

Suggestion of 4 different IT products/services

1. Knowledge recycling for lawyers (data mining)
2. Turnitin – Online plagiarism prevention & detection system (service-oriented architecture)
3. Using the public transportation internal positioning system / estimating arrival hours (agents for e-commerce)
4. Administering an online financial stock portfolio (agent – intelligent agent & neural networks)

How these services can be benefited by the existing knowledge technologies?

Knowledge recycling for lawyers

Currently there is an IT service offered to lawyers (with subscription), where they get access to a database containing a number of court decisions. It is almost obligatory for lawyers to have the opportunity of gathering as many data as possible when they are dedicated to a case. This service is simple. By data entry in a fairly simple interface some keywords, they get back a number of relevant decisions. At this point they usually have a stack of documents, with possible similar material to what they are searching for.

Most of the times, they are obliged to dig in these data and spend hours to compare their information to what they really need. In general, this is a tool that helps them to get past experience and acquire the know-how from previous cases.

Necessary, useful, but needs time for someone to find the desired information.

We propose with the use of **data mining** that the lawyer will have the opportunity to create a profile for each case. He can data entry some main characteristics and the “system” will revert with filtered results, ready-made summaries of other cases, suggestions on how to handle the case and a relevant statistical history. Moreover, he will have the ability to search and find information of his client and the opponents regarding their court history. This service will work both wise. Get a portfolio of similar cases and get a profile of the people involved in the case.

Turnitin – Online plagiarism prevention & detection system

This is a purely academic service so far, very helpful for the prevention and detection of plagiarism. Based on the fact that each student has a number of obligations and rights as a student we realize that this framework defines his academic behavior. Since the participation in course

works is the ultimate educational product for the student, it would be interested to get data on its quality.

Adopting the philosophy of “credit card authorization” and “purchase order processing”, by applying **service oriented architecture** we may create an additional product which would investigate and keep track of the following:

- Keep record of each coursework submitted by the student with the final plagiarism ratings detected
- Keep record of the resources used and their variety and origin
- The system will learn through time and will categorize the student according to definite standards (these may altered from time to time)
- The aim is for the lecturers to get the “academic credibility profile” of the student
- Academic credibility could be considered as an asset and may alert the lecturer for the working methods of the specific student.

Since “Turnitin” is an academic tool, knowledge technologies would help it to remain as it is, but to an extent where different aspects should be added to create a wider approach regarding students academic status.

Using the public transportation internal positioning system / estimating arrival hours

Recently in Thessaloniki, it was established an information system in the local bus transportation network. In the bus stops there are screens where it is possible for the customers to see the estimated arrival time of a bus line in the specific bus stop.

This simple positioning system can be infused with knowledge technologies and improve its serviceability to the customers.

- First it would be necessary for people to register in a new bus service by providing a short personal profile.
- This could be done through mobile device.
- The new service should track information about current traffic, average number of people waiting in each bus stop, traffic lights, and can give estimated arrival time at the destination of the customer based in the usual route he follows. The system will learn from the profile of the customer.
- Customers should use NFC (Near field communication) tags in their mobiles in order to give and get information.

- When entering the bus, the customer could pay the ticket through his mobile.
- During the route (which may be long) he will have the opportunity to receive a number of useful information according to his profile.
- There will be an agent which will handle each customer separately and send small posters to his mobile with e-commerce offers. For example if he is a student, he may receive today's offers in books from a bookshop that is around and participates in this e-commerce game.

The agent will learn customers' habits and adopt e-commerce offers to their needs through the transportation network (artificial shopping agents).

Administering an online financial stock portfolio

The aim at this application should be to create an agent that will handle a personal investment portfolio based on specific budget according to criteria. The agent should attend and keep close track of financial events in the stock market.

Some additional abilities should be to:

- Buy and sell stocks
- Suggest alternative ways of investing based on current situation
- Develop different scenarios of a possible investment path
- Evaluate companies' financial indexes and extract summary reports on their potential growth
- Keep track of the CEO's history in their careers through the market and create reports on their achievements and attitudes
- Administer the portfolio and seek for guidelines from the owner such as:
 - ✓ Risk exposure
 - ✓ Desired diversification of the portfolio
 - ✓ Time of return

Possibly this is the most promising that we plan to describe in detail.

In the section of Appendix, we are giving two mind maps. The first tries to illustrate the key points of knowledge technology, as described in the taught Unit. The second is an attempt to gather and map the ideas requested in the coursework.

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APPENDIX