DELIVERABLE REPORT D6.2
"Bureaucratic Advisor Service"

MASELTOV

Mobile Assistance for Social Inclusion and Empowerment of Immigrants with Persuasive Learning Technologies and Social Network Services

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CONTENT

1. REVIEW COMMENTS AND CHANGES

Review comment	Changes	Comment
At present, this service is based on simple browsing and does not cover the functionality described in DoW.	Adding Chapter 5.2, 5.3 and 5.4 to the document.	Within the chapter 5 it was explained why Wiki was used as a prototype. In the next step, the disadvantages of this approach are described. Afterwards, the advantages of the new approach are described and what are the key features. Most of the features meet the requirements from the DoW (communication with other MApp components, providing information for administration services). Calender is the only feature that will not be covered. However, during the project other features are defined as more important than a calendar, e.g.: correlation of text (how to get my visa?) with place (where to get my visa?).
There is some concern about the appropriateness of the selected tool, ie the use of a Wiki as an information service to deliver structured content.	Change of Chapter 5.1 and adding Chapter 5.2 to the document.	Within this chapter it was explained why Wiki was used as a prototype. Additionally, the reason for choice of another technical platform as basis is described. Furthermore the benefits and reasons for this change are explained.
There remains confusion between the terms immigrant and migrant.	In the whole document the term immigrant is used.	
There is much unnecessary descriptive text that has little relevance to a technical report.	Change of chapter 5, adding more technical description.	The first part of the document (chapter 4) deals with the problem definition and analysis in respect to existing info platforms. It was important to have this analysis in order to get familiar with the problems that immigrants face in case they are searching for important information. These analysis and results are extremely important in order to know which features and content are important for immigrants. Chapter 5 deals with the technical concept in detail.
This is a poorly structured document with hotlinks in the body of the text rather than properly referenced.	Links used as reference are now available in the footnote. Links used as examples are integrated in the text (unique format for the whole document)	

2. EXECUTIVE SUMMARY

This deliverable represents the problem analysis and the development of the MASELTOV App (MApp) service *Info*. The goal is to provide the immigrants an information platform that covers the most important information related to the bureaucratic, administrative and health care topics. Additionally, the administration area should be easy to use intuitive and easy to use.

Within WP2 USER REQUIREMENTS & INTERACTION DESIGN the functional and non functional requirements for the respective MASELTOV services were defined based on discussion with the focus groups. These results from WP2 represents the first requirements fort he specification and development of the respective service.
Additionally, a comprehensive analysis from NGO (FUN) of the user expectations in respect to the expected and most useful information was undertaken. These findings combined with the problem analysis represent the first part of this document. Finally, the structure of the relevant content for the final trials in London is defined.

Based on the problem definition and requirements analysis the technical analysis and specification was conducted. The first prototype and its advantages/disadvantages were described. Afterwards, the new technical approach was described in addition to the key features. In the next step the technical specification was explained in detail, including the system architecture and the component description, interface description and technical specification in respect to communication with other MApp components.

3. INTRODUCTION

This deliverable describes the work carried out in the scope of task *6.2 "Administrative Information Service"* of work package 6 *"MOBILE ASSISTANCE & INFORMATION SERVICES"*.

The result of this task is a documentation of the MASELTOV service called *"Info"*. The idea behind this service is to provide an information platform to the immigrants that contain the information related to the bureaucratic, administrative and health topics (see *Task 6.4 Health Care Service*) in an efficient way. The focus is on easy usage of the service as a compactness of the information that will be presented to the immigrants.

In the first part of this document the problem situation and analysis in respect to the bureaucratic/health care topics will be discussed. The focus within this part will be on understanding the difficulties of the immigrants that are new in a city/country and which expectations they have in terms of information platform. The results from the problem analysis are used as basis for the definition of the most relevant content for the information platform.

The second part of the document deals with the technical analysis and specification of the information platform, explaining the technical details for the client and server component.

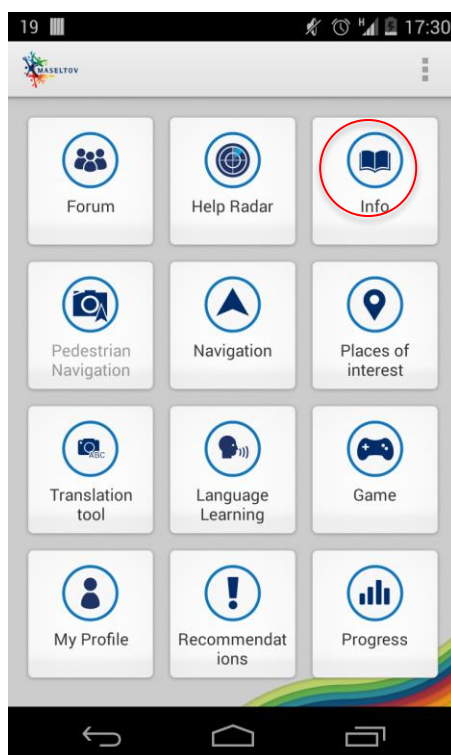Figure 1 identifies the service within the MApp dashboard.

Figure 1: MApp dashboard

4. PROBLEM DEFINITION AND EXPECTATIONS

4.1 PROBLEM DEFINITION

This section will briefly describe the problem definition in respect to the topic of bureaucratic and information services and expectations of the immigrants for this service in the trial cities of Vienna, London and Madrid.

NGO's from the project will describe their experience and knowledge in respect to this problem analysis since they have several years of experience in the work with the immigrants.

4.1.1 SITUATION IN AUSTRIA

Immigrants in Austria face different bureaucratic problems and have to solve difficulties with access to the information to several topics.

Permanent residency

For example the permanent residency issues in Austria are very complicated, so it is not easy for immigrants to understand, what they exactly need and where they can get all these documents and confirmations to proof their income, level of German language knowledge, size of flat etc. At this time there are a lot of different kinds of residence titles. Immigrants have to contact the local authorities and it depends on these authorities what kind of information they offer and the decision can be different. One is only allowed to apply for one kind of title and that means that an application is invalid if it contains more than one purpose for residency[1].

Each of these titles has specific rules like the run of validity, which is not always the same and depends on specific factors. Many immigrants need the help of lawyers to solve these bureaucratic efforts, especially if guidance from NGOs is not available.

Another difficulty for immigrants is, that one needs skills of German language (A1, A2 and B1 level) to be able to apply for some of these titles. As one can see, the immigrant has first to find out this information too, and learn the language before he/she applies for residency.

The difficulties don't end with the receipt of the residency title, once you have it, you have to fulfil an integration-agreement.

The available information from governmental sites is usually in German language with some shorter information in English, BKS and Turkish[2].

Other websites examples:

- *http://www.bmi.gv.at/cms/bmi_niederlassung/* - some English Information.
- *http://www.verwaltung.steiermark.at/cms/beitrag/11679890/75852120/* - federal information of Styria, only German, language is too specific can only be understood if one is used to legal terminology, even people with German as a mother tongue have problems to understand this.

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[1] Application for residence titles in Austria:
https://www.help.gv.at/Portal.Node/hlpd/public/content/12/Seite.120221.html

[2] Vienna City Website for immigration:
http://www.wien.gv.at/verwaltung/personenwesen/einwanderung/aufenthalt/niederlassungsbewilligung.html

- *http://portal.linz.gv.at/Serviceguide/viewChapter.html?chapterid=123074* - the City of Linz offers a digital appointment booking for residency issues.
- *http://www.imimmigrant.at/* - NGO with information concerning residency, employment, citizenship and important issues for immigrants available in 12 (!) languages.

<u>Employment permit</u>

There are many different rules depending on the country of origin and the immigration status for an employment permit. People from the European Union and the European Economic Area (EEA) have free access to the job market. Exceptions are Romania and Bulgaria, people from these countries underlie the Employment of Foreign Nationals Act. Other regulations concern people from third countries. The next category is for qualified workers from these countries, these are able to apply for a "Rot-Weiß-Rot-Karte". There are five different kinds of it, depending on qualifications; in most of these cases immigrants have to already have a job. There are several more forms of employment permits. Important to see is, that there is a lot of information to go through to find out which kind of employment permit someone needs and in which category he/she belongs.

Websites like the one of Public Employment Service Austria[3] contain some information about these regulations, but are written in a very difficult language. It contains not all of the important information on which forms immigrants need or which requirements they have to comply with. Therefore there is a link to the Ministry of the Interior[4], where immigrants have to find their way through to the information needed, they do not have a search function. If people do, they are confronted with a very legal language.

The second problem is, that although one finds very extensive information, everyone has to pick out what is important for him/her, because the information about employment is wrapped in information about residence. This information is in German only.

AMS is offering some information in English[5] but it is very general and little very crucial information. To find out more about migration affairs one can be linked to the English version of the website of the Austrian government[6] where one can find many information.

All in all one can find a very difficult structure to see through. There are many special regulations, so that it is very complicated for an immigrant to find out which of these regulations apply to her- or himself. Even for an Austrian citizen, who masters the German language it is hard to understand this structure. The information on websites is either very hard to understand because of the legal language or is described in an easy way, with many important things missing. Little websites have information in more than one foreign language (mostly English) and even then not the whole website is translated, but just very small parts of it, so here again a lot of information is missing.

For immigrants it is very difficult to find clear and easy accessible information, with all relevant additional information for the own special case. It could be very helpful to have a multilingual information service with the possibility to find an individual path of relevant information.

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[3] Employment Service Austria / AMS: *http://www.ams.at/sfu/14185_1274.html*

[4] Ministry of the Interior: *http://www.bmi.gv.at/cms/BMI_Niederlassung/start.aspx#t_Aufenthaltstitel*

[5] Employment Service Austria / AMS – English: *http://www.ams.at/english/14605.html*)

[6] Austrian government – English: *http://www.migration.gv.at/en/*).

The information platform should include links to authorities concerning residence, also employment services and NGO advisory services. The laws can be explained, but unfortunately change very often, so this has to be updated frequently.

Nevertheless, an information platform that contains the most important and useful links concentrating only on the information that is really useful to the immigrants would lead to a huge benefit to the immigrants.

4.1.2 SITUATION IN LONDON

Learning English is a key factor for immigrants to integrate successfully into UK society. Access to good quality English for Speakers of Other Languages (ESOL) classes can be poor, due to great variation between classes in terms of quality, price and entry requirements. Immigrants who are unemployed or who meet other criteria might not be aware of their potential eligibility for free or discounted classes and might also find the registration process confusing.

Language, literacy and also computer literacy are all becoming increasingly important in the UK as most government services are moving their application and customer service systems online. Immigrants claiming benefits, submitting self-employed income tax forms, or accessing a number of other government services are asked to fill in online forms and are rarely given the option to submit paper forms. In addition to having difficulty understanding the forms, immigrants might not have the computer skills or might have limited or no access to the internet in order to complete the forms in a private place.

Language skills are also essential for accessing information and services, making job applications, building up social and professional networks, and general communication. Immigrants themselves, or their advisers, might assume that a very good level of English is necessary for all jobs, however, this isn't necessarily true. As a result immigrants might be unnecessarily discouraged from applying for jobs within their professions. For example, someone doing technical drawings for an engineering firm does not necessarily have to have excellent English since they would not be required to communicate with suppliers or clients.

The job application process in the UK is in many ways unique and also varies from sector to sector, making it difficult for immigrants trying to enter the employment market to understand the expectations employers have and also the job applicant's rights with regards to discrimination law. As well, immigrants who are in work might not be clear on whether they are classified as employed or self-employed, something complicated by the fact that many are in low-skilled work, with 'employers' which might try to force the 'employee' to work as self-employed.

In England, Job Centre Plus (JCP) is the mainstream service for advice and support in accessing employment. The service does not usually meet the needs of immigrants as a result of many factors including the lack of time JCP advisers have to allocate to each individual, JCP advisers promoting JCP products and services which may not be suitable for each individual, JCP advisers having little awareness of immigrants' overseas experience and qualifications, or simply not seeing this as valuable and so encouraging them to take low-skilled jobs.

Immigrants claiming benefits are expected to attend regular appointments at the Job Centre. There are challenges in terms of understanding the requirements and expectations of claimants including regulations for retaining benefits, reporting changes to one's

circumstances and dealing with over-payments or penalties. A new 'bedroom tax' is also now being imposed on those in council housing who have a spare room to let out.

When looking for work, there is a general requirement by employers that job applicants already have UK work experience. In the UK, it is common practice to gain this experience through volunteering or unpaid work experience programmes. For some immigrants, this might be seen as something very unfamiliar and undervalued or 'working for free' and might also impose a financial barrier for those who cannot afford to spend time doing these activities unpaid.

Many new immigrants are very isolated and when in need of a reference for a job application, have only their GP to approach. GPs will often refuse to write references or will charge high fees for this service.

The process of having overseas qualifications assessed and compared to the UK system is also complicated. The assessment is not necessarily required when applying for work, though might be a necessity for some roles or for further study. The assessment is relatively expensive to apply for, the requirements for providing documents unclear and the result in many cases is that the overseas qualification will be downgraded. When a qualification comparison is not actually required by an employer or educational institute it will often be better to simply describe the qualification in UK terms rather than provide a formal assessment result.

For some jobs or training courses a health check or a Disclosure and Barring Service (DBS) check may be required. These incur costs that could prevent the person from accessing services, applying for courses, or going for a job. A DBS check will also require particular documents which immigrants might struggle to obtain and in some cases employers or training providers might insist that the immigrant has evidence of living in the UK for up to 5 years.

In addition to this, some immigrants, such as those from Bulgaria and Romania, currently have restrictions on what sort of work they can do in the UK and while this is meant to change in January 2014, other new EEA member countries are expected to have similar restrictions imposed on them as and when they join (e.g. Croatia).

Other processes that immigrants might struggle to understand include applying for a national insurance number, getting a bank account, applying for tax credits, finding suitable accommodation, registering for a GP and using public transport including how to use an Oyster card (which results in cheaper travel around London). Understanding the financial mechanisms, credit, rights and responsibilities requires financial literacy. For immigrants with children, London in particular has a very daunting system for registering children in formal education.

Immigrants in need of legal advice require support with a wide variety of issues, including family reunification, renewing visas, appealing against charges resulting from overpayment of tax credits, immigration cases, including those involving domestic violence, amongst others. Due to recent drastic cuts in legal aid funding, most immigrants will not be entitled to free legal advice. Those requiring advice on asylum cases and immigration cases involving domestic violence can receive free advice from Immigrants Resource Centre, but funding is limited for other services and immigrants will often need to seek out a fee-charging solicitor for advice.

In general a lack of understanding of one's rights and responsibilities as well as processes and expectations combined with poor customer service as well as direct and indirect discrimination puts immigrants at a disadvantage when accessing services. The abundance of information that is provided in many disparate places and often in complicated language, or potentially oversimplified on some website so as to render the information misleading is a major problem for immigrants. Knowing which sources to trust and finding information that is clear, accurate and easy to understand is a challenge. Some websites, such as that of the Low Incomes Tax Reform Group[7], Revenue Benefits[8] or Sharehoods[9] are attempting to clarify information for immigrants specifically, in order to make sites like the UK Border Agency's[10] or HM Revenue & Customs[11], both notorious for being complicated and difficult to navigate, more accessible. A new government website[12] is meant to bring quite a bit of government information together in one place, but has already been criticised as being confusing and at times inaccurate.

However, in providing alternative sources of information, there is always a danger of this information not being properly maintained as rules around immigration and tax, for instance, changes on a very regular basis and acting on false information can have harmful consequences. On the other hand, some websites, such as the NHS Choices site[13] or the National Careers Service[14] one have been found to be relatively accessible and highly valuable to immigrants once they've been made aware of them. In addition to signposting immigrants to online information sources, ensuring they have information about where to access telephone or face-to-face services is also essential as some issues are best resolved with someone who can individualise the advice offered.

Nevertheless, the situation and the resulting problems for the immigrants are similar like in Austria. In most cases the governmental sites are too complex and overfilled with too much information in a language that is not easy to understand.

There are specific websites that focus on compromised and understandable language, but it is not easy to immigrants to find these links.

This again underlies the fact, that it is an advantage to have some expertise (e.g.: NGOs) that are responsible for the content, since there are familiar with the problematic and knows which is the best way to present this to the immigrants in order to come upon huge acceptance by the immigrants.

4.2   EXPECTATIONS OF THE IMMIGRANTS IN RESPECT TO INFO SERVICE

The requirements specified in *WP2 USER REQUIREMENTS & INTERACTION DESIGN, D2.3.1* were considered and the following requirements will be used as input for the specification phase.

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[7] Low Incomes Tax Reform Group: *http://www.litrg.org.uk/1mimmigrant*

[8] Revenue Benefits: *http://www.revenuebenefits.org.uk/*

[9] Sharehoods: *https://www.sharehoods.com*

[10] UK Border Agency's: *www.ukba.homeoffice.gov.uk*

[11] HM Revenue & Customs: *www.hmrc.gov.uk*

[12] New government website: *www.gov.uk*

[13] NHS Choices website: *www.nhs.uk*

[14] National Careers Service: *https://nationalcareersservice.direct.gov.uk*

Austria:
Some interviewees did not know where to get help regarding finding a flat, finding a job, legal issues, financial issues, and taxes and benefits.

Spain:
One interviewee did not know where to get help finding a job but urgently needed help. Additionally, two people did not know where to find help regarding taxes and benefits and one interviewee regarding education and financial advice. One interviewee uses internet services for finding help regarding these issues.

UK:
None of the interviewees knows where to get financial advice. The male interviewee does not know where to get help when looking for a flat or a job, or regarding taxes and benefits. A woman does not know where to get help regarding legal issues or education.

The mentioned requirements in respect to the administrative topics can be summarized as possible input for the information platform itself:
- finding information for finding work
- how to apply/search for a job or accommodation
- information about education in general
- practical information e.g. how on how to find a flat and how to pay rent
- important form and how to fill the forms out
- information how to get a visa
- information about tax in general

The following non-functional requirements were considered during the specification phase (screen flow of the navigation service):

- The service should save time (NF-2)
- Services have to be easy to operate (usability) (NF-4)
- Provide the possibility to share different information in different services (NF-9)

Within the Spanish-African centre (CEPI Hispano-Aricano), which is organized by Fundeso 7.845 visitors from Morocco, Ecuador, countries Senegal, Mali, Nigeria, Camerun and Guinea visited the center in 2013 and the following user needs were mentioned:

Legal advice: 21% of the users of the centre asked for some type of legal advice with our lawyer, most of the consultations were related to the application of a process of social ties (arraigo social) (31%), the family reunification (3,9%), renewal of documents (14,5%), revision of expulsion documents (0,44%), registration of residency (3%) and other issues like information about visas, information about the application of ancient certificates of good conduct from their home country (46,69%).

Job search and training: 43% of the users that requested some type of help, consulted our expert for employment and training. 86% profited of our active job search workshop, where users can consult job offers and contact Human Ressources Departments with the help of telephones and internet. 6% asked for help or advice about processes related to Social

Security and about the process of entrepreneurship and 8% asked for information about courses and workshop to prepare for employment.

Psycho-social attention: this area responds to different needs like informational and/or direct or psycho-social attention. The counselling in 2012 was developed in this way: a 11,60% asked for information and counselling about housing, whether it was about admitting resources or about the procedures to rent an apartment or a room. A 23% asked information about social dinning-rooms (82%) or food banks (18%). A 31% asked for information about applying for the entry of their children in the formal educational system of Madrid (Comunidad de Madrid). A 34,40% attended Spanish, literacy and/or technological literacy courses that the Spanish-African Centre offered.

In addition to these areas of attention, the Spanish-African Centre worked with a reception facilitator that offers first attention and provides information about the Centre and about the ways to get general information (general orientation resources to immigrants population in Madrid (Comunidad de Madrid) or in the city of Madrid, information about the public transport network, leisure time activities, information about cooperativism, etc.

4.3   STRUCTURE OF THE INFORMATION PLATTFORM

In previous chapter the problem analysis and requirements from the NGO's and immigrants perspective were presented. The perceptions from this analysis were used in order to define the structure and required information for the information platform.
Table 1 represents the most relevant categories and their description.

Table 1: Info categories

Category	Description	Items (examples)
Bureaucratic Advisor	The user is able to choose from different categories of bureaucratic topics. Addresses and link to navigation are available.	- Administration Offices - Rights - Labour law - Important dates and deadlines - Bureaucratic language guide (link to language guide --> Language Learning Service)
Housing	The user sees a list of topics concerning topic housing (e. webpages where they can search for a flat,etc.)	- find a flat - flat contract
Education	The user is able to choose from different categories of education topics. Addresses and link to navigation are available.	
Forms	The user sees a list of downloadable forms which are grouped in categories.	- visa forms - work permit forms - flat contract forms

How do I?	The user is able to view the most frequently asked questions, e.g. "How do I get a VISA?".Link to Serious games is available	• How do I... • ... register at doctor? • ... Get a visa? • ... Find a flat? • ... Fill in forms?
Language Guide	The user can see the most frequent phrases in his language, sorted by category ("at the doctor").	• at the authorities • at the restaurant • at the doctor • at the pharmacy • at the hospital
Health Care	The user is able to choose from different categories of health services. Addresses and link to navigation are available.	• Doctors, Pharmacies, Hospitals, Assurance Information about rights etc. • Health Language Guide (link to language guide) • Local Support (link to Social Radar)
Emergency Calls & Hotlines	The user can instantly access this info to see emergency calls and hotlines (administration etc.)	• International Emergency Calls • Hotlines
Privacy and data storage	Immigrants get information about the information about MASELTOV privacy issues (tracking, data storage, etc). The project partner will together define important questions and answers.	• Can I get tracked using the MASELTOV app? • Will my information be stored and sold to third party?

Within next section the NGO's comments in respect to the defined categories were presented. There view on the provided information and related structure is from huge importance since they are close to the target group and understands the immigrants needs.

Bureaucratic Advisor
- Link to authorities concerning residence should be included, also employment services, and NGO advisory services. The laws can be explained, but unfortunately change very often, so this has to be updated frequently. (Danaida)
- It would be important to add an explication of the different administrative authorities: employment, property, social security... including the administrative procedure depending on the authority where particular requests have to be made: federal level, regional (Comunidad Autónoma), governmental delegation or local level. It would be interesting to have access to lists of consulates and embassies. Furthermore we propose a link to local social service centers with a connection to the matter of registration of residency. (Fundeso)

Housing
- There are websites, where everybody can offer and search rooms, flats, but also many other things (everything from toys to cars) that can be sold (e.g.: www.willhaben.at) Maybe the wording of such sites has to be explained. The rights and different types of housing should be explained, types of contracts etc. (Danaida)
- Concerning this matter, existing public resources should be included: The Institute of Housing of the Community of Madrid *(IVIMA - Instituto de la Vivienda de la Comunidad de Madrid)*, the *"Plan Alquila de la Comunidad de Madrid"* and the Access to Housing Program for immigrants *(Programa de Acceso a la Vivienda para Inimimmigrantes)*. It should also be possible to have access to the city council agency of young housing *(bolsa de viviendas)* and to the public rent agencies. The appearance of a list of rights and obligations of the landlord and the lessee would be interesting. Furthermore, we propose a list of differences between a flat contract between individuals, rent of single rooms, etc. (Fundeso)
- There is the localisation bill, which means that some information regarding rights will vary depending on which local authority you are in (there are 33 different LAs in London alone!). This will apply to things like Housing benefit entitlements and tax rights. We would recommend linking to more general sources of advice and information – e.g. the Job Centre, libraries and the Citizens Advice Bureau. (Migrants Ressource Centre)

Forms
- This is important and also lists of additional documents that are needed when someone submits a request. (Danaida)
- Maybe include tax prices of the different procedures, along with examples of different papers or declarations (for example the declaration of schooling obligation for minors - *"declaración del cumplimiento de obligación de la escolarización de menores"*, etc.) (Fundeso)

Education
- Following points should be included: information about school, childcare, German language training, nostrification of qualifications from other countries, the forms and important dates like day or week of registration for school and childcare. (Danaida)
- Very important, especially on the matter of schooling, standardization of academic titles and professional employment training. Options on free Spanish language courses! (Fundeso)
- Education and employment are very much linked in the UK, so we think it's very important to include both topics, at least general information. Education might refer to essentials like ESOL (English) and computer skills classes - related to integration more generally, or it could also refer to further education to top up skills relating to employment. For ESOL, computer and basic employability skills, libraries would be a good place to refer people to for further information. For advice on further training and for careers advice, we can refer people to the National Careers Service which has information on how to go about finding work in the UK, but also has a hotline people can ring for advice and they will then be referred on to a face-to-face adviser. If the person is a immigrant, they will normally be referred directly to a specialist advice service, such as MRC. In addition to this, it would be very useful to have information on rights regarding schooling of children, such as how to register your child as this is a

terribly complicated issue in the UK. Maybe this topic belongs under the bureaucratic adviser. (Migrants Ressource Centre)

How do I?
- Here are a lot of topics included. And if we try to explain it in a simple way, it might be just a piece of information, which will be the wrong information for another case. (Danaida)
- Depending on the knowledge level, some persons might need a lot of information in this section. Maybe it would be interesting to split up the topics and to link to the corresponding categories. Only general information should be provided. (Fundeso)

Language Guide
- The user can see the most frequent phrases in his language, sorted by category ("at the doctor"). (Danaida)
- Following categories should be covered: at the authorities, at the restaurant, at the doctor, at the pharmacy, at the hospital. (Fundeso)

Health care
- It would also be interesting to offer lists of multilingual health services and doctors. (Danaida)
- It would be interesting to offer a list of contacts of social institutions that offer basic health assistance and free legal consultancy. (Fundeso)
- This is a fairly straightforward section for the UK, though probably not the most important for new arrivals (employment, English classes and bureaucratic adviser are probably more essential). The NHS Choices website is very good for finding a GP, pharmacist or information about different illnesses and medicines. In addition to this, general information about accessing healthcare (how to register with a GP, what you are entitled to, medical, but not dental, for example) would be necessary to include. In terms of sources of information, the BME health forum has a guide aimed at immigrants which could be linked to. (Migrants Ressource Centre)

Emergency Calls & Hotlines
- There are other hotlines and they should be explained, that people can use the matching hotline for the actual need. (Danaida)
- Centralized calls for all services like 112. (Fundeso)

Privacy and data storage
- A reference on the use of personal data is indispensable. In addition, we should be aware that each country has a legislation about that, it is possible that they are not homogeneous. (Fundeso)

An additional input for the development of the information platform represents the MARIA scenario which is described below (relevant requirements for the information platform are marked in bold).

Maria Scenario – A day in the life of a Latin American migrant in the UK

Background:
Married, followed her husband to UK, 2 children (3 and 5 years), basic English skills. She lives in one room in London in a house shared by Latin immigrants, works as office cleaner, and **looking for a job**. She downloaded MApp from the NGO organization to her phone.

Maria's day:
Early morning wake-up, 5 am alarm. She takes her children to the kindergarden and returns back home by bus. On the bus, she plays the MASELTOV game - the **job search level, since she wants to find a new job**. In her spare time she browses through the MApp Forum. Another forum member recommends a special course at the University of Law to learn IT skills. She uses the MApp Navigation to find the exact location of the university. At the university Maria sees a noticeboard with health information. She uses the MApp Text Lens to understand a poster about vaccinations. The MApp Recommender service saves the translated words to suggest relevant learning lessons later on.

Before picking up her kids Maria needs to get some migraine medication so she looks in MApp POI service for a nearby pharmacy.
To get help with communicating with the pharmacist she uses the MApp Geo-Social Radar to find help from a volunteer. Geo-Social Radar proposes two volunteers (George, Kate) for help. Maria asks for Kate - woman with high trust rating, speaks Spanish. Kate responds quickly and they agree to meet. Maria picks up her children and wants to take them to the doctor.
She finds **registration information in the health section of the MApp Info service**. To get medical help in London she has to register with a local general practitioner (GP). Maria searches for a GP using the POI service and enters the address into the Navigation service to get directions.
Based on the described scenario following categories and items will be elaborated for the trial in London.

Table 2: Info categories for the London trial

Category	Items	Article Description
Job	1. Finding a job 2. Job search skills 3. What is a Job center?	1. Short article on common methods for finding work – internet, networking, job adverts and recruitment agencies – short description of each with links to further articles on each method/relevant online links. 2. Methods of job application, including researching jobs and companies, CV writing, filling in applications, job interview skills, including short description and links to further articles on each as well as advice available online and links to agencies that support migrants with employability skills.

		3. Explanation of the services a Job Centre provides and when it is necessary or useful to visit one with links to online employment benefits and careers information
Health	1. Where to go? 2. Do I have to pay for health services? 3. Register with a GP 4. Specialist doctor 5. Medication? 6. Interpreter for health services 7. Emergency health services	1. Short article explaining when it is best to see a doctor, visit a pharmacy or visit emergency care services Links to NHS direct website and phone line for health advice. 2. Explanation of eligibility for medical care in the UK for migrants. Explanation of difference between primary and secondary care 3. Register with a GP for medicines that require a prescription 4. Definition of General Practitioner (GP), how to register with a GP, what documents to bring, how to search for a GP nearby and linking to article on eligibility for medical care in the UK. 5. Explanation of how to get an appointment with a specialist and link to eligibility for medical care. 6. Where to get medication, whether a prescription is needed and how much it will cost on average. 7. Article explaining right to a free interpreter service for those who cannot speak English. 8. Information on emergency medical and dental services including phone numbers, finding emergency care units and alternatives to hospitals (drop-in clinics, etc). Links to info online.
Education	1. English / Computer skill classes 2. College and university education	1. Basic information about skills courses – English, computer and other skills – and where to find courses. 2. Further articles on college and university education. Eligibility for funding based on migrant status.

5. TECHNICAL SPECIFICATION

5.1 ANALYSIS AND TECHNICAL SOLUTION

In the first step the technical analysis was carried out in order to find the best solution for the implementation.

Following requirements were crucial factors for the decision finding in respect to the chosen technical implementation:
- JAVA as programming language
- Multilanguage support
- Mobile friendly usage
- User friendly administration interface
- Possibility to interact with other MApp components
- Flexibility for further development (adding new features, modules, interaction with new MApp components)

One possibility for a technical solution is Wiki, as this is a typical solution and concept in respect to content collection. In the earlier phase of the project a first prototype for an information platform based on a Wiki platform (XWiki) was developed.
XWiki offers the following features and benefits[15]:
- Page editing (use simple wiki syntax to format text, create tables and links, display image, etc.)
- RESTFUL and XML remote APIs: to easily integrate XWiki with other modules
- Version Control: any change made in XWiki is saved under version control, meaning that the previous version of page can be seen or used.
- Users and Group Management & Rights Management
- Internalization: Support different translations of the documents and have the users to be automatically directed versions in their language
- Skins: completely customization of document templates, possibility to add menus and modify CSS files
- Color theme: permits easy and fast modifications of the Wiki's look&feel
- Search: allows searching on the full wiki using wildcards, etc.
- Statistics: provides various panels and pages displaying wiki related statistics

In the first step, the Enterprise Version 4.2 of XWiki was installed and configured on our DEV server. The .war file was downloaded, including the server components as well as the database. In the next step, the installation was undertaken following the instructions on the XWiki website[16].

After a successful installation and configuration of the database and security adaptions the Wiki was deployed on our DEV environment. Afterwards, the first functional tests were undertaken.

Figure 2 shows the administration view of XWiki.

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[15] XWiki installation: http://platform.xwiki.org/xwiki/bin/view/AdminGuide/InstallationWAR
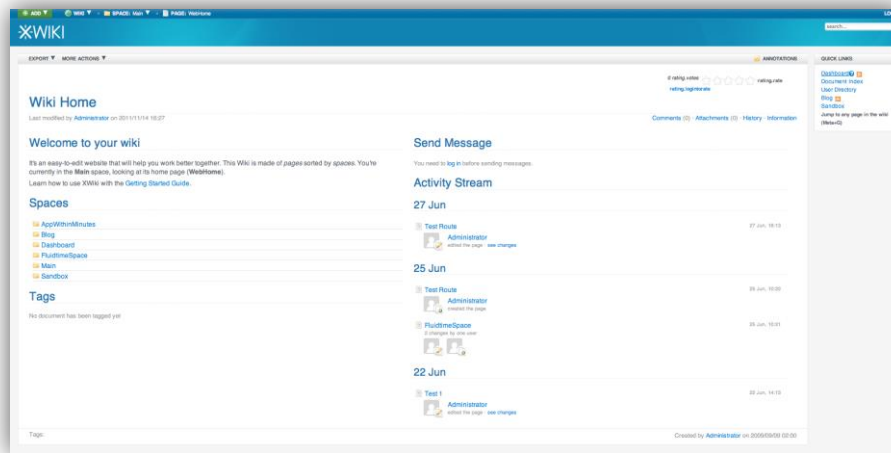
Figure 2: XWiki admin view

Additionally, an extension for mobile skin was installed and tested. Therefore, the simple mobile skin extension was chosen and installed[17].

In the next step, the mobile version was adapted and minimized in order to improve the usage for the immigrants. The goal is to optimize the usability of the service itself and enable an easy and intuitive navigation for the users.

Figure 3 shows the mobile view of XWiki. On the left side is the default mobile skin and on the right side the optimized mobile view.
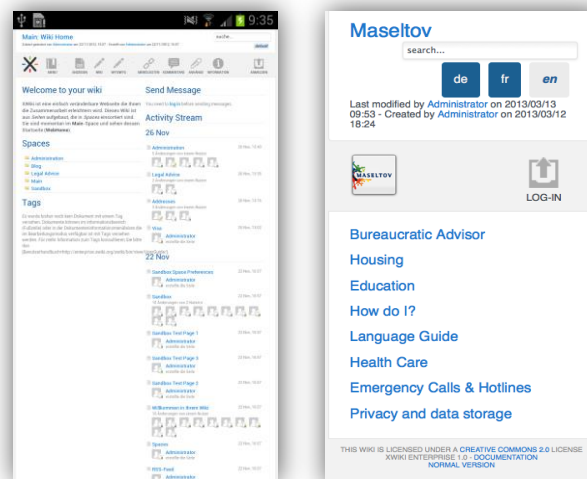

Figure 3: XWiki mobile version

After the prototype development and testing following reasons led to the decision that XWiki is not the optimal solution for the info module:

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[17] XWiki mobile skin extension:
http://extensions.xwiki.org/xwiki/bin/view/Extension/SimpleMobileSkin

- Influenced by the evolving requirements of MApp, that required more interaction between the different components, it was concluded that using the web browser will isolate the service from other, and the interaction with those components will be limited to the functionality offered by the web browser, thus the decision was taken, to **handle the information natively** within MApp.
- During the project it become apparent that the **correlation of text (e.g.: how to get a visa) and location (e.g.: where to get a visa)** is very important and should be considered.
- In order to maximize the integration between the info and the other components, a dedicated **RESTFull service** has been implemented, that offers the MApp direct access to the service itself. This approach has enabled the info service to fully integrate with other MApp components.
- XWiki is powerful but quit complex tool, especially in respect to the usability for the administration view it is not optimal. It is important to have an **administration GUI that is intuitive and easy to use**.
- Additionally, future **development of features or communication with possible new MApp components** is limited to the functionalities provided by XWiki. Therefore, a development of modular server and client components would generate benefit for future developments.

Based on the previous mentioned facts it was decided to develop a server and client component. In addition to that, an admin GUI was developed as well. Chapter 5.2 describes the overall architecture and its components.

5.2   SYSTEM ARCHITECTURE AND COMPONENTS DESCRIPTION

Figure 4 represents the overall system architecture of the info service. On the left side the native client info component is shown which communicates over HTTP/JSON with the Info server.

JSON[18] (JavaScript Object Notation) is a lightweight data-interchange format and is widely used as data exchange (best practice and state of the art in industry applications). The format is used due to the following reasons:

- Easy mapping of custom data structures to JSON format
- Libraries available for encoding and decoding for any mainstream programming language
- Simple expandability if changes in the data structure occur

Notable examples of users are:
- Google Search API
- Yahoo!
- Flickr
- Facebook API

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[18] JSON description and specification: http://www.json.org

Advantages of JSON in comparison to XML:
http://www.json.org/xml.html

The info server provides the APIs for the **about module**, where all content will be provided. The API for the **POI module** provides geo-referenced points with relevant information, that can be linked to the specific content. All data will be saved in a PostgresSQL database. Additionally, an admin GUI will be developed in order to enable maintenance of the content for the info module.
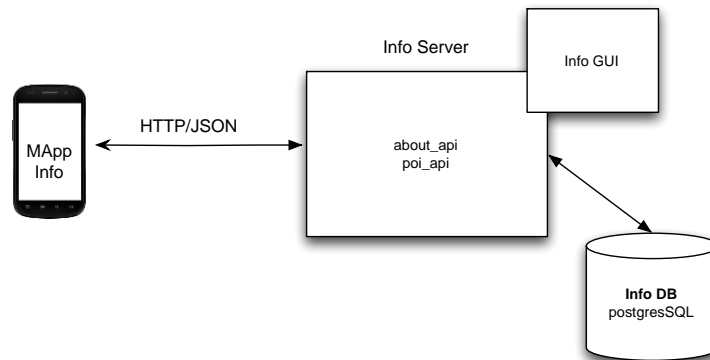

Figure 4: System architecture for the info module

5.3   FEATURE DESCRIPTION

The main advantages for this approach and technical solution can be summarized in:
- Allowing the info service to deliver customized information based on the city.
- The user can use the addresses found in the text as start or end points for the routes.
- The information the users interested in are communicated to the user profile component, which allow building a richer profile for the user and accordingly more customized services, recommendation and so on.
- The addresses included in the services could be viewed as POIs in the POIs component.
- Flexibility of data structure in respect to further development and potential new MApp modules.
- Any new integration requirements could be easily implemented because MApp has full access to the info service.
- To overcome the limited integration possibility between info service and other MApp imposed by using the web browser to deliver the information for MApp users.

On the server side of info module, a GUI has been implemented. This has the following advantages:
- A flexible and well-structured data model, allowing an fast and simple communication with other MApp components
- A user friendly and intuitive GUI for the admin users
- An integrated map tool to facilitate locating addresses on the map and include them in the text → these POIs can be shown in the Place of Interest module
- Text editing is supported by WYSIWYG editor
- Support for multilingual entries

Chapter 5.4 describes the actual development status of the info platform.

5.4   CURRENT STATUS

Next figures represent the actual development status of the info module. In the first step, the improved admin GUI will be presented.
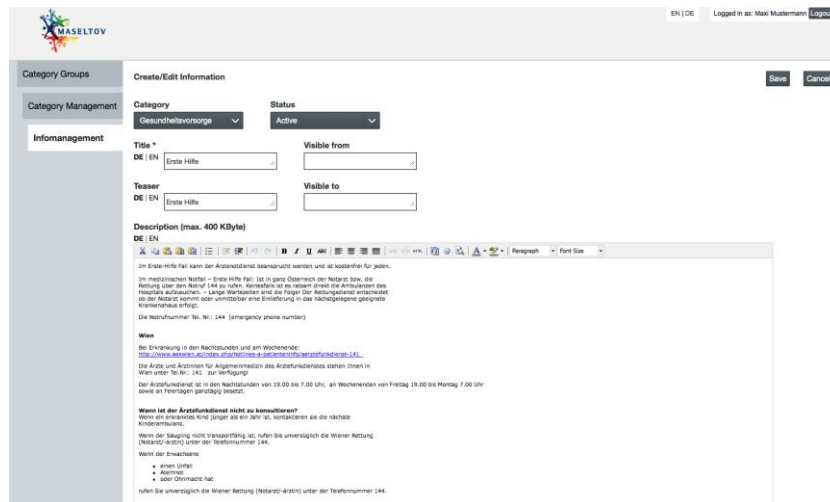

Figure 5: Admin GUI of info module

Additionally, the admin has the possibility to combine text with POI (see Figure 6)
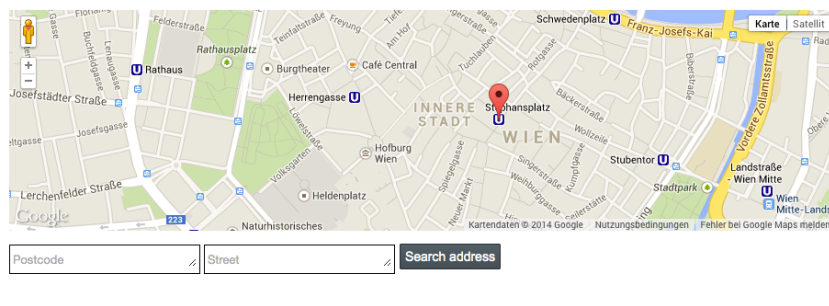
Figure 6: Admin GUI of info module

The content, which is entered by the admin, will be shown to the user in a native application, representing a huge benefit in comparison to the prototype presented already in this document. The main problem was, that the info service was a website and therefore web link was called and the user left the native Mapp application. Since all of the MApp modules are native modules it is a huge benefit that the user stays within the MApp app.

Figure 7 shows the native representation of the content.
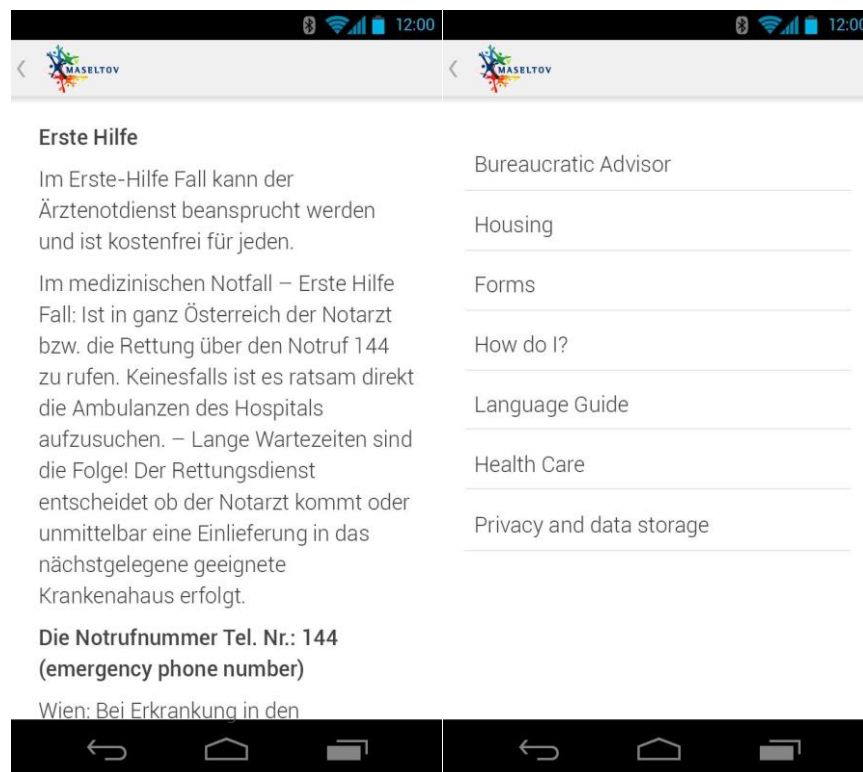
Figure 7: Native representation of the info module

5.5 INTERFACE DESCRIPTION

This chapter deals with the interface description of the info server, describing the communication between the info server and the MApp info module.
In the first step the info categories can be received based on infoCategories (text ot POIs). The subcategories can be received based on info (text ot POIs). In the next step the request and responses are described.

5.5.1 INFOCATEGORIES

Request Method: GET
Request: Parameters: xx

Response:
JsonResponseRoot
=> JsonResponeData **"data"**
    => List<JsonResponsePoiCategory> **"poiCategories"**
    => List<JsonResponsePoiCategoryGroup> **"poiCategoryGroups"**
=> JsonResponseMessage **"message"**

5.5.2 INFO

Request Method: GET
Request: Parameters:

Type	Name	Description	Required
Long	id	ID from "Info"	n
List<Long>	catId	categorie-Ids list	n

Response:
JsonResponseRoot
=>   *JsonResponeData* **"data"**
 =>   *List<JsonResponsePoi>* **"pois"**
  =>   *JsonFeature* **"location"**
   =>   *JsonGeometry* **"geometry"**
   =>   *JsonProperties* **"properties"**
 =>   *List<JsonResponseNews>* **"info"**
=>   *JsonFeature* **"location"**
   =>   *JsonGeometry* **"geometry"**
   =>   *JsonProperties* **"properties"**
=>   *JsonResponseMessage* **"message"**

Example response for info

```
{
        "data":
    {
                "pois":
                [
                    {
                            "id": 245894,
                            "refPoiCategoryId": 146,
                            "title": "First aid",
                            "teaser": "First aid",
                            "names":
                            [
                                    "qa_245894"
                            ],
                            "location":
                            {
                                    "type": "Feature",
                                    "properties":
                                    {
                                    "type": "info"
                                    }
                            },
                            "attributes":
                            {
                                    "hasDescription": 1
                            }
                    },
                    {
                            "id": 245897,
                            "refPoiCategoryId": 146,
                            "title": "Patientpath",
                            "teaser": "Patientpath",
```

```
                    "names":
                    [
                            "qa_245897"
                    ],
                    "location":
                    {
                            "type": "Feature",
                            "properties":
                            {
                            "type": "info"
                            }
                    },
                    "attributes":
                    {
                            "hasDescription": 1
                    }
                },
            ]
      □□□□□□       □}
```

5.6   LINKAGE TO OTHER MAPP SERVICES

As already mentioned, the communication with other MApp modules is very important. Therefore, the info module communicate with following MApp modules:

- Navigation
  If there is an address entered in the info module, this **address can be used as a start/destination point** for the MApp navigation module.
- POI
  If there is a POI entered in the info module, this POI can be **seen in the MApp POI module**.
- Recommendation/User profile
  Info module sends to the recommendation module the **usage time of the module** ("duration", <duration>)
  Additionally, the **viewed category/articles** will be send to the recommendation component

fluinfo.CategoryTitle	viewed categories	("categoryTitle",<String>)
fluinfo.ArticleTitle	viewed article	("articleTitle",<String>)

- User progress and profile
  Currently, the project team is working on the proposal how to implement a coin rewarding system through all services. This will be based on the usage/progress within the individual services.

6. SUMMARY AND OUTLOOK

In this deliverable we described the work carried out in the *WP6 MOBILE ASSISTANCE & INFORMATION SERVICES, Task 6.2 Bureaucratic Advisor* & partly also *Task 6.4 Health Care Service*.

The chapters above describe on one hand the problem analysis and requirements specification for the Info service. In the next step, the user requirements that are analyzed within the WP2 USER REQUIREMENTS & INTERACTION DESIGN were summarized. This covers the functional and non-functional requirements. Based on the experience from NGO's it was possible to define the most important topics and content that should be included within the info platform in order to be able to develop a service that will be used and accepted by immigrants.

In the next step, a comprehensive analysis of the technical solution was undertaken. The first prototype, based on a Wiki solution, was developed. The subsequently testing and the changing requirements during the project led to the decision to use another technical solution for the info module. One of the reasons is the requirement to have a strong interaction with other MApp modules. This requirements cold not be fulfilled with a Wiki system, or at least, limited. Additionally, it turned out that Wiki is quite powerful tool but from the interaction concept very complex and not easy to use. Therefore, an intuitive info platform was developed. The features and advantages are described. In addition to that, the technical specification is explained in detail, including the system architecture, components and interface description. Finally, the integration with other components is described.

The final development of the platform will be done until end of August. Afterwards, this service will be tested during the trial in London (WP9).