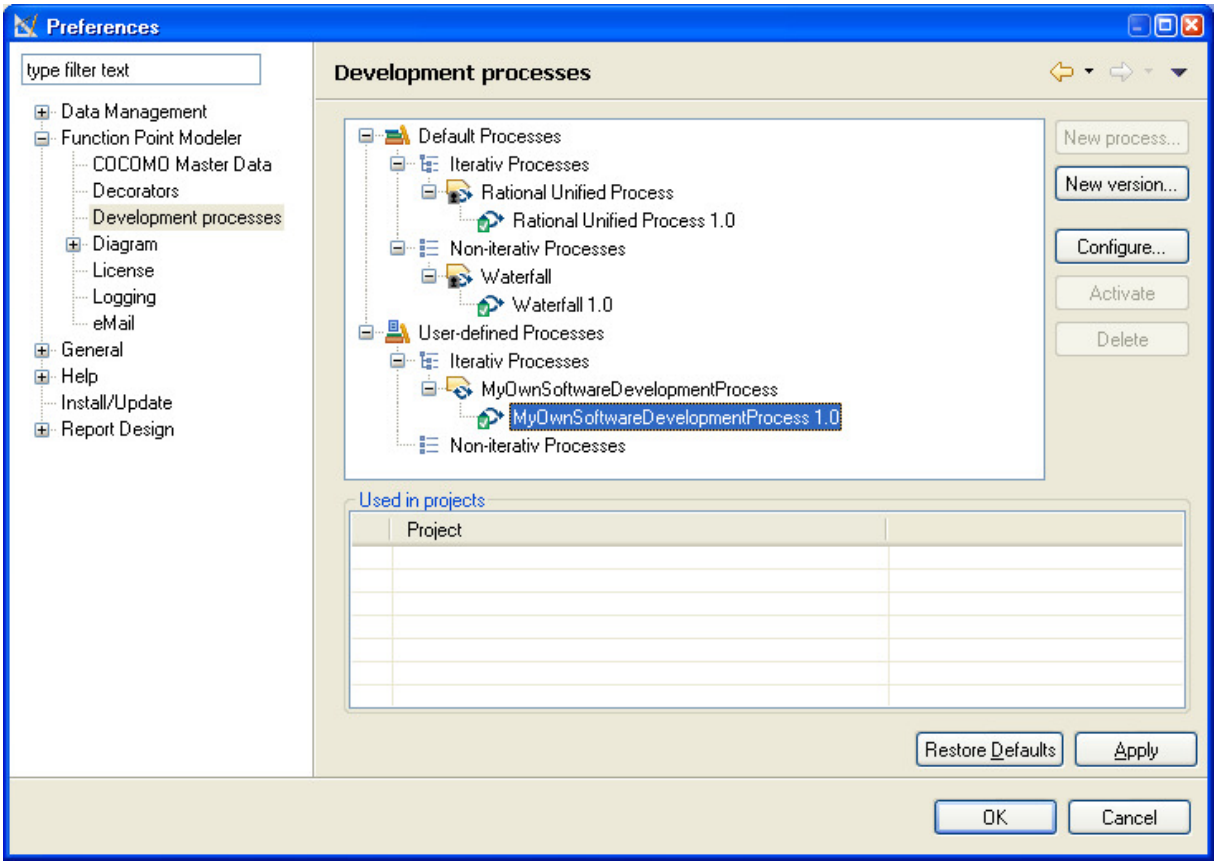
Function Point Modeler™ Metrics Management tool gives you insight into the key process, project and product metrics within your company. The Metrics Database (SLED) is designed to meet the needs of a wide range of product, process and project metrics. It delivers significant metrics about product, process and project.



Function Point Modeler Metrics Management Perspective

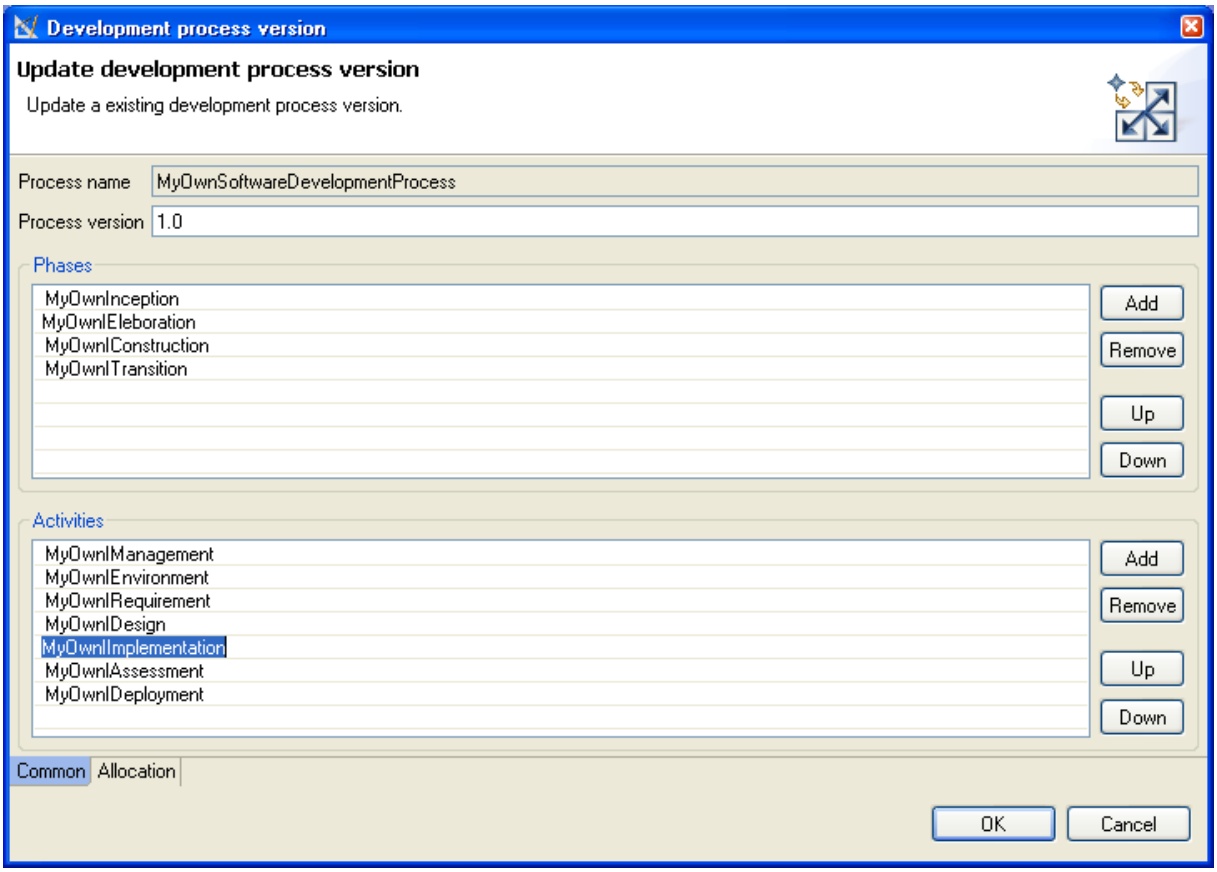
Define and customize the software development process

Function Point Modeler Enterprise Edition allows you to manage the software development process in your company.



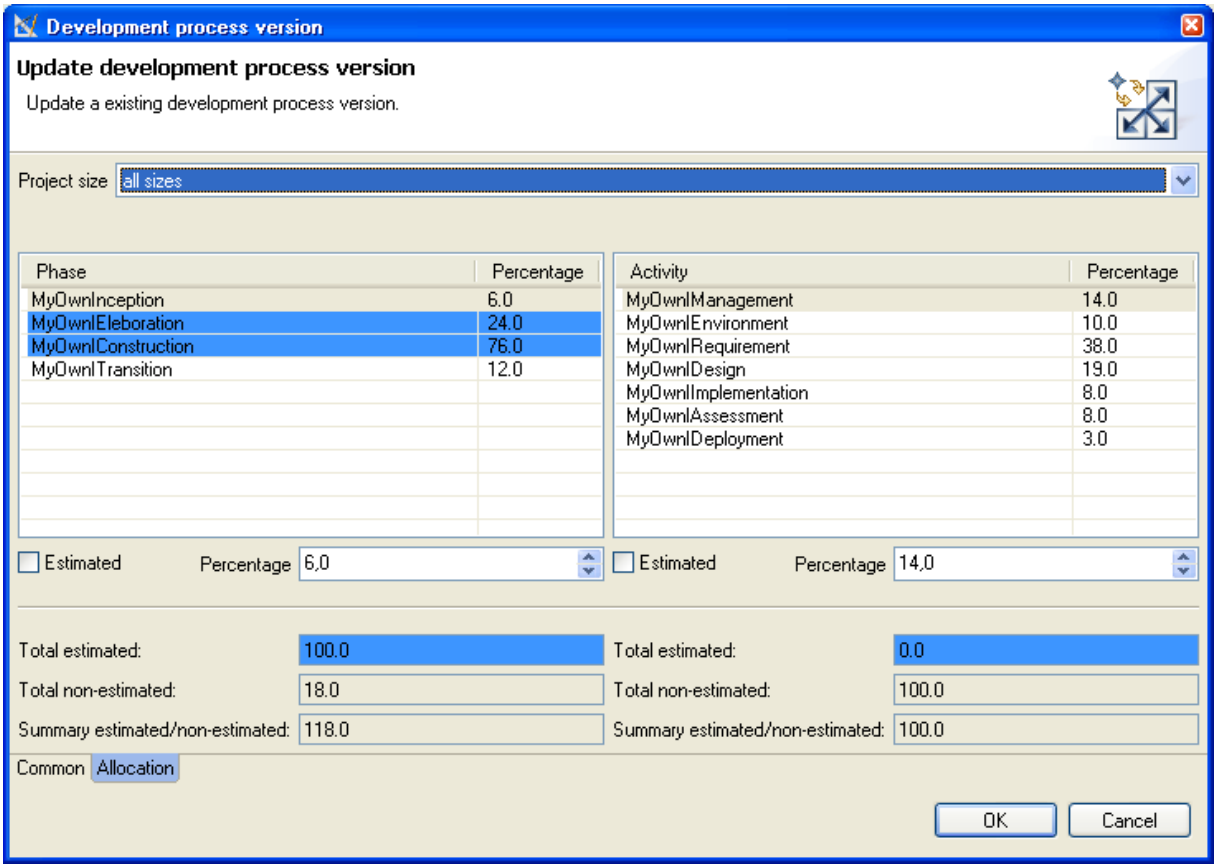
Software Development Process Editor

You can also define the phases and activities of the software development process.



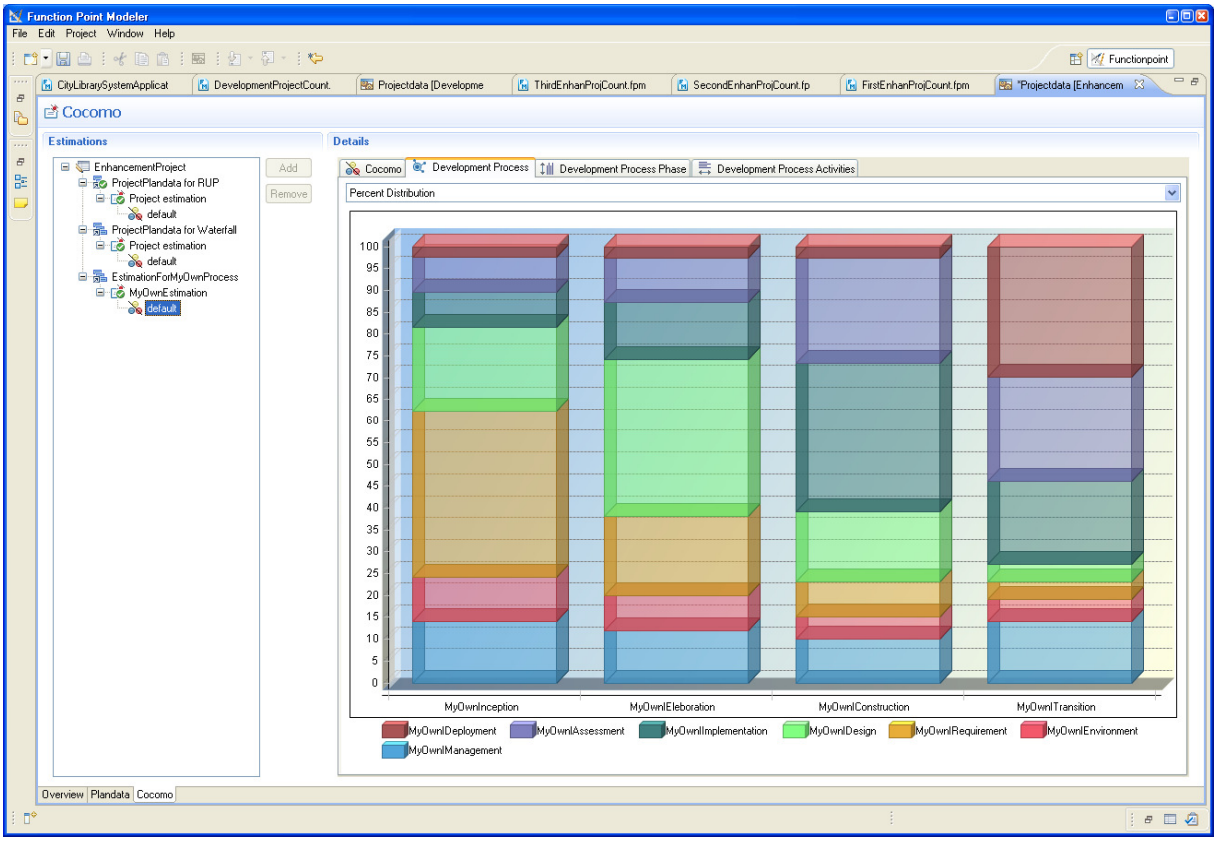
Software Development Phases & Activities Editor

You can also change the **estimation distribution** for each phase or activity.



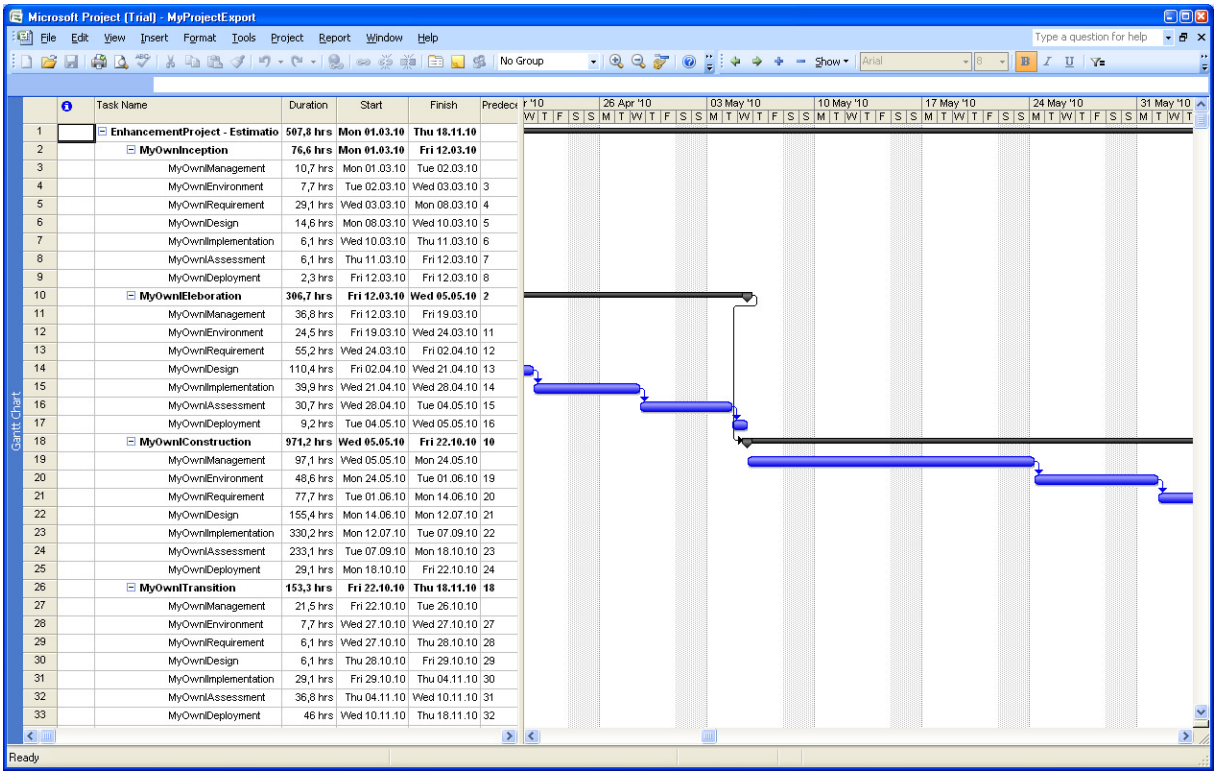
Software Development Phases & Activities Customizing Editor

The estimation is now distributed based on the new **defined software development process**.



COCOMO Estimation Distribution based on the Software Development Process

You can also **export** the estimations to any project management tool e.g. **MS Project** as project plan.

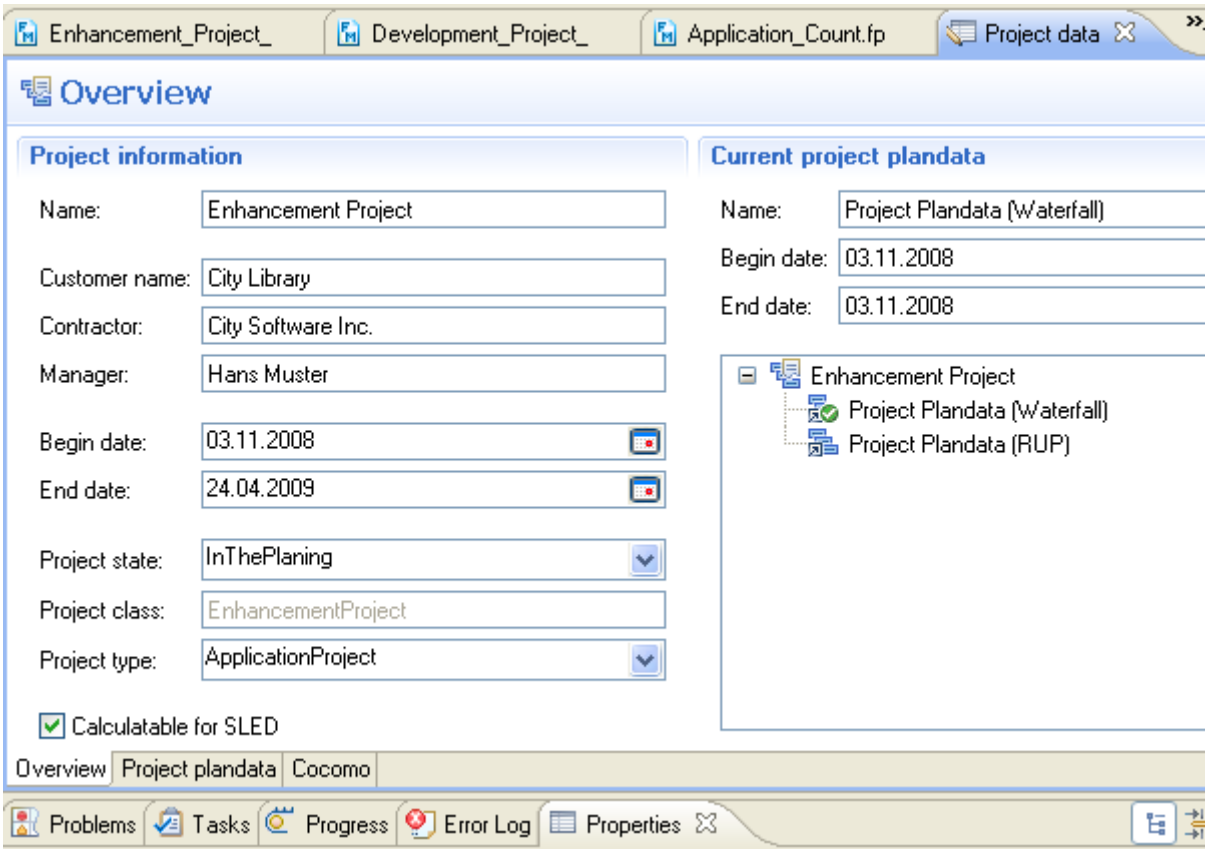


You project plan in MS-Project based on the COCOMO Estimation Distribution

Project plan data

When the project begins, you collect all project and product relevant data in the SLED. You can make several estimation scenarios for different development processes (*Rational Unified Process or Waterfall*) based on COCOMO II. ***Function Point Modeler™ Metrics Management*** tool supports default *Rational Unified Process and Waterfall* Software development processes.

If you have other development processes in your company, **NO PROBLEM**! ***Function Point Modeler Metrics Management*** will be customized for your development process very easily. You can also create your own specific development process for your company.



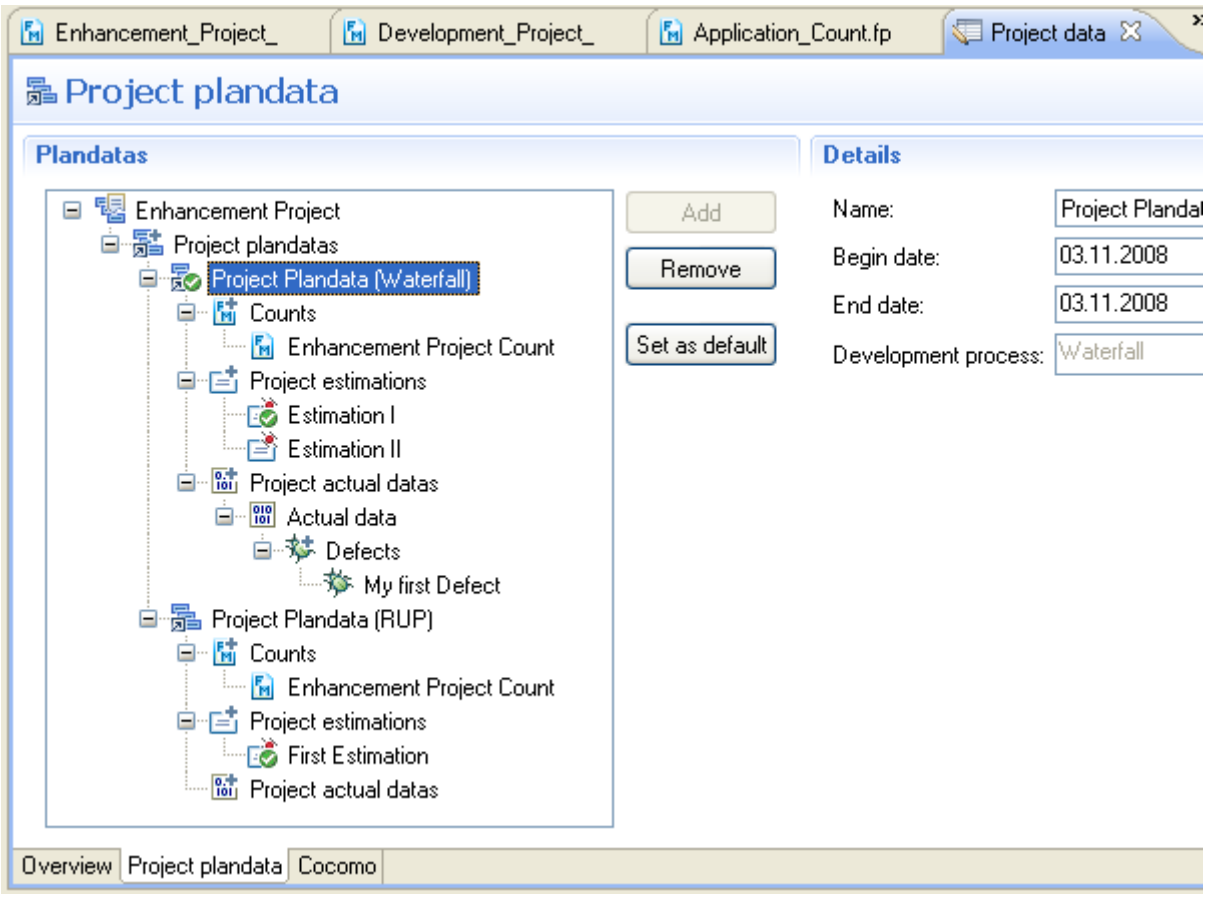
Project Overview

Project actual data

During the project or after the project finishes, you have to collect your actual project data according your development process (phase & activity oriented). The Architecture of ***Function Point Modeler™*** makes it very easy to integrate with other existing project management tools in your company. ***Function Point Modeler™*** can be integrated with your existing environment via a Web Service, JMS, JDBC, etc. to automate the collection of the actual project data from other systems in your company.

Project controlling

In the next release ***Function Point Modeler™*** **Enterprise Edition** will include a new Project Controlling Plug-In, based on the Earned Value Management (EVM). This will enable real time project control, based on the other ***Function Point Modeler™*** artefacts (**M**easured, **E**stimated and **C**ontrolled)



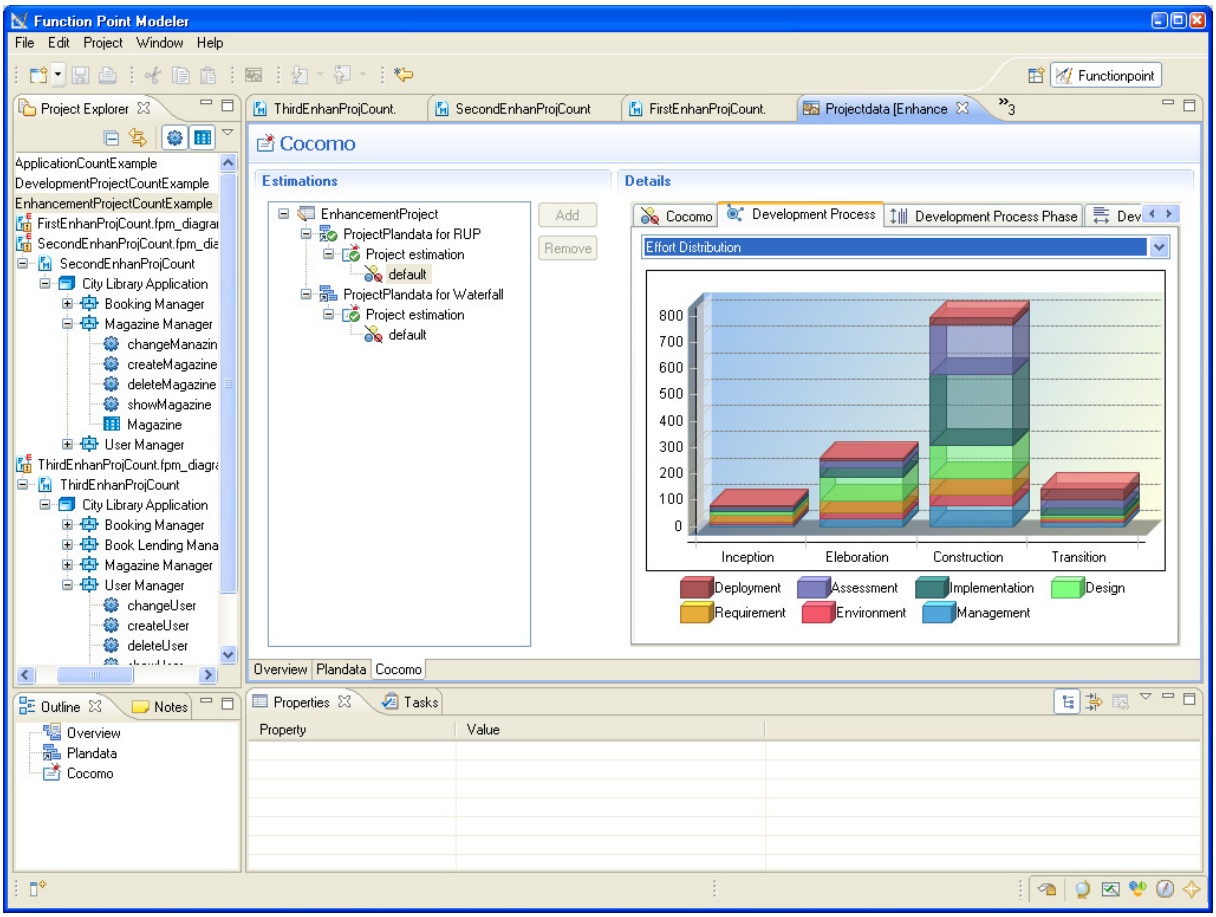
Project Estimation Editor

Customizing & Extendibility

If ***Function Point Modeler™*** data model does not meet the requirements in your organisation or you have other metrics in your organisation. **NO Problem**! ***Function Point Modeler™*** architecture will make it easy for you to customize you company data to the Metrics Database (SLED).

Function Point Modeler COCOMO II™

IT project estimation is the largest challenge that software industries are facing. Because of high project costs we have to estimate with more precision . We also have to improve our processes to reduce project cost and to increase the quality of the software.



Function Point Modeler Cocomo Perspective

To fulfil all these requirements, IT companies need to collect their project experiences in an IT system which enables them to estimate projects with more precision and to locate problems in the processes. There are four fundamental estimation rules to be followed by IT-companies:

1. Quantifying the project cost factors in your company,
2. Set up an estimation method based on your own software development processes and data,
3. Build your own experiences database with your own product, project & process data from your own company,
4. Calibrate your method/factors based on your own experiences database.

Another estimation method and tool with unknown project data and unknown processes from foreign countries and foreign companies can not be used to estimate your project in your company accurately. ***Function Point Modeler™*** **Enterprise Edition** provides you the infrastructure to meet all these requirements.

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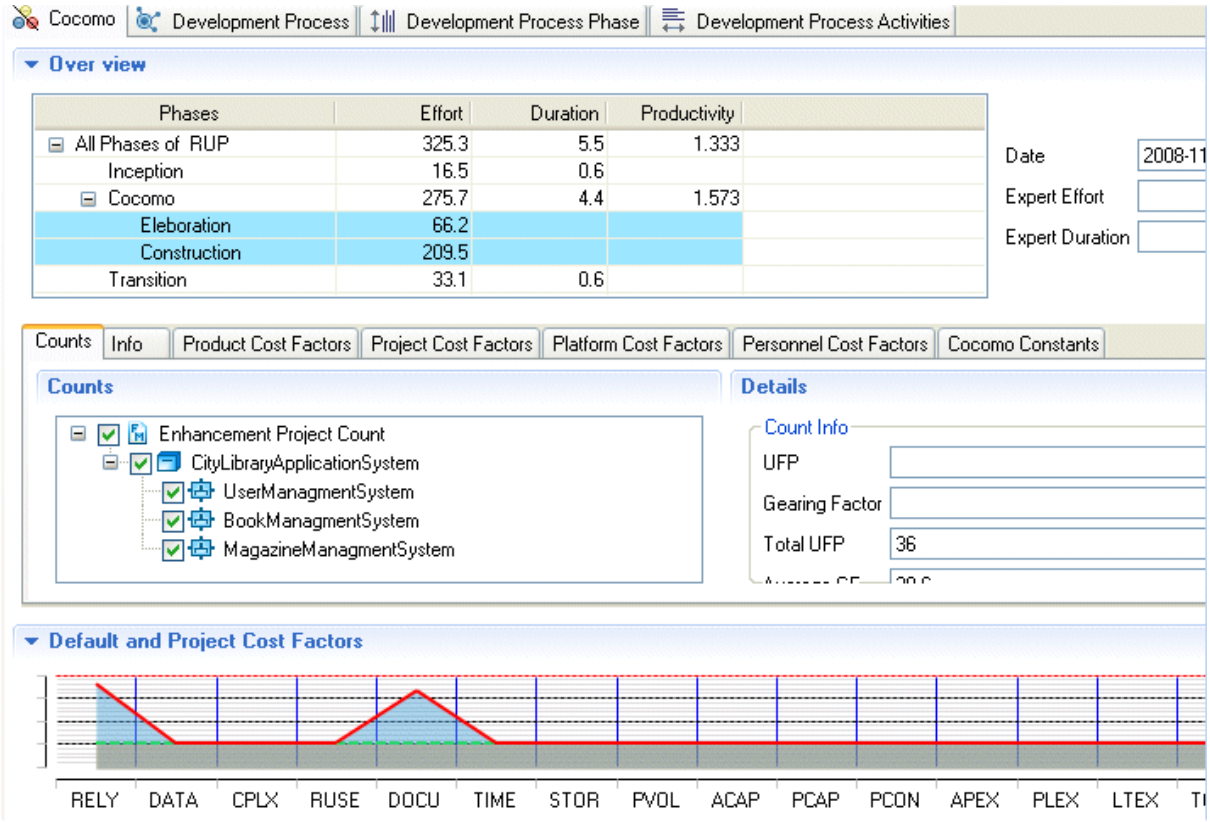
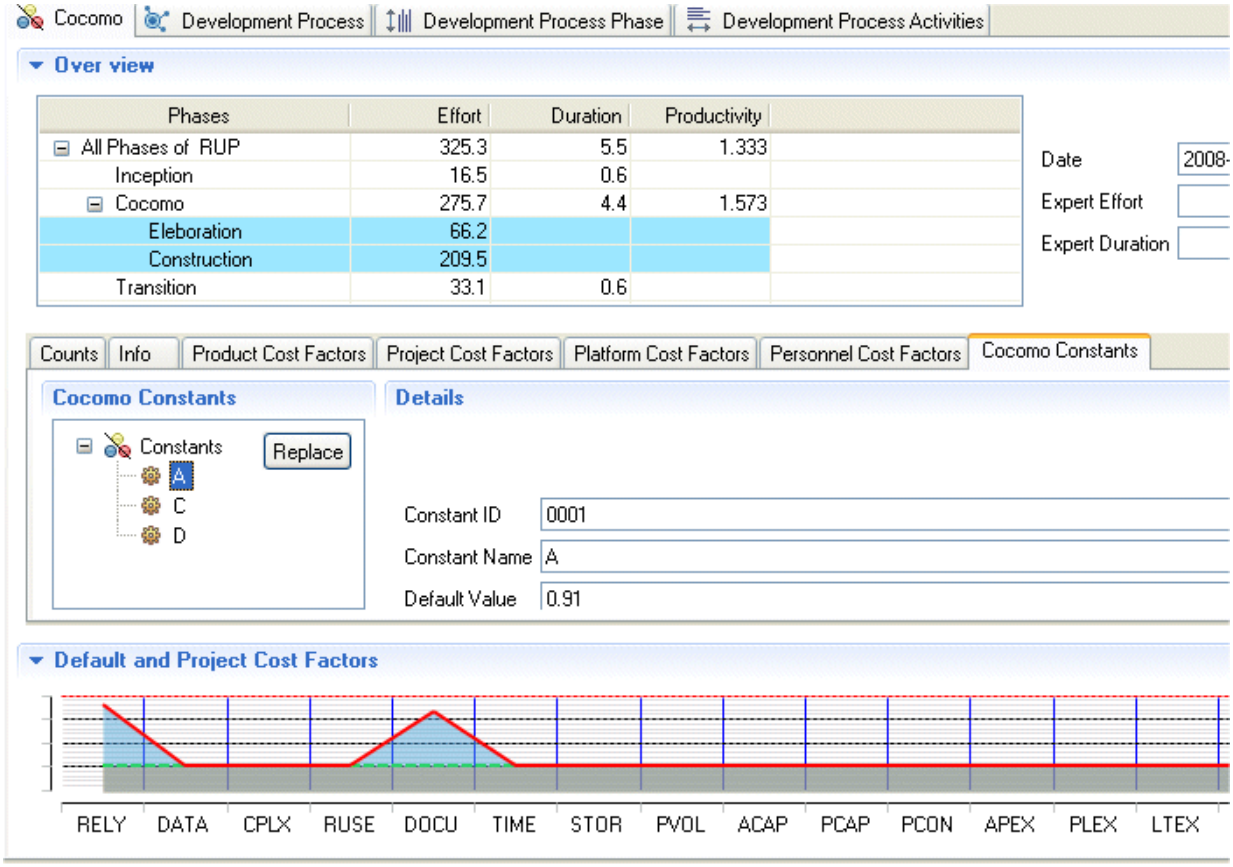
***Function Point Modeler™* Enterprise Edition** includes a estimation tool that conforms to COCOMO II, which supports Rational Unified Process and Waterfall Method. All these project COCOMO Cost factor settings are saved in your SLED.

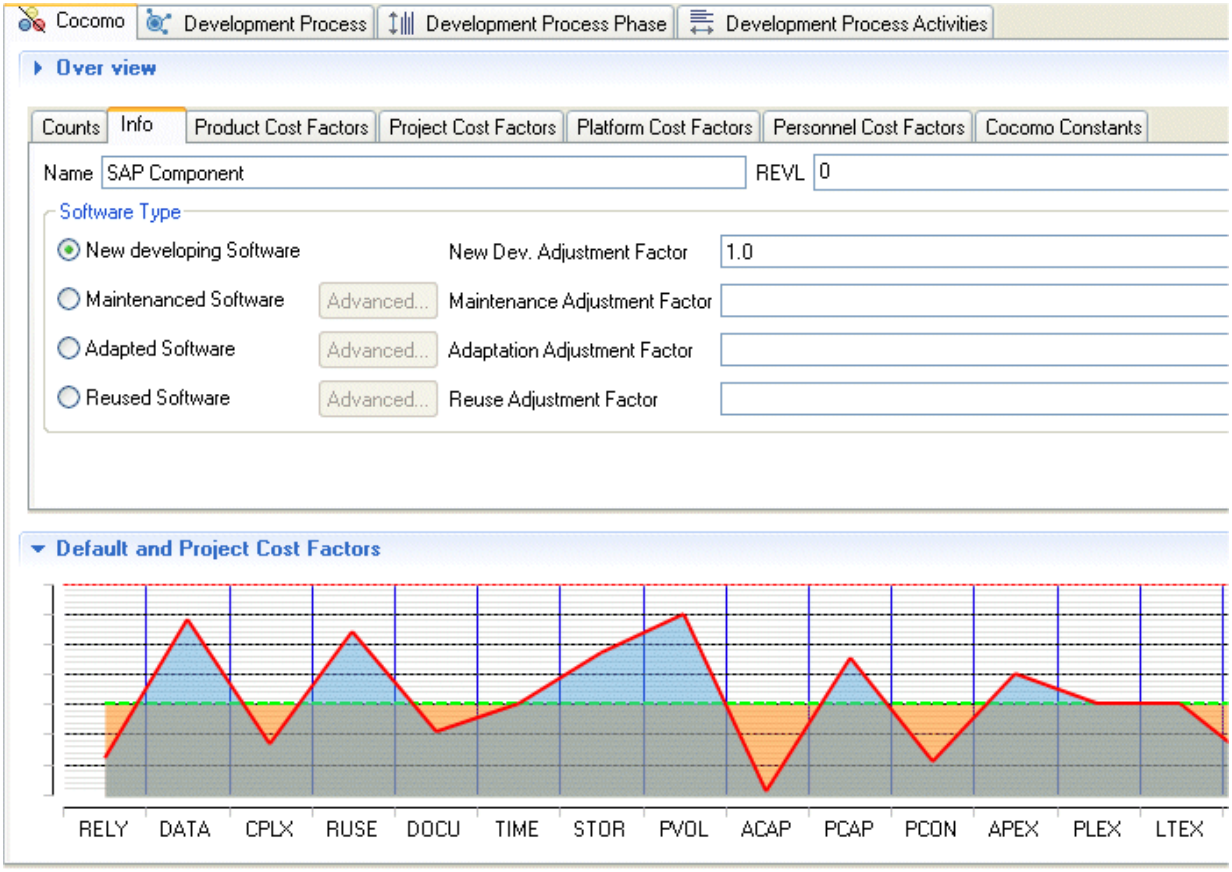


Function Point Modeler Cocomo Editor

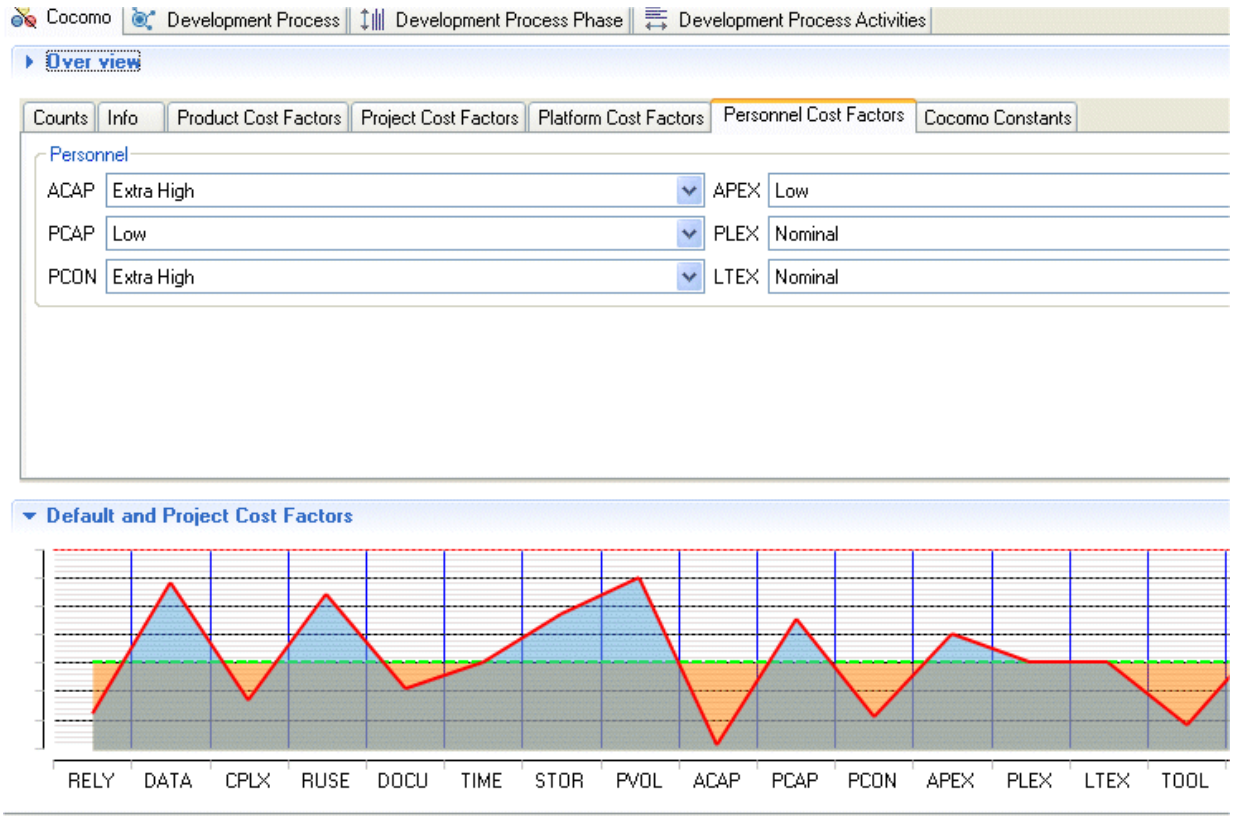


Function Point Modeler Cocomo Constants

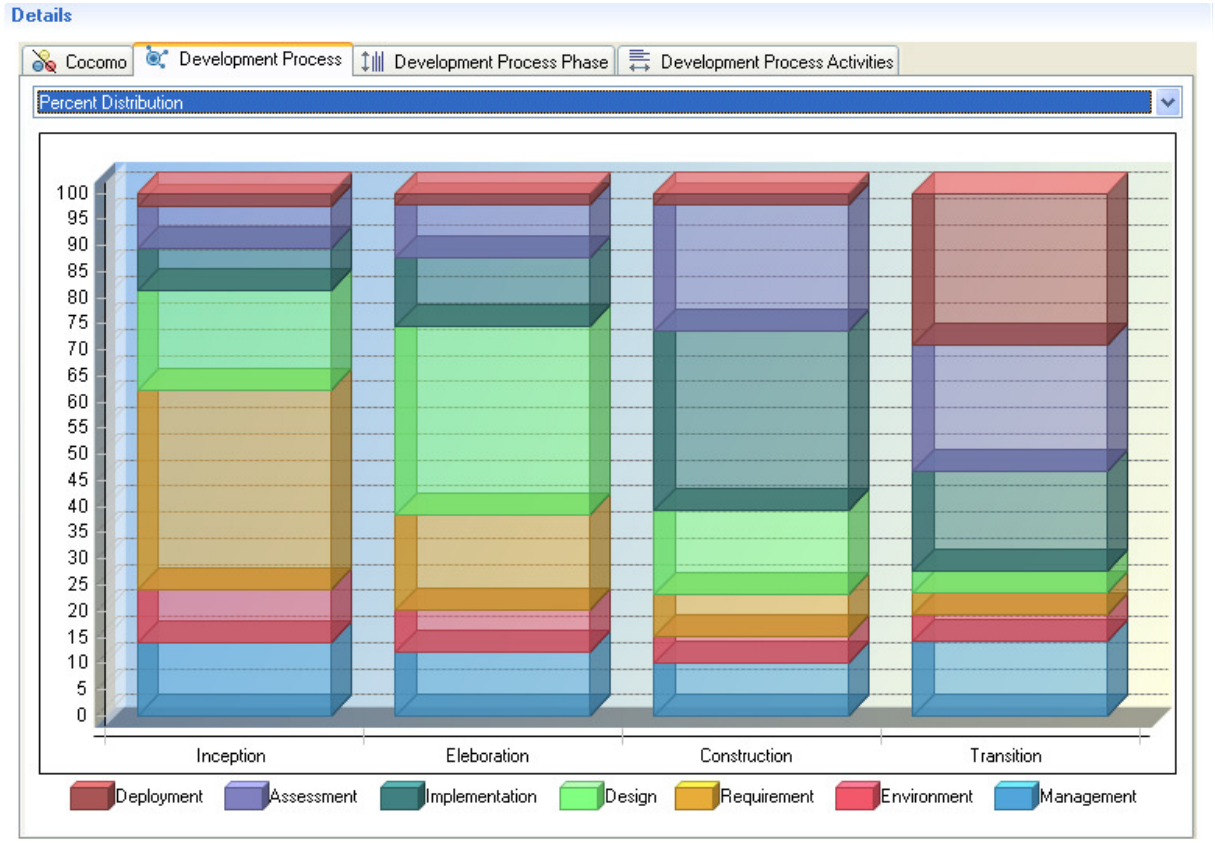
Function Point Modeler™ **COCOMO II** tool calibrates the cost factors and constant from the existing data in SLED in your own company. This is a very important key issue for the precise project estimation.



Function Point Modeler Cocomo Different Estimation Models



Function Point Modeler Cocomo Cost factors



Function Point Modeler All Activities / Phases Distribution of Effort (e.g. RUP)

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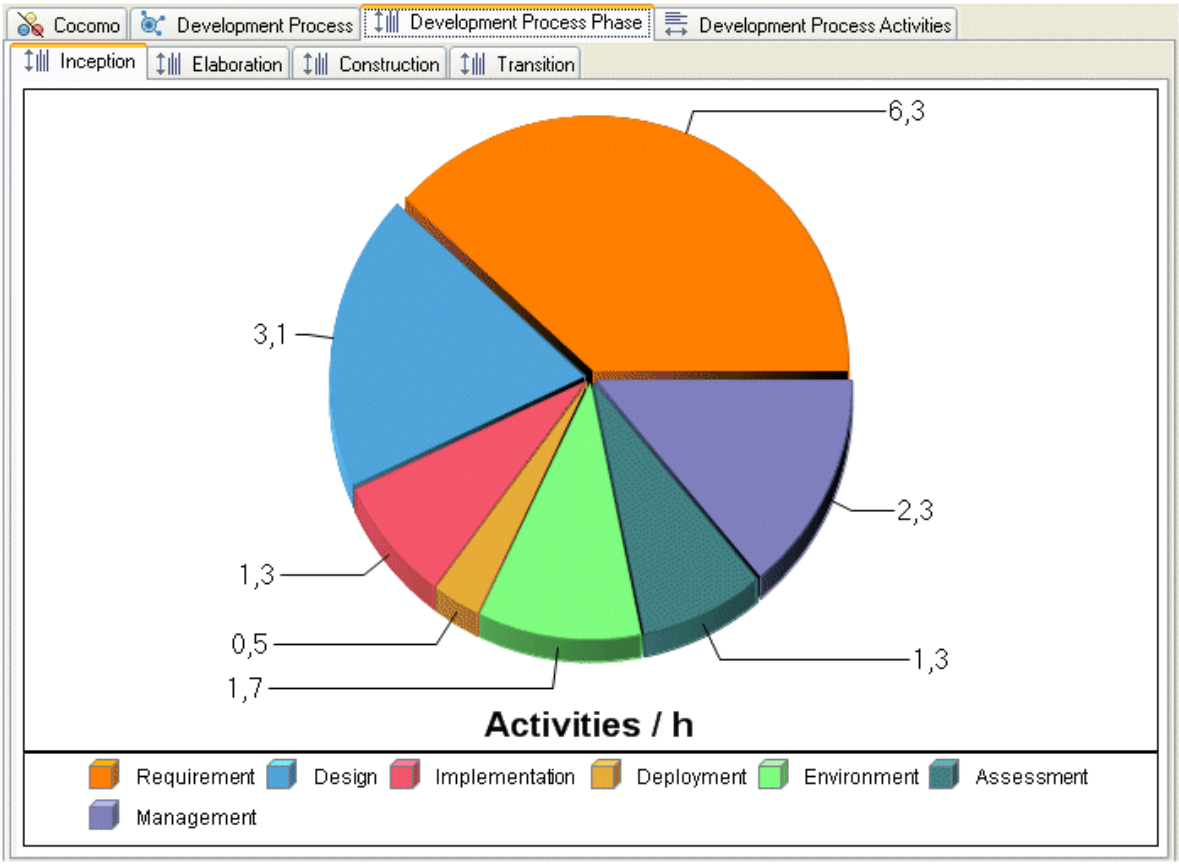
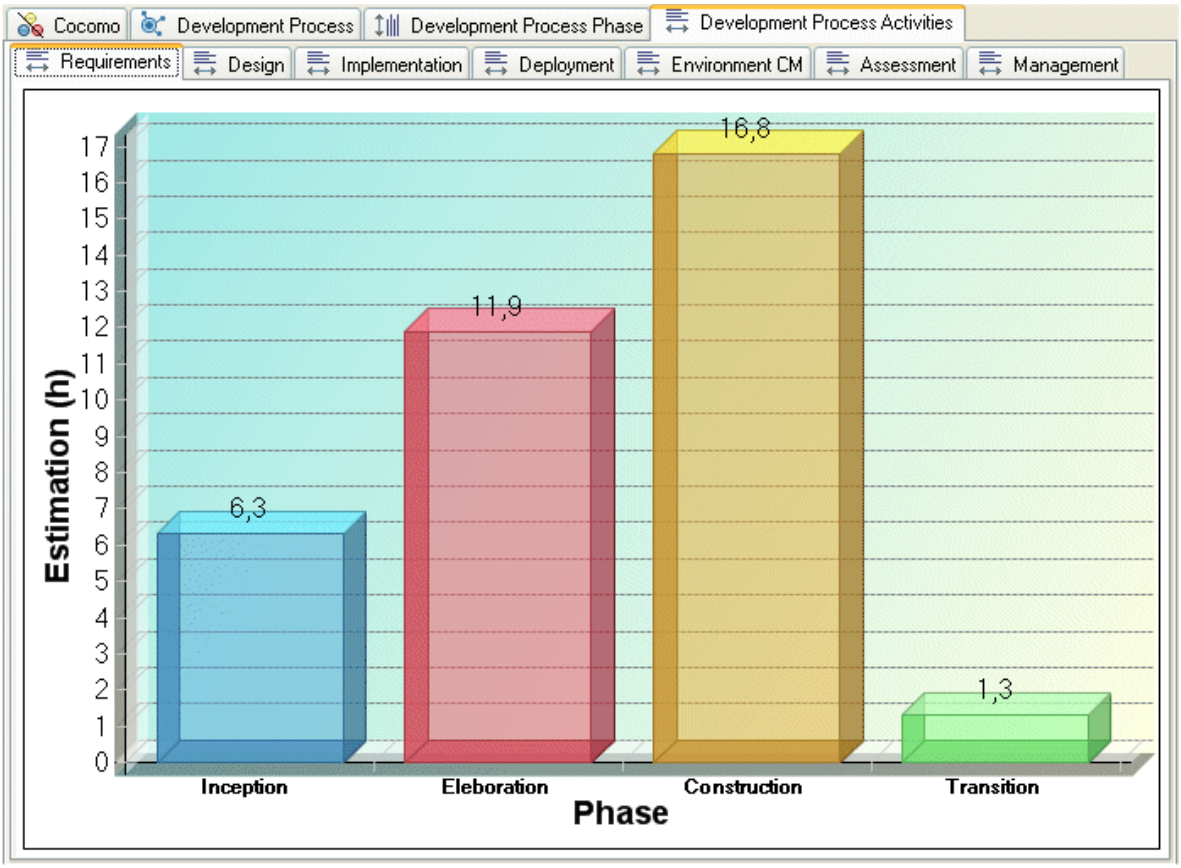
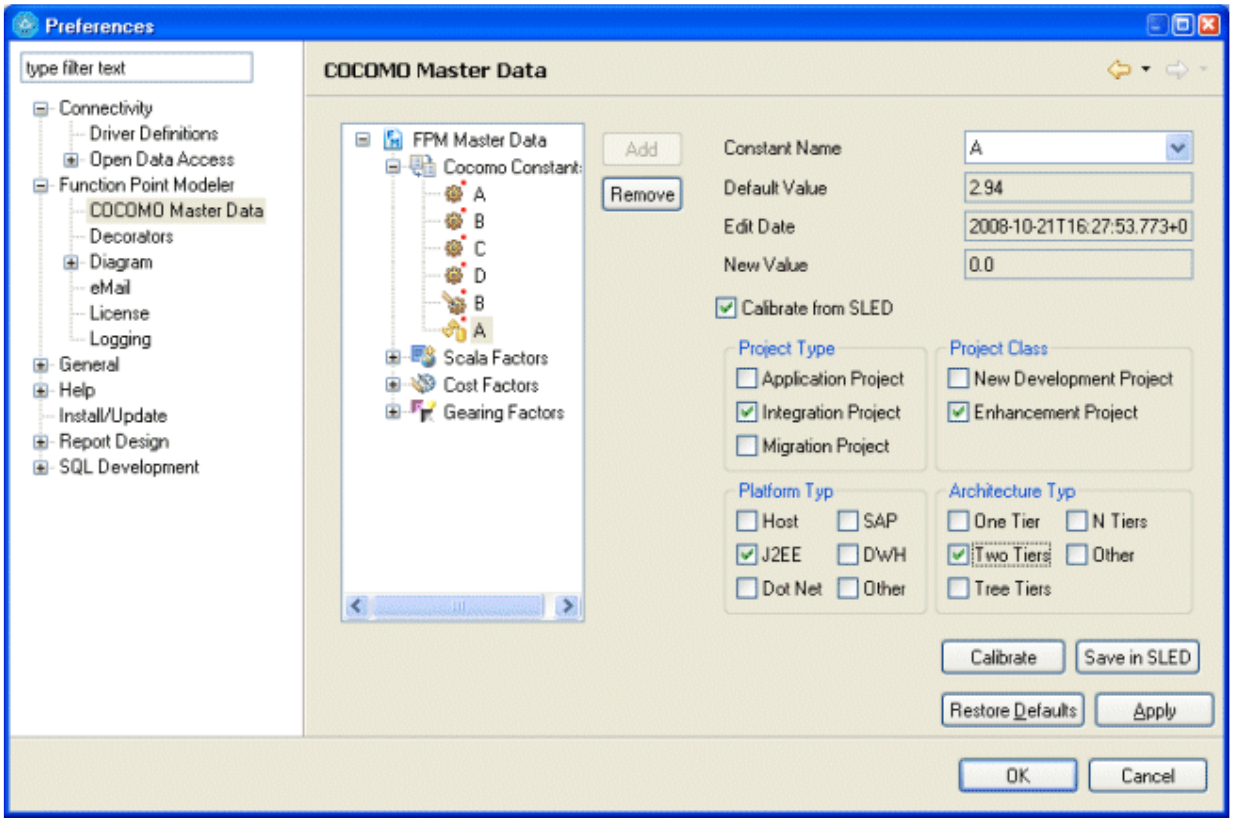


Function Point Modeler Phases / Activities Distribution of Effort



Function Point Modeler Activities / Phases Distribution of Effort

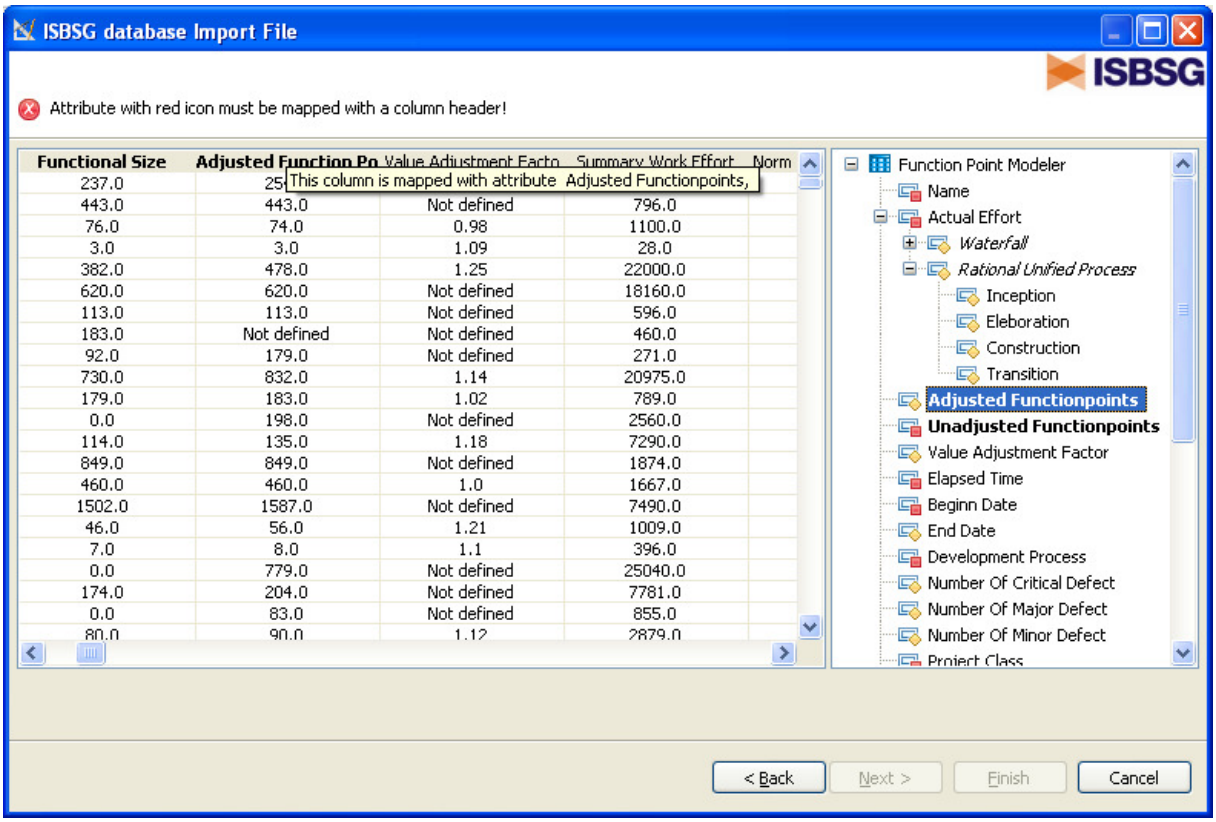
Function Point Modeler COCOMO II *™* conforms to ***COCOMO II*** and calibrates the cost factors of COCOMO to conform to your own data, based on your experience data in the **SLED**.



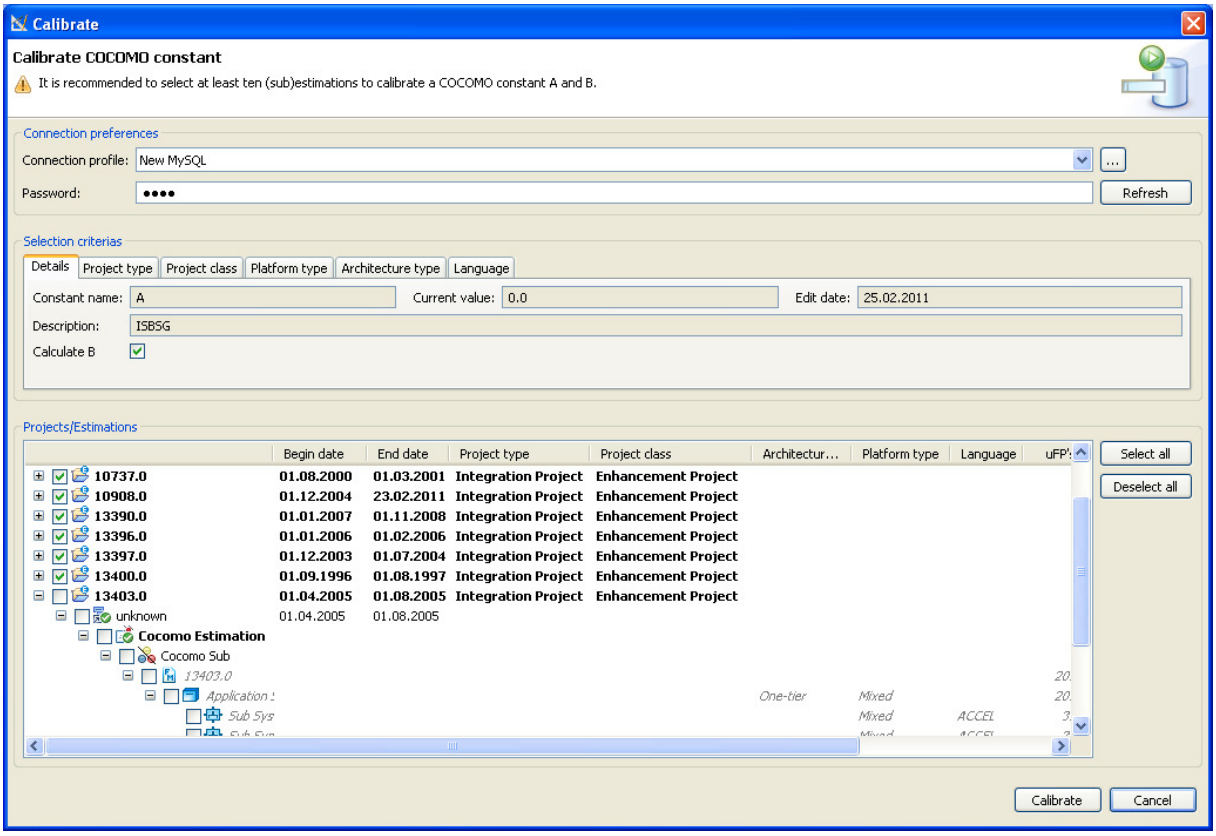
Function Point Modeler Cocomo Master Data

ISBSG Import Interface

But many companies do not have their own experience data in the ***SLED*** to allow calibration of the COCOMO factors. As an alternative, ***Function Point Modeler™*** now offers you the opportunity to import selected ***ISBSG*** data into the ***Function Point Modeler™*** **SLED** in order to calibrate COCOMO based on the ***ISBSG*** data. This allows you to select from the ISBSG database, projects that are similar to the project that you wish to estimate. You can then import these projects into the ***SLED*** and use them to calibrate the cost factors in COCOMO to provide you with a reliable estimate (read more: http://www.functionpointmodeler.com/fpm_isbsg_import_interface.pdf).



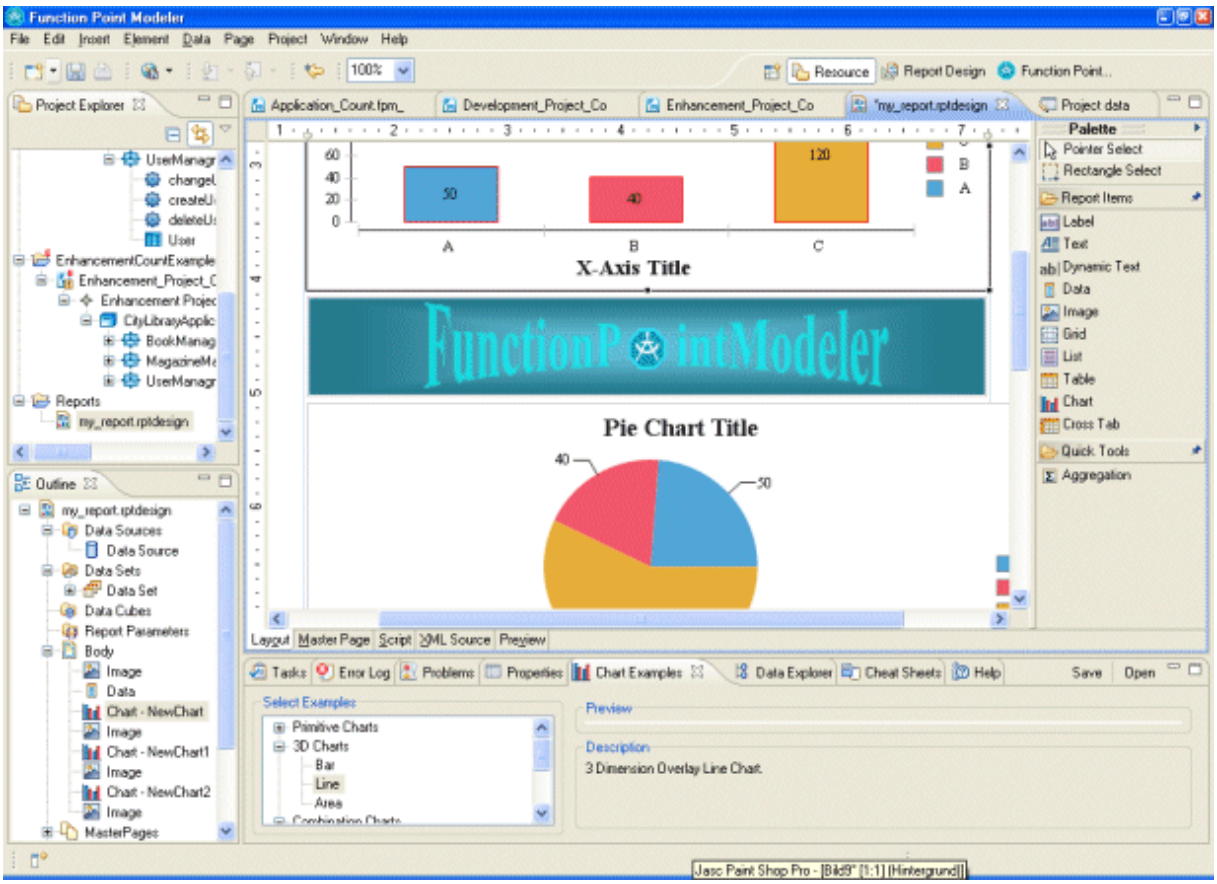
Function Point Modeler ISBSG Import Wizard



Function Point Modeler COCOMO calibration wizard

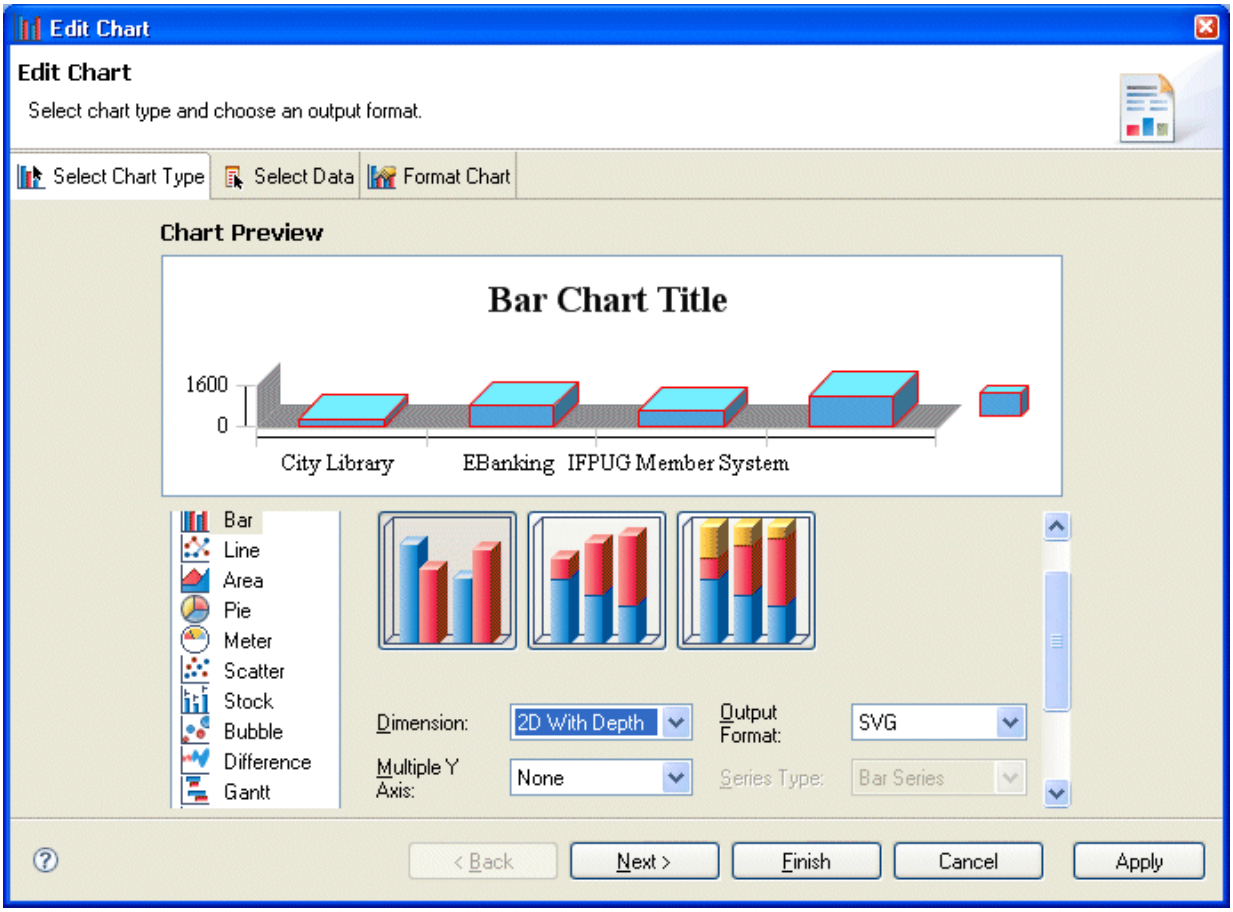
Function Point Modeler Report Designer™

The WYSIWYG ***Function Point Modeler Report Designer™*** enables organizations to make better, faster decisions about their product, project and processes. You develop and customize reports using the powerful ***Function Point Modeler Report Designer™*** tool based on your own SLED. Report Designer provides visual report layouts with precise control over report page design and formatting using styles.

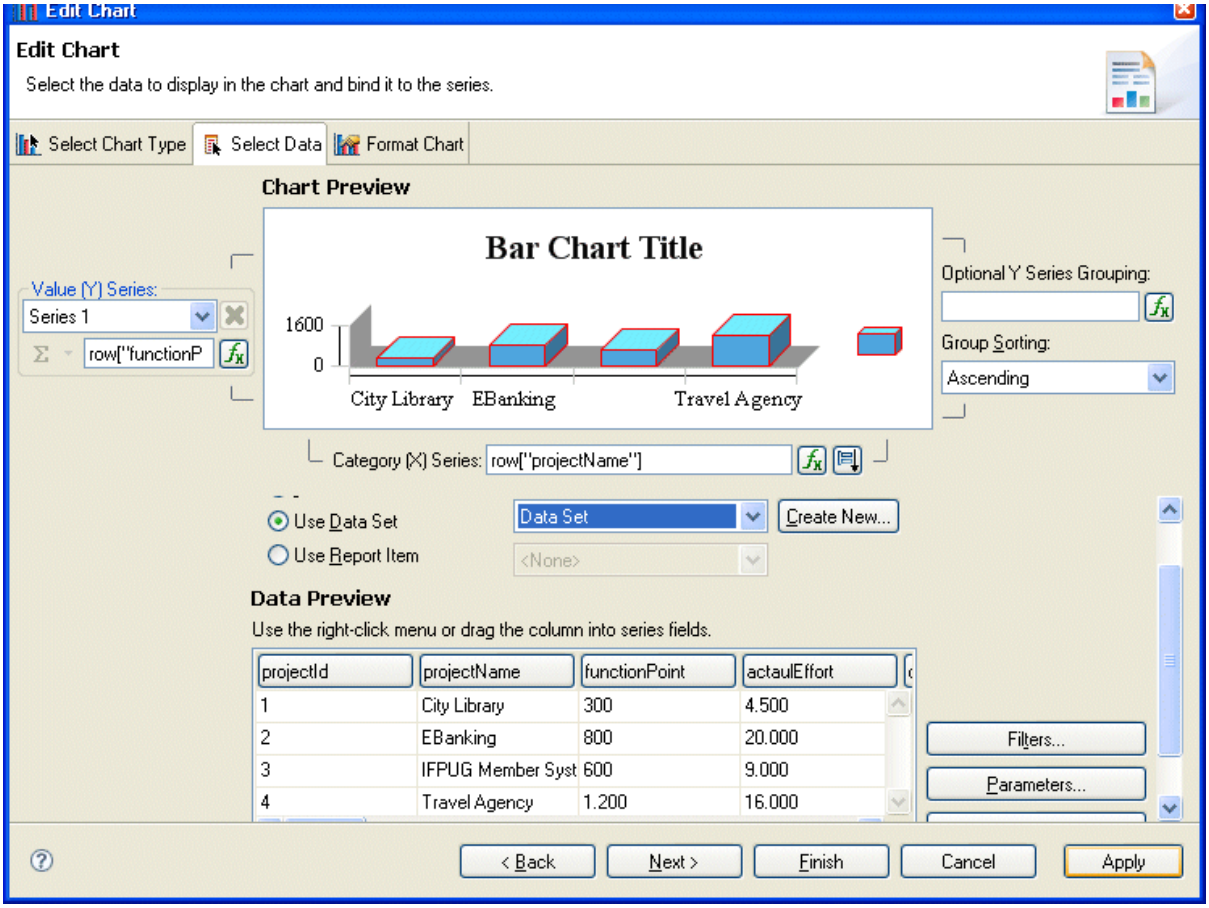


Function Point Modeler Report Designer Perspective

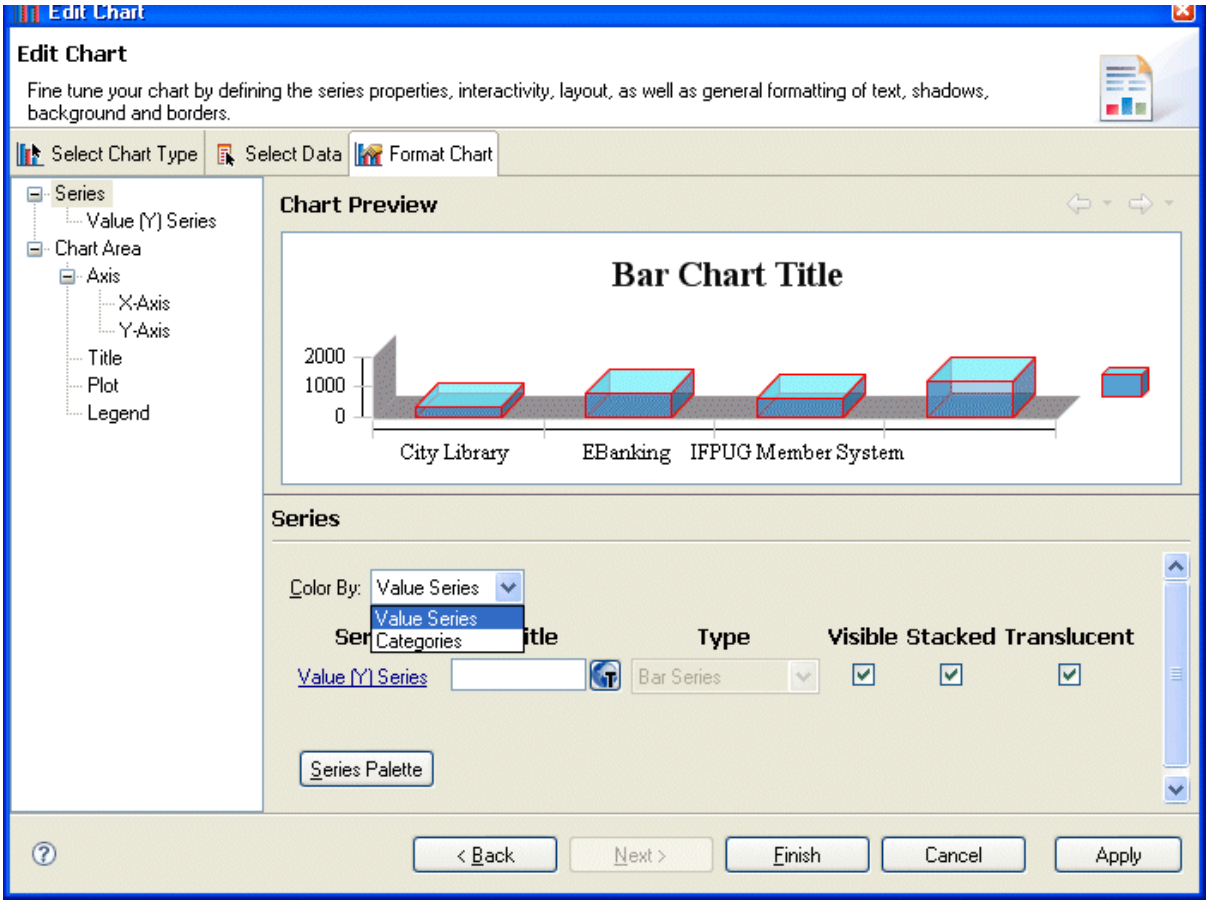
With ***Function Point Modeler Report Designer™*** you receive a rich set of tools that report developers can create many reports, simple and sophisticated. ***Function Point Modeler Report Designer™*** generates reports in several formats including **PPT**, **PDF** and **HTML,** etc.



Function Point Modeler Report Designer Wizard



Function Point Modeler Report Designer Wizard



Function Point Modeler Report Designer Wizard

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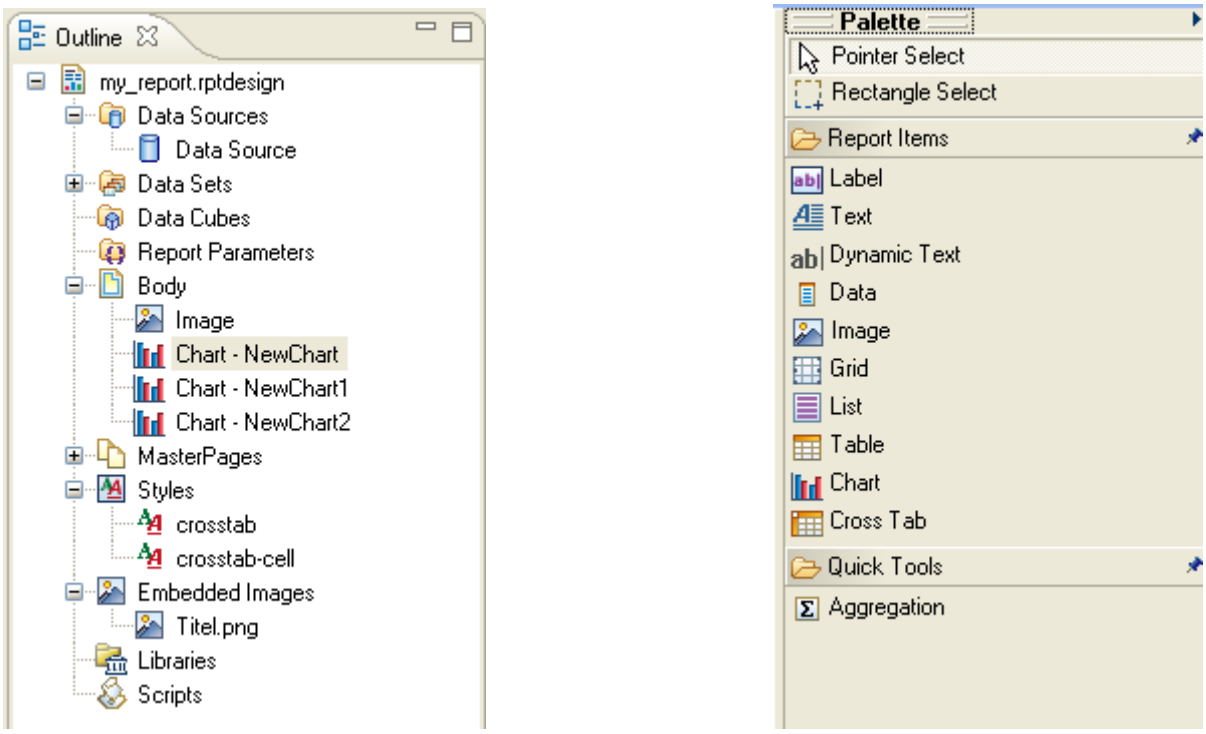
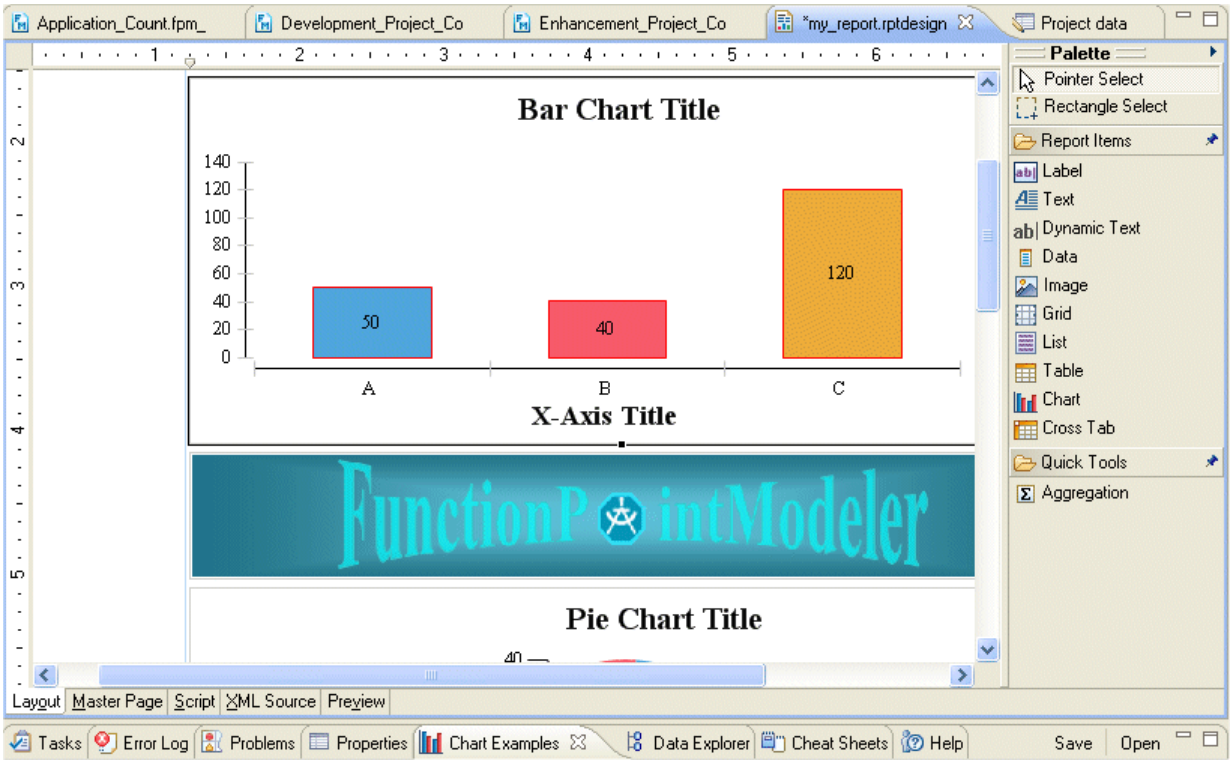


Function Point Modeler Report Designer Outline & Palette



Function Point Modeler Report Designer Editor

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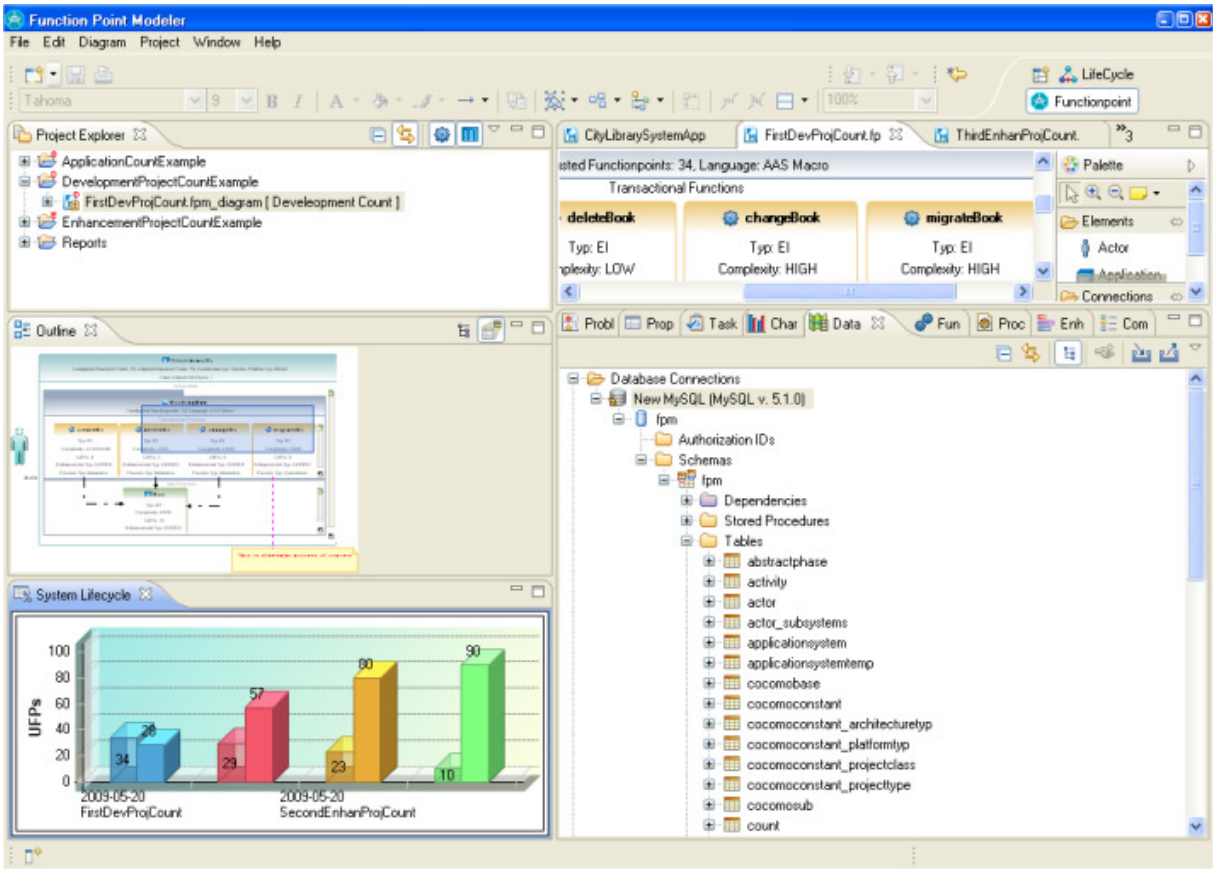
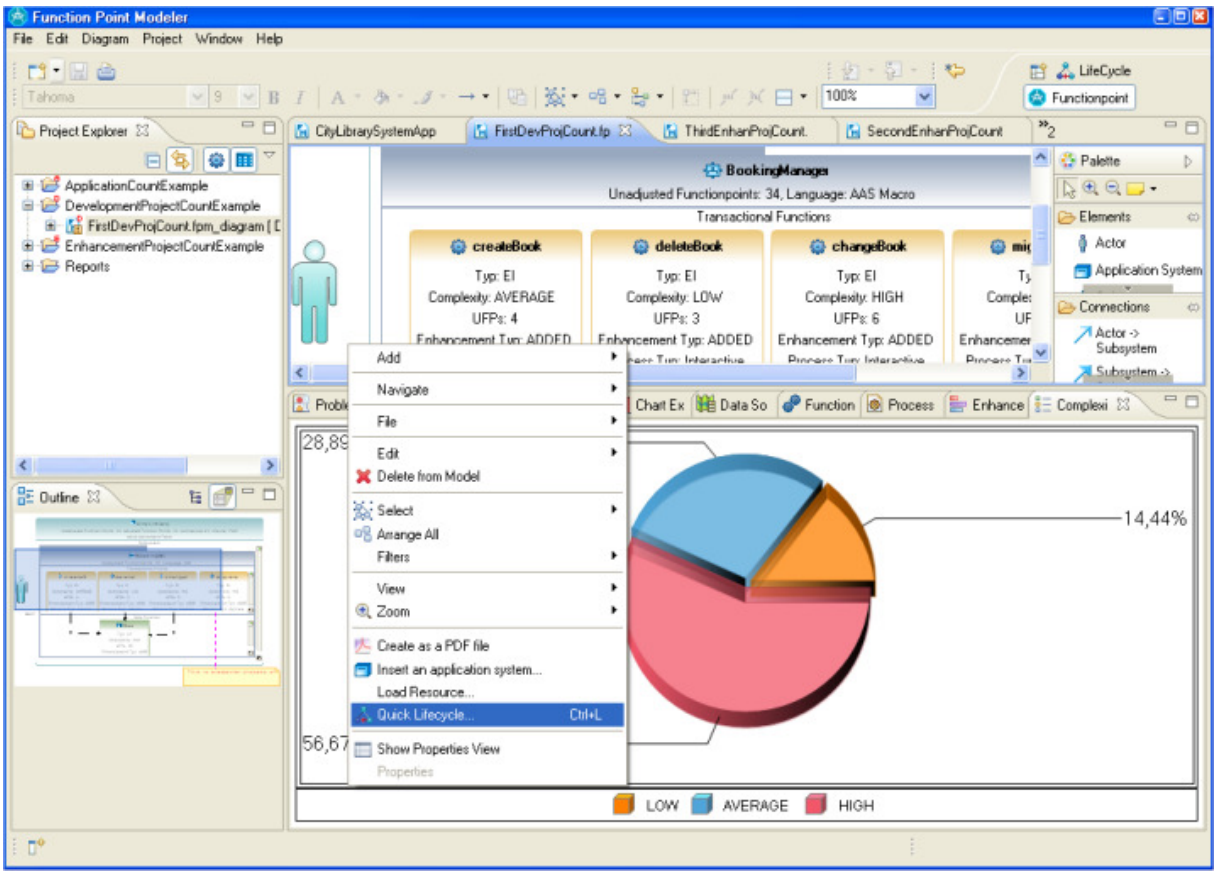
Function Point Modeler™ Enterprise Edition White Paper



Database connection / SLED tables in any RDMS



And a lot of other useful features

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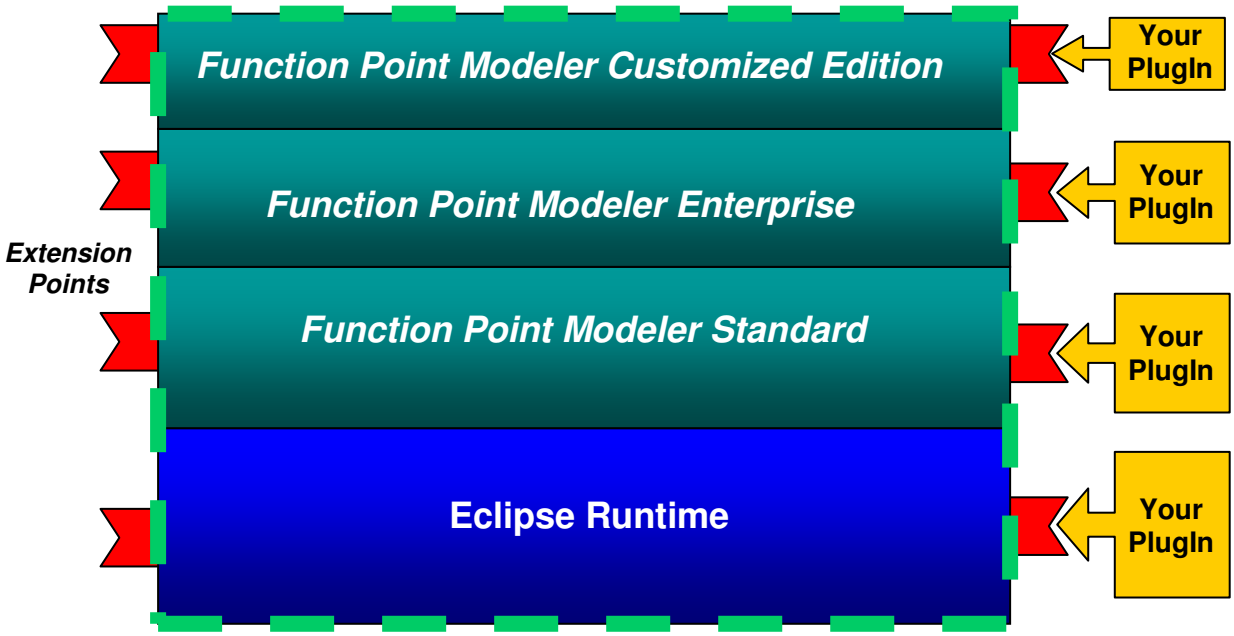
Function Point Modeler Architecture

The most important architectural characteristics of Eclipse is the plug-in architecture. The Eclipse IDE is built as a number of plug-ins which are dependent on each other. Plug-ins are the smallest deployable, installable software components of Eclipse.



Function Point Modeler Architecture Overview

Each plug-in can define so-called extension points which will define possibilities for functionality contributions (code and non-code) by other plug-ins.

Function Point Modeler™ Architecture is based on the Eclipse platform. This concept allows you to divide the application functionality into several plug-ins, to use existing extension points and to provide additional extension points and to structure your application into several independent components. This will easily identify extensions to existing extension points of ***Function Point Modeler™***.

Conclusion

Function Point Modeler™ Enterprise Edition is the first product which not only counts and estimates software but also manages all the IT-Metrics (Project, Product and Process Metrics) in your company.
The cost of ***Function Point Modeler™ Enterprise Edition*** is also **unbeatable!**

Go and see for yourself: ***www.functionpointmodeler.com***