



Protégé: Past, Present, and Future

Ray Fergerson
Stanford

Past

- Prehistory (1987-1997)
 - Mark's Thesis
 - Protege-II
 - Protege/Win
 - “Workshop 1”
 - Workshop 2
- Workshops 3-5 (1997-2001)

Mark's Thesis

- PROTÉGÉ system
- Developed as a tool for building knowledge-acquisition tools (a *meta-tool*) for medical planning applications
- Hardcoded *Ontology* (or *meta-ontology*) geared for planning applications
- Ran on Lisp machines
- User community ~1

Protégé-II

- Generic meta-tool
 - No hardcoded ontology
 - No assumptions about “planning”
- Constructed as three distinct applications:
 - ontology editing
 - form customization
 - instance creation
- Ran in NextStep environment
- Written in Objective-C, Lisp...
- User community ~10

Protégé/Win

- DARPA funding
 - required MS Windows reimplementation
- Protégé/Win
 - Same three applications as Protégé-II
 - Ran on Windows machines
 - Written in C++
- Beginnings of an *outside* user community
 - Small, mostly academic
 - User community ~100

“Workshop 1”

Pavia, June 1995

- Four guys from four different countries meet in a restaurant in Italy and eat pizza and drink lots of alcohol
- Protégé discussed? Concrete outcome?

Workshop 2

Stanford, March 1996

- Decided to re-implement Protégé/Win as a framework into which user-created *plug-ins* could be added.
 - domain-specific *slot widgets*
 - read/write data to other file formats
- Decided to adopt Java programming language

Workshop 3

Lidingö, September 1997

- Prototype of new system: Protégé/Java
- Demonstrated “undo” functionality
- Described ability to add tabs
- Subsequently decided...
 - We haven’t gone “far enough” to integrate with other knowledge-base systems such as Ontolingua, CYC, and Loom
 - To adopt Generic Frame Protocol (OKBC) as our *knowledge model*
 - Throw away previous work and start over

Workshop 4

Linköping, July 1999

- Protégé-2000 Release 1.0
- Users demonstrated:
 - domain independent slot widgets
 - tab widgets

Workshop 5

Newcastle, July 2001

- Protégé-2000 1.6 (almost) released
- Free
- Open source
- Growing and diverse user community

Memorable events:

- *The Logic Emergency*
- *The Religious Experience*

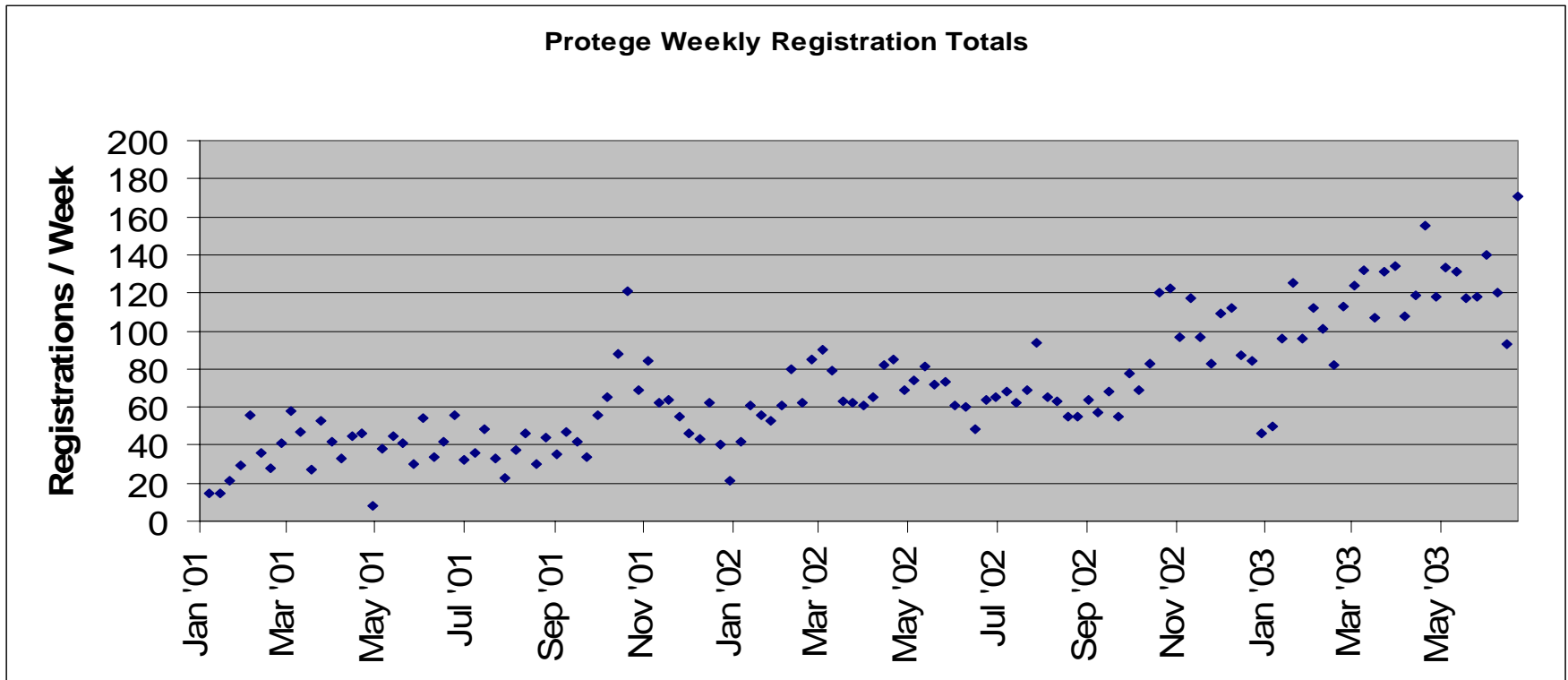
Present

- Staff additions
- User community
- protege-discussion mailing list
- Funding
- Publications
- Protege 2.0
- Next few months

Staff Additions

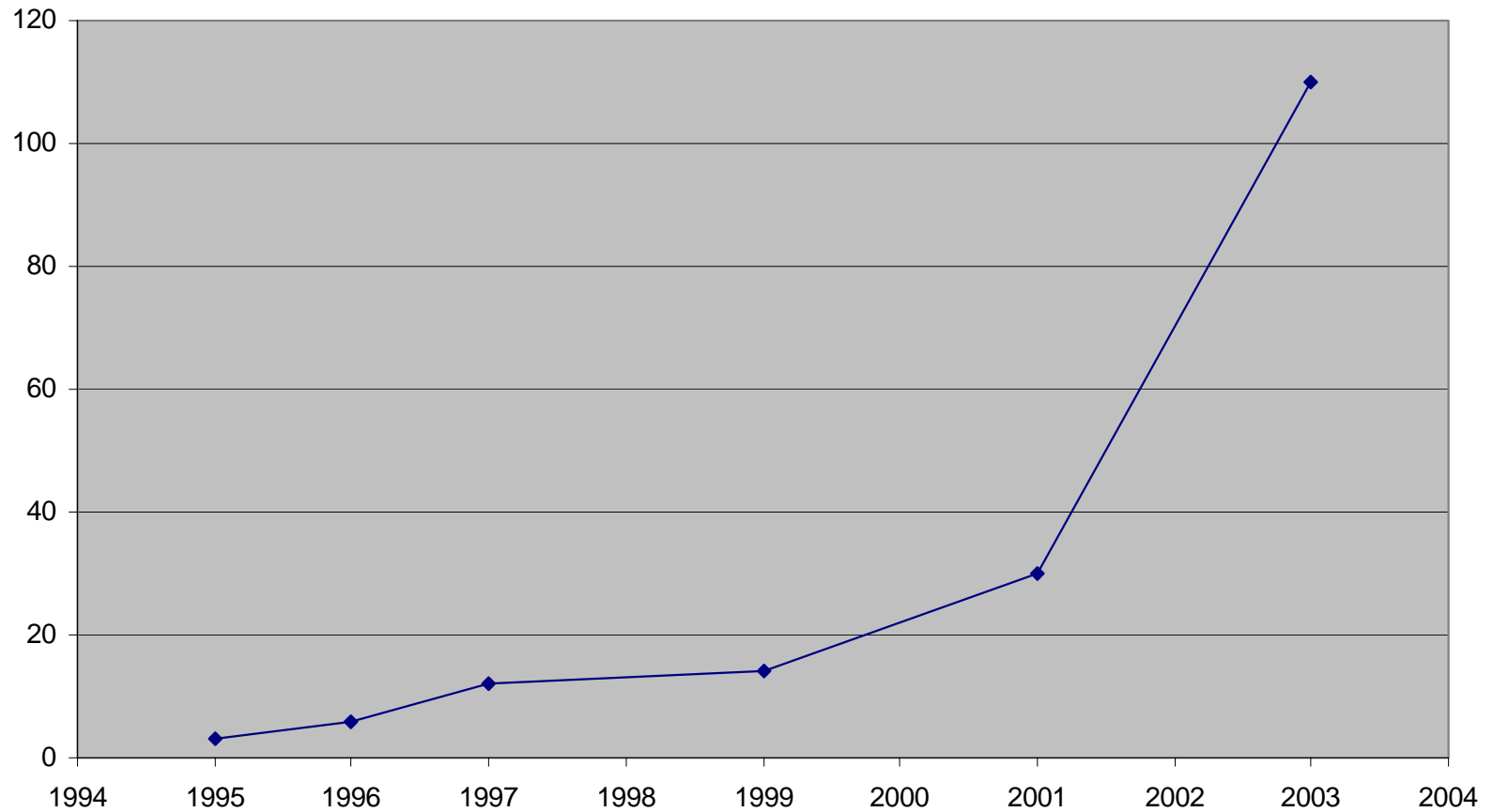
- Research Staff
 - Holger Knublauch
 - Protege/OWL integration
 - Protege in Software Engineering Environments
- Development Staff
 - Jennifer Vendetti
 - Builds, Source code control
 - FAQ, Plugins library, web site development
 - Graph Widget

User Community



Total Registered Users: ~10000

Workshop Attendance



protege-discussion

- 1400 members, 4500 messages
- List is maturing
 - From: “Ask and Stanford answers”
 - To: A forum where users get help and advice from other users
- Technical Improvements
 - Administrative load almost eliminated
 - Blocking “Unsubscribe me” messages, vacation notices, and spam

Funding

- National Cancer Institute
- National Library of Medicine
 - “National Resource for Biomedical Ontologies and Knowledge Bases”
- National Institute of Standards and Technology
- Protege Affiliates
 - Damiller-Chrysler
 - Sowerby Centre for Health Informatics at Newcastle
 - FastTrack Systems

Publications

- “The History Paper”
 - *The Evolution of Protege: An Environment for Knowledge-Based System Development*, Gennari, et al.
- “Ontology 101”
 - *Ontology Development 101: A Guide to Creating Your First Ontology*, Noy and McGuinness
- Book

Your fun and easy guide to Protégé!

PROTÉGÉ FOR DUMMIES®

3rd Edition

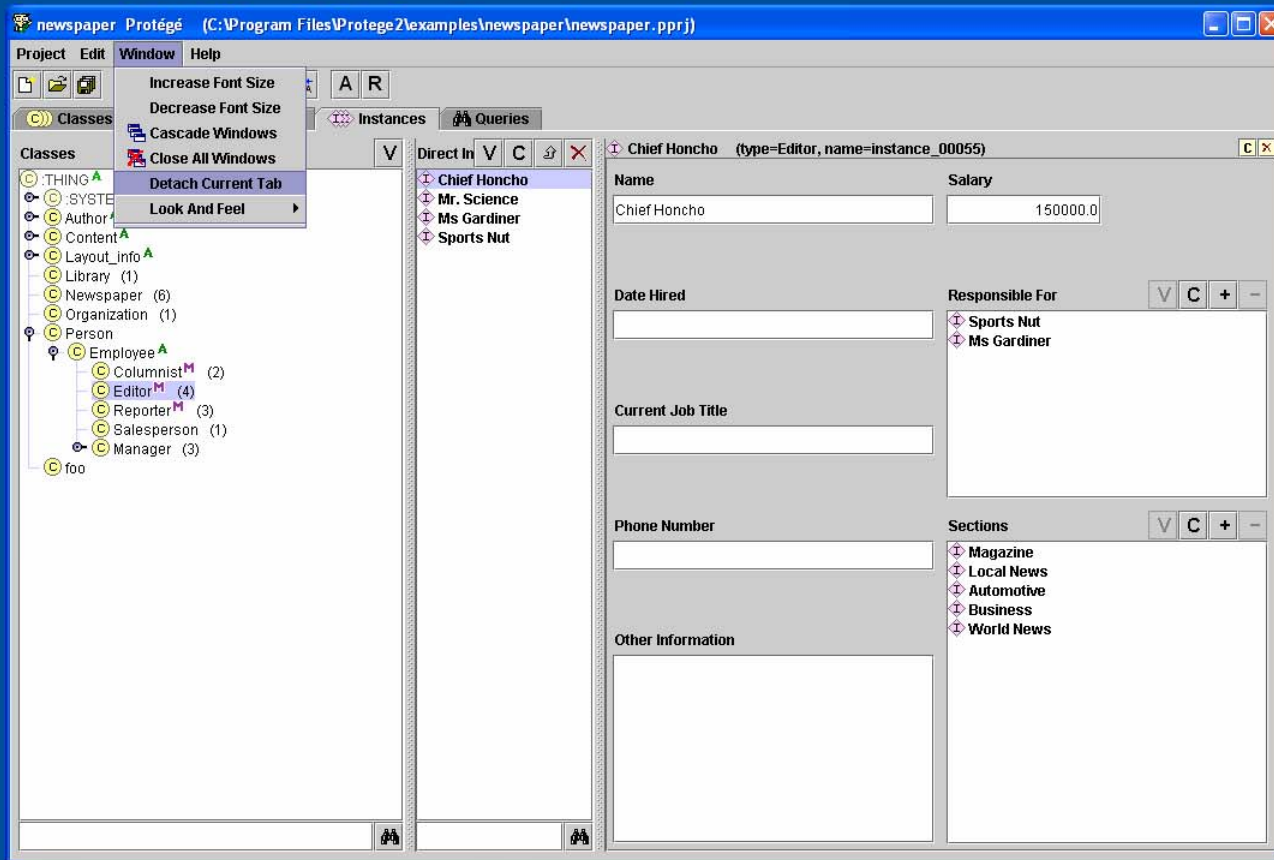
**A Reference
for the
Rest of Us!**

Ray Fergerson
Stanford University

*Thrilling ontologies
on CD-ROM!*



Protégé 2.0 “*demo*”



newspaper Protégé (C:\Program Files\Protege2\examples\ne

Project Edit Window Help

Classes Slots Forms Queries

Query

Class	Slot

More Fewer Clear Match All Match Any Find

Query Name

Add to Query Library

Query Library

- People with salary greater than 100,000
- Articles whose authors are highly paid
- Articles whose authors are highly paid and articles are urgent with less than 50 pages

Instances Tab - Protégé

Classes

- THING
- SYSTEM-CLASS
- Author
- Content
- Layout_info
- Library (1)
- Newspaper (6)
- Organization (1)
- Person
 - Employee
 - Columnist (2)
 - Editor (4)
 - Reporter (3)
 - Salesperson (1)
 - Manager (3)
- foo

Direct In

- Chief Honcho
- Mr. Science
- Ms Gardiner
- Sports Nut

Chief Honcho (type=Editor, name=instance_00055)

Name: Chief Honcho Salary: 150000.0

Date Hired: Responsible For: Sports Nut, Ms Gardiner

Current Job Title:

Phone Number:

Other Information:

Sections: Magazine, Local News, Automotive, Business, World News

newspaper Protégé (C:\Program Files\Protege2\examples\newspaper\newspaper.pprj)

Project Edit Window Help

Classes Slots Forms Instances Queries

Classes

- THING
- SYSTEM-CLASS
- Author
- Content
- Layout_info
- Library (1)
- Newspaper (6)
- Organization (1)
- Person
 - Employee
 - Columnist (2)
 - Editor (4)
 - Reporter (3)
 - Salesperson (1)
 - Manager (3)
 - foo

Chief Honcho (type=Editor, name=instance_00055)

Direct In

- Chief Honcho
- Mr. Science
- Ms Gardiner
- Sports Nut

Name

Chief Honcho

Salary

150000.0

Date Hired

Current Job Title

Phone Number

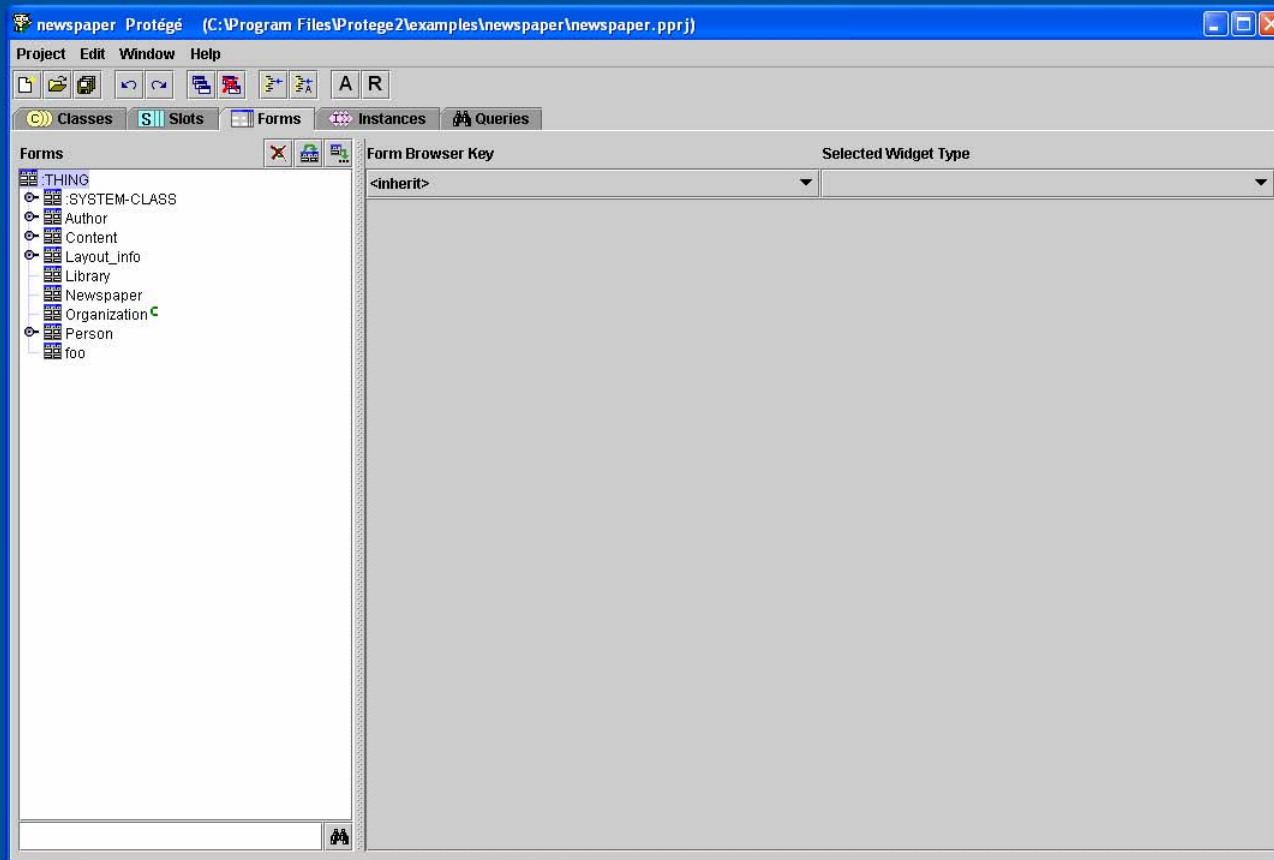
Other Information

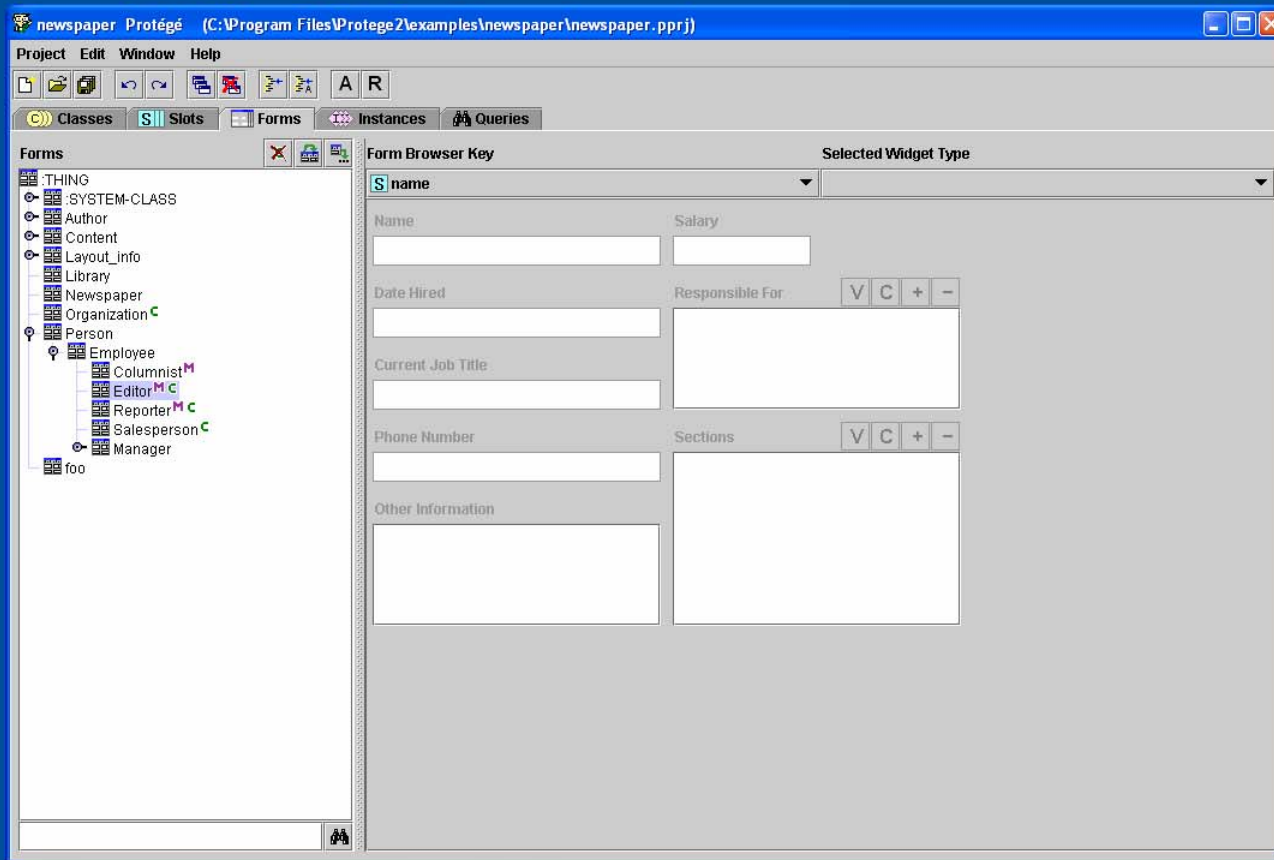
Responsible For

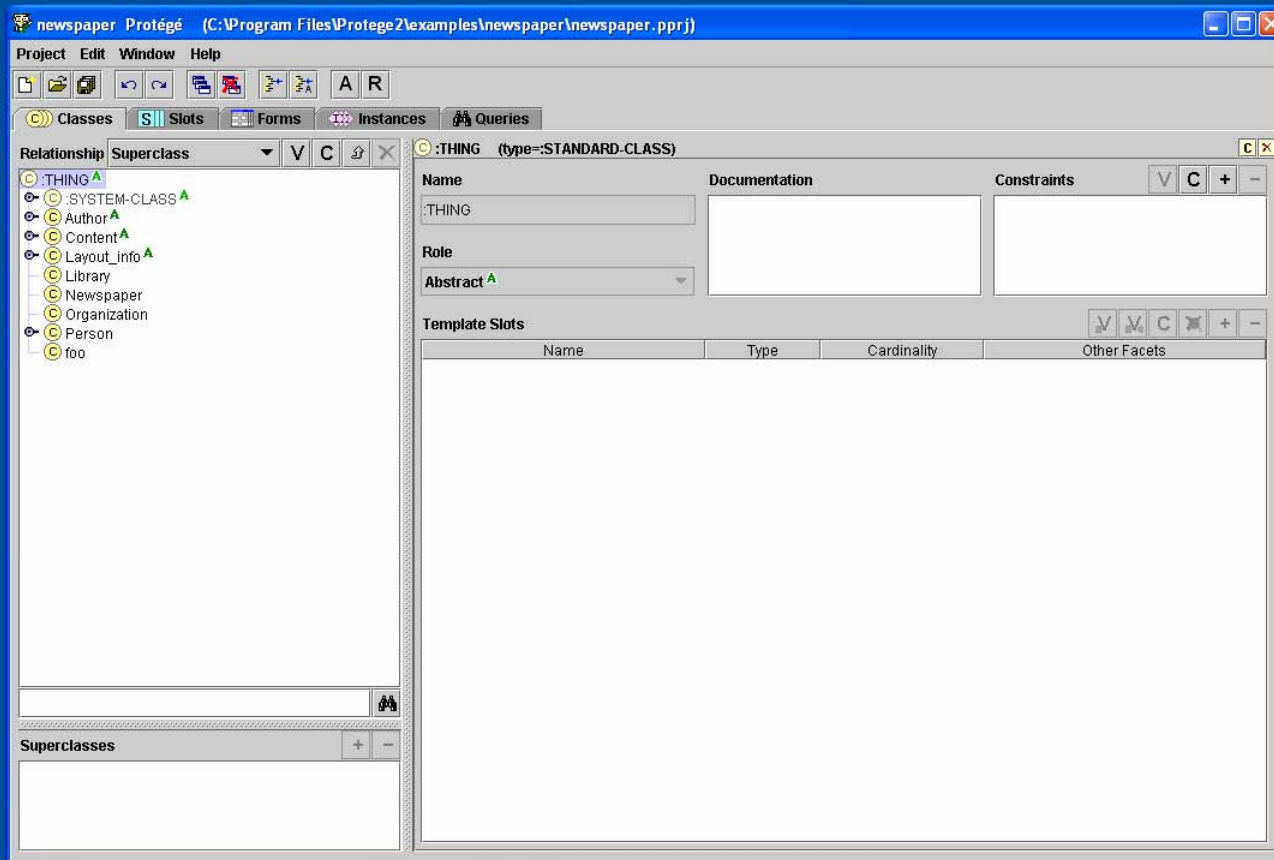
- Sports Nut
- Ms Gardiner

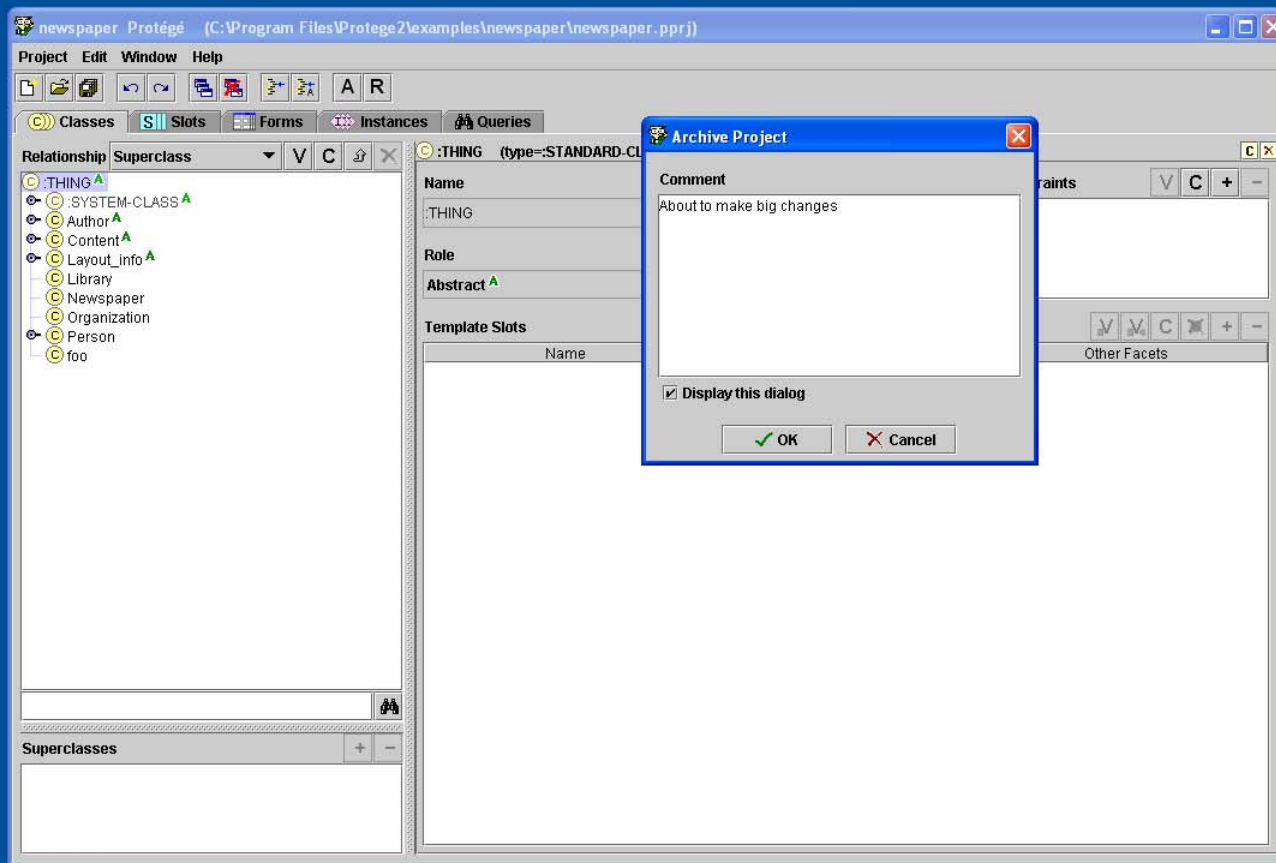
Sections

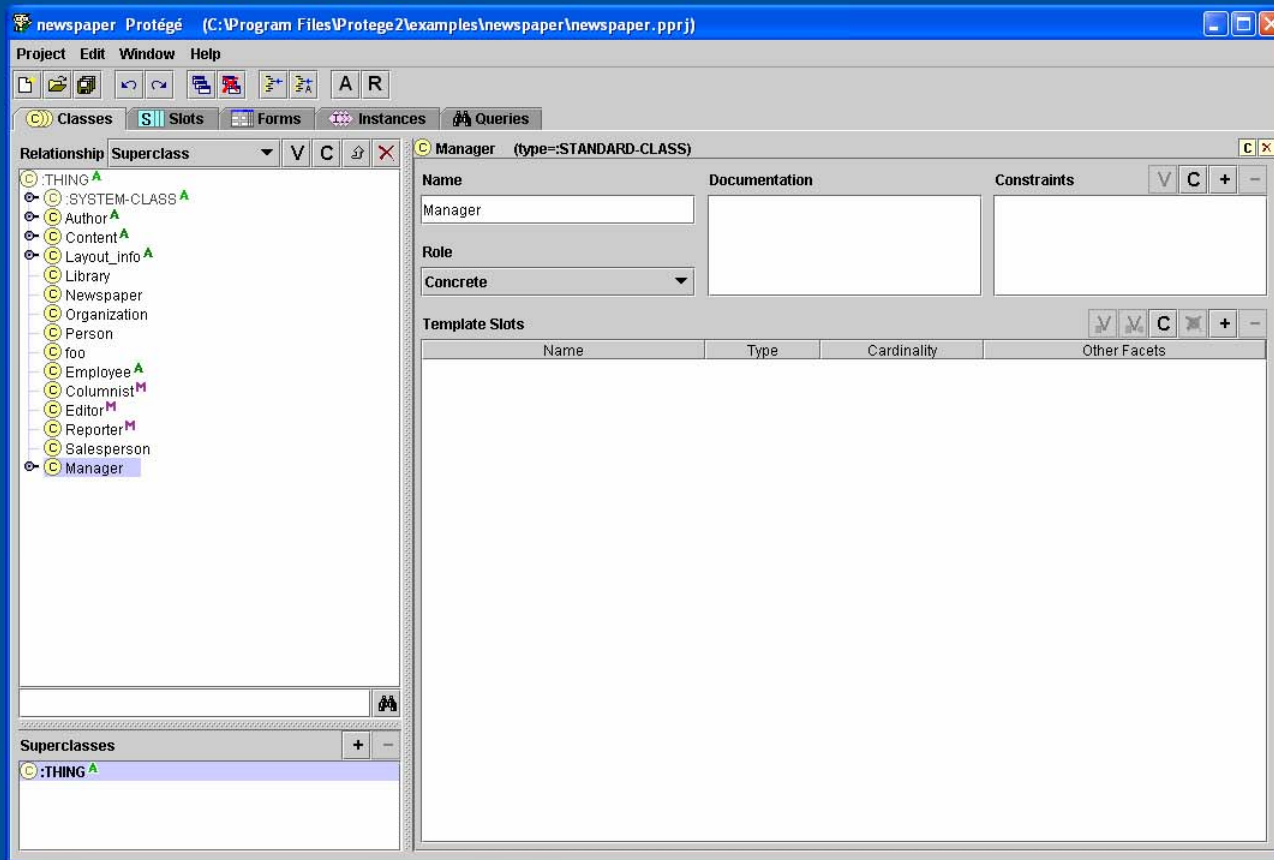
- Magazine
- Local News
- Automotive
- Business
- World News

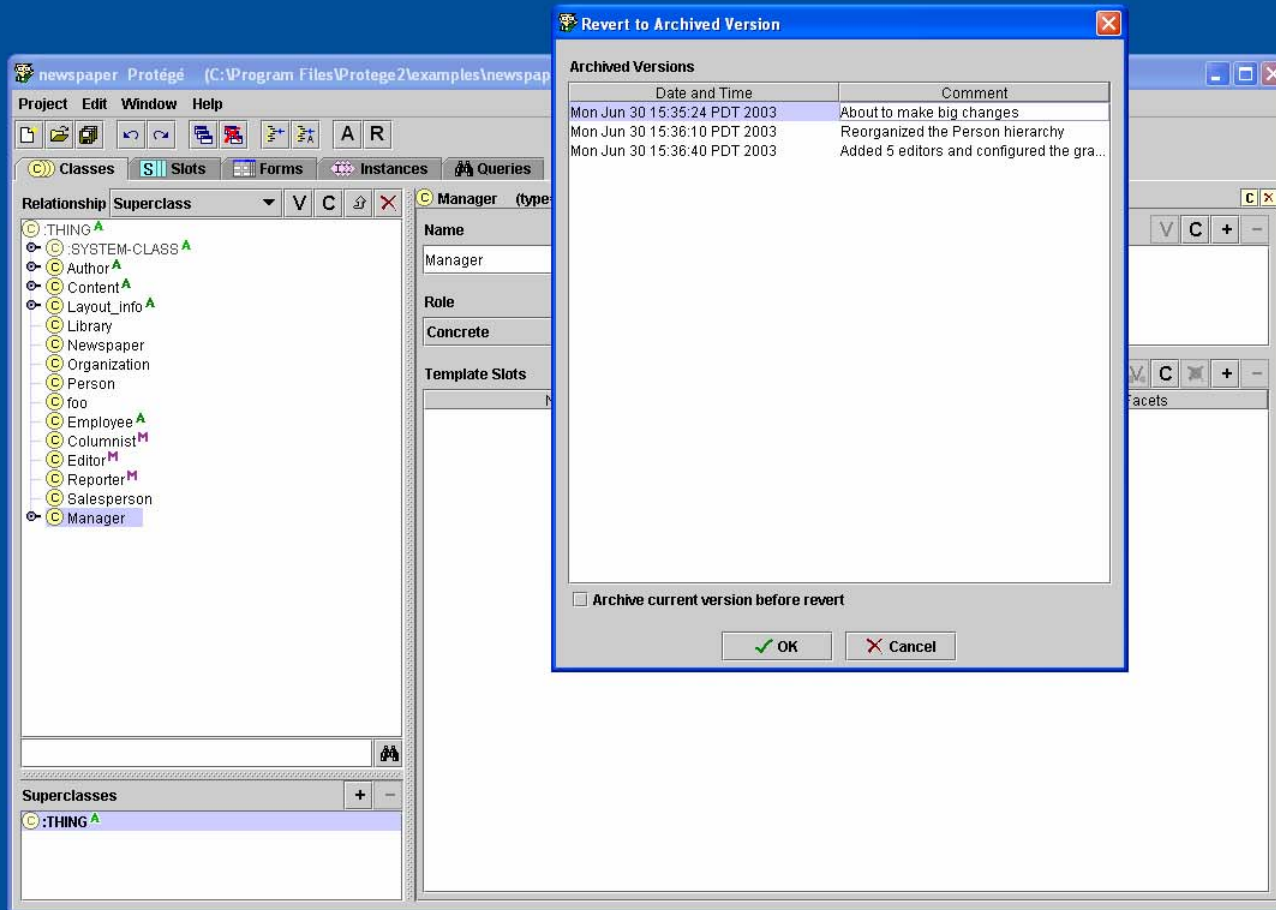


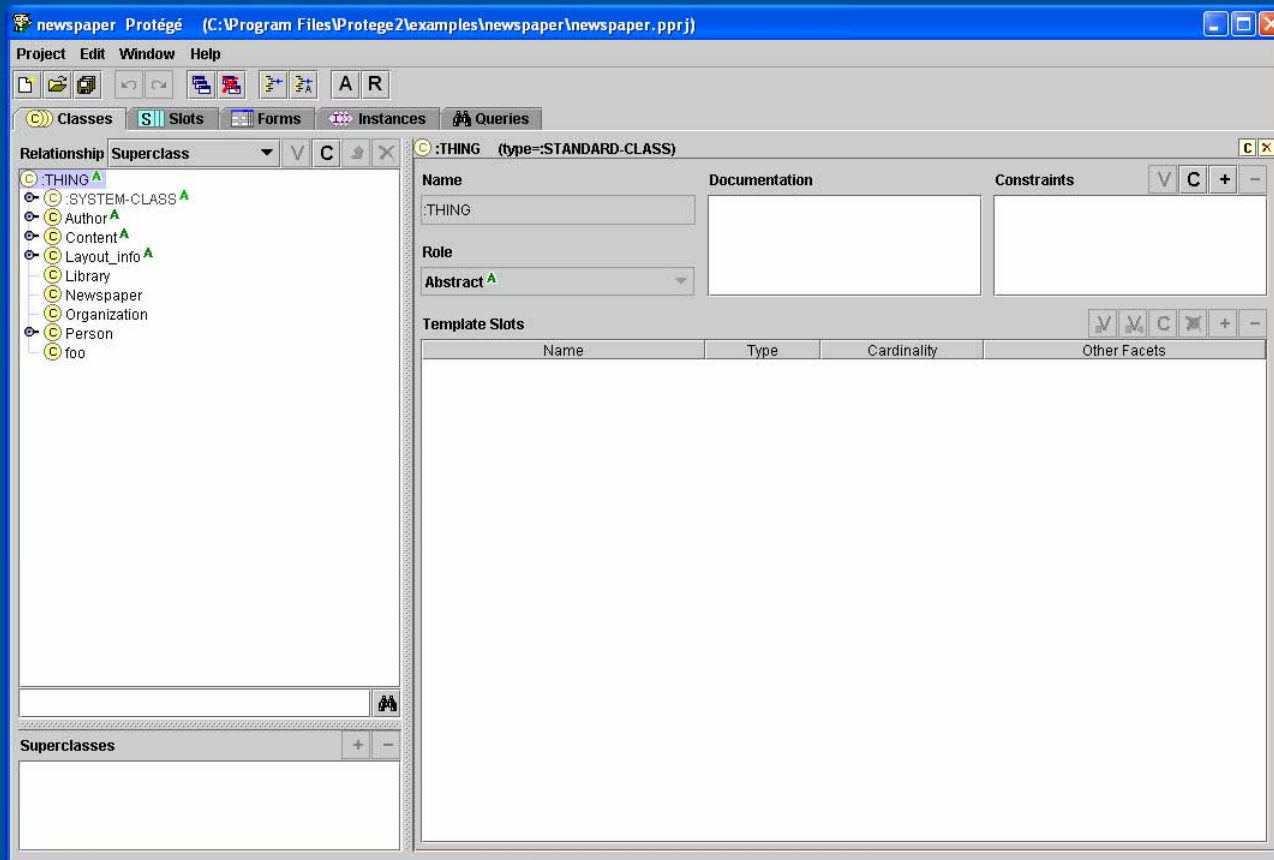


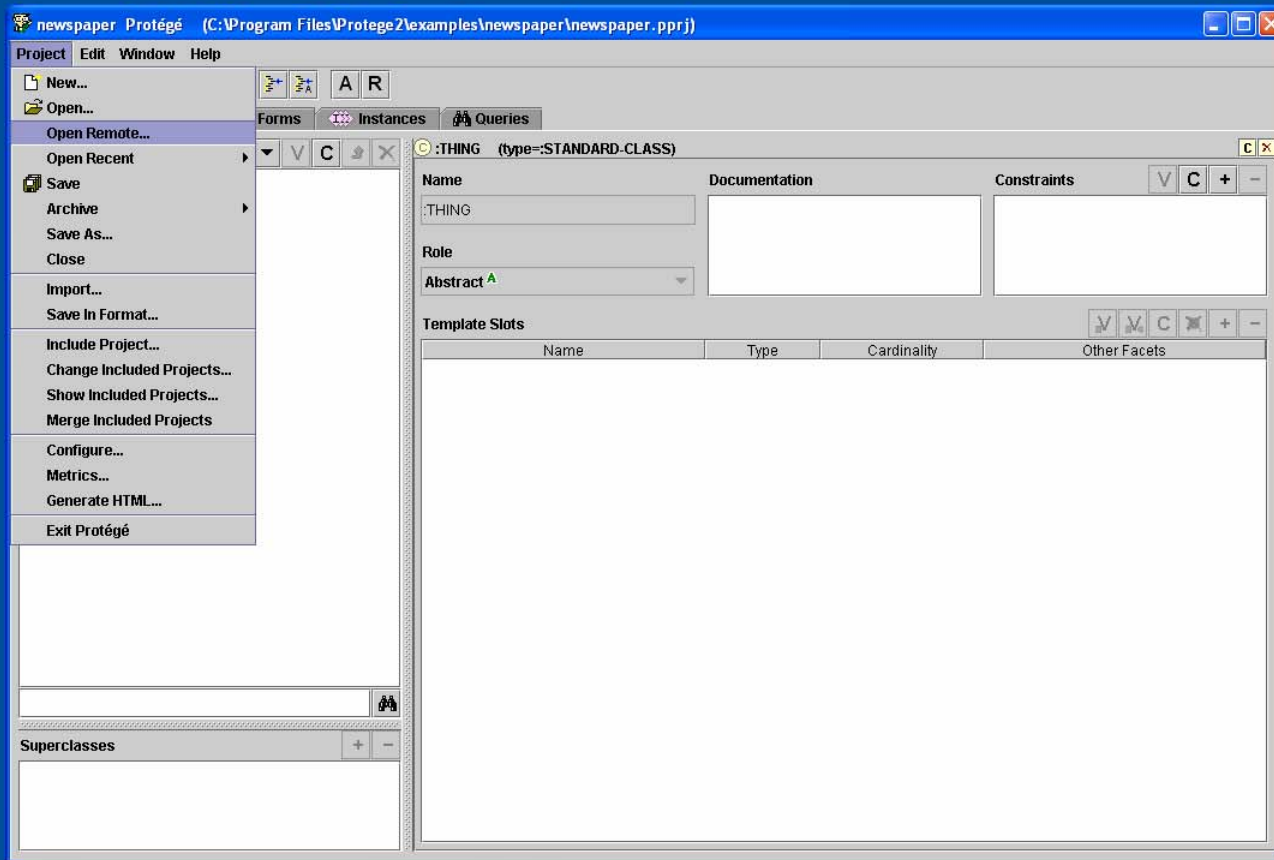


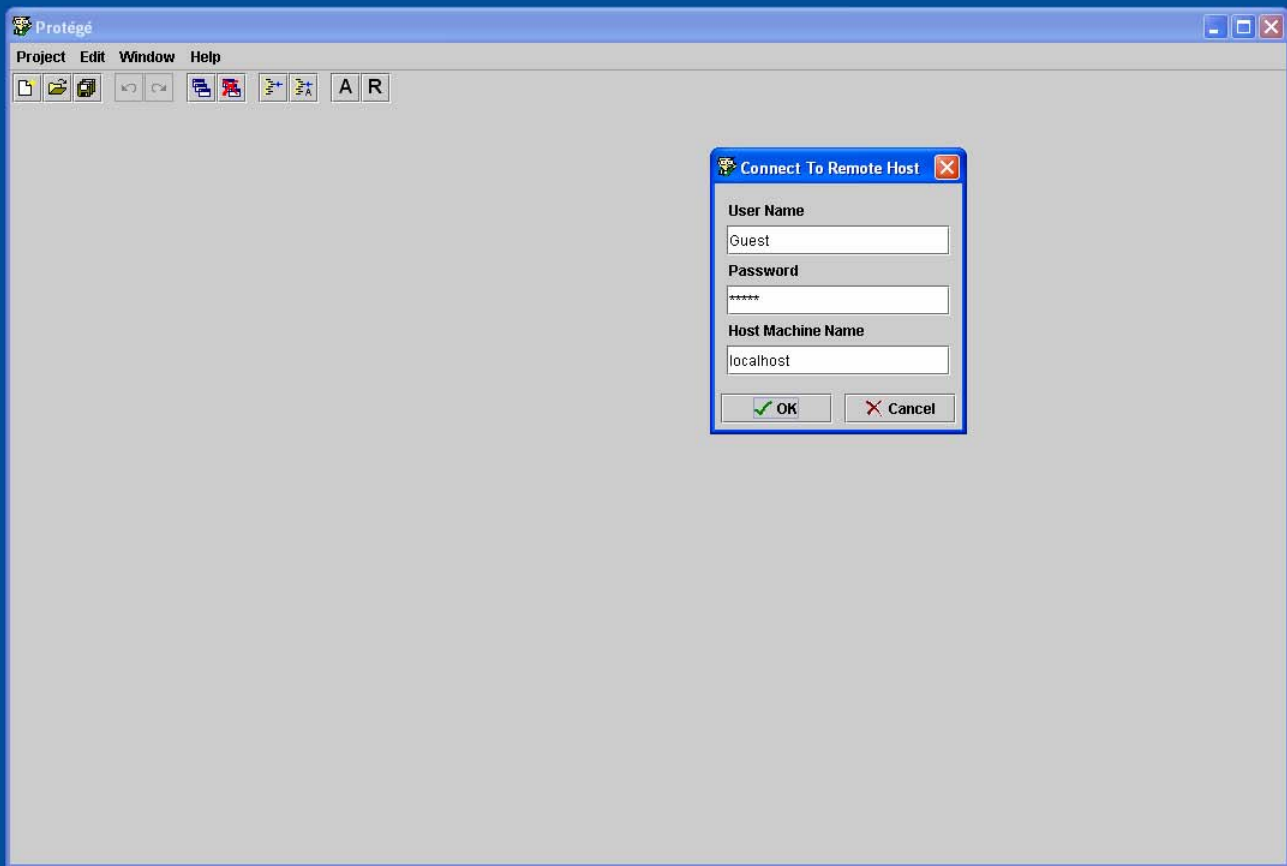


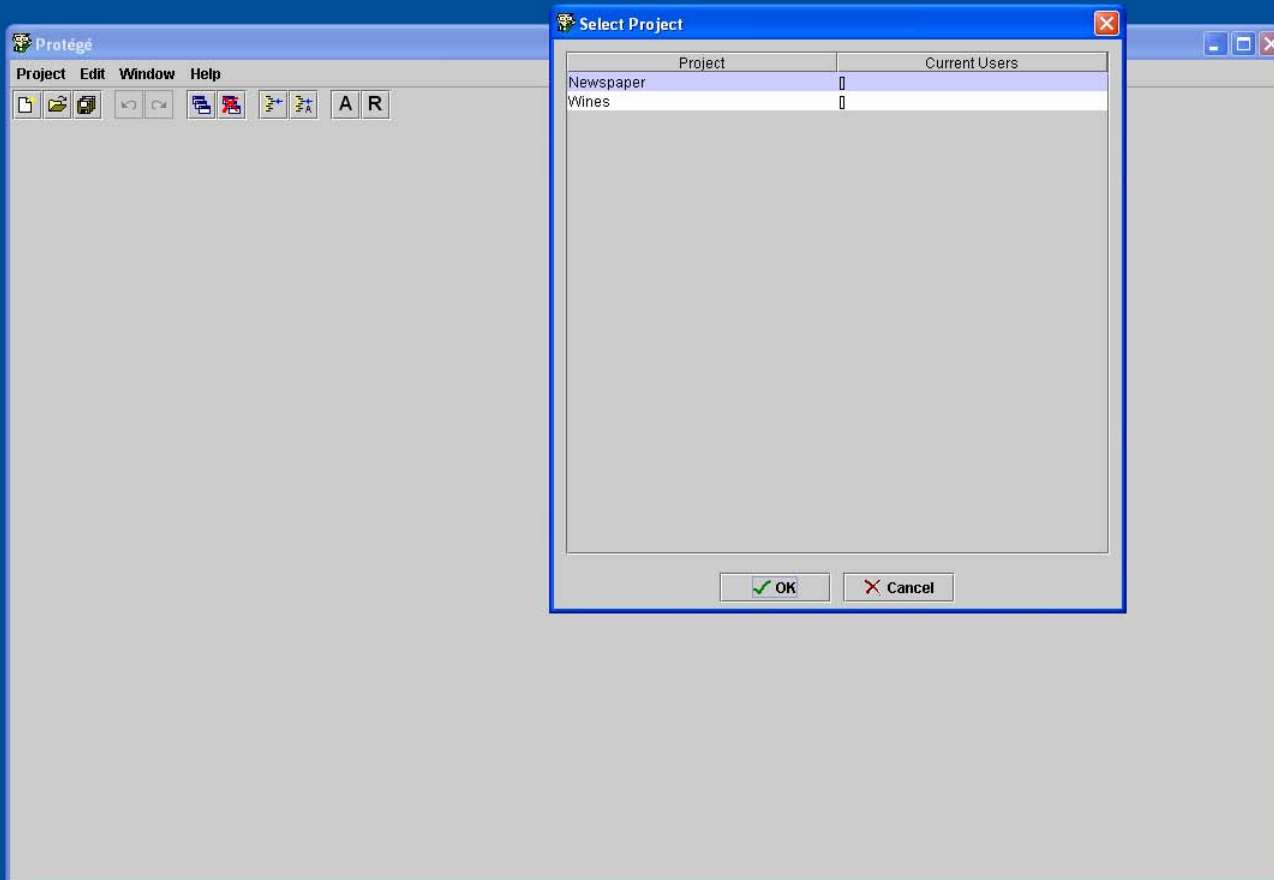


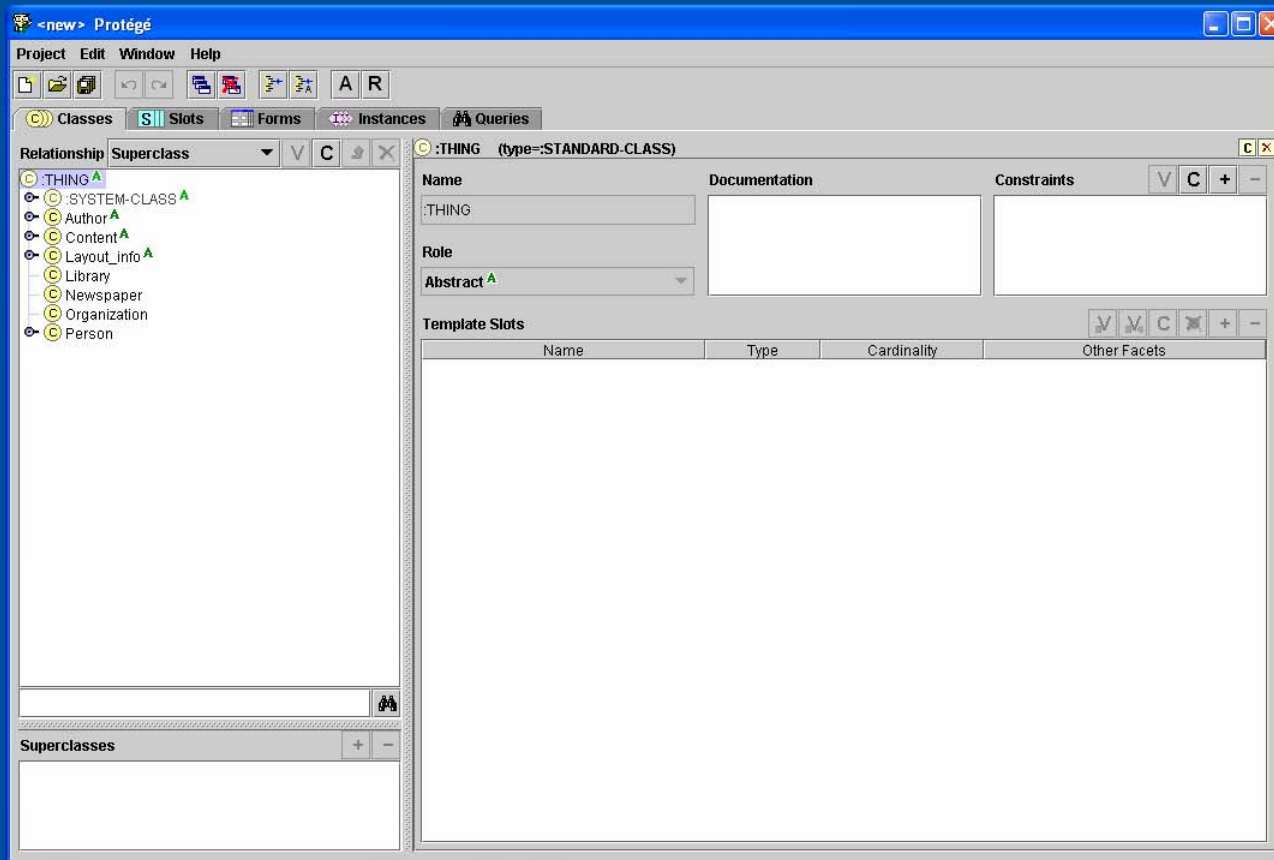


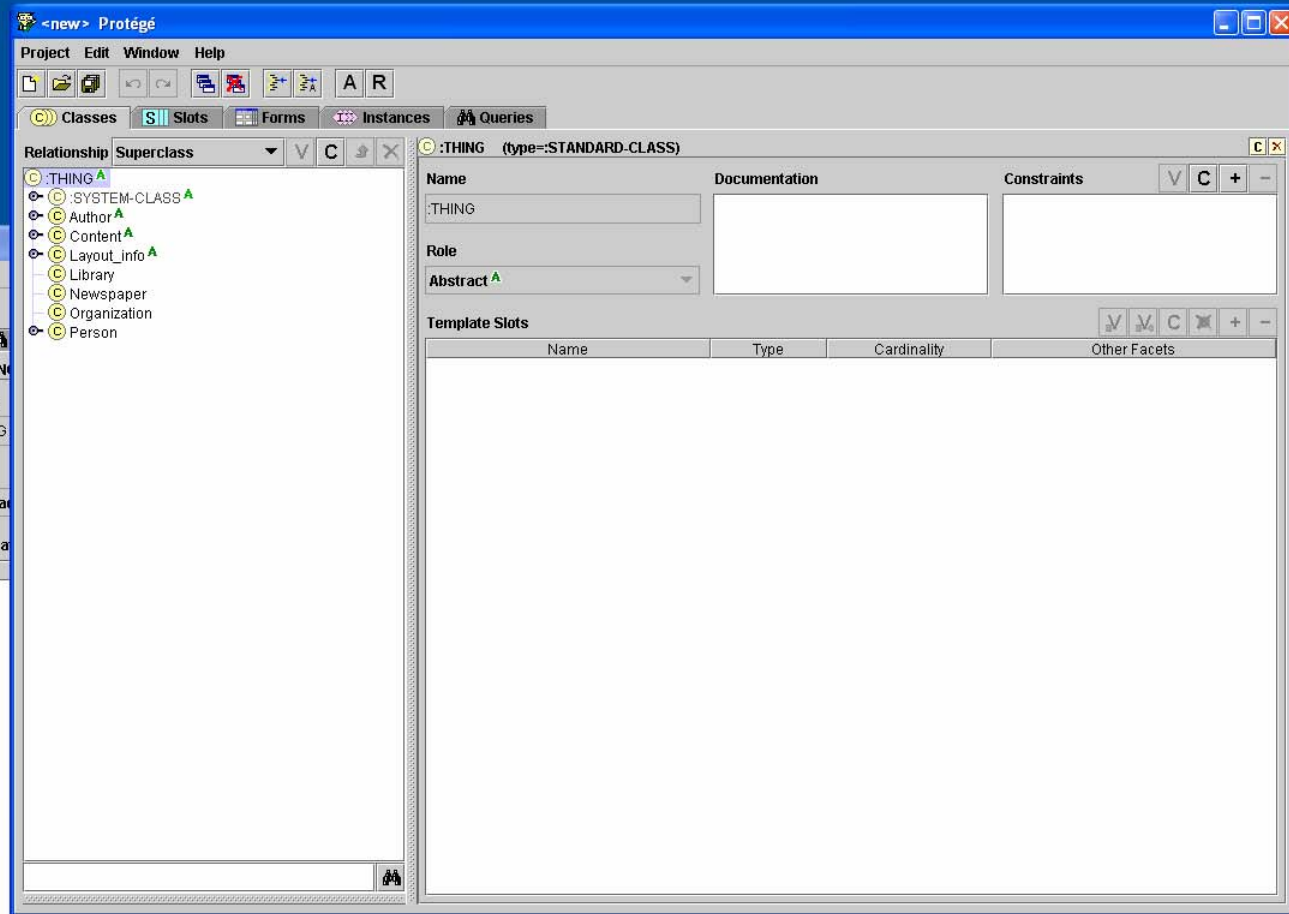
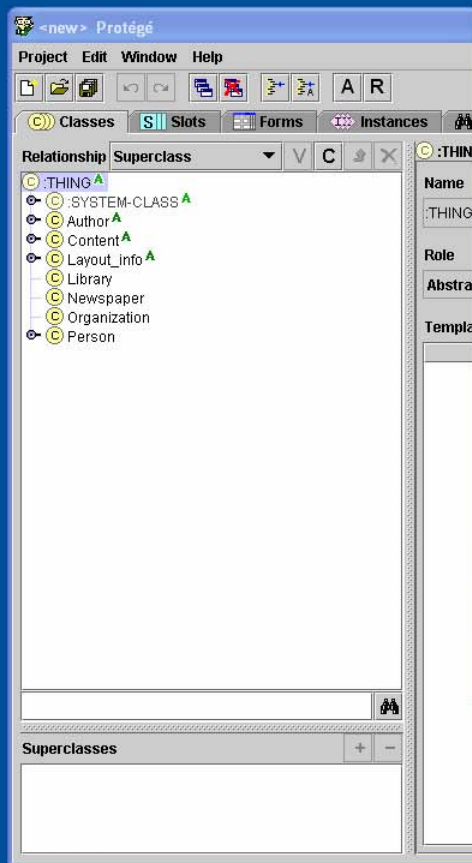


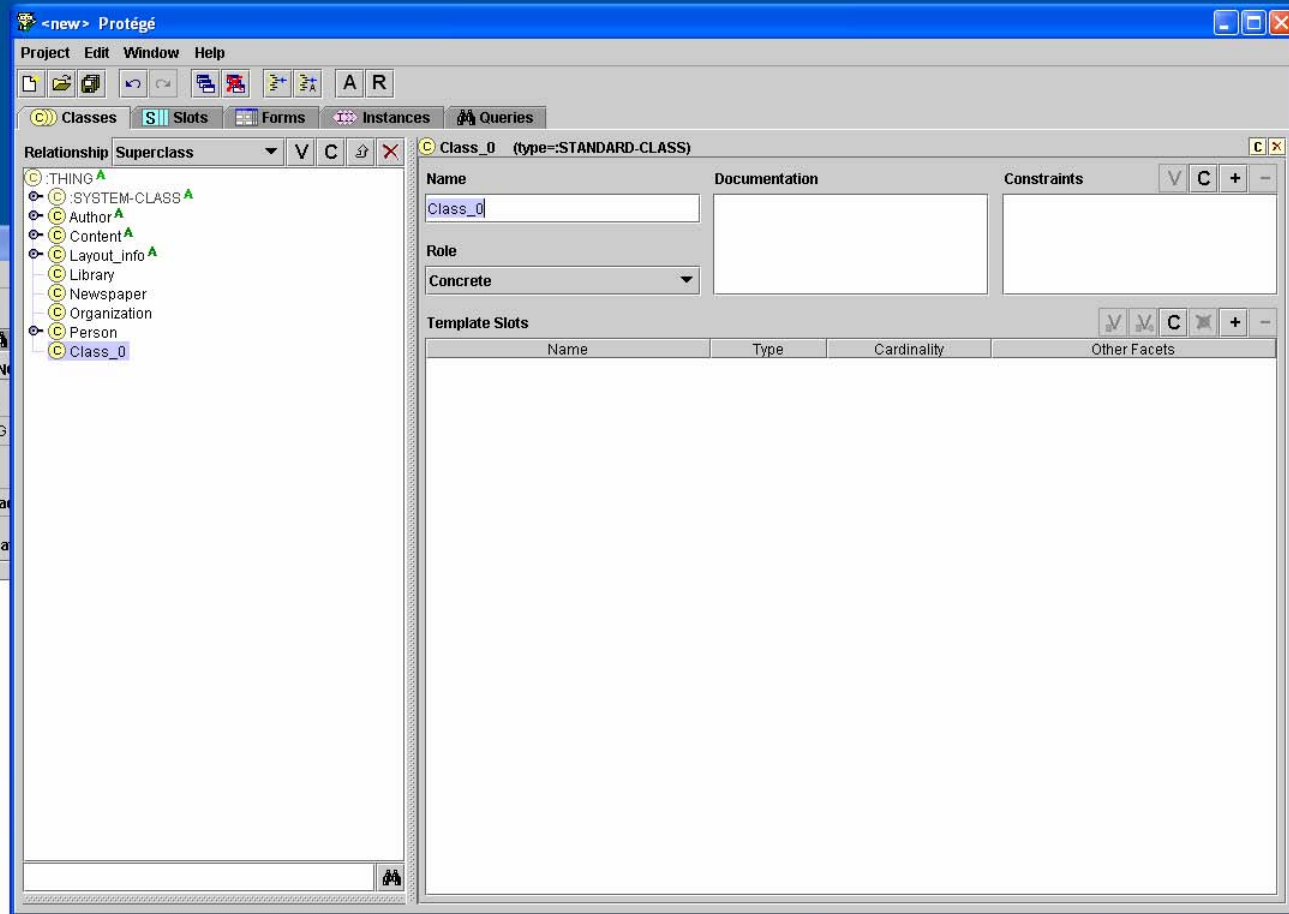
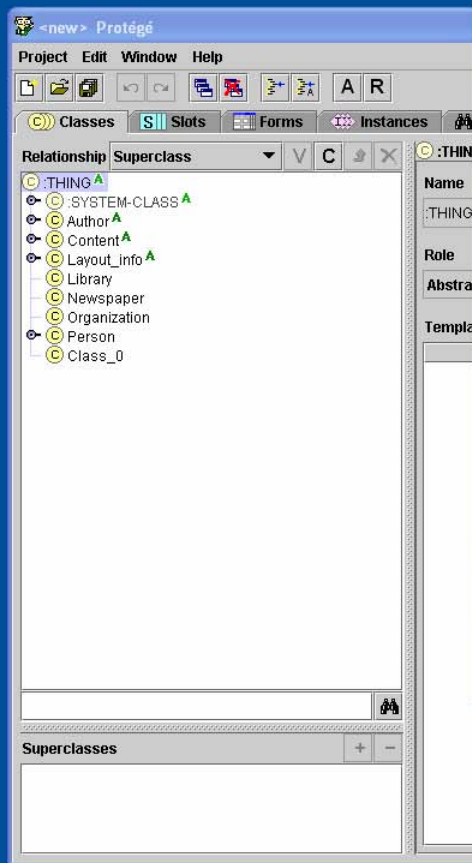












Workshop 5 *Wish List*

- Improved diagram widget **DONE**
- Improved API documentation **DONE**
- Inherited own-slot values (through API or UI) **NOT DONE**
- Undo **PARTIALLY DONE**
- Archive and restore buttons **DONE**
- Drag-n-drop everywhere **NOT DONE**
- Tear-off tabs **DONE**
- Synchronizing tabs on selected classes **DONE**
- Selected class/instance API call on instances tab **DONE**
- Search and replace slot values **NOT DONE**
- Database inclusion **NOT DONE**
- Adding things to included projects **NOT DONE**

Next Few Months

- 1.9 release (End of July)
- 2.0 release (Fall, 2003)
 - Multi-user support
 - Improved performance (>1M frames)
 - Project inclusion from multiple directories

Future

TBD!

- Improve web site
- Improve usability of application
- Browser-based interface (?)
- Holdovers from previous wish list...
- Namespaces
- Plugin validation test suites
- ???

Workshop 6 *Wish List*

- *Come back Wednesday afternoon*