



ICT-enabled  
integration facilitator  
and life rebuilding guidance

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## REBUILD

### ICT-enabled integration facilitator and life rebuilding guidance

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## EXECUTIVE SUMMARY

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This deliverable presents the work already done within T4.4 Personalized interaction, which has been mainly focused on defining a self-learning module for improving the users' experience by customizing the interaction according to their implicit and explicit information.

As can be seen in the document, this customization comprises two different aspects of the interaction: some aspects of the visual appealing of the REBUILD app and the communication channel via the chatbot. For each one of them, a specific method for personalization has been defined.

In another aspect, user's information has a vital role in this customization process. In this regard, explicit information directly gathered from the user (during the onboarding in the app or even when answering different questions to the chatbot for the use of different services) provides important parameter for allowing a first level of general personalization that comprises, among others, the services to be presented and the language to be used. Later on, the analysis of the users' in-app activities will help the module to provide a more particular customization. This second round will improve the presentation of the elements in the interface, facilitating their use and improving the user experience.

Finally, the evaluation of the personalization is a necessary step to confirm its suitability. For this reason, a final section is devoted to explain how this can be done in the final pilots.

The document is organized as follows: The first section makes an introduction to this document and the REBUILD project. The second section is devoted to explain how the personalization can improve the user experience within the application. Third section is mainly focused on presenting the module and the way the customization is finally obtained with some specific captions. Finally, information about the evaluation is given in section four and section five includes the conclusions.

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# 1 INTRODUCTION

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REBUILD project's objective is to provide a toolbox of ICT-based solutions that will help to the smooth integration of refugees and migrants. REBUILD refers both to the facilitation of the local authorities' management procedures and to the migrants' life quality improvement. To achieve these goals, REBUILD is designed as a user-centered application that attempts to recognize users' needs and give them personalized recommendations and targeted solutions. To assess this purpose, personal information for each migrant, asylum seeker and refugees is required in order to learn profile patterns and link to needs and resources. For the gathering of those necessary data, all users will have to consent in order to provide anonymized, GDPR-compliant information that will be used by AI-based methods. In particular, the proposed technological solutions include an AI-based profile analysis to enable the personalized support, an AI-based matching tool in order the migrants' needs and skills to be matched with services provided by local authorities in each pilot country and a set of tools such as a chatbot or audio visual communication to enable personalized two-way, effective communication between the final users, i.e. migrants and local service providers.

More specifically, this project follows a user-centered 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 2<sup>nd</sup> and 3<sup>rd</sup> 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 points regarding 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.

As it was mentioned above, this deliverable is focused on improving the user experience by providing a complete environment for personalizing the interaction between users and REBUILD app.

## 2 PERSONALIZED INTERACTION OR HOW WE CAN IMPROVE UX IN THE CONTEXT OF REBUILD APPLICATION

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The access to any kind of service by smartphones and tables is increasing day by day. In fact, some analysis show that during 2021 more than 350 billion of apps were downloaded<sup>1</sup> and during 2019 mobile users spend up to 87% of the time using apps instead of other kind of solutions such as websites<sup>2</sup>. For this reason, the research in mobile app environment has also increased with the aim of providing better solutions for a more efficient and effective way of reaching the users. Agile development, security, quality analysis, usability, legal research, sensing applications...there are a lot of different areas involved in this big ecosystem. In this regard, personalization, as a specific manner of improving the usability of mobile apps, is also a crucial matter as it is for those software systems with a large user base.

Personalization aims at offering tailored interactions to users based on different aspects such as their interest, user behaviour, location and so on, and this can lead not only to an improvement of the user experience but also to a higher market impact, so it's vital to consider the adaptation of the app in the very centre of the designing process when defining a new one. In the REBUILD scenario, this customization may lead to a higher acceptance rate since it would help in the interaction process by easing the use of the application and the access to the information provided.

As just mentioned, the mobile apps context brings, due to its own characteristics, an advantageous domain for applying these kind of processes. Apps allow users to easily set up their preferences, their in-app activity can be smoothly tracked and the context of use can be also clearly defined, so an almost ideal breeding for personalization is provided.

Finally, it is necessary to note that, contrary to what some previous studies may claim such as [Constantinides16], in the present case the personalization process will not be considered as a combination of 'what' content is presented and 'how' it is consumed. Instead of that, we will focus especially on the second variable, extending it also to 'how' the content is presented, and setting aside the first one since, to our understanding, it is more related to the recommendation systems that are not contemplated in the scope of this task. Therefore, the personalization or customization process will be equivalent, according to this idea, to the interaction adaptation process, based on the below mentioned levels

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<sup>1</sup> <https://www.statista.com/statistics/276602/annual-number-of-mobile-app-downloads-by-store/>

<sup>2</sup> <https://www.statista.com/statistics/1019768/us-retailers-apps-vs-websites-time-distribution/>

### 3 PERSONALIZED INTERACTION IN REBUILD APPLICATION: A TWO DIMENSIONS' CUSTOMIZATION MATTER

According to the previous ideas, the adaptation of the REBUILD app can be considered as an important activity for assuring an improvement of the level of acceptance by the final users. In this regard, we are going to define a complete framework to manage different patterns of adaptation and associated rules with the aim of enabling a more versatile and adequate interaction according to some specific parameters and focusing especially on two dimensions of the user's interaction: the look and feel and the communication flow, where the former is mainly related to the way the content is shown within the app, while the latter is more related to the way the user is interacting with the app through the chatbot.

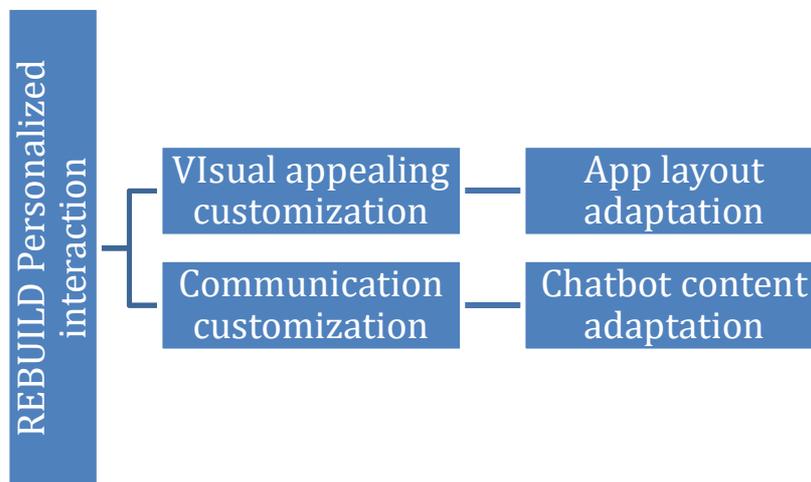


Fig. 1. Main aspects of the interaction personalization process in REBUILD

Once defined the main aspects to be personalized, the next step is to focus on what parameters are going to be measured, tracked or analysed to obtain the info needed to trigger the adaptation process. Current research aims at emphasizing the role of Adaptive User Interfaces (AUIs) when looking for a solution to manage the complexity of mobile app interfaces. UI can be defined as systems that change their contents and structures according to different parameters derived from the users' needs and context [Schneider-Hufschmidt93] such as geographic factors, cultural aspects [Peltonen18] or even cognitive load [Bhandari16]. REBUILD is cooperating through UAB with the UN ITU standardisation agency towards defining further the users in AUIs with the concept of "Common User Profile"<sup>3</sup>. The Common User Profile format intends to cover a wide range of electronic devices ranging from low end mobile phones to Digital TV and web-based systems and proposes to automatically adapt settings of all devices based on a single user profile. The draft Recommendation also aims to take forward earlier similar work done at the EU VUMS cluster project, ISO Common Access Profile and Software

<sup>3</sup> [https://www.itu.int/ITU-T/workprog/wp\\_item.aspx?isn=16868](https://www.itu.int/ITU-T/workprog/wp_item.aspx?isn=16868)

Individualization listing a minimum set of variables to describe user interface properties. The REBUILD information is to add to the list of requirements, those related to migrants and displaced people, who may encounter accessibility issues related to language, beyond learning disabilities nor literacy, but because the language is written in a different alphabet, or for cultural concepts. The idea that language accessibility is also a requirement where alternative communication channels need to be established is now gathered in ITU document.

The modelling of this information is one important additional step within the entire process and most recent research works are in the way of using semantic models to contributing in this management. In fact, different studies proposed not only different ontology-based methods for information modelling for context-aware or user's needs [Skillen12] but also for supporting dynamics and adaptive user interfaces [Castillejo14]. Following these approaches, we have defined a two-model framework that will be explained next.

### 3.1 REBUILD SEMANTIC MODEL FOR PERSONALIZATION PURPOSES

According to the entire process, our framework will be composed by two different semantic models:

- one for defining the adaptation tasks for each dimension, that's is, the different modifications that are going to take place when personalizing the look and feel and the communication flow,
- and another one for the user profile and information (obtained both in explicit and implicit manner).

Both are going to be defined in a generic way in order to include all the different options or information that should be included in a complete personalization procedure, but then we will specify which ones are finally used in this case.

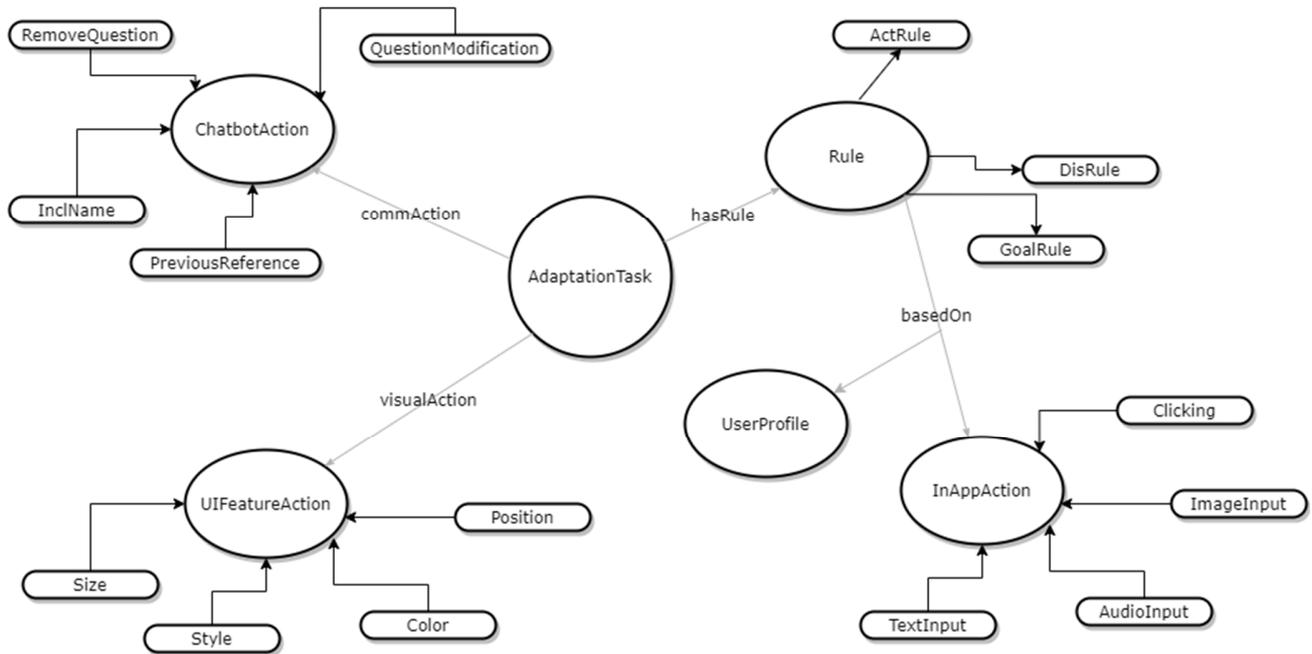


Fig. 2. Adaptation task ontological model

With regards to the model for the Adaptation task shown in Fig. 2, the main element is what we call “AdaptationTask”, in charge of making the modifications for the customization of the interaction, and it can be classified in two main groups: communication action (commAction) that acts over the chatbot (ChatbotAction), and visual action (visualAction) that acts over the visual appealing of the REBUILD app (UIFeatureAction). The different aspects that can be modified in each case are the following:

- For the UI interface: the changes are related to the graphic elements in the interface:
  - o Size
  - o Style
  - o Color
  - o Position
  - o In this case, the changes will be focused on the modification of the position and order of the icons in the image.
- For the chatbot: the changes are related to the communications with the user, allowing the system to:
  - o Remove a question.
  - o Modify a question.
  - o Include the name of the user in the conversation
  - o Refer to previous information already provided by the user.

Once defined the modifications that may be applied for the customization process, next step is to defined the rules for doing so. With regards to this element, three are the main related aspects:

- To activate a rule in order to start applying it (ActRule)

- To delete a rule that should be no longer applied (DisRule)
- To define the goal of the rule or what the rule is for (GoalRule).

Finally, these rules will be based on two different aspects: user's profile and user's in-app activity.

With regards to the user profile model, Fig. 3 shows a general structure for defining its main aspects. As can be seen, users' have context that may affect the use of the application such as the location, the time of use, the weather, etc. In the REBUILD case, the main characteristic to be considered is the location since the services to be provided are defined by where they are available.

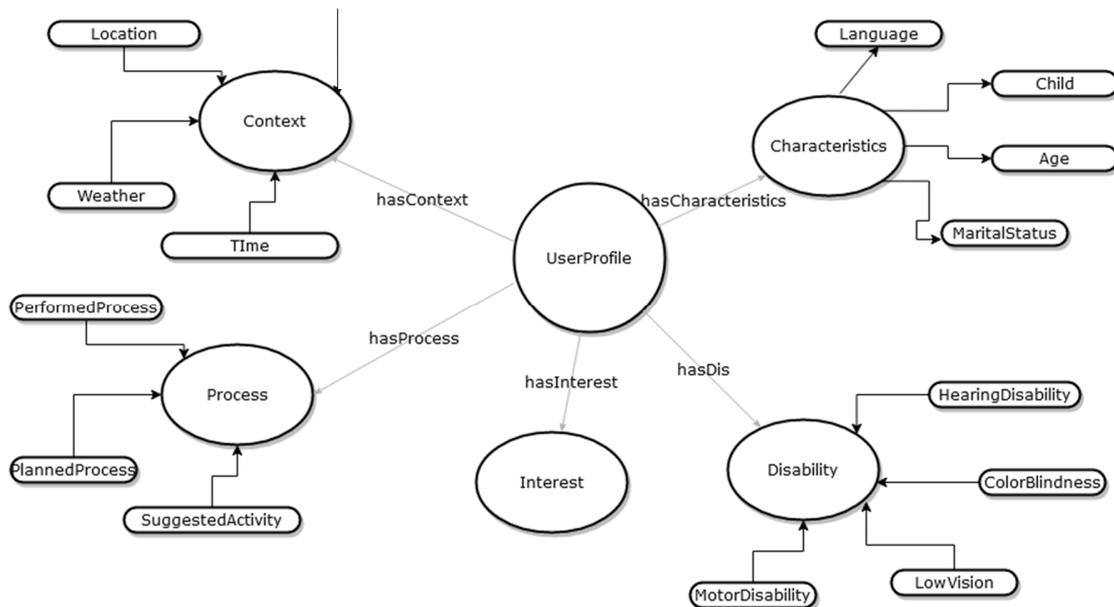
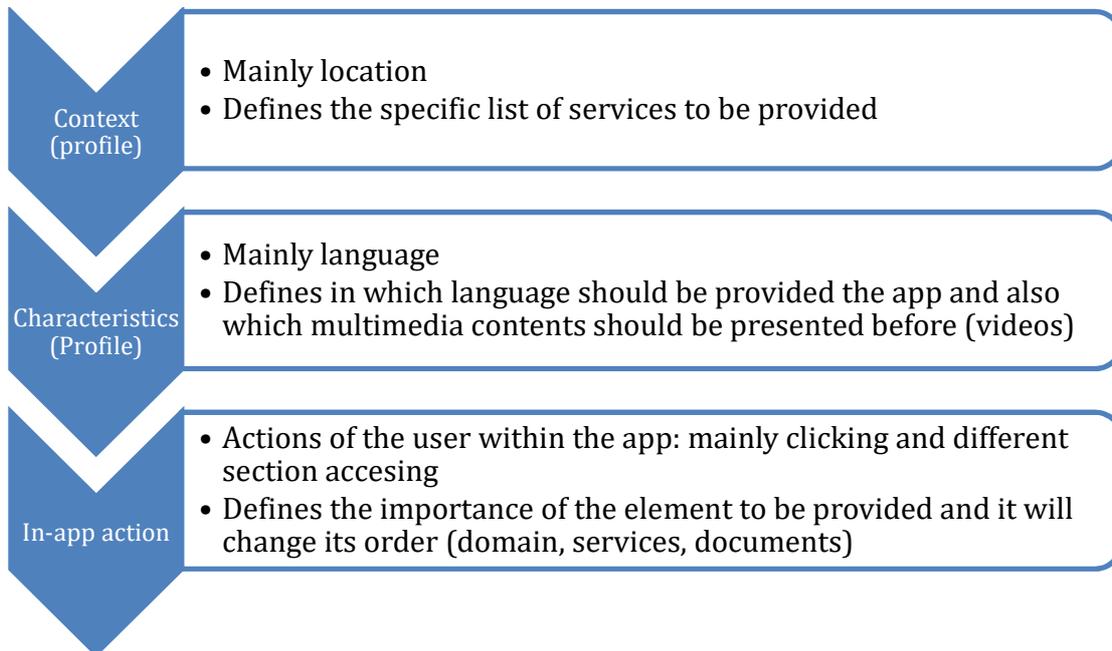


Fig. 3. User profile ontological model

Different characteristics can be also included when creating a user's profile such as the language to use, the age range, if he is married, if he has children, etc. Moreover, in a general model the disabilities of the users should be also considered, since the provision of the services may differ in order to guarantee an access for all. Finally, the interest of the users may provide important information when trying to personalize a service.

### 3.2 REBUILD PERSONALIZATION LEVELS FOR LAYOUT ADAPTATION

Based on the general model provided in the previous section, the following step for the personalization process is to identify which elements may take part for the REBUILD case. Considering the use domain and the different use scenarios of the REBUILD app and the options derived from the app's design, we have defined a three-level adaptive process: context and characteristics that derive from users' profile and in-app action, as it is shown in Fig. 4.



*Fig. 4. REBUILD app layout adaptation levels*

With regards to where the information for each level can be gathered, we have two main options:

- Context and profile: this information is mainly obtained in an explicit way. Both context and profile, in the REBUILD app case, are provided directly by the users through the chatbot, thus retrieving it by asking the backend.
- In-app actions: this implicit info is obtained by tracking the user's activity within the REBUILD app. Next section explains the new method for retrieving these data in an effective way.

### 3.2.1 REBUILD IN-APP ACTION DETECTION

Current solutions to detect in-app user's activity are usually based on a continuous app code modification schema, which implies high development efforts and a clear problem to implement changes without compromising the time to come back to the market or even with dependencies in the user's app updates. For this reason, we have defined a way for tracking this activity based on the use of Aspect Oriented Programming (AOP) and composed by a two-element combination: a server-client communication based on JSON file exchange and an in-app library for tracking management called MANTRA (Mobile Analytics TRacking), derived from the one presented in [Moreno20].

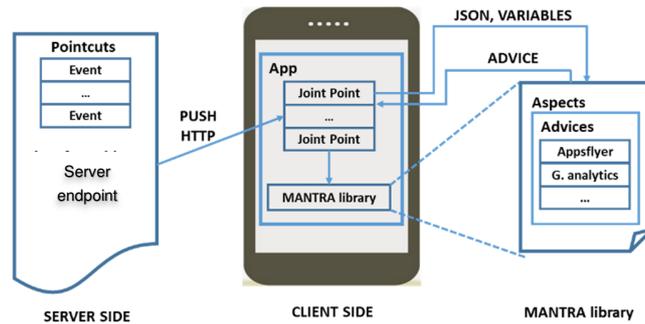


Fig. 5. In-app user tracking based on AOP approach

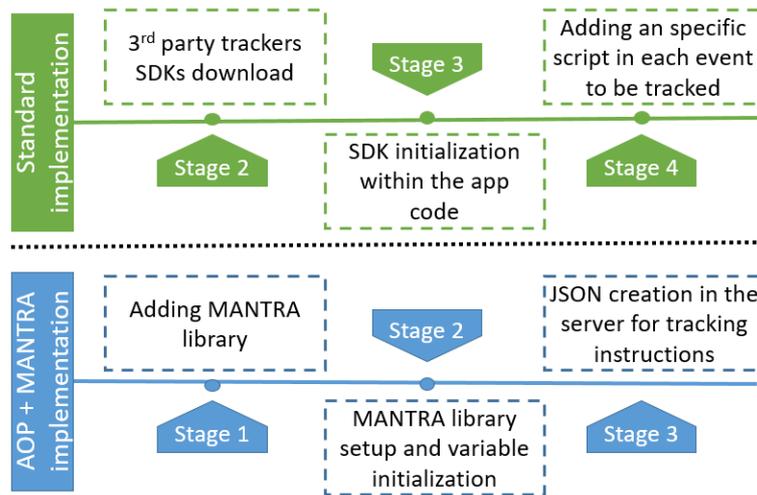


Fig. 6. Standard vs. AOP+MANTRA implementations

The structure of the JSON is very simple and in can be seen in the following example:

```
{
  UtilsService: [{
    jointPoint: executeProvider.BEFORE,
    methodPattern: /AOP/,
    advice: 'LoggerService'
  }]
}
```

Fig. 7. JSON structure

According to the example given in Fig. 7, first element in the JSON is what is going to be monitored. Then, the jointPoint indicates when the monitoring has to be done. After that, methodPattern indicates the functions to be monitored within the main element. Finally, the advice is in charge of defining which data needs to be collected and how they are sent to the server endpoint in charge of storing them.

Following table shows the different elements to be tracked in the app together with the related action.

Table 1. In-app elements to be tracked

Parameter	Elements to be tracked				
type	screen	question	service	document	video
time_start	time user enters in the screen	time the user start the drag and drop or tap	time start on the chatbot	timestamp of consulting the document	timestamp of video
time_end	time user leave the screen	time the user complete the question	time leaving the chatbot		
domain	domain if exists	Domain been dropped or taped	domain of the service	domain of the document	
service	service if exists	Service been dropped or taped	service		
name	url of the screen (ej: /domain/social		name of the chatbot	name of the document	name of video
event		drag ot tap			
user_id	id of the user	id of the user	id of the user	id of the user	id of the user
What it measeures	Number of times users enters in a domain or enter a Rebuild question	Number of times the user starts a Question	Time the user enters on a chatbot	Times the user sees a document	times the user watches a video
	Time that user stays on a screen	Number of times the user completes a Question	Time user spends on the chatbot		

### 3.2.2 REBUILD APP LAYOUT ADAPTATION

The modification of the REBUILD layout app will be based, as previously said, on the combination of three different levels:

- **Definition of the elements to be presented:** according to the context of use (mainly the location), different elements will be provided to the users (that's is: social mentoring in Spain, health services in Italy and Greece, etc.)
- **Definition of the importance of the services:** two main different aspects usually give an idea about the importance of the elements in an interface: the location and the size. Following this, the customization of the REBUILD layout will be focused on personalizing the list of the services to be provided by modifying their titles, icons and other graphic elements' position, as suggested during the design phase.

No more layout adaptations have been done with the aim of not disrupting the visual designing of the application.



Fig. 8. REBUILD layout modification

### 3.2.2.1 WORKFLOW FOR THE LAYOUT ADAPTATION

The workflow to be followed in order to be able to apply the layout adaptation can be seen in Fig. 9. When the user starts the application, the tracking of the in-app activity also starts and the information starts to be recorded in the device. Once 100 events are detected, the app send this information to a specific end-point in the Rebuild back-end and they are removed from the device. This process is done continuously while the user is in the app.

Finally, with the aim of not needing high computational capabilities in the user side, the app only asks about the tracked events to the back-end once per day, making the adaptation accordingly.

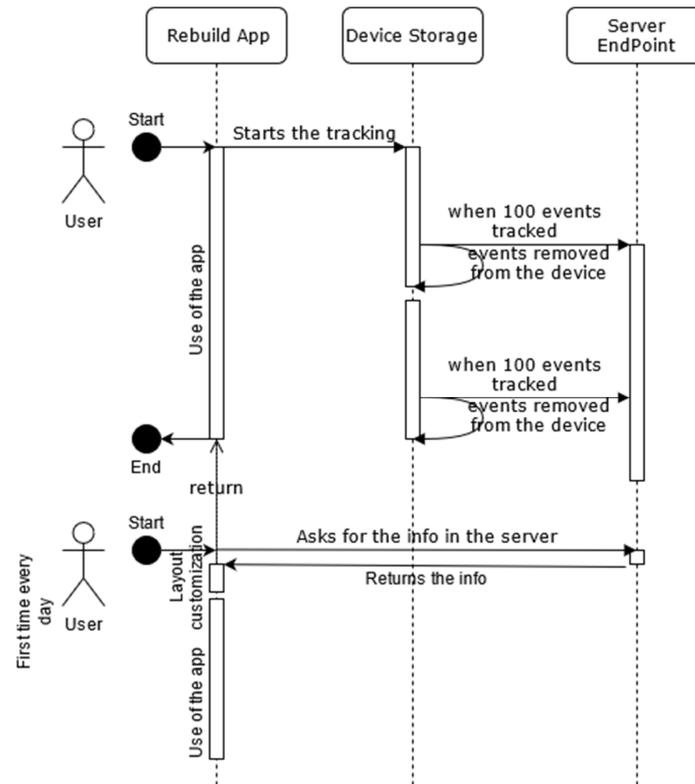


Fig. 9. Main workflow for the layout adaptation

### 3.2.2.2 RULES TO BE APPLIED

Once the workflow has been presented, and taking into account the different aspects explained before, next step is to identify the specific actions to be applied to the different elements in the layout interface. For doing so, the next rules have been defined according to the three levels:

Context:

- Location: the domains and services to be presented and activated are directly related to the location provided by the user as can be seen in Fig. 10 left.

Profile:

- Language:
  - o The user selects the language for the entire app between some options.
  - o The videos are organized according to this information, putting the ones in this language first.

In-app actions:

- Number of times an item has been accessed (for domains, services and documents):
  - o This defines the order of the icons to be presented (as can be seen in Fig. 10 center).

- For the videos, the order is defined by combining the language, the novelty of the videos and the most visited ones (with aggregated information from all the users).

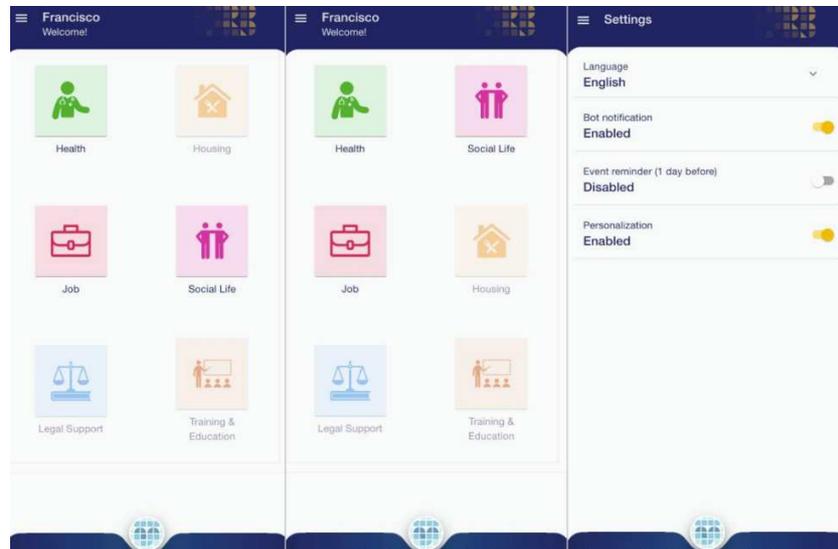


Fig. 10. Example of the adaptation for domain icons (only by context on the left, including the in-app actions on the center).  
Left caption shows how to enable/disable the adaptation in the application

Finally, Fig. 10 right also shows how this layout adaptation process can be easily enabled/disabled from the settings menu in the application.

### 3.3 REBUILD COMMUNICATION ADAPTATION

This second phase of the REBUILD adaptation is focused on the personalization of the chatbot. This increased level of personalization will come by taking advantage of two elements, the use of personal information from the profile, such as the base location, and answers already given to questions in the same, or a different service, that has already been given (Fig. 11):

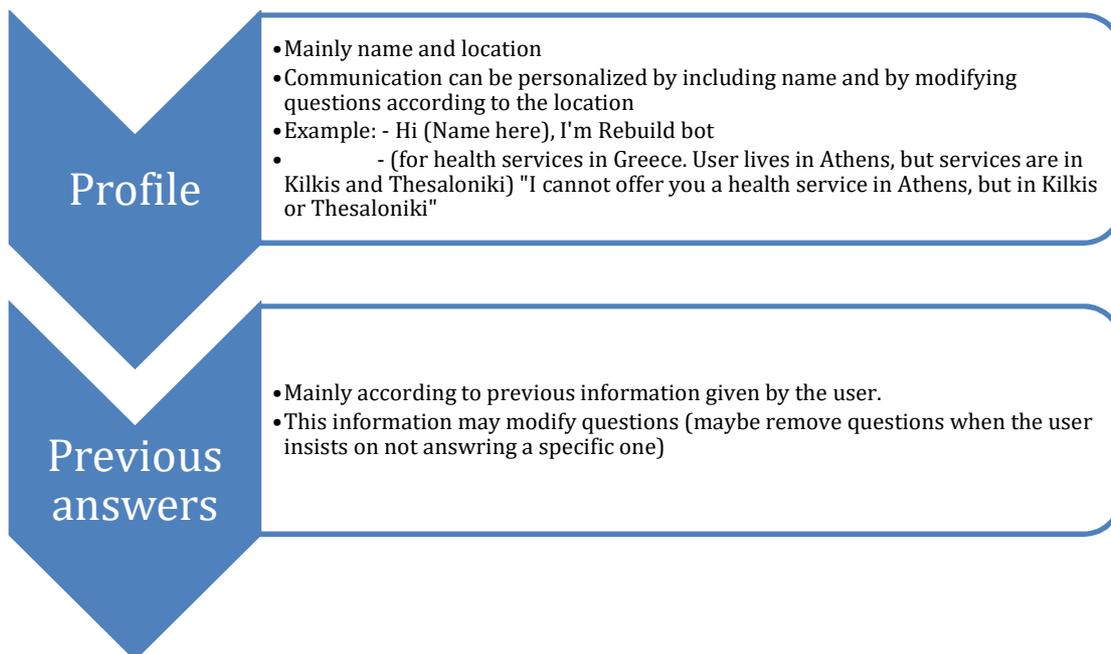


Fig. 11. REBUILD communications adaptation levels

While having a level of user friendly personalization in the interactions of the chatbot is a very desired feature, care must be taken in order to have a consistent and trustworthy conversation when the chatbot plays the role of service intermediate. Therefore, the level of personalization of the rule based chatbot can only be minimal so that the functionality is not replaced by convenience.

That being said, the rule based chatbot is changed to incorporate personal information when it is available. On the one hand, information such as the selected username can be used inside the conversation so that a friendlier tone can be set in the interaction. So for example the question to retrieve the current location of the user, "What is your current location?" can be modified to "<Username>, are you still living in <Location>?"

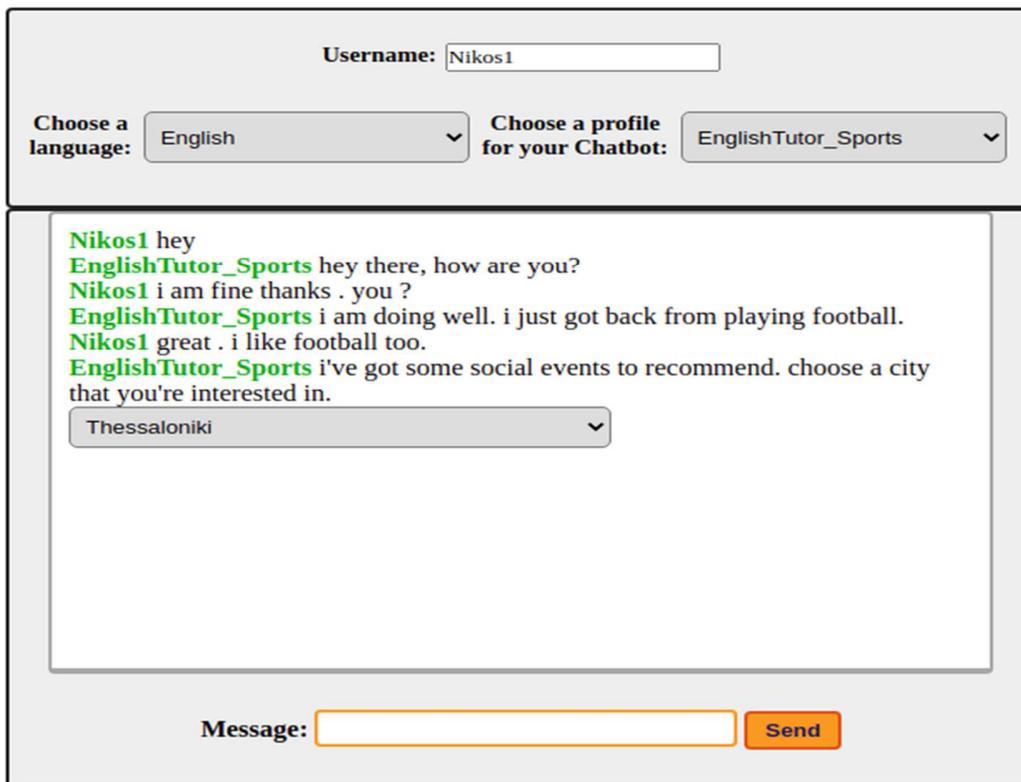
Additionally, in the current implementation of the chatbot, the location information is only used to detect if a service is available in the user's current location. If a service is not available, the chatbot finishes the conversation by a declaration that the service is not available. A modification that can increase the personalization is to suggest other services that are available in this area, or possible ways for the user to solve his/her problem by providing contact in the area of the user that can help.

So, instead of the chatbot closing the conversation with "This service is not available in your location", an alternate message could be "An automatic service is not yet available for residents of <Location> but you can get help about <Domain> by contacting <Name of contact> at the phone <Telephone number>".

Furthermore, the chatbot can go back to the recent conversations with the same user in order to detect if some relevant information is already provided. In this case, instead of asking for the information the chatbot can offer the information to the user and ask for a verification that it is still valid. This also applies

to information that could have been provided but the user decided to not answer the question. If this information is necessary for a service to function, then this fact will be made known to the user.

A greater level of personalization can be achieved by the conversation chatbot. Aside from the creation of a conversational chatbot, which would assist migrants in learning a new language, a recommendation system in conjunction with the dialogue system would provide important guidance to migrants in meeting the local societies. The conversation chatbot is used in the education domain so that the migrant can practice the chosen language. As with the rule based chatbot, the personalization can be also achieved in this setup by using information from the profile of the user or from the dialogue itself. So, another source of information on user preferences can be the conversation between users and the open-domain chatbot. In such a dialog, users frequently provide more information about their preferences, especially when they ask for tips or recommendations. The aim of this recommendation framework is to improve user engagement by offering more flexible and personalized feedback through natural language interactions.



The screenshot shows a chatbot interface with the following elements:

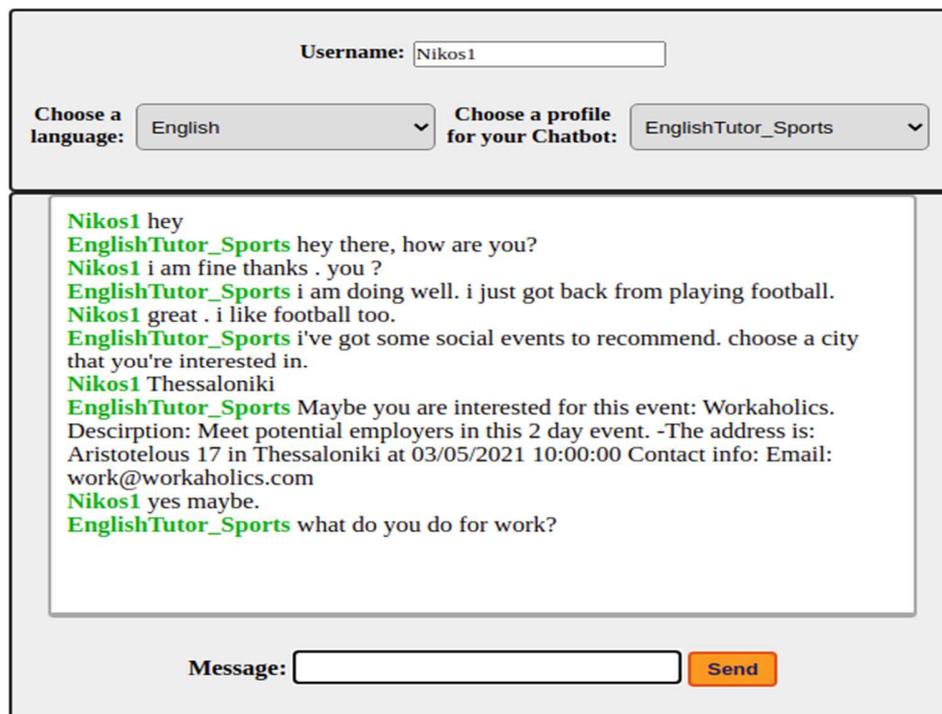
- Username:** Nikos1
- Choose a language:** English
- Choose a profile for your Chatbot:** EnglishTutor\_Sports
- Conversation History:**
  - Nikos1 hey
  - EnglishTutor\_Sports hey there, how are you?
  - Nikos1 i am fine thanks . you ?
  - EnglishTutor\_Sports i am doing well. i just got back from playing football.
  - Nikos1 great . i like football too.
  - EnglishTutor\_Sports i've got some social events to recommend. choose a city that you're interested in.
- City Selection:** A dropdown menu with "Thessaloniki" selected.
- Message Input:** A text box with "Message:" and a "Send" button.

Fig. 12. In the third turn of dialogue it is displayed a message and a dropdown form (with cities as options) that asks the user to select a city of interest.

A major addition for the conversation chatbot is to also provide suggestions to the user about events that might be of interest. The recommendation message is constructed by calling the REBUILD API to retrieve all available social events (<https://rebuild.eng.it/api/search/lsp/events?country=greece>). All available events are temporarily stored in lists based on cities. More specifically, the conversation chatbot is designed to output a dropdown form in the third turn of the dialogue, asking from the user to

select a city of interest, as it is shown in Fig. 12. The early selection of the third turn of dialogue is chosen in order to keep the chat with the user more interesting and engaging. If there are no available events in the city that the user selected, it displays a message informing the user of the event's unavailability at the time and recommending events from another city. This recommendation system could be improved by providing more personalized recommendations based on the user profile.

Furthermore, in order to make the chat-flow appear more normal in combination with the recommendation messages, we designed the conversational chatbot in such a way that when it receives a question from the user, it postpones the recommendation mechanism for the next turn. So, in the second turn of the dialogue, if it receives a question from the user, it will respond as a conversational agent and will continue to act in this manner until the user has no more questions before displaying the recommendation message. After sending the recommendation message, the chatbot resumes its role as an open-domain conversational chatbot and continues the conversation with the user as it is demonstrated in Fig. 13. This is a dynamic way of displaying the recommendation message in order to make the dialogue appear more human to the user.



The screenshot shows a chatbot interface with the following elements:

- Username:** Nikos1
- Choose a language:** English
- Choose a profile for your Chatbot:** EnglishTutor\_Sports
- Conversation Log:**
  - Nikos1 hey
  - EnglishTutor\_Sports hey there, how are you?
  - Nikos1 i am fine thanks . you ?
  - EnglishTutor\_Sports i am doing well. i just got back from playing football.
  - Nikos1 great . i like football too.
  - EnglishTutor\_Sports i've got some social events to recommend. choose a city that you're interested in.
  - Nikos1 Thessaloniki
  - EnglishTutor\_Sports Maybe you are interested for this event: Workaholics. Description: Meet potential employers in this 2 day event. -The address is: Aristotelous 17 in Thessaloniki at 03/05/2021 10:00:00 Contact info: Email: work@workaholics.com
  - Nikos1 yes maybe.
  - EnglishTutor\_Sports what do you do for work?
- Message Input:** A text box with a "Send" button.

Fig. 13. Following the selection of the city ("Thessaloniki") from the user, the recommendation message with all available information for the event is displayed. After the recommendation message, the Agent continues the open-domain conversation with the user.

In summary, a recommender-dialog system should perform well at both tasks: dialogue and recommendation. An ideal recommender-dialog system is an end-to-end framework capable of effectively integrating the two systems so that they can benefit each other. Information from the recommender system can provide critical information for maintaining multi-turn dialog, whereas

information from the dialog system or the user's profiles, which includes user preferences, can improve recommendation quality.

### 3.4 REBUILD PERSONALIZATION EVALUATION

This section describes the framework and methodology used to evaluate the usability of the personalised interaction service developed for the REBUILD App during an intermediate testing phase previous to the final piloting phase. Reports will be integrated in D6.4.

This methodology will have to be evaluated both online and face to face.

- a) **What will be tested?** The measures to be tested are usability of the personalisation service.
- b) **Experimental protocol:** users will be asked to perform certain tasks and report on the usability of the service and on their preferences through questionnaires with closed SUS questionnaire. Any comments given by participants will also be collected and reported.
- c) **Research tools:** SUS questionnaires. See Annex 1 for samples of possible questions.
- d) **Facilitators:** two facilitators will be needed. One facilitator will be the leader (welcoming participants, explaining the project, explaining the test) and the other one will have an assisting role (providing the digital questionnaires and helping to fill them in, providing technical assistance, etc.).
- e) **Participants:** migrants, LSP, citizens.
- f) **Dates:** Intermediate testing phase.
- g) **Duration:** about 2 hours.
- h) **Language of the tests:** Catalan, English, Greek, Italian, Spanish.
- i) **Materials:** SUS questionnaires in the different languages, consent forms in different languages
- j) **Reporting:** UAB will export the data from the questionnaires and write a report on the results obtained. For any comment UAB will write the report gathering all the comments using a template provided by UAB.
- k) **Ethical issues:** we need to make sure the way the test is performed is accessible in languages understood by participants. All the ethical forms needed (information sheet + consent form) have to be in the languages the tests will be carried out. UAB will provide these documents in English, Spanish, Catalan. All ethical forms will be uploaded in the following folder in Nebula.

## 4 CONCLUSION

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This deliverable presents the adaptation process in the application for improving the user experience when using it, which is mainly focused on two main parts of the solution: the layout of the app and the chatbot.

For the layout adaptation, a three level process has been defined based on three main aspects: the context of use, the user's profile and finally the in-app activity, and the modifications have been focused on increasing the importance of the most used elements through their order within the interface. For tracking this, a specific implementation within the app has been done in charge of easily detecting user's activity. In this regard, these tracked events are sent to the back-end since they are not only involved on this adaptation but also on providing information for the REBUILD app use reports.

The personalization of the chatbot has been also presented, including the different aspects that have been considered for making the conversation more natural and appealing for the user.

Finally, this document also describes how these adaptations can be evaluated through a set of intermediate tests, with the aim of increasing the feedback sources for improving the final application.

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## ANNEX 1

### Task 1.0 – Download and register into REBUILD.

Fit criteria: Users should reach REBUILD's App homepage after registering.

### Task 1.1 – Once provided your country, check what are the services available.

Fit criteria: There should be a list of services "available in the country" and the list should be organised according to the users' context, profile and in-app activity.

Trait 1 – Initial layout	Values
I find the current layout of services appealing	Agree
The current layout display services in a clear way	Agree
Services were ordered according to my context, profile and in-app activity	Agree
The layout helps me to identify relevant services, according to my context, language and number of uses.	Agree

### Task 1.2 Now, explore the App and access 3 different services, according to your own interest.

Fit criteria: After using the app (free navigation exploring 3 different services) the list should be different.

Trait 2 – Modified layout	Values
I find the new layout of services appealing	Agree
I find the new layout displays services in a clear way	Agree
Based on my context, language and number of uses, the new services distribution is more accurate	Agree
The new layout helps me to identify relevant services easily	Agree
Item 3 – Dynamic layout adaptation	Values
Changing the distribution of services dynamically was useful	Agree
The dynamic adaptation did not create confusion	Agree
I could easily identify the services more relevant to me	Agree
I like having services organised according to my context, language and number of uses	Agree
I find this feature (dynamic layout) of interest	Agree

### Task 2.1 Chatbot. After registering, the users create a question using the chatbot, and explore 1 service involving a chatbot discussion.

Fit criteria: The chatbot should provide a personalised treatment, adjusting answers based on previous ones, and avoiding requesting info twice.

Item 5 – Chatbot personalisation	Values
The chatbot provided information related to my current location	Agree
The chatbot information was clear	Agree
The chatbot provided useful information	Agree
The chatbot asked me the same data more than once	Agree
I like the chatbot treating me in a personal manner	Agree



Once the tasks are completed, general questions will be asked.

### General questions

<b>Final item – general opinion of the personalisation app</b>	<b>Values</b>
I like the layout personalisation service	Like
Having personalisation services made easier for me to use the REBUILD App	Agree



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## REBUILD

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