

REBUILD

ICT-ENABLED INTEGRATION FACILITATOR AND LIFE REBUILDING GUIDANCE

Project start date: 01/01/2019 / Duration: 39 months

DELIVERABLE: D6.4 - PILOT RESULTS

DUE DATE OF THE DELIVERABLE: 31-03-2022

ACTUAL SUBMISSION DATE: 31-03-2022

Project REBUILD – ICT-enabled integration facilitator and life rebuilding guidance

Call ID H2020-SC6-MIGRATION-2018-2019-2020 – DT-MIGRATION-06-2018

Work Package WP6 – Deployment, piloting and user validation

Work Package Leader UNESCO

Deliverable Leader UNESCO

Deliverable coordinator Davide Storti (UNESCO)

Deliverable Nature Report

Dissemination level Confidential (CO)

Version 1.0

Revision: Final

1. DOCUMENT INFO

Authors

Author name	Organization	E-Mail
Davide Storti	UNESCO	d.storti@unesco.org
Alessandro Pollini	UNINETTUNO	alessandro.pollini@uninettunouniversity.net
Christos Gkelinos	OMNES	christos@omnes.gr
Paola Seremetis	MDAT	seremeti@mdat.gr

Document History

Version #	Author name	Date	Changes
0.1	D. Storti	23.02.2022	Initial version
0.3	D. Storti	15.03.2022	Draft version
0.31	D. Storti	29.03.2022	Draft version for final review
1.0	D. Storti	31.03.2022	Final version, reviewed



Document Data

Keywords	<i>Pilot, results, conclusions</i>
Editor Address data	Name: Davide Storti Partner: UNESCO Address: 7, place Fontenoy, 75007 Paris, France Phone: +33 1 45 68 15 75 Email: d.storti@unesco.org
Delivery Date	31.03.2022
Peer Review	Name: Michalis Lazaridis Partner: CERTH Name: Antonio Filograna Partner: Engineering

2. TABLE OF CONTENTS

1. DOCUMENT INFO	2
Authors	2
Document History	2
Document Data	3
2. TABLE OF CONTENTS	4
INDEX OF TABLES	5
INDEX OF FIGURES	5
3. INTRODUCTION	6
TERMINOLOGY	6
4. THE PILOT PHASE	7
4.1. Introduction	7
4.2. The REBUILD Toolbox	8
4.2.1. Adaptations from the Test phase	9
4.3. Scope	10
5. PILOTS	11
5.1. Methodology	11
Technical team activities	12
Consortium Test Partners activities	12
Pilot Test co-ordination team activities (UNESCO)	12
Pilots execution	12
5.2. Evaluation	13
What is Usability?	13
What is being evaluated?	14
User experience	14
STRUCTURE OF THE UEQ QUESTIONNAIRE	16
Objective of the evaluation	18
5.3. The Pilot Pack	19
5.4. Pilot Overview	21
5.5. Spain Pilot (UAB)	23
The CARITAS Pilot	24
The Barcelona Pilot	24
5.6. Greece Pilot (MDAT)	27
5.7. Greece Pilot (OMNES)	28

5.8.	Italy Pilot (CIDAS)	30
5.9.	UEQ RESULTS	31
6.	CONCLUSIONS	37

INDEX OF TABLES

Table 1 - REBUILD App features implemented	10
Table 2 - REBUILD App features implemented	11
Table 3- User Experience Questionnaire questions scale	18
Table 4- REBUILD Dashboard places report	22
Table 5- REBUILD Dashboard places report per country	22
Table 6 - REBUILD Dashboard Events report	23
Table 7 - REBUILD Pilot in Spain participants	23
Table 8 - Participants to the REBUILD MDAT Pilot in Greece	27
Table 9 - Participants to the OMNES REBUILD Pilot in Greece	28
Table 10- REBUILD Pilot in Spain participants	30
Table 11 - REBUILD UEQ scales results	32
Table 12- REBUILD UEQ analysis results	35
Table 13- REBUILD UEQ Benchmark comparison results	36

INDEX OF FIGURES

Figure 1 The Tasksolver App	8
Figure 2 The REBUILD App	8
Figure 3 The REBUILD Dashboard	8
Figure 4 REBUILD Services	9
Figure 5 High-level scope of testing, based on the blueprint and D6.2	10
Figure 6 - Elements of software appeal	15
Figure 7 The four elements of User Experience	16
Figure 8 - Dependency of the UEQ scales	17
Figure 9 The UEQ online questionnaire	19
Figure 10 The REBUILD Dashboard - All places map view	21
Figure 11 Google PlayStore presentation of REBUILD	22
Figure 12 UEQ results, mean values	33
Figure 13 REBUILD UEQ distribution of answers	34
Figure 14 REBUILD UEQ results normalized by dimension	35
Figure 15 REBUILD UEQ Benchmark comparison results visual	37

3. INTRODUCTION

The overall objective of REBUILD is to improve migrants' and refugees' inclusion through the provision of a toolbox of ICT-based solutions aiming at the enhancement of both the effectiveness of the services provided by local public administration and organizations as well as the life quality of the migrants and refugees.

This project, implemented in three country clusters (Italy, Spain and Greece) follows a user-centered and participatory design approach, having the ambition of properly addressing real target users' needs, ethical and cross-cultural dimensions, and of monitoring and validating the socio-economic impacts of the proposed solution. Both target groups (immigrants/refugees and local public services providers) are part of a continuous design process which includes the gathering of their feedback and suggestions to inform the development process, with the aim of creating and maintaining their engagement throughout and after the project timeline.

The Consortium's capacity to engage relevant stakeholders external to the project is a key factor in the three main piloting countries: Italy, Spain and Greece, chosen due to their geographic situation, i.e. crucial points with regards to the main immigration routes.

The first phase of the project engaged users and stakeholders in the design of the REBUILD toolbox application by means of Co-Creation Workshops organized in each of the countries. The testing phase, conducted in the period M22-M28 of the project, has seen the involvement of all Consortium partners in experimenting, assessing and validating their respective service scenarios to provide essential feedback to the technical Work Packages. The full results of this phase are available in deliverable D6.2.

The Pilot phase was conducted during the period M29-M36 following the planning phase described in D6.3. This document reports on the execution and results of the actual Pilots in the target sites with both Local Service Providers and end-users, and provides an analysis of the findings.

TERMINOLOGY

Definitions

"Local Service Provider (LSP)": an entity offering and providing a particular set of services to the user target group (e.g. legal counseling, housing, ...).

"Services": In respect to the REBUILD App and Dashboard, a Service is intended as the sequence of steps facilitating the access to the LSP "real service" by the migrant. Services in the REBUILD App are not meant to implement LSP's "real services" (e.g. REBUILD App is not booking an appointment to the doctor).

"Places": In respect to the REBUILD App and Dashboard, LSPs can input places of interest in relation to their domain, so as to bring those to the attention of the user.

“Pilot testing”: a type of Software Testing that verifies a component or the entire system under a real-life operating condition¹, with a view to identify any issues related to the various components of a system, user-friendliness, understanding and acceptance. This operation is performed between the UAT (User Acceptance Testing - D6.2), and the Production phase.

“Data priming”: prior to the beginning of the Pilot Testing, it defines the process to prepare the system with data that reproduce or simulate real-life conditions, so as to provide the basis for a meaningful user experience and for performance evaluation.

“User Experience”: “a person's perceptions and responses that result from the use or anticipated use of a product, system or service”²

“User Experience Questionnaire – UEQ”: a method to measure User Experience in a multi-dimensional construct through a set of defined distinct quality criteria.

4. THE PILOT PHASE

4.1. Introduction

The Pilots phase is expected to provide the necessary inputs and knowledge to inform the release plans of the REBUILD toolbox at the end of the project as a replicable, reusable and scalable product, through the measurement of the Digital Companion's user acceptance, with a view to assess the potential for the REBUILD toolbox to fulfill its role, meeting users' needs and expectations. The Pilot's results further inform the impact assessment, exploitation and sustainability strategy, e.g. the capacity to involve new service providers and target groups.

Based on the feedback gathered in the Test Phase (D6.2), the Pilot phase depended on system consolidation efforts by technical partners (WP5) and the subsequent deployment of the toolbox services. This has included the refinement of existing services, and the addition of new services as foreseen in the project document.

In this phase, the REBUILD toolbox is tested in a “Pilot setting” to simulate the roll out and adoption with a larger tester community, minimizing interventions by the project partners. Pilots were provided with tools to ease the understanding, formulation and reporting of feedback, with the aim to gather structured and consistent qualitative and quantitative data and inform this final Pilot report.

Pilot partners were tasked to select actual pilot users (within the project target users, migrants and refugees) including Local Service Providers external to the consortium. REBUILD Consortium partners were then expected to act as specific service providers matching available local services and user needs.

¹ <https://www.guru99.com/pilot-testing.html>

² ISO 9241-210 - DIN EN 9241 210, 2011-01, Ergonomics of human-system interaction - Part 210: Human Centred design for interactive systems, Berlin:Beuth.

4.2. The REBUILD Toolbox

The REBUILD toolbox is composed of:

- the REBUILD App, for mobile phones, - also identified as “Digital Companion” because of its role in relation to the user, providing access to REBUILD services; and
- the Local Service Providers (LSP) Dashboard, a web-based tool for REBUILD services management, including the Tasksolver App for supporting illiterate migrants to communicate in their own spoken language.



Figure 2 The REBUILD App

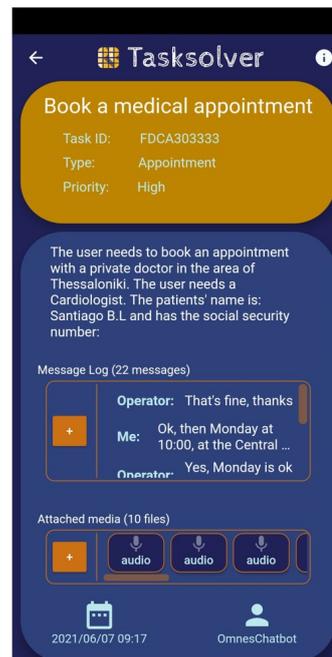


Figure 1 The Tasksolver App

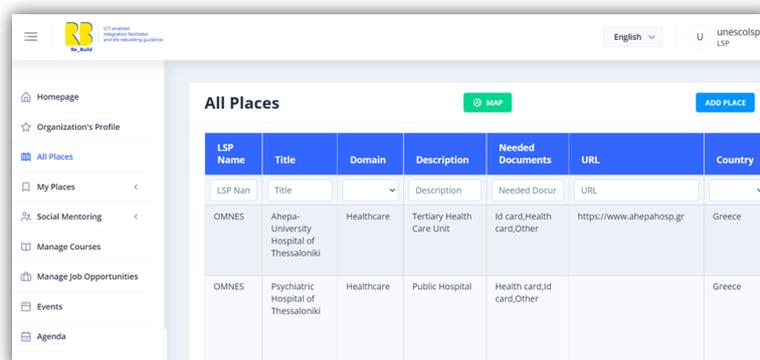


Figure 3 The REBUILD Dashboard

Further to phase 2 (Test phase), the REBUILD project refined the implemented services, and developed additional “services” as per the agreed roadmap. The following were implemented for the Pilot phase (at both App and Dashboard level):



Figure 4 REBUILD Services

4.2.1. Adaptations from the Test phase

The suggestion collected from pilot users during the Test phase and captured in D6.2 were reported to the technical team (WP5) with the description of bugs and requests for new and changes of functionalities (functional changes): more than 150 requests were reported by the Pilot teams and were assigned a priority (high, medium, low). Considering the number of change requests and time constraints, WP5 and WP6 teams agreed to concentrate the development efforts in mandatory functionalities that had to be ready before the start of the piloting phase. Remaining change requests or new functionalities were to be developed and delivered during the Pilot phase.

The Pilot teams which reported feedback using WP5 provided tools, including a Trello board, also continued to provide assistance with language translations for the user interfaces and messaging.

Beyond purely technical adjustments, functional changes included:

- The concepts of the App and Dashboard operational approach
 - o Domains
 - o Services
- The Services Design and implementation (Domain Suitability)
 - o Services blueprints based on assumed LSP and Migrant journeys
 - o Flows of data
 - o Functions provided
 - o Information presented on the interface screens
- Usability/Response time (Technical usability)
 - o App user experience (with and without logging)
 - o Dashboard user experience
- Usefulness (User Acceptability)
 - o Services beneficiaries
 - o Services providers

4.3. Scope

As described in D6.3 the scope of the testing phase includes the components designed from the blueprinting project phase and inherited from D6.2 (see Figure 1 below)

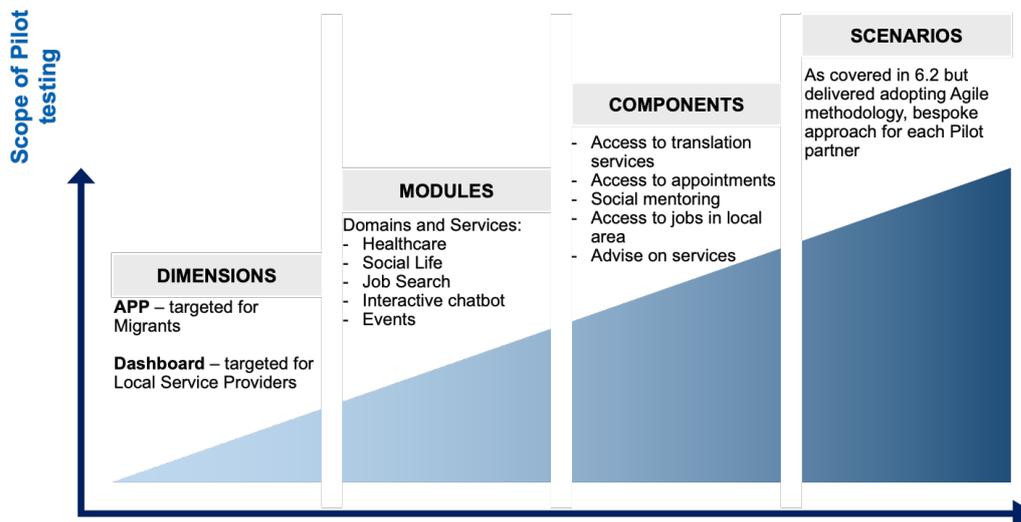


Figure 5 High-level scope of testing, based on the blueprint and D6.2

The Test phase first, and the Pilot phase of the REBUILD toolbox are intended to inform the project’s assessment of the acceptance of the REBUILD Toolbox as a social inclusion enabler by validating, through user experience, its capability to deliver the benefits from the project’s KPIs and the dimensions identified in D6.1. The outcome of the test phase provided a first feedback to the Project team on its relative success or failure and guided the work for the production of a prototype close to a “production” stage. Pilots thus were designed to collate user feedback, and to measure usability and benefits, focused on selected target audience, including the consortium Partners. Pilots consisted in the use of the REBUILD App (the Digital Companion Android APP) and a Local Service Provider Dashboard (website/portal).

During the Pilots, users were given a high degree of freedom of navigating through the App, or the Dashboard, exploring REBUILD services available in their area, and interacting with both the REBUILD ChatBot or human operators, depending on the service, to simulate the roll out of the Toolbox and assess the acceptance, easiness and usefulness of the services as implemented in the system.

REBUILD App

General	Registration, profiling, profile editing, calendar and events, service navigation, settings, video
Services	Chatbot, Recommender, ESCO ³ , Dashboard Data (places, events, jobs, ect.)

Table 1 - REBUILD App features implemented

³ European multilingual classification of Skills, Competences and Occupations: <https://esco.ec.europa.eu/en/home>

REBUILD Dashboard

General	Registration, Places, events, settings
Services/domains	Education, Jobs, Social Mentoring, etc.

Table 2 - REBUILD App features implemented

As foreseen in D6.3, an 'agile' approach (Hendrickson, Elisabeth, 2008), was adopted in the Pilot design phase, devolving control to the Consortium / Pilot partners to manage the roll out of the APP and access to the Dashboard with the only controlling delimiter being duration.

Each Pilot partner adopted different methodologies for running the pilots, soliciting feedback based on their assessment/experience of cultural and ethical boundaries governed by the social dimension of the testers in each given Pilot, including availability of the testers.

The key activities within each Pilot included:

- Communications exercise:
 - o Identify Stakeholders, Channels and Collateral
 - o Distribute communications based on the themes Awareness, Understanding and call for Action
- Launch with Dashboard with "primed" data (including by involving external LSPs)
- Ensure availability of the necessary APP functionality/ies
- Recruitment of testers
- Solicit and capture feedback
- User experience assessment
- Report feedback to WP6 leader

5. PILOTS

5.1. Methodology

The Pilot testing methodology, described in D6.3, took into account different factors:

- Partners are geographically dispersed;
- they have different approaches and modalities for contacting local LSPs and migrants;
- they manage these relationships in full autonomy;
- they should be able to collect feedback as most appropriate in consideration of local habits and organization-specific rules of conduct;
- they must abide by different restrictions due to continuously evolving COVID-19 regulations.

Following a structured "hub and spoke" methodology with testing responsibilities spread across the partner geographical areas, Pilots were overseen as a consortium-wide pilot testing effort, to ensure a coherent approach and collecting in a common pool, allowing each individual Pilot Partner to

organize and prioritize tests according to their own environmental variables and objectives (Pilot Partners are acting as LSPs).

Technical team activities

During the Pilot testing phase, the technical team has:

- A) Created a baseline version of the APP and Dashboard based on continuous feedback by Consortium Partners.
- B) Supported partners by engaging with the testing team throughout the process to support any issues encountered.

Consortium Test Partners activities

Consortium Members did:

- A) Mobilizing pilot testers, both LSPs and migrants, through a targeted communication campaign
- B) Identification/recruitment of the pilot testers for this phase: in compliance with KPI 4.2 – Number of ethnicities to verify the understanding of the tool, it is recommended that pilot partners engage App testers of a minimum of 2 ethnicities from the highest population groups in their respective locations
- C) Preparation/Organization of the pilot tests: scheduling, launching, managing, reporting
- D) Capture feedback at the end of the testing period
- E) Make recommendations

Pilot Test co-ordination team activities (UNESCO)

The coordination team has:

- A) Set Pilot test expectations and timelines, in consultations with the Test Partners
- B) Supported the organization in preparation and delivery of the pilots elaborating feedback questionnaires in collaboration with WP9 (Impact assessment).
- C) Generated a post-pilot report that summarizes the outcomes of the test, supported by meetings with the Pilot partners

Pilots execution

Pilots were expected to replicate, as closely as possible, a real-life scenario on how the APP and Dashboard would be rolled out, utilized and managed.

However, the constraints linked to the ongoing pandemic lockdowns limited the capacity of Pilot partners to reach larger target audiences as well as to plan and operate pilot testing over extended periods. Thus, App pilots were organized in sessions (UAB) or through individual sessions (OMNES) with specific experience reporting focus groups (CIDAS).

Prior to the App pilots, LSPs – including Consortium partners, were invited to test the Dashboard and input basic data concerning the different available services (places, courses, jobs, etc.)

5.2. Evaluation

The Pilot testing of the REBUILD Toolbox served to collect and analyze feedback concerning the user experience, particularly when using the App. In this regard, feedback from users was sought by Pilot partners through a User-experience questionnaire. With a view to preparing the evaluation forms, and taking into account the status of the tool development, Consortium partners specified a few lines to guide the data collection and evaluation process:

What is Usability?

Usability refers to⁴ the quality of a user's experience when interacting with products or systems, including websites, software, devices, or applications. Usability is about effectiveness, efficiency and the ultimate capacity of the user to enjoy the experience and getting the expected result or beyond.

With reference to D6.1, the main validation dimensions that we have taken into account to define the REBUILD validation process are:

- **user acceptability**, ease of use and suitability of the system for supporting cognitive task requirements, job satisfaction and acceptability
- **domain suitability**, the suitability of the content of information, display representation and system functionalities for the selected applicative domain, its work-practices and internal procedures,
- **technical usability**, the property of a tool to be effectively used, understood and learnt by the people for which it has been designed, including visual aspects of the REBUILD tools as well as the way the users will be requested to interact with it.

Dimensions such as domain suitability were developed and evaluated through extensive consultations with process owners, the Local Service Providers, in order to ensure that the implemented workflows correspond and match the services that the tools are going to support.

On the other hand, dimensions such as user acceptability and technical usability required further analysis. Usability, in fact, is not a single, one-dimensional property of a product, system, or user interface, but a combination of factors including⁵:

- **Intuitive design**: a nearly effortless understanding of the architecture and navigation of the site
- **Ease of learning**: how fast a user who has never seen the user interface before can accomplish basic tasks
- **Efficiency of use**: How fast an experienced user can accomplish tasks
- **Memorability**: after visiting the site, if a user can remember enough to use it effectively in future visits
- **Error frequency and severity**: how often users make errors while using the system, how serious the errors are, and how users recover from the errors
- **Subjective satisfaction**: If the user likes using the system

⁴ <https://www.usability.gov/what-and-why/usability-evaluation.html>

⁵ <https://www.usability.gov/what-and-why/usability-evaluation.html>

In general, usability evaluation focuses on how well users can learn and use a product to achieve their goals. It also refers to how satisfied users are with that process⁶.

Before conducting usability testing, it has been then fundamental to make decisions regarding the selection of appropriate usability criteria (e.g. design elements, text messages, icons, etc.).

What is being evaluated?

For the purpose of the REBUILD Project evaluation, the overall KPIs to be considered were:

- KPI 3.1 Recommendation Approval rating from users > 80% (WP 5)
- KPI 4.1 Provide guidance for the access of at least 10 public services (WP 4)
- KPI 4.2 Number of target ethnicities to verify understanding to the tool

And the specific WP6 KPIs were:

- Pilot roll out in 3 countries
- Involvement of minimum 100 users, including service providers among project partners
- Gather qualified feedback to validate the App (usability and user acceptance)

Concerning the REBUILD APP, therefore, the primary purpose of WP6 Pilot test was to evaluate the capacity of the App to provide an understandable experience to the users through a quantitative method to measure such experience.

User experience

The concept of user experience combines well-known aspects⁷ like efficiency and effectiveness with additional criteria like aesthetics, joy-of-use or attractiveness. The first group of criteria is often referred to as pragmatic quality aspects, while the second group is called hedonic quality aspects.

Hedonic quality refers to aspects of a user interface that appeal to a person's desire of pleasure and avoidance of boredom and discomfort^{8 and 9}.

⁶ <https://www.usability.gov/what-and-why/usability-evaluation.html>

⁷ https://www.ijimai.org/journal/sites/default/files/files/2013/03/ijimai20132_15_pdf_35685.pdf

⁸ <https://www.usabilityfirst.com/glossary/hedonic-quality/index.html>

⁹ https://www.academia.edu/2085994/Hedonic_and_ergonomic_quality_aspects_determine_a_softwares_appeal

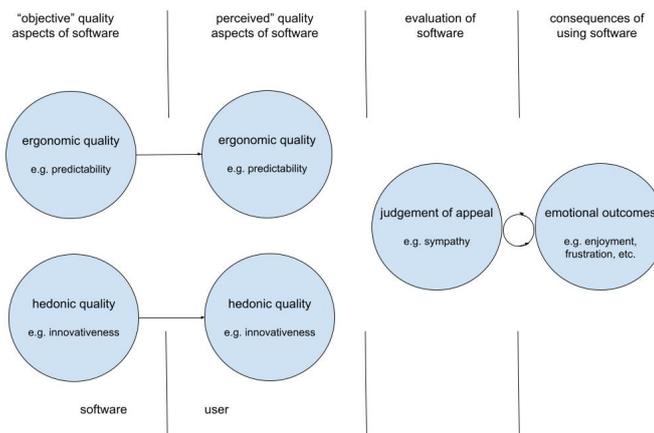


Figure 6 - Elements of software appeal ¹⁰

User experience is not only a snapshot of the present usage a product has (M. Rauschenberger, et Al, 2013). It is an overall evaluation of the experience a product may contribute to the user's enjoyment of a resource (in this case, the access to services - for migrants, and the provision of services, for LSPs).

In other words, user experience is closely related to the understanding of user needs and workflows. This can be broken down in experience "elements"¹¹:

- **value**—how a product concept benefits users and meets their needs.
- **adoptability**—how a product embraces users' existing and expected processes.
- **desirability**—how a product responds to users' emotional needs and (hidden) motivations.
- **usability** - how easy users can complete their intended tasks?

Many of these aspects were covered thanks to REBUILD's Codesign approach, which from the project inception guided the development of the REBUILD Toolbox and services blueprint (D2.2, D2.3 and D6.1).

¹⁰ <http://liu.diva-portal.org/smash/get/diva2:19393/FULLTEXT01.pdf>

¹¹ The four elements of user experience, <https://www.uxmatters.com/mt/archives/2012/08/more-than-usability-the-four-elements-of-user-experience-part-ii.php>

Value Is this useful?	Usability Is it easy to use?
Adoptability Is it easy to start using?	Desirability Is it fun and engaging?

Figure 7 The four elements of User Experience

The chosen approach thus builds on the User Experience Questionnaire (UEQ) ¹² in which user experience is understood as the overall evaluation of a user in the interaction with a product, the REBUILD App in this case, thus covering both pragmatic and hedonic quality aspects.

The UEQ is designed to perform a quick assessment of the user experience for interactive products such as the REBUILD App. The questionnaire format, which was deployed as an anonymous online Google Form questionnaire, supports the user response to immediately express feelings, impressions, and attitudes that arise when they use the product.

Even more, the UEQ takes into account the fact that the user's judgment starts even before touching and using a new product.

The UEQ is built as a "semantic differential". As recommended for such questionnaires, it was especially important that users see the items in their native language. So far the UEQ used in the Pilot phase was made available in Arabic, English, French, Greek, Italian and Spanish.

The UEQ can also assess the change of impression that arises during and after the usage of the product. However, this dimension was not collected in this Pilot phase.

STRUCTURE OF THE UEQ QUESTIONNAIRE

The user experience questionnaire contains 6 scales with 26 items in total:

- **Attractiveness:** General impression towards the product. Do users like or dislike the product? This scale is a pure valence dimension. Items: annoying / enjoyable, good / bad, unlikable / pleasing, unpleasant / pleasant, attractive / unattractive, friendly / unfriendly
- **Efficiency:** Is it possible to use the product fast and efficiently? Does the user interface look organized? Items: fast / slow, inefficient / efficient, impractical / practical, organized / cluttered
- **Perspiciuity:** Is it easy to understand how to use the product? Is it easy to get familiar with the product? Items: not understandable / understandable, easy to learn / difficult to learn, complicated / easy, clear / confusing

¹² www.ueq-online.org

- **Dependability:** Does the user feel in control of the interaction? Is the interaction with the product secure and predictable? Items: unpredictable / predictable, obstructive / supportive, secure / not secure, meets expectations / does not meet expectations
- **Stimulation:** Is it interesting and exciting to use the product? Does the user feel motivated to further use the product? Items: valuable / inferior, boring / exciting, not interesting / interesting, motivating / demotivating
- **Novelty:** Is the design of the product innovative and creative? Does the product grab users attention? Items: creative / dull, inventive / conventional, usual / leading edge, conservative / innovative

The dependency of the UEQ scales is represented as follows:

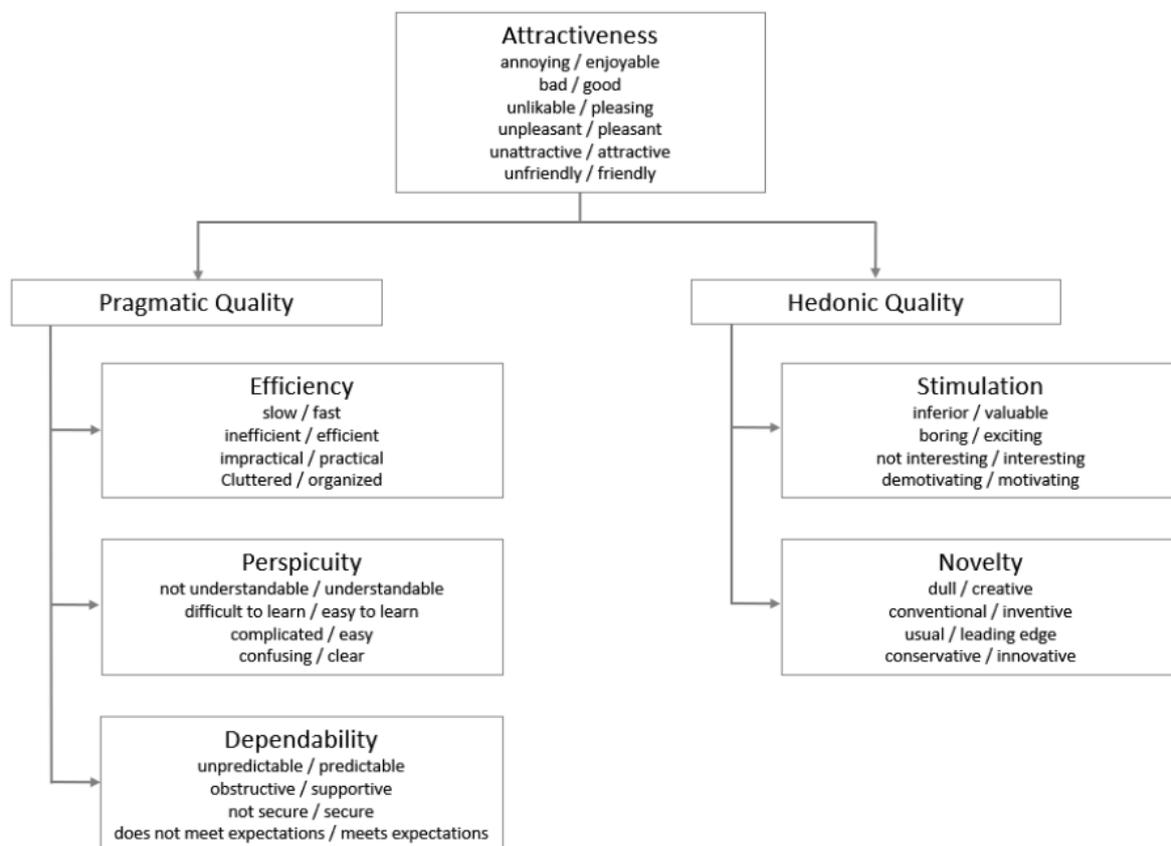


Figure 8 - Dependency of the UEQ scales

Attractiveness is a pure valence dimension. Perspicuity, Efficiency and Dependability are pragmatic quality aspects (goal-directed), while Stimulation and Novelty are hedonic quality aspects (not goal-directed).

Here is the representation of the UEQ scale with dimensions identified by colors.

	Left	Right	Scale	
1	annoying	enjoyable	Attractiveness	pink
2	not understandable	understandable	Perspicuity	green
3	creative	dull	Novelty	orange
4	easy to learn	difficult to learn	Perspicuity	green
5	valuable	inferior	Stimulation	red
6	boring	exciting	Stimulation	red
7	not interesting	interesting	Stimulation	red
8	unpredictable	predictable	Dependability	cyan
9	fast	slow	Efficiency	blue
10	inventive	conventional	Novelty	orange
11	obstructive	supportive	Dependability	cyan
12	good	bad	Attractiveness	pink
13	complicated	easy	Perspicuity	green
14	unlikable	pleasing	Attractiveness	pink
15	usual	leading edge	Novelty	orange
16	unpleasant	pleasant	Attractiveness	pink
17	secure	not secure	Dependability	cyan
18	motivating	demotivating	Stimulation	red
19	meets expectations	does not meet expectations	Dependability	cyan
20	inefficient	efficient	Efficiency	blue
21	clear	confusing	Perspicuity	green
22	impractical	practical	Efficiency	blue
23	organized	cluttered	Efficiency	blue
24	attractive	unattractive	Attractiveness	pink
25	friendly	unfriendly	Attractiveness	pink
26	conservative	innovative	Novelty	orange

Table 3- User Experience Questionnaire questions scale

Objective of the evaluation

With a view to correctly interpret the results of the Pilot phase, it is most important also to specify that at this stage of the development of the REBUILD Toolbox, the term “product” cannot refer to a market-ready product, but rather to a solid prototype released for validation by a limited number of users.

For the REBUILD Toolbox to be market-ready, a number of collateral elements would have been necessarily in place, including for example, hosting a sufficient number of real-data (e.g. jobs openings or learning enrollment opportunities), a longer observation period (access to healthcare system or legal counseling), ongoing programmes (social mentoring), and the permanent implementation of the services by Local Service Providers.

Many of the tasks that the REBUILD Toolbox is servicing, require an offline action by its end-users. For example, the REBUILD App may provide all the necessary information and counseling for accessing a given health service. Yet, in many cases the user would have to go to the medical appointment or do

the necessary for gathering the required documents as suggested by the App. Such a kind of evaluation would require an extensive period of service roll-out. More information and considerations are provided in D9.4 (Impact assessment).

Therefore, as expected, the evaluation of the REBUILD Toolbox, cannot be “task oriented”, and should not focus on or assess the ability of users to resolve their concerns by accessing a given service, which is provided by an external provider. Rather, the evaluation focused on the fulfillment of the users’ general expectations concerning their experience with the tool (the prototype of the tool). In other words, as the evaluation focuses on the efficiency and not the efficacy of the REBUILD Toolbox.

The results of the User Experience Questionnaire are provided in the following chapters.

5.3. The Pilot Pack

To prepare for the work, “Pilot packs” were developed for the different Pilot Partners taking into account their specificities.

Pilot packs included:

- Consent Forms
- Ethics questionnaires for migrants
- An outlook of the process of Piloting (Focus groups modalities - scenarios) specific to each Pilot
- Areas of assessment
- Pilot Assessment questionnaires
- User Experience Questionnaire (online, screenshot below)

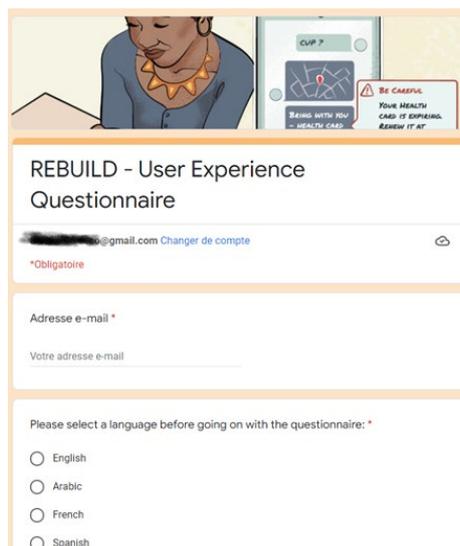


Figure 9 The UEQ online questionnaire

The Pilot Assessment questionnaire aimed at obtaining a qualitative input on several dimensions through the following questions:

Difficulties

- What difficulties did the user experience in using the App during the pilot test?
- Technical issues that would need to be addressed (brief description)
- Minor Technical issues (brief description)
- If the issue was not technical, was it: complexity of the scenario; language/jargon; needs explanation; other

Understandability

- Was the overall App interface (Domains, Services) sufficiently clear for the user to access the services?
- Was the guided chatbot conversation sufficiently clear?
- Was the language (translations) understandable?

Usefulness

- Did the user learn new information / knowledge? (scenario related)
- Was the information provided through the App perceived as useful in addressing the issue in the scenario (health, education, etc)

Adoptability considerations

- From the Pilot and feedback from both LSPs and App users, can you conclude that the REBUILD App:

Can be quickly be adopted and its use scaled up by the Pilot LSPs

Can be adopted, but needs some revision / adaptation

Can be adopted, but depends on the level of "customer" assistance

Cannot be adopted as is

- Too simple (services are not sufficient / mature)

- Too complex

Suggested Improvements / what is missing

- Did any ideas/suggestions come out from the Pilot ? please describe
- Was there one (or more) feature that was felt as missing in the App / REBUILD tool?

Recommendations

- Based on the Pilot experience, what would be the takeaways:
 - For the REBUILD Project
 - For the LSPs

5.4. Pilot Overview

The Pilot phase involved both Local Service Providers (LSPs) and migrants in the three project countries and was conducted over a clean installation of the REBUILD toolbox (App and Dashboard):

The Dashboard

<https://dashboard.rebuildeurope.eu/dashboard/>

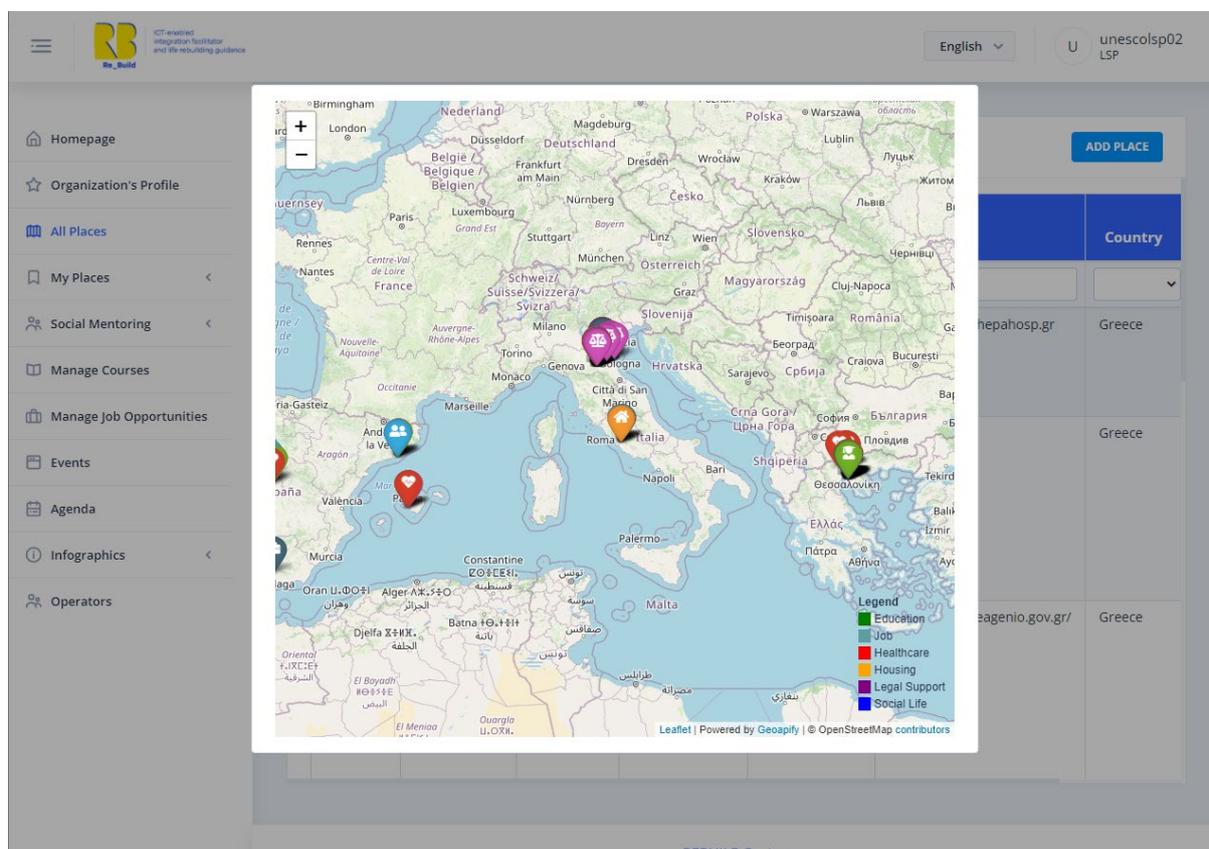


Figure 10 The REBUILD Dashboard - All places map view

The App

The REBUILD App was available for the Android operating system as a prototype, initially downloadable from a project-related domain and later from the Google PlayStore:

<https://play.google.com/store/apps/details?id=com.gatv.ssr.upm.es.prototypes.rebuild>

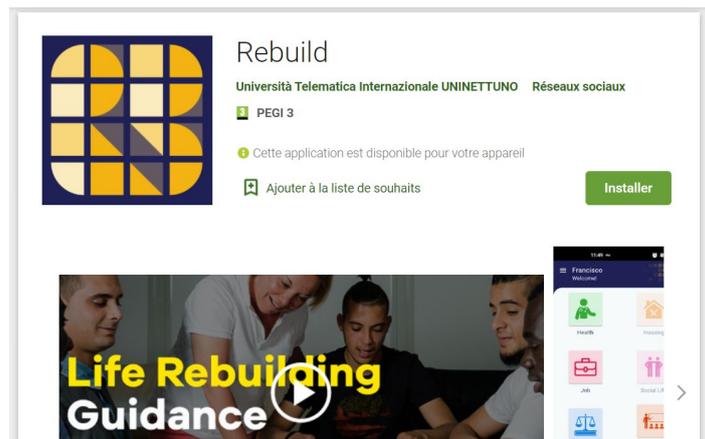


Figure 11 Google PlayStore presentation of REBUILD

During this phase and as part of their Pilot, participating Local Service Providers (LSPs) entered a number of information (Data priming, ref. D6.2) in the REBUILD Toolbox. These data are reused by the REBUILD App and displayed to the user whenever necessary, e.g. through chatbot interactions. Here follows the summary of data provided by the LSPs in the Dashboard during the Pilots.

Places

Places are physical addresses of locations relevant to a given service. 210 elements were added by LSPs in the following domains:

EDUCATION	39
SOCIAL LIFE (mentoring)	18
JOB	26
HEALTHCARE	57
HOUSING	14
LEGAL SUPPORT	56

Table 4- REBUILD Dashboard places report

Places per Country

SPAIN	23
GREECE	84
ITALY	103

Table 5- REBUILD Dashboard places report per country

Twenty-three **educational opportunities** and five examples of **job opportunities** were added to test the relevant service recommendation chatbots in Italy.

Events

LSPs also added a number (41) of events to test the calendar and notification functions.

SPAIN	7
GREECE	21
ITALY	13

Table 6 - REBUILD Dashboard Events report

In Spain, thirteen (13) different Social Mentoring programme simulations were created during the Pilot phase. Mentoring programmes were created only for the purpose of assessing whether the REBUILD Toolbox can effectively support mentoring programmes processes.

More information and feedback is provided in the relevant section below (UAB Pilot).

5.5. Spain Pilot (UAB)

The Autonomous University of Barcelona (UAB) focused their Pilots on the Social Mentoring Scenario, and undertook 2 Pilots, one in Barcelona and one in Palma, each comprised of a Pilot for Local Service Provides, one for Mentors and one for Mentees.

The Pilots involved the following users:

Barcelona (FAS ¹³)	LSP	2
	Mentors	14
	Mentees	7
Palma (CARITAS)	LSP	1
	Mentors	6
	Mentees	5

Table 7 - REBUILD Pilot in Spain participants

¹³ FAS: Fundació Autònoma Solidària (FAS)

This REBUILD Service implements the interaction between the LSP, a group of volunteer mentors and a group of mentees. Based on a chatbot conversation carefully developed with the relevant LSPs, REBUILD provides a match “index” between mentors and mentees, through a REBUILD Dashboard mechanism, supporting the decision making of the Social Mentoring programme manager.

UAB implemented two distinct Pilots, in Barcelona and in Palma.

The CARITAS Pilot

Due to underlying circumstances (COVID19 pandemic) the Pilot in Palma was conducted remotely, thus adding a significant degree of complexity for a human-centered service as is social mentoring.

Several **mentee**-users experienced some difficulties to complete the User registration process in the App, though the procedure was considered as quite clear. These difficulties were addressed in a timely manner by the REBUILD technical team. All users expressed their belief that the App can effectively help them meet new people (the mentors).

Mentors, from their side, agreed that the application is easy or very easy to use and well explained. Three mentor-users highlighted that the featured videos in the beginning are very clear and useful. The use of icons (pictograms) and images effectively help using the app. One user highlighted that the registration process was very easy and that the overall procedures are well explained.

They reported that the REBUILD app is a modern and simple way to help register mentors in the programme. It is a very accessible and effective informative method for reaching out and recruiting mentors, in comparison to a more traditional mode. The management and organization of mentors through the App (and the Dashboard) was judged more efficient.

All Mentors participants in the Pilot agreed on the relevance of the information provided by REBUILD and concluded that the fact that it centralizes access to topics like education, or legal assistance is of great relevance and facilitates migrant's integration.

The LSP which was involved in the Palma Pilot appreciated the systematization of the mentoring process and possibly looks forward to the possibility of managing all the aspects through the dashboard.

The Barcelona Pilot

Mentees participants in the focus group stated that the REBUILD App can be useful, because it can help people (app users) finding information (related to social/migration services) and meet new people. Services available in the app like the map were considered to provide information in an easy way, and useful for finding services provided by LSPs.

The possibility of speaking with the mentor through the app was also indicated as a feature of great interest, because everything is in one place and users can check all their conversations with the mentors, meetings, and activities.

The language learning tool was also considered as very interesting, because learning the local language is very difficult and most important for mentees.

In general, all participants in the pilot liked the app, but they also agreed that it takes some time understanding how it works. They also considered that the product is not mature (some bugs, lack of content) enough for a full deployment.

Opinions were diverse: two users considered the app easy-to-use and very intuitive. Other users disagreed and found it difficult. This difficulty using the app was mainly related to the level of maturity of the app (found bugs) and missing additional guidance (i.e. feedback from the app) on how to use it and keep up with the procedures available.

Some users reported that there were functionalities that did not work well. Most participants in the pilot agreed that the app would be more useful when it is further developed.

Pilot Mentees considered videos and animations as “helpful” to ease understanding some of the procedures. Some users (5) got stuck in the very early steps of the pilot (registration) due to a technical bug (white screen). Some of them (3) helped others to solve the problems found and to finish the registration process in order to continue with the pilot. The REBUILD technical team was closely following the Pilot and provided support when needed.

As far as Pilot **Mentors** are concerned, most considered that the REBUILD App was in general intuitive, with a clean, clear and nice user interface (UI).

However, again some diverse opinions were expressed. One user considered its visual identity one of the best assets of the app. Another user did not consider the app visually appealing and stated that some of the services and associated processes instead were confusing. Another mentor instead, claimed that all the domains available are very interesting and well structured.

The registration process was considered easy for some users (3), but others had several issues and found it too complex.

Mentor-users agreed that the initial animations helped a lot to comprehend and give context about the purpose and how to use the app. The video testimonials introducing the mentorship programme were also found very interesting by the users.

Within the mentoring programme, experienced mentors stated that the tools available were very interesting. In particular, having all meetings registered in one place was considered to be very useful: this can significantly reduce the time for the reporting process, as in the “original” mentoring programme several platforms are to be used (email, Google drive, etc.).

The chat functionality was considered by most of the users as “very interesting and useful” to start interacting with the pair assigned, since it helps users to keep their privacy until the relation and the link of trust is more solid, and can last (long mentorship).

While most participants shared the opinion that the mere fact of having an App would not be a sufficient motivation to join the mentorship programme - not a primary objective of REBUILD, they found it a very useful tool to facilitate mentors and mentees work. The mentorship programme is not only “helping” the mentee, but also engages with the LSP to find the appropriate tools and resources to help the mentee throughout his or her integration process. For this purpose, the specific REBUILD tool designed for the mentoring programme at UAB was considered very useful, and well complemented by the other services available in the app (agenda of events, map of resources, chat).

One mentor considered that the fact of having a mobile app to handle the process, is a very interesting step, as it accommodates easily with their daily lives activities, removing the need to be physically at a specific place to participate in the program.

On the negative side, it was observed by participants that the app could possibly generate some “distance” between mentor and mentees. It can be useful in the first steps, but it is important that the relationship or contact can consolidate and move from an “official” channel into a more friendly and common environment (for instance, mainstream communication apps that everyone uses with their friends).

Most participants agreed that the REBUILD App could definitely contribute to facilitating their work as mentors. One user specified that the organisation of meetings with mentees could be time-consuming and that the REBUILD app could ease a lot of their work. In this regard, mentors asked that a calendar feature (personal, other than events) be available in the app in future.

They also stated that for better integration, it is necessary to help mentees to use the tools (i.e. mobile apps) that people use in the host country.

Mentors participating in the pilot did not find major “accessibility” issues for them as users.

One mentor stated that adding clear notifications and alerts could help mentees in using the app and take more advantage of the mentoring programme.

All participants agreed that the information provided to the mentee through the App is very relevant because it is very well structured and centralised in one single app. Within a few clicks, users can get a lot of information.

At times it was felt that localization services within the map were not clear enough, although that could depend on the map service used rather than on the REBUILD App itself. That was the case of adding the location for meetings with mentees. It was suggested to link the app with services like Google maps to help users in finding their way to the meeting location (i.e. get directions). These considerations were reported to the technical team.

It was also mentioned as a concern that users might end up using widely available information providers, such as Google services, to find information if not available or not clear within the app.

A mentor stated that the fact that the APP shows which (REBUILD) domains are available in all project countries might contribute to sharing more information and increase engagement.

The need to improve feedback to the user in App was mentioned: in some moments the user was not sure whether the process was finalised or not. It was felt this could generate confusion among mentors and mentees.

5.6. Greece Pilot (MDAT)

MDAT's Pilot concentrated on the discovery of the REBUILD Toolbox and the use of Dashboard by different Local Service Providers.

MDAT LSPs	LSP	26
-----------	-----	----

Table 8 - Participants to the REBUILD MDAT Pilot in Greece

Engaging the LSPs

The first step undertaken by MDAT was to send an email message with a formal invitation to several LSPs to join the REBUILD Pilot Phase – explaining that they could either fill in their own details or ask MDAT to fill in their information for them.

The MDAT Team pre-filled in the data of each LSP from information publicly available in order to demonstrate the Dashboard and verified it with each LSP in the case that they didn't fill in the dashboard themselves.

Follow up

One week to ten days later a follow up telephone call was made with all LSPs on the list. A further explanation of the scope and the need for their input was communicated and a zoom meeting was set up for the demonstration and verification of the information in the dashboard for each place included for the LSP.

Results

For the 26 LSPs involved in the process, 25 zoom meetings were undertaken within a three-week period, plus one face to face meeting. 56 places were added by the LSPs for the following six domains: Healthcare, Education, Housing, Job, Social Life and Legal Support. OMNES, as LSP, filled in 12 places, 21 events mainly within the health domain. This included public healthcare organizations and the legal and education domains as well. Five LSPs filled in their own data and added their own places within the above mentioned 6 domains.

Four Municipalities participated in the MDAT pilot covering all of the domains available in the Dashboard.

Numerous LSPs demonstrated a lively interest in the REBUILD project, especially the mapping of the services available in the entire city. Many LSPs valued the possibility to have access to this information, particularly about the services available from other NGOs and public organizations. One organization mentioned that this Dashboard feature could be a good way to find a partner for further EU or International funding. Finally, the Hellenic Red Cross METAdrasi, Praksis & Greek Council for Refugees were some among the LSPs that seemed particularly interested in the sustainability of the project.

List of LSPs who took part in the Pilot:

1. SolidarityNow
2. Danish Rescue Council
3. YMCA
4. PRAKSIS
5. Doctors of the World
6. Major Development Agency Thessaloniki - HELIOS program
7. School of Modern Greek - Aristotle University of Thessaloniki
8. Migration Integration Center, Municipality of Thessaloniki
9. Refugee Day Center Alkyone
10. Terre des Hommes
11. RTI (Refugee Trauma Initiative)
12. METADRASI
13. IRIDA WOMEN'S CENTER
14. Community Center, Municipality of Pylea-Hortiatis
15. Association for the Social Support of Youth , (ARSIS)
16. Greek Council Refugee (GCR)
17. Migrant Integration Center - Evosmos Municipality
18. Multifunctional Center for Refugees and Migrants - Hellenic Red Cro
19. OMNES association
20. International Organization for Migration (IOM)
21. Creativity Platform
22. Elpida Home
23. Action Aid
24. Employability Counselor, Municipality of Neapolis-Sykeon
25. Naomi's Women Center

5.7. Greece Pilot (OMNES)

According to the piloting schedule, OMNES contacted 30 pilot users for the piloting phase of the REBUILD application.

Farsi Speakers	Migrants	24
Arabic Speakers	Migrants	6

Table 9 - Participants to the OMNES REBUILD Pilot in Greece

Following the piloting plan, the users were contacted individually with the support of an interpreter.

Users signed the consent forms and shared their email in order to send them the link to download the application.

The OMNES Pilot also included the possibility for the users to send a video/audio request to LSPs and receive a video/audio answer. This feature necessitated the integration of a separate application

called “Task Solver”, designed and implemented for the needs of the project as part of the task server functionality of the Dashboard.

Users profile:

The users involved in this Pilot comprised 24 Farsi speakers, 6 Arabic speakers, all literate, of which 13 were women and 17 were men. All of them used Android phones. OMNES reports that users involved in the Pilot were from five (5) ethnicities as follows: Iraq(3) , Iran(3), Afghanistan(21), Syria(2), Lebanon(1).

Six (6) of the users spoke both English and Greek, 2 of them had a low level of Greek, 8 of them could speak English and 2 of them had a low level of English.

The age range of the users was 18-47 years.

Procedure:

All the 30 users downloaded and installed the REBUILD application successfully. All the users were able to create an account in the App. OMNES staff provided a brief presentation of the application and a navigation through the services domains.

Users were asked to navigate to the app, use all of its concepts, test the chatbot, and test it for a period of 1 to 2 weeks and then return to collect their feedback.

Duration of Pilot:

The Pilot was conducted from 15/11/2021 to 16/12/21. In that period OMNES has been continuously updating the REBUILD Dashboard with data, such as events in the local area and some new places (medical facilities). Through the App, users could access information that was added from all the LSP contacted by MDAT.

Results:

After having used the App for one and/or two weeks, individual sessions were organized to receive and collect the users’ feedback. Most of the 30 users answered all the online questionnaires.

Concerning the availability of a support system via video/audio messages in the REBUILD App: in general this feature was judged as very important for illiterate people that cannot write in English or in their own language, allowing them to send a video-audio to explain what is their problem.

Further to open conversations with the users about their experience with the App, users highlighted the easiness to book an appointment from their homes, the possibility to have at hand information on which services are available to them, and the easy access to these.

Users also appreciated the availability of the App in their own language (such as Farsi) and the quality of the translations.

During the Pilot, 19 requests sent through the chatbot for medical, legal, psychologist, interpreter support, were received by the LSPs in the Dashboard.

At first users experienced some challenges in creating an account in the App. This issue was addressed by the technical team and a specific procedure was suggested to the Pilot users to create their personal accounts.

At the time of this Pilot, the REBUILD App was not yet available in the Google Play Store and the users were sent by the operators of OMNES a link from which to download the app. The procedure to download and install the app was challenging for some users.

The auto translation was not available for Farsi language, regarding events and places integrated into the Dashboard. As a result, Farsi users could not view the events and places in their language. (The Dashboard is available in 9 languages, including through an automated translation service).

Users mentioned that they did not receive notifications about the replies sent by OMNES operators to their queries through the REBUILD chatbot.

Conclusion

In spite of a few flagged issues and desiderata, the majority of the participants rated it as a good app. Farsi translations, usability, easiness, chatbot, information provided through the app were highlighted as good practices by the participants. Also, most of the users were eager to continue using the App after the piloting phase.

5.8. Italy Pilot (CIDAS)

CIDAS Bologna	Migrants	15
CIDAS Ferrara	Migrants	5
CIDAS	LSP	2

Table 10- REBUILD Pilot in Spain participants

The CIDAS Pilot in Italy concerned health services access, legal counseling, job seeking and training/education access.

Methodology

On 25/10/2021 the link for downloading the REBUILD APP (version 1.2.4) was sent to an audience of 20 beneficiaries housed in the CIDAS facilities in Bologna and Ferrara and related to the second ordinary Reception and Integration System (SAI) reception. Users were invited to independently test the REBUILD App before the results-collection events to be organized in subsequent dates.

The 20 participants were identified based on heterogeneity criteria (different age, gender, sex, geographical origin, literacy level both primary and secondary, including digital).

Most importantly, this Pilot also tried to re-involve those users who had already participated in the previous testing phase. The participants in the Pilot phase were asylum seekers, holders of international, special and administrative continuation protection.

Focus group

The feedback collection events took place on Friday 12, Monday 15 and Wednesday 17 November 2021 in the city of Bologna with 15 beneficiaries (divided into groups of 5 people at each focus group). Another event took place on November 19 in the city of Ferrara with 5 third-country nationals.

The Focus Groups were organized in public places, outside the reception structures; each event lasted about 4 hours: a snack / coffee break was offered to the participants. Only in one of the focus groups was the presence of a mediator deemed as being necessary.

Participants enthusiastically participated in this Pilot phase and were keen to communicate their impressions. Following the Focus Group, some said that they wished to have a little more time to play with the APP in an independent manner and that they were ready to send their new observations to the email of the REBUILD operators. However, no further report reception was acknowledged.

The collection of inputs during the Focus Group concerned specifically the REBUILD App UNDERSTANDABILITY, USEFULNESS and IMPROVEMENT. Furthermore it was also an opportunity to deep dive every single scenario tested (health, legal support, work, education and training) with the participants. The languages chosen by the participants in the focus group to navigate on the APP were Italian and English.

As regards the App Pilot test context, it was observed that some users had finally not tried it independently despite the previous invitation to do so, and that in the focus group context some - despite the indications provided by the facilitators - did not thoroughly tested for various reasons (listlessness, low ability to concentrate, fatigue due to work, superficial approach, etc.)

During the first Focus Group, the Impact assessment questionnaire was finally judged too schematic as it would have taken too much time, at the expense of building a discussion exchange gathering valid and interesting inputs. Users were asked to complete the UEQ questionnaire.

5.9. UEQ RESULTS

Interpreting the results

The UEQ evaluated the inputs of 90 REBUILD App users from the Pilots in the three countries, along with the scales introduced in the previous sections.

The interpretation of the data from the UEQ may follow different methods and serve different purposes. For example, the scales as well as the associated items can be interpreted individually. Also, UEQ could be used to compare two or more different releases of the same software to evaluate if the user experience is better or comparable with the previous one.

In the case of REBUILD Pilots, the purpose was to comprehensively evaluate the user experience, both including usability (efficiency, perspicuity, dependability) and user experience aspects (originality, stimulation) and to understand if the REBUILD App fulfills the general expectations of the users. Expectations of users may be further grouped in at least two dimensions: expectations in terms of “service” and expectations in terms of the interaction with the product (prototype) in comparison to

other typical software products (Apps), even though these do not belong to the same category (general expectations in terms of usability, or expected behavior from the interaction with the elements and basic functionalities of the App: registration, profiles, etc.).

User expectation in terms of REBUILD-services may be defined as the perceived capability of the App to support the user in accessing a given service. These considerations were captured in the Pilot Pack - Assessment Template.

We might appreciate the positive value given to the main dimensions of the UEQ by all the participants in the research, where the +3 represents the most positive and the -3 the most negative value. The detail of all the dimensions is reported here below with mean value and variance:

UEQ Scales (Mean and Variance)		
Attractiveness	1,393	1,11
Perspiciuity	1,403	1,40
Efficiency	1,192	1,31
Dependability	0,761	0,40
Stimulation	1,286	1,32
Novelty	1,022	1,17

Table 11 - REBUILD UEQ scales results

This first overview over the 6 components of User Experience provides us with the opportunity to stably position the REBUILD APP in the positive ranking, especially considering the highest mean value per item, where we have the following items above 1,8:

- goodness (as an Attractiveness item)
- understandability (as a Perspiciuity item)
- interest (as a Stimulation item)

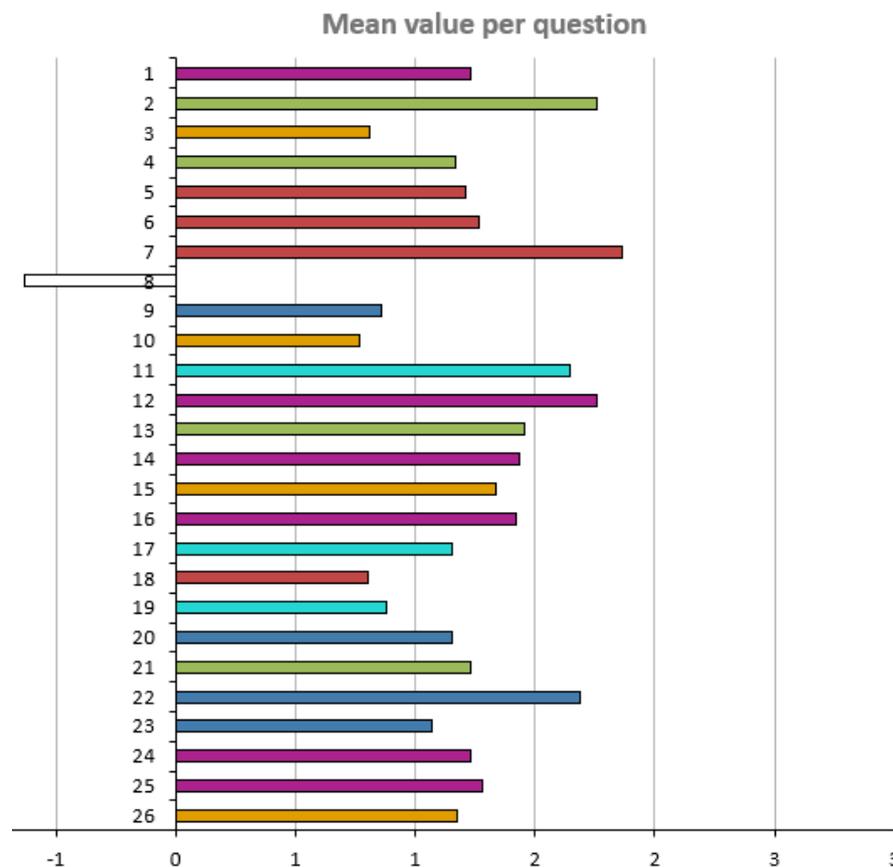


Figure 12 UEQ results, mean values

Colors refer to the scale illustrated in the previous section about the UEQ questionnaire.

We can observe that all values are positive with the exception of question 8 (is the App “predictable/unpredictable”).

The UEQ does not produce an overall score for the user experience because an overall mean value can not be interpreted properly. The values for the single items however, allow the detection of outliers in the evaluations. Whenever an item shows important deviations from the evaluations of the other items of the same scale this can be a hint that the item is misinterpreted (for example, because of a special context in your evaluation) by a high number of participants.

In fact, “predictability” refers in general to the user interaction with the product, and the user’s feeling of assurance that features on the product (the REBUILD App) behave exactly how the users expect it to, even before any type of interaction happens¹⁴. In other words, how much can a user successfully foresee the result of a given interaction? This result might be interpreted and explained as follows:

- Chatbot interaction is not fully predictable by definition: the REBUILD chatbot has been designed with a rule-based intelligence approach allowing the researchers to control the verbal interaction and the information provided. At the same time, given the heterogeneity of domains and services, the kind of information provided to the users are qualitatively

¹⁴ <https://www.linkedin.com/pulse/how-predictability-plays-role-ui-design-navneet-kaur/>

different and might not support predictable outcomes: e.g. in the Legal support service the users do get examples of documents whilst in the Healthcare support service procedures for booking an appointment are provided;

- Chatbot interaction has been designed to follow consistent interaction patterns and modalities but, given the multiplicity of domains and services, the end-users might not easily and immediately get the APP system model needed to assure predictability;
- Chatbot interaction might be initiated with both the building block question provision and with the free exploration of the interface: such an approach does open several possibilities at the APP interface rather than defining one only predictable way of interacting with the services.

The following graphics illustrate the distribution of UEQ answers (26 questions: left, bad; right, good):

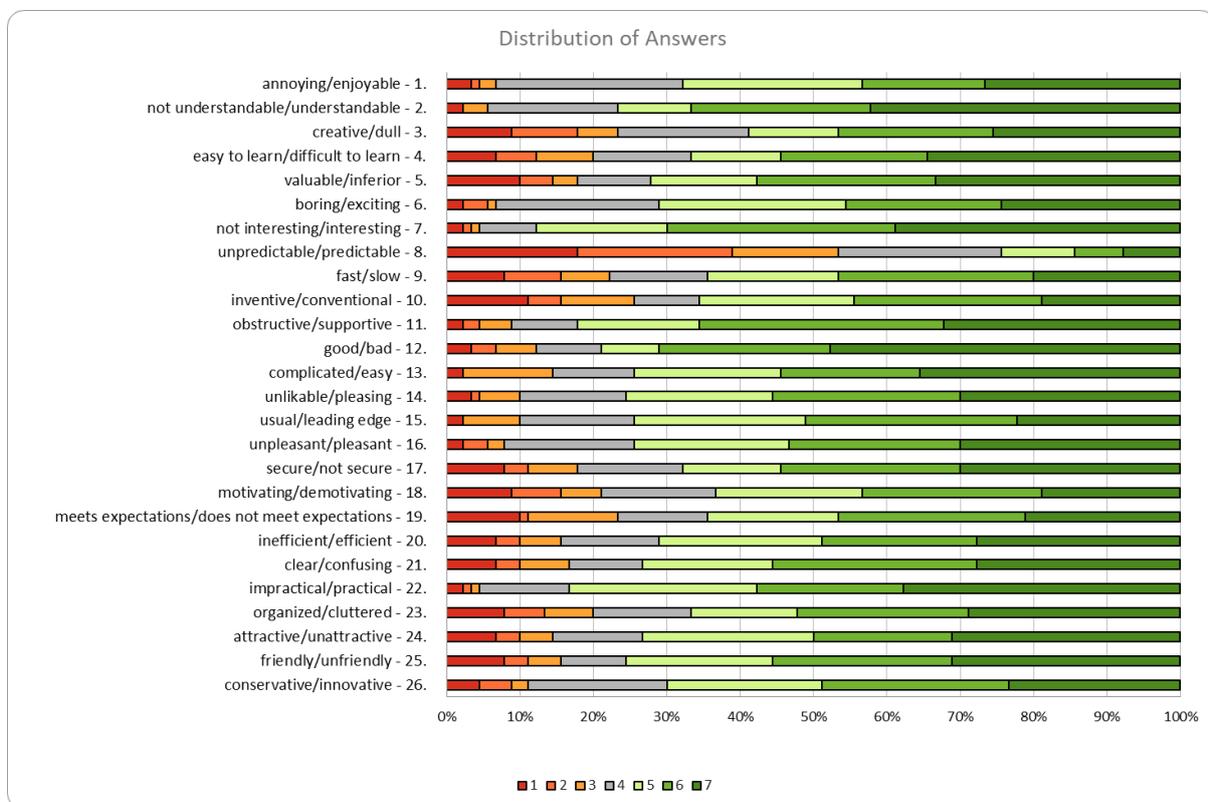


Figure 13 REBUILD UEQ distribution of answers

The graphic highlights that in general users expressed their appreciation in the different dimensions of the UEQ. This graphic shows a definite positive polarization in the answers, with many positive judgements and very low negative judgements. It allows deeper insights concerning, among the others, practical adoption of the tool (item 22), appreciation of pleasantness (item 16), interest of the APP (item 7) that are experienced as quite positive by the vast majority of participants.

This is reflected in the normalized analysis of the UEQ results [0..2] interval:

Pragmatic and Hedonic Quality	
Attractiveness	1,39
Pragmatic Quality (Perspicuity, Efficiency, Dependability)	1,12
Hedonic Quality (Stimulation, Originality)	1,15

Table 12- REBUILD UEQ analysis results

In the REBUILD App specific case, a new user is confronted with a number of unknowns (In what this App can be useful to me? what will I find in this App? does it speak a language I understand, ...) and a few knowns (the user's problem - e.g. I want a doctor appointment).

Thus, unless the user has a clear familiarity with the REBUILD Toolbox (or any other new application of its kind), he/she may feel slightly lost through the App "journey":

- Where am I? (*in which screen am I*)
- How did I get here? (*which button did I push to get here?*)
- What can I do here?
- Where can I go from here?

These questions were addressed at the service design level with the development of the user interface, and the scenario blueprints through the co-design process. In addition explanatory video tutorials are accessible from the App to support the user in understanding the potential and limits of the REBUILD App.

The result about dependability also probably suffered from the reported technical issues experienced during the user registration process and reflects the feedback reported in the previous sections with contrasting opinions within the same user groups.

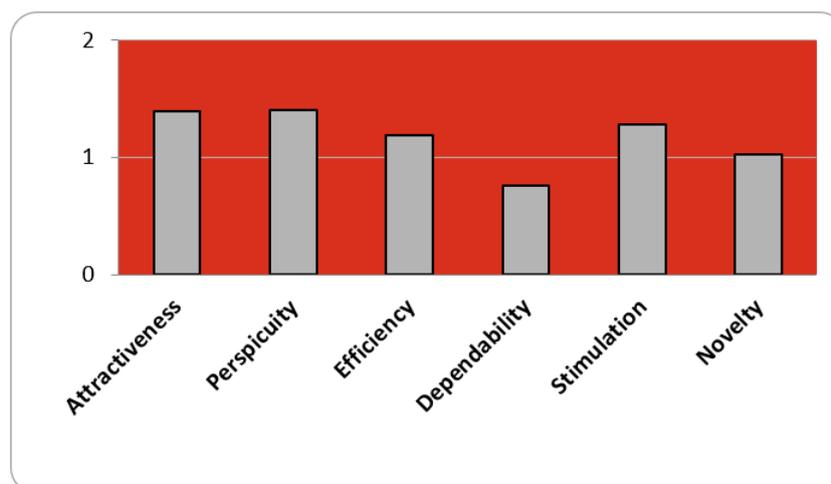


Figure 14 REBUILD UEQ results normalized by dimension

Benchmark

To get a better picture on the quality of the REBUILD APP the UEQ allows to compare the measured user experience of the product to results of other established products, for example from a benchmark data set containing quite different typical products.

The measured scale means are set in relation to existing values from a benchmark data set which contains data from 21175 persons from 468 studies concerning different products (business software, web pages, web shops, social networks).

The benchmark classifies a product into 5 categories (per scale):

- Excellent: In the range of the 10% best results.
- Good: 10% of the results in the benchmark data set are better and 75% of the results are worse.
- Above average: 25% of the results in the benchmark are better than the result for the evaluated product, 50% of the results are worse.
- Below average: 50% of the results in the benchmark are better than the result for the evaluated product, 25% of the results are worse.
- Bad: In the range of the 25% worst results.

The comparison of the results for the evaluated product with the data in the benchmark allows us to draw conclusions about the relative quality of the evaluated product compared to other products.

While, as mentioned, the REBUILD App cannot yet be considered a market-ready product at this stage, the comparison provides a fair reading of the results of the UEQ questionnaire, positioning the overall user experience as above average. The REBUILD APP is indeed an interactive prototype developed to serve the purposes of the experimental pilot planned in the project. Its interfaces and services, as well as the intelligent chatbot implementation, have been extremely positively appreciated in comparison with the market products whose purposes range from social networking, shopping, leisure to entertainment.

Scale	Mean	Comparison to benchmark	Interpretation
Attractiveness	1,39	Above average	25% of results better, 50% of results worse
Perspicuity	1,40	Above Average	25% of results better, 50% of results worse
Efficiency	1,19	Above Average	25% of results better, 50% of results worse
Dependability	0,76	(slightly below)	In the range of the 25% worst results
Stimulation	1,29	Above Average	25% of results better, 50% of results worse
Novelty	1,02	Above Average	25% of results better, 50% of results worse

Table 13- REBUILD UEQ Benchmark comparison results

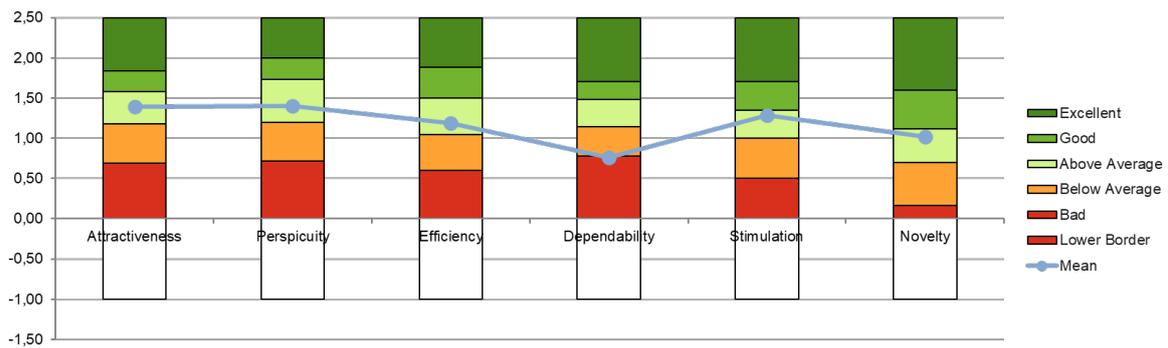


Figure 15 REBUILD UEQ Benchmark comparison results visual

6. CONCLUSIONS

The Pilot phase allowed the project team to gather feedback from users in “near to real” use case scenarios, involving users different in demographic and ethnicity. As reported in this document, users reported a positive overall assessment of the REBUILD Tool and most of them appreciate the potential of the Toolbox in a fully-fledged operational setting.

While the local situations linked to the ongoing pandemic restrictions at the time of the implementation of the Pilots did not allow for extensive or repeated focus group settings, both consortium partners and the selected groups of users (LSPs and migrants) made the necessary efforts to participate and provide useful feedback to the project team.

The feedback concerning technical issues was promptly received by the technical team and fixes incorporated in the application published in the Google Play store.

As far as Understandability is concerned, the REBUILD Dashboard was generally considered as easy to use and with the potential to improve the interaction with migrants with a direct communication channel.

The REBUILD App was also considered by most users as easy to use. Users welcomed the availability of the interface and information in multiple languages (such as Arabic and Farsi), which was deemed important for reaching users that many do not know national (Spanish, Italian) or mainstream languages (English).

Although some translations were flagged as unclear or not fully understandable, users appreciated the possibility offered by the REBUILD chatbot to practice the local language and asked that the feature be reinforced, perhaps by linking the App to other services such as Google translate, and with the inclusion of more topics of conversation.

Users asked to add support for Urdu, Pakistani and Pashto as translation languages of the REBUILD App. Adding more languages, users said, could broaden the spectrum of people who could use the App.

In general, users further appreciated having important information at hand in one single App.

As for the perceived usefulness, the users found it very useful having access to document examples, video tutorials on specific issues (e.g. citizenship). Depending on the service, users also reported having learnt quite an important amount of information concerning local services (the existence of RVA - voluntary return program), places, and procedures (how to apply online for a passport, residence permit or legal support). Overall, the “access to health services” was highly appreciated.

The Chatbot was generally perceived as “someone who knows you need something!”. Some users however noted that in some cases it may not be the most appropriate interface (e.g. for editing the user profile). Additional information on “human contacts” for given services was sought by some users (the chatbot may provide hotlines, helpdesk contacts for services spots to take over the files).

Users also suggested proposals for new services and features, such as a Housing scenario in Italian cities and the access to more territory services. The possibility to implement groups/chat between people looking for housing was also evoked in some of the Pilot groups.

In general, both LSPs and users said the REBUILD Toolbox is useful and that they would recommend it as it met their expectations (considering the framework of the Pilot).

Restrictions due to the Coronavirus pandemic conducted the users to overall appreciate the guidance that the REBUILD App can provide on what services can be done (i.e. applying for citizenship on the web; or requesting for video assistance). The available information about city places and offices relevant to REBUILD services was also highly appreciated, with users eager to get more of it.

In conclusion, the very positive feedback gathered on the REBUILD Toolbox and its perceived usefulness, calls for a serious consideration for the development of a sustainability and exploitation plans, in response to the request by the Pilot users that the services provided by REBUILD continue to be supported, updated (and complemented by new services) even after the end of the REBUILD project.

The project impact assessment is available in deliverable D9.4.



ICT-enabled
integration facilitator
and life rebuilding guidance

This project has received funding from the *European Union's Horizon 2020 research and innovation programme* under grant agreement No 822215



REBUILD

ICT-enabled integration facilitator and life rebuilding guidance

Deliverable: D6.4 Pilot results

This project has received funding from the *European Union's Horizon 2020 research and innovation programme* under grant agreement No 822215.

