



## Tablet-Based Cognitive Gaming Platform for Seniors

### IO2 - Tablet-based cognitive gaming platform for seniors (A1-Definition of the methodology of the output)

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# General Information of IO2

- **Duration:** 1/7/2019 – 29/02/2020
- **Language:** all partners' languages, as in [www.games4seniors.eu](http://www.games4seniors.eu)
- **Media:** Console game (Android) & YouTube (for the animated video)
- **Output Type:** Learning/Teaching/Training material – Educational games
- **Leader:** EUROCY Innovations Ltd
- **Contributors:** All other partners

# Main objective

- Select and develop suitable games addressing the following cognition dimensions:
  1. Memory
  2. Attention
  3. Visual perception
  4. Reasoning and planning
  5. Speed processing
  6. Sequential processing

# More details about the Games

- 1. Memory** – a game to help with skills about storing and recalling small amounts of information
- 2. Attention** – a game to help with skills about staying focused and on task for a certain period of time and handling more than one things simultaneously
- 3. Visual perception** – a game to help with skills about perceiving, analyzing and thinking via visual images
- 4. Reasoning and planning** – a game to help with skills about reasoning, planning and forming ideas, deciding how to solve a problem, checking for mistakes and modifying where needed
- 5. Processing speed** – a game to help with skills about performing cognitive tasks quickly (important skill for complex tasks with many steps)
- 6. Sequential processing** – a game to help with skills about linking a series of inputs over time, a series of sounds to create words, a series of words to understand the story/idea



# Expected Innovation

- The games will be developed based on innovative learning objects and schemes in cognitive skill development for senior adults.
- The learning objects will be designed following a desk and survey research

# Expected impact

1. Greater understanding of digital games about cognitive skills development on memory, attention, visual perception, reasoning & planning, speed processing, sequential processing
2. Increased and developed cognitive skills of senior people via digital games
3. Increased knowledge and motivation of target users with a whiteboard animation video at the end of the output



# Methodology per involved Task/Activity

# A1. Define the methodology of output

**Leader:** P5 - EUROCY (CY)

**Contributors:** all partners to review and confirm

**Approach:**

- Defined with the present document in a reader-friendly format to guide the partners through the completion of the IO2 work

**Due date:** 05/07/2019



# A2. Analysis of the games about cognitive skills development

## Leaders:

- Memory - P<sub>4</sub> (AT), Attention - P<sub>1</sub> (TR), Visual perception - P<sub>2</sub> (BE), Reasoning & planning - P<sub>3</sub> (FR), Processing speed - P<sub>5</sub> (CY), Sequential processing - P<sub>6</sub> (BG)

**Contributors:** all partners to review work of other partners

## Approach:

- Partners will perform a Google Play and App Store research and review related games and share feedback that will guide the design of the final games
- Partners will fill-in the analysis template to be shared by EUROCY according to their research results
- EUROCY will compile the analysis results into a single document and share it for comments
- **Note:** *The project research and survey findings led the partnership to the decision to drop the 3D from the games' specifications (it appears not suitable and not desired by our target users who have diminishing visual abilities and cognitive levels) and instead design and implement attractive 2D games with simple colouring and high contrast. Therefore, partners will study and analyse 2D cognitive games in their country*
- **Due date:** 30/07/2019

# A3. Purchase mobile games development software for 10 users

**Leaders:** not applicable

**Contributors:** not applicable

**Approach:**

- ***Note:** the activity has been dropped due to unavailability of budget. The project will adopt open source development platforms so as to avoid any cost for the development and sharing of the games. Any costs for the purchasing of licenses or game assets will be covered by own resources of relevant partners.*
- **Due date:** not applicable

# A4. Develop games about cognitive skills, development of graphical user interfaces

**Leaders:** each partner for the games under their responsibility

**Contributors:** all partners

**Approach:**

- Partners will design the user interfaces of the games they are responsible for.
- Partners will present their designs and seek for feedback and comments by co-partners.
- Graphical user interfaces will be attractive to the target users, with simple colouring and high contrast to avoid any accessibility challenges
- Partners will end up with the first version of the games' UI (Note that they need to be branded with NA standards)

**Due date:** 01/09/2019

# A5. Implement cognitive skills based learning objects and training scheme for 6 games

**Leaders:** each partner for the games under their responsibility

**Contributors:** all partners

**Approach:**

- As a follow-up of the activity IO1-A7, partners will finalise the content of the games under their responsibility, and accompany it also with any external learning material that will help the user through the e-Learning platform
- All partners will review material created by others and give feedback
- As a result, partners will finalize the game engine and the algorithms of the games

**Due date:** 15/09/2019

# A6. Create embedded voice-over and audio files into the games

**Leaders:** each partner for the games under their responsibility

**Contributors:** all partners

**Approach:**

- Partners will embed any audio into the games they develop

**Due date:** 30/09/2019

# A7. Translation of the texts, menus, buttons etc. into national languages

**Leaders:** each partner for the games under their responsibility

**Contributors:** all partners

**Approach:**

- Partners responsible for the development of games will share all audio and text in editable format (e.g., xls for the text), so that other partners can translate into their country languages.
- Each partner is responsible to follow up and collect the translations for the text/audio of their game and then embed it into the subsequent versions of the game.

**Due date:** 15/10/2019

# A8. National advisory board meeting

**Leaders:** all partners

**Contributors:** all partners

**Approach:**

- Each partner will organize a meeting with their local advisory board members, to present the first complete versions of all games and ask for expert and constructive feedback.
  - If not possible to gather all members at one time/place, then individual meetings need to be organized with at least 3 relevant members of the NAB.
- Then, partners will share the feedback of the NAB with the game developers so that things are prioritized and implemented at the extent possible for the final games' version.

**Due date:** 30/10/2019

# A9. Develop final version of the 3D games

**Leaders:** all partners

**Contributors:** all partners

**Approach:**

- Each partner will develop the final versions of the games under their responsibility
- Partners will be in continuous contact with EUROCY so as to make sure the games are integrate-able to the single platform
- Partners will proactively communicate and seek for help by other partners wherever necessary.

**Due date:** 15/11/2019



# A10. Upload cognitive skills development 3D games to the project website (as APK files)

**Leaders:** EUROCY

**Contributors:** all partners

**Approach:**

- EUROCY will collect the individual apk files from partners and make sure these are uploaded into the project website, under a single branding.
- The apks will be integrated into one “android platform” using an appropriate technical solution.
- The result will become available in Google Play store as well.
- Analytics will be activated so as to measure the impact of the games to the community

**Due date:** 15/12/2019

# A11. Create a whiteboard animation video about developed games in English

**Leaders:** VAEV – P<sub>4</sub> (AT)

**Contributors:** all partners

**Approach:**

- P<sub>4</sub> will study the developed games and create an animation video to promote the games in an attractive way.
- The video should not be more than 2' and not less than 1'
- The final video will be shared through the project website and on YouTube

**Due date:** 29/02/2020

# A12. Translate sub-title text into national languages

**Leaders:** all partners for the games under their responsibility

**Contributors:** all partners

**Approach:**

- Each partner will share any remaining text, sub-titles etc due for translation into other project languages
- Partners will translate into their local languages
- Translations will be embedded in games as required.

**Due date:** 30/01/2020

# A13. Upload animation video to YouTube channel

**Leaders:** EUROCY (P<sub>5</sub>)

**Contributors:** VAEV (P<sub>4</sub>)

**Approach:**

- EUROCY, in collaboration with VAEV who they will create the animation video, will make sure it is uploaded in YouTube channel and also anywhere else possible, for dissemination purposes.

**Due date:** 28/02/2020

