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IOANNA

Integration Of All stores Network & Navigation Assistant

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D4.2 Mock-up field tests and evaluation analysis

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Abstract (for dissemination)	This deliverable describes the methodology which will be followed during the testing of the mock-up with senior citizens during the first field test.

[1] L = Legal agreement, O = Other, P = Plan, PR = Prototype, R = Report, U = User scenario

[2] PU = Public, PP = Restricted to other programme participants (including the Commission Services), RE = Restricted to a group specified by the consortium (including the Commission Services), CO = Confidential, only for members of the consortium (including the Commission Services)

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1. Executive summary

IOANNA project's main objective is to provide further support on the assistive mobility and social engagement of the senior, as well as, other citizens which will be achieved through the provision of crowd-sourcing through IOANNA application. For the better achievement of the objective, the end-users will be, already, involved from the initial stages of the development of IOANNA platform. The users' involvement started with the user requirement phase; the method and results of this phase can be found in deliverable D2.2 User requirements.

After the successful completion of the user requirement research, the mock-up was tested by 3 professionals in each end-user country (Cyprus and Romania) for identifying potential problems and challenges that senior citizens may face during the testing phase. The results of the lab test will provide guidance and direction to IT partners of IOANNA consortium so as to improve the mock-up for the testing phase with senior citizens.

Therefore, the purpose of this deliverable is to define the evaluation plan for the mock-up and the design of the first field test which derives from Task 4.2 'Mock-up field test and evaluation analysis' of the proposal. The present deliverable includes the protocol which will be followed during the field test to ensure that a smooth and consistent testing in both end-user countries. This deliverable will support the researchers of the end-user organisations to carry out the mock-up field test consistently and at the same time it will provide direction to the efforts of the technical partners for the development of the 1st prototype.

2. Lab test results

This section will present a summary of the main findings and conclusions of the lab test. During the lab test, the mock-up of IOANNA application was tested by 6 professionals in total. Even though IOANNA platform has 3 different roles – administrative, business and senior/caregiver – only the senior/caregiver role was tested so far, since this role, in comparison to the other two roles (administrator and business), will involve (senior) participants with no or little IT literacy. Therefore, for the senior participants it is important to ensure that they will not experience frustration during the testing due to problematic function of the mock-up and they will be able to complete the testing and to provide useful feedback.

The aim of the lab test was to assess how easy it is for a senior to learn and to use the IOANNA application. The method used was cognitive walkthrough which is indicative for testing mock-up iterative by professionals and focuses on usability and learnability of IOANNA application. The professionals involved should have two main characteristics: (a) valuable experience in working with seniors in order to be able to get into the position of senior users during the testing and (b) abcense of any previous interaction with IOANNA application (before the testing), in order to ensure the acquisition of objective feedback.

At this point it is also important to briefly mention the procedure followed during the lab test before presenting the lab test results from the two end-user countries. The professionals had been provided with a list of 12 tasks along with the steps to be followed for achieving each task. They were asked to undertake these tasks and then to respond to specific questions. It is important to mention that these questions that these questions should be answered from the older people's perspective. In other words, professionals had to report at the end of each task, whether the goal was achieved, if it would be easy or easily recognisable for a senior to learn to perform the task, if they would get the right feedback and finally, if it would be easy for a senior to perform and complete the task. Via the tasks administered, the professionals explored all the application's features and were able to identify which ones were not feasible and difficult for the users to undertake. The tasks that profeesionals undertook during the lab test were:

1. Register and login as a new user
2. See existing emergency contacts
3. Add an emergency contact
4. Chat with a registered business
5. Find the location of a registered business
6. See usual (favourite) businesses
7. View products of a business
8. Cancel an order

9. Rate a business
10. Make a new order
11. See promotions before visiting a business
12. Change profile data

More detailed information on the procedure as well as the methodology followed during the lab test can be found in D4.1 Mock-up evaluation plan, design and lab tests.

2.1 Results from professional in Romania

ANA organisation involved 3 professionals in the lab testing who have been working in the Clinic of Geriatrics and Gerontology Bucharest of Romania. The professionals from Romania have medical educational backgrounds and working experience with seniors, which ranged from 3 moths to 8 years. One of the professionals involved is a kinetotherapist, the second is a resident doctor and the third is a doctor. All of the professionals were very well acquainted with seniors' physical and mental abilities under different conditions, making them hence suitable participants for the lab test.

The professionals in Romania completed all the tasks except from the tasks 1, 6, 9, 11 which were not feasible to be completed because the mock-up was not fully functional at the time, thus the tasks could not be performed from the beginning to end. However, the task 10 was indicated difficult or even impossible to be completed by a senior as it requires too many steps/actions for placing an order which is complicated procedure for senior citizens.

Besides task 10, the professionals pointed out features or points/steps that would make it difficult for a senior to complete a task. One of the main difficulties that a senior would potentially encounter would be to identify the back symbol (<); it was suggested to replace this symbol with an arrow. Moreover, the professionals suggested to provide voice support (speech-to-text function) to help seniors to fill in the required fields for their registration; this functionality will also assist older adults when needed to type information, such as when searching for a business or a product, or chatting with a business. Apart from the voice support, it was also suggested to add in some fields categories to ease seniors' choice of preference instead of having to write it. For instance, it was proposed to have different categories of businesses and products (food, pharmacies, health care services, etc.) so as to avoid long lists and prevent discouraging senior clients from searching for a business or product.

Another difficulty identified by the professionals was the menu symbol (burger bar) which it is stated to be not easily or at all recognisable by the seniors and it was proposed to be replaced with the word "Menu". In overall, the use of pictures and easily recognisable symbols are encouraged; it is suggested to use magnify glass icon (🔍) instead of the symbol "Map", a distinct symbol instead of the word "Product" and a walking man for the navigation system. Aligned to the suggestion on providing distinct

symbols was also the comment on the emergency contacts; all the professional stressed the importance of this function, thus, it was advised to display it in an easily accessible and visible position in the application.

Another unanimous recommendation of the professionals is instead of rating the business to rate the order/delivery through the application. It is also agreed that the rating method (colouring stars) is recognisable by the seniors.

Finally, a general remark made by the professionals was that the caregiver needs to maintain access and control over the orders and money spend by the senior as well as to set order and spend limit. Also, the professionals would limit the type of products (no alcohol, cigarettes etc.) that would be available to seniors. An additional remark was to provide the application in local languages, and to provide a tutorial with more images and less words, in order to help the seniors, regardless of IT literacy to use the application by themselves. An additional suggestion was to provide bigger and more distinct letters and an alarm for reminding the seniors to charge their phone.

Overall, the professionals appreciated the application and the fact that is tailored made to the needs and requirements of the seniors as it provides on one hand the feeling of independency and on the other hand the possibility of sending notifications in case of emergency, whether this would be falling or any other case in which the senior would seek assistance.

2.2 Results from professionals in Cyprus

Materia Group – Agecare involved 3 professionals for the mock-up lab testing in Cyprus; one gerontologist, one clinical psychologist and one cognitive and educational psychologist, all of the them employed at Materia Group and with years of working experience with seniors but with no previous interaction with the IOANNA application.

The professionals in Cyprus reported the same difficulties in the same tasks (tasks 1, 6, 9, 11) as the Romanian professionals, that the tasks could not be performed from the beginning to end because the mock-up was not fully functional at the time.

The professionals indicated that the “Emergency contact” functionality was of ultimate importance but the sequence that was displayed would potentially confuse the user and making it as a result difficult to move forward. One of the reasons it will be that they will be discouraged and the other reason will be that they will not be able to leave from the “Emergency contact” page as the home button (burger bar) is not recognisable for seniors. It was suggested to add an icon or symbol which is easily recognisable by the seniors, such as a home icon. Similar to the menu button comment, a comment was also made for the map which shows the nearby services and shops. The professionals reported the icons (or at least some of them) to not

having been clear in what they represented as for example, the icon of the electronic shop which would have been dicfficult (especially for seniors) to understand which type of business it was.

Moreover, the professionals highlighted the difficulty that a senior would have in typing in an application especially when using a smartphone. One of the professionals recommended to add a voice support (speech-to-text function) in order to be easier for the seniors to use this function as an alternative, if they want to, at any stage it is required to type. Similar to this recommendation was also made for the date that it is required to fill in. In aprticular, it was suggested to provide a clarendara from which the date can be chosen instead of requesting to type a date.

Additionally, it was reported that the search field was not clearly visible, thus it was proposed making it more distinct to help seniors using the application know and easily understand that search function is also included. An additional function which needs to be more distinct is the route on the map. For this reason it was proposed to provide the zoom in/out option in order to make it more distinct for which direction a senior follow to get to a business.

Furthermore, the professionals highlighted the importance of not having too many steps for completing a task. An example would be task 10 which requires too many steps for placing an order as the professionals stated, which it would be not feasible for a senior to undertake. The inclusion of simple, few and clear steps is needed to be self-intuitive to seniors.

In overall, the professionals were positive towards the IOANNA application especially due to the fact that is a co-design procedure and it will be a tailored-made to the seniors' needs and requirements. Some general remarks and recommendations made were to increase the font size and avoid too much scrolling.

2.3 Main conclusions and suggested improvements

This section will focus on the main conclusions and suggestions for improvements that need to be implemented for the mock-up which will be tested with seniors. Taking into account that the next step of the testing is a mock-up phase, only some improvements will be implemented by the technical partners of the IOANNA consortium as it is not feasible to have a fully functional mock-up. The remaining suggestions will be taken into consideration for the development of the 1st prototype; such improvements are those related to the navigation tool and map view as well as the talk-to-speech support. Despite that, all of the improvements will be outlined in this section.

Improvement of Tasks 1,6,9,11

According to the lab testing results, it is deemed necessary that the researchers either alter or omit tasks 1, 6, 9, 11 as both countries' professionals raised the issue of not having been functional.

Translation in Local Languages

Another improvement that needs to be processed before the next mock-up testing in order for the seniors to be able to test the application, is the language of the application; the professionals emphasised that the application has to be provided in seniors' local languages (i.e. Greek and Romanian).

Increase Fonts and Different Symbols

It is very important to have bigger letters and symbols that are easier to recognise in particular, the menu symbol, the back symbol, the map symbol which shows the location of the business and the symbols representing the category of a shop.

Decrease the Steps Required for an Action

Additionally, all professionals deemed it as necessary to have fewer steps for placing an order as; it was indicated the most difficult task (out of the 12 tasks) for seniors.

Categorisation of Products and Businesses

Another recommendation was to categorise the businesses and products in order to be easier for seniors to search for them instead of displaying all businesses or products in one long list. Subsequently it was proposed to provide the option of choosing from different categories instead of typing in the search field the business/product that they are looking for, something very new and difficult for seniors.

Tutorial

Further remarks made by the professionals were the need to provide a tutorial in order to help all seniors regardless of their IT literacy to use the application as well as to provide voice support (talk-to-write function) to assist the seniors who do not feel confident in writing at a smart device (smartphone or tablet) so as to fill in the required information, such as the registration process or search for business and/or product. It was also suggested to provide a calendar view in all fields where a date is required as it will be easier for the seniors to select a date instead of having to type it.

Navigation / Map View

In regards to the navigation and map view it was recommended to have a walking man and the option of zoom in/out in order to be more understandable and easier for the seniors to follow directions.

Emergency Contacts

The importance of displaying the emergency contacts function in a more distinct and accessible position in the application was also stressed since it is one of the most vital function provided by the service.

General Suggestions

General Suggestions

Two general suggestions made, were to have a spend and order limit and to give access to caregivers to senior's account. Also, to avoid too much scrolling and less information should be displayed in the businesses' profile. Overall, all professionals embraced the co-design interface of the serive and described it as being user friendly, easy to use and tailor made to seniors' needs.

In conclusion, for the deployment of the mock-up field test the following improvements are deemed necessary for the seniors to be able to complete the testing:

1. Translation of the interface in the local languages of the end-user organisations (Greek and Romanian)
2. Bigger letters
3. Fewer steps for placing an order
4. Recognisable symbols (back button, menu button etc.)

For the remaining recommendations, the feedback of the seniors will also be gathered and implemented for the 1st prototype since they are not prohibitive factors for deploying the testing of the mock-up.

3. Evaluation framework of 1st field test

In the following chapters, the evaluation framework as well as the protocol material are presented in detail, in order to provide guidance to the end-user organisations who will implement the 1st field test. The following section provides the evaluation framework for both target groups involved in the 1st field testing.

3.1 Research question

The main objectives of the 1st field test are to identify: (a) the usability of the IOANNA application, (b) the ease of use and learning, and (c) the general user experience. The feedback will provide direction to the technical partners' efforts so as to implement the necessary changes and improvements for the 1st prototype. Therefore, the main research question is:

"How does IOANNA application function?"

In particular, through the 1st field testing, it is aimed to answer to the following sub-questions which derive from the main aforementioned research question:

1. Is IOANNA application easy to use?
2. Did the user confront any difficulties?
3. Are the users satisfied by the IOANNA application?
4. Is IOANNA application effective in supporting seniors to be more active?
5. Is it easy for the senior users to learn to use the IOANNA application?
6. Are there any functions or steps that require much IT literacy?
7. Are there any functions or steps that cause anxiety or stress to the users?
8. Is the IOANNA application useful for the users?
9. How does the user feel when using the IOANNA application?
10. Does the user consider the navigation to the IOANNA application pleasant?

3.2 Target groups involved

For the 1st field test two target groups will be involved: (a) primary users who are the seniors and (b) secondary users who are the informal caregivers, or in other words the relatives and family members of seniors.

The inclusion criteria of the primary users are the following:

- 55 years old and over
- No cognitive impairment
- Might have physical disability
- Living independently
- Preferable to have some IT literacy
- Willing to participate voluntarily in the project.

The exclusion criteria are:

- Vision impairment
- Severe cognitive impairment

The inclusion criteria for the secondary users who are informal caregivers are the following:

- Over the age of 18
- Responsible for the care of a senior
- Willing to participate voluntarily in the project

Each end-user organisation should involve up to 20 users, both primary and secondary preferable 10 primary and 10 secondary users, in the field test with the above criteria.

3.3 Methodology

The field test will be conducted in different periods throughout the project's testing phase. According to the DoW, 3 field tests should be carried out in which actual end-users will test an iterative of IOANNA application. This deliverable includes the design and evaluation plan of the mock-up field test.

Since the mock-up field test includes the involvement of different target groups, it is therefore, deemed necessary to use different methods for the collection of feedback for each target group in order to gather properly the needs of each target group. At this point it is important to clarify that each target group (senior/caregivers) has a dedicated application with different content which corresponds to their role and needs as well as different interfaces. The caregivers and seniors' application is the same; the goal is for seniors to mainly use the application and for caregivers to assist the senior when and if needed. Thus, the interface for seniors' application is simpler and easier to use than the interfaces of the business and administrator roles, mainly, due to the lack of IT literacy and familiarity of the target group. For this reason, the methodology which will be used to collect feedback from each target group will differ and are mentioned in detailed in the following sections. The research question (and sub-questions) as well as the metrics and criteria of assessment will be the same for all target groups.

3.3.1 Metrics and criteria of assessment

During the field test numerous parameters which will be assessed and explored so as to ensure that the IOANNA application is aligned with the users' needs and requirements. The following 5 metrics and criteria will be assessed for primary users:

1. Usability, in terms satisfaction
2. Ease of use
3. Usefulness
4. User's experience
5. IT anxiety
6. Motivation

In regards to the secondary users, the metrcis will be the following:

1. Usability, in terms of effectiveness, satisfaction
2. Ease of use

3. Usefulness
4. User's experience

3.3.2 Methods

This section will be separated in two parts: (1) the methods which will be used for the testing of the primary group (seniors) and (2) the method for collecting data/feedback from the secondary users (caregivers).

Part A: Methods for primary users:

For the field test with seniors, scenarios will be used through which the user will be guided to use all the functions of the IOANNA application. While the user will follow the given scenarios, the researcher will observe the senior to identify difficulties to be encountered, and gain an overview of how well the senior understands and follows the given scenarios. Based on the remarks from the observations to be made, the researcher will discuss with the participant at the end of each scenario the parts, steps or buttons which are difficult to understand, recognise and use as well as suggestions for improvement. At the end of each session, a short questionnaire will be provided to assess the participants perceived usefulness of the IOANNA application and the user's motivation and satisfaction. The questionnaire to be administered was also used in a previous AAL project "MyMate" and it is specifically designed for older people and their caregivers.

Methods for secondary users:

During the sessions with secondary group (caregivers), the researcher will allow the user to freely explore and navigate through the application with minimum intervention (only when asked by the user). The researcher will conduct an interview in the form of a discussion to identify advantages and disadvantages of the application as well as proposed improvements. Indicative and leading questions will be provided in the protocol to help the researcher through the semi-structured interview to collect all the necessary information.

The scenarios, interview questions and questionnaires which will be provided to both target groups can be found in the section 'Protocol' which includes the whole process which will be followed during the feedback sessions. By using the aforementioned methods, both qualitative and quantitative data will be gathered which helps in gathering more specific feedback on how parts of the application should be change so as to meet the needs of the users.

3.4 Mock-up components

The mock-up which will be tested during the 1st field trial consists of the following components:

Role of senior/caregiver:

1. *Emergency contacts:* the user can add emergency contacts which can easily be alerted in case of emergency. This component also provides a fall detection system. The system will be able to detect the senior's fall and a message will be displayed to the client's screen to confirm whether the user fell or if he/she is ok; in case of no respond, one of the emergency contacts will be contacted.
2. *Chat:* the user can communicate with the businesses which joined the IOANNA application.
3. *Businesses:* a list of the businesses which registered in the IOANNA application is presented. By selecting a business, the user can view its location, products, to place a new order and see previous or pending order he/she carried out and to chat with the business. Additionally, the possibility of route planning is provided, according to the users' preferences and restrictions.
4. *Orders:* the user can view and manage his/her order, chat with and rate the businesses.
5. *Promotions:* the user can view the registered businesses' promotions and by selecting a promotion it is provided the options of chatting with the business, placing an order and plan route to visit the business.
6. *My profile:* the user can modify his/her personal information, such as password, mobile number and address.

4. Protocol

The protocol is developed to provide guidance to all end-user organisations which participate in the IOANNA project, for the preparation and implementation of the mock-up field test. As mentioned above, three field tests will be implemented throughout the project to test each iterative with the end-users. In each phase a new protocol will be provided.

The IOANNA application comprises which will be assessed during the testing phases of the project will have the role of the client (senior/caregiver). This section is separated in 2 sub-sections with the instructions for each target group.

In general, the researchers need to get familiarised with the mock-up before testing it with the users. They also need to translate the sheets developed for each target group to their local language. Below there are detailed instructions and procedures to be followed during the feedback session for each target group to support the researchers

of the field test. At the beginning of the session researchers have to inform the participants in regards to the aim and purpose of the project. Moreover, they may also provide the IOANNA leaflet which is especially designed for potential participants and includes their role in the project (see Annex 2). Finally, before the testing, researchers need to obtain participants' informed written consent (see Annex 1). The end-user organisations have to translate in their local language (Romanian and Greek), the leaflet and the informed consent, before providing them to potential users.

For the testing of the client role (senior):

Instructions for researchers:

You can be accessed the mock-up in the following link: https://install.appcenter.ms/orgs/ideable-solutions-s-l/apps/ioanna/distribution_groups/public .

The researchers will provide the scenarios and background information outlined below only (do not give the questions included for each scenario), along with the IOANNA application on a Smartphone or Tablet, and assist the users during navigation, when and if needed. At the same time the researcher will need to carefully observe through the user's navigation in order to observe for any difficulties and subsequently discuss them with the participant. Following administration of the scenarios, there are some indicative/leading questions in order to help the researchers to start the discussion and explore what the users would like to change and how. Not all questions need to be made or phrased exactly as written. Try to make a discussion with the user to gather the necessary information so that the user will feel comfortable through the procedure.

Sheet for senior users:

Please read the following information and try to follow the scenarios as you are the person described, what you would do, what would you think etc. At the end of each scenario you can discuss with the researcher on your thoughts about the IOANNA application. If you need help or want to ask a question at any time, please do not hesitate to ask the researcher at any time.

Background information of the client:

Maria is 61 years old she does not work but she has many interests and hobbies. She likes to visit the community centre of her neighbourhood through which she meets many people close to her age. The manager of the community centre organises various excursions in Cyprus/Romania but also abroad. Many other activities are offered by the community centre which are of her interest, such as exercise, computer

lessons, knitting and cooking activities. She also likes to go for a walk every morning which sometimes she goes by herself and sometimes a friend joins her.

Maria's daughter, Eleni, is 36 years old and has a child. Eleni has a busy life and lives quite far from her mother but she visits her at least twice a week to either help her mother with the grocery, accompany her at doctors' appointments or just to spend time with her. Eleni enjoys that her mother has many interests and activities in her life but at the same time she worries about her. She would like to have more free time in order to be able to help her more. She finds out about IOANNA application and after a discussion with her mother they agree to install the application on Maria's phone for her mother to be able to contact her in emergency cases, notify her if she falls, since she feels quite dizzy lately but also to be able to purchase her shopping either grocery or any other kind of purchase via the application. Therefore, Eleni helps her mother to install the IOANNA application and to create an account; thus, Maria can just start using the application without needing to enter the credentials of her account.

Scenario 1: Maria wants to order a book

Maria enters the IOANNA application and through the menu button, she goes to the promotions to see which businesses have promotions on books. She chooses the "Anthony Frost English Bookshop". She likes that the book the business has in promotion and the price is good so she decides to order it. She wants first to see where the business is located to decide whether she will have the book delivered or pick it up from the store. The store is not located nearby so she decides to have the book delivered at home. Since she will not go to the store to see what else is of interest to her she visits the business' profile to see all its products. She decides to order only the book so she places the order.

Questions:

User experience	
1.	What is your opinion about the process you followed?
2.	Did you find the information you would like to know about a product before ordering it? If not, what other information would you like to be included?
3.	How do you prefer to present the businesses (all but in categories, your favourites only or any other suggestion)?
4.	How would you prefer to see the available offers from the businesses in your countries (from all businesses in country, from all businesses locally, from all businesses near me, from my favourite businesses only)?
Ease of use	
5.	Did you face any difficulties while placing the order? If yes, how could the procedure be altered to be easier?
6.	Did you find the information included (in the scenario) about the business (location and other products) easily? If not, where should be the information presented to be easier to find?

7.	Would you like to have more, less or different information presented for the business?
8.	IOANNA app will also include a list with volunteer job positions, would you prefer to see the list in the same screen with the products or would you prefer to have a different category?

Scenario 2: Maria sends a fall notification to her daughter

Maria wants to see her emergency contacts to make sure that she added the correct phone numbers because lately she often feels quite dizzy. The next morning while she takes her morning walk she feels dizzy and falls. IOANNA application detects the abrupt move and displays a fall notification (NOTE FOR THE RESEARCHER: choose fall simulation). Even though Maria is not in pain, she decides to send a notification to her daughter.

Questions:

User experience	
1.	What is your opinion about the process followed (to send a notification for fall detection)? Any recommendations for improvement?
2.	How would you want to be notified about a notification (sound, just display the message in the screen, other)?
3.	How much time do you want to press “I am ok” so that your loved ones will not be notified (1 minute, 5 minutes, other)? Remember that the phone will detect a sudden fall of the phone in order to display a fall notification thus you most probably not hold the phone to your hands.
Ease of use	
4.	Did you find the required information easily (emergency contacts and contact details)? If not, please specify where and how should this information be displayed to be easier for you to find it in case you would like to send a notification when in need?
IT anxiety	
5.	Did you face any difficulties during the process? If yes, how could the procedure be to be simplified?
6.	Was the message that is displayed for emergency cases which will be send to your emergency contacts clear? If not, how should the messages be rephrased to become clearer?
7.	Do you have any other recommendations which will help you notify your loved ones when in need?

Scenario 3: Maria wants to check her profile and preferences

After a month that Maria uses the IOANNA application she wants to check the information she entered with her daughter when they registered to the application and update them if needed. She feels more confident to use the application by herself now so she decides to re-check the preferences of the application.

Questions:

Ease of use	
1.	What do you think about the process you followed? Was it easy or difficult? Would you like it to be alter? If yes, how?
User experience/ Usability	
2.	Is the information included in your profile enough or would you like more/less information? Please specify what other kind of information should (not) be displayed.
3.	What do you think of the preferences displayed? Would you have liked more/less preferences to be displayed? If yes, please specify.
IT anxiety	
4.	Did you face any difficulties when viewing your profile and preferences? If yes, how could it become to be easier?
5.	What is your opinion about having one of your caregivers access to your account? Do you foresee any benefits or disadvantages?

Questionnaire:

[For researchers: Please assist the senior in this procedure by asking the senior the following questions and fill it in for them, when it is needed].

Please choose which of the following statements represent your opinion for the IOANNA application. You can choose more than one statements in each category.

Perceived usefulness
I Think that the system could:
A1) help me to be more effective in carrying out my daily activities.
A2) give me more control over the activities/tasks in my daily life.
A3) make me feel less stress by making use of the system for managing my daily activities/tasks.
A4) help me to complete my daily activities/tasks quickly.
A5) help me to complete my daily activities/tasks more easily.
A6 make me feel more motivated to carry out my daily activities/tasks.
A7) make me feel safer in carrying out my daily activities/tasks.
A8) help me be more active (i.e., participate in more activities).
A9) improve my ability to perform my daily activities/tasks.
A10) help me be more independent/autonomous.
A11) help to reduce my demand for care from my carers.
A12) save me time when I use it.
Motivation
B1) I intend to use the services provided by the system in the future.
B2) I predict I would use the services provided by the system in the future.
B3) I plan to use the services provided by the system in the future.
Satisfaction
C1) I am satisfied with how easy it is to use this system.

C2) The system is pleasant to use.
C3) The system works the way I want it to work.
C4) I feel comfortable using the system.
C5) The interface of this system is pleasant.
C6) I like using the interface of this system.
C7) I feel I can trust the system.
C8) Overall I am satisfied with this system.

For the testing of the client role (caregiver):

Instructions for researchers:

You can be accessed the mock-up in the following link: https://install.appcenter.ms/orgs/ideable-solutions-s-l/apps/ioanna/distribution_groups/public .

The researchers will provide the IOANNA application, either on tablet, Smartphone, laptop or desktop and provide them time to explore freely. Subsequently, the researcher needs to ensure that the user went through all of the application's functions and prompt the user to navigate to functions that did not already explore.

Subsequently, an interview will be conducted with the aim to explore the remarks and changes recommended by the user.

Indicative questions:

User experience	
1.	What is your overall opinion?
2.	Is there anything you believe that it is missing?
3.	How was your experience during the navigation of the application?
Ease of use	
4.	Do you believe is an easy to use application for caregivers but also for seniors as well so that your help and support while using the application to be minimised? If not, what changes should be made to be easy?
Usability	
5.	Do you think that it can help a seniors be more independent and active? If yes, how?
6.	Are you satisfied with the included functions of the application? If yes/no why? What would you recommend to add/delete in order to meet you requirements?
Usefulness	
7.	Do you think it is a useful application for seniors?
8.	Do you believe that a senior would be benefited from the application? If yes/no why?

5. Results from mock-up field testing

This section presents the feedback gathered from the mock-up field test with actual end-users (seniors and informal caregivers). The results from each end-user country is presented differently in order to be able to identify possible similarities and differences between the countries' users. At the end of the section, a conclusion is included in which the users' suggestions and improvements are presented.

The testing of the IOANNA application with the seniors was carried out using scenarios and users' feedback was collected through semi-structured interviews and a questionnaire at the end of the session. Participants evaluated the application via three scenarios which were specifically designed for users to navigate through all important aspects of the application. The researcher was providing help when needed through their navigation. The aim of the first scenario was to visit the promotions, select a book, check the distance to the bookshop, check other products of the business, check the profile of the business and order the book. Participants' experience was assessed in a semi-structured interview on the measures of **user experience** and **ease of use**. The second scenario assessed the fall notification function with **user experience**, **ease of use** and **IT anxiety** to be the three metrics. Lastly, the third scenario was involved the navigation of the user in his/her profile and preferences and it was assessed through the same metrics as the second scenario.

With regards to the questionnaire, **usefulness** was assessed with 12 questions, **motivation** with 3 questions and **satisfaction** with the IOANNA application with 8 questions. In the following section, it will be presented only the statements which were supported by half and more of the participants since those statements indicate the most strong aspects of the IOANNA application.

Regarding the caregivers' sessions, they were first asked to freely navigate through the application and a semi-structured interview with the researcher followed. **User experience** was evaluated with three questions: (1) caregivers' opinion, (2) whether anything was missing and (3) how caregivers experienced the application. **Ease of use** was assessed with regards to how easy it was for caregivers and seniors to use the application. And **Usability** was addressed with two questions namely, (1) whether the application helped seniors to be more independent and active and (2) whether they were satisfied with what the application offers. Finally, **Usefulness** was assessed with whether: (1) the application would be useful for seniors and (2) the seniors would be benefited from the application.

For the collection and analysis of the users' feedback the responsible end-user organisation (Agecare) provided an excel in order to gather the feedback of all users from all countries and proceed to the analysis. Thematic analysis was used, thus, the most pre-dominant themes derived from users feedback are presented below and finally, the conclusions and ain improvements are presented.

5.1 Feedback from end–users in Romania

The feedback sessions for the mock-up field trial in Romania took place in August 2019. 10 seniors and 10 family caregivers family caregivers were involved in the mockup field test. Below are presented the results from each group separately.

Senior users

In total 10 individuals participated, 9 females and 1 male, with a mean age of 64. One theme was the most pre-dominant: easy to use.

Ease to use

The majority of the participants did not face any difficulties in navigating through the application and carrying out the tasks indicated to them through the scenarios provided. Most of the participants found it easy to use the application, even though all of them highlighted the importance of having IT literacy for using the application. One participant expressed the need to have a “Help” button and another one asked for a manual. Also, 7 out of 10 participants supported that placing an order is an easy procedure, whereas 3 users faced some difficulties; one of them clarified that the procedure needs to be simplified as there were too many steps while another one had difficulty choosing the time of delivery.

Moreover, the information provided for the businesses and products were easy to locate and understand, while two users requested to have a validity function through which users who ordered the product will be able to rate or recommend it, if satisfied. An additional recommendation made by the majority of the participants was to categorise the businesses and 6 out of 10 respondents would like to see only local businesses while 4 participants prefer to see business from across the country.

Furthermore, Romanian participants were very appreciative towards the fall detection function, they mentioned that it was easy to find and use as well as very useful. One person required to know more information on how it will work, in particular how the user will be located, since this function was not functional in the mockup phase.

In regards to receiving notification of a fall detection, 6 out of 10 participants prefer to have sound and message, whereas only one participant chose to have sound only and another one to receive message only. One of the participants suggested to be given the option of choosing the type of notification. Concerning the time of response, half of the participants pestimate that 1 minute is enough, whereas 2 participants would prefer 5 minutes time to respond to a fall detection. A participant proposed to provide the possibility to select the time of response. Finally, the participants were enthousiastic with providing volunteering and 9 out of 10 prefer to have it as a separate category.

For the improvement of the application, senior participants suggested to have the “See who to notify” button in a more visible position, to have white background and red

colour letters as well as bigger font. However, those recommendations were made by one or two participants.

Finally, all participants were comfortable with providing access to their accounts for their caregivers, even though one participant expressed the need to be able to choose the level of accessibility which each caregiver will have.

With regards to the questionnaire administered to the senior users, the participants feel that IOANNA application will help them in carrying out their daily activities since 60% of the participants feel that they would be more effective and 50% would feel that they have more control when using IOANNA application. Half of the respondents also stated that it will be easier to complete their daily tasks.

Moreover, IOANNA application would help in increasing the feeling of safety since 60% of participants would feel safer in carrying out my daily activities/tasks and 50% would feel more independent. Likewise, 50% of the participants expressed their intention of using IOANNA application in the future while an equal percentage predicts its usage in the future.

In regards to their satisfaction towards the IOANNA application, 80% of the users are satisfied with how easy to use is the application and 6 out of 10 stated that the interface is pleasant and that they are overall satisfied with the application.

Caregivers

During the mockup field test in Romania, 10 caregivers were involved, 5 male and 5 female, with a mean age of 34. The main theme derived from the caregivers' feedback was the feeling of security.

Feeling of security

The majority of the caregivers highlighted the importance of safety, security and independency which is provided through the IOANNA application. The participants unanimously expressed that IOANNA application is a useful tool which significantly contributes in improving the seniors' quality of life, the feeling of security increases as well as it contributes in being more independent and safe. Emergency contact was deemed as the most crucial function of the application which was much appreciated by all caregivers. Some recommendations in relation to the provision of increased safety for seniors through IOANNA application were to add a localisation function through which monitoring of health parameters will be obtained, such as heart rate and pulse. Also one caregiver proposed to provide this application in a smartphone in order to secure that the senior will not forget the smartphone at home and another one suggested to provide alerts if one or more of the health parameters would not be within the normal measures. Another caregiver requested to have even more communication with the senior he/she is caring for through IOANNA application by providing the option to the senior to send a "I'm ok" message to the caregiver at any time. Additional

suggestion was to include medication alarm, sms alert and emergency alert. Finally, a caregiver suggested that Non-Governmental organisations should be also involved in IOANNA application so as to provide support to seniors. It is important to note though that each of these suggestions were made by one or two respndents.

Besides the security aspect, the feedback gathered for all other aspects of the application, i.e. ease to use and user experience, was quite contradicting. On the one hand, the majority of the caregivers described their experience of navigation as nice and pleasant; with the exception of one participant who supported that it will be difficult for older people to navigate, in particular, to view products and the business, to place an order, to see a business on the map and transfer to the home page. On the other hand, 4 out of 10 users supported that it is not an easy to use application and 6 out of 10 said that they are not satisfied with the IOANNA application. However, all caregivers, with the exception of one participant, agreed that it is helpful application and if some improvements are made, then they will be satisfied with it.

The recommendations made were to have bigger letter font, change the menu button which needs to be available and visible at all times to help seniors go back to the home page at any time as well as the sales logo should become more user friendly. Moreover, online assistant and voice support would help the seniors use the application with more confidence according to caregivers. However, two caregivers believe that they should have control over the online purchase and caregiver's approval before purchasing is of great importance.

Finally, caregivers believe that seniors' socialisation will be increased if a chat function between seniors and between senior's network is included and it is deemed important to include businesses that address seniors' needs.

5.2 Feedback from end-users in Cyprus

The feedback sessions for the mock-up field trial in Cyprus took place in August 2019. The sessions were carried out mostly in individual sessions and only a few were in groups. During the mock-up field test 10 seniors and 10 family caregivers took part. First the results from the group of seniors will be presented and then the results from caregivers' testing.

Senior users

In total 10 individuals participated, 5 females and 5 males, with a mean age of 66. Two themes derived from the results are simplification and locate information and cateogorisation.

Simplification

Most of the users liked the concept of IOANNA and supported that it was easy to complete some tasks. For instance, to notify one or more caregivers in case of emergency, to find/change their profile information and preferences, were easy and straightforward procedures for most of the users. Also, the message displayed in case an emergency contact need to be contacted was clear for everyone. Only one user mentioned that even though it was easy to find the profile, it required too much scrolling as there were too much information and it was preferable to provide simpler screen with fewer information. Another participant suggested that the information included in profile should not be al of them mandatory to fill in. A participant also proposed to provide the possibility of having only capital letters and another participant suggested that the photo should be smaller. In general, the participants appreciated much the emergency notification aspect provided by the IOANNA application, in particular the fact that it can be done in an easy and fast way.

Participants were asked to estimate the time required to respond to a fall detection and the type of notification they want to receive for this notification. The participants' responses were not homogeneous. 3 users estimated that they will need 2 to 3 minutes to respond in case they fall, 3 believed that 1 minute is enough, one preferred 3 to 4 minutes and one would like the notification to be sent automatically. In regards to the type of notification, 2 respondents said only via sound, 2 said via message, one said both (sound and message) and one user preferred an audio message.

Besides the 3 categories mentioned above, the users felt confused with the rest of the functions provided. It was requested to have more self explanatory buttons; in particular, it was confusing that when selecting the "Order now" button, all the products of the businesses were displayed as well as the "Plan route" was not understandable of how it can be used. In regards to the businesess' products, it was recommended to add a button "Other products" so as to have the chance to see all products before proceeding to order, whereas, for the "Plan route" no suggestions were made from the users. Difficulties were mostly experienced when asked to visit the profile of the business to see all its products after having checked the location of the business. Participants found it very difficult to understand the steps they had to follow and could not find the way to go back to the '*Businesses'*.

Moreover, they required more straightforward and simpler processes in order to be more user friendly. For instance, most of the users had difficulty with placing an order due to the long and complex procedure required. In addition, the navigation through a business is quite complex and needs simplification according to the users. Only 2 participants mentioned that it was an easy to use application.

Concerning, the caregivers' accessibility to their account, all participants were positive to provide access to their careivers since most of them needed help navigating through the application and two participants highlighted the importance of giving access to the caregiver when a user has forgetfulness or mild cognitive decline.

Locate information and categorisation

One of the biggest challenges faced by all participants, was to locate the burger bar and move from the first screen, after signing in, to the main menu. It was difficult and very confusing for all the participants to understand why an emergency message was displaying and since there was no trigger or explanation prior most of them freezed and could not continue the testing without the researcher's intervention.

However, all participants were satisfied with the information provided for the products and businesses, even though the presentation of the information need improvement as most of the participants would like to see the business categorized since this would make it easier for them to locate the information they want as well as to navigate with confidence. The majority of the participants would prefer to be able to see all business in their country, one participant prefer to see the local businesses only and it was also suggested by one participant to have a drop down list or order the categories alphabetically by category. Also, one participant suggested to have a separate category with the offers of all businesses and another user expressed his preference in seeing also future offers of businesses, whereas, another one suggested to provide a seach option to easily locate a business or a product.

Additionally, participants had difficulty to find the "See who to notify" button. The majority of the participants suggested not only to have bigger letters for this button but also to change its location so it will be more visible and accessible. Another recommendation made by one participant was to have font size setting in a more accessible position instead of going to preferences to do it.

Moreover, when participants were asked regarding the volunteering function, all of them prefer to have this information in a separate category and some suggested to include this category in the main menu of the application.

With regards to the questionnaire administered, users had to evaluate the application on the perceived usefulness, motivation and satisfaction scales. One participant did not complete the questionnaire as he was too tired to do so. The responses of another end-user were excluded from the analyses as the participant could not read the letters of the questionnaire, the researcher was reading aloud the questions to him and the participant was automatically responding 'yes' to everything, something which contradicted that fact that the end-user needed guidance throughout the navigation of the application and could not complete any steps by himself. One of the comments made by more than half of the participants who completed the questionnaire, was that several questions were repetitive, a factor which may have influenced the results.

Focusing on how useful IOANNA application was perceived to be, more than half of the seniors (62.5% of the participants) agreed IOANNA application would help them be more effective in carrying out their daily activities'. Half of the respondents responded affirmatively that they would feel less stressed and safer in carrying out and managing their daily tasks as well as that it will reduce the demand for care from the carers.

With regards to users' perceived motivation, 50% of the seniors expressed their intention and plan of using the IOANNA application in the future.

Satisfaction with the application can be divided in 3 categories; those who more than half responded positively to the following three questions namely:

- *'I am satisfied with how easy it is to use this system.'*
- '*The interface of this system is pleasant.'*
- *'I like using the interface of this system.'*

Caregivers

Equal numbers of male and female caregivers participated (5 males and 5 females) with mean age of 35 (19 – 54 years of age). The two pre-dominant themes identified were simplification and active living.

Simplification

Overall users were positive about the application with one participant describing it as being "humanistic oriented". They argued for the application to have a nice concept and an attractive design. Most caregivers nevertheless, experienced difficulties when navigating through the application and especially from the homepage when logging in, to the burger menu. This difficulty was experienced by both experienced and novice ICT users. It was unclear why the "*Send notification*" message was presented as soon as they logged in the application and they argued that older adults would have the propensity of keep pressing the button in an effort to find the menu or to have the next screen being presented. They also found confusing that under '*Order Now*' and '*Businesses*' all companies participating in the application appeared. Participants suggested instead of having all the businesses participating being presented under '*Businesses'*, to have only the business from where one buys the product from.

Caregivers also raised the issue that the application as it is now, is more user friendly to adults who are acquainted with ICT (and online shopping) with novice to ICT users having great difficulties using it (especially without support). Simplification of the procedure for purchasing a product was important to the feedback received. Caregivers argued that the application as it is now would be of greater benefit to people of around 50-65 years of age, with older adults experiencing difficulties. They furthermore argued that it is an application that would be more useful to people who grew up in the digital age, as they would be more acquainted with ICT at an older age.

Some suggestions were made to make the application more user friendly for seniors. It was suggested to replace, where possible, text with recognizable icons for instance the main menu to have counterintuitive icons or big boxes could be available at the center of the screen. Alternatively, four big buttons could be placed at the homepage representing four main menu items. Moreover, the volunteering jobs should be in a

separate category. Additionally, a back button, a basket icon and a search function would make the application easier to use.

Another recommendation was when pressing '*Order now*' to have a bar at the bottom of the page with similar products or other products/offers of the business. Furthermore, the emergency contacts and "see who to notify" should be presented in bigger fonts and at a more conspicuous and central position. Also providing instructions or a manual would support seniors to use the application.

Active living

The application was overall rated as being helpful; it could ease older adults' lives (via online shopping), increase their socialization and boost their confidence. IOANNA gives to people the opportunity to connect with technology and provides them with an extra incentive to go out of home as it reduces the fear of helplessness in case of fall (with the automatic fall notification being send) as well as staying aligned with modern means of shopping (online shopping). It could also be of benefit to adults with mobility issues as they could have their products delivered at home. Caregivers were also satisfied with the '*Promotion Detail*' page and the details included for a business. Participants rated the automatic fall notification functionality as the most helpful and beneficial to older adults. Some of the caregivers participating however, suggested avoiding increasing the complexity of the application with too much information as it could end up confusing older adults. IOANNA was perceived hence, as being beneficial in sense that it can increase older adults' autonomy and independence, help them save up time, promote an active living and help them interact with the society and the outside world. IOANNA is useful as it offers many functions in one application.

For further promoting the socialization of seniors through the application it was suggested to include a forum for users to discuss about products, and the ability to rate the products.

5.3 Conclusions and improvements

The feedback gathered from seniors and caregivers was valuable and provided guidance on the direction of the consortium's efforts so as to provide a 1st prototype which can better meet their needs. In this chapter, it is included the conclusions from both countries' feedback and the main imporvements which need to be implemented before the 1st prototype field test.

Beneficial and useful

Participants from both groups for both countries indicated the fall detection function of the application as the most crucial and beneficial aspect since it contributes in increasing the feeling of safety, socialisation and independency of seniors. The fall detection would on the one hand make the seniors feel safer when carrying out their daily activities, such as shopping, anf on the other hand will increase decrease the impact of care for the caregivers since they wuld be informed immediately in case of emergency. Caregivers even proposed to offer a chat function in order to enhance and better promote the seniors' socialisation.

Participants indicated that the functions provided by the IOANNA application are useful and will help in being more independent and carry out their activities in a shorter period of time. The concept of the application was found useful by the majority of the participants and even if the application is an early stage participants were enthousiastic and expressed their intention to use it in the future.

Easy to use

Easy to use is not one of the strongest aspects of the application as it is now. Even though the feedback for this aspect was diverse, the majority of the respondents from both countries highlighted that the overall navigation need improvement to become easy to use for seniors without IT literacy. Romanian seniors navigated through the application easily, even though caregivers in Romania indicated that it can be used by IT literacy people. Likewise, Cypriot participants from both target groups believe that the IOANNA application as it is now it can only be used by IT literacy people since, seniors and caregivers faced difficulties and got confused while navigating. In particular, the functions that need improvement, according to the participants, were the businesses' profile, placing an order and planning a route. Almost all the participants from both countries had difficulty to transfer from the emergency notification displayed after signing in, to the main menu. This clearly indicates that this page, even though it is one of the significant aspects of the application, should be presented in a different and more user friendly way.

Preferences

Participants were also asked to express their preferences in regards to the time of respond to a notification and the type of notification preferred by the participants, no conclusions can be made as the responds were diverse.

Contradicting between the two countries were also the responses on displaying local businesses or businesses from across the country, since the majority of the Romanian seniors prefer to view local businesses only, whereas Cypriot seniors prefer to view businesses from across the country since they will have the option of home delivery.

However, all participants agreed that it will be good that the caregivers will be able to have access to their account, even though a few participants raised points, such as the level of accessibility for each caregiver. With regards to the support provided to the seniors, some recommendatins made were to provide a manual, online assistance or a

speech-to-text support; even though, these suggestions do not represent the majority of the participants.

The main concerns of caregivers from both countries were the available payment methods at IOANNA application and the presentation of the location when their loved one is in need. The majority of the participants suggested to provide a map with the senior's location in order to easily track and be able to get directions for the senior's current location.

Further general suggestions which were made by the majority of the respondents, were the following:

1. Bigger fonts
2. "See who to notify" in a central and distinct position with bigger letters
3. Change of menu button (burger bar) in a more recognisable icon (i.e. home icon).
4. Need of self-explanatory buttons, e.g. "order now" button, "plan route"
5. Fewer steps for placing the order and businesses' profiles
6. Add a search function
7. Categorisation of businesses and volunteering should be one separate category in the main menu

6. Conclusion

The IOANNA project started by gathering the user requirements in which among other activities which took place under this task, the users were also involved in order to ensure the co-design of the application. Following the user requirements, the mock-up was tested by professionals, in lab setting, with valuable experience with seniors in order to provide feedback mainly on the usability of the mock-up before testing it with seniors. After the improvement of the mock-up, the end-user organisations carried out field tests with seniors and caregivers in order to gather feedback on the mock-up before developing the 1st prototype of IOANNA platform and application.

Therefore, this deliverable provides a thorough description of the procedures that needs to be followed by all end-user organisations during the field testing of the mock-up. It includes the methodology and methods to be used which ensures that the research questions will be answered and it ensures that both qualitative and quantitative data will be gathered. For this reason, the protocol includes scenarios that the users has to follow during the testing and interview questions which support the researchers in gathering the users' feedback. Finally, the deliverable includes the users' feedback and main conclusions which can provide useful insights for the direction of efforts of the consortium so as to provide a 1st prototype of IOANNA application which will meet the users' needs and requirements.

7. References

[1] Comparison of heuristic and cognitive walkthrough usability evaluation methods for evaluating health information systems, Reza Khajouei Misagh Zahiri Esfahani Yunes Jahani, *Journal of the American Medical Informatics Association*, Volume 24, Issue e1, 1 April 2017, Pages e55–e60, https://doi.org/10.1093/jamia/ocw100

[2] Blackmon, M. H. Polson, P.G. Muneo, K & Lewis, C. (2002) Cognitive Walkthrough for the Web CHI 2002 vol.4 No.1 pp463–470.

8. Annexes

8.1 Annex 1: Informed consent

I. INTRODUCTION

You have been invited to take part in a research study of the *IOANNA* project. Before making a decision on whether you want to participate or not, please read this document carefully. Please ask all the questions you may have so you can be completely sure that you understand the scope and procedure of the study. You may take a copy of this consent to think about it or talk to your family and friends before making any decision. At all times, we assure the compliance to the current legislation.

II. PURPOSE OF THE STUDY/PROJECT

IOANNA project's main objective is to provide further support on the assistive mobility and social engagement of people over the age of 55 years old, as well as, other citizens which will be achieved through the provision of gathering a number of services in one application that is called IOANNA application. More specifically, IOANNA project aims to offer the following services in a user friendly environment for older people:

1) Searching engine for commercial offers, stores, stores categories, and specific products of services near the user's location.
2) Opportunities for community service in paid or volunteer basis for experienced senior adults or other citizens
3) Navigation system aiding senior adults or other citizens to get to their destination with the most convenient way having the option to activate MyCare, so that the senior adult has a more protected support.

We aim to develop an easy to use, intuitive interface in familiar devices and to offer you the means and support to stay active and independent and to keep your habits. The IOANNA application will also provide safety for outdoor activities and it acts as an emergency system when necessary.

Your family members who care for you and support you in your daily tasks, when needed, will have access to IOANNA application in order to ensure that they can help you, if needed.

III. PARTICIPANTS IN THE STUDY AND POSSIBLE PARTICIPATION

We kindly request your voluntary participation in this research project. Please make sure that you are perfectly informed about the purpose of the study and what your participation in it. Please ask to clarify any information you do not understand. Please, do not sign, if you are not sure that you have understood all information provided to you. The participation in this project is totally voluntary and you will not have any financial burden. You can withdraw at any moment without providing explanation or having any consequences

The criteria for participating in this study are as following:

- being over the age of 55 years old and living independently **or**
- being a family member or caregiver of a person over the age of 55 years old

IV. PROCEEDINGS:

The users are involved throughout the project in order to ensure that their needs are met. The involvement of users is required in the following phases: (a) user requirement, (b) mock-up testing, (c) 1st prototype testing, and (d) 2nd prototype testing. You are now invited to participate in the second phase which is the mock-up testing. Therefore, by signing this informed consent you are stating that you are willing to participate in testing only the mock-up phase. In case you are interested in being involved in the upcoming please inform the researcher so as to contact you.

This testing requires from you to test the mock-up which will be provided to you be the researcher. The researcher will explain to you the procedure that you need to follow during the testing and will support you at any time. You will be required to respond to some questions asked by the researcher in order to gather your feedback on the application you tested.

V. RISKS OR INCONVENIENCE

The only potential inconvenience foreseen at the mock-up phase is that the participants may feel anxiety due to the exposure and adaption to the devices. The project team will provide support to participants so as to use the devices and application provided. You have the right to withdraw at any time you wish.

VI. BENEFITS

Participants will have the opportunity to test and adopt techniques to help them being active and independent. Moreover, the personal benefit from participating in any activity of the *IOANNA* project is that you can make a substantial contribution to the development of future technologies focusing on the enhancement of the quality of life of ageing persons and supporting an independent life-style. In any case, the data

collected in this study will lead to a deeper and better knowledge and understanding of the wishes and needs of ageing persons as well as their social environment to enhance future health services.

VII. PRIVACY AND CONFIDENTIALITY

Your registered and/or recorded responses will not include any personal identification information. Hence, it will not be possible to identify you after your participation in any study. Recorded information will be processed during the phase of data analysis and will be included in project internal reports or later in scientific publications. It will not be possible to identify the source of the information. The results of this study may be published in scientific magazines, conference proceedings or books. Complete anonymity of personal data is guaranteed by the *IOANNA* partners.

The authorization for the use of and access to your anonymised data is completely voluntary. This authorization is valid until the end of the study. If you should decide to deny your consent, please contact the research contact person and let her/him know of your intention of leaving the research project. You can contact the research contact person at the address given below (VII CONTACT PERSONS). Please keep in mind that if you do not provide us with your authorization now or if you cancel it in the future, you will not be able to participate in this study.

From the moment, you withdraw from the *IOANNA* project, your data will not be used in any further phase of the project. However, documents that have already been published or are part of the study that have been finished will not be able to be altered.

VIII. CONTACT PERSONS

For further information about your rights as a participant in the investigation, or if you are not satisfied with the way this study is being carried out, or if you have any question or complaint during the investigation, please contact the leading investigator:

>Name of the Local Investigator<

>Name of the Local Institution <

>Full address<

>Telephone Number of Local Investigator<

>Email Address of Local Investigator<

X. CONFIRMATON

I have read the information in this informed consent. All of my questions about the study and my participation in it have been answered. I authorize the use and analysis of my answers to the entity aforementioned for the purposes above indicated. Signing this informed consent does not imply giving up to any legal rights. I accept in a voluntary way to participate in this study.

Name and surname of the participant:

……

Date:

……

Signature of the participant

……

Name and surname of the researcher

……

Date:

……

Signature of the researcher:

……

Annex 2: Flyers for users

Your input counts!

Try out and test IOANNA application

Contact Us

If you would like more information on how you can contribute to the IOANNA project, please contact us:

<Insert name of your organisation>

<Insert primary address>

<Insert post code>

<Insert country>

<Insert phone number>

<Insert website>

Insert logo

IOANNA project

You can help us develop a suitable application to:

- Further support on the assistive mobility and social engagement of people over the age of 55 years old
- Support people to keep being active and independent

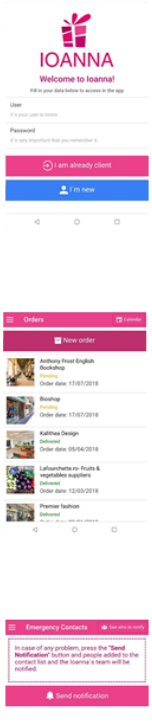
What is IOANNA?

IOANNA is an application (app) which combines a number of services to support people in being active and independent.

How does IOANNA work?

IOANNA includes various functions:

1. Searching engine for commercial offers, stores, products and services near you.
2. Opportunities for community service (paid or volunteered).
3. Navigation system aiding you to get to your destination with the most convenient way and being protected.



Get involved

We would like to ask you to try and test IOANNA if you

- Are over the age of 55 years old or
- Care for a person over the age of 55 years old
- Owner of local business
- Want to help us improve a our application

Step 1

After you give consent we give you the IOANNA application on a device (smartphone, tablet, laptop etc.)

Step 2

Try out the IOANNA app with the support of our researcher.

Step 3

Tell us about your experience.

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