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Author(s)	Martijn Vastenburger, Janna Alberts, Elisa Jimeno, Juan Jesus Rodriguez
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Abstract (for dissemination)	Deliverable 2.3a presents the user requirements and the specification of the user groups. The requirements and specification of the user groups are based on the findings from the user research (D2.1).



**Elders-Up!: Adaptive system for enabling the elderly collaborative
knowledge transference to small companies**

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Deliverable

D2.3 User requirements and specification of user groups

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1 Introduction

The Elders-Up project follows a user-centric system design methodology, in which participatory design techniques are used throughout the project (Figure 1). The aim of the project is to facilitate transfer of knowledge from seniors to companies. User research has been conducted in three countries: The Netherlands, United Kingdom and Cyprus. Deliverable 2.1 describes the user research. The user requirements (this deliverable) are based on the findings from the user studies. The user requirements are input for the concept and architecture design (D2.6).



Figure 1: The five stages towards functional requirements in the Elders-Up user-centric system design methodology.

The findings from the user research have been studied in detail, and user requirements have been identified. The user requirements have been clustered in five categories: general, first-time registration, matchmaking, collaboration and adaptation. Next, the user requirements have been prioritized. The resulting user requirements have been validated by the project consortium, resulting in D2.3.

How to read this document

The requirements are described based on the journey the user will go through: first-time registration, matchmaking, collaboration and adaptation. A separate category with general requirements has been added.

The user requirements have been prioritized using the MoSCoW technique:

- M = Must
- S = Should
- C = Could
- W = Won't

User requirement	Priority
Experts and companies should be able to enter their contact details (name, address, email, phone)	Must

Table 1: The requirements table shows the user requirements relevant to a specific front-end component. For each requirement, the priority is shown.

2 User groups

The primary users of the system have been categorized in three groups:

(1) Experts

The seniors are the experts. They provide their experience and knowledge to start-up companies.

(2) Companies

The companies have questions and challenges, and they can benefit from the experience and knowledge of the seniors.

In the user research, an optional third group of users has been identified:

(3) Moderators

The moderators facilitate the matchmaking process. They can for example support companies and experts in creating their profiles, in finding matches, and in starting a collaboration process.

The moderators can be employees of the company that provides the Elders-Up! service, they can be third-party professionals, or volunteers. The first integrated prototype will not include functionalities specifically for Moderators. Based on the findings from the first field study, it will be decided if functionalities need to be added for Moderators.

3 General

This chapter shows all requirements that are related to the application as a whole. These requirements are not linked to specific front-end modules. All these requirements are extracted from user requirements and not all of them will be addressed in the prototypes, the various grades of integration or specific items removed from first prototypes in the development phase will be further clarified in Deliverable D2.6.

User requirement	Priority
Experts and companies can use the Elders-Up platform on desktop devices.	Must
Experts and companies can use the Elders-Up platform on tablet computers.	Must
Experts and companies can use the Elders-Up platform on mobile devices.	Must
Experts and companies can use the Elders-Up platform on smart TV.	Could
The system should actively reach out to users and engage users through e.g. e-mail, rather than passively wait for the user to log in.	Should
Product usability needs to be high, including: <ul style="list-style-type: none"> • User friendliness • Predictability of interaction • Online support • Minimize required interaction steps • Basic interface with the possibility to add functionalities • Minimal amount of pages and information • Fluent interaction 	Must
Experts and companies are coached in the use of Elders-up by: <ul style="list-style-type: none"> • Paper manual explaining the main functionalities • Demo showing the use of Elders-Up platform in 7 steps • Call/chat with the Elders-Up help desk 	Should

NOTE 1: The Elders-Up! system is expected to be used primarily on desktop devices and tablets. Prototype 1 will therefore focus on the development of user interfaces for larger screens. Separate user interface designs optimized for mobile devices and smart TV are not considered for prototype 1. If the findings from field test 1 indicate a strong need for these interfaces, the mobile and TV interface will be considered in the development of prototype 2.

4 First-time registration

The registration module is used to collect personal data from the seniors and the experts, and to collect the input that is needed for the matching.

User requirement	Priority
The registration process needs to be properly explained to the experts and companies.	Must
A human moderator could facilitate the in-take and helps creating the matching profile.	Could
The registration process should be easy and short. No long questionnaires that scare off potential users.	Must
Experts and companies should be able to start by entering only basic information, and optionally add more details to their profile later on.	Must
Experts and companies could be allowed to select existing profiles as a start (e.g. start-up company looking for help setting up administration).	Could
Experts and companies must be able to enter their contact details (name, address, email, phone)	Must
Experts and companies should be able to enter their privacy preferences (e.g. who is allowed to read their profile, and what information is shared to what group of people)	Must
Experts and companies should be able to enter their communication preferences (e.g. preferred contact by email)	Should
Experts can define their matching profile in terms of <ul style="list-style-type: none"> Expertise domains (medical, financial, entrepreneurial etc.) Commitment (e.g. incidental questions, regular support and advice, long-term intensive coaching, office tasks) Availability (e.g. available days) Preferred compensation model (what does the expert receive in return for their help) Location of the company 	Must
Companies can define their matching profile in terms of <ul style="list-style-type: none"> The required expertise domains (medical, financial, entrepreneurial etc.) The required commitment (e.g. incidental questions, regular support and advice, long-term intensive coaching, office tasks) The required availability (e.g. available days) The preferred compensation model The job deadline Geographical location of the expert 	Must
Companies should be able to enter multiple specific requests.	Must
A quality-assurance mechanism should be in place to ensure the trustworthiness of the profiles of the companies.	Should
A quality-assurance mechanism should be in place to ensure the trustworthiness of the profiles of the experts.	Should
Experts and companies should be able to select from pre-defined skillsets, e.g. by using a tree-based taxonomy.	Could

NOTE 1: The Elders-Up! platform can be used directly by experts and companies. User research suggests that some users prefer to be supported by a human moderator. The first integrated prototype will not include functionalities specifically for Moderators. Based on the findings from the first field study, it will be decided if functionalities need to be added for Moderators.

5 Matchmaking

The matchmaking module aims to bring companies into contact with experts based on the needs of the companies and the experiences and preferences of the experts. The system enables seniors to look for companies, and companies to look for senior experts.

User requirement	Priority
The matching process needs to be properly explained to the experts and companies.	Must
A human moderator could facilitate the matchmaking process.	Could
The system must provide potential matches based on the matching opportunities of the companies and the profiles of the experts.	Must
Companies and experts must be able to browse through potential matches.	Must
Companies and experts might want to check links first from entry in platform and then from e.g. LinkedIn to get the background of potential matches.	Could
The system should indicate the strength of the match, so companies and experts can easily assess compatibility.	Should
Companies should be able to contact experts before inviting an expert to their collaboration workspace.	Must
Companies should be able to invite (multiple) experts to their collaboration workspace.	Must
Experts should be able to view the companies profile and project descriptions and their needs before accepting an invitation.	Should
Experts should be able to contact companies before accepting an invitation from companies.	Should
Experts should be able to explicitly offer their help to a company.	Must
Moderators should be able to monitor the balance between companies and experts in the system, both overall, and in view of specific characteristics (e.g. geography)	Should
Experts and companies should be able to make agreements on compensation before a match is turned into collaboration (e.g. Free of charge, depending on each collaboration, fixed fee for sessions organized by company, small compensation)	Should

NOTE 1: For prototype 1, the agreements regarding financial compensation are considered to be out-of-scope for the platform. Experts and companies can make arrangements by themselves, but there will not be a system functionality to support making financial agreements.

6 Dashboard (Home Page)

The dashboard is the central menu page for the experts and the companies. The dashboard provides access to the GroupSpaces, to the user profile, and to the search & match functionality.

6.1 Requirements

User requirement	Priority
A company administrator must be able to manage who has access to the workspace.	Must
A company administrator must be able to manage what information is available to whom.	Could
All experts and company members, who are linked to a workspace, should be clearly shown.	Must
Experts and company members should be able to share messages (text/photo) with all members of the workspace.	Should
Experts and company members should be able to send emails from within the application.	Should
Experts and company members should be able to start voice communication from within the application.	Should
Experts and company members should be able to start video communication from within the application.	Should
Experts and companies should be able to explicate working agreements within the workspace.	Should
Experts and companies should be able to identify new to-do-tasks, and track the progress of tasks. There exist three types of tasks: question, office task, and coaching.	Must
Experts and companies should be able to easily make appointments and track appointments in a group calendar.	Should
The group calendar should synchronize with commonly used calendar apps, e.g. using iCal.	Should
The system should invite collaborators to post endorsements.	Should
The system should invite companies to express their thanks after a job is completed.	Should

NOTE 1: In prototype 1, companies will be able to invite experts to their company GroupSpaces. All members of a GroupSpace will have access to all information available in the GroupSpace. Based on the findings from the first field test, it will be decided if there is a need to add individual access settings to information within the GroupSpace.

NOTE 2: For sending emails, a link to the default email application will be provided from within the GroupSpace.

NOTE 3: For audio and video communication, a link to the default audio and video communication applications (e.g., Skype) will be provided from within the GroupSpace. Based on the findings from the first field test, it will be decided if there is a need to add integrated audio and video communication.

7 E-mail notifications

E-mails notifications are used for:

- Invitations (to join a GroupSpace, to accept a task, to join an appointment)
- Progress updates (for all GroupSpace you are connected to)
- Self-reports
- Best practices/tutorials (to help users get used to the system)

7.1 Requirements

User requirement	Priority
Invitations (to join a group space, to accept a task, to join an appointment) will be sent by email.	Must
Progress updates will be sent by email. Progress updates include latest news on activities, requests and messages.	Must
Self-report questionnaires will be triggered by email. (The questionnaires themselves will be posted online.)	Must
Best practices / tutorials will be sent by email.	Should

8 Adaptation

Adaptation of the user interface is a crucial element of the Elders-Up! system [3]. Whereas most of the experts using the system will have no problems using a computer interface, there are experts with limited cognitive conditions or physical limitations. The Elders-Up! system addresses these varying user capabilities by offering adaptation.

8.1 Requirements

User requirement	Priority
Experts and companies should be able to adapt the complexity of the user interface to their personal preferences (customizable group space).	Should
The system should be able to automatically adapt the user interface (e.g. font size, amount of information displayed, number of functionalities shown) to user needs.	Could
The system should not repeatedly offer to automatically adapt the user interface.	Must

9 User preferences

The user can view and update personal preferences in the preferences page. The preferences can be accessed through a drop-down menu in the top-right of the application, and through a settings-button in the personal dashboard.

9.1 Requirements

User requirement	Priority
Experts and companies should be able to adapt the complexity of the user interface to their personal preferences.	Should

10 Adaptation

Adaptation of the user interface is a crucial element of the Elders-Up! system. Whereas most of the senior experts using the system will have no problems using a computer interface, there are senior experts with limited cognitive conditions or physical limitations. The Elders-Up! system addresses these varying user capabilities by offering adaptation. Users can manually change the complexity of the user interface (adaptation), and the system offers to automatically adapt the complexity of the user interface (self adaptation).

The user research did show that many users do not appreciate self-adaptation. Therefore, the system will offer the self-adaptation mode only once. If the user declines self-adaptation at first, the setting can be manually activated later at any time.

User requirement	Priority
Experts and companies should be able to adapt the complexity of the user interface to their personal preferences (customizable workspace).	Should
The system should be able to automatically adapt the user interface (e.g. font size, amount of information displayed, number of functionalities shown) to user needs.	Could
The system should not repeatedly offer to automatically adapt the user interface.	Must