Development of a Training Program for the Improvement of Active and Healthy Ageing through the Exploitation of High-Tech Assistive Technologies

AcTive – Experimental training materials

V1.0, March 2018

Content

1. Background

1.1.The AcTive project

Technology has the potential to support the process of active and healthy ageing. However, modern devices, in particular information and communication technology (ICT), lack of adoption and use by older persons. The reasons for this are complex: On the one hand, technology is often not designed according to the user´s needs. On the other, older persons often lack in digital skills and ICT-literacy.

The overall aim of the European project "AcTive" is to provide training materials that pay attention to specific needs of persons who are not experienced in using ICT-based devices (e.g. like smartphones or emergency call systems). These training materials can be used by peers, friends and family but also professional users to raise awareness, answer questions and show examples of the benefits that technology.

Aims of AcTive:

- To create awareness and trust about the potential of using technology for improving active and healthy ageing;
- To foster ICT-literacy of older persons so that they can benefit from modern technology;
- To inform about technological possibilities and their application to specific needs of the users;
- To give support and guidelines for a "peer to peer" training model.

Website
The training material is supported by an online platform. Visit www.active-ict.eu for additional information in multiple languages (French, German, Polish, Romanian, and Spanish).

1.2. About this guide

What is it about?

In order to allow users to get acquainted with new technologies and fully understand their functionalities and usages, we have designed a number of experimental activities that can be performed in an interactive and entertaining way. Most of them allow discovering new technologies through several games. These digital activities will be also available on the platform (visit www.active-ict.eu). We propose a *cross word,* a *memory game* and the *"house exercise"* which consists of dragging pictures of technologies and dropping them in the space where they belong in the house. There is also a more practical activity, the treasure hunt, allowing using technologies in an outdoor setting. Each one of them addresses a certain use of technology: the memory game was created around technologies that can support communication, the "house exercise" raises the subject of technologies that can support independent living at home. The cross words gather technologies that can compensate age-related restrictions and the map exercise "around me" gives a practical example of how technologies can support leisure activities and an active life-style.

Who can use it?

The experimental activities are designed for a broad audience. They can be used by any person who is interested in learning more or interacting with communication and/or assistive technologies or those who want to help their relatives, family members, friends, acquaintances, or patients/clients to adopt an active and healthy lifestyle with the support of modern technologies.

How to use it? What are we trying to achieve?

These activities follow a common template indicating their duration, difficulty, material needed, and how to put them into place. Note that they

are suggestions; you are not obliged to perform all of them as they should answer to a specific need of the user. The activities have been designed with the intention to give you the possibility to modify them in order to better adapt to the needs of the persons testing them. It is important to take into consideration their knowledge of new technologies as well as their physical capacities. The main goal is to use the proposed exercises as a trigger to incite curiosity, fight a certain fear of assistive technologies and stir discussions. We intend to increase to use of the technologies introduced in this guide by (older) persons. One particular activity, "around me", is an exercise using an online map and has a more practical application.

Some activities can be performed alone; some could require assistance or explanations as some particular functionality of each technology might have to be explained by a monitor, professional or knowledgeable person. During these explanations a practical use of technologies such as Smartphones, tablets and video games can be conceived. All in all, these activities have ideally to be used in an entertaining and accompanying context.

2. Activities

2.1.Activity 1: Memory Game

Technology covered: Email, smartphone, smart watch, webcam, Wi-Fi, video game console, tablet and computer

Duration: Up to 20 min

Difficulty: Easy

Material: Printed cards (see below)

Instructions: You can cut out the pictures below. There are also blank cards that you can use for your own images and examples. Mix the cards and pair the technology name with the technology image. In bigger groups, give one card per person. Each participant has to pair with the person that has to correspondent card (image or text card relating to the same technology).

There are alternate ways to play the memory. You can also print out only the pictures.

Further information: Go to www.active-ict.eu to download templates and find out more about the technologies. There, you can also play the game online on your computer.
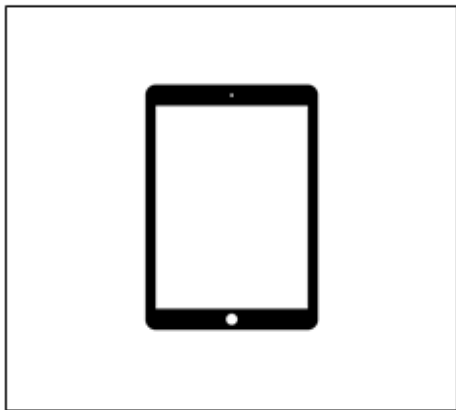
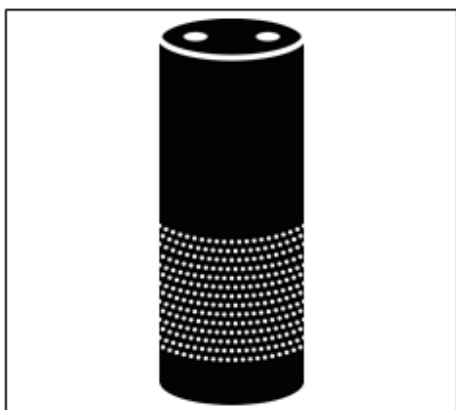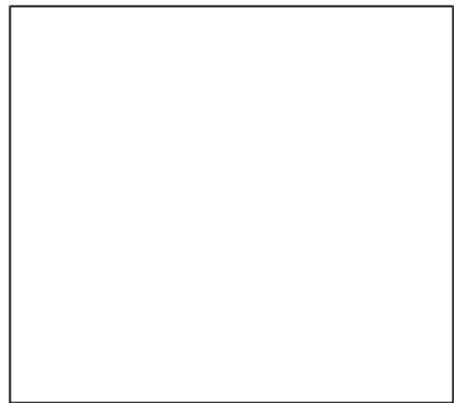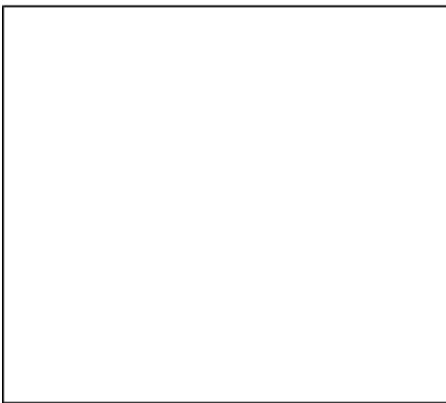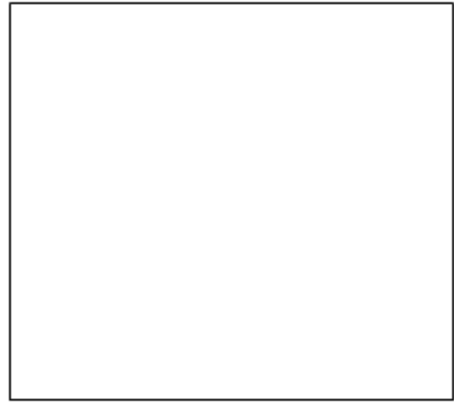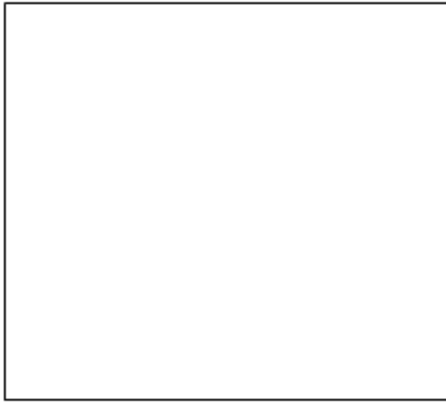|	Wifi
	E-reader
	Smart-watch
	Smart-phone

Videogame console

Tablet

Emergency button

Smart speaker

2.2 Activity 2: Cross words

Technology covered: Computer, online banking, talking watch, telemedicine, magnifying glass, wheelchair, hearing aid, vibrating clock, vacuum cleaner robot, etc.

**Duration:** Up to 20 min

Difficulty: Medium

Material: Printed crosswords, pen or pencil, eraser

Instructions: Read the descriptions numbered from 1 to 10 and complete the equivalent spaces with the correspondent word.

Further information: You can create your own crosswords. There are several generators available online (for instance, go to Crossword puzzle generator).

Example:
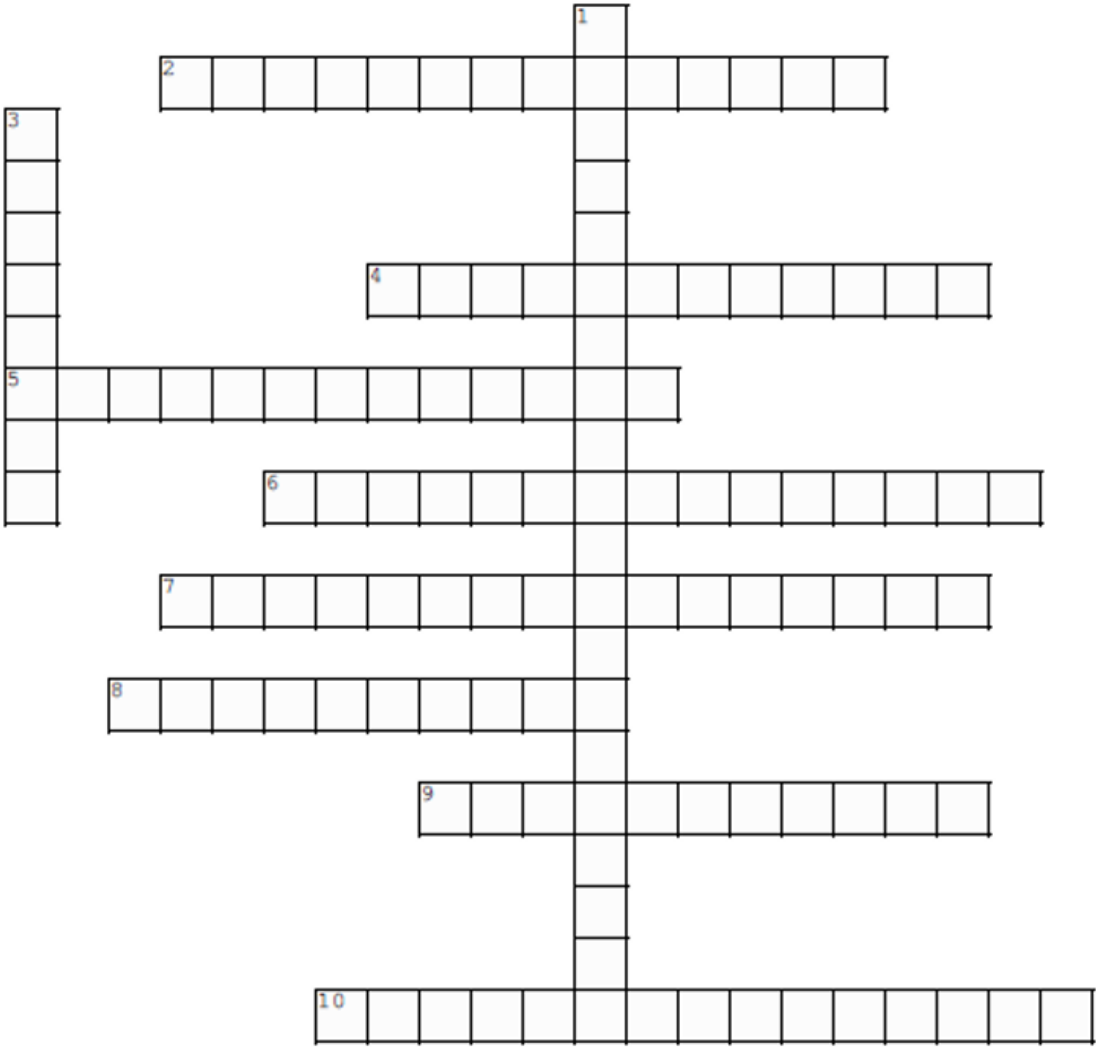
Horizontal

2. The process or activity of managing bank accounts or operating as a bank over the internet

4. The treatment of people who are ill, by sending information from one place to another by computer, video, etc

5. Give users peace of mind knowing they can hear the time announced with the press of a button

6. New discipline which studies the use of technologies in the field of ageing

7. A piece of curved glass that makes objects look larger than they are

8. A chair on wheels that people who are unable to walk use for moving around

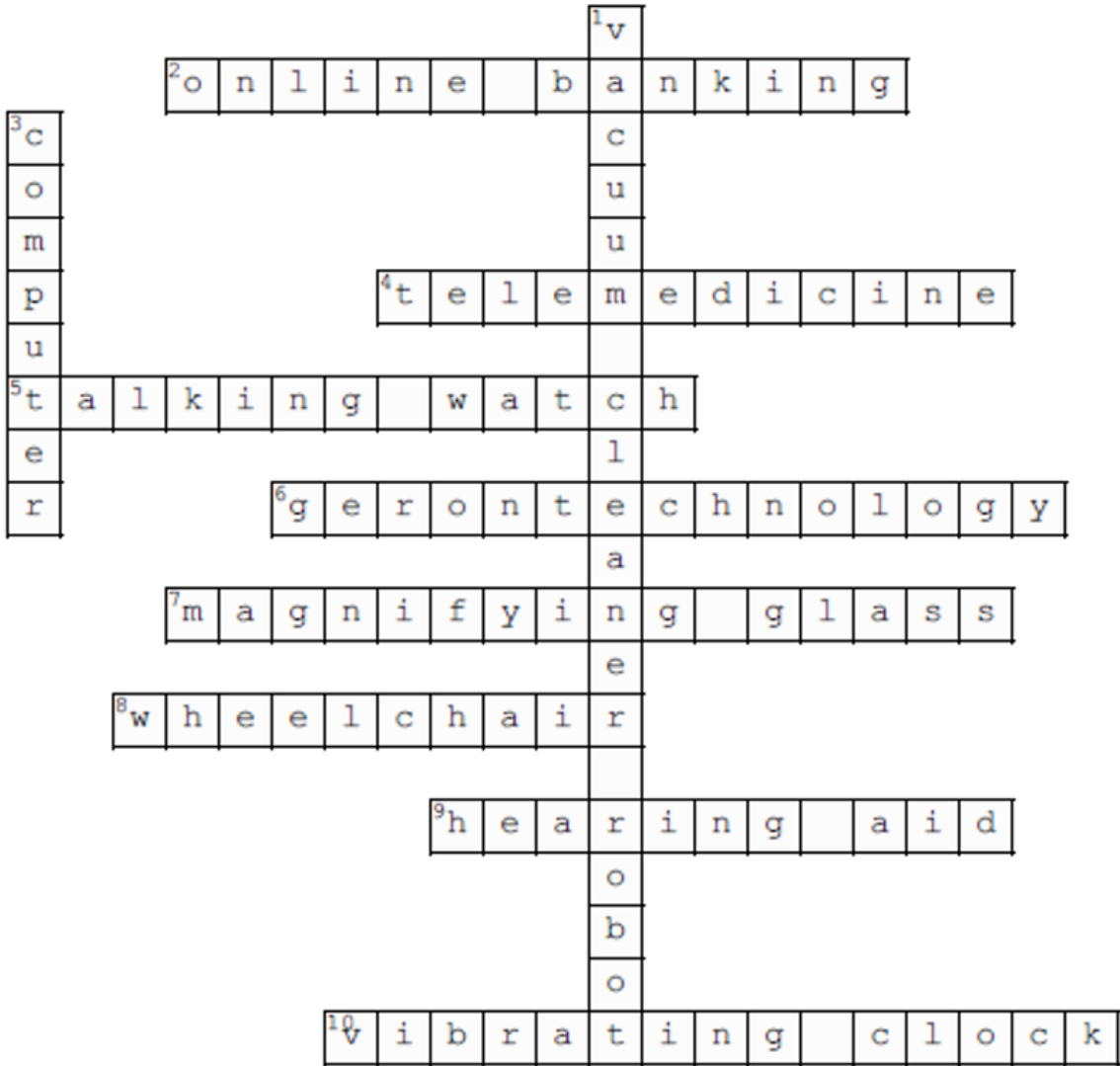9. A device designed to improve hearing

10. A clock that is designed to alert a specified time with louder functions

Vertical

1. A machine that cleans floors and other surfaces by sucking up dust and dirt all alone

3. A machine that sends, receives, calculates, and stores information

Solution:

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                                        ┌─┐
                                        │¹v│
              ┌─┬─┬─┬─┬─┬─┬─┬─┬─┬─┬─┬─┬─┤
              │²o│n│l│i│n│e│ │b│a│n│k│i│n│g│
              └─┴─┴─┴─┴─┴─┴─┴─┴─┼─┴─┴─┴─┴─┘
       ┌─┐                      │c│
       │³c│                     ├─┤
       ├─┤                      │u│
       │o│                      ├─┤
       ├─┤                      │u│
       │m│              ┌─┬─┬─┬─┼─┬─┬─┬─┬─┬─┐
       ├─┤              │⁴t│e│l│e│m│e│d│i│c│i│n│e│
       │p│              └─┴─┴─┴─┼─┴─┴─┴─┴─┴─┘
       ├─┤                      │
       │u│                      │
  ┌─┬─┬┴─┬─┬─┬─┬─┬─┬─┬─┬─┬─┐     │
  │⁵t│a│l│k│i│n│g│ │w│a│t│c│h│
  └─┴─┴─┴─┴─┴─┴─┴─┴─┴─┴─┼─┴─┘
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(Crossword puzzle solution)

Across/Down answers:

1. v a c u u m c l e a n e r o b o (vertical)
2. online banking
3. c o m p u t e r (vertical)
4. telemedicine
5. talking watch
6. gerontechnology
7. magnifying glass
8. wheelchair
9. hearing aid
10. vibrating clock

2.3 Activity 3: House map

Technology covered: Smoke alarm, thermostat, webcam, video game console, fall detector, security system, vacuum cleaning robot, flood detector, camera, flashing sound ring, guiding lights, smart lights, smart speaker, telepresence devices, sleep sensors, lowering shelfs, heat detector, kitchen robot, flood detectors, tap sensor, electric towel rack, infra-red heater, weight scale.

Duration: Up to 20 min

Difficulty: Easy to medium

Material: Printed house plan, glue, cut images of technology

Instructions: Glue the image in the space correspondent to where you use this technology in your house. There is no right or wrong answer it all depends on your habits. If technology is used in several different places, you can put it on the roof. If you don't know this technology ask a close person for more details or try to look it up on the internet.

Further information: Go to www.active-ict.eu to download templates and find out more about the technologies. There, you can also play the game online on your computer.
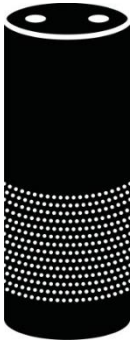
Solution:

Device	Illustration	Room
Vacuum cleaner (robot)		Living room, bedroom, hall, kitchen, bathroom
Interphone		Hall
Automatic stove shut off		Kitchen
Flood sensor		Bathroom
Video game console		Living room
Smart speaker		Living room, bedroom, hall, kitchen
Smoke detector		Living room, bedroom, hall
LED tape		Hall

2.4 Activity 4: "Around me" or map exercise

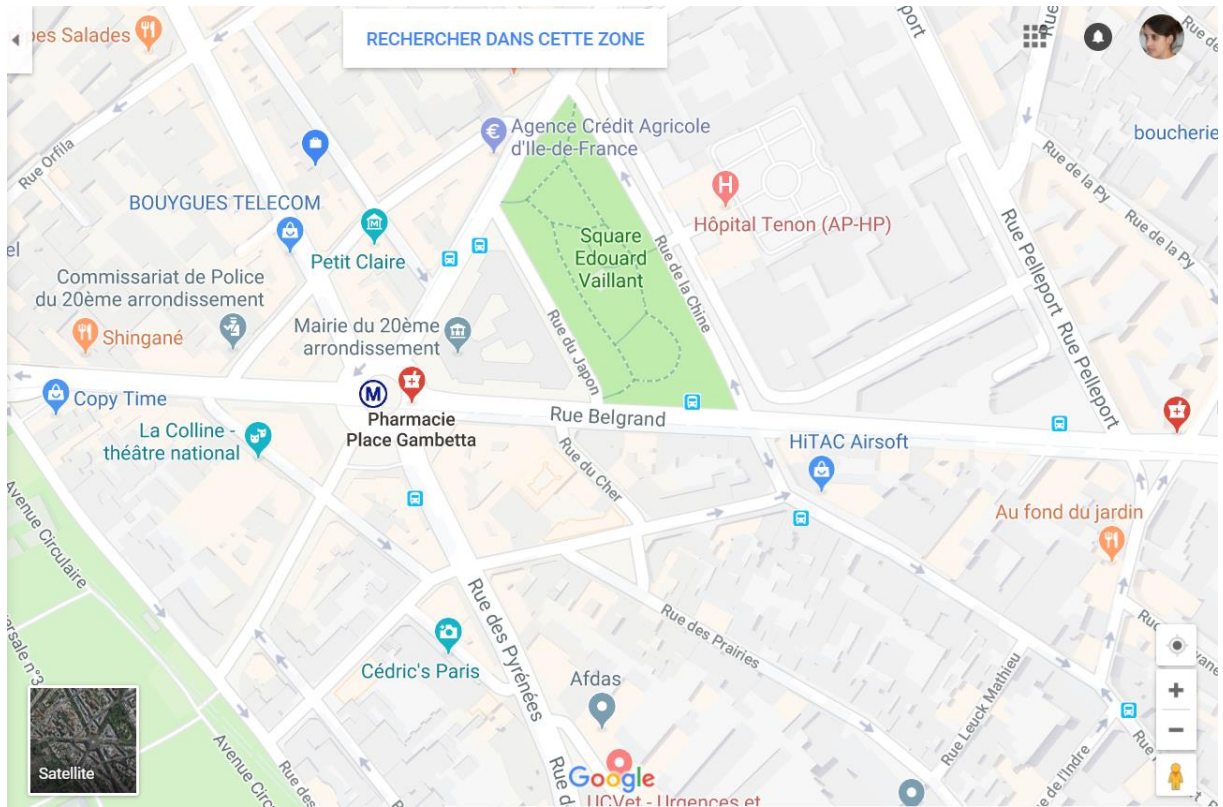**Technology covered:** GPS (satellite), interactive maps

Duration: 30 min to 45 min

Difficulty: Difficult

Material: Smartphone, tablet or computer (support for the online map), satellite and online maps such as Google maps

Instructions: The goal of this activity is to make a list of places of interest in the seniors' neighbourhood or city that are at a walking distance from their homes. These places can be: nearby public transports (bus or metro stations), cafés or restaurants, parks, cinemas, theatres, libraries, banks, hospitals or pharmacies. Online maps such as Google maps already indicate these places with different pins which allow classifying them in differently categories. When using the functionality "look nearby" you can look for extra categories such as pharmacies. When doing the activity with a senior, look for the online map of the neighbourhood, ask him/her to find places of interest and explain him/her the different categories shown in the map. You can also zoom the map until the satellite version appears and you can see the images of the street.

Example: A pinned map in the 20th arrondissement of Paris. In this map you can already see public transport available nearby, a theatre, a bank, a hospital, restaurants, the city hall, a police station, and shops. We also looked for pharmacies in the research tab: "look nearby", they appear through red pins.

Partners