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Tablet-Based Cognitive Gaming Platform for seniors

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IO1 Cognitive skills based training scheme for seniors

Prepared by: MCA- Bulgaria

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1. Introduction

1.1 Scope of work

The main aim of this output consists in creating a cognitive skills-based training scheme for seniors by identifying target audience characteristics, learning needs and accessible learning objectives. Partners' countries created the current document explaining the specific methodology and appropriate tools for reaching this goal.

1.2 Methodology

For answering this purpose, the project partners created **a survey questionnaire** for analysing seniors' level of cognitive skills and learning needs, and the challenges they face in their daily lives. This questionnaire will be then translated by each partner country in its own languages and proposed online to 100 seniors per country. A summary and an analysis of the results will be done by each partner in a report and then compiled in a **common comparative report** prepared by E-Seniors. In parallel, each country will realize a desk research about existing cognitive games with a description of 3 to 5 good practices in a document of maximum 10 pages. Once the results of the need analysis survey will be done, each project partner will prepare different **cognitive skills learning objects** based on the following topics: memory, attention, visual perception, reasoning and planning, processing speed, and sequential processing.

Afterwards, different scenarios will be implemented in partner countries during focus groups including seniors' experts. Finally E-Seniors will work on the scheme including training needs, objectives, action plan, initiatives, resources and assessment methods before a national translation by the partner countries. Finally, a brochure summarizing the main results will be then realized by Turkish partners from Etimesgut Ilce Egitim Mudurlugu.



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2. Survey on the analysis of target group needs in terms of cognitive challenges, skills and learning needs

1. Please fill in the requested information below:

Your email address (*optional*):

Gender: Female Male

Age:

- 55 - 60
 60 - 65
 65 - 70
 70 - 75
 80+

2. Do you have any disease(s)? Yes No

If yes, what kind of disease(s) you have? (*optional*):

3. Which kind of technological devices and how often do you use:

Smartphone(phone with touch screen)

every day few times per week few times per month never

Tablet

every day few times per week few times per month never

Laptop

every day few times per week few times per month never

E-Reader

every day few times per week few times per month never

Home PC

every day few times per week few times per month never



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4. Please evaluate your cognitive capacities and skills in the everyday life on a scale from 1 to 4
(1 = No, 2 = I have difficulties very often, 3 = I have difficulties sometimes, 4 = Yes)

Memory capacities	1	2	3	4	I don't know
Do you find it easy to remember everyday things?					
Do you remember where you put your personal items (keys, phone, documents etc.)?					
Do you remember events (important dates) or other information from the past?					
Do you find it easy to remember things planned for the future (appointments, shopping list, taking drugs etc.)?					

Attention capacities	1	2	3	4	I don't know
Do you stay focused on task despite distractions?					
Do you stay focused on task for a sustained period of time (e.g. reading a long text)?					
Do you find it easy to do two things at the same time?					
Do you find it easy to stay concentrated when driving?					

Visual perception capacities	1	2	3	4	I don't know
When I think about something, I can visualise it in images or scenarios.					
I can easily interpret maps.					
I can easily organise and interpret diagrams or charts.					

Reasoning and planning capacities	1	2	3	4	I don't know



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Reasoning and planning capacities	1	2	3	4	I don't know
I find it easy to reason and form ideas.					
I find it easy to solve problems.					
I can easily plan or organise something for a specific topic.					

Processing speed capacities	1	2	3	4	I don't know
I calculate my shopping bill quickly and accurately.					
I am able to react quickly and adapt to your environment.					
I can solve simple math problems in my head.					

Sequential processing capacities	1	2	3	4	I don't know
I can put things in order when thinking.					
It is easy for me to plan activities and events step by step.					

5. On a scale from 1 to 5 (1 = not important, 2 = maybe it's useful, 3 = it's important, 4 = very important), what are the most important things you need to do with new technologies? (Please, mark only one option for each learning format):

LEARNING NEEDS	1	2	3	4
I find it easy to use my smart phone				
I am able to read the newspapers on the Internet				
I use my email to communicate with my family members or friends.				
I use tools like Skype, Messenger, etc., to communicate with family and friends.				
I use Facebook, Twitter, Instagram, or other social media				
I use my phone/tablet/PC to edit photos & videos and save them for future reference.				
I use my devices to submit my Tax declaration or other governmental				



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LEARNING NEEDS	1	2	3	4
declarations through the Internet				
I shop through the Internet				
I check the status of my bank account through the Internet				
I manage my electronic health record through the Internet or I consult my health insurance through the Internet.				

6. On a scale from 1 to 4 (1= No, 2= I don't know, 3= it's a good idea, 4= Yes) what are the most appropriate learning methods to learn new technologies? (Please mark only one option for each learning format):

LEARNING METHODS	1	2	3	4
I find it easier to learn during face-to-face group lessons				
I find it easier to learn during face-to-face private lesson				
I find it easier to attend courses through the Internet				
I like learning through face to face classes combined with Internet sources				
I find it easier to learn by interaction with family members or friends				
I find it easier to learn from peers.				

7. What do you like to do during your free time?

I like playing mind games (Sudoku, crosswords etc.): Yes No

I like playing board games (Scrabble, cards, Monopoly etc.) Yes No

I like playing chess or Backgammon: Yes No

I like learning new things via books, movies, performances etc.: Yes No

I like to go out with my friends and planning activities: Yes No

Other (please specify):.....



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Desk research report - Best practices from partner countries regarding cognitive games for seniors

1) Introduction

According to the latest statistical data¹, provided by the Bulgarian statistical institute 34.8 % of the Bulgarian population is aged over 55 years, as 38.6 % of them are people of working age (up to 64 years old). Men and women have almost equal shares of all 55+ people who are still of working age (women are 53.5%). The employment rate is lower (61.3%) for this age group than is for the age group 45-54 (82.5%), while the unemployment rate (3.9) is the second lowest among all age groups of working age (15-64). In 2011 almost half (48.9%) of all people limited in work because of a longstanding health problem and/or a basic activity difficulty were aged between 55 and 64 years old.

Most of the 55+ people in Bulgaria (56.8%) are graduates of secondary education (68.3% of which has graduated secondary vocational education), 23.5% - of tertiary education, 16.4 are graduates of lower secondary education, and only 3%.

In 2016, 14.7% of people aged between 55-64 years old were included in formal or non-formal education and training. With our target group (55+) the share of informal learning is 42.8 % for 2016.

Fortunately 0% of the Bulgarian people aged 25 to 64 (except individuals with medium formal education (1%) have no overall digital skills. Data on basic or above basic overall digital skills shows highest percentages (above 60%) within all groups with high formal education and respectively lowest in overall digital skills in all groups with low formal education which could be taken as an indicator that the level of digital skills one has is connected to the level of education one receives. Low overall digital skills carry the highest rates (30-31%) with medium formal education in all 3 groups – individuals, males and females, while the lowest are in low formal education for all 3 groups (14-17%).

Bulgarian internet users are among the most intensive users of on-line video calls (1st place) and social networks (6th place). Over 85 percent of people use the Internet for phone and video calls through various applications. Facebook is the most popular social network in Bulgaria. However, Bulgarian internet users appear to refrain most from using the Internet



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when they need to do online banking or shop on-line and only 20 percent of Bulgarians use Internet to interact with state administration bodies.

45.2 % of the Bulgarians aged between 55-64 and 17.8% of those between 65-74 years old are regularly using internet(from once a week to every day), mainly for social networking and online conversations, email correspondence and searching for information and services.

Some 85.3 percent of Bulgarians browse the internet via their smartphone; 36.1 percent browse through a laptop or tablet; and, 63 percent of Bulgarian households have a desktop computer, a laptop or a tablet. In 2017, 58.8 percent of the population between the ages of 16 and 74 used a computer every day or at least once a week at work, at home or elsewhere. In 2017 there are 3.69 million users of mobile data in Bulgaria. ²

2) Current situation with existing trainings for elderly

Bulgarian national policy in the field of adults' education and training (formal, non-formal, and informal) is defined by the National strategy for lifelong learning 2014-2020. Enhancement of the participation of adults in the lifelong learning process through improved interaction and mobilization of all stakeholders is the main aim of the national policy for adult learning. The Strategy envisages the participation of the population aged 25-64 in education and training to be increased up to 5% in 2020.

So far various measures and legislative initiatives have been implemented on national level for building up adaptive to change system for education and training of adults which to cover all degrees of general, vocational, higher education and adult learning in all their aspects - formal, informal and self- learning.

Educational system:

School education

Adults' education and / or training in the BG school system (incl. vocational colleges) is administrated by the Bulgarian Ministry of Education and Science and is implemented according to the Pre-school and School Education Act and the Law on Vocational Education and Training. The activities are carried out by educational institutions which directly perform training according to educational programs with students in organized classes (groups) or by a distant mode of attendance.

²<http://www.nsi.bg/en/content/6098/internet-usage-households-and-individuals-aged-between-16-and-74>



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Bulgarian legislation does not foresee educational programmes (secondary or higher educational programmes) explicitly targeted to people aged over 55 years. Adult education and training is provided to each adult learner aged over 16, who represents one of the following learners' groups:

- Persons over 16 years of age to acquire basic or elementary education completing a class of primary education in all types general schools without high schools;
- Persons over 16 years of age to acquire secondary general education in part-time, evening or self-study in general education secondary schools;
- Persons aged 16 and over for basic education and I NQF level with admission after completion of the VI or VII class in the evening, in part or in the evening form of education;
- Persons at the age of 16 to acquire I NQF level (with admission after completion primary education in evening, part - time or autonomous form of training;
- Persons aged 16 and over for secondary education and / or acquisition of II or III NQF level in part - time, evening or individual form of training;
- Persons to acquire IV NQF level in all forms of training;
- Persons aged 16 and over for primary or secondary education or for the acquisition of SPCs in schools at places of deprivation of liberty;
- Persons in courses for acquiring qualification for part of a profession or for I, II or III NQF level in paid education at vocational high schools or colleges

Not all institutions of the school system are allowed to provide adults' education, but only those which offer individual and/or evening form of schooling. There are specially designed educational programmes for adults' education and the learning environment is different for the learners over 16 years old. For example, the education of adults could not be implemented in a form of daily schooling in mainstream classes, but in evening schooling or individual form of education. The evening form of training is being held after 17:00 h. and the classes for evening schooling are formed by students of different age groups (min. age 16 years old). The teaching hours' duration is also different- it is reduced to 40 minutes instead of 45 as is one regular school hour. The individual form of training includes individual study hours and ongoing assessment or examinations to determine either a term or an annual assessment.



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Still, each type of school institutions could be granted with permission to provide education to adults, in case the school's authorities strictly adhere to the legislative requirements in the field. Among such institutions could be:

- Primary schools - from I to IV grade inclusive (primary school education or a literacy course);
- Primary schools - grades I to VIII
- Secondary schools - from V to VIII grade
- Secondary schools - from IX to XII grade
- Profiled secondary schools - secondary education classes and vocational education
- Evening schools - primary or secondary education and / or for professional qualification for persons over 16 years of age
- Schools with evening classes form of adult education - at secondary schools or profiled high schools

Elderly people could be educated for acquiring a level of school education at the expense of the state budget if they have not previously completed the same degree.

Tertiary education:

The tertiary education in Bulgaria is being implemented according to the Higher Education Act and the Law on the Development of the academic staff in the Republic of Bulgaria. According to the law, each Bulgarian citizen has the right once to acquire tertiary education (bachelor and/or master degree) at the expense of the state budget, if covers the state requirements for admission to a higher education institution despite the age of the applicant. The elderly people could apply and be educated in both forms of higher education – regular or extramural.

Training system

Adults training includes self-training, vocational qualification courses, language training and others. The main laws which regulates and defines the requirements in the field of adult's training in Bulgaria are the Law on Vocational Education and Training, Law on Integration of People with Disabilities, Employment promotion Act . The VET Law defines:

- the framework programs on which individuals aged over 16 could be trained;
- the forms and duration of the trainings;
- defines the requirements for the training institutions;



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- defines the content of the vocational trainings and the structure of the programs;
- determines the process of acquiring and validation of professional qualification.

Law on Integration of People with Disabilities provides opportunities to PwDs persons over 16 years of age to receive education in general and vocational programs for education and training of adults for free, as well as for initial rehabilitation services under specific programs for basic skills development.

Bulgarian Employment Agency administrates training provision (funding, licences of training centres, procedures for applying, etc.)

Adults' training could be provided either as paid courses, or as free of tax courses funded by the state budget or European Social Fund programmes:

1. There are number of centres for vocational training (VTC), vocational gymnasiums, vocational colleges and vocational schools, which provide vocational training for attaining of vocational qualification **against payment** to adults older than 16 years.

2. Bulgarian employment promotion policy envisages annual grants **for free** vocational trainings provided to the so called vulnerable groups onto the labour market. Unemployed and employed people receive vocational training on the expense of state budget for acquiring professional qualification. As elderly people (over 55+) is considered as one of the most vulnerable onto the labour market, its representatives enjoy an advantage in enrolling to training courses for acquiring new profession or a higher level of professional qualification, organised and funded under state employment promotion programmes and measures.

Below you will find information for active programmes and measures for adults training of 2019:

1. Courses organised by National employment agency and employment policy social partners:

a) "New Start for Work"

Description: Under this project unemployed persons without professional qualification and long-term unemployed persons, unemployed youths up to 29 years of age, **unemployed persons over 50 years of age**; inactive people willing to work, incl. discouraged persons receives training and employment in order to increase their level and quality of the knowledge and skills in professional fields, sought by the employers and thus to increase their employability.

Activities:



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- Provision of professional trainings on highly demanded professions and skills in the labour market. Among the professional trainings foreseen for 2019 are those for acquiring a qualification of the following professions: tailor, office administrator, salesmen-consultant, baker, waiter, bartender, pastry-cooker, cooker, hairdresser, tour operator assistant, chambermaid and others.

b)“Chance to succeed”

Description: The project aims to make unemployed people from the vulnerable groups more competitive on the labour market, providing them with vocational trainings and subsidized temporary workplaces in line with the needs of the employers.

Activities:

- Under the Project each year hundreds unemployed people receive vocational trainings in various professions demanded by the employers.

c) VET trainings, organized by the **Bulgarian-German Vocational Training Centre State Enterprise (DBBZ).**

There are 5 such centres in Bulgaria which provide vocational training with acquiring a vocational qualification degree or qualification in a part of a profession, key competences training and vocational guidance. Training sessions are held to improve the methodological qualification of trainers of adults, including trainers in enterprises. DBBZ State Enterprise is licensed by the National Agency for Vocational Education and Training (NAVET) to provide training in 86 professions (for 2018) and it is registered at the Employment Agency as training provider in the following sectors: Construction Engineering, Woodworking Technology, Metalworking and Mechanical Engineering, Electro technology, Business Management and Administration, Secretarial and administrative office support activities, Accountancy and Tax, Applied Informatics, Audio-visual art and techniques; media production, Electronics, Automation technology, AutoCAD and CNC, Cisco Networking Academy, European Computer Passport Xpert, Automotive Engineering, Agricultural machinery, Orthopaedic equipment, Metalworking Techniques (manual and mechanical metal working), Welding, Installation Technology: plumbing and sewage systems, gas installation, ventilation installation and heating systems, Hospitality and hotel management, Cooking and catering, Travel and Tourism Operations, Leisure and Entertainment, Tourist animation, Hairdressing, Cosmetics, Social Care, Gardening, Beekeeping, Herbalist, Tour Guiding, Mountain guide.



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Unemployed people apply for training in the Labour office they are registered at and after approval they receive for the following services:

- Professional guidance
- Training on key competences
- Vocational training
- Scholarship
- Accommodation (internet access, and TV)
- Reimbursement of transport expenses

2. Courses, organised by NGO representatives

ICT training for 60+ years old individuals

An ICT course for people over age of age of 60 is provided by Global Libraries Foundation – Bulgaria since 2011.

It is three days course, dedicated to training on 3 basic digital knowledge themes:

- How the computer works and what we should know about it?

What is a computer system - computer, monitor, and periphery; how the computer works and what “operating system” is; Microsoft office– is or how to write documents.

Tasks to perform: how to run and switch of the computer; how to create a document folder;

Word - basic concepts.

- Internet – how to search for information?

What is the Internet and how works: terminology- browser, chat, emoticons; what is Google or where we should start from; finding, storing and printing information from internet;

Starting the Web - browser and Google opening; finding information in the web for railway transport schedule (Bulgarian state railway transport company), EVN (electricity distribution company), VIK (water distribution company), libraries, etc.

- Email and online communicating

What is e-mail and how it works – wat is email registration and how to register; Skype- what is skype, skype profile, and video conversations; how to exchange photos, files and documents via Internet.

Tasks to perform: email creating at ABV.bg or and other email providers; working with Skype; photo exchange; downloading of photos and documents from the web.

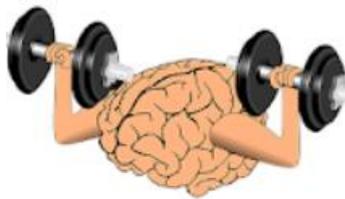


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It is organized as a group training – the number of participants should not exceed 8 persons and two trainers. Individual consultations on additional themes as mobile phone usage, laptop usage, Power point, etc. are also foreseen.

Weak points in adults' education and training:



The national training system in Bulgaria is still under development and among the main challenges for the process implementation is the one connected with the lack of trained staff which to provide education and training to adults. Since 2014 a specially designed methodology for adults' education and training is developed and is used for preparing trainers and educators in the field of adults learning.

3) Good practices existing in each partner country regarding cognitive games for seniors (between 3 to 5 examples)

1. Fitness for the brain (BG title: Фитнес за ума)

Created: 2017, last updated 09-01-2019

Description: **Fitness for the mind** is a game that helps you to develop your brain in an interesting and fascinating way. The activities included in the game are:

- Game for training of the brain's reflexes (there is colour / word mismatch and the player needs to press the colour which is written down, not the one he sees).
- Memory card games
- Speed Reading, with a gradual increase in reading speed
- Speed Calculating - players solve as much mathematical problems as possible in 30 seconds

Main objectives: Developing of persons' mind, memory and mental capacity

Developer: hitranapps@gmail.com

Link: <https://play.google.com/store/apps/details?id=com.hitranapps.fitnessforthemind>

2. O!Poznay (BG title: O!Познай)



Created: 2018, last updated 03-08-2018

Description: interactive application that will test player's knowledge on various topics. The player is able to test his knowledge by answering to over 2,500 unique questions from different categories. The application is entirely in Bulgarian language and is completely free.

Main objectives: Developing of persons' thinking, memory and mental capacity

Developer: Yordan Zahariev (chohav@abv.bg)

Link: <https://play.google.com/store/apps/details?id=com.guessquiz.quizapnew>



2. Words' arranging (BG title: Подреждай думи)

Created: 2016, last updated 26-05-2018



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Description: it is a word puzzle game which can be played offline. The player needs to arrange mixed letters in words from various categories (like poetry, singers, animals, professions, famous Bulgarians, history, geography, flowers and animals, etc.) and thus to learn more about world around. The word game is suitable both for children and adults.

Main objectives: Developing of persons' thinking, memory and mental capacity

Developer: Georgi Genov (admin@ggenov.eu)

Link: <https://play.google.com/store/apps/details?id=ggenov.sortwords.app>