Structure and functional overview of a Knowledge Management Environment In Healthcare Organizations

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Introduction

The healthcare organizations face a lot of challenges:

- Increased costs
- Economic restrictions
- Bigger emphasis on medical responsibility and transparency
- Changes in education
- Enormous developments in biomedical research
- Initiatives that focus in the distribution of knowledge

All the above factors influence the effectiveness of healthcare organizations and lead to the increased need for changes

The current situation

Healthcare professionals are called continuously to absorb information on:

- new drugs
- new illnesses
- new clinical processes and biomedical techniques
- EU and state directives or guidelines
- warnings on negative effects of medicines
- new scientific discoveries in medicine
- big volume of information from various sources
- patient's demands for quality treatment and better healthcare services

They are obliged to dedicate concrete effort and small period of time for the above procedure. Also, each doctor has specific capabilities of memorizing and retracting information.

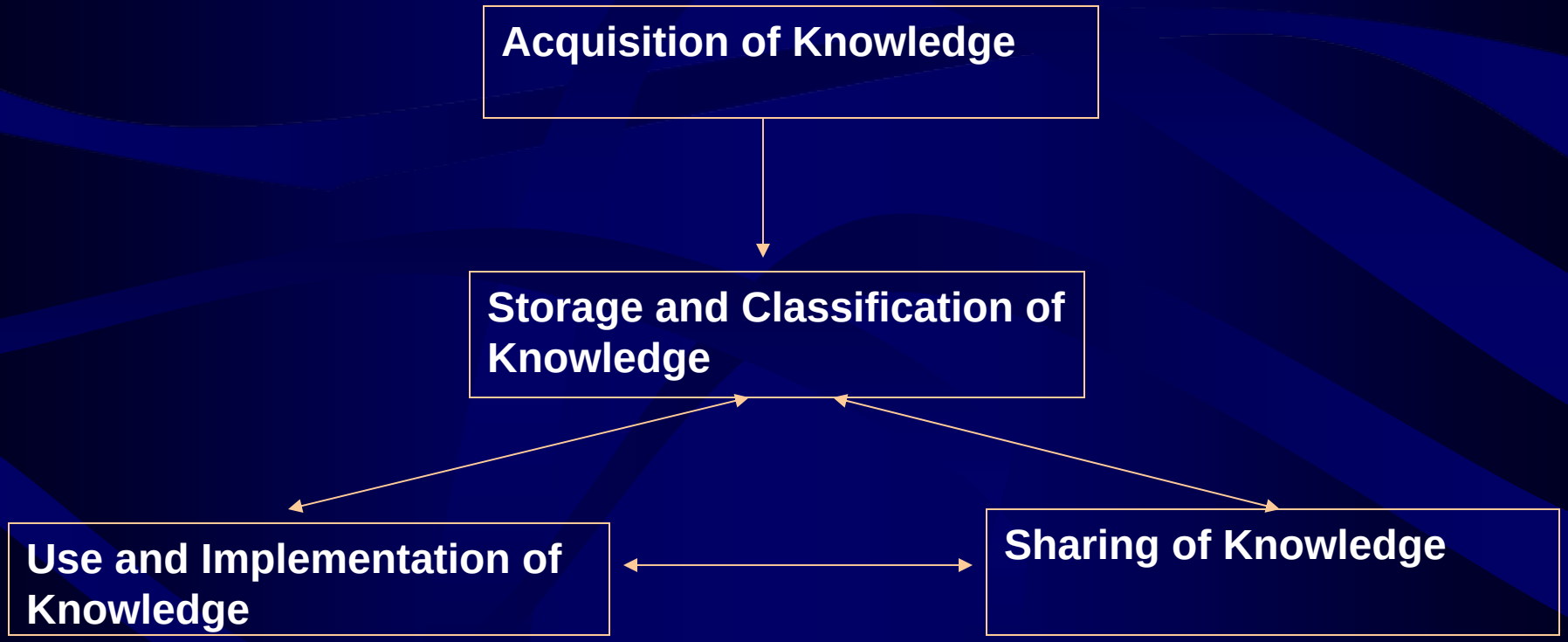
Related Technologies

- Methods and tools for supporting the dissemination of new discoveries and treatments via the Internet
- Document and workflow management applications
- Collaboration systems and communication tools
- Development and use of modern medical terminology and classification

These technologies, however, are not Knowledge Management applications, because each one of them emphasizes in a particular operation.

Our proposal

Basic processes of the Knowledge Management tool that we propose



Functions of the application

1. Knowledge (Objects) can be stored in various format: documents, spreadsheets, pictures, video, sound, text etc.
2. The Objects are stored in a central Database server via the interface of the application
3. Knowledge is organized and classified in Types and Categories of Knowledge according to the thematic unit and the scientific field that it concerns
4. User Profile: contains personal data, studies, scientific interests etc. Each user can create and update his own profile. After each action from a user, his profile is updated automatically according to his fields of knowledge
5. Search objects and people through various ways
6. Search results are categorized in objects, individuals, localities of knowledge and other relative categories within the category of search.

Development of the tool

Storing and classifying objects

Objects - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Search Favorites Media

Address http://localhost/Knowledge/ui/Objectsteliko.aspx Go Links

Knowledge Management in Health Care

There is 1 user online

User: user1 LogOutButton

- Objects
- User Options
- Search
- Help
- Administration
- Log Out

Create | View/Modify

Object name: Future Carfiology

Title: Future Surgery

Short description: Valve repair or Replacement. Two types of surgery available to treat

Word keys: treatment, surgery, valve

Relative URL's: www.acc.org, www.columpiasurgery.org

Language: Greek

Type of Knowledge: Clinical Processes

Category of Knowledge: Anaesthesia

Choose Category:
- Available Categories
  - Cardiology
    - Surgery Cardiology
      - Anaesthesia
    - Electro-Cardiology

Publication parameters

Public ☑ Private ☐

Date From: 25/06/2006

Date To: 25/07/2006

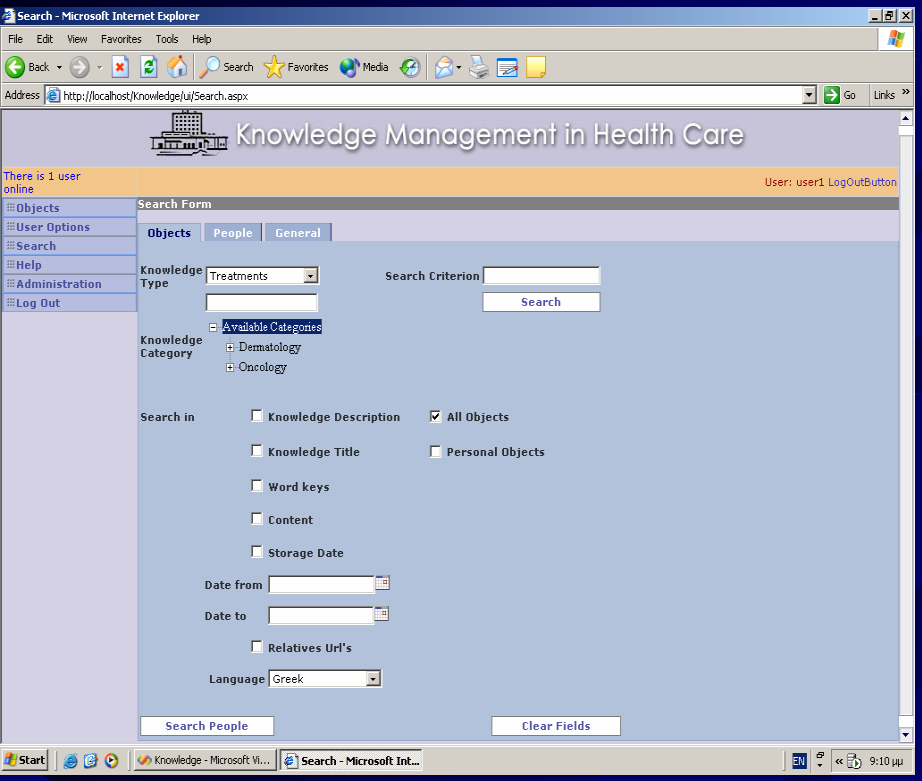
C:\Documents and Settings\Ch. Browse...

Save | Clear fields

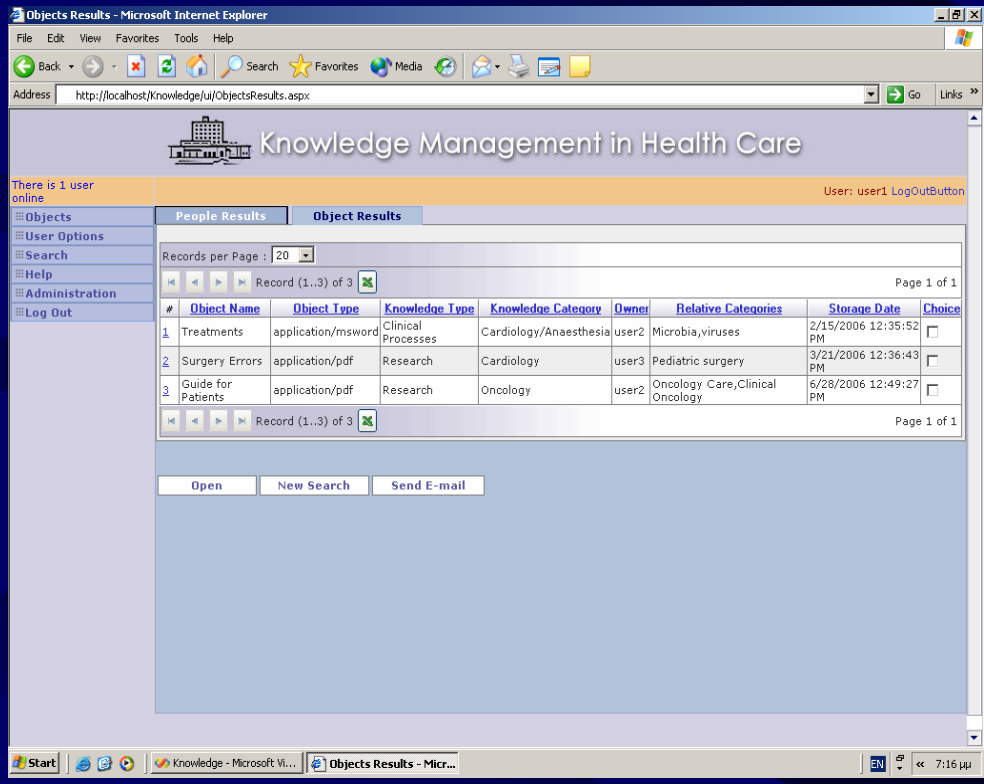
Start | Knowledge - Microsoft Vi... | Objects - Microsoft In... | EN | 2:22 μμ

Development of the tool

Search Screen



Search Results for objects



Evaluation

- The application was installed in the Faculty of Nursing (National and Kapodistrian University of Athens). The system was tested and evaluated by a representative sample of users, undergraduate and postgraduate students.
- Questionnaires and scenarios :

  QUIS (Questionnaire for User Satisfaction), SUMI (Software Usability Measurement Inventory), WAMMI (Website Analysis and Measurement Inventory), CSUQ (Computer System Usability Questionnaire), ASQ (After Scenario Questionnaire) and other well known questionnaires.

Evaluation Criteria

- *Speed*
- *Flexibility in use*
- *Flexibility in data sources*
- *Ease to use*
- *Accuracy*
- *Interactivity*
- *Efficiency*
- *Control*
- *Search engine facility*
- *Traceability*

Conclusions and Future Perspectives

The main conclusion is:

- The existence of a Knowledge Management system in every modern healthcare organization is imperative

Future work :

- To install the application in a real clinical environment

- Focus on the complete incorporation and Integration with:
  - OLAP tools
  - document management
  - visualization tools
  - collaborative tools
  - data mining tools

in order to provide more personalized Knowledge Management and capabilities for creating new Knowledge

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