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# **Seniors-inventors and their use of IT and the Internet for patent- and technical information**

## **Background**

Europe needs knowledge and experiences of older people – experts in many professions. These senior citizens have a lot to offer. However, when retiring from their jobs they often lack abilities to use new technologies which would enable them to access information about current development in their professional areas and provide them with opportunities to grow and work creatively even after retiring. Seniors, sometimes unwillingly, eventually leave their professional fields and the society is losing a lot of the precious knowledge, experiences verified through extended time or even new, perspective ideas which the seniors do not know how to communicate to today's world of IT-driven communication. Working with this group of senior experts requires specific approach. For this matter we elaborated IT course that utilizes own special methods.<sup>1</sup>

In its pilot phase our course was focused at the target group of senior inventors. This group encompasses former scientists and researchers from schools and research facilities – also seniors and people who are retired. They also want space for their self-realization even when they are no longer in their occupations. They want to see their inventions and good technical ideas in praxis while they are still alive. Many of them are highly active in this field spending almost all of their free time with it – to them it is work and a hobby at the same time. Our experiences with them show that many of their ideas are noteworthy or even outstanding. Not to use the brain potential of senior experts and inventors is a waste for a present society.

Our concept of teaching and our courses caught the attention of senior journalists, artists (painters, musicians) but also philosophers. Senior clubs are requesting information from us as well. There are proposals currently under review in multi-lateral discussion for creating a common program for the development of IT literacy among seniors in Slovakia and founding a “Club of Silver heads” that would coordinate these activities.

## **Introduction**

Inventors are group of uncommon people – creative, playful, wanting to reach their goals and the realization of their ideas in praxis. Inventions are a part of intellectual wealth and intellectual property. They have their price which can also be measured financially. Making inventions requires relevant information right from the beginning, if not sooner. Information related to the intended invention, means of its protection and common knowledge of related laws and regulations. Internet proved to be a suitable aid and tool for gathering this much needed information. Productive inventors are however often people over 50 years of age – which means seniors who not always possess the skills required to use computers and the Internet.

## **Present situation**

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<sup>1</sup> Regec, Milan, An Alternative Approach to Teaching Basic Computer Skills, 2007  
Regec, Milan, Opening Information Technology to Senior Populations, 2007  
See both papers in “Sources of Information”, Pedagogy section, [www.elill.net](http://www.elill.net)

The center for the protection of intellectual property in the field of technical inventions in every country is its patent office or industrial property office or body of a similar name. Applications for registration and protection of an idea via form of patent, utility model or design are submitted in written form of this office. In Slovakia, there is Industrial Property Office of the Slovak Republic (IPO). Basic information about the history of the office, its goals, management, partners among government institutions, professional organizations and institutions supporting businesses can be obtained from different sources, however most convenient and effective is to obtain this information directly from the website of the office. For inventors it is interesting that the IPO is providing access to different types of databases through its website. Among the most frequently used are "Selected data from the registers" also known as "Webregisters" which provide information on industrial property rights governed by the IPO. These registers are updated on daily basis and allow searching or browsing records.

Submitting an application is not easy task for an inventor – especially filling documents and formulating patent claims. Therefore, inventors often look for help from patent agents who provide their services for a fee. Either way, it is not a cheap venture. Office can (and does) order or recommend inventor to rework or append his application. This process can take months or years. And what's worse, it can happen – as it frequently does – that the inventor submits application for invention already invented (and patented) by someone else. In that case, his money, time, ideas and energy devoted to the inventions and the patent process, are all wasted.

Inventor needs relevant information about the given problem. This he can obtain through studying related literature. However, such a process is frequently too slow and ineffective. Much more effective in today's information overload would be to use research services. This can be done partially also through patent research through various databases that are usually available via paid access – often for very high access fees, or it can be done also on the Internet. And here is often the core information problem. Basically, there are two possibilities:

In possibility one, our inventor has the professional know-how and can use Internet and IT, he then does not have problems with searching for information. There are many database centers that he can access via Internet as an open or paid access. And then there is always the almighty Google with its new Patent search service that encompass over 7.000.000 U.S. patents in full text.

In case two, our inventor has also the professional know-how but he does not know how to use IT, computers and the Internet. Option A) – he will not learn it and is destined to use services of expensive information centers for which he usually does not have enough financial resources. He would not visit such center as it would be too much of a luxury for him. As a result, he is starving for information and his patent activities are starving too. Option B) he would, despite his age, turn from a computer illiterate to a computer literate and learn how to use IT and the Internet. There are many ways to achieve this – varying from learning from children and grandchildren to signing up for a course. It seems that courses do provide better and longer lasting results, which also has a mental background. This can be seen especially in case of older inventors – seniors.

### **Proposal for solution**

For these reasons many different teaching programs and grants in the European Union on the IT and the Internet are focused at seniors. One of them also is the eLiLL project (e-Learning in Later Life), where the Department of Library and Information Science is participating as a coordinator for the Slovak Republic. While eLiLL project is aimed at seniors in general, we focused specifically at senior inventors. One of the early hurdles we

faced with this group was the fact the besides not being able to use Internet, inventors often were not able to use any other language than Slovak. Our effort under the eLiLL program is to group inventors from our region and help them to achieve IT literacy through the IT course. This course is designed specifically for the abilities and needs of this group of people. In cooperation with Staromestská knižnica in Bratislava (Old Town Library) our department made a trial and looked for a group of active inventors willing to undertake proposed course. Our projected minimum number of participants was five inventors. We put our effort into creating two 3-to-5 day long courses at three hours of teaching per day. In each course we would try slightly different content and alternative methods of teaching. Courses shared the common goal which to enable senior participants to use computer and its software to such an extent that they would be able to use them independently for their research and work in the fields of patents and patent information. Current information about patents, patent rights, patent laws, fees for submitting patent application, utility model, design, topography etc., or for governing a patent protection is published at the website of the Industrial Property Office of the Slovak Republic. The website also provides applications in an electronic form. Our effort was to teach seniors to use computers (including the so much feared mouse), teach them how to look up a relevant website, how to write documents and fill up electronic forms and also how to explore endless possibilities and opportunities of the Internet (which makes every beginner a bit anxious at first). We also wanted to teach them how to use Google in the praxis of a patent worker and inventor to their advantage.



We ended up with 13 participants in the course one. These were senior inventors with submitted and applied patents, utility models, designs (not only in Slovakia but also Czech Republic, Poland, France, etc.), applicants who would like to patent their new inventions, and journalists, writers who write about patents and inventions. Seven out of 11 participants had earned a university masters degree. In the second course were 10 participants out of whom 8 had earned a university masters degree. It is interesting that

women are also becoming inventors, most frequently the ones who were working in research during their previous life. The most successful inventor and course participant used to work in the research and development in the field of hydraulics and his last position was a director of development at a car manufacturing company. He alone is being credited for 15 realized patent ideas. Next 20 he has in process of making down to the model level and another 30 ideas for patents are waiting for the day in his notes and technical drawings. In the course there were also some seniors who are not inventors but are interested in patents and inventions, write about them and contribute to the patent edification in journals and books. Both courses were realized at the length of 5 days each in the computer lab at the Comenius University in Bratislava. Lecturers were from the Department of Library and Information Sciences and from the partner library Staromestská knižnica. In the areas of patents the course was also contributed directly from participants. Professional advice during the preparation but also execution of the course was kindly given by our friends, patent experts, agents and patent lawyers from Bratislava. The Industrial Property Office of the Slovak Republic was aware of our courses and expressed its support for our activities.

### **Execution, similarities and differences**

### **1<sup>st</sup> course (traditional)**

This first course was based on experiences we had with seniors in the past. It began with classical explicit description of computer, its parts and related terms such as hardware and software. It described block diagram of computer, input and output devices, internal memory and processor (CPU) and their role in the computer. Some historical and technical data about hardware were provided along with comparisons of various hardware used in the computers. Next, the terms such as “algorithm”, “program” and “data” were explained. With that knowledge, operating systems were described as such and attention was paid specifically to Microsoft Windows XP that was installed on the computers at the computer lab that we used. Windows programs useful specifically for inventors were discussed. Practical activity began, as always with seniors, by training focused on mastering the computer mouse. Mouse is always giving seniors a headache. Instead of using some artificial pedagogical methods we are taking advantage of the human desire to win and begin with the card game “Solitaire”. The success rate of this approach is very high. After a short time, not a single senior showed having difficulties with using the mouse. After the seniors got familiar with the mouse and the keyboard we began with the practical usage of Microsoft Windows and taught how to write and correct texts using Microsoft Word. Internet and its principles were then theoretically introduced. After that we started with practice – searching for websites with relevant content. Towards the end of the course the seniors created their own e-mail accounts using a popular Slovak free webmail provider Azet.sk and they learned to send and read their e-mail. At the end the seniors practiced searching for relevant patent information at the IPO ([www.upv.sk](http://www.upv.sk) , [www.indprop.gov.sk](http://www.indprop.gov.sk)) and European Patent Office in Vienna ([www.epo.org](http://www.epo.org)). They also spent time working with text within founded documents such as searching, selecting and copy-pasting of important information. They also got familiar with the new Google Patent search and discussed about the ways it can be used for patents and in the real life. In the end, performed researches were evaluated and the whole course was open for feedback.

### **2<sup>nd</sup> course (untraditional)**

In this course the seniors sat to computers that were already running, with the programs required for the next task already opened and maximized across the desktop. We wanted them to focus only on one simple task at a time and believed that things such as turning computer on/off or launching a program will be learned along the way. This course also used the game “Solitaire” for teaching how to use mouse. But a lot of information from the first course, such as the block diagram of the computer, what is hardware, software etc. was left out, as it bore no significance for the given simple task of e.g. using the mouse. Seniors always worked with a single window maximized across the desktop (they also started with the lowest available resolution that was then incrementally scaled up to the values suitable for their individual sight condition). The course began with introducing Gmail service and creating an account for the students. From the then on, with the help of lecturers, they had an e-mail account created and could start to use it peer communication. Many things, such as how to write special characters, how to position cursor correctly etc. were learned along the way with other tasks. By opening the course for peer communication at its early stages we also created environment enabling a fast development of peer support. Soon the course transformed into a blended learning model and students became active teachers supporting their colleagues. When they mastered e-mail and editing simple texts, chat function which Gmail has integrated in their mail was introduced to them. And then the students discovered that the e-mail addresses of their peers are being automatically stored in their accounts as they communicate with them and this way a small community was effortlessly created. Afterwards the course shifted towards practicing searching strategies using Google search for patents as well as for daily news and journals. Seniors in this group, not burdened with unnecessary theoretical knowledge, had more time to practice searching for information on their patents. They were also more motivated and expressed more positive attitude towards computers, because to them they now represented the way of contact with their new “human” friends.

At the end of the courses, the lecturers, their assistants and course participants analyzed and compared both teaching methods. The evaluation had shown, that the second approach was very well received. Many skills and theoretical knowledge that was not explicitly presented the students learned implicitly by performing simple tasks and it proved to be sufficient. In general, the second course felt to seniors more “attractive” and human, it used the language and communication style the seniors observed in their grandchildren and children, but at pace and style that was comprehensible for them. It was agreed upon that the second type of course should be extended and taken into future praxis.

What happens with our participants – senior inventors after the course? What is the added value? A humane added value is that the students stopped to be scared of computers, they gained self-confidence, began to trust themselves and started to work independently with computers, supporting each other and communicating with each other when they were trying to solve problems together. What they want is to continue using Internet – some at home, others at a senior club that initiated collaboration with us following the references they received about our course from seniors. This club, located next to the Comenius University where the courses were taking place, enables senior member to use computers and Internet for a very low fee and during specific time even for free (9.00-12.00). Our effort is not to teach computer literacy to seniors but also to promote and support advantages that come along for enhancing senior innovations. As another added value, an idea to establish clubs for seniors inventors came to being. This could be either facilitated by the partner library Staromestská knižnica or by the Comenius University. Here the exchange of information from the world of inventors and inventions would take place and literature published by the IPO would be freely accessible. IPO even committed itself to promote its activities and selected events and to provide selected published titles as a part of its support for such clubs. Senior inventor clubs could also provide free research services for selected patent databases and maybe even consulting and legal service for inventors. Inventors could get to know each other and a greater community of committed members could be gradually created. The oldest senior inventor who expressed his interest to work at such a club is today 89 years old and still active in the field of patents. He has more than 20 submitted and used patents and utility models. In the club, seniors would not only have an opportunity to do their Internet research for relevant information but also to communicate with other inventors in Slovakia and around the world. In our second course we tested how the ability to use synchronous communication (chat) between seniors will be received. It looks like a core for the new club was established also thanks to this feature which we are very glad to see. With this approach we are not making things for seniors but we are providing tools for them to make the things themselves and to be more involved when they are realizing their ideas.

## **Conclusions**

It was shown that without active use of current information a patent specialist and inventor cannot work. Our praxis indicates that presently he cannot effectively work without the knowledge of IT and the Internet. In contrast, however, most of the senior inventors are computer illiterates. A solution for this situation is to create and execute new courses teaching how to use IT and Internet which are specifically designed for the needs and conditions of the given target group. In such case they comprehend and master required knowledge at much faster pace and they are able to use acquired skills more independently and for longer periods of time. This is an opportunity for libraries, senior clubs and universities of the 3<sup>rd</sup> age. Our methods, now verified in practice, are platform and software independent and thus transferable and repeatable by design in any environment. From the gathered feedback we can made a statement that these courses were successful, very well received and proved useful at proving important new skills to the group of senior inventors. We have many candidates and potential partners who want the course to be repeated and

extended in the very near future. The methods from our second course with new alternative approach were submitted as a good practice to the eLiLL project databank at [www.elill.net](http://www.elill.net) for a general use by our project partners. The Ministry of Economy of the Slovak Republic recently expressed interest in the outcomes of our work.

## **References**

Regec, Milan, An Alternative Approach to Teaching Basic Computer Skills, 2007, in English. A methodology for task-oriented methodology for teaching basic ICT skills to seniors.

Regec, Milan, Opening Information Technology to Senior Populations, 2007, in English. A paper on seniors' needs including usability issues, activities and methodology, course planning and implementation proposals.

See both papers in [www.elill.net](http://www.elill.net) "Sources of Information", Pedagogy section