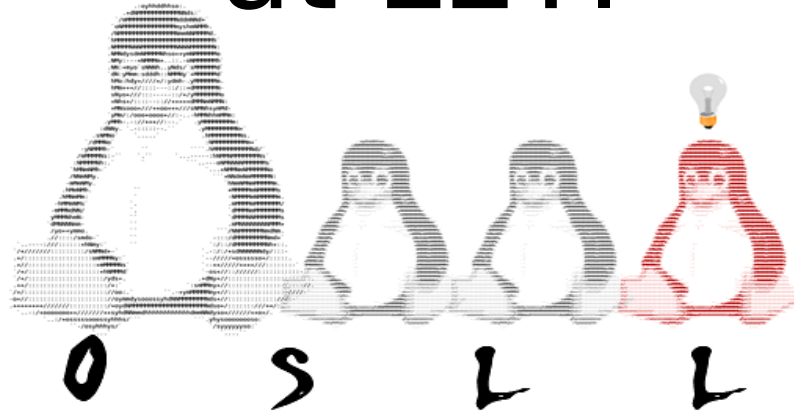


# Open Source Linux Laboratory at LETI



Katkov Yury

**(Saint-Petersburg Elelectrotechnical University «LETI»)**

5th FRUCT seminar

Saint-Petersburg  
28 April 2008

# OSLL Introduction

- Who we are?
  - Students, professors, free developers ...
- Where we live?
  - Saint-Petersburg, Computer Science Department of LETI
  - Web <http://osll.spb.ru>
- Why we are together
  - We like interesting tasks
  - We believe in Open Source initiatives

# Our Goals

- Take part in Open Source Community
- Improve our own skills in new technologies
- Gaining experience with leading technologies and sharing knowledge.
- Spreading the spirit of Open Source community.
- Connecting organizations interested in Open Source research and development with people willing and able to research and develop.
- Raising Open Source activity in Russia.

# OSLL Activities

- Nokia/Maemo
  - User applications, utilities
  - Networking
  - System programming
- OLPC/XO
  - Development, support, translations
  - Kid's camps
- Wireless Networks
  - WLAN investigation (802.11, 802.16, ZigBee)
  - Simulation tools (NS2, etc)
- Student's contests
- Mastering of new technologies

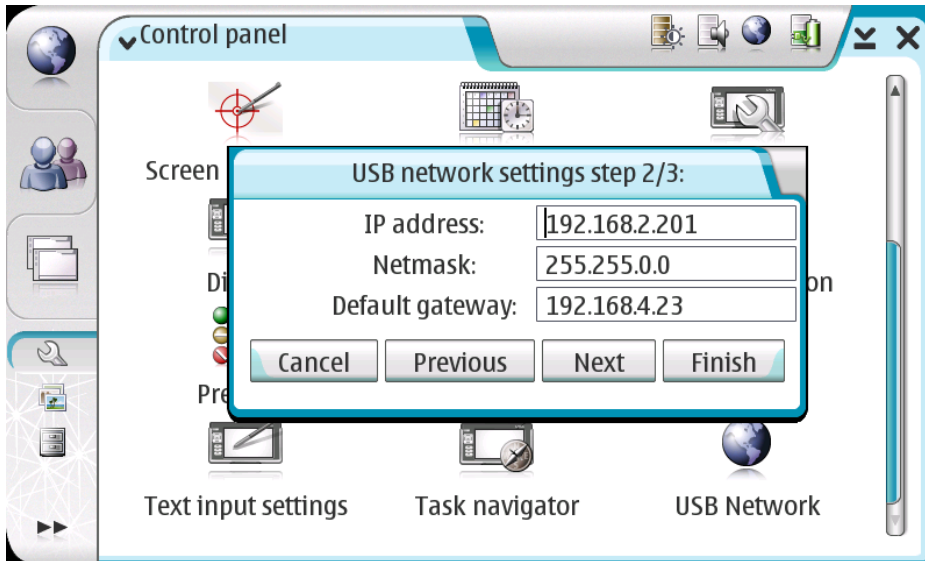
# Activity: Nokia MAEMO platform

- Starting up
  - Mesh based distributed filesystem
  - Porting Sugar on Maemo
- In progress
  - Lightweight WebDAV server/client
- Finished projects
  - Network configuration applet
  - Mesh on Nokia Internet tablet
  - Nokia OLPC/XO Mesh connectivity

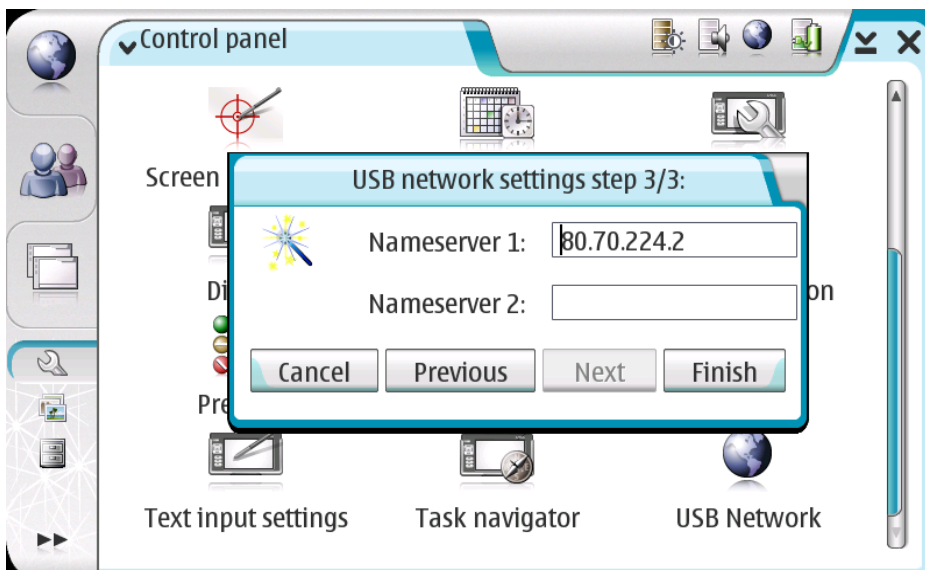
# Web-DAV Server/Client

- Platform: maemo 3.0, 4.1
- Features:
  - reading, writing files through HTTP
  - moving files
  - directories and file browsing
- Goals:
  - Server based on *lighttpd*
  - Console client based on *cadaver*
  - GUI client based on PyGtk+

# Network configuration applet



- Platform: maemo 2.2
- Features:
  - Static or DHCP IP Address selection
  - Static IP configuration
  - Network restarting
  - Nameservers configuration



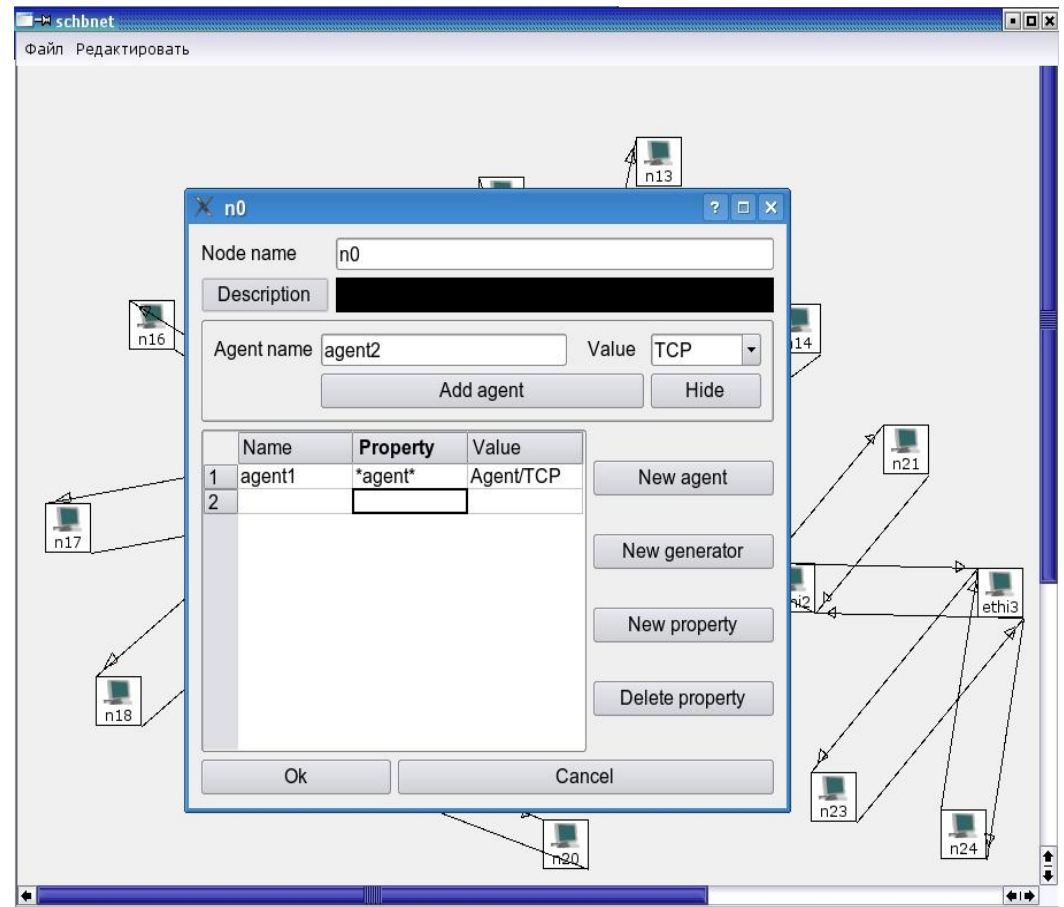
# Activity: wireless networks

- Mesh linux implementation
  - Nokia Internet Tablet
  - OLPC/XO Mesh
- WLAN simulation and modeling
  - HWMP investigation
  - NS2 tools and improvements
    - NS2gui (network configurator)
    - Xml output tools
- ZigBee



# NS2 GUI

- Simple Tcl/Tk script generator for ns2 network modeling program
- Cross-platform application
- All ns2 traffic source supported
- Presented in Sourceforge.net



# Activity: OLPC/XO



- Our current OLPC activities are:
  - preparation to the OLPC summer camps
  - porting applications to XO (Kumir Activity)
  - Sugar improvement
  - setting up the XO Repair Center

# “Social mesh”

- Neighborhood view could be much more social!
- For that we want to integrate Neighborhood view with social network engine
- First step – small questionnaires that will be available from Neighborhood view
- Gradual improvement to the real social network like Facebook / Vkontakte

# Activity: Programming contests

- Widgets
  - 2008, During 3<sup>rd</sup> FRUCT
- Intel students threading contest
  - 2008, 3<sup>rd</sup> place
  - 2009, going on
- Apps porting to Solaris contest
  - 2009, During Sun tech days (in top 4)
- Opera widgets
  - 2009, going on

# Betavine Widget Competition 2009

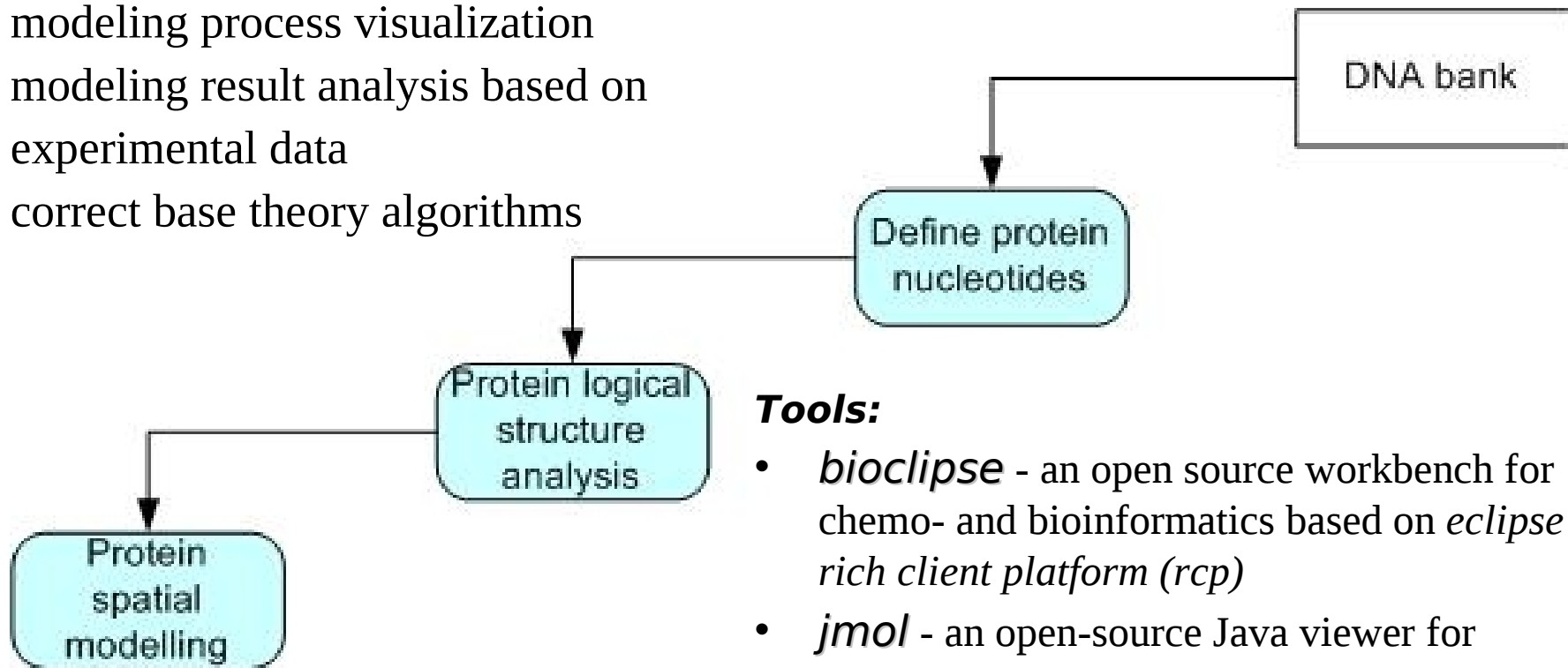


- Betavine – Vodafone R&D lab
- Creating widget for
  - Opera 9.5 mobile platform
  - Compatible with Nokia S60 series
- There is an OSLL widget for that competition

# Protein molecules topological structure modeling system

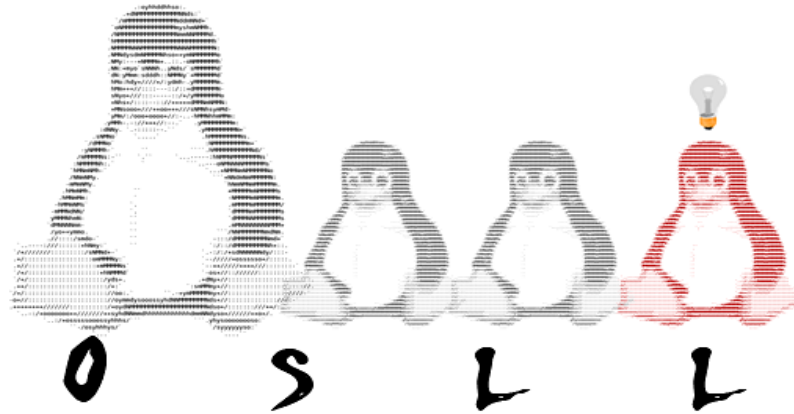
## Goals:

- algorithms of topological modeling theory implementation
- modeling process visualization
- modeling result analysis based on
- experimental data
- correct base theory algorithms



## Tools:

- *bioclipse* - an open source workbench for chemo- and bioinformatics based on *eclipse rich client platform (rcp)*
- *jmol* - an open-source Java viewer for chemical structures in 3D
- *cdk* - Java library for structural chemo- and bioinformatics



**osll.spb.ru**