

Integrated e-Learning Platform for Chemical Engineering Education

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<http://www.chim.upb.ro/CTTPI/>

<http://www.siveco.ro>

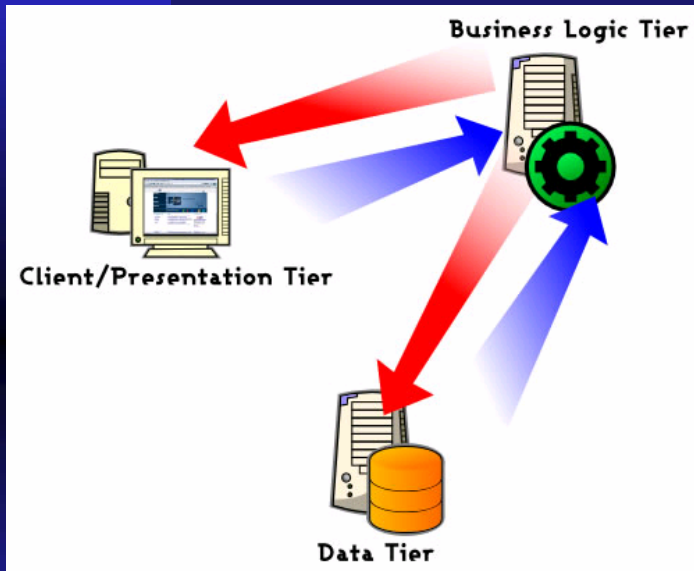
OBJECTIVES

- ◆ development of a software environment - SeLFT
- ◆ procedures delivery for SeLFT exploitation
- ◆ content delivery for the education activity

System Features

- friendly, easily adaptable and differentiated upon roles interface
- groups, roles and users together with access privileges are easy to manage
- based on MathML, SCORM, IMS standards
- structure
 - ◆ application server based on Java platform
 - ◆ a web browser type client application
- technologies used: Java Applets

System Architecture - Tiers



Database tier

- ♦ offers data management services

Business tier (LOGICAL)

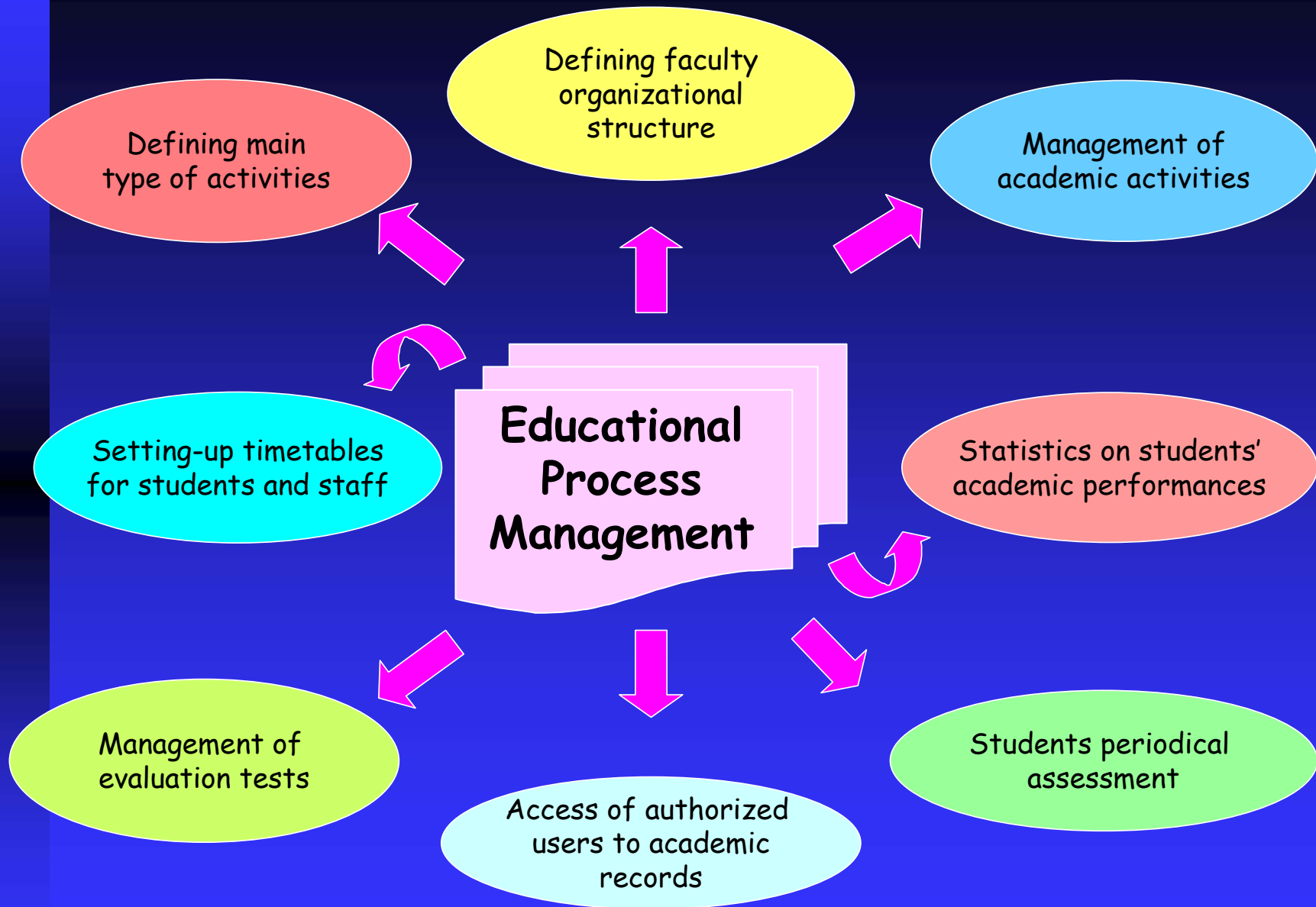
- ♦ runs functional components (modules),
- ♦ users access applications via LAN or WAN.

Thin clients tier

- ♦ several users access same application through a multithread process
- ♦ application server runs the corresponding application
- ♦ database server provides the necessary data management services

System Architecture - Advantages

- **Extensible:** addition of new functions without disturbing the existing ones and reorganization system data
- **Scalable:** one dimension increase ⇒ automatic increase of remaining dimensions (compatibility)
 - ◆ horizontal (new client machines)
 - ◆ vertical (new servers)
 - ◆ database and application servers allow connection of several instances running on different machines.
- **Distributed:** uses one or several database servers
 - ◆ access restricted through the security module.



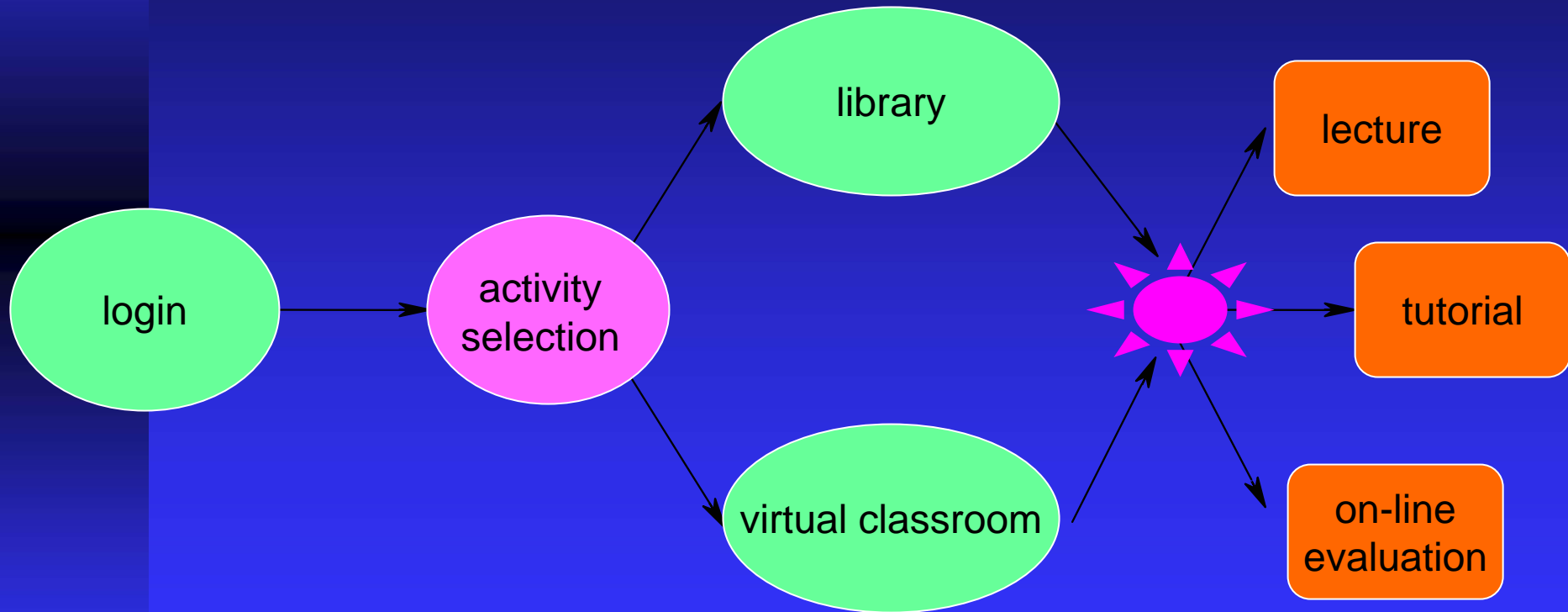
Educational Content Delivery

- Assisted lectures
- Non-assisted lectures
- Seminar
- Laboratory
- Evaluation and self-evaluation

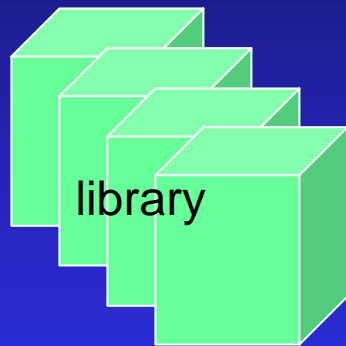
Interactive Teaching

- Similar content displayed on any station
- Running interactive activities
- Permanent monitoring of students' activity
- Good synchronization between student and academic displays

Learning and Teaching by e-Learning



Library



academic staff

**-designs interactive applications in other compatible formats or uses the library module 'html' editor
-exports applications to lessons**



student

'visits' the library to study allowed teaching resources

Virtual Classroom



- sets location, topic, target groups
- checks connections

launches application



- 'enters' virtual classroom
- waits activity launching

surfs application

virtual classroom

Student Refraining from Verbal Comments



Testing and Evaluation

- Test design and editing
- Support of different test-types
- On-line testing and monitorization
- Instant access to results
- Survey support

Grading Book

Address <http://selft.chim.pub.ro:82/ael/elevij/carnetElevArhiva.jsp?ID=1048@1251@1110&elev.crt=1> Go Links

SIEFAT Student : Petru Bota [P_BOTA] Deconectare ?

Avizier Clasa virtuală **Secretariat** Biblioteca SIVECO

Orar Grupe **Studentj** Cadre didactice Definiere organizație Statistici

>> SELFT >> Secretariat >> Studentj >> Carnet de note

Carnetul studentului Bota Petru
An I 1214E
Anul universitar 2004 - 2005

Sesiune Sem I 04-05

Disciplină	Cadru didactic	Note
		Verificări pe parcurs
		Examen partial 28/08.02.2005
		Alte notări 20/08.02.2005
		Proiect -
		Total 48
		Verificare finală 47/08.02.2005
		Total 95
		Calificativ final 10(zece)
Chimie Analitica si Analiza Instrumentala	Administrator Sistem JOSCEANU ANA MARIA	

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e-Learning Applications for Chemical Engineering Education

Running Subjects

- **Analytical Chemistry**
- **Basics of Chemical Engineering**
- **Computer Programming**
- **Technical Thermodynamics**
- **Transfer Phenomena**

CONCLUSIONS

SeLFT is an integrated e-learning system for technical faculties, presenting administrative and educative functions. Complete implementation ensures better management of the teaching activity and a new, more attractive mode of imparting knowledge to students.

