Ferda Implementation

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Frameworks, languages and utilities used

Frameworks used

- .NET Framework 2.0 (or Mono)
- Internet Communications Engine (Ice)

Language used

- C# 2.0

Utilities and libraries used

- NAnt, NDoc, NUnit
- Netron Graphic Library, DockDotNet

Implementation resolutions

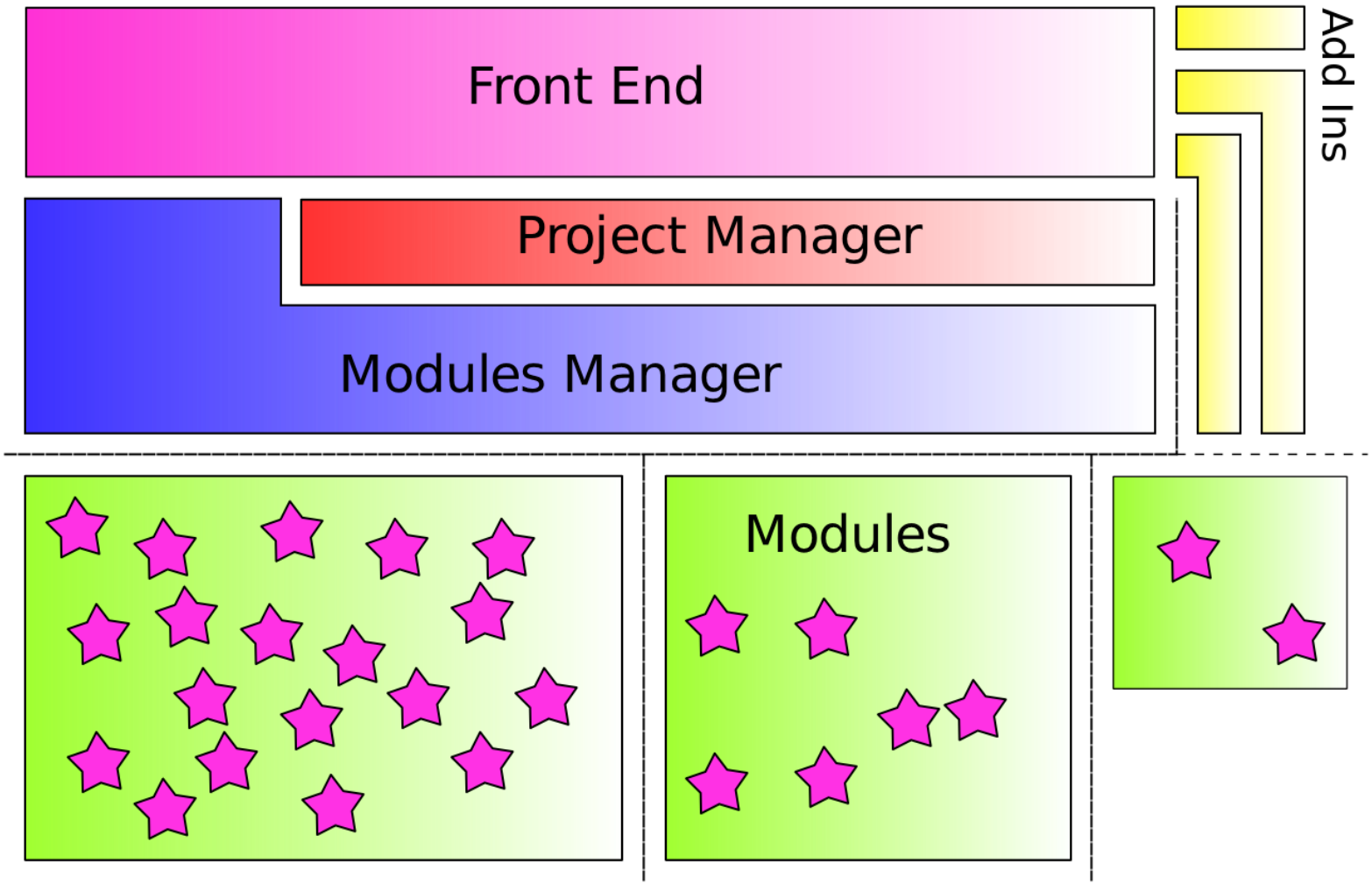
License

- GNU General Public License

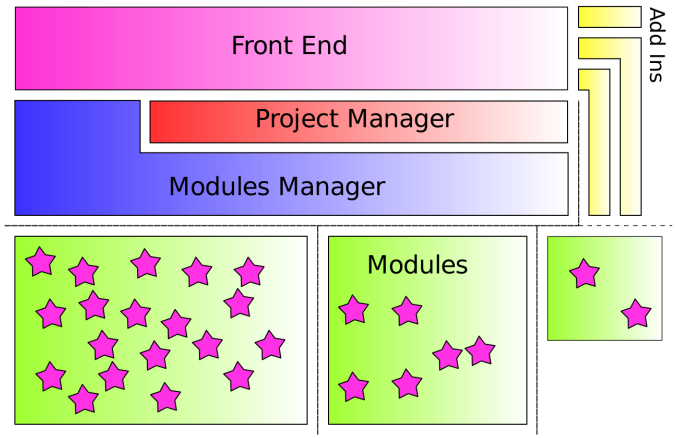
Implementation resolution

- Everything localizable
- Well documented
- Modular
- User friendly
- Microsoft standards
- Docking

Parts of Ferda system



FrontEnd, Modules and Project Manager



FrontEnd

- Interaction with user
- Add Ins

Project Manager

- Represents archive and desktops
- Loads and saves XML project files

Modules Manager

- Communicates with Ice layer
- Represents modules for upper layers
- Offers help functions for modules

Ice layer

Why Internet Communications Engine

- Language independence
- Distributed computing
- "Easy"
- (Grid computing...)

Why not CORBA or .NET Remoting

- Multilingual
- Multiplatform
- Effective
- Simple

Modules

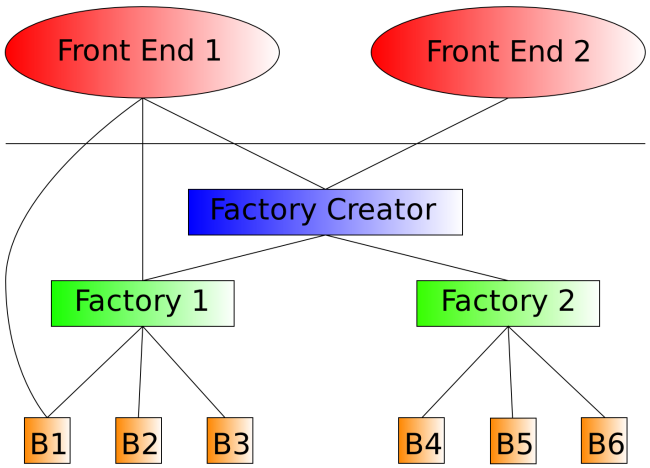
Ice layer conclusions for modules

- Inside independent applications
- Loaded automatically from network

Our implemented box modules

- Layer between Ice and box modules applications
- Customizable by configuring XML files

Box module creator and factory



Creator

- Singleton class representing box
- Creates box module factory

Factory

- One instance for one client
- Has knowledge about client
- Creates box instances
- Distributed garbage collector

Box instance

- Connected boxes, properties

Box module

Main parts of box modules

- Sockets (and properties)
- Functions

Other parts of box modules

- Identifier
- Icon and SVG design
- Names of categories
- Box modules asking for creation
- Actions
- Name of property driving label
- Dynamic help

Formalized boxes

Box

Box is $\langle S, F \rangle$ where

- S is a set of sockets
- F is a set of functions

Socket

Socket is $\langle n, T \rangle$ where

- n is socket name
- T is a set of box types

Predicate

$has(f, i)$ where f is function and i is "Ice identifier"

Types of boxes

Type

Type is $\langle i, S \rangle$ where

- i is "Ice identifier"
- S is a set of $\langle n, i \rangle$
  - n is socket name
  - i is "Ice identifier"

Box is of type

Box $B = \langle S, F \rangle$ is of type $A = \langle i, Z \rangle$ iff

1. $(\forall \langle n, j \rangle \in Z)(\exists \langle m, T \rangle \in S)(\exists \langle y, W \rangle \in T)(m = n \wedge j = y)$
2. $(\exists f \in F)(has(f, i))$

Summary

Ferda is

- Visual user tool
- Extensible
- Strong
- Network distributable

Download Ferda

http://sourceforge.net/projects/ferda