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Digital exclusion is an element of contemporary social exclusion in our networked society

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Ageing society requires many changes of older peoples social roles and those of other generations. Active ageing as one of the best political visions of old age is about meeting individual and community needs and exploiting individual abilities. Digital inclusion of older people is about equality and digital exclusion is mostly about inequalities among generations and social groups. Moreover digital inclusion is about interconnectivity of individuals and organisations in the contemporary networked society.

In the United States of America, South Chorea or India the digital literacy is already high, Slovenia and Austria, have achieved more or less the same level in young people's digital literacy. In Slovenia 53% of the population are at least basic Internet users but digital literacy of older people is rather low and needs to be increased. Therefore efforts of older people organisations and organisations for older people like Slovenian Third Age University, local and national Governements targeting the increase of the digital literacy in older people are important and unavodable. Silver Code EU project at Slovenian Third Age University is a good practice example teching coding for older learners.

Introduction to the ageing society, active ageing, digital exclusion, digital inclusion and the need for interconnectivity

Ageing society requires many changes of the social roles of older people and of the roles of other generations, including the changes in their mutual relationships.

Above all, it requires active participation of all citizens within their local community, as well as on the national and European level.

Active ageing is above all about meeting individual and community needs and exploiting individual abilities. Active ageing, can not just happen when one gets old, On the contrary, it requires a life long approach. *Ageing actively* means ageing in good health, being more satisfied at work, having the power to take decisions, being able to act as active citizen, being able to lead a better life, being interconnected with peers and other generations, etc. (L. Andor, 2012) but it is also about being e-included.

Digital inclusion is about equality and **digital exclusion** is mostly about inequalities. They are both measured by the extent to which one's life is/is not connected with the lives of other people by means of new technologies, engagement, knowledge and skills needed to use them. Thus digital inclusion is about i**nterconnectivity** of individuals and organisations in the contemporary networked society.

The term digital exclusion stems form social exclusion. The first industrial revolution brought about inequalities and poverty. The term *social exclusion* was coined in 1960 to be, in 1980, followed by another term and concept of social inclusion. In 1960 unemployment rate was barely 3% and the inequalities in society were overcome by bringing weak individuals back to the strong society. Today, the situation is different. Major social changes (breaking up family ties, increased divorce rate, broken neighbourhood ties, intensive urbanisation, large housing estates) bring about separation within society and inequalities. Social exclusion which used to be related to economic precarisation now involves also *relational precarisati*on and digital exclusion in our networked society. This society has created *new forms of inequality, including digital exclusion, an element of contemporary social exclusion.*

What about digital literacy?

In the United States of America, South Chorea or India the digital literacy is already high, Slovenia and Austria, have achieved more or less the same level in young people's digital literacy. **In Slovenia 53% of the population are at least basic Internet users.** Across Europe the highest rates of **weekly internet use** are found in the Nordic countries, Luxemburg and the Netherlands, where rates are around 90% or more. Countries with the lowest rates of weekly internet use are Romania, Bulgaria, Italy.**.** Half of their population, or more, do not use Internet on a weekly basis, nevertheless, the number of **non-Internet users,** individuals who have never used Internet is going down in Europe, bust still 20% of the EU population do not use Internet. (Digital Agenda Scoreboard 2014 – Digital Inclusion and Skills, in "*Digital Inclusion and Skills*", 2015).

The Digital Economy and Society Index (DESI) is a composite index that summarises relevant indicators on Europe's digital performance and tracks the

evolution of EU member states in digital competitiveness. According to the DESI index Slovenia belongs to the cluster of medium performing countries. Slovenia ranks 17 th among the member states.

Digital Economy and Society Index (DESI) 2017 ranking

https://ec.europa.eu/digital-single-market/sites/digital-agenda/files/untitled.png
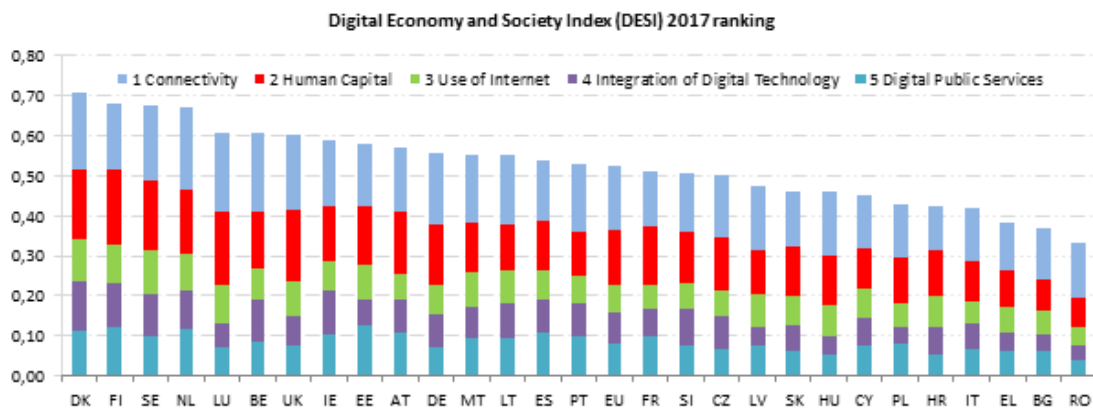
The DESI comprises five components; connectivity, human capital, the use of internet, integration of digital technology, digital public services.

Denmark, Finland, Sweden and the Netherlands have the most advanced digital economies in the EU followed by Luxembourg, Belgium, the UK and Ireland. Romania, Bulgaria, Greece and Italy have the lowest scores on the DESI.

In 2016, all Member States improved on the DESI. Slovakia and Slovenia progressed the most.

The DESI comprises data about the digital knowledge and skills, engagement and digitalisation of economy. We all live in a world where almost every human activity is related to digital tools. We speak about the **digitally native generation** but also those who were not born with digital devices in their hands should have an access to the opportunities that are available nowadays.

The Digital Agenda is relevant to the European Commission, to the extent, that is one of the 7 pillars of the Europe 2020 Strategy, proposing to better exploit the potential of ICT in order to foster innovation, economic growth and progress across Europe. Still, many EU citizens, according to the statistics, have never used Internet at all!

One should bear in mind that only 34% of the world's population have Internet access. That access levels, even in developed countries, are at best 90%. Such figures hide wide varieties in actual use, ability, and engagement. Moreover, there are the social issues that arise from digital exclusion and the digital inclusion approaches taken by the state sector, the private sector and the third sector.

The assumption that "digital exclusion" is a difficulty that will "disappear" over time as technology becomes ubiquitous and demographics change to be the new generations of "digital natives" needs to be explored. Digital exclusion does not mean only access to new technologies. It is much more!

Today, a major challenge for local and national government, as well as the third sector and civil organisations like Slovenian Third Age University is squaring the circle between delivering digital services, providing the benefits of digital engagement, and including those citizens and communities currently excluded is Slovenian Third Age University's solutions to digital exclusion of older people

Solutions to the digital exclusion of older people offered by Slovenian Third Age University

Slovenian Third Age University is currently a nation wide set network of 52 U3As. Since 1984 when it was established it has been catering for the needs of older people in the field of informatics and new technologies. In 1986 mentors of Slovenian Third Age University developed a programme for low -literate employees complete beginners to learn both English and computer skills needed for the programme WordStar. It was accompanied by a film with mimes illustrating basic computer skills and was a breakthrough in ICT education. In Ljubljana there are currently more than 220 students enrolled in computer classes right now. There are programmes catering for students needs at different levels and developing overall computers skills.

Silver code is an EU project co-funded by European Union

Living both in a rapidly developing digital world and in aging society, the **Silver Code Project** goal is to make older learners active players and citizens, equipped with competences required by our hyper connected world.

The main **Silver Code Project** objective is to increase the digital literacy of older learners and offer basic knowledge and skills in coding. Older EU citizens from the 27 EU countries are both the target group, reached through direct activities (30 learners per partner country will take part in the training activities), and direct beneficiaries, reached through peer-to-peer learning methods and dissemination events (about 100 people per partner country). A relevant number of participants, among older people, will be medium-high skilled, such as retired professionals and older people being professionally active and willing to improve their knowledge and competencies. This will be reached through:

The development of a training course, delivered by professional trainers (for theory and general supervision) and youngsters, possibly ICT students, expert on coding, acting as "tutors"(for the practical sessions).

Creation of a "Silver Coding" community based on tools such as platform, forum, social network groups.

Peer-to-peer events where trained older learners will become trainers themselves of their peers, introducing them to the basics of coding.

In Slovenia there have been several initiatives important for spreading coding, among socially disadvantaged groups among which **CodeCatz.** CodeCatz ended up founding **Django Girls Store**, a non-profit organisation that empowers and helps women to organize free, one-day programming workshops by providing tools, resources and support. Their goal is to bring more amazing women into the world of technology and increase the diversity in the tech community. They believe that. They are making technology more approachable by creating simple tools and resources designed with empathy.

During the Code Week Slovenian Third Age University and Katja Koren Ošljak wall make a step further towards older people's coding

Our Silver Code project and the results of the survey conducted with older respondents in Austria, Italy, Romania, Bulgaria, Portugal, Poland and Slovenia will be presented in a lecture for older students, followed by a workshop monitored by Katja Koren Ošljak on coding without computers. Additionally, this will be a public introduction to open resources in the field of coding and the Silver Code project.

A training course and a coding manual

Within the Silver Code project a training programme for a training course on coding for older people will be developed. Now, we know: coding is not only for young men as one would believe adopting the prevailing social stereotypes about gender, age and coding. It is also for girls, women, children, older people, it is *for all.*

Learning involves change and progression.We start with certain skills and knowledge and then we gradually progress towards broader and deeper knowledge and competencies. The Silver code training programme will be structured around progression and not about the age-related and stage-related labels that are often associated with a learner's progress and the preconceptions these labels bring. Older learners, like all other learners indeed, may differ a lot as concerns their progression towards becoming a digital maker. They can start by being creators, they go on as builders and developers and end up as makers. Technology is or all and everybody should build it.

We are going to write this manual with older learners and their younger teachers in mind, but of course it could be used by a wide and diverse community of learners, who are interested in coding and digital making. Some might use the curriculum to help guide and inform their own learning, or perhaps their children's learning. Some young teachers may wish to use the curriculum as inspiration for how and what to teach their (older)students.

Our aim is to help the learner improve their overall digital knowledge and skills, develop computational thinking and stop being intimidated by strange words and

unknown concepts like coding and many others. Therefore after each single unit we will include a glossary, defining the words and explaining them in a sentence or two.

Older people want to code, to programme an app, though they have no coding experience whatsoever. They have used universal windows platform applications (apps) that can potentially work on a variety of devices including PC's (personal computers), phones, tablets, a Raspberry Pi, HoloLens, and Xbox? Well learning coding is like learning a foreign language. First you do not understand. People around you speak a language that you do not understand and you feel lost. Then, gradually, you start recognizing words and bits of sentences.

Computational thinking is at the heart of the learning that we advocate. It is the thinking process that underpins **computin**g and **digital making**: formulating a problem and expressing its solution in such a way that a computer can effectively carry it out.

Computational thinking covers knowledge and skills including, but not limited to logical reasoning, algorithmic thinking, pattern recognition, abstraction

Decomposition, debugging, problem solving are familiar words. Learners will have to apply them to the digital world.

The training course partners are developing within the EU Project Silver Code will help learners to learn about computer science but also how to make things with computers. Learning how to create with digital technology will make learners of all ages better integrated in the digital world and will prepare them for living in the future.

Conclusion

In ageing society older adults need the same knowledge and skills as adults. Bbu no means knowledge and skills are age or gender related and technology is for all, therefore everybody should contribute to building it. Silver Code is Slovenian Third Age University and partners' EU Project (co-funded by European Union) meant for older people's learning of basics of programming. E-exclusion of many social groups and individuals is a part of social exclusion in our networked society. Therefore, efforts should be put into increasing the general level of digital literacy and the digital literacy of older people.

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