iMatix Corporation sprl

13/15 rue des Ateliers 1080 Bruxelles, Belgium
Tel.+32-75-235-984, fax.+32-2-414-8404
http://www.imatix.com
info@imatix.com

Technical White Paper

iAF Presentation Framework Language

The iMatix Application Framework (iAF) is a design and construction process for three-tier web-based or GUI applications. The iAF Repository stores the design model of an application and drives a template-based code generation and documentation process. The iAF Repository has three layers: presentation, business objects, and database. These layers are described using XML framework languages: the Presentation Framework Language, the Object Framework Language, and the Database Framework Language.

This document formally specifies the Presentation Framework Language (PFL) syntax.

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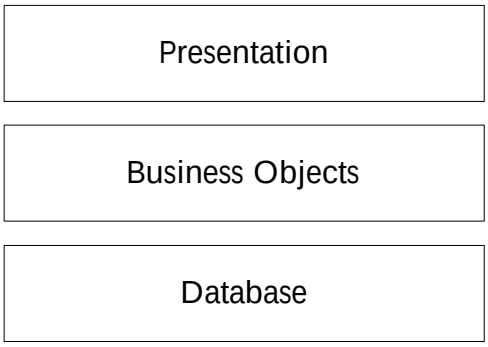
The iAF Repository Architecture

Repository Layers

The iAF Repository uses three separate layers of definition to describe applications:



The Database Definition Layer

This describes the physical database, and everything that can be usefully attached to this. We describe the tables, table columns, and domains (data types) for each column. We define the indexes on tables, and relationships between tables. In many cases, the database definition can be extracted automatically from an existing database (called 'reverse engineering').

We use the Database Framework Language (PFL) to describe the database definition layer.

The Object Definition Layer

This describes the business objects (we use objects only in this sense). An object consists of a set of database tables, and some intelligence. The object data can be shown in one of multiple 'views', possibly depending on its state.

We use the Object Framework Language (OFL) to describe the object definition layer.

The Presentation Definition Layer

This describes the user-interface: what data is shown, what actions are possible, and how the user-interface is constructed from screens.

We use the Presentation Framework Language (PFL) to describe the presentation definition layer.

The Presentation Framework Language (PFL)

Overall Structure of PFL Files

PFL files have the extension ".pfl". This is their complete potential XML structure:

```
pfl
    screen
        field
    style
    include
    inherit
    …rule
```

One PFL file defines one PFL item and zero or more table items. The PFL file can also contain other items beneath the PFL item, as this document describes.

The PFL Item

This item defines the presentation application. It has these attributes:

Attribute:	Default:	Has this purpose:
name	(mandatory)	Specifies the name of the database. This name may be used for comments, documentation.
description	name	A one-line description.
ofl	(optional)	The name of the application OFL file. An application is always based on a single OFL file.
written	mandatory	The date that the PFL was written, in YYYYMMDD format.
revised	mandatory	The date that the PFL was revised, in YYYYMMDD format.
author	mandatory	The person responsible for the PFL, which we recommend to be of the form "First-name Surname <email-address>".
script	(optional)	The default code generation script to use. If you do not specify this in the PFL file, you can specify it externally when running GSLgen.

The PFL item value (the text between <PFL> and </PFL>) is a longer description of the application, if this is required. This description can be used when generating documentation. It is assumed to be plain-text, without mark-up tags.

The Screen Item

This item defines an application screen. It has these attributes:

Attribute:	Default:	Has this purpose:
name	*object_view*	Specifies the name of the program implementing the screen. By default this is constructed from the object name and view name, separated by "_".
description	name	A one-line description.
object	(optional)	The object that the screen works with. This can be omitted, in which case the screen name must be provided, and the screen is generated without access to any objects.
view	(optional)	The object view that is used. The view provides the set of fields that is shown on the screen.

The screen item value is a longer description of the table, if this is required. This description can be used when generating documentation. It is assumed to be plain-text, without mark-up tags.

Attribute:	Default:	Has this purpose:
name	(mandatory)	Name of ASP program to generate, without .asp extension.
item	(mandatory)	Name of the object being handled – this is used to generate messages for the user.
title	(mandatory)	Title of the ASP program, as shown on the screen.
main	0	If 1, the ASP program expects to be called directly from the default.asp page, and will initialise the session when it starts-up.
menu	0	If 1, the ASP program acts as the application menu program. The 'Menu' action on application screens returns control to this program.
width	90%	HTML width attribute for principal screen data table.
height	250	HTML height attribute for principal screen data table.
padding	0	HTML cellpadding option for principal screen table.
labelwidth	25%	HTML width option for left-hand column of two-column field layout (detail screens and list screen headers).
browse		For list programs, the name of the child program which handles the 'browse' action. This is the action resulting from the user's selection of one item in the list when the list is in browse mode. The browse option can also be the name of a 'screen action' item. If this option is not defined, the browse action is disabled for the list program.
autobrowse	0	For list programs: if the list contains exactly one item, the

		program automatically does a 'browse' action, without displaying its HTML page. When the child exits, and the list still contains just one item, the list program will return to its parent program without showing its HTML page.
pagesize	16	The size of the list page.
project	ss	The prefix used to specify the standard ASP library files that are included. By using a specific project prefix, a project can redefine critical aspects of the application's look and feel.