



# **INFORMATION SYSTEM FOR ELECTRONIC SUBSCRIPTION TO A SCIENTIFIC JOURNAL**

*Stanislav Dimitrov, Phd Student*

---

*INTERNATIONAL CONFERENCE AUTOMATICS AND INFORMATICS'2013  
3-7 October 2013, Sofia, Bulgaria*

# The aim

The aim of my research is to design and develop an Information system in internet for electronic subscription to a scientific journal which allows for registration, tracking of user's status, selective searching, processing and obtaining information for articles published in the A&I Journal.

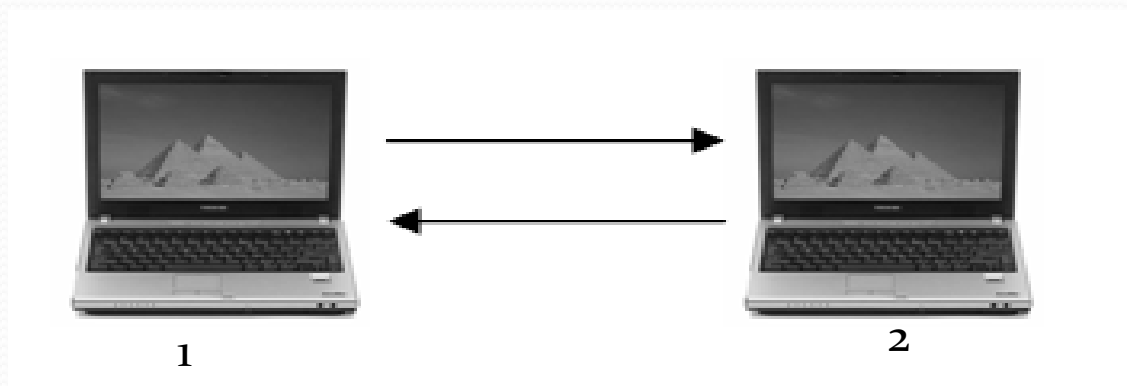
# Classification of information services with regard to their area of application

Accounting  
Automobile repair  
Commercial services  
Building  
Engineering  
Distribution of goods  
Healthcare  
Law  
Industry  
Non-profit services  
Real Estate  
Retail sales  
Transport  
Production and marketing of automobiles and fuels

# Classification of Information services in Internet based on service type

- Information services which aim at maximum approaching to analogous activities in the economic life – we need the copy their informational span which reproduces itself in electronic mode.
- Information services which generate a new type of socio-economic activities in the global network which are maintained by electronic means.

# Models for realization of information services in Internet

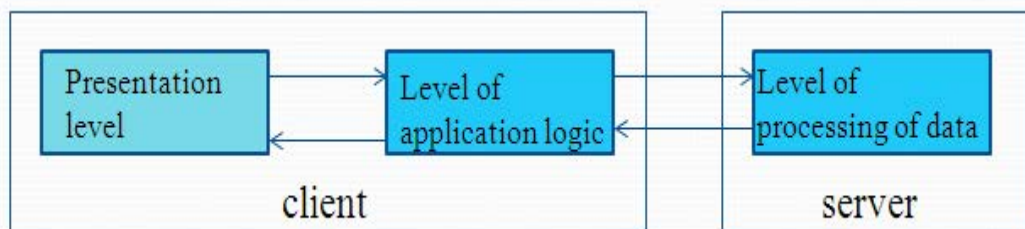


General Model client/server

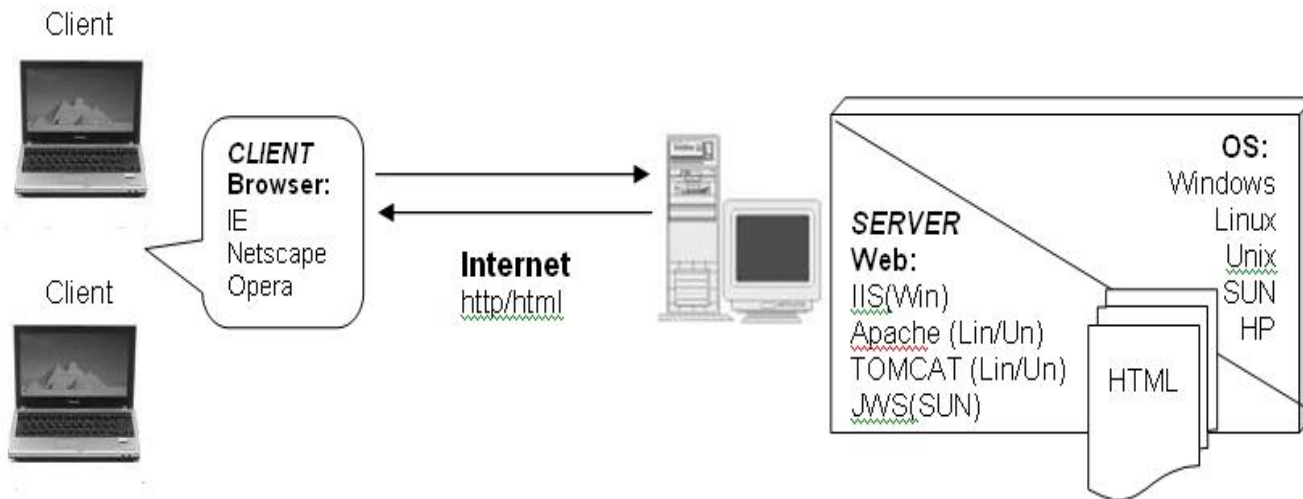
1. Request
2. Response

*All systems work on the basis of the client/server model.*

# Bi-hierarchical client/server model

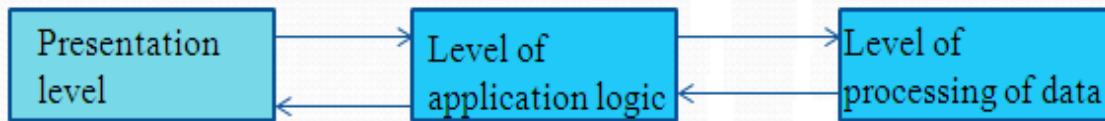


Static HTML pages transmitted in HTTP protocol.



**I. Level:** Internet Explorer, Opera, Mozilla  
**II. Level:** Program Web server.

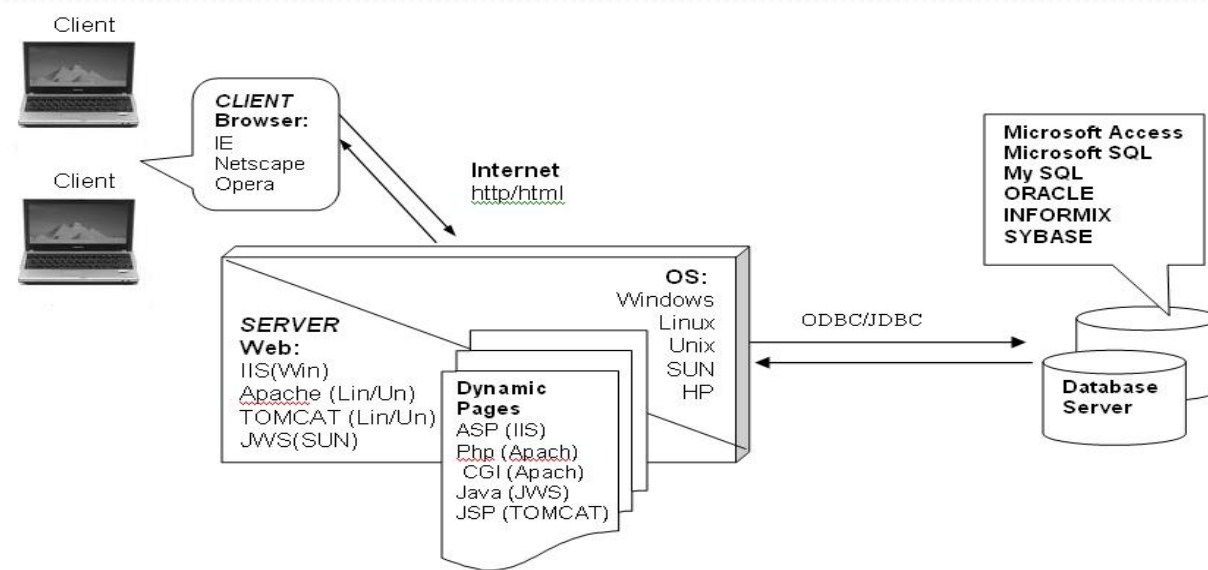
# Three-hierarchical client/server model



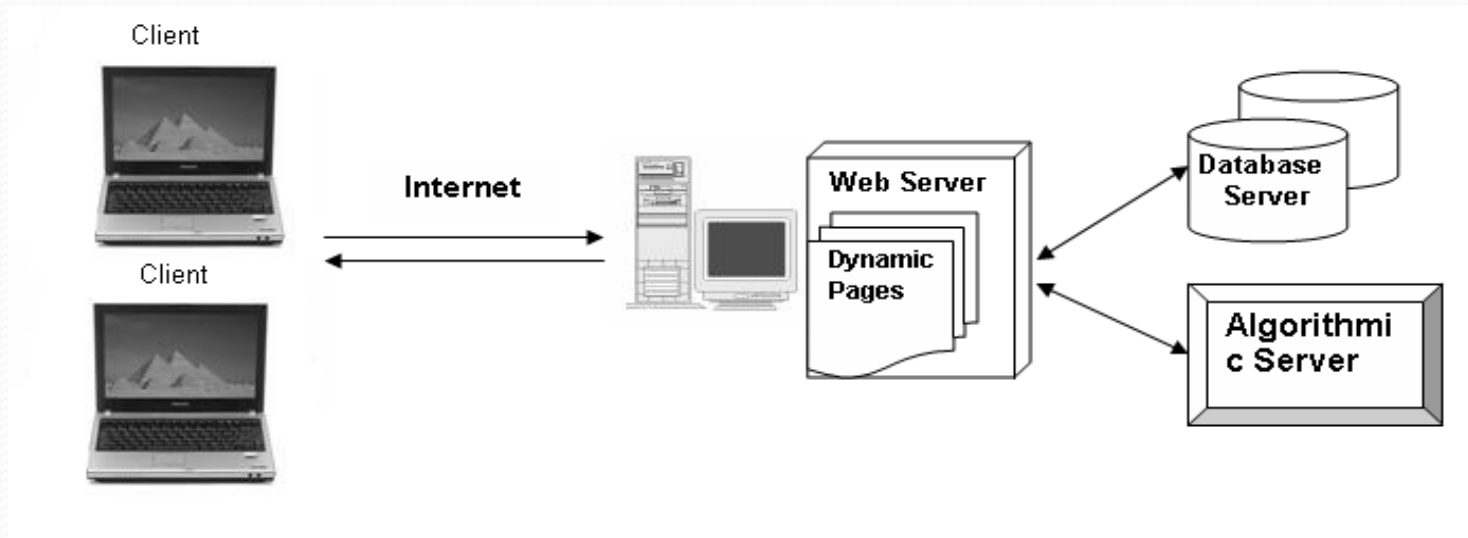
**I. Level:** Internet Explorer, Opera, Mozilla

**II. Level:** The Web server program with additional programming means for connection and information exchange with DB: ODBC, JDBC  
Server programs (languages)

**Level III :** it is being realized by RDBMS



# Four-hierarchical client/server mode





The client/server model with three levels has been preserved. Fourth hierarchical level appears, one which contains a program module called algorithmic server which performs complex algorithmic processing of the information.

**I. Level:** Internet Explorer, Opera, Mozilla

**Level II:** Processing and maintenance of XML- structured information. The XML technology allows for increase in the functional capacities for information processing by both the server and the client.

**Level III:** It is presented by RDBMS Microsoft Access, Microsoft SQL Server, MySQL, SYBASE, Oracle, Informix. It performs functions of storing, searching and updating of structured information.

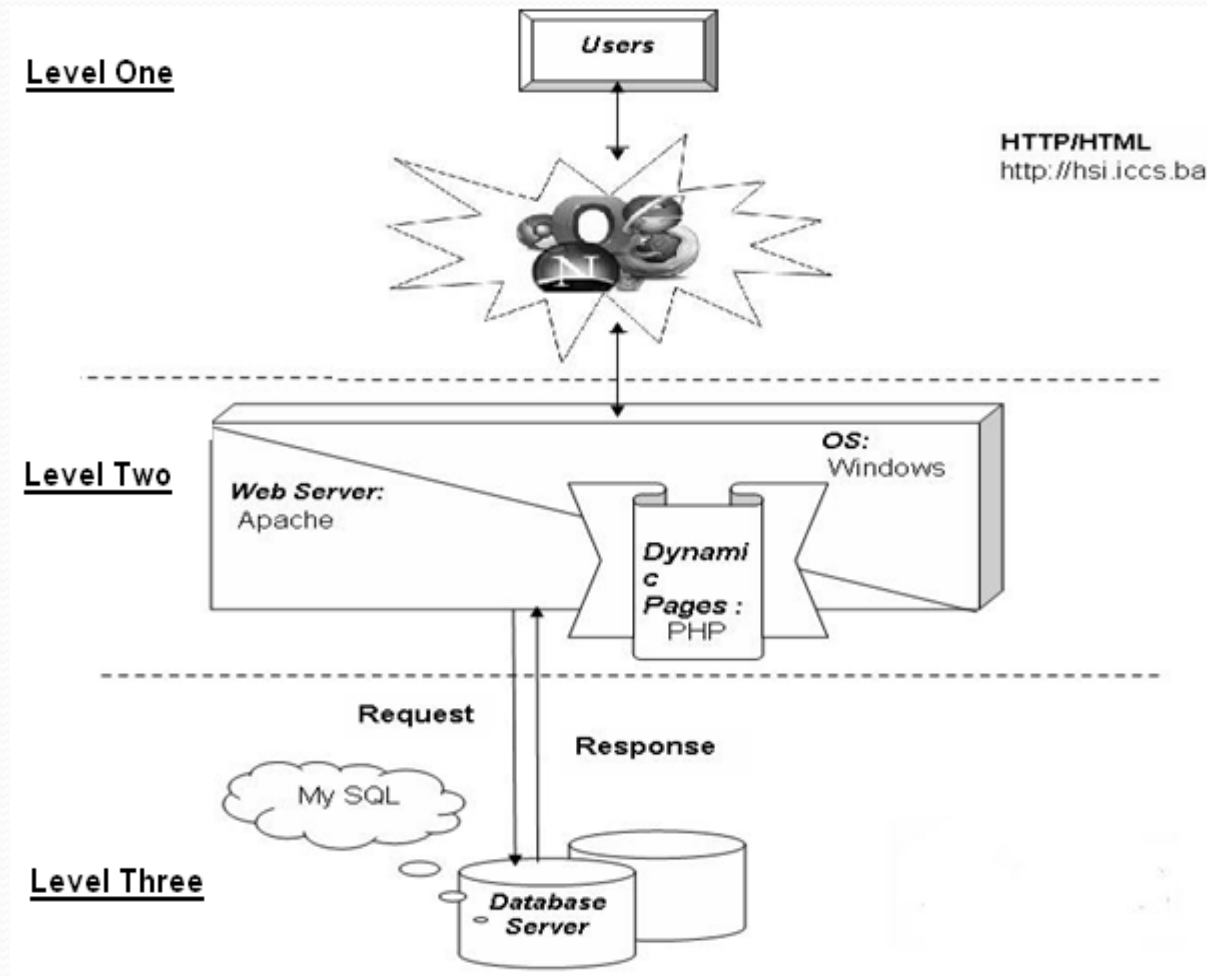
**Level IV:** This is a systemic- algorithmic level, which is being realized by foreign programs (applications). They could be created in various algorithmic languages: C++, C#, Fortran, Cobol The algorithmic structure of this level's programs is directed to complex processing of user's information.

# Designing of the system

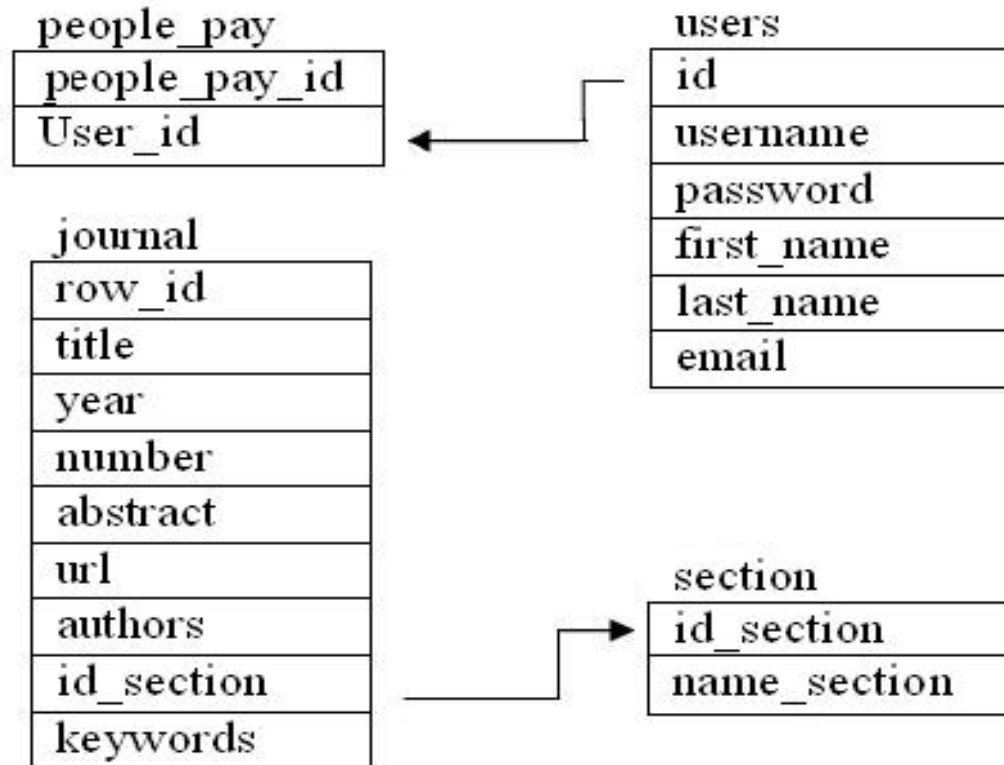
Basic blocks of the developed system are:

- Portal which provides access for entering in remote data base for distributed searching;
- Data management – it provides searching over distributed data bases.
- Dynamical generating – processing of results and extraction of information in real time.
- Currently in the system are introduced data for the issues of the A&I Journal and articles published in it for the 2007-2009 period.

# Architecture of the application

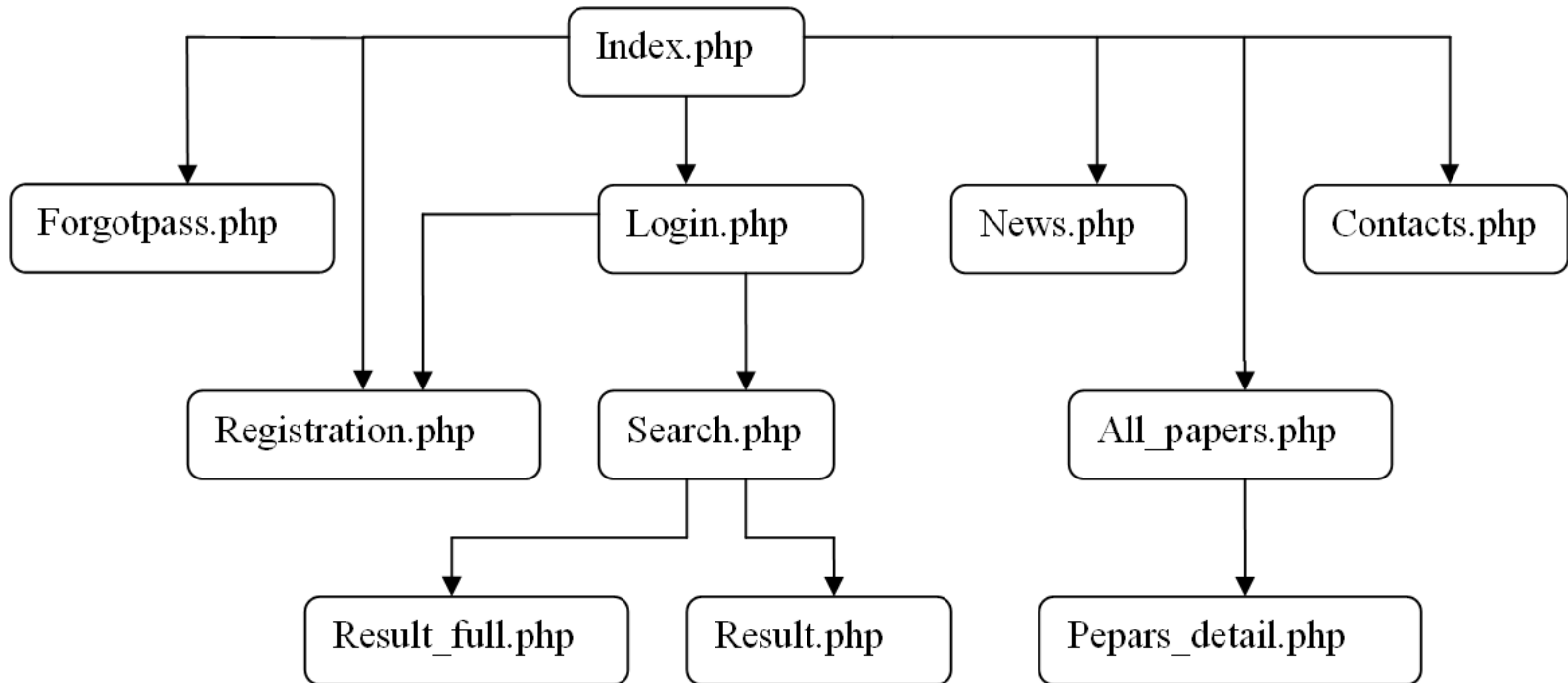


# Description of data bases



A general scheme of the relations between the tables.

# Description of the modules



General block scheme of the modules

# Summary

- *An information system for electronic subscription for scientific journal was elaborated.*
- *The designed information system in internet allows for registration, tracking of user's status, selective searching, processing and obtaining information for articles published in the A&I Journal.*
- *A solution which uses a three hierarchical client/server model of the information system is presented.*
- *This work ensures practical application for the Automation and Informatics Union in order to provide electronic subscription services for users interested in the journal it publishes ("Automatics and Informatics").*



**Thank you for your  
attention!**

# Acknowledgement

This research is supported by the project

**ACOMIN** "Advanced Computing for Innovation", grant 316087,  
funding by FP7 Capacity Programme,  
Research Potential of Convergence Regions (2012-2016)