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EXECUTIVE SUMMARY

This report includes the results of project tasks T5.3 "**User Interface**", T5.4 "**REBUILD Platform development**" and T5.5 "**System Interfaces & service integration**".

The aim of the document is to describe the work done to release the final version of the REBUILD platform. The design and the first version were described in the D5.1 "REBUILD Reference Architecture" (1) and D5.2 "REBUILD Pilot Platform first prototype" (2).

The methodology used for the development of the technological solution proposed by the REBUILD project, the Digital Companion, is based on a **human-centric design** and innovation management approach. This type of approach allows for the development of technological solutions that start from the actual needs of the user by making a detailed analysis of the context in which the services are provided. The REBUILD Platform, that is the set of a mobile Application addressed to the migrant/refugee user and a web-based Dashboard aimed at local service providers, has been designed to respect an **iterative development** that allows to evolve at the same pace with user needs and to track deviations from requirements. This prototype and iterative logic in the realization of technological solutions follows a logic of the continuous development and reporting, which allows to constantly improve the REBUILD solution based on continuous user feedback, to allocate the right resources, and to have services in line with the end user needs as they are designed, tested and validated by themselves. This human-centric design style, particularly seen from the perspective of solutions based on artificial intelligence, fosters the elimination of the disparity in the use of AI-based services. In the context of migrants, therefore, there is no marginalization created precisely by the possible "bias" of AI, since the AI-based services are designed with migrants. Having a service that does not depend on one's level of computer literacy, understanding a language, knowledge of a territory ensures that this technological platform can be used by everyone without discrimination, keeping the diversity of each individual clear. This allows to respect the rule of **equity in diversity**, a rule on which the REBUILD project bases its results both from a methodological and technological point of view.

The final version of the REBUILD Platform defines an improved version of the REBUILD **Data Model**, adopted to have a common language among the different domains and services proposed by the pilots. The model was adapted to the needs coming from the testing phase. A lot of suggestions were collected during this experimentation phase, as documented in the D6.2 (3) and D6.3 (4), that helped to improve the technical solutions proposed by REBUILD. From that feedback, the need to have a Platform multi-languages was raised. To meet this requirement, the **eTranslation CEF Building Block** (5) was integrated with the REBUILD Dashboard. This important result allows the Local Service Providers to include through the Dashboard all the information, needed to describe services useful for migrants, and translate it in the languages used in the REBUILD APP.

To give the reader an overview of the functionalities, provided by the REBUILD Platform, this document describes deeply the Dashboard and the mobile App and it is structured as a sort of a **user manual**.

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1 INTRODUCTION

The project REBUILD aims at **improving migrants and refugees' inclusion** through the provision of a toolbox of ICT-based solutions aimed to enhance both the effectiveness of the services provided by local public administration and organizations, and the life quality of the migrants.

This project follows a **user-centred and participated design approach**, aiming at addressing properly real target users' needs, ethical and cross-cultural dimensions, and at monitoring and validating the socio-economic impact of the proposed solution. Both target groups (immigrants/refugees and local public services providers) will be part of a continuous design process; users and stakeholders' engagement is a key success factor addressed both in the Consortium composition and in its capacity to engage relevant stakeholders external to the project. Users will be engaged since the beginning of the project through interviews and focus groups; then will be part of the application design, participating in three **Co-Creation Workshops** organized in the three main piloting countries: Italy, Spain and Greece, chosen for their being the "access gates" to Europe for main immigration routes. Then again, in the 2nd and 3rd years of the project, users' engagement in Test and Piloting events in the three target countries, will help the Consortium fine-tuning the REBUILD ICT toolbox before the end of the project.

The key technology solutions proposed are:

- **GDPR-compliant** migrants' integration related background information gathering with user consent and anonymization of personal information;
- **AI-based profile analysis** to enable both personalized support and policy making on migration-related issues;
- **AI-based needs matching tool**, to match migrant needs and skills with services provided by local authorities in EU countries and labour market needs at local and regional level;
- a **Digital Companion** for migrants enabling personalized two-way communication using **chatbots** to provide them smart support for easy access to local services (training, health, employment, welfare, etc.) and assessment of the level of integration and understanding of the new society, while providing to local authorities data-driven, easy to use decision supporting tools for enhancing capacities and effectiveness in service provision.

2 REBUILD PLATFORM – FINAL VERSION

The REBUILD platform consists of a set of technological components, each of which offers a business service with very specific functions. In particular, to provide a tool characterized by **human-centric artificial intelligence**, various disruptive technologies have been integrated such as rule-based chatbot, user profiling, intelligent recommendation systems, adoption of standard data models, automatic translation tools.

The **Chatbot** developed in the REBUILD project is rule-based. The communication is defined through the use of tools that define the navigation tree of the communication itself. The communication tree is defined by the human, in co-creation sessions with the migrant/refugee and / or the local service provider and is finally transformed in a machine-readable language (XML), which allows its automation. This makes it easy to add a new communication tree or modify an existing one. This way of proceeding allows a careful selection of the language to be used, migrant-driven.

The **user profiling** technique was adopted to provide a service as personalized as possible to the migrant. The recommendation algorithms are based on the real needs declared by the users. Based on user profiling, "proactive" services (those ones that the platform autonomously presents to the user, without being requested) have been developed that improve the experience of using the application, guaranteeing time savings.

Difficulties in communication and social habits in some typical life aspects such as health care, financial problems or recreational activities are believed to be mitigated by incorporating a **recommendation system** into the REBUILD Platform that supports migrants in some of these situations. To evaluate this objective, the system must analyse the different user profiles of the migrants in order to find similarities and dissimilarities between them, through clustering procedures. Then, based on the user's preferences in terms of services such as job search, accommodation or educational content, the system will provide new target users with notifications and recommendations of services or events based on what previous similar users have rated.

The next sections introduce the final version of the REBUILD Platform components, such as the Data Model, the integration with the CEF Building Block eTranslation, the bug reporting activities and finally the evaluation of the REBUILD Platform against some defined quality KPIs.

2.1 REBUILD DATA MODEL – FINAL VERSION

Standard data models (sponsored by the European Commission) have been adopted to make the REBUILD platform interoperable. As regards the services offered by REBUILD relating to the sphere of work (in particular the Job Seeking service), the European ESCO framework has been adopted. ESCO is a dictionary that describes, identifies and classifies the professions and professional skills relevant to the labour market, education and training. These concepts and the relationships between them are machine-readable (i.e. they can be understood by electronic systems). This allows different online platforms to use ESCO for services such as advising job seekers based on their skills (skill-matching as used in REBUILD), suggesting training courses to people who want to retrain or improve their knowledge, etc.

The ESCO framework provides descriptions of 2.942 professions and 13.485 skills related to these occupations, translated into 27 languages (all official EU languages plus Icelandic, Norwegian and Arabic). The purpose of ESCO is to support labour mobility across Europe and thus a more integrated and efficient labour market by offering a "common language" on professions and skills that can be used by different stakeholders on employment and education and training issues (6).

To enable cross-border semantic interoperability between public services, REBUILD has adopted for its data models the solutions proposed by ISA² (Interoperability solutions for public administrations, businesses and citizens (7)). In particular, the Core Vocabularies of ISA² were used in the development of the REBUILD application and dashboard. Vocabularies are simplified, reusable, and extensible data models that capture the fundamental characteristics of an entity, such as a person or public organization, in a context-neutral way. This

made it possible to integrate data from different data sources, and were used as a default starting point for the design of conceptual and logical data models in REBUILD information systems.

Below, the final REBUILD Data Model (an updated version of that one already published in the D5.2 (2)) applied by Dashboard and APP is reported.

2.1.1 ISA² VOCABULARIES

In this Section some information from ISA² vocabularies was included in the REBUILD Data Model.

Table 1: ISA2 Vocabularies

ISA Person			
Name	Property	Type	Description/Example
Alternative Name	alternativeName	String	Any name by which an individual is known other than their full name. This will be presented as nickname
Gender	gender	Code	[0=not known, 1=male, 2=female, 9=not applicable] ISO5218
Country of Birth	countryOfBirth	String	
Residency	residency	String	the region of the country where the user lives
ISA Legal Entity			
Legal Name	legalName	Text	The legal name of the business
Alternative Name	alternativeName	Text	
Company Type	companyType	Code	This property records the type of company
Company Activity	companyActivity	Code	The activity of a company
Identifier	identifier	Identifier	The identity relation links a resource to any formally issued identifier for that resource other than the one that confers legal status upon it
Registered Address	registeredAddress	Address	In almost all jurisdictions, legal entities must register a public address
Legal Entity	legalEntity	Legal Entity	This is useful, for example, where an organisation includes one or more legal entities
ISA Address			
Address Area	addressArea	String	the name or names of a geographic area or locality
Post Code	postCode	String	the city

City	city	String	the street
Street	street	String	the house number
House Number	houzenumber	String	the complete address, formatted
Formatted Address	formattedAddress	String	the latitude of a point
Latitude	lat	float	the longitude of a point
Longitude	lon	float	GeoJSON representation of the point
Geometry	geometry	Object	the city

2.1.2 REBUILD SPECIFIC DATA MODEL

The following table define the specific REBUILD Data Model, mainly coming from analysing the information coming from use case scenario

Table 2: REBUILD specific Data Model

REBUILD Personal Data - EXTENDS ISA Person			
Age range	ageRange	String	[18-24, 25-34, 35-44, 45-54, 55-64, 65-74, 75-84, 85-100]
Married	married	boolean	this parameter checks if the person is married or not
Arrival date	arrivalDate	Date	23/9/2015
Resident status	residentStatus	String (ENUM)	['Pending asylum application', 'Residence permit linked to refugee (or other protection) status', 'Residence permit not related to asylum', 'Family reunification', 'In transit', 'Relocation', 'Resettlement', 'Other']
Resident Permit Type	residentPermitType	String	
Work permit	workPermit	String (ENUM)	['not desired', 'not yet in demand', 'pending', 'granted', 'free of work permit']
Mother tongue	motherTongue	String	French
Other Languages	otherLanguages	Array<Language>	
Driving Licenses	drivingLicenses	Array<String>	['B','A']
Driving License valid for EU	drivingLicenseAllowedInEurope	boolean	
Document renew interest	interestedInDocumentRenewal	boolean	
Document	documents	Array<PersonalDocument>	

		>	
Education Experiences	educationExperiences	Array<EducationExperience>	
Work Experiences	workExperiences	Array<WorkExperience>	
Certifications	certifications	Array<Certification>	
Hobbies	hobbies	Array<String>	[golf, guitar, ...]
Soft Skills	softSkills	Array<String>	[teamwork, punctuality, ...]
Profile Summary	profileSummary	Text	Description of the profile
Children	children	boolean	This boolean parameter checks if the user has children
Childrens in school Age	childrenSchoolAge	boolean	This boolean parameter checks if the user has children in school Age
REBUILD Certification			
Certification Name	certificationName	String	
Certification Type	certificationType	String	
Certification Institute	certificationInstitute	String	
Expiration Date	expirationDate	Date	
Country	country	String	
REBUILD Hobbie			
Category	category	String	
Scale	scale	Int	A value between 1-5, 1 low - 5 high
REBUILD Personal Document			
Document Type	documentType	String (ENUM)	ID card
Expiration Date	expirationDate	Date	
REBUILD Educational Experience			
Type	type	String (ENUM)	[diploma, certificate, bachelor degree, master degree, PhD]
Institute	institute	String	University of Palermo
Subject	subject	String	Computer Engineering
Country	country	String	
Started At	startedAt	Date	Format mm/yyyy

EndendAt	endedAt	Date	Format mm/yyyy
REBUILD Language			
Language	language	String	Italian
Certification	certification	Certification	
REBUILD Working Experience			
Started At	startedAt	Date	Format mm/yyyy
EndendAt	endedAt	Date	Format mm/yyyy
Company	company	String	
Job task	jobTask	String	
Category	category	String	
Country	country	String	
Esco Occupation	escoOccupation	EscoOccupation	reference to an EscoOccupation
REBUILD ESCO Occupation			
Identifier	id	string	Identifier of the occupation
Title	title	string	the title of the occupation
Description	description	String	the description of the occuparion
Essential Skills	essentialSkills	List<Skill>	the essential skills for this occupation
optionalSkills	optionalSkills	List<Skill>	the optional skills for this occupation
Languages	languages	Object	translation of title and description returned by the Esco APIs
REBUILD Local Service Provider - EXTENDS ISA² Legal Entity			
Website	url	String	ww.mxn.com
Email Address	emailAddress	String	wsk@uab.com
Telephone	telephone	String	+3925489543
Domain	domain	Array<Domain>	Multiple value among [HEALTHCARE, EDUCATION, JOB, SOCIALITY, HOUSING]
Other Company Activity	otherCompanyActivity	List<String>	
Translator	translatorPresent	boolean	
Translator Languages	translatorLanguages	List<String>	
LSP services	services	List<LSPServiceInform	

		ation>	
LSP courses	courses	List<EducationCourse>	
LSP job	jobs	List<Job>	
Provided Consent	providedConsent	boolean	Checks if the lsp provided consent
Places Number	placesNuber	integer	Returns the number of registered places (LSPServiceInformation)
Places Per Domain	placesPerDomain	Map<Domain,Integer>	gives the number of places per domain
Courses Number	coursesNumber	integer	gives the number of registered courses
Jobs Number	jobsNumber	integer	gives the number of registered job offers
Events Number	eventsNumber	integer	gives the number of registered events
Source Language	sourceLanguage	string	checks the source language of the LSP
Events	events	List<LSPEvent>	the events registered by the lsp
Has Active Social Mentoring	hasActiveSocialMentoring	boolean	checks if the lsp has an active SocialMentoring programme
Current Social Mentoring	currentSocialMentoring	SocialMentoring	the current socialmentoring programme
Previous Social Mentoring	previousSocialMentoring	List<SocialMentoring>	the previous socialmentoring programmes
Operators	operators	List<LSPOperators>	the list of operators who can act on behalf of the lsp administrator
REBUILD Job			
Title	title	String	Title of the job
Description	description	String	Description of the job
CompanyName	companyName	String	The name of the company
Localization	localization	ISA-Location	Localization of Job position
Active	active	boolean	Indicates if the position is still active or it was already closed
Skills	skills	List<Skill>	the skills needed for the job
Url	url	string	the url of the job offer
Mail	mail	string	an email for the job offer

Phone number	phone	string	a phone number to contact for the job offer
Esco Occupation	escoOccupation	EscoOccupation	reference to the Esco Occupation
End Date	endDate	Date	the date the job offer will expire
Source Language	sourceLanguage	string	the language used to write title and description
Translations	translation	List<Model Translation >	translation of the entity fields provided by eTranslate
REBUILD Skill			
Name	name	String	Name of the Skill
description	description	String	Description of the Skill
Languages	languages	Object	translation of title and description returned by the Esco APIs
REBUILD JobSkill			
Skill	skill	Skill	reference to a Skill
Type	type	string	
Importance	importance	float	the importance of the Skill for a job offer
REBUILD Education			
Title of the course	Title of the course	Title of the course	Title of the course
Description of the course	Description of the course	Description of the course	Description of the course
Organization	Organization	Organization	Organization
Prerequisites	Prerequisites	Prerequisites	Prerequisites
Link to the course	Link to the course	Link to the course	Link to the course
Skill Acquired	skillAcquired	List<Skill>	The skill to be acquired after the course
Notes	notes	String	
Address	address	Address	the address of the course
Source Language	sourceLanguage	string	the language used to write title and description
Translations	translation	List<Model Translation >	translation of the entity fields provided by eTranslate
REBUILD LSP Service Information			

Booking Allowed	bookingAllowed	boolean	
Service title	serviceTitle	String	
Service Description	serviceDescription	String	
Needed Documents	neededDocuments	List<DocumentType>	multiple value among [NO_DOCUMENT_NEEDED, ID_CARD, DRIVING_LICENSE, PASSPORT, NATIONAL_HEALTH_CARD, RESIDENCY_PERMIT,OTHER;]
Opening Hours	openingHours	List<String>	
Service Url	serviceUrl	String	
Responsible Email	responsibleEmail	String	
Responsible Telephone	responsibleTelephone	String	
Service Address	serviceAddress	Address	
Source Language	sourceLanguage	string	the language used to write title and description
Translations	translation	List<Model Translation>	translation of the entity fields provided by eTranslate
Service Domain	serviceDomain	Domain	single value among [HEALTHCARE,EDUCATION,JOB, SOCIALITY,HOUSING,SOCIAL_LIFE,LEGAL_SUPPORT]
REBUILD LSP Event			
Title	title	String	
Description	description	String	
Start date	start	Date	
End Date	end	Date	
Domain	domain	Domain	single value among [HEALTHCARE,EDUCATION,JOB, SOCIALITY,HOUSING,SOCIAL_LIFE,LEGAL_SUPPORT]
Link	link	String	
Organizer	organizer	String	
Email	email	String	
Phone	phone	String	
Interested Users	interestedUser	List<String>	ids of the user interested in the event

Address	address	Address	
Source Language	sourceLanguage	string	the language used to write title and description
Translations	translation	List<Model Translation >	translation of the entity fields provided by eTranslate
REBUILD SocialMentoring			
Program Title	programTitle	String	SocialMentoring program title
Program Description	programDescription	String	SocialMentoring program description
Start date	startDate	Date	the start date for registering the program
End Date	endDate	Date	the end date for registering the program
Status	status	Enum	the status of the program [CREATED, REGISTRATION, PROGRESS, COMPLETED]
Registration Active	registrationActive	boolean	check if the resitration is active
Responsible	responsible	String	the full name of the responsible person
Website	website	String	the url of the program
Address	location	Address	
Mentors	mentors	List<Mentor >	the mentors
Mentors Number	mentorsNumber	integer	the number of mentors
Mentee	mentee	List<Mentee>	the mentees
Mentees number	menteesNumber	integer	the number of mentees
Pairs Number	pairsNumber	integer	the number of pairs
Pairs	mentoring	List<MentoringPair>	the pairs
Source Language	sourceLanguage	string	the language used to write title and description
Translations	translation	List<Model Translation >	translation of the entity fields provided by eTranslate
REBUILD Mentoring Availabilities			
Zone	zone	String	Barcelona
Day	day	String	Monday

Time	time	String	09:30
REBUILD Matchmaking Conditions			
Condition	condition	Enum	one of AGE_CONSTRAINT, GENDER_CONSTRAINT
Value	value	String	e.g. age > 18
REBUILD Interview Meeting			
Status	status	Enum	one of PENDING, CONFIRMED, DECLINED
Date	date	Datetime	2021-07-22T16:00:00Z
REBUILD Additional Questions			
Question	question	String	
Answer	answer	String	
REBUILD Mentee - EXTENDS Persona Data			
Availability	availabilities	Array<String>	Monday 13-14h / Tuesday 17-19h /...
Known location	knownLocation	String	UAB Vila, UAB Campus, Sabadell (city names)
Language to speak	languageToSpeak	String	Spanish
Expectation from the mentoring program	menteeExpectations	Array<String (ENUM)>	Showing the surroundings - Practicing language - Creating new social links - Leisure time - Interpersonal competences - Others: fill it with your ideas
Matchmaking limitation	matchmakingLimitations	Array<String>	I am not comfortable pairing with a woman I am not comfortable pairing with a man Other:
Accompanying needed	accompanyingNeeded	Boolean	
Matchmaking Preferences	matchmakingPreferences	Array<MatchmakingConditions>	
Status	status	enum	One of PENDING, CONFIRMED, DECLINED
Contributions	contributions	Array<String>	
Interview Meeting	interviewMeeting	InterviewMeeting	reference to the scheduled interview meeting

Interview	interview	MenteeInterview	reference to the actual interview of the mentee
Paired	paired	boolean	
Pair ID	pairID	String	reference to the pair
REBUILD Mentee Interview			
Final Status	finalStatus	Enum	one of CONFIRMED, DECLINED
Additional Fields	additionalFields	Array<AdditionalQuestion>	custom question and answer
REBUILD Mentor - EXTENDS Persona Data			
Availability	availabilities	Array<String>	Monday 13-14h / Tuesday 17-19h /...
Known location	knownLocation	ISA-Location	UAB Vila, UAB Campus, Sabadell (city names)
Language to speak	languageToSpeak	String	Spanish
Motivation to take part of the mentoring program	motivation	String	plain text
Contribution to the mentoring program	mentoringContributions	Array<String (ENUM)>	Showing the surroundings - Practicing language - Creating new social links - Leisure time - Interpersonal competences - Others: fill it with your ideas
Matchmaking limitation	matchmakingLimitations	Array<String>	I am not comfortable pairing with a woman I am not comfortable pairing with a man
Matchmaking Preferences	matchmakingPreferences	Array<MatchmakingConditions>	
Status	status	Enum	one of PENDING, CONFIRMED, DECLINED
Link With LSP	linkWithLSP	Enum	one of NO_LINK, STUDENT, TEACHER, PASSES, OTHER
Link Activity	linkActivity	String	
Previous Involvement	mentoringPreviousInvolvement	boolean	
Previous Involvement Comment	mentoringPreviousInvolvementComment	String	
Interview Meeting	interviewMeeting	InterviewMeeting	reference to the scheduled interview meeting

Interview	interview	MentorInter view	reference to the actual interview of the mentor
Paired	paired	boolean	
Pair ID	pairID	String	reference to the pair
REBUILD Mentor Interview			
Final Status	finalStatus	Enum	one of CONFIRMED, DECLINED
Additional Fields	additionalFields	Array<Addi tionalQuesti on>	custom question and answer
Experience In Social Project	hasExperienceInSoci alProject	boolean	
Social Projects	socialProjects	Array<Soci alProjectEx perience>	
Experience Work With People	hasExperienceWork WithPeople	Array<Wor kingWithPe opleExperi ence>	
Motivations	motivations	List<String >	
Challenges	challenges	List<String >	
Space Conceiving	spaceConceiving	String	
Aims Of The Mentorship	aimsOfTheMentorshi p	String	
Expectations	expectations	List<ENUM >	Showing the surroundings - Practicing language - Creating new social links - Leisure time - Interpersonal competences - Others: fill it with your ideas
REBUILD Social Project Experience			
Duration	duration	String	
Entity Name	entityName	String	
Project	project	String	
REBUILD Working With People Experience			
User Type	userType	String	
Entity Name	entityName	String	

Project	project	String	
Project link	projectLink	String	
REBUILD Mentoring			
Mentor	mentor	Reference to Mentor	This is an identifier, the nickname of the user
Mentee	mentee	Reference to Mentee	This is an identifier, the nickname of the user
Meetings	meetings	Array<Meeting>	Meetings
Meetings Number	meetingsNumber	integer	number of meetings
Status	status	enum	one of PENDING, CONFIRMED, DECLINED
REBUILD Agenda Event			
Identifier	id	ObjectId	
Date	date	datetime	
End Date	endDate	datetime	
Title	title	String	
Description	description	String	
Type	type	Enum	one of MEETING, INTERVIEW, EVENT, OTHER;
Other type	otherType	string	
notes	notes	string	
Involved User	involvedUsers	List<string>	list with the references to the ids of the involved users
Ref Object	refObject	String	reference to the real object (Meeting, Interview or Event)
Private Event	privateEvent	boolean	
Source Language	sourceLanguage	string	
translations	translations	List<Model Translation >	
REBUILD Meeting			
Mentoring	mentoring	Reference to Mentoring	
Date	date	Date	
Location	location	ISA-Location	
Type of activity	activity	String	

		(ENUM)	
Activity to increase mentee's autonomy	activityDescription	String	
Status	status	enum	one of PENDING, CONFIRMED, DECLINED, CANCELED;
Mentor Feedback	mentorFeedback	MentorMeetingFeedback	
Mentee Feedback	menteeFeedback	MenteeMeetingFeedback	
REBUILD Mentor Meeting Feedback			
MeetingDiary	meeting	Ref Meeting	
Satisfaction	satisfaction	Number	1-5 range
Relationship improvement	relationshipImprovement	String	
Reluctancy	reluctancy	String	
Technical question	technicalQuestions	Array<String>	
Comment	comment	String	
REBUILD Mentee Meeting Feedback			
MeetingDiary	meeting	Ref Meeting	
Satisfaction	satisfaction	Number	1 - 5 range
Comment	comment	String	

2.2 INTEGRATION BETWEEN REBUILD PLATFORM AND eTRANSLATION CEF BUILDING BLOCK

This section of the document describes the challenges and solutions adopted to provide multilanguage support within REBUILD Platform taking advantage of the CEF eTranslation Building Block.

CEF eTranslation is an online service whose goal is to help exchanging information across language barriers in the EU¹. The tool is able to translate formatted documents or plain text for the 24 official EU languages together with Norwegian and Icelandic². It provides two ways of use:

- Human-to-machine: providing a web interface for translating documents or plain text
- Machine-to-machine: providing an API accepting documents or plain text to be translated

¹ <https://ec.europa.eu/cefdigital/wiki/display/CEFDIGITAL/What+is+eTranslation>

² <https://ec.europa.eu/cefdigital/wiki/pages/viewpage.action?pageId=82773043>

The provided API works asynchronously, this means that each client will send a request with, among other parameters, the snippet to be translated, the source language and the target languages and the eTranslate service replies with a request ID or an error code. The proper translated text is sent to the client application through a notification for each target language. The client application should implement a specific callback URL to receive such notification and it is up to the client managing the responses setting the translated text to the proper entity³. CEF eTranslate provides secured SOAP and RESTful endpoints, the client application should provide its name and password to use the services. To ensure fair use of the service, eTranslate limits the simultaneous requests that a client application might submit to the following quotas:

- 250 documents
- 500 text snippets

The actual integration of CEF eTranslate Building Block into the REBUILD Platform starts from the previous definitions and limits and allows Local Service Providers to use the service in a transparent way. Translations are included in these existing concepts related to LSP: Events, Places, Job Opportunities, Education Courses and Social Mentoring programmes. The following description is valid for each of them.

Starting from the backend integration, the following changes are provided:

- The eTranslation RESTful API is integrated within the application
- The callback URL, needed to receive the notification, is implemented
- A state machine is implemented to manage the requests to the service to not overcome the defined quotas
- Two recurring jobs are provided, on one hand, to manage the requests to the service and, on the other hand, to manage the responses setting the translated text to the proper entity. Both the recurring jobs implements two FIFO queues to manage requests and responses.
- Existing data models are updated to store the translations
- Existing REBUILD APIs are modified to accept the new language parameter needed to provide the translations

The defined state machine works with the following states: PENDING, PROCESSING, FAILED and COMPLETED. Each new translation request to be sent to the CEF eTranslation is set to PENDING. The request is then sent to the remote service if the already PROCESSING requests are less than 500 (as defined by the service quotas). Once the request is sent its status moves to PROCESSING. The request is COMPLETED when each target translation is returned by the remote service through the provided callback URL. If an error is reported by the eTranslate service, the request's status moves to FAILED.

From the REBUILD Dashboard point of view, the Local Service Providers, while registering a new entity in the platform, should provide the source language of the title and description they are setting, as depicted in Figure 1.

3

<https://ec.europa.eu/cefdigital/wiki/display/CEFDIGITAL/How+to+submit+a+translation+request+via+the+CEF+eTranslati+on+webservice>

Add Education Place

Title	Language
<input type="text" value="Title"/>	<input type="text" value="English"/>
Description	
<input type="text" value="Description"/>	
URL	Online Booking
<input type="text" value="URL"/>	<input type="text" value="Online Booking"/>
Needed Documents	
<input type="text" value="Needed Documents"/>	
Email	Telephone
<input type="text" value="Email"/>	<input type="text" value="Telephone"/>
Opening Hours	
<input type="text" value="Opening Hours"/>	
Address	
<input type="text" value="Address"/>	

Figure 1: REBUILD Dashboard - Translation example

It is important to underline that the source language is retrieved from the dashboard settings, but the user is able to change it if he/she feels more confident writing the text in another language. Moreover, Figure 1 shows an example of adding a new Education place, but the same visual elements are used in the Dashboard for the other entities.

Once the entity is stored into the platform, the described back end translation process starts and once the translations are received from the eTranslation service the Translation button is enabled, as showed in Figure 2.

Add Education Place

Title: Test place Language: English

Description: Test education place

URL: URL Online Booking: No

Needed Documents: Needed Documents

Email: Email Telephone: Telephone

Opening Hours: Opening Hours

Address: Address

SAVE TRANSLATIONS BACK

Figure 2: REBUILD Dashboard - Translation button enabled

By clicking such button, the Local Service Provider user will be able to access the translations.

Add Education Place

Title: Test place Language: AR

Description: مكان الاختبار

URL: URL Online Booking: No

Needed Documents: Needed Documents

Email: Email Telephone: Telephone

Opening Hours: Opening Hours

Address: Address

SAVE TRANSLATIONS BACK

Available translations

AR

AR

CA

DE

EL

ES

FA

FR

IT

KU

SAVE CLOSE

Figure 3: REBUILD Dashboard - Available Translations

Figure 3 shows the available translation provided by the eTranslation service to the Local Service Provider. It is important to underline that the user will also be able to modify the returned translation or to add by hand the translation for the languages not managed by the eTranslation service, such as Farsi and Kurmanji.

2.3 REBUILD APP & DASHBOARD BUG REPORTING

Starting from the beginning of the REBUILD Platform Development, technical team has adopted Trello as tool to report Dashboard and APP bugs, requests of new development, changes in user interface or improve the content and language.

This board (Figure 4) was used also by Pilots to report their feedback during the testing phase. The procedure adopted to collect feedback and report bugs foresees that each card is created into the "TODO" pool. When a developer or a social scientist starts working on the ticket, it is moved into the "Work in progress" pool. When the ticket was solved, it passes to the "To be tested". The developed functionality is tested by a narrow number of people (technical and social scientists) before being moved to the "Completed" pool, ready to be deployed in the production environment.

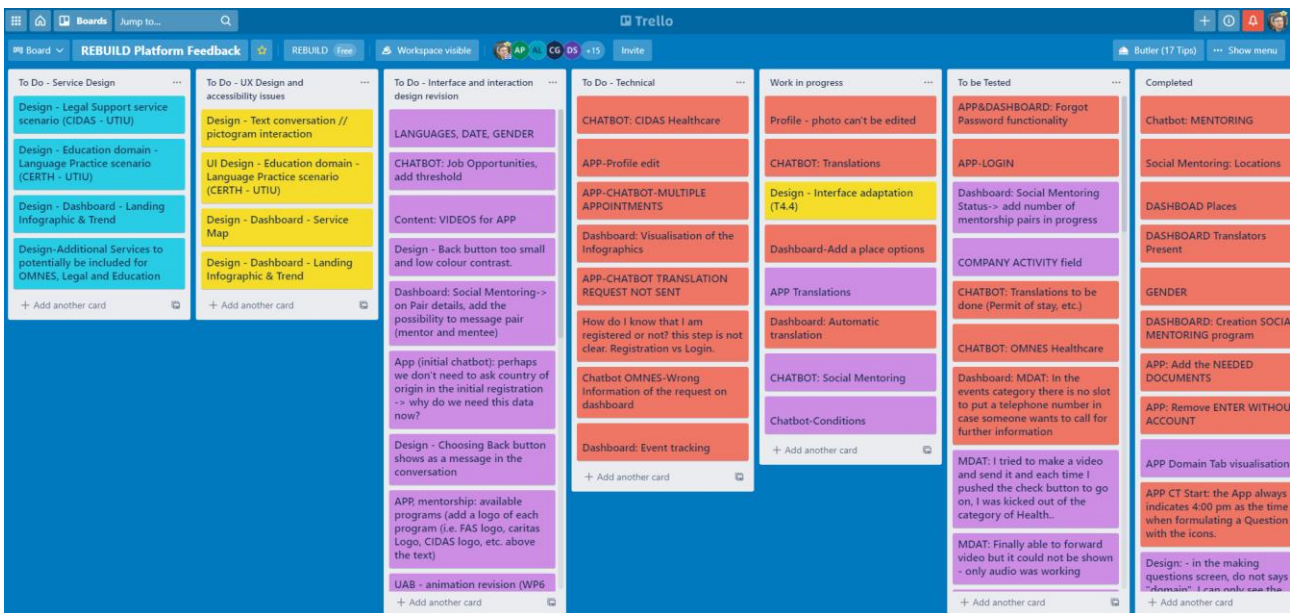


Figure 4: REBUILD Trello board

Trello board allows users to start the discussion on the ticket, set a deadline, attach file. The different colours represent the aim of the ticket (technical or non-technical). In this way, each card reports always the updated information about the ticket and the actions put in place to solve it.

During the first testing phase, a lot of suggestion were collected from the pilot users. All the functionalities (more than 150) were reported in a table (Figure 5) to assign responsibility, the development time in Man Days and the priority (high, medium, low). Pilot team was in charge to define the priority of the functionality and in parallel the technical team set the effort in man days to develop that functionality. The new version of the REBUILD Platform had to be ready before the piloting phase. So due to the time constraints, the two teams decided to develop first the mandatory functionalities to be tested in the piloting phase. All the other functionalities will be developed till the end of the project.

DOMAIN	FUNCTIONALITY	DESCRIPTION	APP/DASH	Category	Responsible	Development time in Man Days	Priority	Source	Comments
General	Registration	Registration to the App	APP	UI defect	1. ENG (DONE) 2. UPM	1	High	GAP	Forgot pass -> a link is included for doing this, Changing pass -> ENG has provided a new endpoint, UPM has to integrate it
General	Profiling	After the registration the Chatbot ask for some profiling information	APP/Chatbot	UI defect				GAP	
General	Introductory video	Video shown before loggin in - "welcome video"	APP	UI defect	UAB, UPM	0.1	High	GAP	UPM: We have asked UAB about the videos. Once we have them, we can easily include them in the app
General	Video REBUILD button	Video explaining how to use the REBUILD button	APP	UI defect	UAB, UPM	0.1	Medium	GAP	https://trello.com/c/ag0VXmah/34-content-videos-for-app
General	All Videos for the APP	Create all the videos	APP	UI defect	UAB, UPM	0.1	High	Trello	https://trello.com/c/ag0VXmah/34-content-videos-for-app
General	Language inconsistent throughout the APP	Check the status of the all translations	APP	Bug	UPM	0.5	High	Pilots	
General	Login screen, continue without account option	Continue without an account option is not available	APP	New functionality	UPM, ALL	?		Pilots	Davide: This functionality is quite important. UPM: the workflow for this option has to be firstly decided (what is going to be available, the role of the chatbot, etc)
Social Mentoring	PDF for more information not available	More information on social Mentoring not available - PDF missing	APP	New functionality	UAB, UPM	0.1	Medium	Pilots	UPM: what PDF and where do we have to include it?
LSP Add places	This needed to be added twice	When the user completed LSP ADD Places: it didn't recognise it, the user had to complete twice	Dashboard	UI defect				Pilots	Roberto: Is it possible to understand what wasn't recognised?
Social Mentoring	View pairs missing information	Some information is missing in social mentoring 'view pairs'	Dashboard	Bug	1. UAB (Detail) 2. ENG (DASH)		High	Pilots	Roberto: need to understand which information is missing
Chatbot Profiling	Cannot change Language	Chatbot profiling: user cannot change language while using the function	APP/Chatbot?	New functionality	UPM		Medium	Pilots	UPM: does this refer to an app language change or the chatbot language? OMNES: I think this is a comment of a user during the external testing, chose APP language Farsi, chatbot when started the profiling was in Farsi and then when he was inside the conversation, he wanted to change to english. At this point, inside the chatbot, at the first profiling filling, he could not proceed
Events	Number of events not displayed	User cannot see the number of events - from the Menu	APP	Bug	UPM	0.2		Pilots	The same way that the number of open procedures is presented in the Menu
Events	Event reminders not available	Event reminders not implemented	APP	New functionality				Pilots	Via push notifications
Events	Events not displayed	Events have been registered for OMNES uses but it is not displayed on APP	APP	Bug	UPM(ENG)	0.5		Pilots	UPM: we need to check if the events are registered correctly and then check if the APP reads them accordingly OMNES: Checked it, dashboard and APP works fine.
LSP Add places	bar (moving horizontally) on bottom of dashboard not visible	Dashboard (MDAT response): Horizontal Bar not visible response the bar at the bottom of all categories is not visible, it would be helpful if made a darker color.	Dashboard	Bug			Medium	Pilots	Roberto: need to know the browser resolution and/or if it was zoomed; Which section 'All Places' or the <DOMAIN>

Figure 5: An example of the collection of the new functionalities to be developed

After this prioritization, the functionalities to be developed with a high priority have been moved to a new Trello board to follow all the development steps.

The pools of the new Trello board were defined as follows:

- Platform Content TO-DO (resp. Pilots)
- UI Design TO-DO (resp. UNINETTUNO-UNESCO)
- Technical bugs TO-DO (resp. Technical Team)
- Work in Progress
- Completed

2.4 EVALUATION OF REBUILD PLATFORM

Before starting the testing phase, the KPIs to evaluate the REBUILD Platform were defined. Not all the KPIs impact on each REBUILD component, as shown in the Table 4 and Table 5. The quality component evaluation was performed before the testing phase and also before the piloting phase. The same KPIs can be a different target value according to the phase in which they were measured.

The KPIs were defined in the Table 3.

Table 3: REBUILD quality KPIs

KPI code	KPI title	KPI description
KPI_QAI_01	Exposure of APIs as JSON-based REST/RPC	The functionality of the components is exposed via JSON REST/RPC APIs for the integration with other platform modules. The functionality in this way is made available for the server-side components and for the UI components
KPI_QAI_02	Support for SSO	For the hyperlink integration and for better user experience, different Web applications of the platform should support Single Sign-On to allow for using single credentials across different applications
KPI_QAD_01	Installation, configuration, and integration documentation in README	Component README file providing i) the component installation instructions; ii) the component configuration instructions; and iii) component integration instructions defining the necessary steps to set up the integration with other components
KPI_QAD_02	Swagger specification for the APIs	For the components that expose REST API, these latter should be well defined and documented. Specifically, it is required that all APIs are provided with the Swagger specification describing the available API calls, parameters, and data types
KPI_QAD_03	Additional documentation (examples, tutorials, etc)	The documentation should provide the description of the usage scenarios of the component, examples (e.g., API call inputs and outputs, testing instructions, tutorials, howto, etc).
KPI_QAS_01	Web-based components provide access to the sensitive functionality to authenticated users only.	Some of the rebuild components deal with the personal data and therefore should guarantee secure and authenticated access to that data
KPI_QAU_01	Minimal browser support.	The component user interface should provide support for the wide range of widely used browsers, including MS-Edge, Chrome 47+, Firefox 38+

KPI_QAU_02	Multi-platform support and responsiveness	The component UI should be properly visualized regardless the underlying platform. This also amounts to the responsive design requirements. The platforms supported include, apart from desktop computers, mobile devices on Android 4.3+, iOS 8.3+, Windows 8.1
KPI_QAU_03	Internationalization	The UI of the component should support and should be adaptable to different user languages. This is also crucial for adoption of the components to the pilots in different countries
KPI_QASCM_01	Use GitHub and Trello for SCM and issue tracking	For the development, issue tracking, and documentation of the REBUILD platform component, GitHub and Trello have been selected as a source code management repository
KPI_QAR_01	Docker containers provided	To further improve the deployment procedure allowing for targeting different Cloud environments, it is required that the components provide the corresponding Docker container specification
KPI_IT_01	Percentage of issues resolved	The issues reported during the process of the component development, integration, evaluation should be appropriately managed and resolved by the component owners
KPI_IUC_01	% Integration Use-Cases	Percentage of the Integration Use-Cases achieved and operating

The following two tables show the value of the KPIs for both testing and piloting phase and also an explanation where the KPI was not achieved.

For a sake of the clarity, we report the acronym used for filling in the following table.

- RB APP: REBUILD mobile Application
- DASH: Dashboard
- RE: Recommendation Engine
- ME: Matching Engine
- DB: Data Base
- CB: ChatBot
- PG: Pictograms

The Table 4 reports the REBUILD KPI evaluation for testing phase.

The KPI_QASCM_01 (Use GitHub and Trello for SCM and issue tracking) has NO value for Pictograms since the Pictograms in the testing phase were not used in the Chatbot. This functionality was developed for the piloting phase.

The KPI KPI_IUC_01 (% Integration Use-Cases) was not achieved by Recommendation Engine for one of the two integration use cases related to the RE, namely "*The RE performs an update of the events and recommendations of interest for the migrant*". This was not achieved since the development to provide the right recommendations for the Job Seeking scenario took a lot of development time, due to integration with ESCO system.

Table 4: REBUILD KPI evaluation - Testing phase

KPI code	KPI title	KPI description	Target Test phase	RB APP	DASH	RE	ME	DB	CB	PG
KPI_QAI_01	Exposure of APIs as JSON-based REST/RPC	The functionality of the components is exposed via JSON REST/RPC APIs for the integration with other platform modules. The functionality in this way is made available for the server-side components and for the UI components	YES			YES	YES	YES	YES	YES
KPI_QAI_02	Support for SSO	For the hyperlink integration and for better user experience, different Web applications of the platform should support Single Sign-On to allow for using single credentials across different applications	YES	YES	YES					
KPI_QAD_01	Installation, configuration, and integration documentation in README	Component README file providing i) the component installation instructions; ii) the component configuration instructions; and iii) component integration instructions defining the necessary steps to set up the integration with other components	YES	YES	YES	YES	YES	YES	YES	YES
KPI_QAD_02	Swagger specification for the APIs	For the components that expose REST API, these latter should be well defined and documented. Specifically, it is required that all APIs are provided with the Swagger specification describing the available API calls, parameters, and data types	YES			YES	YES	YES	YES	YES
KPI_QAD_03	Additional documentation (examples, tutorials, etc)	The documentation should provide the description of the usage scenarios of the component, examples (e.g., API call inputs and outputs, testing instructions, tutorials, howto, etc).	NO	NO	NO	NO	NO	NO	NO	NO
KPI_QAS_01	Web-based	Some of the rebuild components deal with the	YES	YES	YES					

	components provide access to the sensitive functionality to authenticated users only.	personal data and therefore should guarantee secure and authenticated access to that data								
KPI_QAU_01	Minimal browser support.	The component user interface should provide support for the wide range of widely used browsers, including MS-Edge, Chrome 47+, Firefox 38+	NO		YES					
KPI_QAU_02	Multi-platform support and responsiveness	The component UI should be properly visualized regardless the underlying platform. This also amounts to the responsive design requirements. The platforms supported include, apart from desktop computers, mobile devices on Android 4.3+, iOS 8.3+, Windows 8.1	NO	NO						
KPI_QAU_03	Internationalization	The UI of the component should support and should be adaptable to different user languages. This is also crucial for adoption of the components to the pilots in different countries	NO	NO	NO				NO	
KPI_QASCM_01	Use GitHub and Trello for SCM and issue tracking	For the development, issue tracking, and documentation of the REBUILD platform component, GitHub and Trello have been selected as a source code management repository	YES	YES	YES	YES	YES	YES	YES	NO
KPI_QAR_01	Docker containers provided	To further improve the deployment procedure allowing for targeting different Cloud environments, it is required that the components provide the corresponding Docker container specification	YES	YES	YES	YES	YES	YES	YES	YES
KPI_IT_01	Percentage of issues resolved	The issues reported during the process of the component development, integration, evaluation should be appropriately managed and resolved by the component owners	70%	74%	75%	-	-	87.5%	61%	-

KPI_IUC_01	% Integration Use-Cases	Percentage of the Integration Use-Cases achieved and operating	70%	100%		50%	100%	100%	75%	
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The Table 5 reports the REBUILD KPI evaluation for piloting phase.

Table 5: REBUILD KPI evaluation - Piloting phase

KPI code	KPI title	KPI description	Target Test phase	RB APP	DASH	RE	ME	DB	CB	PG
KPI_QAI_01	Exposure of APIs as JSON-based REST/RPC	The functionality of the components is exposed via JSON REST/RPC APIs for the integration with other platform modules. The functionality in this way is made available for the server-side components and for the UI components	YES			YES	YES	YES	YES	YES
KPI_QAI_02	Support for SSO	For the hyperlink integration and for better user experience, different Web applications of the platform should support Single Sign-On to allow for using single credentials across different applications	YES	YES	YES					
KPI_QAD_01	Installation, configuration, and integration documentation in README	Component README file providing i) the component installation instructions; ii) the component configuration instructions; and iii) component integration instructions defining the necessary steps to set up the integration with other components	YES	YES	YES	YES	YES	YES	YES	YES
KPI_QAD_02	Swagger specification for the APIs	For the components that expose REST API, these latter should be well defined and documented. Specifically, it is required that all APIs are provided with the Swagger specification describing the available API calls, parameters, and data types	YES			YES	YES	YES	YES	YES
KPI_QAD_03	Additional documentation	The documentation should provide the description of the usage scenarios of the	YES	YES	YES	YES	YES	YES	YES	YES

	(examples, tutorials, etc)	component, examples (e.g., API call inputs and outputs, testing instructions, tutorials, howto, etc).									
KPI_QAS_01	Web-based components provide access to the sensitive functionality to authenticated users only.	Some of the rebuild components deal with the personal data and therefore should guarantee secure and authenticated access to that data	YES	YES	YES						
KPI_QAU_01	Minimal browser support.	The component user interface should provide support for the wide range of widely used browsers, including MS-Edge, Chrome 47+, Firefox 38+	YES		YES						
KPI_QAU_02	Multi-platform support and responsiveness	The component UI should be properly visualized regardless the underlying platform. This also amounts to the responsive design requirements. The platforms supported include, apart from desktop computers, mobile devices on Android 4.3+, iOS 8.3+, Windows 8.1	YES	YES							
KPI_QAU_03	Internationalization	The UI of the component should support and should be adaptable to different user languages. This is also crucial for adoption of the components to the pilots in different countries	YES	YES	YES					YES	
KPI_QASCM_01	Use GitHub and Trello for SCM and issue tracking	For the development, issue tracking, and documentation of the REBUILD platform component, GitHub and Trello have been selected as a source code management repository	YES	YES	YES	YES	YES	YES	YES	YES	YES
KPI_QAR_01	Docker containers provided	To further improve the deployment procedure allowing for targeting different Cloud environments, it is required that the components provide the corresponding Docker container specification	YES	YES	YES	YES	YES	YES	YES	YES	YES



KPI_IT_01	Percentage of issues resolved	The issues reported during the process of the component development, integration, evaluation should be appropriately managed and resolved by the component owners	90%	93%	93%	-	-	-	90%	-
KPI_IUC_01	% Integration Use-Cases	Percentage of the Integration Use-Cases achieved and operating	90%	100%		100%	100%	100%	100%	

As for the KPI_QAU_02 “Multi-platform support and responsiveness”, after the first phase of testing, we noted migrants use only Android smartphones and also considering the mobile operating Market Share Worldwide⁴, Android is the most used one (even higher in Africa, Asia and South America, which can be considered the most usual origin zones of the migrants). That's why we preferred to focus on the development of more new functionalities instead of the development of the APP for different Operating System. In any case, the REBUILD Mobile App has been developed in Cordova, not native Android, so it could be deployed in iOS, whenever we decide to do it.

⁴ <https://gs.statcounter.com/os-market-share/mobile/worldwide>

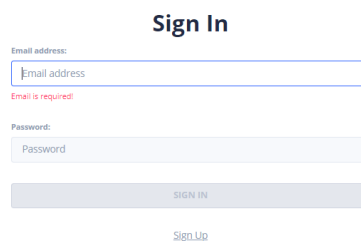
3 REBUILD DASHBOARD

The REBUILD Dashboard was developed to address the needs of the Local Service Providers. They can provide the information about interesting places useful for migrants need (e.g. legal service, accommodation structure, etc.). They can also offer job positions, educational and professional courses; they can also foster events in the local area where the migrants live; they can organise social mentoring program to help the migrants in their integration and inclusion.

In the next sections, a comprehensive description of the Platform functionalities is provided.

3.1 PROFILE

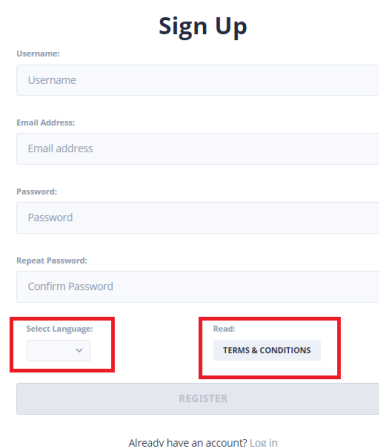
The starting point of the dashboard application is the sign-in form, in which we can choose either to sign in (if we already have an account and provide the required email address and proper password) or to sign up. Dashboard application uses the Keyrock, which is the FIWARE component responsible for Identity Management that enables the addition of OAuth2-based authentication and authorization security.



The 'Sign In' form features a title 'Sign In' at the top. Below it, there are two input fields: 'Email address' and 'Password'. The 'Email address' field has a red error message 'Email is required!' below it. A 'SIGN IN' button is positioned below the password field. At the bottom of the form, there is a 'Sign Up' link.

Figure 6: Sign-in Form

If we choose the sign-up option, in order to successfully register, we must provide a username, email address, password, select one of the optional languages, and read and confirm the terms and conditions (consent form questionnaire).



The 'Sign Up' form features a title 'Sign Up' at the top. Below it, there are four input fields: 'Username', 'Email Address', 'Password', and 'Repeat Password' (labeled 'Confirm Password'). Below the 'Repeat Password' field, there are two red-bordered boxes: 'Select Language:' with a dropdown arrow and 'Read: TERMS & CONDITIONS'. A 'REGISTER' button is positioned below these boxes. At the bottom of the form, there is a link 'Already have an account? Log in'.

Figure 7: Sign-up form

Consent Form - Questionnaire

Voluntariness

Your participation in this study is absolutely voluntary, and there is no economic compensation. There is no penalty for not participating and there are no risks of any kind in your participation. You can discontinue your involvement in the study at any time without prior justification. This shall have no repercussions or negative consequences of any sort.

Storage

This consent form and the information you provide will be safely stored at UNINETUANO's internal server and will be destroyed five years after the research project finishes. It will not be shared with anyone outside this project. The information analysed regarding the services your organisation provides and the entire data base will be available to other interested researchers through open data repositories. This data will be anonymised.

Further questions

The ethical adviser responsible of ethical procedures is Pilar Orero. You can contact her to ask for more information about the project and the project results. Besides, you can exercise your rights recognized by the European Regulation on the Protection of Personal Data on the data file of this project by contacting the researcher responsible for this project, Dr. Pilar Orero, with your request and a photocopy of your ID (form ARCO is attached): Dra. Pilar Orero (pilar.orero@uab.cat), Dept. de Traducció i Interpretació i Estudis de l'Àsia Oriental, Campus UAB, Plaça del Coneixement, MRA-126, 08193 Bellaterra (Cerdanyola del Vallès)

I authorise:

- a qualitative and quantitative analysis of my responses
- the use of my answers for purposes of scientific dissemination

If you are willing to participate, please confirm the following statements by checking the following boxes

- I have read and understood the above information or have had the information read and explained to me.
- I have had the opportunity to ask questions about the research and my participation.
- I consent to take part in the research activity

If you want to modify or delete any of your data, please [download the pdf](#) and following the instructions

OK

Figure 8: Consent form - questionnaire

Upon successful registration we are redirected to Sign in form, where if everything is correctly done, and we provide the newly created credentials, we are successfully authenticated by the Keyrock.

We now enter the profile page. In the upper right corner, when we click on our account username, we can select the language or choose to log out. In this profile form, we enter information for our name (required), email address, telephone, URL, city, postal code and also from the select-boxes we select country, company/organization type and activity, if we want a translator (if we select yes, we can enter language/languages), and the most important thing select the domain/domains.

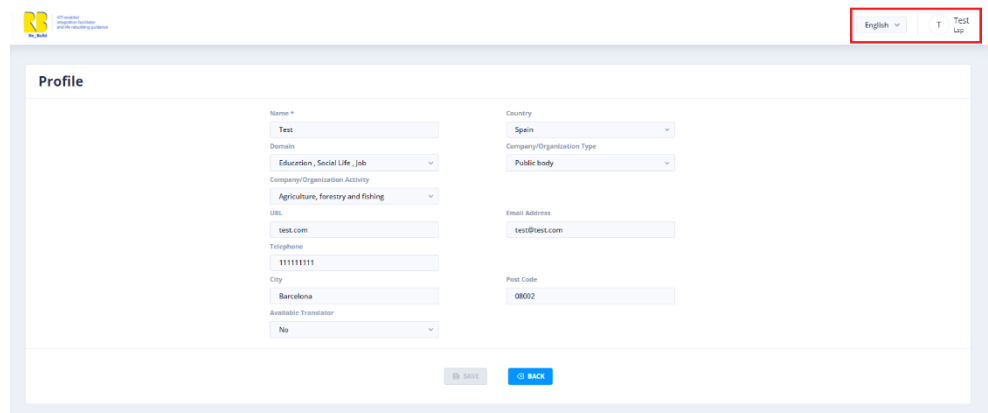


Figure 9: Profile form

It is important to choose the right domain/domains in the profile form, because the one that we select will be present later on, on the menu under the menu item my places when we save our profile.

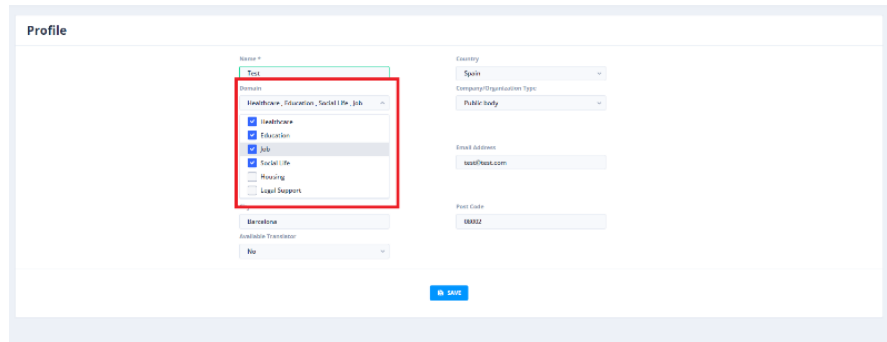


Figure 10: Profile domains

If we select the domains for Social Life, Education or Job, apart from being added to my places drop-down menu list, we will get extra menu options for Social mentoring, Manage Courses and Manage Job opportunities. For all other domains, they will just be placed in the My Places drop-down menu.

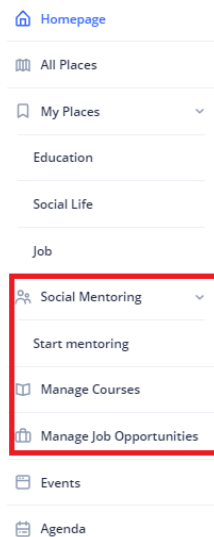


Figure 11: Menu when selected Education, Job, Social life in profile domains

When we complete our profile registration and we enter the homepage, we can always choose to modify our profile by clicking on the username and then clicking on the profile option in the upper right corner, there is also an option to change the language from the select box.

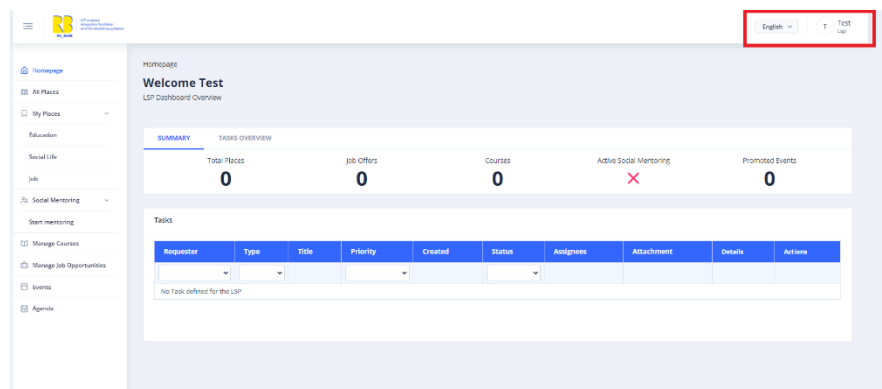


Figure 12: Homepage of the Dashboard

3.2 MENU

The menu has a dynamic number of items, when we say that we mean that the number of items in the menu may be different precisely because of the mentioned domains. For example, in the profile registration stage if we choose some of the domains that add extra options for the menu (Education, Social life, Job), we will have more items in the menu.



Figure 13: Menu

3.3 TASK MANAGEMENT

The task management framework enables the creation, assignment, solution and archiving of tasks. A general view of the workflow is depicted below.

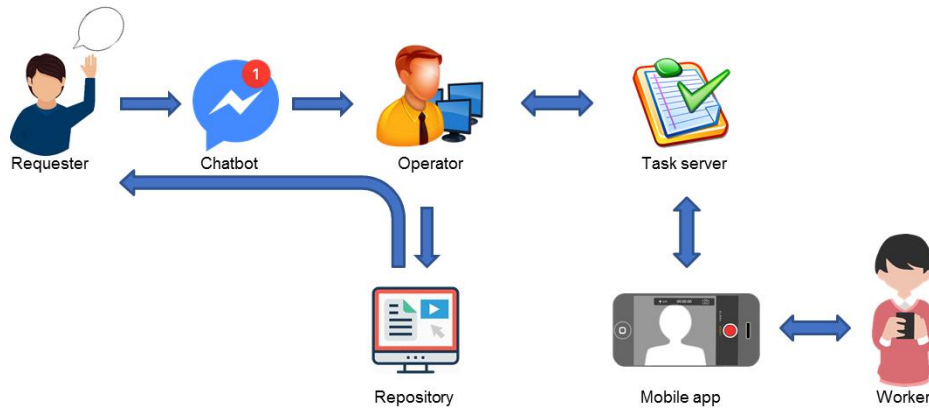


Figure 14: Task management workflow

The requester expresses a request through the Chatbot. The operator receives a notification and creates a new task on the task server. Alternatively, the task creation occurs automatically through the Chatbot, without the interference of the operator. The mobile app of the worker is notified and the worker solves the task. In an iterative process, the operator evaluates the solved task and suggests improvements to the worker. When the operator is satisfied with the task solution, the solved task is stored in the repository and a reference link is sent to the requester.

Apart from the Chatbot, the software modules providing services to the actors are the following:

- The **task server**, operated by the operator for creating and managing tasks.
- The **task solver app**, operated by the worker, accepting tasks from the task manager, recording material for solving the tasks and sending the material to task server.
- The **repository**, storing the already evaluated and accepted content and making it accessible to the requester through a reference link.

The implementation of each of the software modules for REBUILD is described in the next subsections.

Task server dashboard

Through the task server interface of the dashboard, the operator visualizes the created tasks, assign task solvers to each task, communicate with them and forward solved tasks back to the requesters (immigrants). Below, some screenshots of the task server interface of the dashboard are provided.

Initially, the operator is notified about the incoming request.

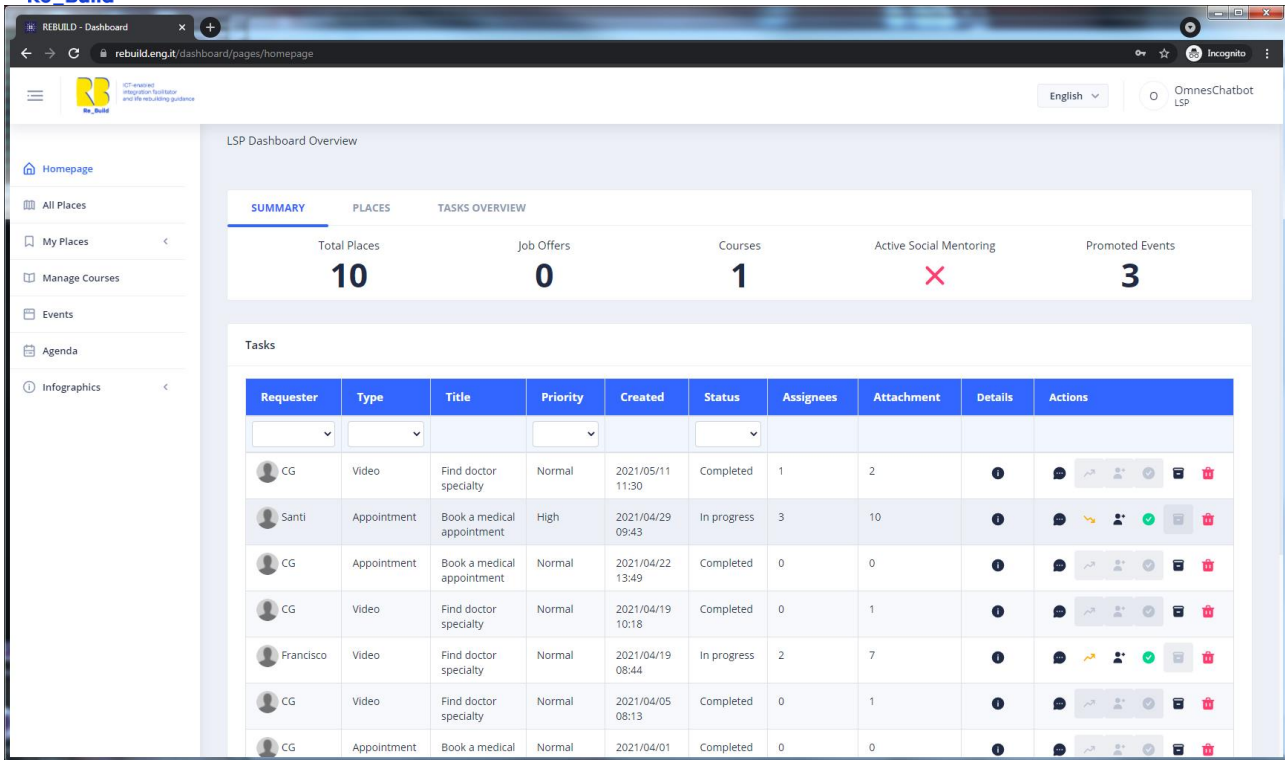


Figure 15: The task server interface of the dashboard

The operator inspects the task.

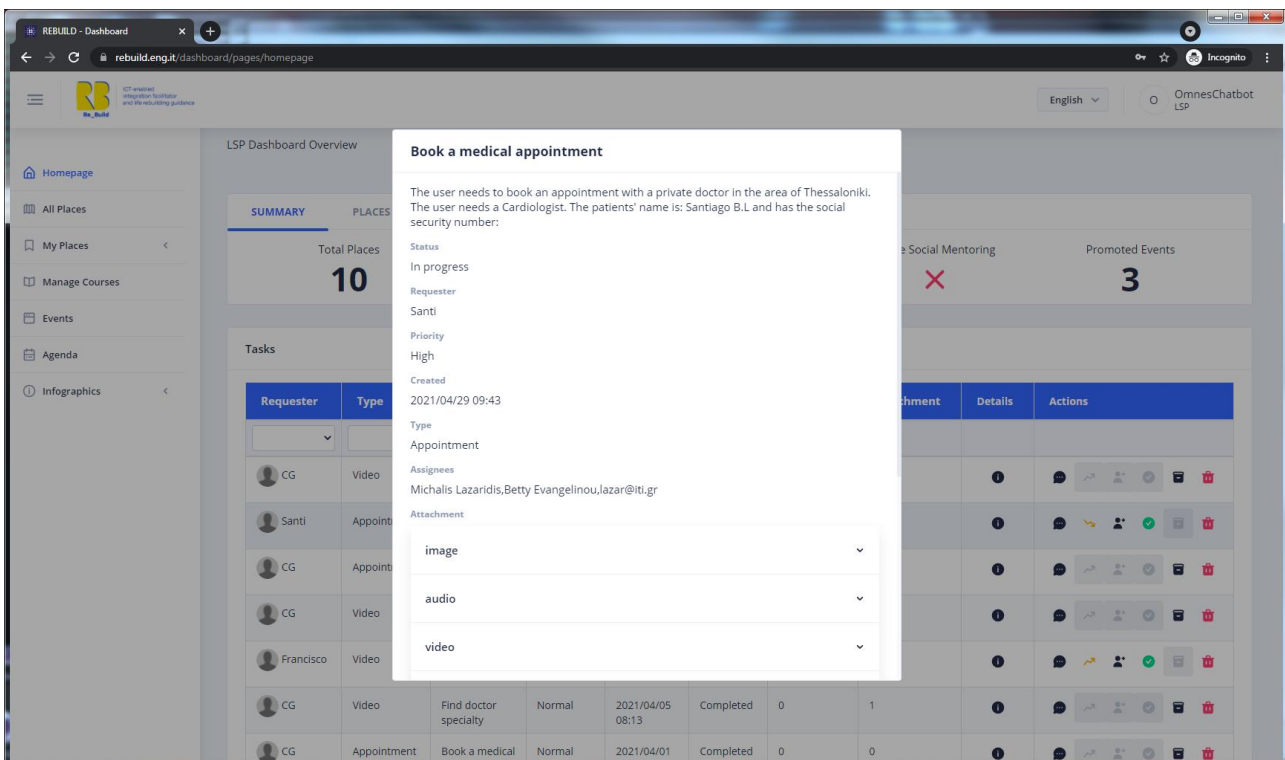


Figure 16: Inspecting the task

The operator assigns the task to one or more task solvers.

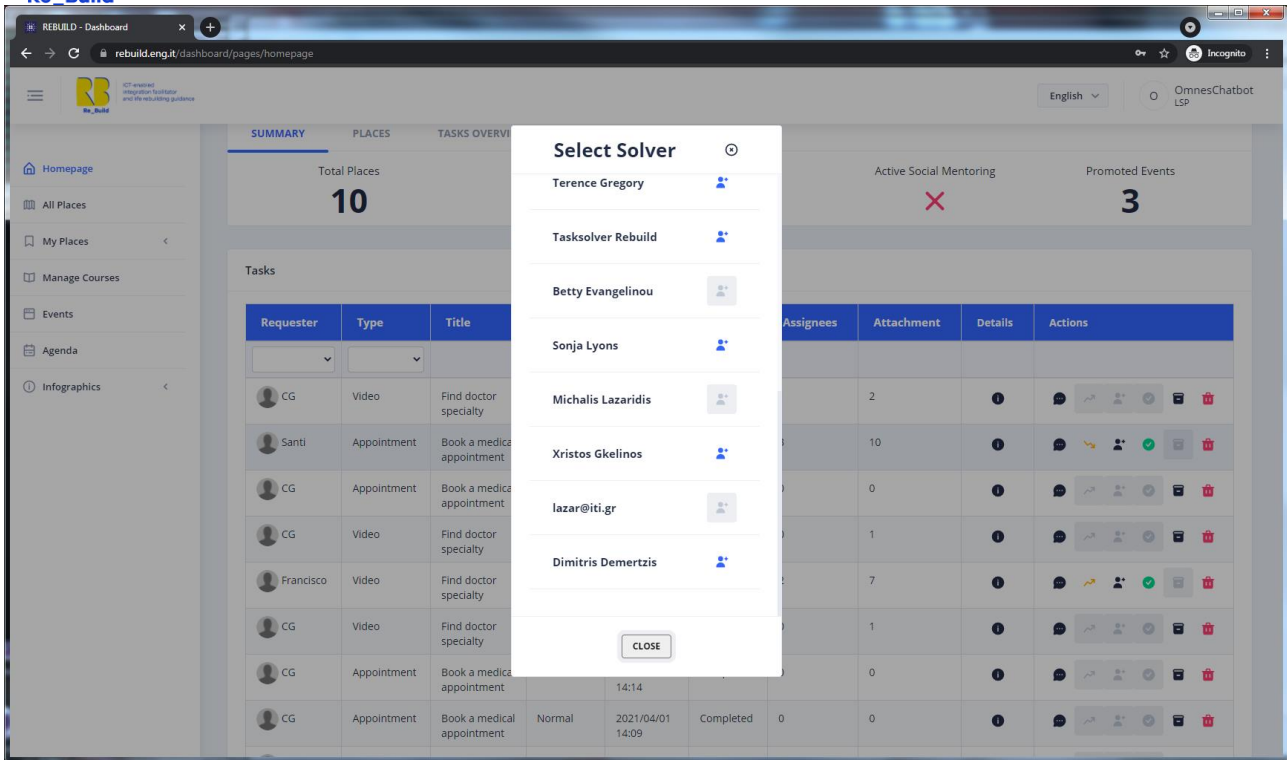


Figure 17: Assigning task solvers to the task

The operator can chat with the task solvers in order to provide them with instructions for solving the task, if necessary.

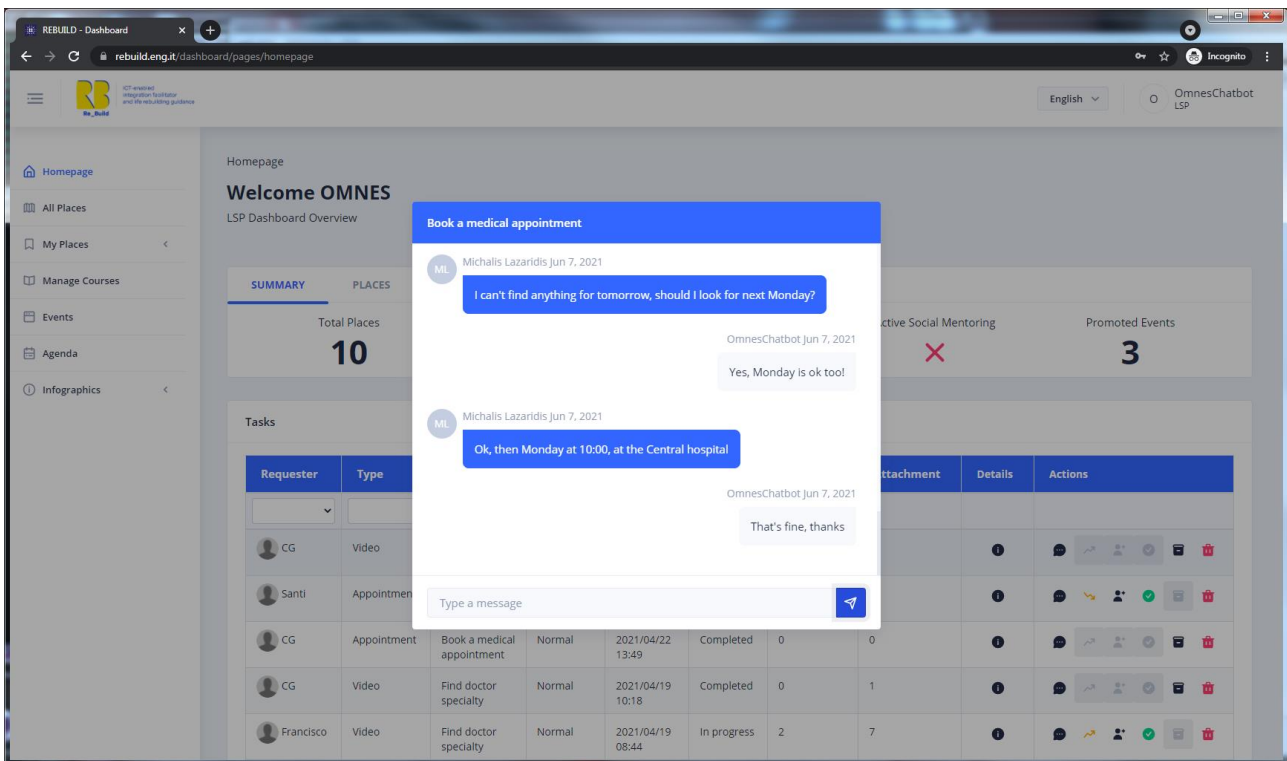


Figure 18: Chatting with the task solvers

The operator can finally forward the solved task back to the requester.

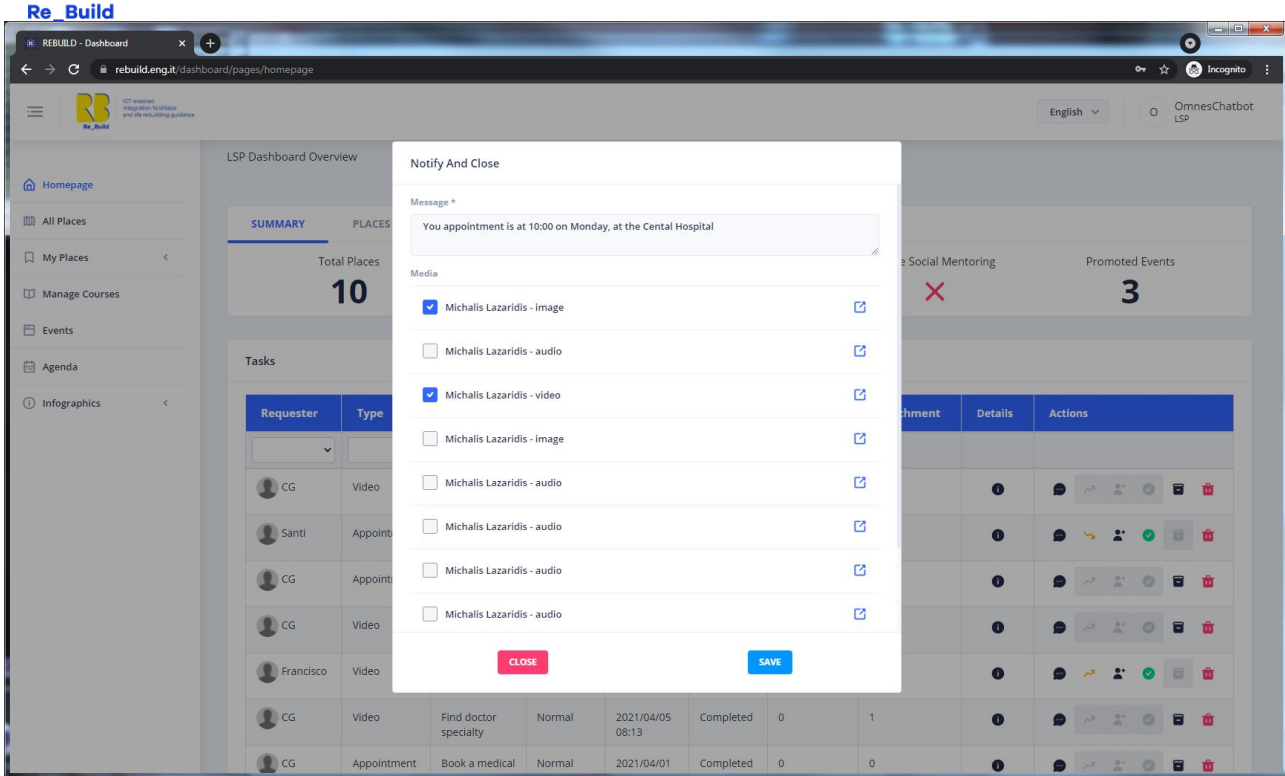


Figure 19: Forwarding solution back to the requester

Task solver app

The task solver application is the application of the workers/translators. Through it, the task solvers can receive the tasks assigned to them, create their solutions and send them back to the operators.

After installing the app, the user has to log in to the app through his/her Gmail account or a different email.

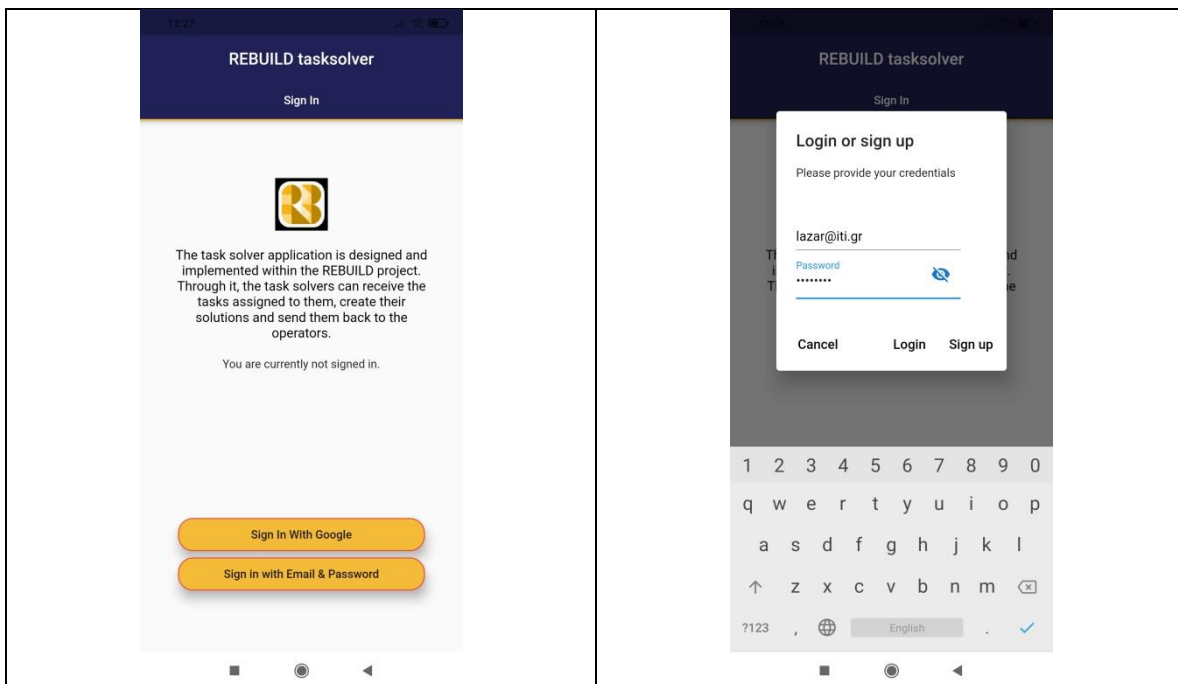


Figure 20: Signing in to the task solver app

After signing in, the user receives a list of tasks assigned to him/her.

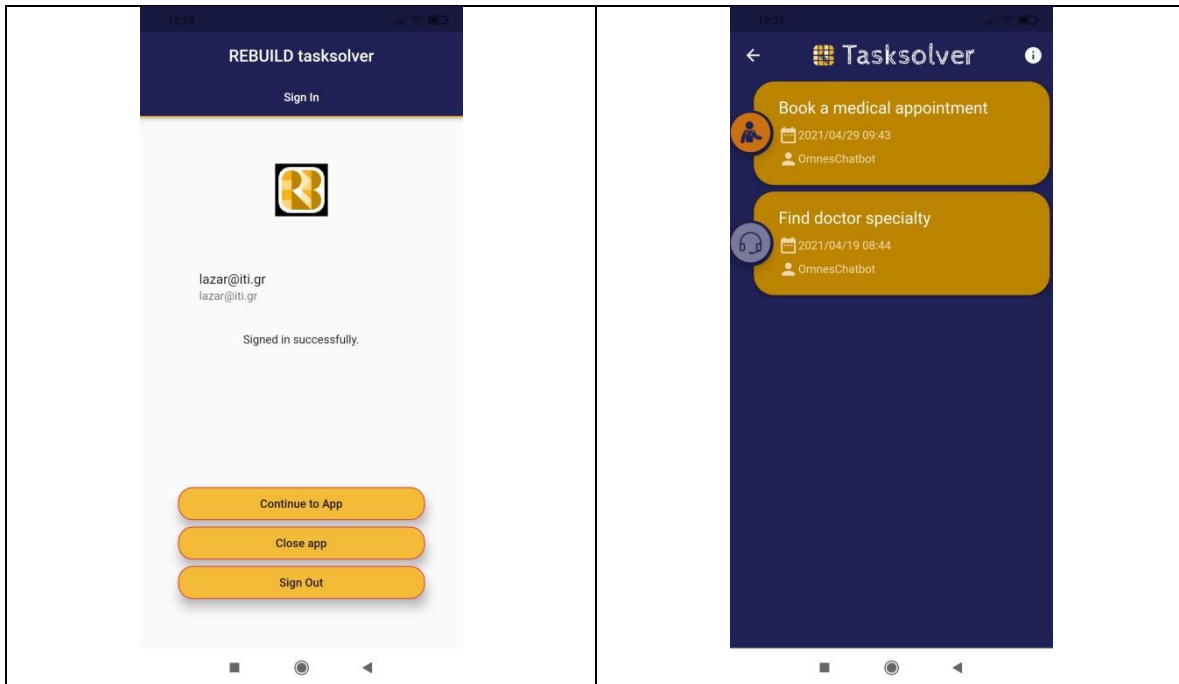


Figure 21: Receiving the assigned tasks

The task solver can then pick a task, chat with the operator or upload images, voice messages and/or videos in order to solve the task.

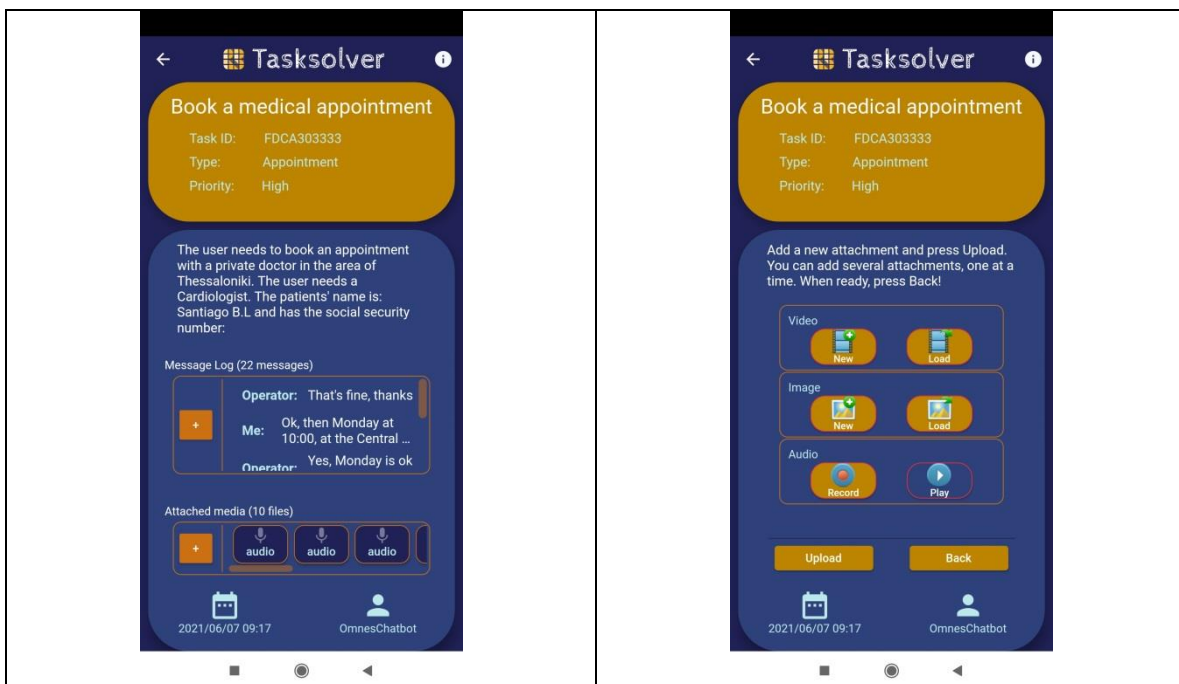


Figure 22: Inspecting the task and uploading content

Repository

For the storage of the produced content, a local repository has been designed and implemented, based on Azurite, which is a local instance of Microsoft Azure Storage. The repository provides file uploading and servicing capabilities, used for storing reference material. The content can be managed through a Microsoft Azure Storage

Explorer. A wrapper service has been developed around Azurite, that facilitates the communication between uploaders/downloaders and the repository.

The task management framework is described in detail in D4.6.

3.4 PLACES

Places are represented in the menu with two menu items. The first one is all places, and when we navigate to it we can see a smart table populated with information about all LSP places.

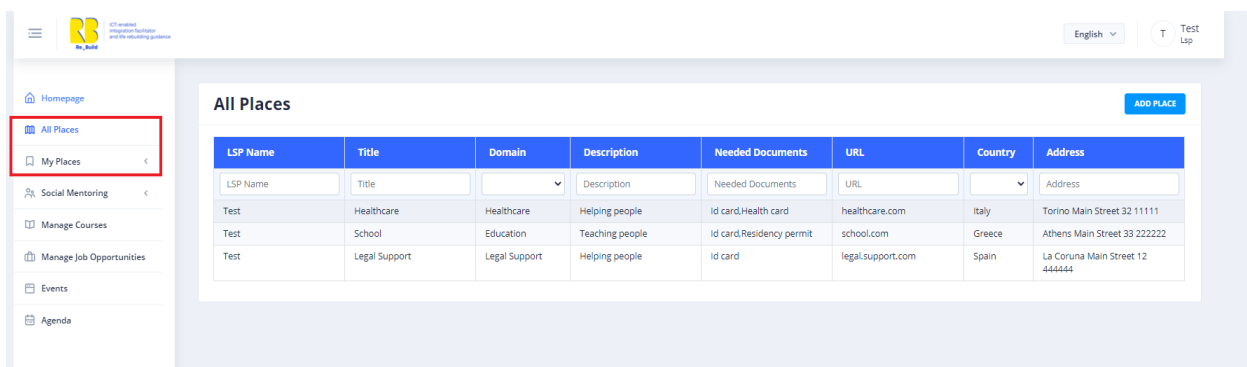


Figure 23: All Places smart table

This smart table can be searched by name, title, description, needed documents, URLs, addresses, and also have the functionality for displaying only places with certain domains or countries that are selected in appropriate drop-down lists.

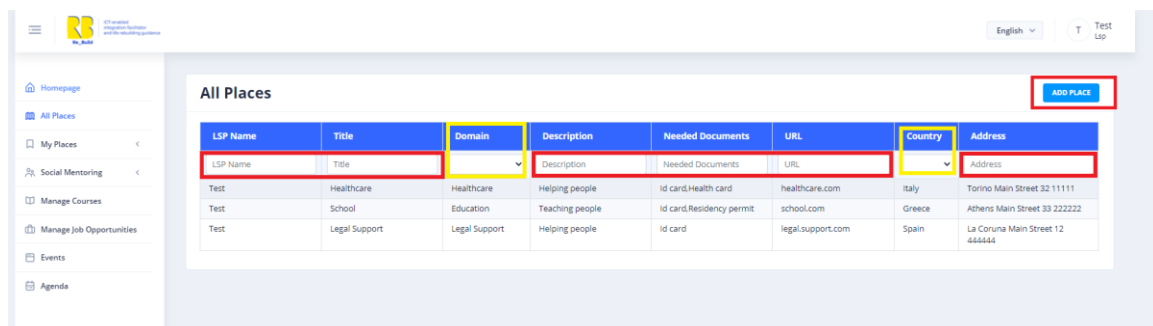


Figure 24: Search, drop down lists for domain and countries, and add place

All places page has the option of adding a place by clicking on the top right corner button add place. Upon clicking on add place a dialog box appears and from the drop-down list we can choose for which domain we want to add place. When we choose, we can then click on add, and we will be redirected to Add <selected> Place form.

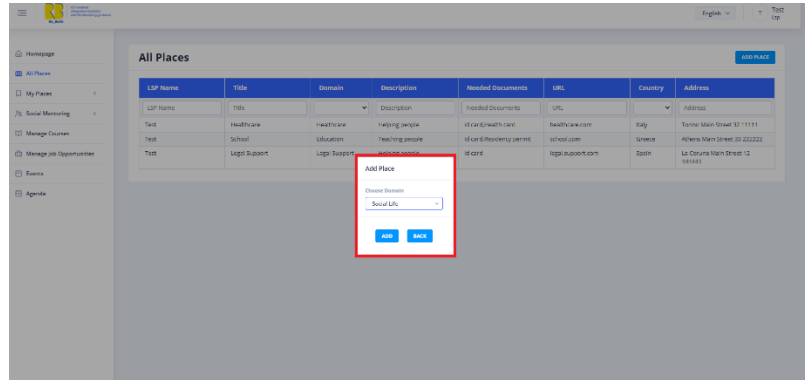


Figure 25: Add place dialog

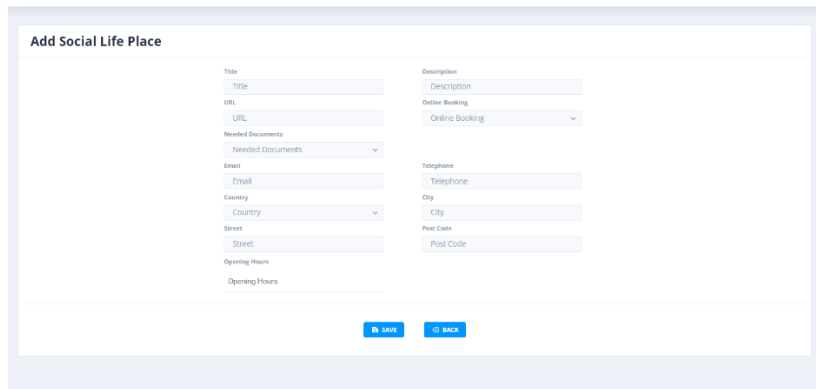


Figure 26: . Add <selected> place form

The second menu item for places are my places, and when we click on my places menu item we get the drop-down list of domains. As the name implies my places represent only our own places for domains, so when we for example click on the healthcare menu item of my places, we can see a table populated with only healthcare places that we have added.

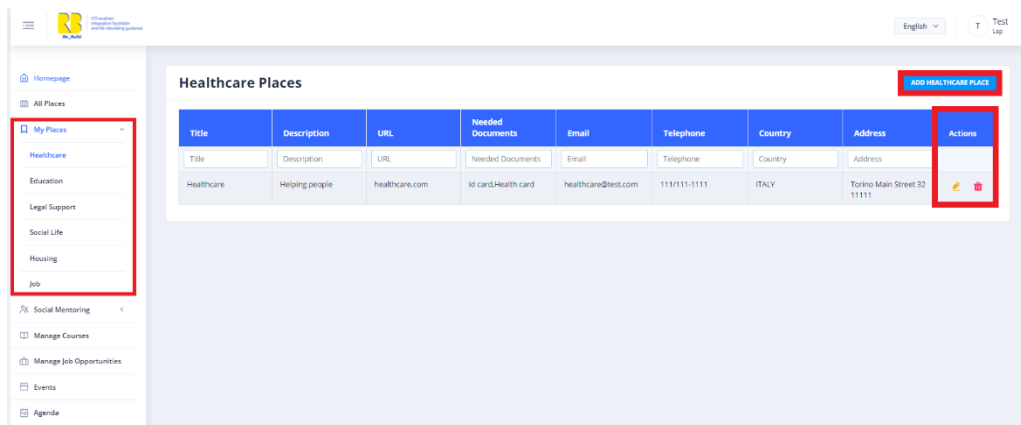


Figure 27: My places table for our own places

In my places we can modify and delete places in our smart table, these two actions are displayed as icons at the right end of the smart table. As with the all places, we can add places for a certain domain, in our case in the top right corner we can add healthcare place (because we have selected healthcare menu item from my places). Upon adding/creating or modifying places, when saving we will get toastr angular notification that place was successfully created, modified, or in case of deletion, after confirming deletion in the dialog box, notification for successfully deleting the place.

3.5 MANAGE COURSES

We will get manage courses menu item only if you have selected the education domain in your profile. As with other components, upon navigating to manage courses you will see a smart table with search options for title, description, organization and URL and also prerequisites and skills acquired which represent the number of those you have added. When clicking on the button add course you will get the form for courses.

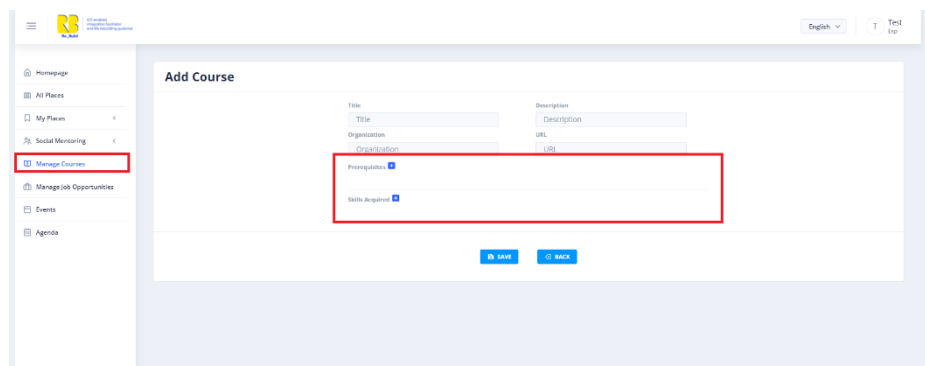


Figure 28: Adding a course

On this page, you can see regular input form fields (title, description, organization, URL) and two fields with plus icons (prerequisites and skills acquired). When clicking on the icons the dialog opens, in which we have options for searching our needed prerequisite or skill. When we find our searched prerequisite/skill we can again click on the plus icon and add our prerequisite or skill and then click on the save and close button. Our changes will be present on our course form which we can then save.

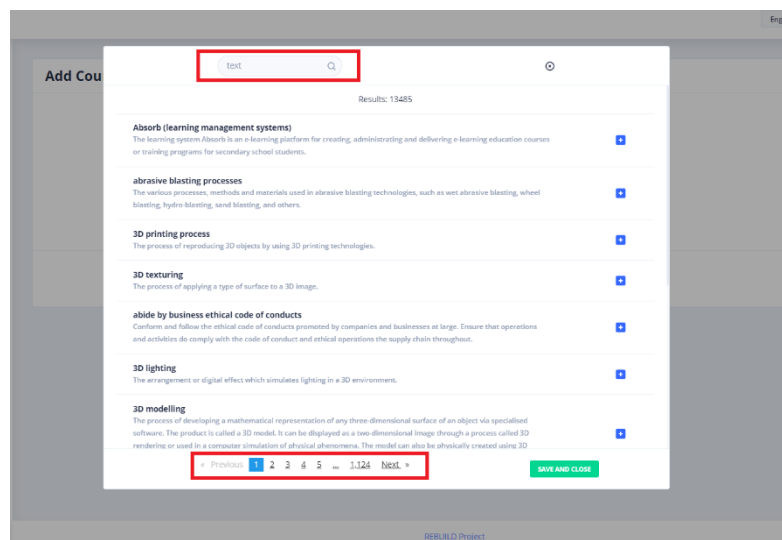


Figure 29: Adding prerequisite or skill

When saved the course table will be updated and you can see the newly added course. As with places, we can see the actions icons in the right part of the table where we can modify or delete our course.

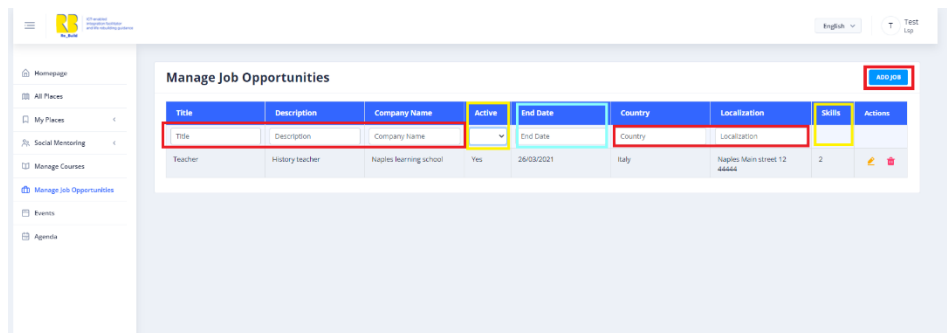
Manage Courses ADD COURSE

Title	Description	Organization	URL	Prerequisites	Skills Acquired	Actions
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>			
Language course	Learning Spanish language	Educational org.	educational.org.com	3	4	
Language course	Learning language	course.com	course.com	4	3	

Figure 30: Manage course smart table

3.6 MANAGE JOB OPPORTUNITIES

As with the Courses, Manage job opportunities will be present on the menu only if we select the Job domain in the profile stage. When we enter the page, we can see a smart table with search options for title, description, company name, end date, country, and localization. Also, we have Active and Skills fields in the table, in Active we have the functionality to select to display only active or inactive jobs, and in Skills, we can see the number of skills.



Manage Job Opportunities ADD JOB

Title	Description	Company Name	Active	End Date	Country	Localization	Skills	Actions
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
Teacher	History teacher	Naples learning school	Yes	26/03/2021	Italy	Naples: Main street 12 44444	2	

Figure 31: Manage job opportunities

When clicking on the add job button we navigate to job form. In this job form, we have some regular input form fields for title, description, company name, city, post code, street, URL, email, telephone, we also have two select boxes for country and activity, and a search for ESCO field, in which we can type our job name and click on the icon at the end of our input field.

Add Job

Title Teacher	Description Learning people
Company Name Private school	
Active Yes	End Date 2024-03-18
Country Italy	City Bergamo
Street Main street 12	Post Code 44444
URL teacher.com	Email teacher@test.com
Telephone 2222222	
Search for ESCO teacher	

SAVE BACK

Figure 32: Job form

Upon clicking on the search icon for ESCO, a dialog appears with the results of our search. In this dialog we can see the number of the results, we can move thru the pages in the lower pagination bar, we can close by clicking on the top icon, and of course, we can add the wanted result by clicking on the icon on the right.

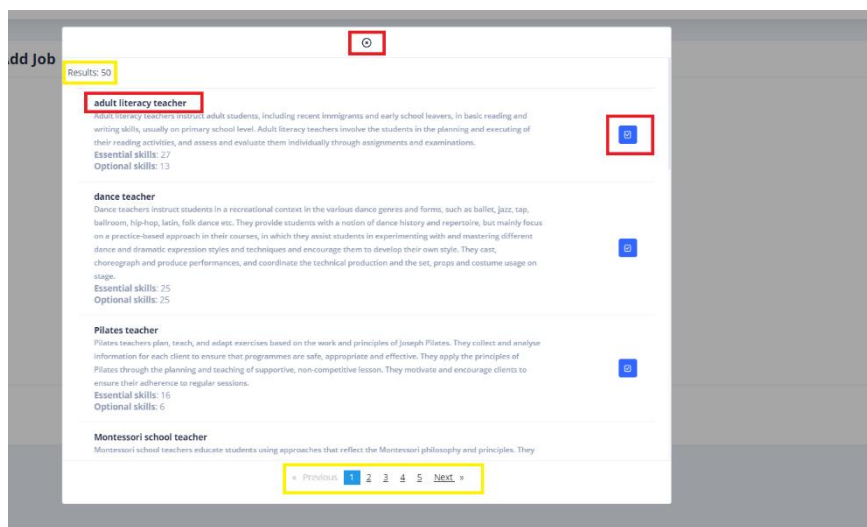


Figure 33: Search for ESCO

When we click on the wanted result, in our case adult literacy teacher, we see a new field in our form called ESCO Occupation. Upon clicking on the manage skills icon on the ESCO Occupation we enter another dialog where we can set the importance (from 1-5) of some skills and in that way prioritize them.

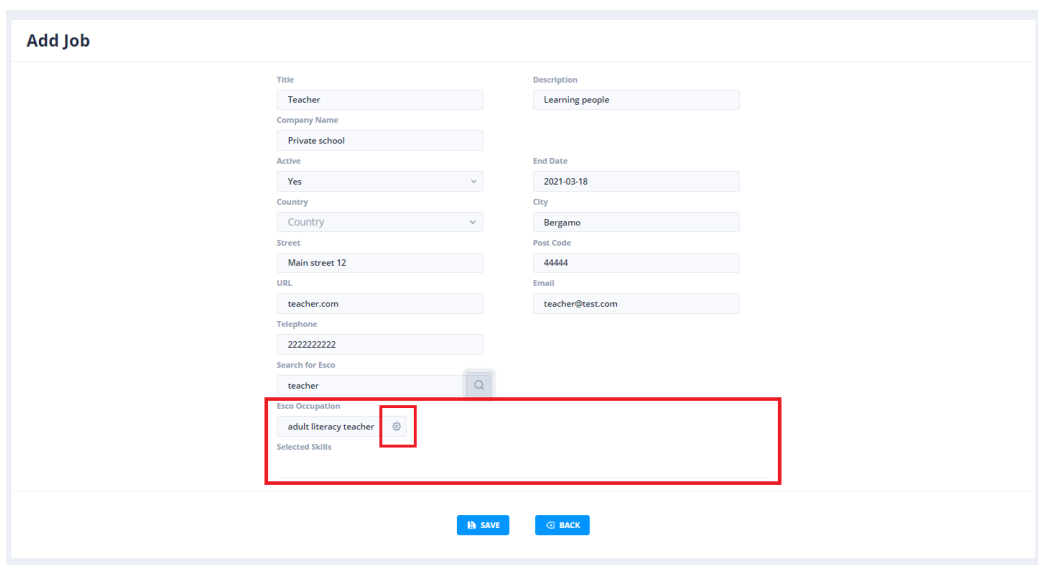


Figure 34: ESCO occupation manage skills

Essential skills: 27	Optional skills: 13	Selected: 5
adapt teaching to student's capabilities Essential Identify the learning struggles and successes of students. Select teaching and learning strategies that support students' individual learning needs and goals.		Importance <input type="text" value="5"/>
apply intercultural teaching strategies Essential Ensure that the content, methods, materials and the general learning experience is inclusive for all students and takes into account the expectations and experiences of learners from diverse cultural backgrounds. Explore individual and social stereotypes and develop cross-cultural teaching strategies.		Importance <input type="text" value="4"/>
encourage students to acknowledge their achievements Essential Stimulate students to appreciate their own achievements and actions to nurture confidence and educational growth.		Importance <input type="text" value="3"/>
perform classroom management Essential Maintain discipline and engage students during instruction.		Importance <input type="text" value="2"/>
adult education Essential Instruction targeted at adult students, both in a recreational and in an academic context, for self-improvement purposes, or to better equip the students for the labour market.		Importance <input type="text" value="1"/>
assessment processes Essential Various evaluation techniques, theories, and tools applicable in the assessment of students, participants in a programme.		Importance <input type="text" value=""/>

« Previous **1** 2 3 4 Next » SAVE AND CLOSE

Figure 35: ESCO occupation setting skills importance

When we save and close the dialog, and then save the job form, our smart table will be updated, and in there we can as with other smart tables, modify and delete with actions displayed as icons in the right of the table.

3.7 SOCIAL MENTORING PROGRAM

Similar to Job (manage job opportunities) and Education (manage courses), when we select the social life domain in the profile, we will get the social mentoring option in the menu. Upon clicking on the social mentoring menu item for the first time we will see the start mentoring option. We can notice the steps we need to complete to create a new social mentoring.

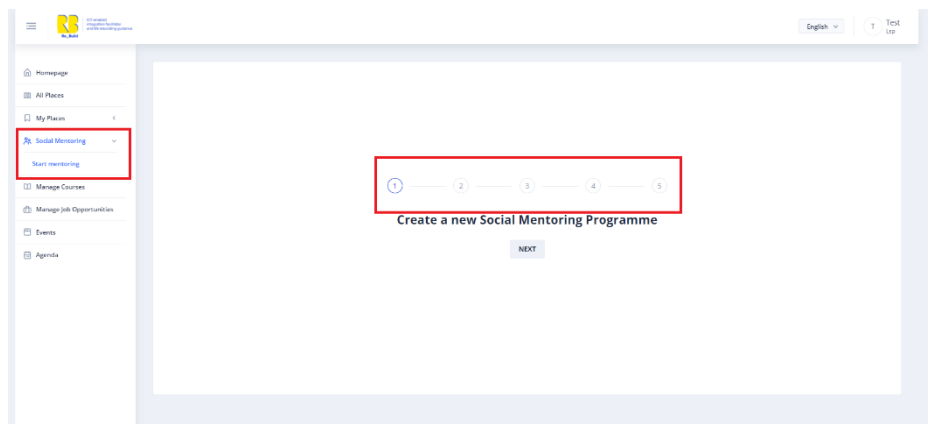


Figure 36: Start social mentoring stepper

Clicking on the next button will move us to the next step where we need to enter input for program title, description, and the one who is responsible. The next step will be to enter inputs for URL, City, Street, and postal code. When finishing this step in the next one we need to enter starting and ending dates, in this step, we should be careful because we cannot enter the ending date that was before starting date.

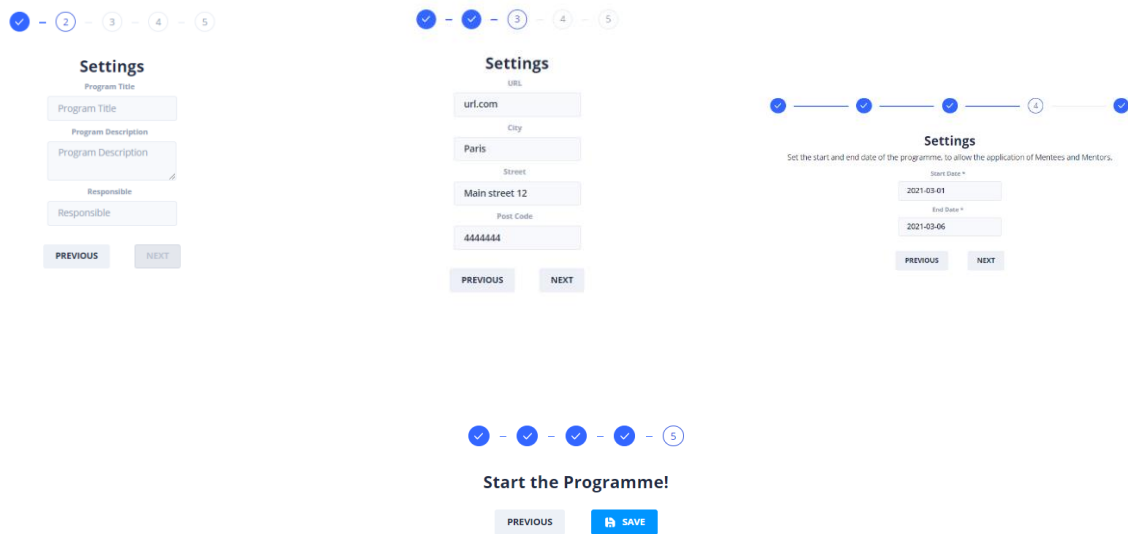


Figure 37: Creating new social mentoring

After saving our newly created social mentoring we are redirected to our new manage social mentoring page where we have a sort of control panel in which we can see information and also, edit or delete our social mentoring. We can see in which status our social mentoring is, and modify it (deactivate or activate), also, we can see when our registration end's, the number of mentees, mentors and pairs.

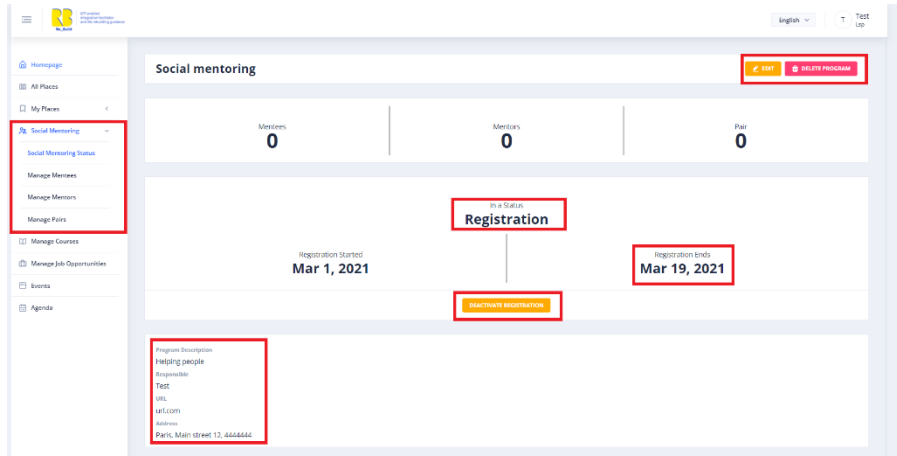


Figure 38: Social mentoring

When clicking on the manage mentees menu item we get the list of mentees and their information. We have two button options, first one is for personal data, and upon clicking on it we can see personal data for the mentee, and with the second button we can schedule an interview for the mentee.

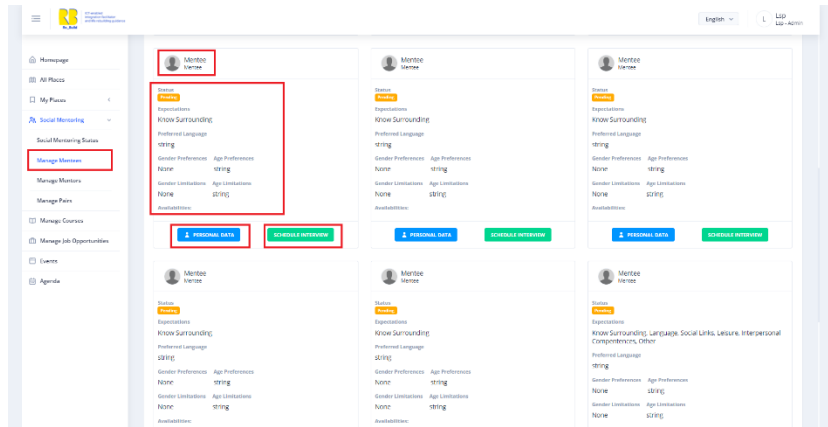


Figure 39: List of test mentees

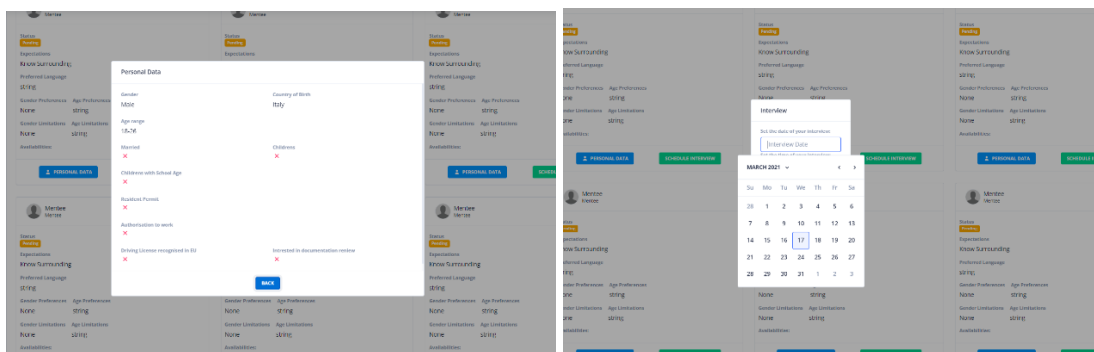


Figure 40: Personal data and schedule an interview for mentee

After the scheduled interview was confirmed we will get the interview button. Upon clicking on it we will get the mentee form. In this form, we can set the final status of a mentee and add a question.

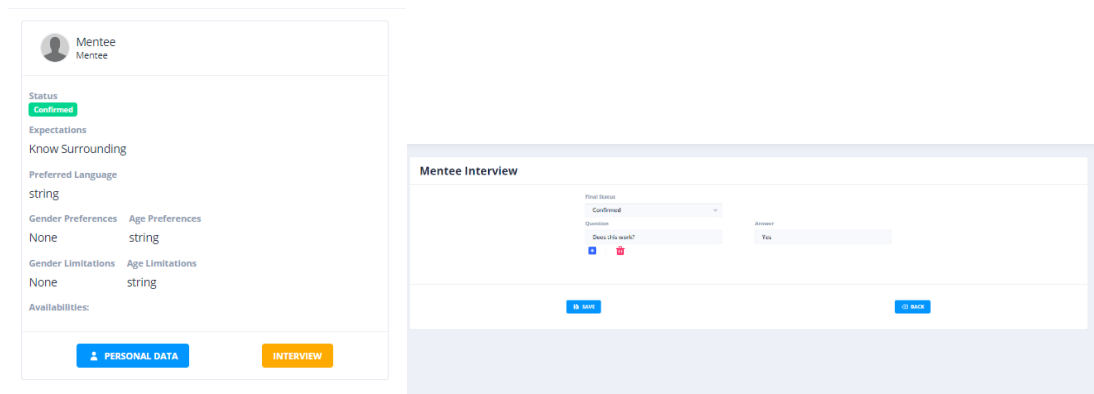


Figure 41: Interview button and interview form for mentee

The next menu item from the social mentoring is manage mentors with basically the same display as manage mentees. As with mentees, we have a list of mentors and main differences are the information that are displayed and the interview form.

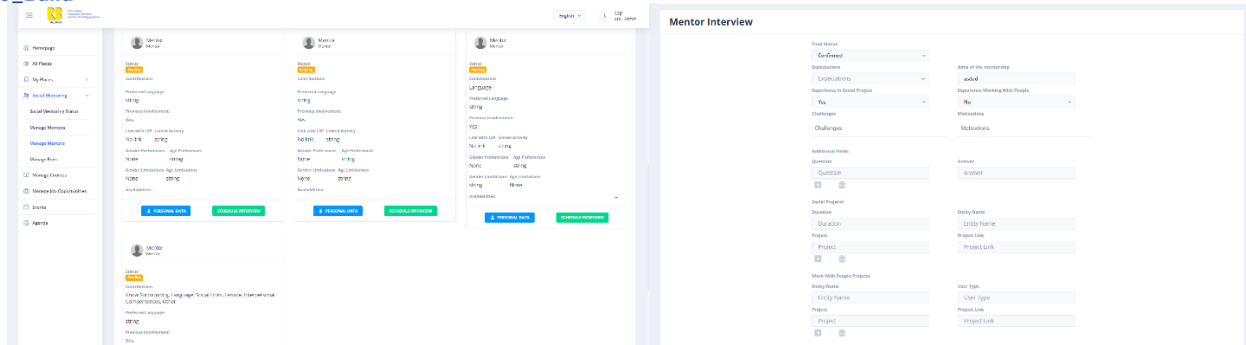


Figure 42: Interview button and interview form for mentor

For mentor interview form we have much more input fields such as challenges, motivations, questions, social projects and work with people projects, aims of mentorship, and also we can select options from select boxes expectations, are we experienced with social projects or do we have experience with working with people, the select box is the same as with mentees, it is the final status select box in which we can set final status.

Last menu item on social mentoring is manage pairs in which we can create a pair from mentee and mentor. When we click on the manage pairs menu item we can see a smart table with search options and two action icons. The first action icon is a view, and when clicking on it we can see pair details, second action icon is for deleting the pair.

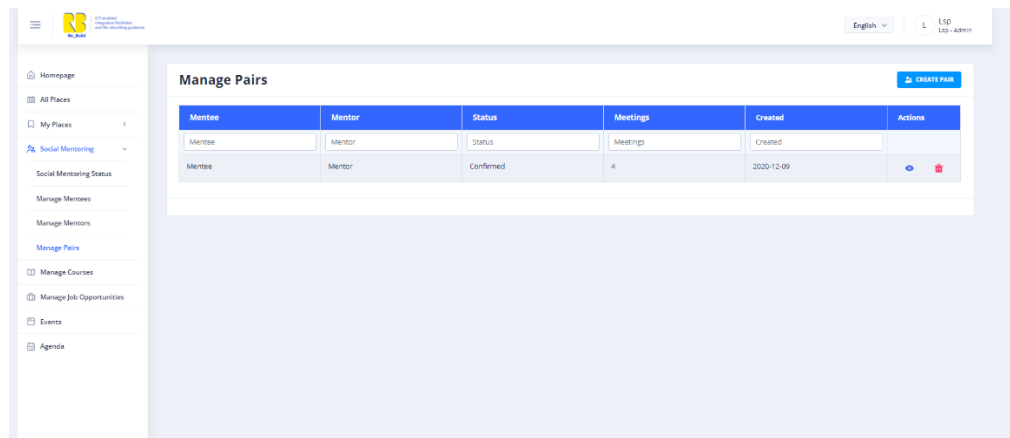


Figure 43: Manage pairs smart table

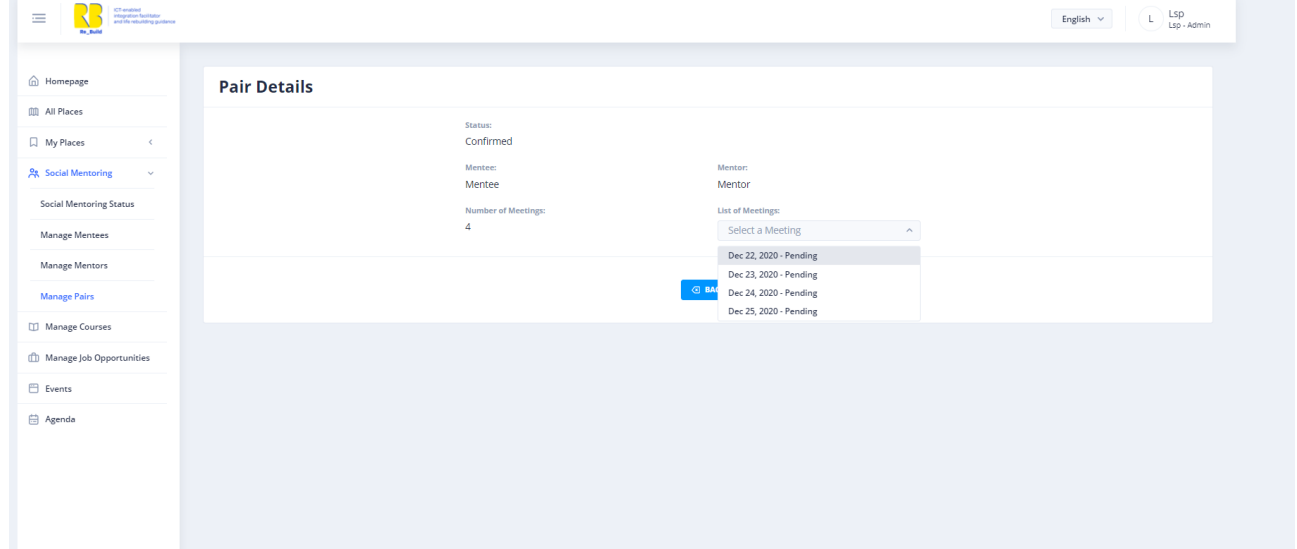


Figure 44: Pair details

On the pair details page, we can set the status of the pair and see information mentee, mentor, number of meetings, and also we can pick a certain meeting from the drop list and see additional information.

3.8 EVENTS

In the events we have a smart table with the search for title, description, domain, start date, end date, country, and address. On the right, we have icons for modifying and deleting the event in the table, and on the top right we have a button for adding event.

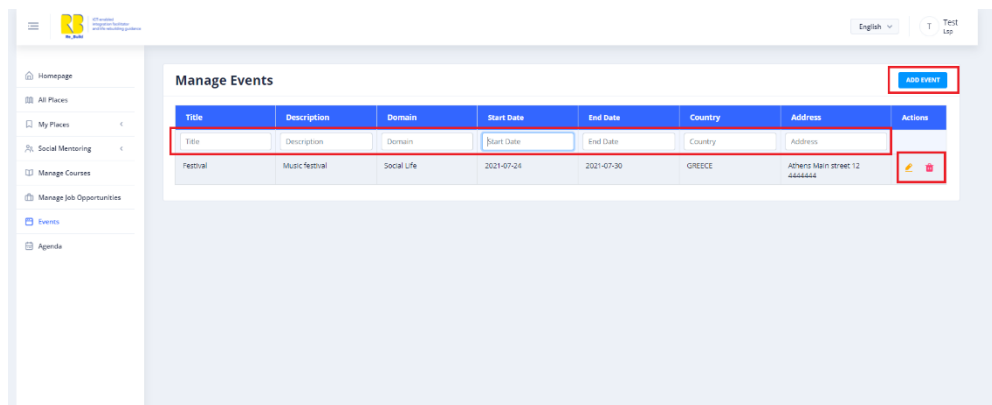


Figure 45: Events smart table

When clicking on add an event, we are navigated to event form in which we have a standard input fields title, description, organizer, email, start date, end date, city, street, post code, and two select boxes, country, and domain.

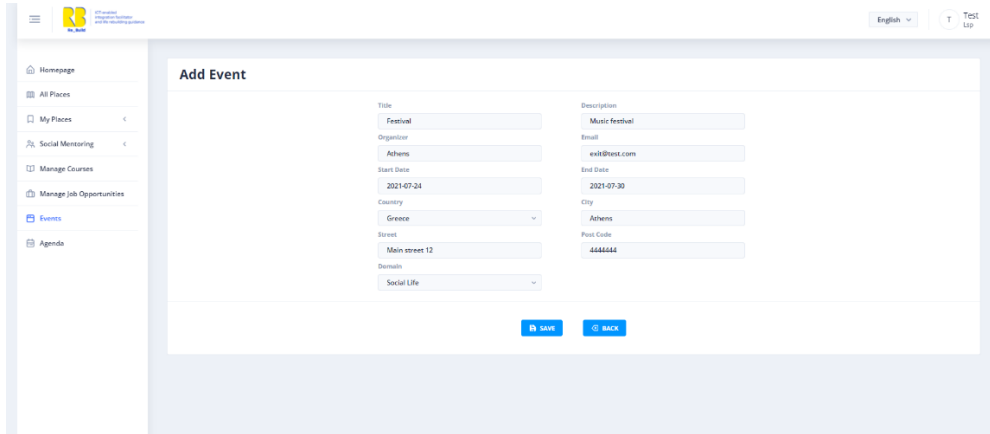


Figure 46: Event form

When we save our newly created event, we can navigate to agenda menu item and see it in the calendar, we can see that in our calendar the period that we choose or to be precise days are marked with the dot.

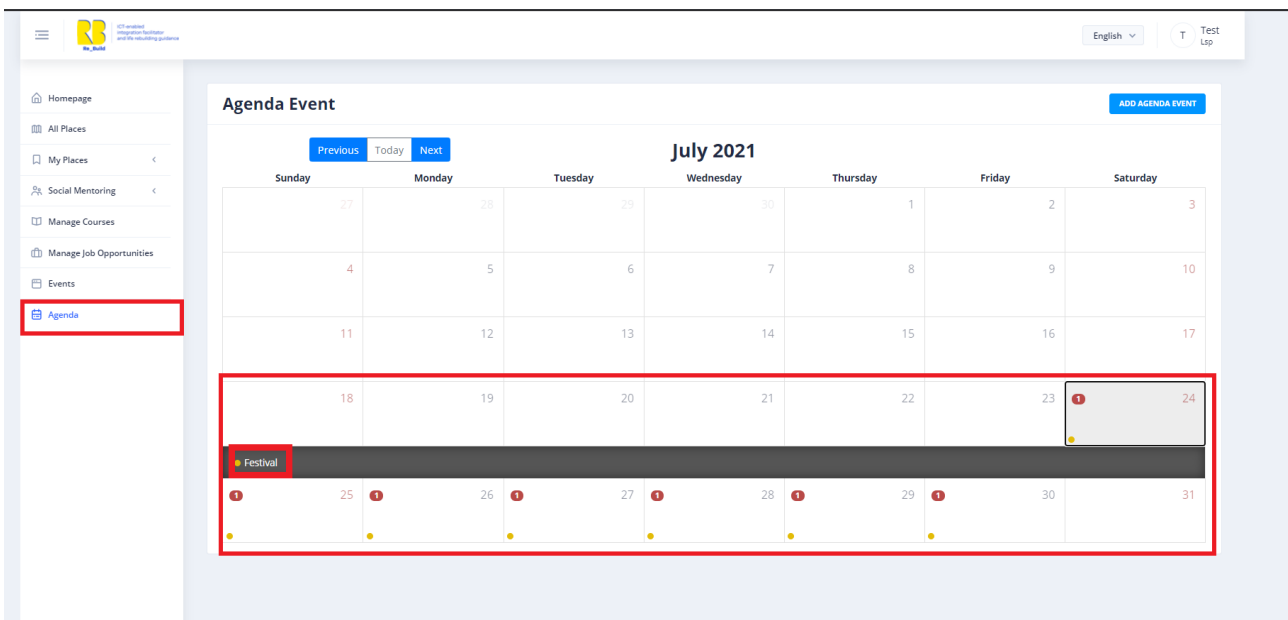


Figure 47: Agenda calendar

4 REBUILD MOBILE APP

Rebuild mobile application was designed as the main interaction point between migrants and the Rebuild services provided by the different stakeholders. It represents, together with the chatbot, the Digital Companion of the project, focused on helping the migrants in their inclusion procedures, allowing an easier and a more efficient way to interact. Different aspects have been considered along its designing and implementation, from users' skills and capabilities to use context with the aim of allowing the optimization of service provision. Along this section the main aspects and functionalities of the application will be described

4.1 MAIN SECTIONS OF THE APPLICATION

The Rebuild app is provided as an *.apk* for being installed on Android mobile devices (min. Android 7). Moreover, it has been developed by following the design provided through Zeplin⁵, a collaborative workspace to publish designs.

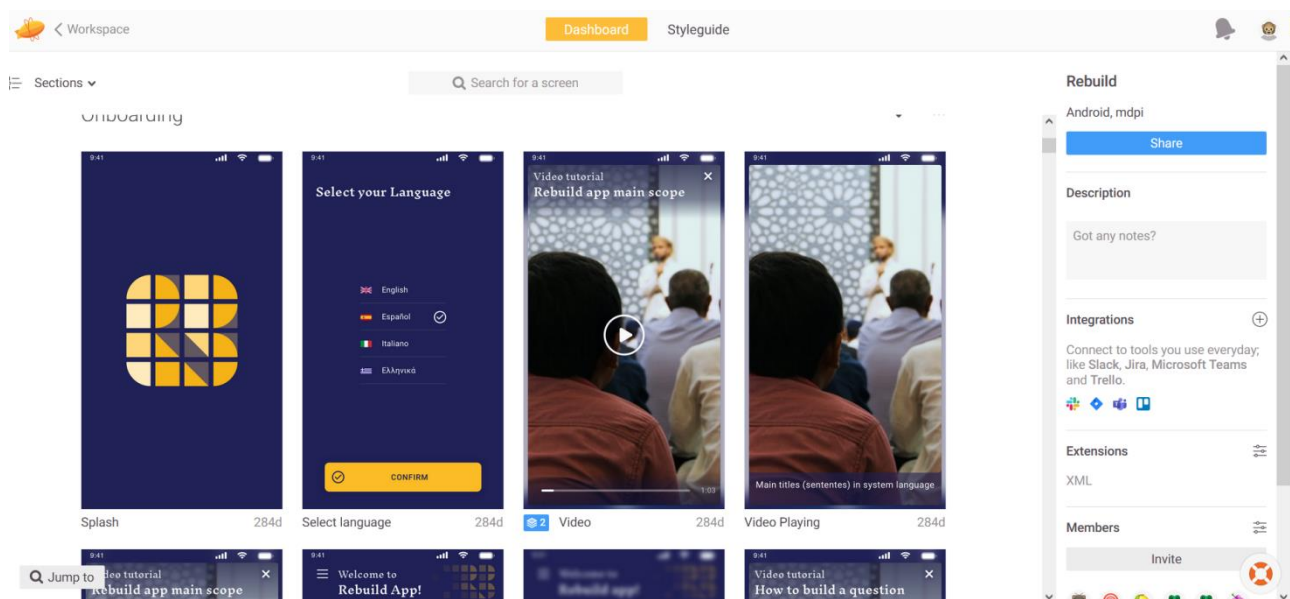


Figure 48: Zeplin caption including a part of the Rebuild app design

4.1.1 ACCESS TO THE APP

After downloading and installing the app in the mobile device, the welcome page is shown when opening the application, as can be seen in Figure 49. This page shows three main functionalities for the users when interacting with the application:

- "CREATE AN ACCOUNT" to sign up a new user
- "LOGIN TO REBUILD" to log in with an existing user.
- "ENTER WITHOUT AN ACCOUNT" to enter in an anonymous way.

Moreover, in the top right corner of this interface there are two more buttons: one for allowing the user to select the language to be used in the application and another for contacting the Rebuild team. Finally, at the bottom there is a link for viewing a welcome video (this video is also automatically played when a user enters for the first time) which is played through and embedded Youtube call.

⁵ <https://zeplin.io/>

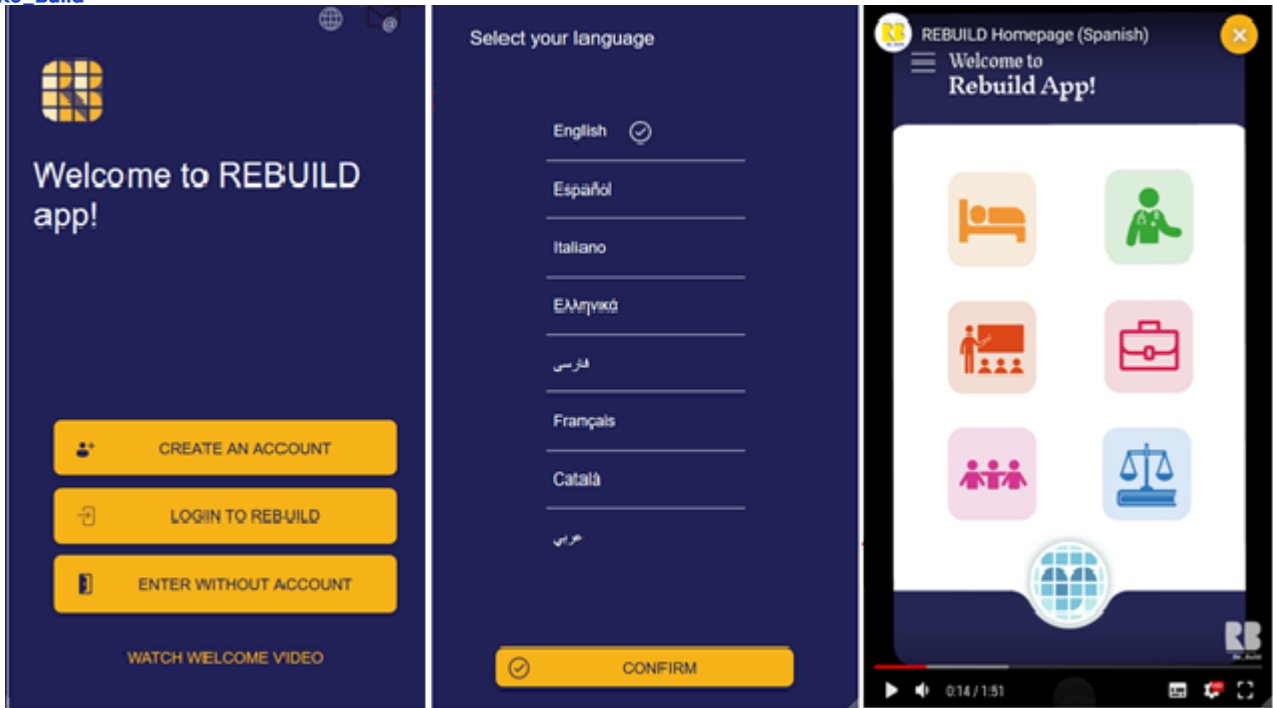


Figure 49: Welcome (left), language selection (centre) and welcome video playback page

4.1.1.1 CREATE AN ACCOUNT

This page helps the user in the creation of a Rebuild account for using the application. It is important to note that, due to the validation process, a valid e-mail and password is required during the creation process. The user has to accept also the Privacy Policy which will be shown as a pop-up by scrolling down and enabling the “I agree option”.

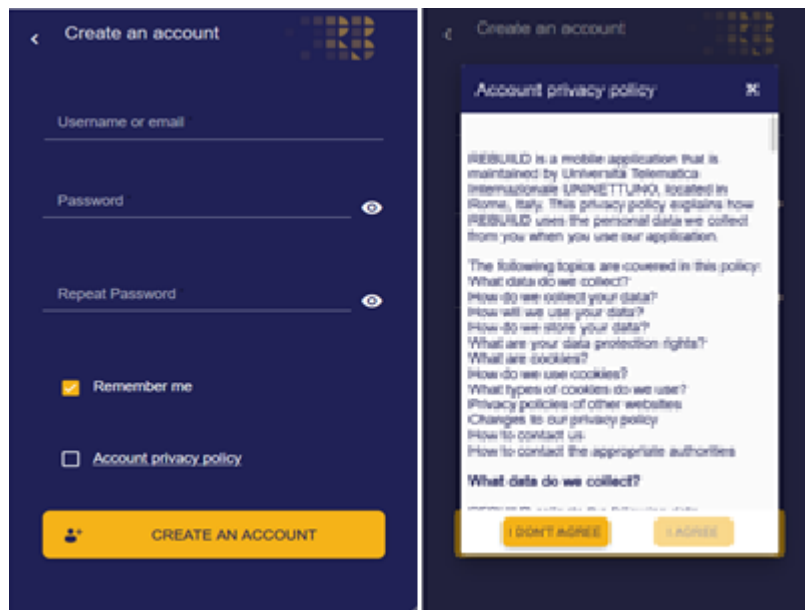


Figure 50: Create an account page and privacy policy pop-up

The “Remember me” option will save your credentials and will allow you to skip the log-in process when you re-open the Rebuild App.

Finally, once the requirements have been filled and the "CREATE AN ACCOUNT" button is clicked, the request is sent to the server and the application redirect the user directly to the homepage.

4.1.1.2 LOGIN TO REBUILD

In this page the user is able to enter his credentials (email and password) to access the system as can be seen in Fig. 4. The option "REMEMBER ME" saves this information in order to let the user to skip this process when re-open the app. After the information is included and the button is pushed, the request is directly sent to the server and the application redirects the user to the homepage.

The "FORGOT PASSWORD" option allows the user to recover the password. For doing so, the app will open a browser and redirect to the "Forgot Password service".

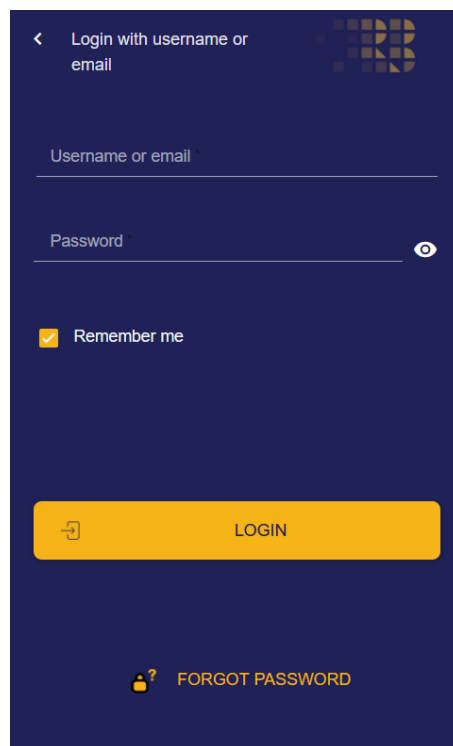


Figure 51: Login page

4.1.1.3 ENTER WITHOUT ACCOUNT

As it was mentioned before, the user is able to enter the application in an anonymous way. In this case, the application will ask the residence country in order to know which services are available. Nevertheless, when trying to access to any of them, the user will be redirect to the "Create account" page.

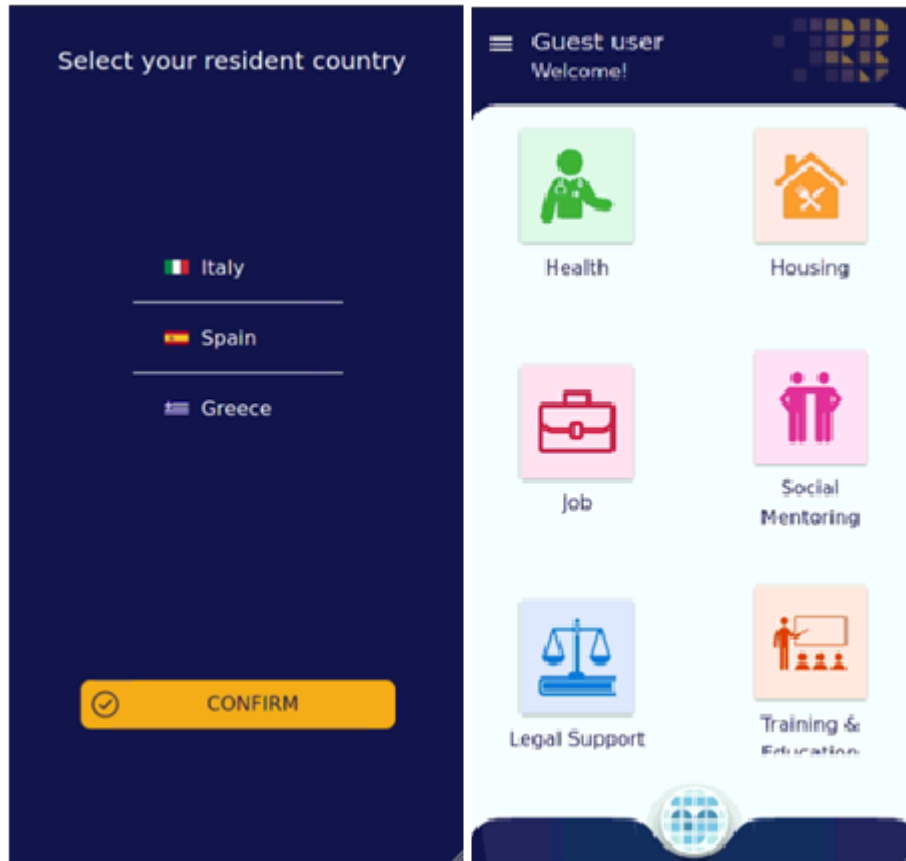


Figure 52: Initial page when accessing without account (left) and guest user welcome page (right)

4.1.2 MAIN GENERAL FUNCTIONALITIES

This section will explain the main functionalities of the Rebuild app that are location independent.

4.1.2.1 HOMEPAGE AND REBUILD BUTTON

The main interface of the app is the homepage, a kind of dashboard where the different domains of the app are placed, as shown in Fig. 6. Two important aspects have to be noted: the first one is that when a specific domain is not available (it depends to the location), the related icon will be disabled. The second one is that these icons (domains) are ordered according to the users' preferences (see D4.9 for more information)

The Rebuild button is a functionality focused on helping the user to obtain specific information by creating questions about domains and services. As can be seen in Fig 6 centre, when this button is pushed, a new display is shown where a domain and a specific service related to this domain can be selected to create a question for the chatbot. For more information, the section "VIDEO TUTORIALS" includes a video focused on this functionality.



Figure 53: Homepage (left), Rebuild button detail (centre) and ask a question page (right)

4.1.2.2 SIDE MENU

This menu includes the main app features:

- Procedures: this page includes each open process related to the services and the chatbot that the user has.
- Agenda: this is in charge of showing the upcoming events available in the selected country. When clicking in one of them, the related information is shown. When a user decides to follow one of this, a reminder notification is activated. If no events are available, a message will be shown. ("No upcoming events")
- Profile
- Map
- Video tutorial: this option includes a set of videos to give some guidance of the Rebuild app and the services offered in the platform. When a video is clicked, a new window with a Youtube player embedded appears that will be automatically closed when finished.
- Settings: the different options of the application can be managed from here: bot notifications for the bot procedures, event reminders for the events that have been followed, personalization and password reset.
- About Rebuild: it includes a description of the Rebuild Project together with the involved developers, the support contact and the privacy policy.
- Logout: to leave the application.

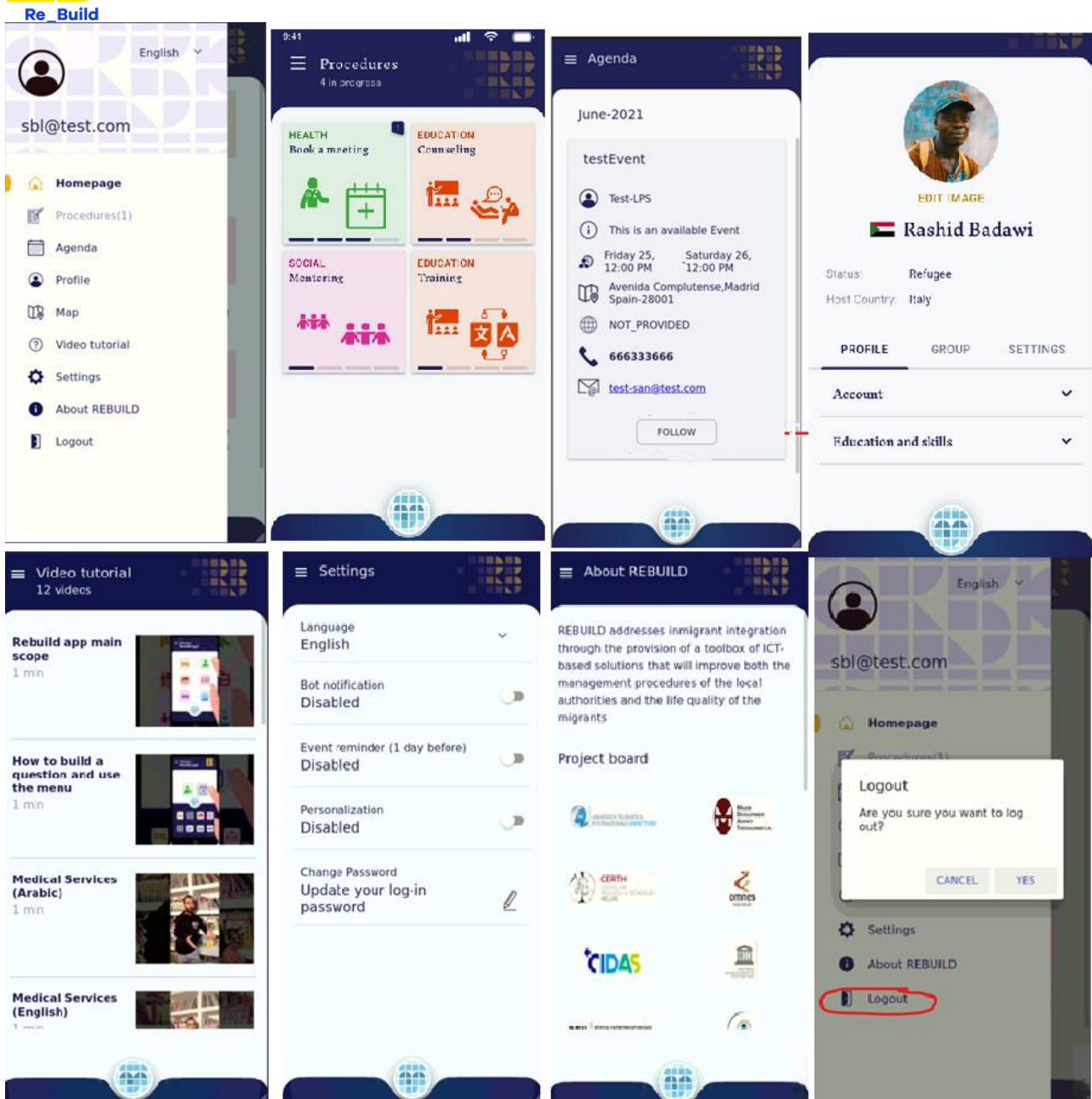


Figure 54: Side menu (upper left), procedures (upper left-centre), agenda (upper right-centre), profile (upper right), video tutorial (down-left), settings (down left-centre), about Rebuild (down right-centre), logout (down right)

4.1.2.3 DOMAIN FUNCTIONALITIES

The main functionalities for all the domains are the same from the application point of view, as can be seen in Figure 55. An initial description about the domain is included together with those places which are important because offer services related to the domain, then a set of documents related to the domain are present and finally the list of available services is present to the user. After this, when the user selects a specific service, then the application calls the specific chatbot for this service and it instantly takes the control of the interaction and communication.

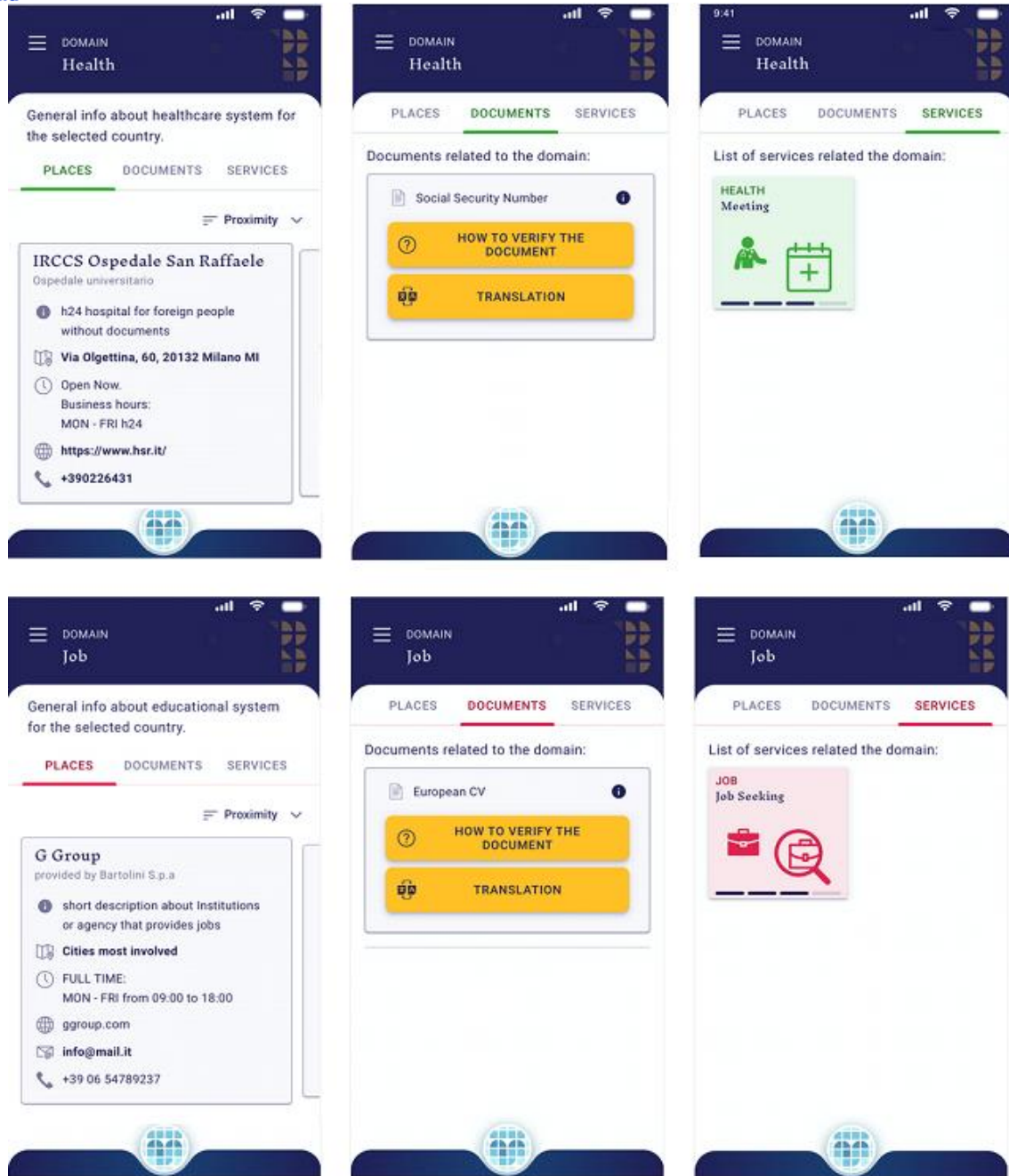


Figure 55: Examples of the main features of the application in the Health (up) and Job (down) domain

The user is able to navigate through the different places related to a domain with a horizontal scroll, obtaining all the information that may be needed from each of them. Moreover, these places are ordered by the proximity to the user with the aim of providing a more accurate information. With regards to the services, it is important to note that they are presented not only with textual information, but also with a pictogram to help the user to understand the main objective in a better way.

4.1.2.4 CHATBOT

As mentioned above, the chatbot is in charge of leading the interaction with the user throughout each particular service. For this reason, a set of different chatbots have been implemented, based on the respective conversational trees defined for the project in the WP6 deliverables:

Table 6: Conversational trees defined for the project

Name	Service/Domain	Main function
RegistrationBot	-	User registration process
HealthcareOmnes	Meeting/Health	Support the user to book an appointment with a public or private healthcare facility
HealthcareCidas	Meeting/Health	Support the user to book an appointment or get medicines
SocialMentoring	Mentoring/Social mentoring	Support the user who wants to participate in any mentoring program with a mentor/mentee role
JobSeeking	Job Seeking/Job	Support the user who is looking for a job, according to the offers available.
HealthcareInformative	Information/Health	Support the user to get information about accessing the healthcare services
LegalSupport	Legal/Legal Support	Support the user to various legal issues
PsychologicalSupport	Psychological Support/Health	Support the user to book an appointment for psychological support
TrainingSeeking	Training&Education	Support the user to find proper courses to fill the skills gap and get access to his/her favourite job
EnglishTutor_Sports	Language Practice/Training&Education	Language practice in English with a Sports thematic
EnglishTutor_Music	Language Practice/Training&Education	Language practice in English with a Music thematic
GreekTutor_Sports	Language Practice/Training&Education	Language practice in Greek with a Sports thematic
GreekTutor_Music	Language Practice/Training&Education	Language practice in Greek with a Music thematic
SpanishTutos_Sports	Language Practice/Training&Education	Language practice in Spanish with a Sports thematic
SpanishTutor_Music	Language Practice/Training&Education	Language practice in Spanish with a Music thematic
ItalianTutor_Sports	Language Practice/Training&Education	Language practice in Italian with a Sports thematic
ItalianTutor_Music	Language Practice/Training&Education	Language practice in Italian with a Music thematic
CatalanTutor_Sports	Language Practice/Training&Education	Language practice in Catalan with a Sports thematic
CatalanTutor_Music	Language Practice/Training&Education	Language practice in Catalan with a Music thematic

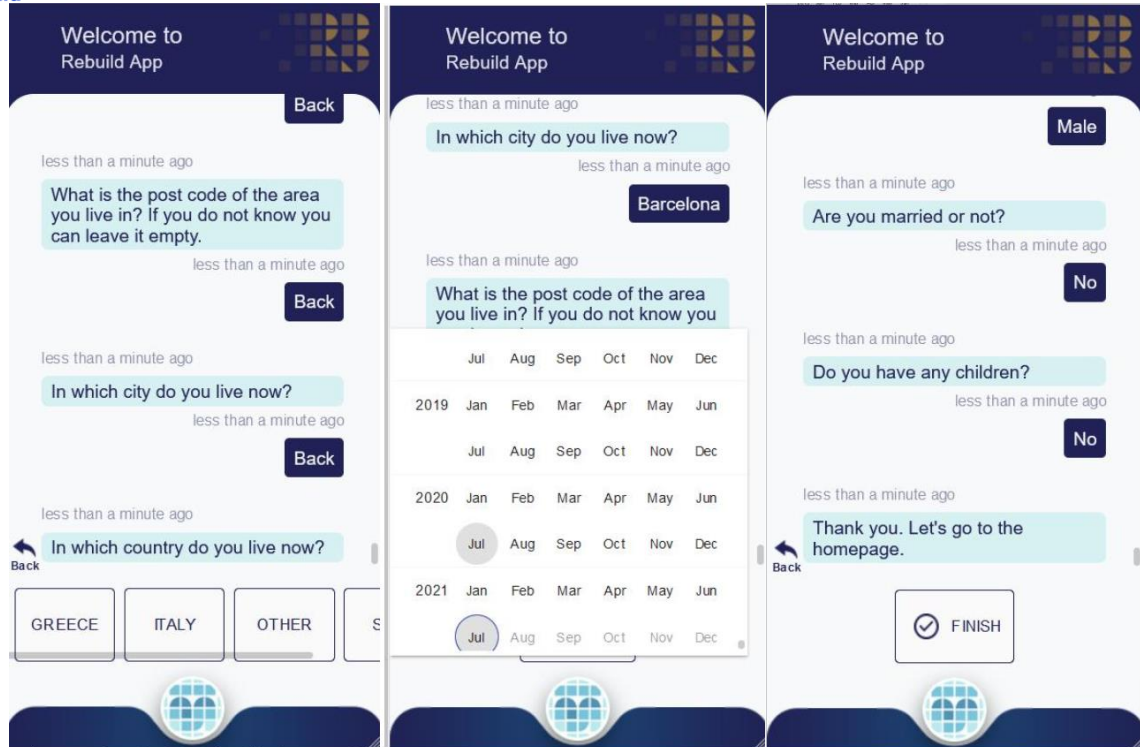


Figure 56: Screenshots of the integration of the RegistrationBot into the application

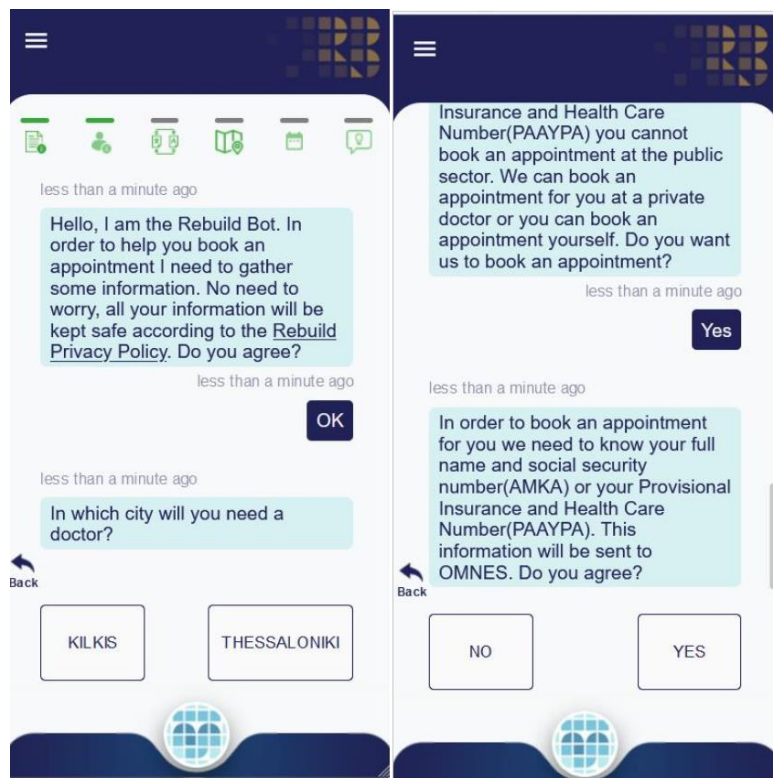


Figure 57: Screenshots of the integration of the Healthcare bot into the application



5 CONCLUSION

The status of the REBUILD Platform presented in this deliverable is not the last developed since, during the second phase of the pilot experimentation, the REBUILD technical team has continued to improve the platform taking into account the feedback coming from the users (even if the development time finish at M34 – August 2021).

At the end of the project, we will deliver a final version of the REBUILD Application, Dashboard and Back-end trying to fix all the suggestions coming from users. We are considering those ones that have an high priority in the

Trello board allows users to start the discussion on the ticket, set a deadline, attach file. The different colours represent the aim of the ticket (technical or non-technical). In this way, each card reports always the updated information about the ticket and the actions put in place to solve it.

During the first testing phase, a lot of suggestion were collected from the pilot users. All the functionalities (more than 150) were reported in a table (Figure 5) to assign responsibility, the development time in Man Days and the priority (high, medium, low). Pilot team was in charge to define the priority of the functionality and in parallel the technical team set the effort in man days to develop that functionality. The new version of the REBUILD Platform had to be ready before the piloting phase. So due to the time constraints, the two teams decided to develop first the mandatory functionalities to be tested in the piloting phase. All the other functionalities will be developed till the end of the project.



ICT-enabled
integration facilitator
and life rebuilding guidance

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After this prioritization, the functionalities to be developed with a high priority have been moved to a new Trello board to follow all the development steps.

The pools of the new Trello board were defined as follows:

- Platform Content TO-DO (resp. Pilots)
- UI Design TO-DO (resp. UNINETTUNO-UNESCO)
- Technical bugs TO-DO (resp. Technical Team)
- Work in Progress
- Completed

5.1 EVALUATION OF REBUILD PLATFORM

Before starting the testing phase, the KPIs to evaluate the REBUILD Platform were defined. Not all the KPIs impact on each REBUILD component, as shown in the Table 4 and Table 5. The quality component evaluation was performed before the testing phase and also before the piloting phase. The same KPIs can be a different target value according to the phase in which they were measured.

The KPIs were defined in the Table 3.

Table 3: REBUILD quality KPIs

KPI code	KPI title	KPI description
KPI_QAI_01	Exposure of APIs as JSON-based REST/RPC	The functionality of the components is exposed via JSON REST/RPC APIs for the integration with other platform modules. The functionality in this way is made available for the server-side components and for the UI components
KPI_QAI_02	Support for SSO	For the hyperlink integration and for better user experience, different Web applications of the platform should support Single Sign-On to allow for using single credentials across different applications
KPI_QAD_01	Installation, configuration, and integration documentation in README	Component README file providing i) the component installation instructions; ii) the component configuration instructions; and iii) component integration instructions defining the necessary steps to set up the integration with other components
KPI_QAD_02	Swagger specification for the APIs	For the components that expose REST API, these latter should be well defined and documented. Specifically, it is required that all APIs are provided with the Swagger specification describing the available API calls, parameters, and data types
KPI_QAD_03	Additional documentation (examples, tutorials, etc)	The documentation should provide the description of the usage scenarios of the component, examples (e.g., API call inputs and outputs, testing instructions, tutorials, howto, etc).
KPI_QAS_01	Web-based components provide access to the sensitive functionality to authenticated users only.	Some of the rebuild components deal with the personal data and therefore should guarantee secure and authenticated access to that data
KPI_QAU_01	Minimal browser support.	The component user interface should provide support for the wide range of widely used browsers, including MS-Edge, Chrome 47+, Firefox 38+

KPI_QAU_02	Multi-platform support and responsiveness	The component UI should be properly visualized regardless the underlying platform. This also amounts to the responsive design requirements. The platforms supported include, apart from desktop computers, mobile devices on Android 4.3+, iOS 8.3+, Windows 8.1
KPI_QAU_03	Internationalization	The UI of the component should support and should be adaptable to different user languages. This is also crucial for adoption of the components to the pilots in different countries
KPI_QASCM_01	Use GitHub and Trello for SCM and issue tracking	For the development, issue tracking, and documentation of the REBUILD platform component, GitHub and Trello have been selected as a source code management repository
KPI_QAR_01	Docker containers provided	To further improve the deployment procedure allowing for targeting different Cloud environments, it is required that the components provide the corresponding Docker container specification
KPI_IT_01	Percentage of issues resolved	The issues reported during the process of the component development, integration, evaluation should be appropriately managed and resolved by the component owners
KPI_IUC_01	% Integration Use-Cases	Percentage of the Integration Use-Cases achieved and operating

The following two tables show the value of the KPIs for both testing and piloting phase and also an explanation where the KPI was not achieved.

For a sake of the clarity, we report the acronym used for filling in the following table.

- RB APP: REBUILD mobile Application
- DASH: Dashboard
- RE: Recommendation Engine
- ME: Matching Engine
- DB: Data Base
- CB: ChatBot
- PG: Pictograms

The Table 4 reports the REBUILD KPI evaluation for testing phase.

The KPI_QASCM_01 (Use GitHub and Trello for SCM and issue tracking) has NO value for Pictograms since the Pictograms in the testing phase were not used in the Chatbot. This functionality was developed for the piloting phase.

The KPI KPI_IUC_01 (% Integration Use-Cases) was not achieved by Recommendation Engine for one of the two integration use cases related to the RE, namely "*The RE performs an update of the events and recommendations of interest for the migrant*". This was not achieved since the development to provide the right recommendations for the Job Seeking scenario took a lot of development time, due to integration with ESCO system.

Table 4: REBUILD KPI evaluation - Testing phase

KPI code	KPI title	KPI description	Target Test phase	RB APP	DASH	RE	ME	DB	CB	PG
KPI_QAI_01	Exposure of APIs as JSON-based REST/RPC	The functionality of the components is exposed via JSON REST/RPC APIs for the integration with other platform modules. The functionality in this way is made available for the server-side components and for the UI components	YES			YES	YES	YES	YES	YES
KPI_QAI_02	Support for SSO	For the hyperlink integration and for better user experience, different Web applications of the platform should support Single Sign-On to allow for using single credentials across different applications	YES	YES	YES					
KPI_QAD_01	Installation, configuration, and integration documentation in README	Component README file providing i) the component installation instructions; ii) the component configuration instructions; and iii) component integration instructions defining the necessary steps to set up the integration with other components	YES	YES	YES	YES	YES	YES	YES	YES
KPI_QAD_02	Swagger specification for the APIs	For the components that expose REST API, these latter should be well defined and documented. Specifically, it is required that all APIs are provided with the Swagger specification describing the available API calls, parameters, and data types	YES			YES	YES	YES	YES	YES
KPI_QAD_03	Additional documentation (examples, tutorials, etc)	The documentation should provide the description of the usage scenarios of the component, examples (e.g., API call inputs and outputs, testing instructions, tutorials, howto, etc).	NO	NO	NO	NO	NO	NO	NO	NO
KPI_QAS_01	Web-based	Some of the rebuild components deal with the	YES	YES	YES					

	components provide access to the sensitive functionality to authenticated users only.	personal data and therefore should guarantee secure and authenticated access to that data								
KPI_QAU_01	Minimal browser support.	The component user interface should provide support for the wide range of widely used browsers, including MS-Edge, Chrome 47+, Firefox 38+	NO		YES					
KPI_QAU_02	Multi-platform support and responsiveness	The component UI should be properly visualized regardless the underlying platform. This also amounts to the responsive design requirements. The platforms supported include, apart from desktop computers, mobile devices on Android 4.3+, iOS 8.3+, Windows 8.1	NO	NO						
KPI_QAU_03	Internationalization	The UI of the component should support and should be adaptable to different user languages. This is also crucial for adoption of the components to the pilots in different countries	NO	NO	NO				NO	
KPI_QASCM_01	Use GitHub and Trello for SCM and issue tracking	For the development, issue tracking, and documentation of the REBUILD platform component, GitHub and Trello have been selected as a source code management repository	YES	YES	YES	YES	YES	YES	YES	NO
KPI_QAR_01	Docker containers provided	To further improve the deployment procedure allowing for targeting different Cloud environments, it is required that the components provide the corresponding Docker container specification	YES	YES	YES	YES	YES	YES	YES	YES
KPI_IT_01	Percentage of issues resolved	The issues reported during the process of the component development, integration, evaluation should be appropriately managed and resolved by the component owners	70%	74%	75%	-	-	87.5%	61%	-

KPI_IUC_01	% Integration Use-Cases	Percentage of the Integration Use-Cases achieved and operating	70%	100%		50%	100%	100%	75%	
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The Table 5 reports the REBUILD KPI evaluation for piloting phase.

Table 5: REBUILD KPI evaluation - Piloting phase

KPI code	KPI title	KPI description	Target Test phase	RB APP	DASH	RE	ME	DB	CB	PG
KPI_QAI_01	Exposure of APIs as JSON-based REST/RPC	The functionality of the components is exposed via JSON REST/RPC APIs for the integration with other platform modules. The functionality in this way is made available for the server-side components and for the UI components	YES			YES	YES	YES	YES	YES
KPI_QAI_02	Support for SSO	For the hyperlink integration and for better user experience, different Web applications of the platform should support Single Sign-On to allow for using single credentials across different applications	YES	YES	YES					
KPI_QAD_01	Installation, configuration, and integration documentation in README	Component README file providing i) the component installation instructions; ii) the component configuration instructions; and iii) component integration instructions defining the necessary steps to set up the integration with other components	YES	YES	YES	YES	YES	YES	YES	YES
KPI_QAD_02	Swagger specification for the APIs	For the components that expose REST API, these latter should be well defined and documented. Specifically, it is required that all APIs are provided with the Swagger specification describing the available API calls, parameters, and data types	YES			YES	YES	YES	YES	YES
KPI_QAD_03	Additional documentation	The documentation should provide the description of the usage scenarios of the	YES	YES	YES	YES	YES	YES	YES	YES

	(examples, tutorials, etc)	component, examples (e.g., API call inputs and outputs, testing instructions, tutorials, howto, etc).									
KPI_QAS_01	Web-based components provide access to the sensitive functionality to authenticated users only.	Some of the rebuild components deal with the personal data and therefore should guarantee secure and authenticated access to that data	YES	YES	YES						
KPI_QAU_01	Minimal browser support.	The component user interface should provide support for the wide range of widely used browsers, including MS-Edge, Chrome 47+, Firefox 38+	YES		YES						
KPI_QAU_02	Multi-platform support and responsiveness	The component UI should be properly visualized regardless the underlying platform. This also amounts to the responsive design requirements. The platforms supported include, apart from desktop computers, mobile devices on Android 4.3+, iOS 8.3+, Windows 8.1	YES	YES							
KPI_QAU_03	Internationalization	The UI of the component should support and should be adaptable to different user languages. This is also crucial for adoption of the components to the pilots in different countries	YES	YES	YES					YES	
KPI_QASCM_01	Use GitHub and Trello for SCM and issue tracking	For the development, issue tracking, and documentation of the REBUILD platform component, GitHub and Trello have been selected as a source code management repository	YES	YES	YES	YES	YES	YES	YES	YES	YES
KPI_QAR_01	Docker containers provided	To further improve the deployment procedure allowing for targeting different Cloud environments, it is required that the components provide the corresponding Docker container specification	YES	YES	YES	YES	YES	YES	YES	YES	YES



KPI_IT_01	Percentage of issues resolved	The issues reported during the process of the component development, integration, evaluation should be appropriately managed and resolved by the component owners	90%	93%	93%	-	-	-	90%	-
KPI_IUC_01	% Integration Use-Cases	Percentage of the Integration Use-Cases achieved and operating	90%	100%		100%	100%	100%	100%	

As for the KPI_QAU_02 “Multi-platform support and responsiveness”, after the first phase of testing, we noted migrants use only Android smartphones and also considering the mobile operating Market Share Worldwide, Android is the most used one (even higher in Africa, Asia and South America, which can be considered the most usual origin zones of the migrants). That's why we preferred to focus on the development of more new functionalities instead of the development of the APP for different Operating System. In any case, the REBUILD Mobile App has been developed in Cordova, not native Android, so it could be deployed in iOS, whenever we decide to do it.

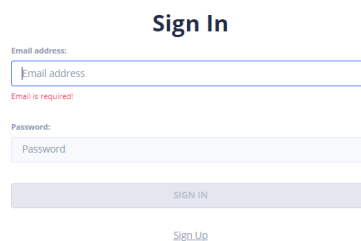
6 REBUILD DASHBOARD

The REBUILD Dashboard was developed to address the needs of the Local Service Providers. They can provide the information about interesting places useful for migrants need (e.g. legal service, accommodation structure, etc.). They can also offer job positions, educational and professional courses; they can also foster events in the local area where the migrants live; they can organise social mentoring program to help the migrants in their integration and inclusion.

In the next sections, a comprehensive description of the Platform functionalities is provided.

6.1 PROFILE

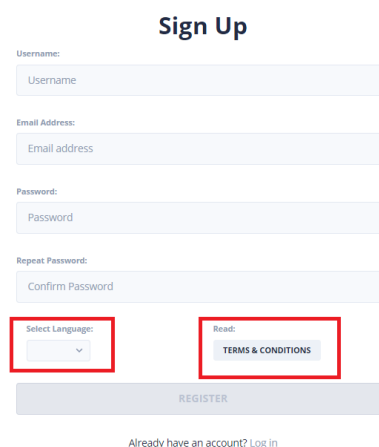
The starting point of the dashboard application is the sign-in form, in which we can choose either to sign in (if we already have an account and provide the required email address and proper password) or to sign up. Dashboard application uses the Keyrock, which is the FIWARE component responsible for Identity Management that enables the addition of OAuth2-based authentication and authorization security.



The 'Sign In' form features a title 'Sign In' at the top. Below it, there are two input fields: 'Email address' and 'Password'. The 'Email address' field has a red error message 'Email is required!' below it. A 'SIGN IN' button is positioned below the password field. At the bottom of the form, there is a link for 'Sign Up'.

Figure 6: Sign-in Form

If we choose the sign-up option, in order to successfully register, we must provide a username, email address, password, select one of the optional languages, and read and confirm the terms and conditions (consent form questionnaire).



The 'Sign Up' form features a title 'Sign Up' at the top. Below it, there are five input fields: 'Username', 'Email Address', 'Password', and 'Repeat Password' (with the label 'Confirm Password' below the input). Below the password fields, there is a 'Select Language:' dropdown menu and a 'Read: TERMS & CONDITIONS' button. A 'REGISTER' button is positioned below these elements. At the bottom of the form, there is a link for 'Already have an account? Log in'.

Figure 7: Sign-up form

Consent Form - Questionnaire

Voluntariness

Your participation in this study is absolutely voluntary, and there is no economic compensation. There is no penalty for not participating and there are no risks of any kind in your participation. You can discontinue your involvement in the study at any time without prior justification. This shall have no repercussions or negative consequences of any sort.

Storage

This consent form and the information you provide will be safely stored at UNINETEUNO's internal server and will be destroyed five years after the research project finishes. It will not be shared with anyone outside this project. The information analysed regarding the services your organisation provides and the entire data base will be available to other interested researchers through open data repositories. This data will be anonymised.

Further questions

The ethical adviser responsible of ethical procedures is Pilar Orero. You can contact her to ask for more information about the project and the project results. Besides, you can exercise your rights recognized by the European Regulation on the Protection of Personal Data on the data file of this project by contacting the researcher responsible for this project, Dr. Pilar Orero, with your request and a photocopy of your ID (form ARCO is attached): Dra. Pilar Orero (pilar.orero@uab.cat), Dept. de Traducció i Interpretació i Estudis de l'Àsia Oriental, Campus UAB, Plaça del Coneixement, MRA/126, 08193 Bellaterra (Cerdanyola del Vallès)

I authorise:

- a qualitative and quantitative analysis of my responses
- the use of my answers for purposes of scientific dissemination

If you are willing to participate, please confirm the following statements by checking the following boxes

- I have read and understood the above information or have had the information read and explained to me.
- I have had the opportunity to ask questions about the research and my participation.
- I consent to take part in the research activity

If you want to modify or delete any of your data, please [download the pdf](#) and following the instructions

OK

Figure 8: Consent form - questionnaire

Upon successful registration we are redirected to Sign in form, where if everything is correctly done, and we provide the newly created credentials, we are successfully authenticated by the Keyrock.

We now enter the profile page. In the upper right corner, when we click on our account username, we can select the language or choose to log out. In this profile form, we enter information for our name (required), email address, telephone, URL, city, postal code and also from the select-boxes we select country, company/organization type and activity, if we want a translator (if we select yes, we can enter language/languages), and the most important thing select the domain/domains.

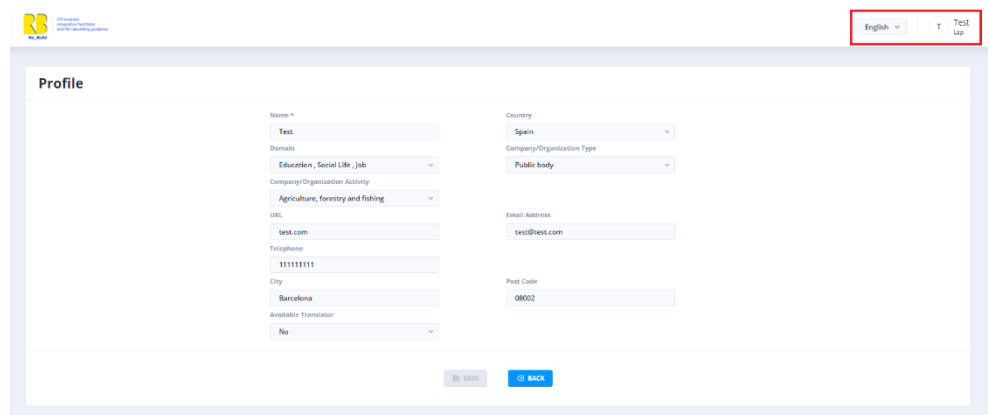


Figure 9: Profile form

It is important to choose the right domain/domains in the profile form, because the one that we select will be present later on, on the menu under the menu item my places when we save our profile.

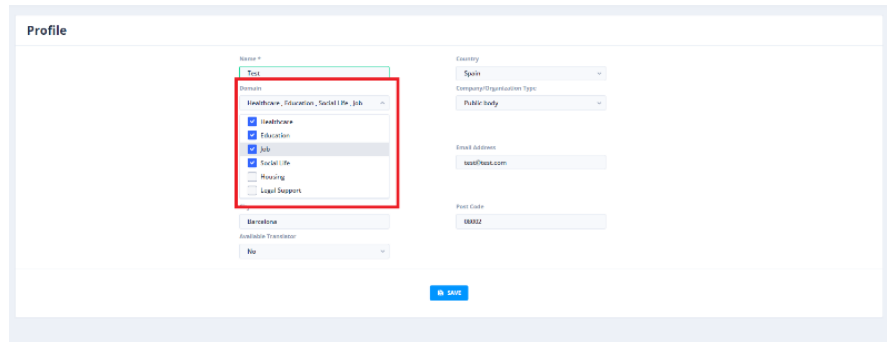


Figure 10: Profile domains

If we select the domains for Social Life, Education or Job, apart from being added to my places drop-down menu list, we will get extra menu options for Social mentoring, Manage Courses and Manage Job opportunities. For all other domains, they will just be placed in the My Places drop-down menu.

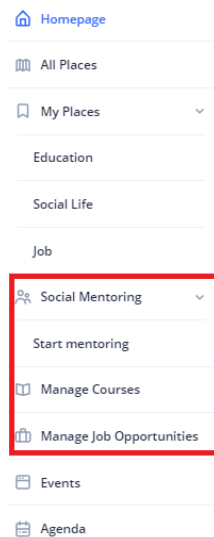


Figure 11: Menu when selected Education, Job, Social life in profile domains

When we complete our profile registration and we enter the homepage, we can always choose to modify our profile by clicking on the username and then clicking on the profile option in the upper right corner, there is also an option to change the language from the select box.

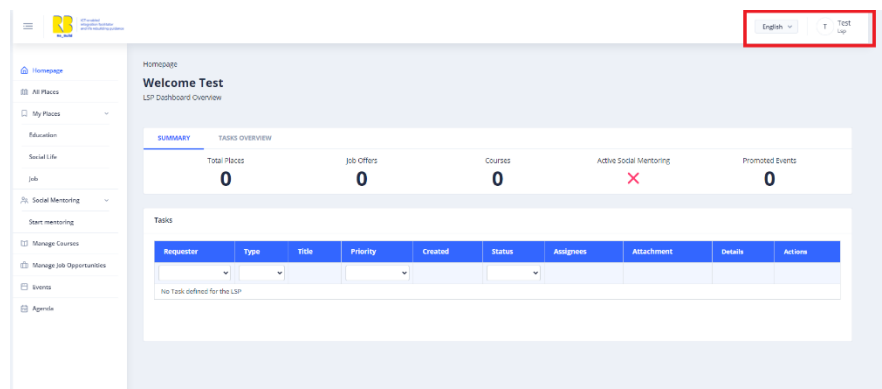


Figure 12: Homepage of the Dashboard

6.2 MENU

The menu has a dynamic number of items, when we say that we mean that the number of items in the menu may be different precisely because of the mentioned domains. For example, in the profile registration stage if we choose some of the domains that add extra options for the menu (Education, Social life, Job), we will have more items in the menu.



Figure 13: Menu

6.3 TASK MANAGEMENT

The task management framework enables the creation, assignment, solution and archiving of tasks. A general view of the workflow is depicted below.

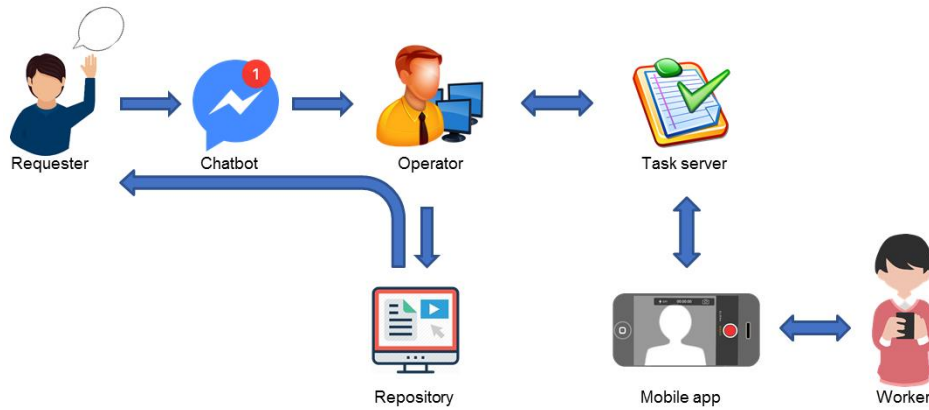


Figure 14: Task management workflow

The requester expresses a request through the Chatbot. The operator receives a notification and creates a new task on the task server. Alternatively, the task creation occurs automatically through the Chatbot, without the interference of the operator. The mobile app of the worker is notified and the worker solves the task. In an iterative process, the operator evaluates the solved task and suggests improvements to the worker. When the operator is satisfied with the task solution, the solved task is stored in the repository and a reference link is sent to the requester.

Apart from the Chatbot, the software modules providing services to the actors are the following:

- The **task server**, operated by the operator for creating and managing tasks.
- The **task solver app**, operated by the worker, accepting tasks from the task manager, recording material for solving the tasks and sending the material to task server.
- The **repository**, storing the already evaluated and accepted content and making it accessible to the requester through a reference link.

The implementation of each of the software modules for REBUILD is described in the next subsections.

Task server dashboard

Through the task server interface of the dashboard, the operator visualizes the created tasks, assign task solvers to each task, communicate with them and forward solved tasks back to the requesters (immigrants). Below, some screenshots of the task server interface of the dashboard are provided.

Initially, the operator is notified about the incoming request.

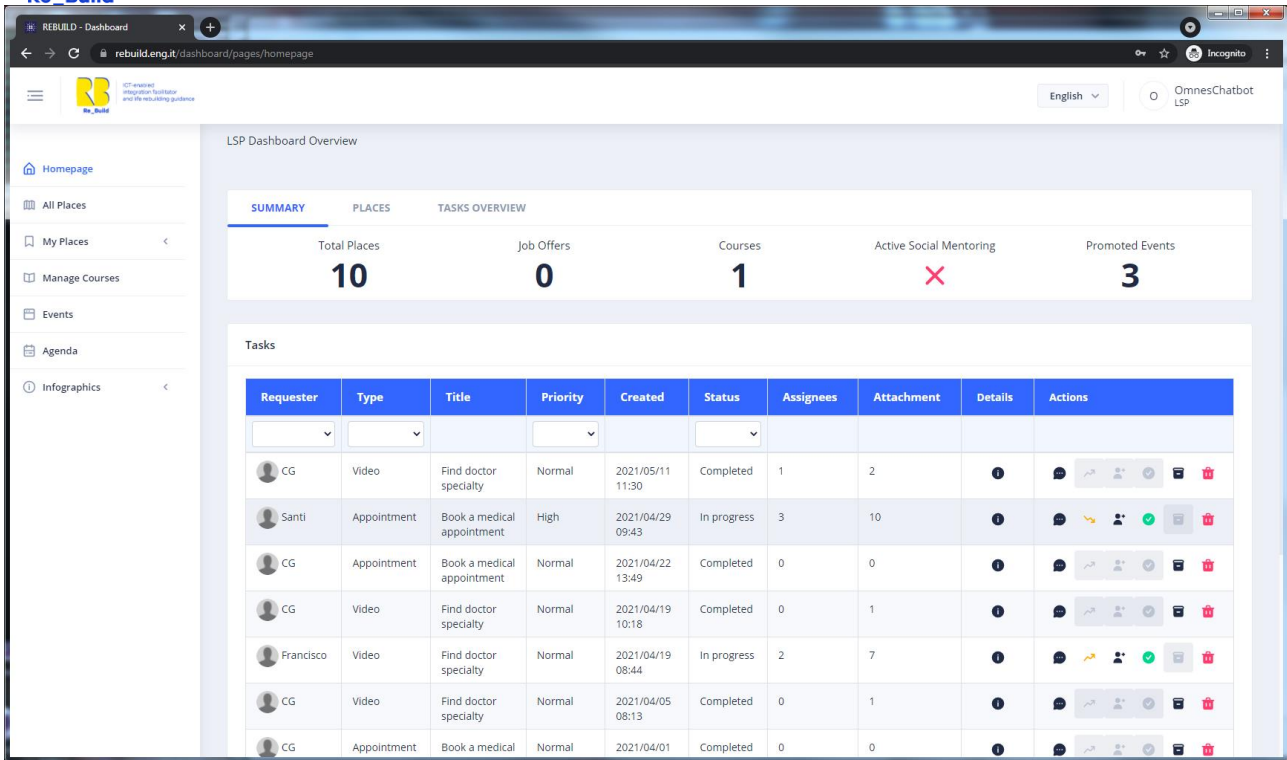


Figure 15: The task server interface of the dashboard

The operator inspects the task.

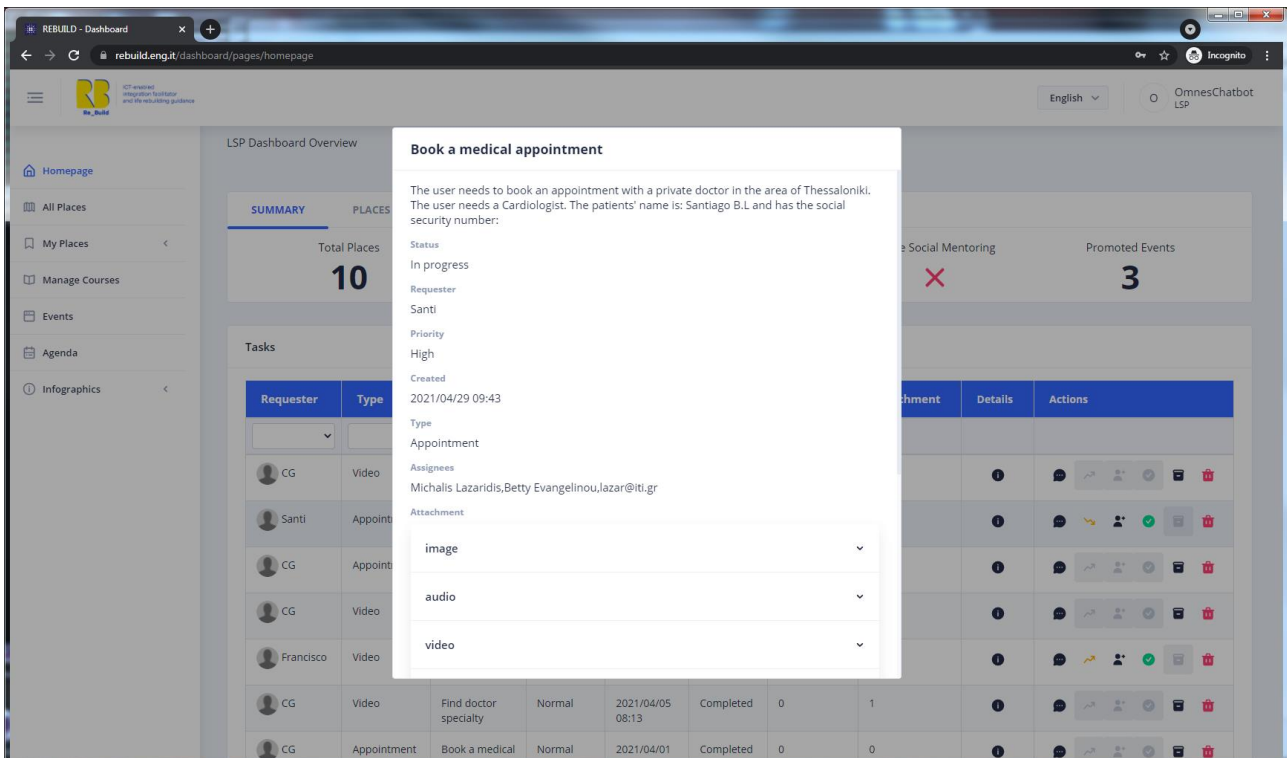


Figure 16: Inspecting the task

The operator assigns the task to one or more task solvers.

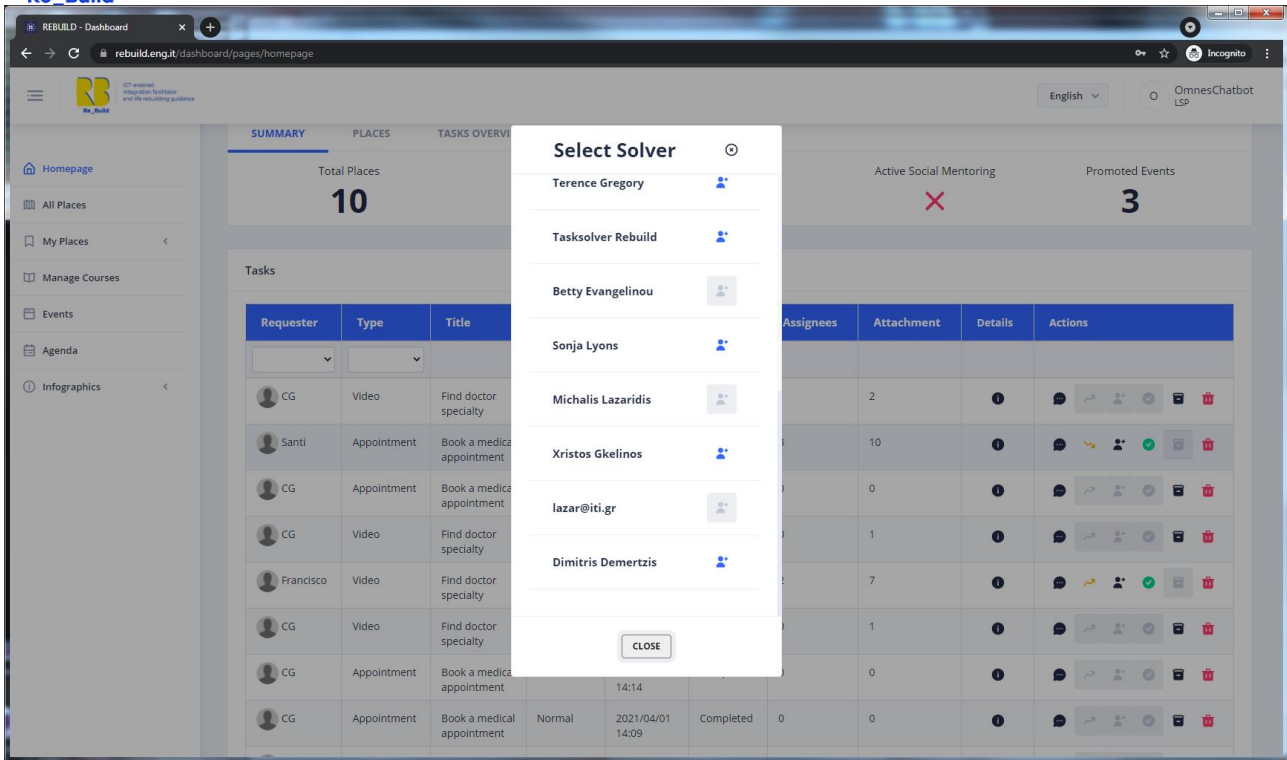


Figure 17: Assigning task solvers to the task

The operator can chat with the task solvers in order to provide them with instructions for solving the task, if necessary.

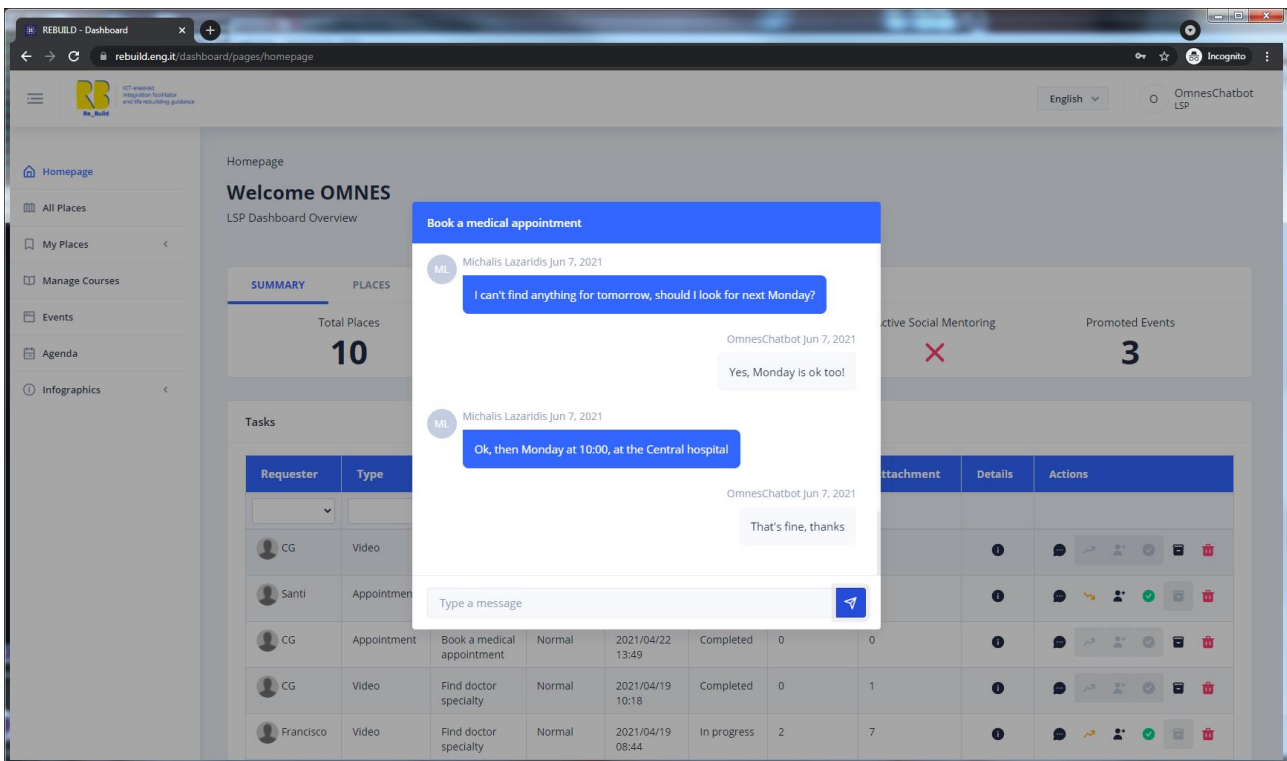


Figure 18: Chatting with the task solvers

The operator can finally forward the solved task back to the requester.

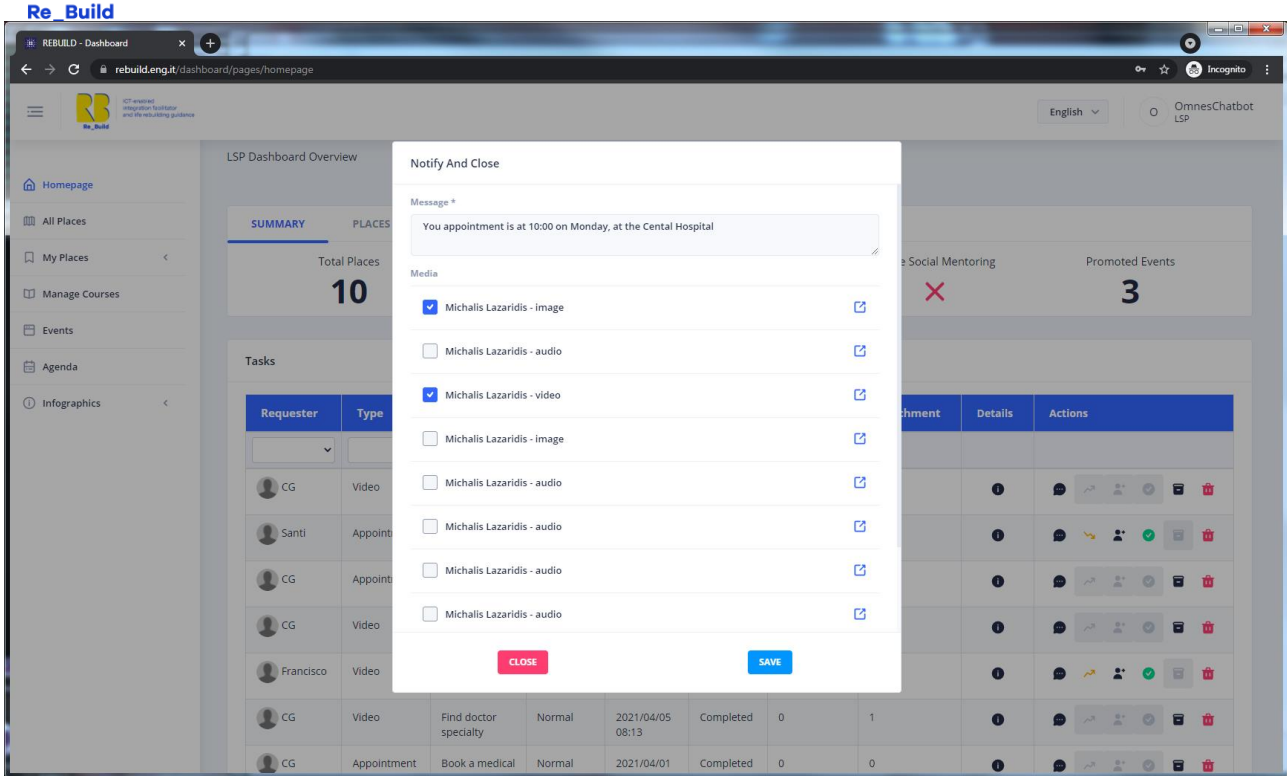


Figure 19: Forwarding solution back to the requester

Task solver app

The task solver application is the application of the workers/translators. Through it, the task solvers can receive the tasks assigned to them, create their solutions and send them back to the operators.

After installing the app, the user has to log in to the app through his/her Gmail account or a different email.

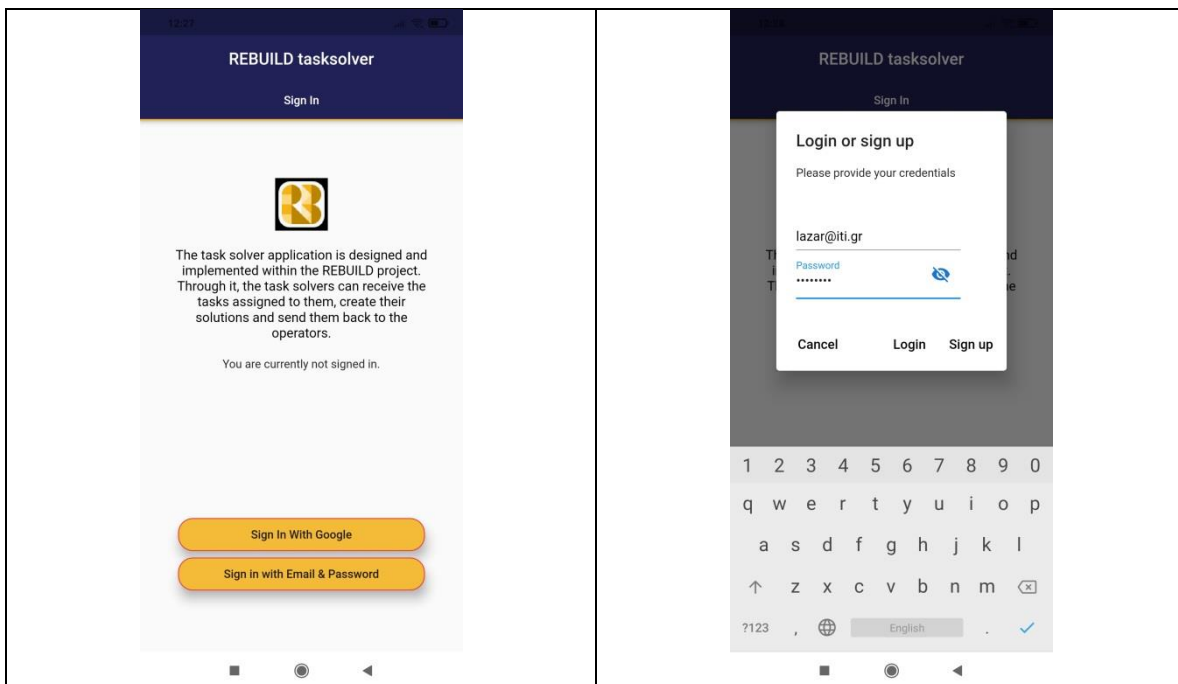


Figure 20: Signing in to the task solver app

After signing in, the user receives a list of tasks assigned to him/her.

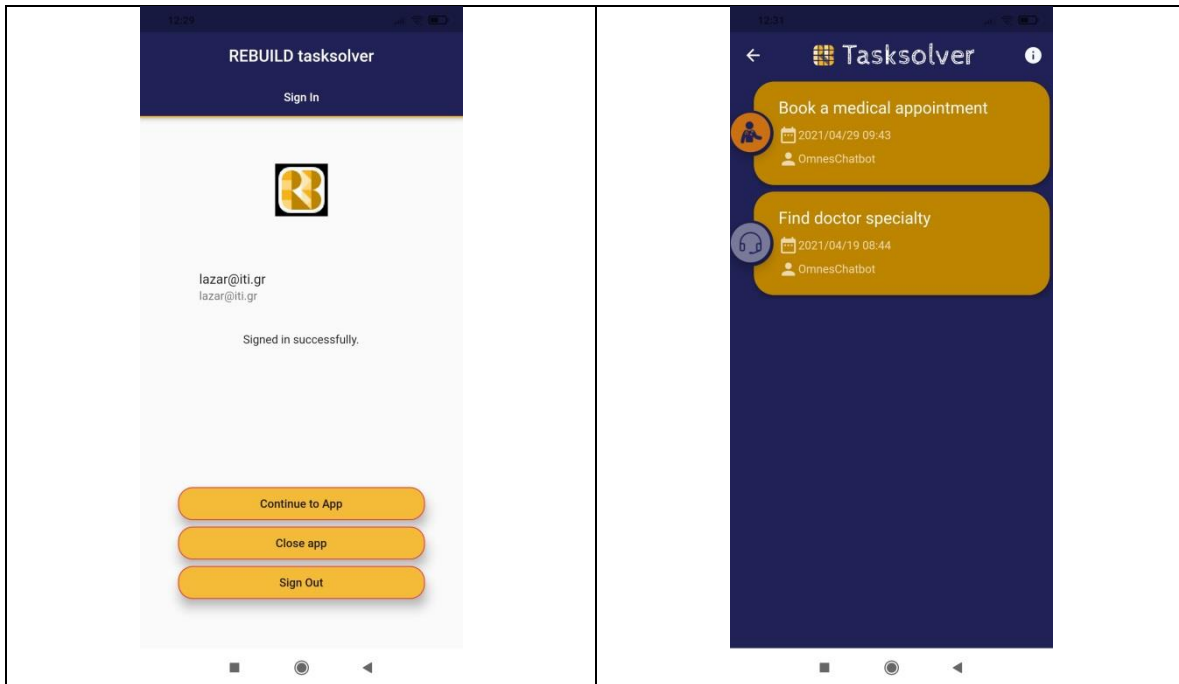


Figure 21: Receiving the assigned tasks

The task solver can then pick a task, chat with the operator or upload images, voice messages and/or videos in order to solve the task.

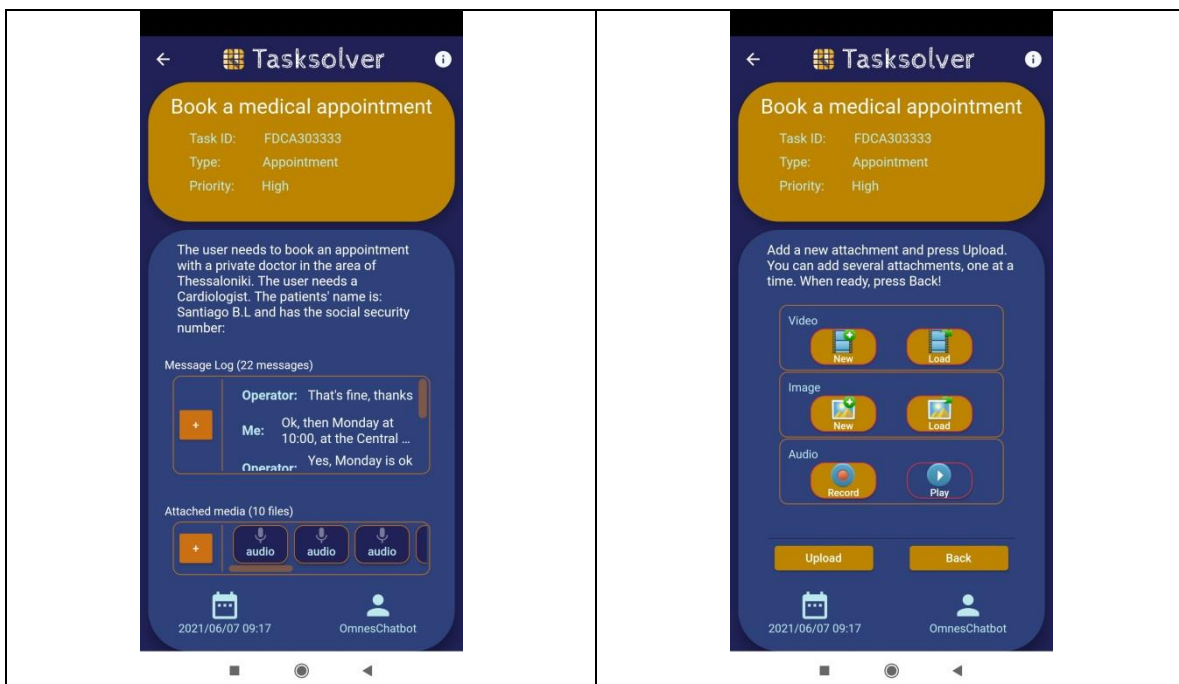


Figure 22: Inspecting the task and uploading content

Repository

For the storage of the produced content, a local repository has been designed and implemented, based on Azurite, which is a local instance of Microsoft Azure Storage. The repository provides file uploading and servicing capabilities, used for storing reference material. The content can be managed through a Microsoft Azure Storage

Explorer. A wrapper service has been developed around Azurite, that facilitates the communication between uploaders/downloaders and the repository.

The task management framework is described in detail in D4.6.

6.4 PLACES

Places are represented in the menu with two menu items. The first one is all places, and when we navigate to it we can see a smart table populated with information about all LSP places.

LSP Name	Title	Domain	Description	Needed Documents	URL	Country	Address
Test	Healthcare	Healthcare	Helping people	Id card.Health card	healthcare.com	Italy	Torino Main Street 32 11111
Test	School	Education	Teaching people	Id card.Residency permit	school.com	Greece	Athens Main Street 33 22222
Test	Legal Support	Legal Support	Helping people	Id card	legal.support.com	Spain	La Coruna Main Street 12 44444

Figure 23: All Places smart table

This smart table can be searched by name, title, description, needed documents, URLs, addresses, and also have the functionality for displaying only places with certain domains or countries that are selected in appropriate drop-down lists.

LSP Name	Title	Domain	Description	Needed Documents	URL	Country	Address
Test	Healthcare	Healthcare	Helping people	Id card.Health card	healthcare.com	Italy	Torino Main Street 32 11111
Test	School	Education	Teaching people	Id card.Residency permit	school.com	Greece	Athens Main Street 33 22222
Test	Legal Support	Legal Support	Helping people	Id card	legal.support.com	Spain	La Coruna Main Street 12 44444

Figure 24: Search, drop down lists for domain and countries, and add place

All places page has the option of adding a place by clicking on the top right corner button add place. Upon clicking on add place a dialog box appears and from the drop-down list we can choose for which domain we want to add place. When we choose, we can then click on add, and we will be redirected to Add <selected> Place form.

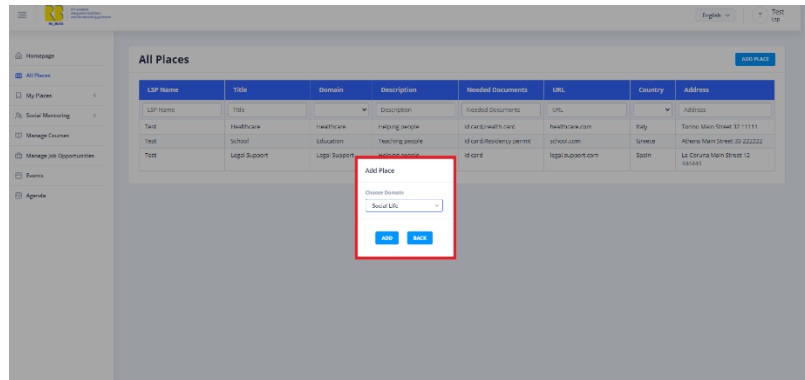


Figure 25: Add place dialog

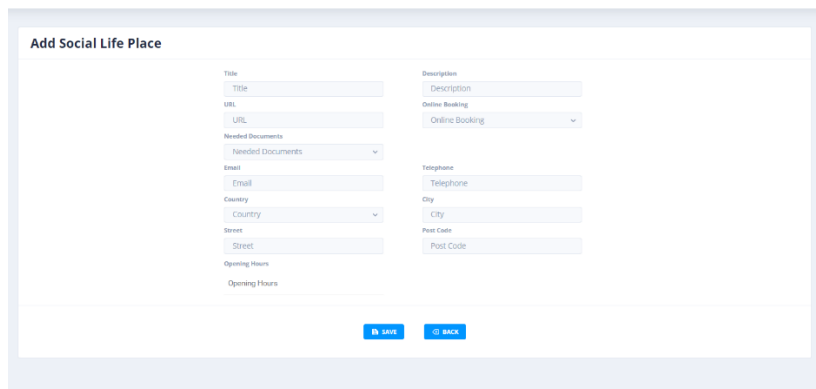


Figure 26: . Add <selected> place form

The second menu item for places are my places, and when we click on my places menu item we get the drop-down list of domains. As the name implies my places represent only our own places for domains, so when we for example click on the healthcare menu item of my places, we can see a table populated with only healthcare places that we have added.

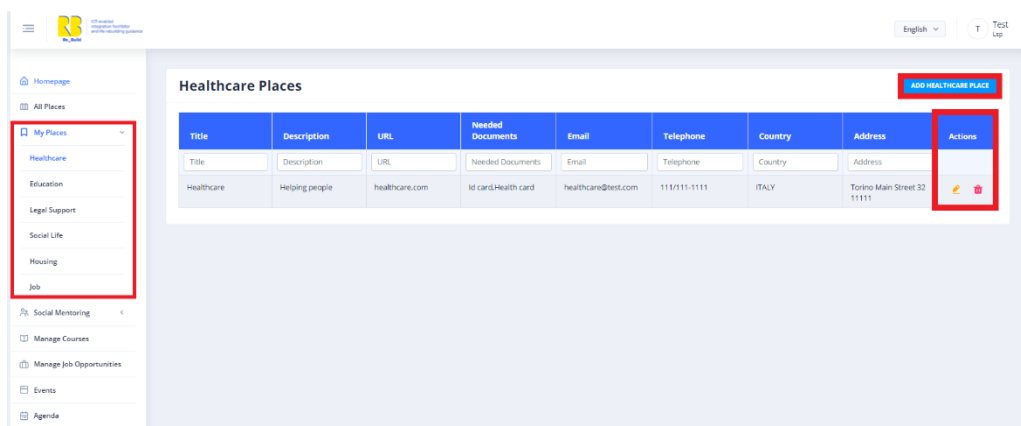


Figure 27: My places table for our own places

In my places we can modify and delete places in our smart table, these two actions are displayed as icons at the right end of the smart table. As with the all places, we can add places for a certain domain, in our case in the top right corner we can add healthcare place (because we have selected healthcare menu item from my places). Upon adding/creating or modifying places, when saving we will get toastr angular notification that place was successfully created, modified, or in case of deletion, after confirming deletion in the dialog box, notification for successfully deleting the place.

6.5 MANAGE COURSES

We will get manage courses menu item only if you have selected the education domain in your profile. As with other components, upon navigating to manage courses you will see a smart table with search options for title, description, organization and URL and also prerequisites and skills acquired which represent the number of those you have added. When clicking on the button add course you will get the form for courses.

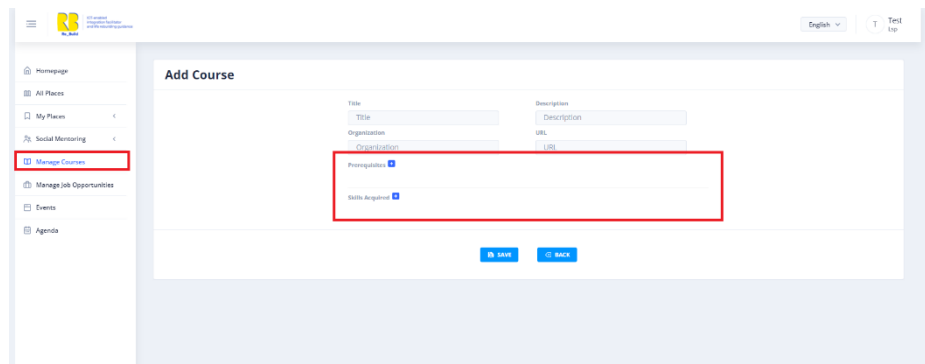


Figure 28: Adding a course

On this page, you can see regular input form fields (title, description, organization, URL) and two fields with plus icons (prerequisites and skills acquired). When clicking on the icons the dialog opens, in which we have options for searching our needed prerequisite or skill. When we find our searched prerequisite/skill we can again click on the plus icon and add our prerequisite or skill and then click on the save and close button. Our changes will be present on our course form which we can then save.

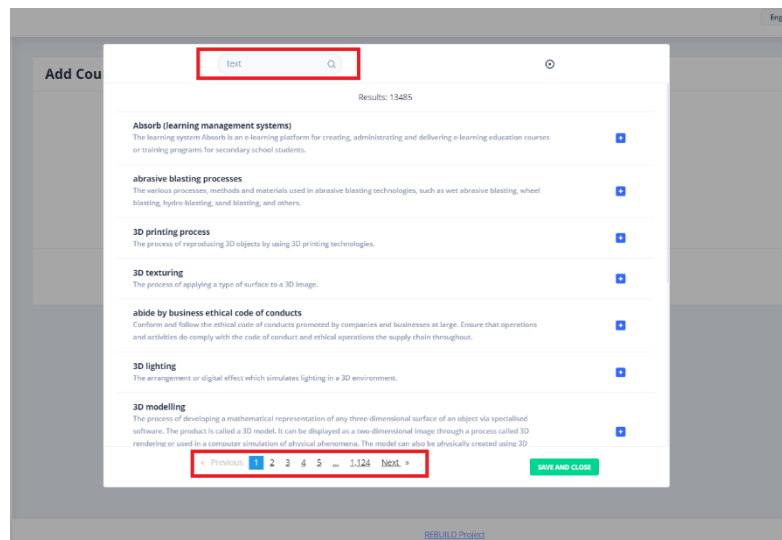
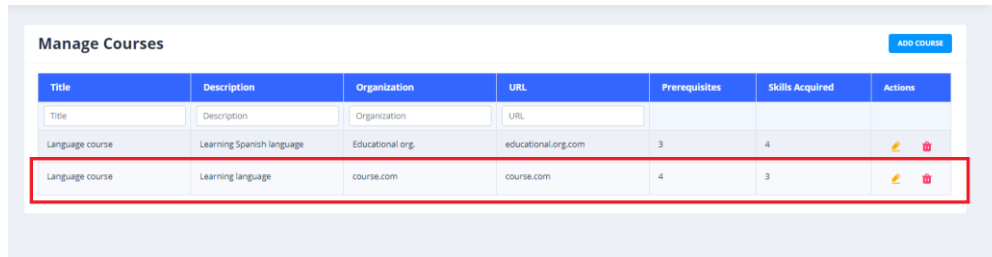


Figure 29: Adding prerequisite or skill

When saved the course table will be updated and you can see the newly added course. As with places, we can see the actions icons in the right part of the table where we can modify or delete our course.







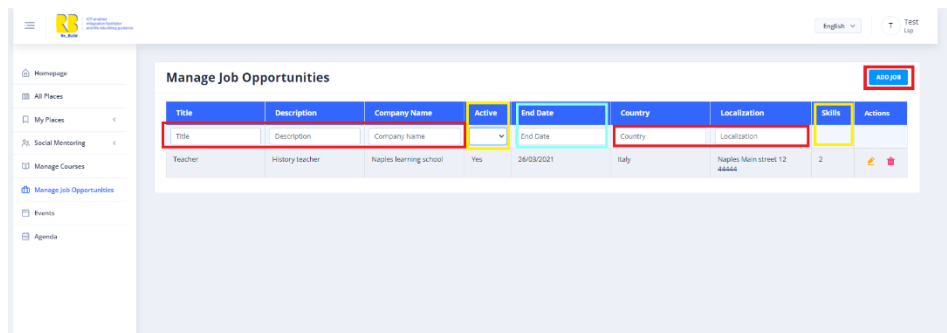
Title	Description	Organization	URL	Prerequisites	Skills Acquired	Actions
Language course	Learning Spanish language	Educational org.	educational.org.com	3	4	 
Language course	Learning language	course.com	course.com	4	3	 

Figure 30: Manage course smart table

6.6 MANAGE JOB OPPORTUNITIES

As with the Courses, Manage job opportunities will be present on the menu only if we select the Job domain in the profile stage. When we enter the page, we can see a smart table with search options for title, description, company name, end date, country, and localization. Also, we have Active and Skills fields in the table, in Active we have the functionality to select to display only active or inactive jobs, and in Skills, we can see the number of skills.





Title	Description	Company Name	Active	End Date	Country	Localization	Skills	Actions
Teacher	History teacher	Naples learning school	Yes	26/03/2021	Italy	Naples-Main street 12 44444	2	 

Figure 31: Manage job opportunities

When clicking on the add job button we navigate to job form. In this job form, we have some regular input form fields for title, description, company name, city, post code, street, URL, email, telephone, we also have two select boxes for country and activity, and a search for ESCO field, in which we can type our job name and click on the icon at the end of our input field.

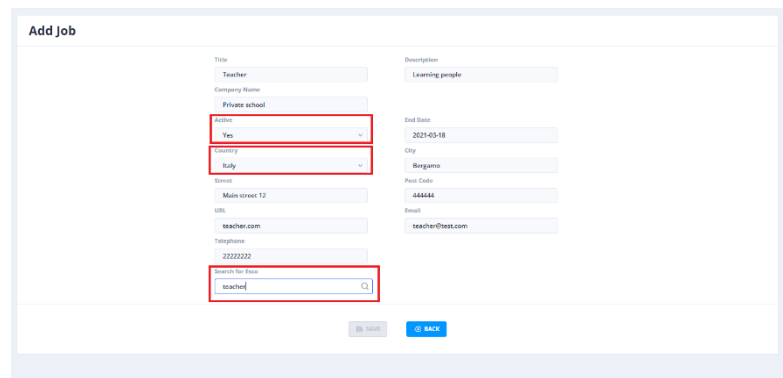


Figure 32: Job form

Upon clicking on the search icon for ESCO, a dialog appears with the results of our search. In this dialog we can see the number of the results, we can move thru the pages in the lower pagination bar, we can close by clicking on the top icon, and of course, we can add the wanted result by clicking on the icon on the right.

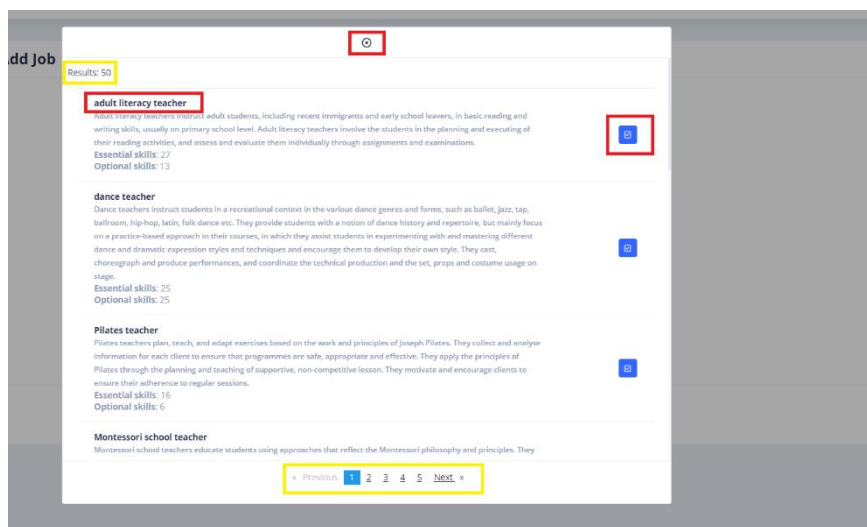


Figure 33: Search for ESCO

When we click on the wanted result, in our case adult literacy teacher, we see a new field in our form called ESCO Occupation. Upon clicking on the manage skills icon on the ESCO Occupation we enter another dialog where we can set the importance (from 1-5) of some skills and in that way prioritize them.

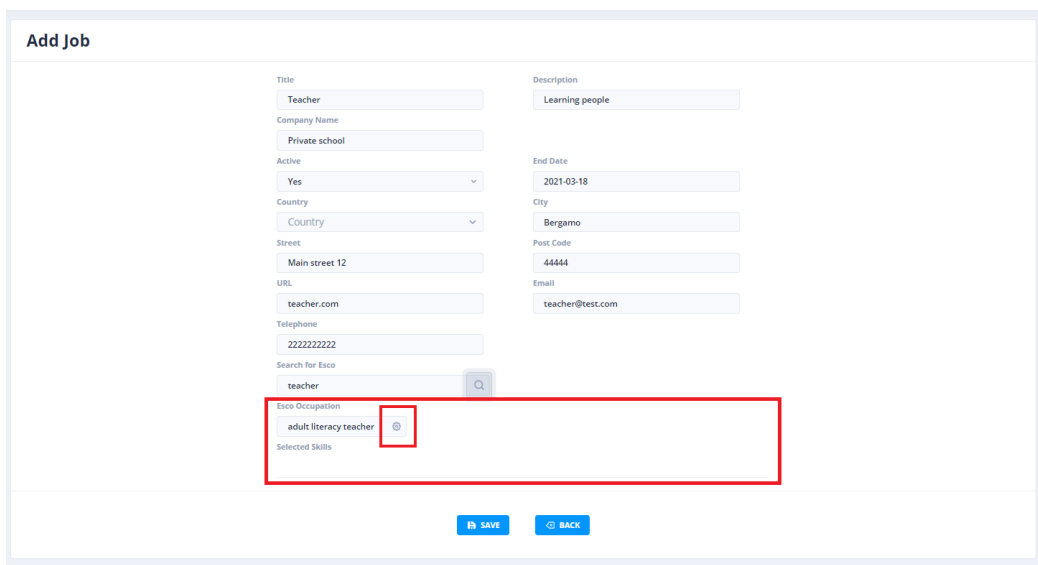


Figure 34: ESCO occupation manage skills

Essential skills: 27	Optional skills: 13	Selected: 5
adapt teaching to student's capabilities Essential Identify the learning struggles and successes of students. Select teaching and learning strategies that support students' individual learning needs and goals.		Importance <input type="text" value="5"/>
apply intercultural teaching strategies Essential Ensure that the content, methods, materials and the general learning experience is inclusive for all students and takes into account the expectations and experiences of learners from diverse cultural backgrounds. Explore individual and social stereotypes and develop cross-cultural teaching strategies.		Importance <input type="text" value="4"/>
encourage students to acknowledge their achievements Essential Stimulate students to appreciate their own achievements and actions to nurture confidence and educational growth.		Importance <input type="text" value="3"/>
perform classroom management Essential Maintain discipline and engage students during instruction.		Importance <input type="text" value="2"/>
adult education Essential Instruction targeted at adult students, both in a recreational and in an academic context, for self-improvement purposes, or to better equip the students for the labour market.		Importance <input type="text" value="1"/>
assessment processes Essential Various evaluation techniques, theories, and tools applicable in the assessment of students, participants in a programme.		Importance <input type="text" value=""/>

« Previous **1** 2 3 4 Next » SAVE AND CLOSE

Figure 35: ESCO occupation setting skills importance

When we save and close the dialog, and then save the job form, our smart table will be updated, and in there we can as with other smart tables, modify and delete with actions displayed as icons in the right of the table.

6.7 SOCIAL MENTORING PROGRAM

Similar to Job (manage job opportunities) and Education (manage courses), when we select the social life domain in the profile, we will get the social mentoring option in the menu. Upon clicking on the social mentoring menu item for the first time we will see the start mentoring option. We can notice the steps we need to complete to create a new social mentoring.

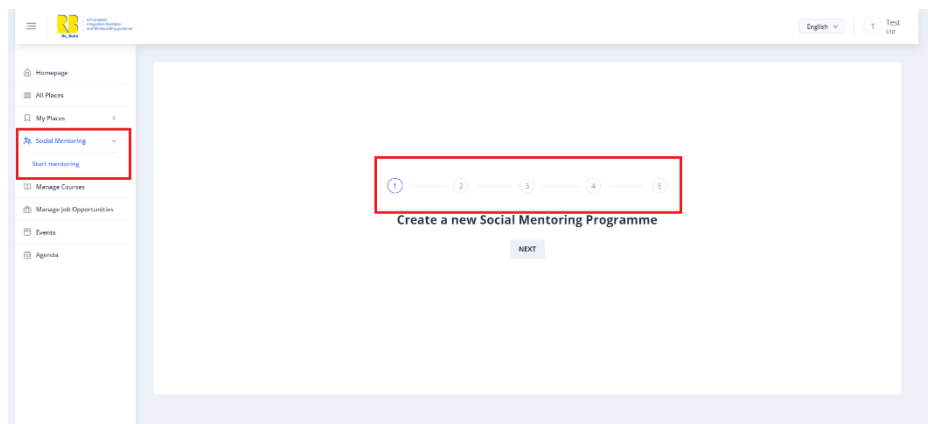


Figure 36: Start social mentoring stepper

Clicking on the next button will move us to the next step where we need to enter input for program title, description, and the one who is responsible. The next step will be to enter inputs for URL, City, Street, and postal code. When finishing this step in the next one we need to enter starting and ending dates, in this step, we should be careful because we cannot enter the ending date that was before starting date.

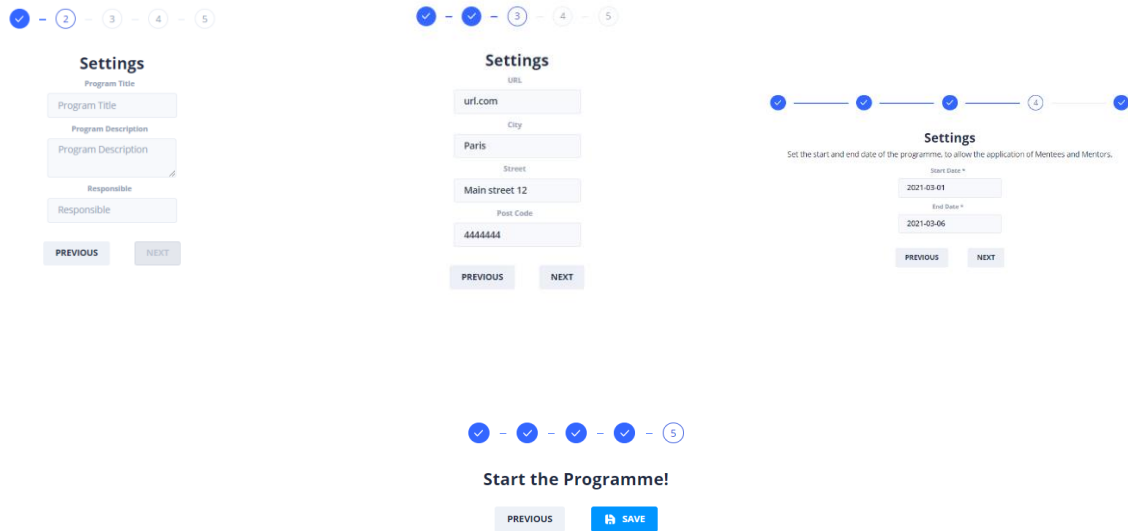


Figure 37: Creating new social mentoring

After saving our newly created social mentoring we are redirected to our new manage social mentoring page where we have a sort of control panel in which we can see information and also, edit or delete our social mentoring. We can see in which status our social mentoring is, and modify it (deactivate or activate), also, we can see when our registration end's, the number of mentees, mentors and pairs.

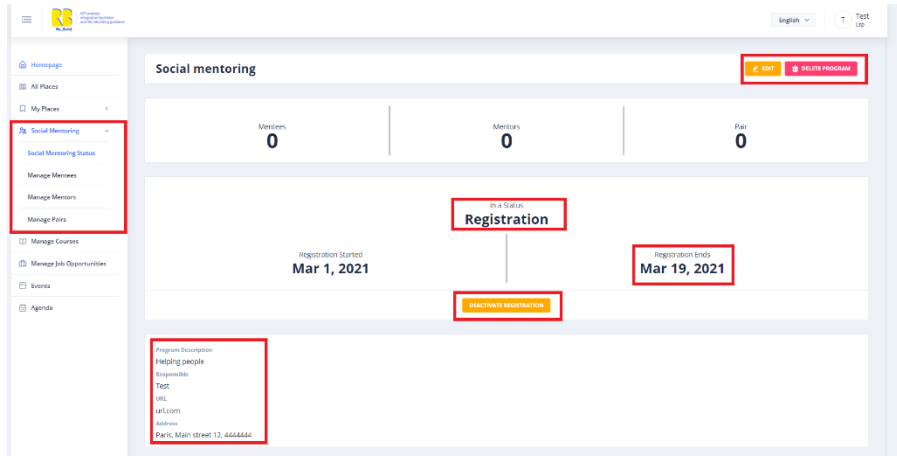


Figure 38: Social mentoring

When clicking on the manage mentees menu item we get the list of mentees and their information. We have two button options, first one is for personal data, and upon clicking on it we can see personal data for the mentee, and with the second button we can schedule an interview for the mentee.

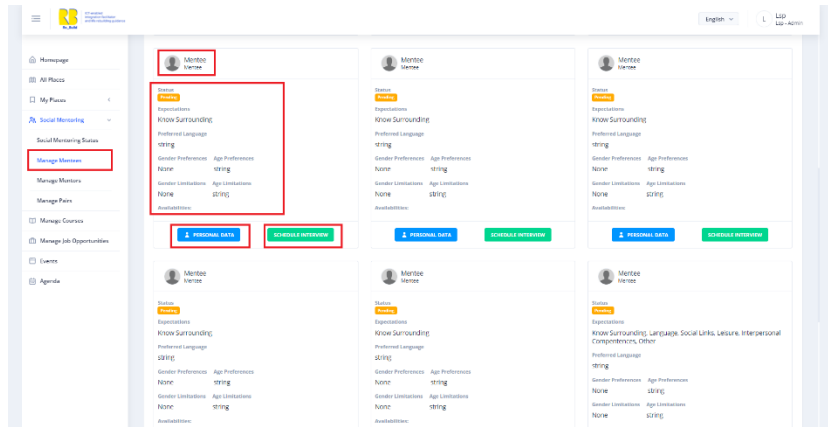


Figure 39: List of test mentees

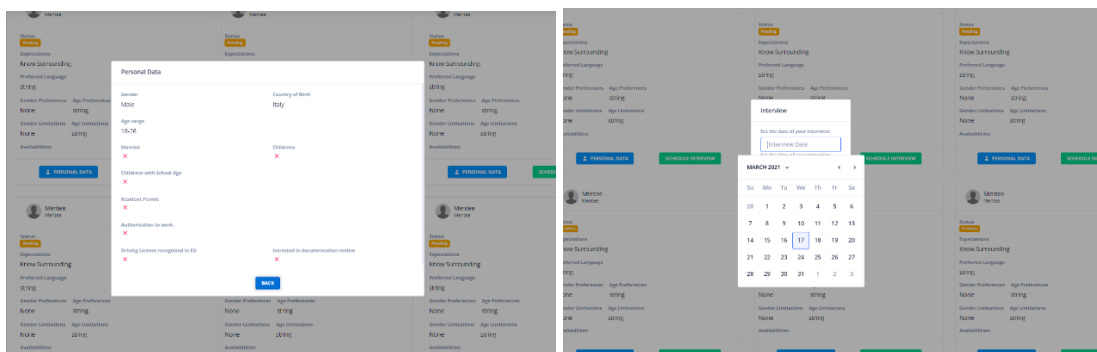


Figure 40: Personal data and schedule an interview for mentee

After the scheduled interview was confirmed we will get the interview button. Upon clicking on it we will get the mentee form. In this form, we can set the final status of a mentee and add a question.

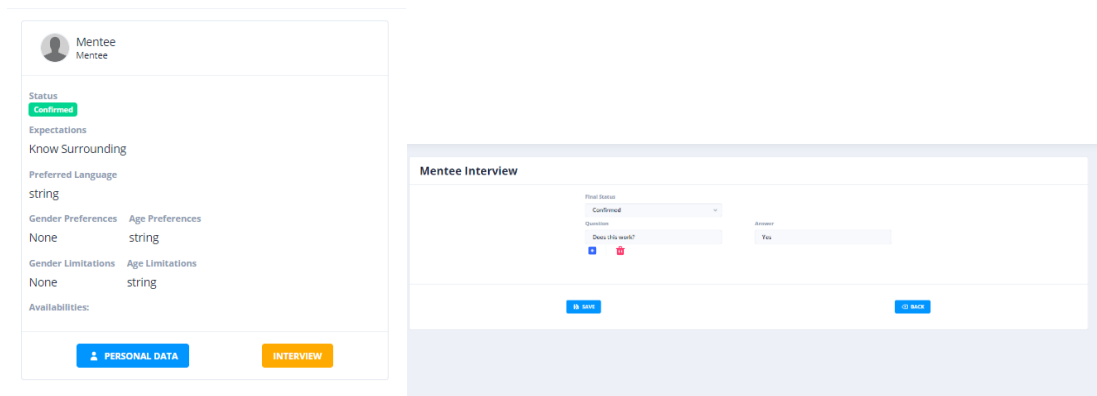


Figure 41: Interview button and interview form for mentee

The next menu item from the social mentoring is manage mentors with basically the same display as manage mentees. As with mentees, we have a list of mentors and main differences are the information that are displayed and the interview form.

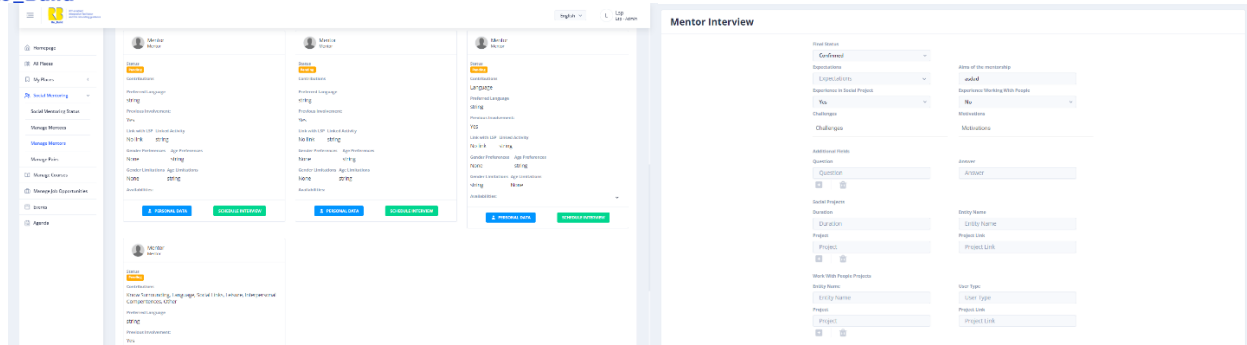


Figure 42: Interview button and interview form for mentor

For mentor interview form we have much more input fields such as challenges, motivations, questions, social projects and work with people projects, aims of mentorship, and also we can select options from select boxes expectations, are we experienced with social projects or do we have experience with working with people, the select box is the same as with mentees, it is the final status select box in which we can set final status.

Last menu item on social mentoring is manage pairs in which we can create a pair from mentee and mentor. When we click on the manage pairs menu item we can see a smart table with search options and two action icons. The first action icon is a view, and when clicking on it we can see pair details, second action icon is for deleting the pair.

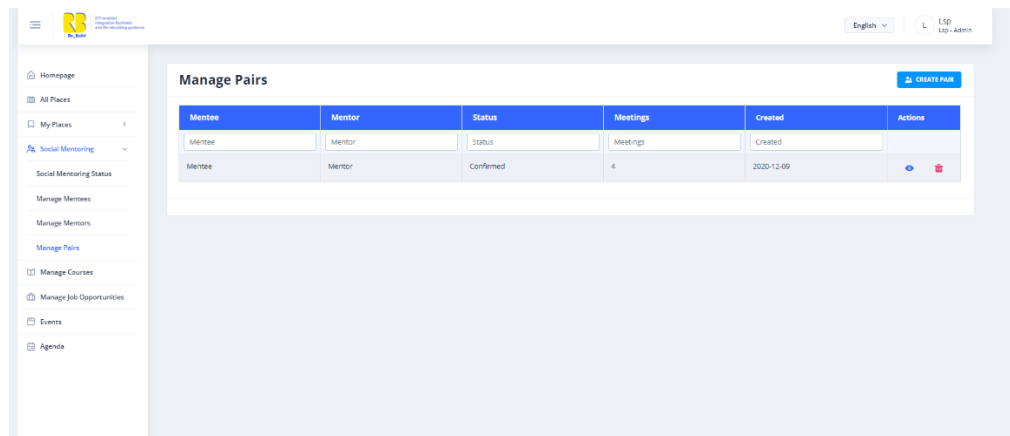


Figure 43: Manage pairs smart table

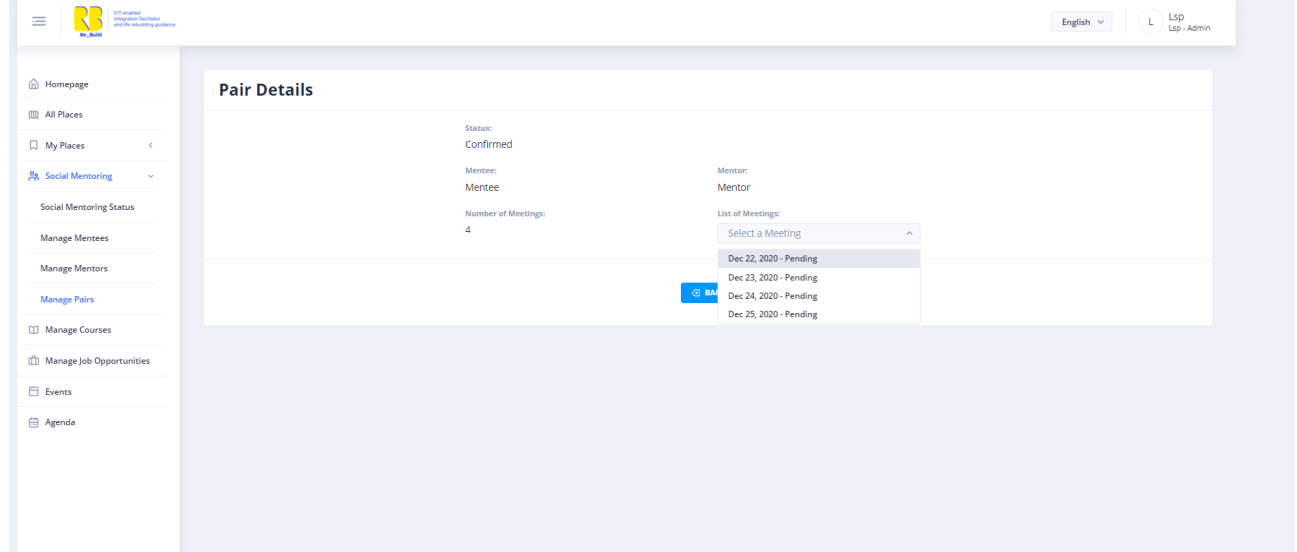


Figure 44: Pair details

On the pair details page, we can set the status of the pair and see information mentee, mentor, number of meetings, and also we can pick a certain meeting from the drop list and see additional information.

6.8 EVENTS

In the events we have a smart table with the search for title, description, domain, start date, end date, country, and address. On the right, we have icons for modifying and deleting the event in the table, and on the top right we have a button for adding event.

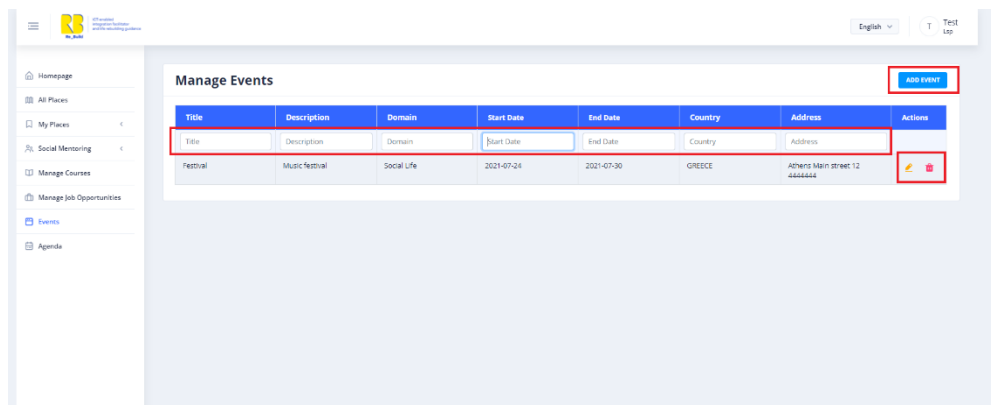


Figure 45: Events smart table

When clicking on add an event, we are navigated to event form in which we have a standard input fields title, description, organizer, email, start date, end date, city, street, post code, and two select boxes, country, and domain.

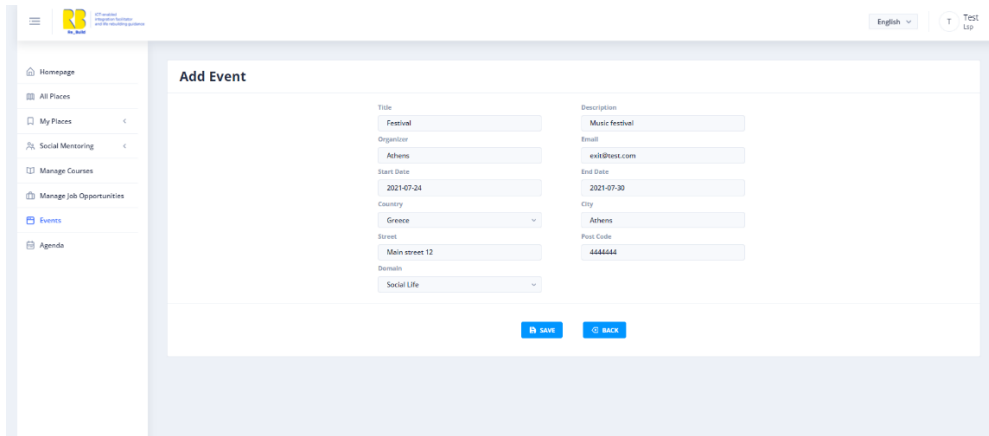


Figure 46: Event form

When we save our newly created event, we can navigate to agenda menu item and see it in the calendar, we can see that in our calendar the period that we choose or to be precise days are marked with the dot.

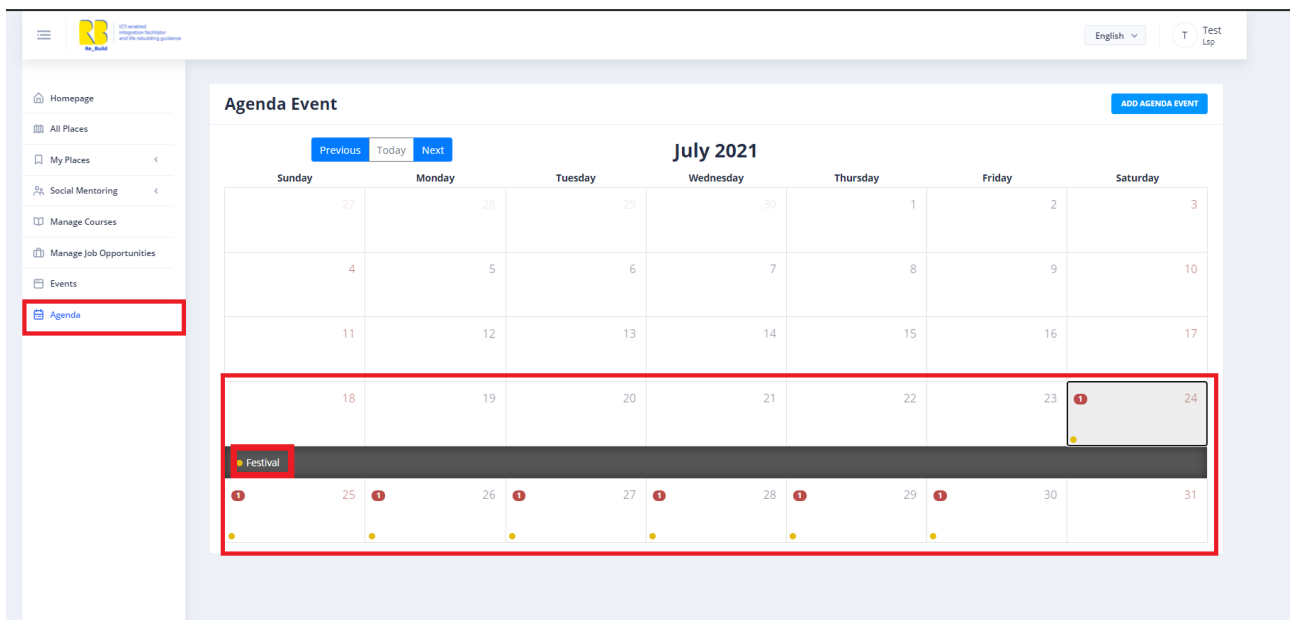


Figure 47: Agenda calendar, then we will take into account those ones with medium and low priority.

This allows us to release a finalised and robust prototype that have been tested with real users, co-created with them following their needs.



7 REFERENCES

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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: DX.x Deliverable Title



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