eHealth

VIR O LAB

Information Society Technologies

A virtual laboratory for decision support in viral diseases treatment

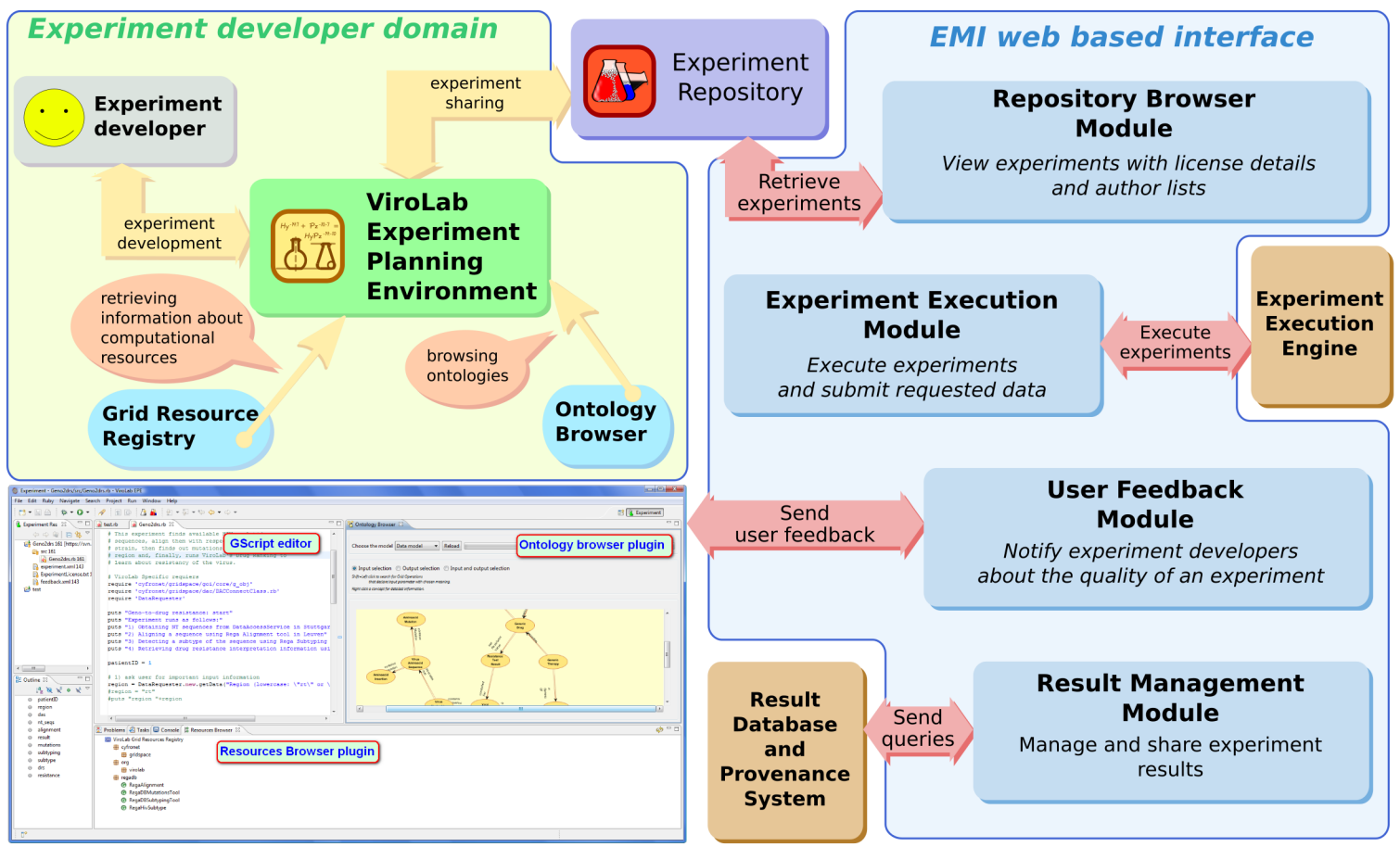## Developer and User Interfaces to the Virolab Virtual Laboratory

http://virolab.cyfronet.pl

Objectives

- Provide *developers* with an experiment planning environment that extensively supports the *development* of scientific experiments.
- Provide *users* with an easily accessible *experiment management* environment supporting result storage and sharing as well as dynamic monitoring of running experiments.

Functionality

Experiment Planning Environment (EPE)
- editing experiments with GSeditor
- code completion and ontology browsing
- testing (running) of newly developed experiments

Experiment Management Interface (EMI)
- accessing experiment information on different repositories
- managing an experiment execution queue
- viewing, storing, and sharing of experiment results
- providing feedback about experiment quality to experiment developers

Architecture

Experiment developer domain

- Experiment developer
- experiment development
- retrieving information about computational resources
- browsing ontologies
- **ViroLab Experiment Planning Environment**
- **Grid Resource Registry**
- **Ontology Browser**
- experiment sharing
- **Experiment Repository**

EMI web based interface

- **Repository Browser Module** — *View experiments with license details and author lists*
- Retrieve experiments
- **Experiment Execution Module** — *Execute experiments and submit requested data*
- Execute experiments
- **Experiment Execution Engine**
- **User Feedback Module** — *Notify experiment developers about the quality of an experiment*
- Send user feedback
- **Result Management Module** — Manage and share experiment results
- Send queries
- **Result Database and Provenance System**

GScript editor · Ontology browser plugin · Resources Browser plugin

Achievements and Innovation

- semi-automatic experiment release engine
- advanced experiment plan editor with plugin support
- web-based lightweight client as experiment execution manager with asynchronous notification
- operational prototypes already deployed and tested

Future Work

- implement a more user-friendly interface with better feedback support and result management system
- develop new administrative plugins
- implement a more advanced script autocompletion mechanism for convenient experiment planning

References

[1] Peter M.A. Sloot, Ilkay Altintas, Marian Bubak, Charles A. Boucher: From Molecule to Man: Decision Support in Individualized E-Health; IEEE Computer Society,vol 39, no.11, pp. 40-46, Nov., 2006
[2] Wlodzimierz Funika, Piotr Pegiel: GSript Editor as Part of the ViroLab Presentation Layer; Cracow Grid Workshop, October 15-18, Crocow, 2006
[3] ViroLab Virtual Laboratory, http://virolab.cyfronet.pl

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