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SAFIR

Work Package 1

**DELIVERABLE D1.1.2:
Selected User Requirements Analysis**

13-04-2005

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1 Document Abstract

This document is a part of a series of deliverables within WP 1 (Market Survey) of the SAFIR project.

This deliverable more precisely is focussing on the selected users type (see definition in Introduction). Other type of users are handled in other deliverables.


The document describes the methodology and outcome of a series of interview sessions that were held in three public organizations partner of the SAFIR consortium (Walloon region (BE), Vratsa Region (BUL) and Brussels (BE)), for defining their users requirements and to extrapolate to typical selected users.

The most interesting scenarios considering the needs of these bodies, the potential impact, and the main objectives of SAFIR, i.e. for which voice activation is particularly valuable are depicted, for each of those regions.

A clear common outcome is that all procedures of data collection on the spot by the specialists in the field (e.g. GIS) will be enormously eased by voice activation, and is therefore emerging in several scenarios.

Another outcome is that the SAFIR e-Government domain should be composed of the following sub-domains :

- GIS
- Form Entry

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2 Introduction to Selected User Requirements Report

This document is a part of a series of deliverables within Work Package 1 of the EC SAFIR (Speech Automated Friendly Interface Research) project.

It may be relevant for the reader to remember that the SAFIR project goal from an innovation and technology point of view is to create a new paradigm in e-Government interface combining Speech and Graphics. From a functional point of view the project has two ambitions:

- Allow governmental field forces to initiate the digital flow in the field, allowing to increase the speed and quality of e-governmental repositories.
- Allow an equal opportunities for citizens to access those up to date repositories by easy devices like Television and residential gateways for instance.


For this analysis, the potential SAFIR users have been split into three separate user groups. Each of these user groups is specified by one separate deliverable. These three user groups are:

- The **generic users** are citizens who access e-Government services at home (e.g. by connecting to a "Smart Home Service Operator").
- The **selected users** group is constituted by the governmental service providers that provide e-gov information to citizens and professional users.
- The third group consists of the **special users** who are governmental employees They are working in the governmental field force, e.g. the governmental field forces for asset management, at the police or at fire departments.

The general methodology used in WP1 is summarized in the first section. The methodology of focus groups used for getting inputs for the requirements is presented in section 4.

The main section of the document is the section 5, which describes, for three different regions, different steps that led to the choice of the best potential application within the framework of SAFIR. Each part contain a presentation of the administration concerned, the actors involved in the corresponding pilot, together with system and Business Uses Cases of the system "as is". Then results of the focus groups and/or discussions are presented, along with innovative scenarios that are foreseen.

The document closes with a validation of the results by the actors concerned.

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3 General Methodology for Work Package 1

3.1 Why Build Better eGovernment?

As eGov is a worldwide topic, for a better understanding of its extent we consider it valuable to not restrict the definitions to Europe only. A text taken from www.nga.org may serve as a good example for the importance of eGov for our society:

“States have spent millions of dollars automating systems and putting government online. Every state has a website and most are conducting at least some transactions online with citizens and business partners. However, there are important reasons for Governors to lead the transformation to a state government that is organized and managed to maximize the benefits that technology brings including:

- **Meeting Customer Expectations.** *State agencies will continually be challenged to adapt to constituents' (customers, business partners, and employees) demands for anytime access to information and services they desire. In the new consumer society everything is becoming a service, and service value is dependent on information quality. Customers are determining business hours and increasingly seeking customized products and services. State governments will be expected to be flexible and responsive as a service business that has increased value.*
- **Enhancing Economic Competitiveness.** *In the environment of a changed economy information is power. Organizations are challenged to provide it not only quickly and accurately, but in ways that are useful to the end user be it citizens or private sector entities seeking to transact business in a friction-free environment.*
- **Improving Public Services.** *Timely information shared through integrated technology systems in criminal justice, environmental monitoring, emergency response, and transportation systems can substantially improve the health, well-being, and safety of citizens.”*


3.2 What does this mean for the SAFIR methodology?

The highest level of market segmentation has a direct connection to both general purposes of e-Government practices: improving customer service and streamlining government operations.

- The group of generic users entirely consists of citizens (B2C) and will profit mainly from better services. In this case SAFIR does not represent the difference between life and death but will merely improve comfort/efficiency for everybody that desires a service from any government organization.
- The group of special user is fully represented by professional users (B2B). Streamlining state operations is key to what can be expected from SAFIR. At a minimum level during regular activities, but what is more important: also in case of emergencies. SAFIR must therefore consider the demands of government workers that face life and death in their daily practice. All are active in the field of public security (police officers, medical officers, fireworkers).
- The selected user group has a mixed character. The SAFIR developments resulting from the market demand of this group can be considered as both B2C and B2B. Also both the goal of improving customer service and streamlining state operations is met. Both through a voice-enabled connection to the same content from (external) service providers. There is no limit with respect to the content that is requested. For instance a spatial dataset consisting of objects that are related to sports facilities, but also objects to be inspected by municipal fieldworkers. For the selected users SAFIR will provide eGov services that are no matter of life and death but must fit in a professional environment to support regular activities.

3.3 Research steps

The objective of this first work package is to obtain user requirements through a ‘value-added proposition’ approach, which acts as input for the rest of the work packages. This will provide the ingredients to develop a voice technology platform which is generally applicable to several existing applications in


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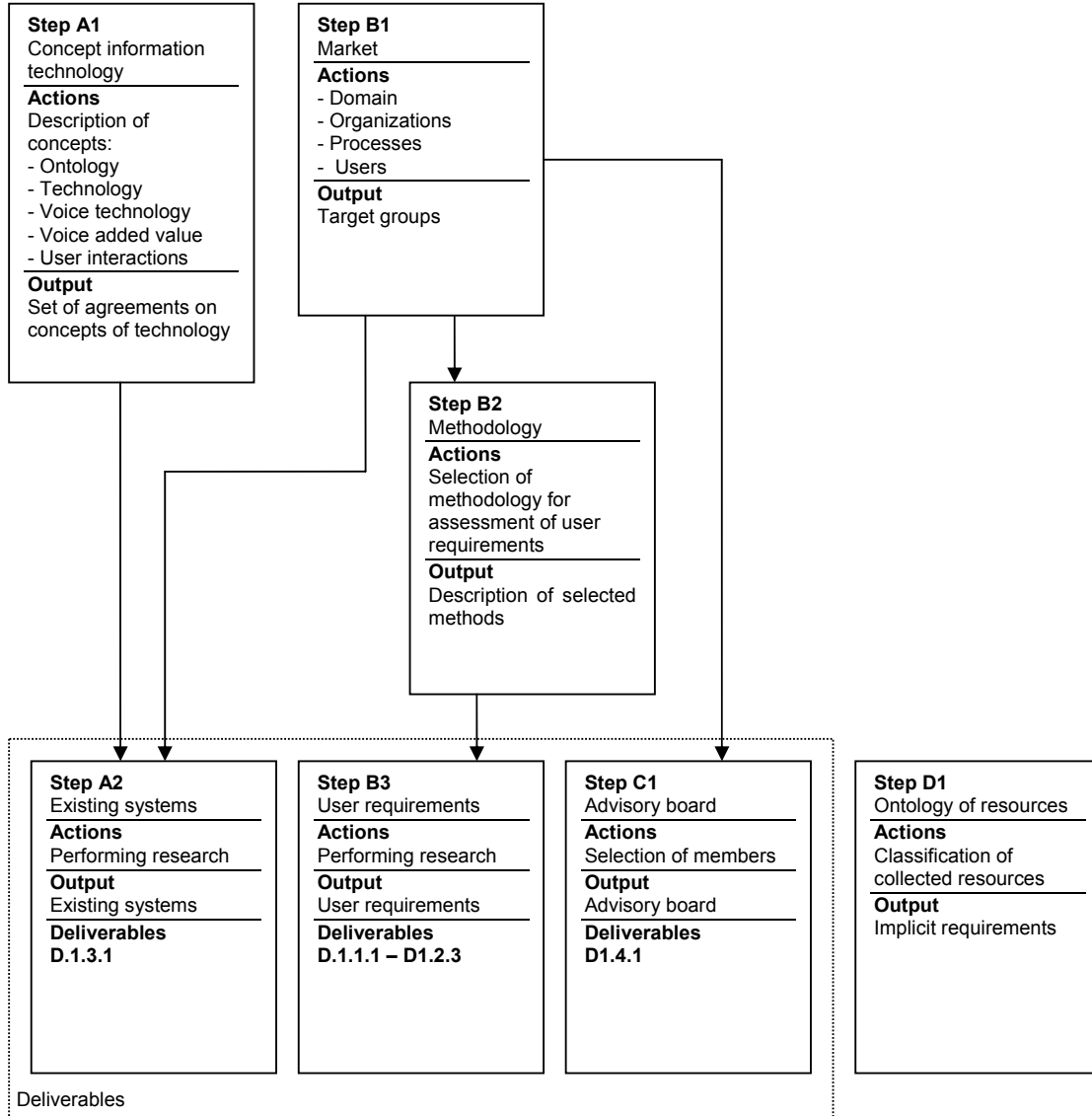
several areas. This chapter describes the steps to be taken to finally deliver the added value of voice technology to citizens and professional users. Figure 1 gives an overview of these specific steps. The different steps are described in more detail below. The added-value proposition model is described in more detail in the next paragraph.


Concepts (step A1) are described in order to obtain a general understanding and agreement on terminology. This is also of importance for the description of and understanding of existing systems as these will focus on interactive voice, graphic and location based information systems that are already available through different media and interfaces. On the basis of these descriptions the partners are able to communicate on the same level with the same definitions. Concepts include: ontology, state of the art of used technology like geographic information systems (GIS), mobile and wireless communication and of course voice technology and its added value. These concepts are described in a separate chapter as a part of D.1.3.1: 'Existing Systems'.

Markets (step B1) will be described in relation to the defined user group(s) (safety sector for special users) within SAFIR. A description of the market will consist in a description of the organizations which operate in this specific market segment, (fire department, police etc.) and the processes which will be of interest of the research activities. On the basis of these descriptions the methodology (step B2) and with its specific research activities will be determined. This will also provide the basis for describing existing systems which support the different processes. The market description and the methodology are presented as separate chapters in the beginning of every deliverable providing user requirements (D.1.1.1 – D.1.4.1).

These three preparation steps provide the project with a framework which can be used to focus on the deliverance of the right information concerning existing systems, user requirements and members for the advisory board.

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3.4 Added-value proposition

The basic concept of describing an added-value proposition based on innovative technology - such as the speech and wireless technology in SAFIR - is the following:

- Analyse and categorise the technological capabilities
- Analyse and categorise the intended market and subsegments (processes)
- In order to formulate the value proposition for a specific product/solution, a mapping can be done which outlines which subset of technological capabilities are applied to the existing system in order to enhance the product/solution.
- This constitutes the added-value proposition for each product

Figure 1 gives a graphical view of this idea:

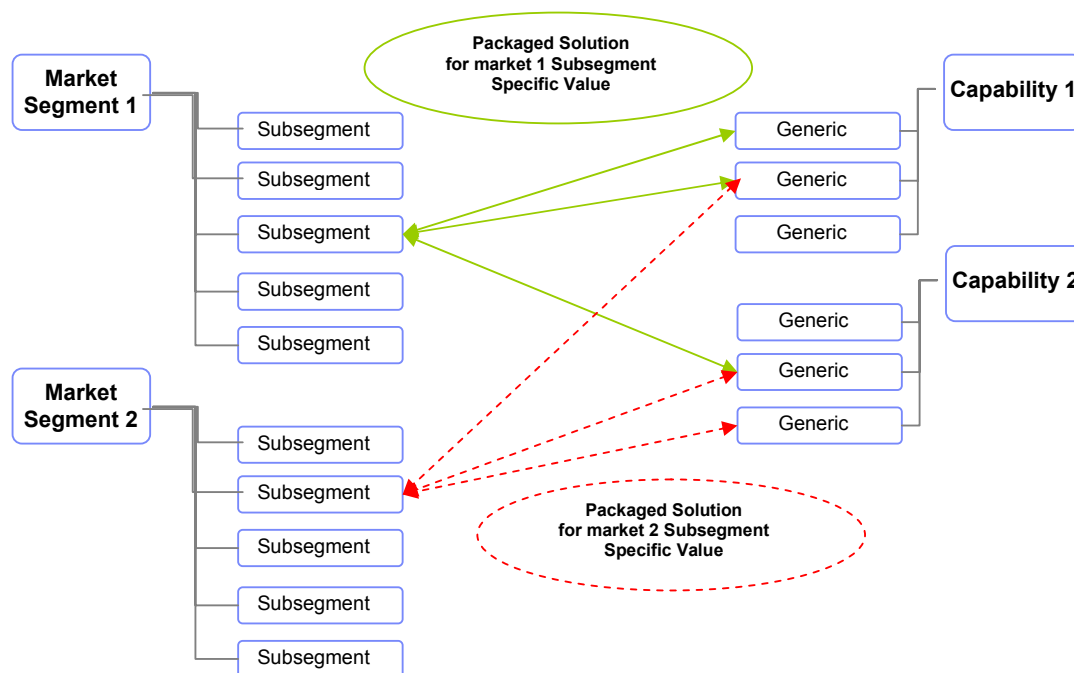



Figure 1: Concept of added-value proposition

In the context of SAFIR, the main value add for the market subsegments is seen through applying a combined speech and graphical user interface, in combination with using wireless access technologies, to the existing applications. Hence, it has to be analysed which generic capabilities technology can offer today.

These generic technological capabilities are described in the Existing Systems deliverable (D1.3.1).

For each market subsegment (which is a process like emergency call, EHS information query, sports facility query for which a product or solution can be designed), different technological capabilities might constitute the specific value-add for that subsegment.

Within work package 1, this generic methodology is the underlying assumption for describing the value-add SAFIR technology can be applied within the description of the various user requirements (D.1.1.1-D1.2.3).

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4 Methodology for Collecting Selected User Requirements

4.1 Introduction

Focus groups are among the most widely used research tools in the social sciences. Merton was the first to use this tool in his research on the public reaction to morale firms during the Second World War and he was the one that coined the phrase 'the focused interview' (Stewart and Shamdasani, 1990).

However, despite the recent popularity, there is some confusion as to the nature of a focus group and how it is distinguished from other methods of group interviewing, such as "brainstorming" or "Delphi groups". According to Kitzinger (1994:103) 'focus groups are group discussions organised to explore a people's views and experiences on a specific set of issues'. But what distinguishes the focus group technique from the wider range of group interviews is the explicit use of the group interaction to produce data and insights that would be less accessible without the interaction found in a group (Morgan 1988:12).

4.2 Setting up a focus group

In a focus group, the moderator has a key role: he needs to create a climate where participants are willing to share their feelings and experiences. However, in general, the moderator involvement should be kept at a necessary minimum.

Moderators must also ensure that all topics are covered, and that the groups are managed to ensure the best performances from the participants. This requires the moderator to exhibit some degree of control over the sessions.

In some cases, it should be considered to run separate groups sessions in order to maintain a reasonable amount of homogeneity within groups in order to foster discussion. Mixing potential with existing data users in the same focus group may induce confusion and deteriorate the quality of the discussion, as potential data users may be less experienced than existing ones.

Examination of the literature reveals that 4 is the minimum size for a group, 12 the upper and 6-8 the average limit. However, whatever the chosen size of the group, it is important to over-recruit in order to cover for people failing to turn up.

A focus group session is likely to last between 1.5 and 2 hours. If the recommended average size is of 6-8 people + moderator, then the amount of time available to each participants is of the order of 10-15 minutes. This may therefore be enough to cover 2-3 key topics (see appendix). Hence, as a rule of thumb there may be a need to have 3-4 session for each group to cover the whole spectrum of issues suggested, plus any other specific to the service being discussed.


4.3 The different phases of a focus group

Focus groups are usually made of 6 stages:

1. Making Small Talk

Small talk is essential just prior to beginning group discussion, since its purpose is to create a warm and friendly environment and to put participants at ease. The following are some guidelines on how moderators should behave during the small talk period.

- Greet participants on arrival and make them feel comfortable
- Talk casually and comfortable about issues of minor importance
- Avoid key issues that will be discussed later in the session
- Ask participants to fill a registration form (The registration form should include questions about demographic characteristics, particularly those characteristics that is not appropriate to be discussed during the interview). Appendix I provides an intended registration form.

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- During the small talk period the moderator should observe participant interaction, noting individuals who dominate the group, are excessively shy, or consider themselves experts.
- The small talk period should last only 5-10 minutes.

2. Introducing the Focus Group

The first few moments in a focus group discussion are critical. In a brief time the moderator should create a thoughtful, permissive atmosphere. Much of the success of group interviewing can be attributed to this 2-4 minute introduction. Excessive formality and rigidity can stifle the possibility of dynamic interaction among participants. By contrast too much informality and humour can cause problems in that participants might not take the discussion seriously. The recommended pattern for introducing the group discussion consists of the following:

- Welcome
- Overview of the Topic
- Guidelines or ground rules (guideline on how the discussion should be guided: number of questions, level of moderator involvement)
- Opening question (typically an open-ended question that allows participants to tell about how they see or understand the phenomenon under investigation. The question could ask for a definition, an explanation, or an overview of how users have experienced the availability of public sector information in their country).

3. Asking Questions

Several things are worthy of remembering when asking question:

- A question route or topic guide should be designed
- Questions should be carefully phrased and appropriately sequenced.
- Questions should be asked in conversational manner
- Moderators should alter the sequence of questions or topics if some of them have already been discussed or answered in previous discussion.

Above from the above guidelines it is also wise for moderators to be aware of the following time constraints. As it is already been mentioned focus groups are typically 60 to 120 minutes long. The 2 hours limit however is a physical and psychological limit for most people. Thus, it is prudent not to surpass the 2 hours limit, unless there is a special event circumstance that makes it comfortable for participants, such as providing lunch or dinner. Another issue that needs to be addressed, when conducting focus groups sessions, is that some questions can be answered in a matter of seconds will others demand additional time. It is useful, therefore, for moderators to consider the categories of questions and their time requirements when finalising question topics for discussion.

4. Listening


One of the greatest challenges for novice moderators is to make the distinction between people talking and people answering the question. It is dangerous to assume that participants are answering the question that was asked because they are talking. Therefore moderators should consider the following:

- When the discussion shifts quickly off topic, moderators should pull it back to the original intent
- Considering the type of the question, the importance of that question, whether participants are becoming redundant to their answers, the remaining time, moderators should decide when enough has been said on a particular question/topic and when to ask the next one.

5. Closing the Discussion

The moderator has several options for closing the focus groups. Some of the most common ones are the following:

- Summarise briefly the main points of the view and ask if this perception is accurate.
- After the 2 to 3 minutes summary is completed, the moderator should invite comments, amendments or corrections.


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- The moderator should ask if the participants have any questions (inviting question can be illuminating and provide insights that can be incorporated into subsequent focus groups).

6. Debriefing the discussion

As soon as participants leave, the moderator should debrief the discussion, procedure which can vary from 10 minutes to as long as an hour, depending on the complexity and the interests of the research team. While debriefing, moderators should consider responding to the following questions:

- What are the most important themes or ideas discussed?
- How did this differ from what moderators expected
- How did these differ from what occurred in earlier focus groups?
- What points need to be included in the written report?
- What quotes should be remembered and possibly included in the report?
- Were there any unexpected or anticipated findings.

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5 Analysis of the User Requirement for Different Public Organisations Partners of SAFIR

5.1 Introduction

Three public organizations partner in the SAFIR consortium have been involved to define the selected user requirements presented in this document. This of course does not cover all the possible needs of such organizations but instead, we deliberately decided to focus on specific applications, that will best answer to each internal needs; those applications having a vast dissemination potential. Indeed, each of these organizations are also involved in the Work Package 6 of SAFIR for the preparation of SAFIR pilots, starting at month 6, and the study reported here can be described as an initial phase for the preparation of these pilots. As such, the description in terms of use case can not be as complete as it will be for the companion report focused on the adaptation of existing applications in the framework of SAFIR.

In a first stage, and following the methodology of the FOCUS groups described in section 4 for the Walloon region, internal preparation meetings have been conducted to define the type of application on which will focus the pilot(s).

Once the domain of application selected, all actors involved have been contacted and participated to a second Focus Group in order to elaborate on this application, and define the corresponding requirements.

The way it was achieved was naturally different to take into account the organization and the culture, for example in Bulgaria a "so called" press-conference was organized in which the project management (VI + IBM) and the SAFIR Bulgarian partners explained the project, not only to the press but to potential selected and special users. From this discussion emerged some potential applications. Those where confronted later during a discussion at ministerial level. Preparation meetings were then organized within the project members involving different external experts (ESA, ESRI Benelux, BSA, Eurosense) Debriefing discussions were organized and finally the conclusions emerged. In this case the method was formally different but the same conceptual steps were used.

Introducing the Focus Group (through the press conference)

Asking Questions and Listen !

Debriefing the discussion

In the Bulgarian case this was re-enforced through iterations as mentioned above.

In general, we should mention that as public organization, an important concern is the services to the citizens.

Moreover, as provider of information, the major challenge concerns the improvement of their "Information Management Systems", which more specifically need:

- strong collaboration with the other organizations, public as well as private;
- information and data exchange respecting security rules and guarantees of completeness, quality, precision, legacy, authentication, maintainability, interoperability,...


It should be added that among the selection criteria for the pilot definition, is the potential in terms of dissemination for the project. This will be also further discussed in forthcoming WP7 reports.

For these reasons, as producer of information and services useful for a large environment, included the citizens life events, three different "selected" pilot will be developed during the project:

- Walloon Region
- Vratsa Region
- Brussels Region (CIRB)

The common goals shared by these different public organizations are to use the SAFIR results to:

- increase the databases quality prior diffusion on the internet Regional Spatial Data infrastructure which is currently under implementation;

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- permit a decentralized update of certain centralized databases where the content is managed by relevant third parties;
- allow easier “on the field” update (and eventually creation;) of the databases as and where required
- give a broader capability for the citizens to access e-gouvernement Information via a wider range of terminals;
- allow an easier access (via the voice) to the information.

5.2 User Requirements for the Walloon Region

The pilot to be developed in the WP6 is dedicated to the Sport Infrastructures, based on an existing database named “Cadaster of the Sport Infrastructures in the Walloon Region”.

Its main objectives are to:

- increase the databases quality prior to diffusion on Internet, through the Regional Spatial Data infrastructure which is currently under implementation
- allow a decentralized update of any central databases where the content is managed by relevant third parties
- allow easier “on the field” update of the databases when and where it is required

5.2.1 *Actors*

5.2.1.1 *Ministry of the Walloon Region*

The Ministry of the Walloon Region, more precisely the “General Directorate of Local Authorities” (DGPL), is member of the SAFIR project. His main role concerns the management of the other regional lower levels, as the provinces, the municipalities (local administrations) and any public body working in an in-between level.

As a public organization, his major mission concerns the public services to the citizens. Since many years, his initiatives aim to improve the quality of those services:

- providing funding to local administrations for projects in the field of ICT
- launching an E-Government initiative in respect of the good practice in the other Belgian regions and in Europe
- implementing a centralized diffusion Infrastructure for the Geographical Information of the Walloon Region.

Dealing with the SAFIR project, one DGPL service, the **DGPL/DBIS, Division of Sport Infrastructures** is more implied in the development of the pilot. This service will also be implied in the WP5, for the validation of the ontology created around the “sport infrastructures”.


5.2.1.2 *« Cabinet du Ministre des Sports de la Communauté Française ».*

Besides the Ministry of the Walloon Region, the Ministry of the French Community (Communauté française) is another level of political authorities. His competences cover education, social and youth services, culture and sports.

The geographical coverage is larger than the Walloon region; it includes the French community in the Brussels region.

One of the main sport organization is called ADEPS and is under the responsibility of the Ministry of the French Community. Actually there are 17 sporting centers ADEPS located both in Walloon and Brussels regions.

5.2.1.3 *The “Association des Etablissements Sportifs (AES)” :*

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AES is a non-profit company (in Belgium, an a.s.b.l “association sans but lucratif”), recognized since 2003 by the Ministry of French Community, which regroups sport infrastructures from the Brussels and Walloon regions.

The main objectives of this Association are:

- Mission of consultancy for the sport centers, officially recognized or to be recognized and also for the French Community Government
- Support in creating or performing the sport infrastructures management
- Contribution in the promotion of the sport performance at any level,
- Interest in other similar initiatives in direct or indirect relation, with the regulation (Decret of 27 February 2003) organizing the official recognition and the funding of local sport centers.

The different activity sectors of the Association are:

1. Communication: external and internal communication
2. Training: Training organization for the different categories of the sport infrastructures personnel
3. Infrastructures:
 - Halls: questions related to the management of sport halls, “omnisports” halls or places dedicated to specific sport disciplines.
 - Swimming pools: questions related to the exploitation of the swimming pools, management assistance to the local authorities
4. Tours: organization of regularly study tours
5. Social topics: questions relating to the employees of the sport infrastructures (working conditions, training,...)

5.2.1.4 The « AISF » (Association Interfédérale du Sport Francophone)

The Association of all French sport federations (AISF) in Belgium is officially recognized by the Ministry of Sports of the French Community Government.

Nowadays, 58 federations are effective members of the Association, regrouping 6000 sporting clubs, 665 000 sporting members, 100 000 volunteers.

His main goal is to give access to a larger public (sporting people, coaching people, arbiters, club managers, volunteers) to the sport and to any sport related Information. :

5.2.1.5 The F.R.S.E.L. (Fédération Royale des Sports de l'Enseignement Libre)

FRSEL (Royal Federation of Sport for denominational Education) is a non profit sport association (asbl) at educational level (schools).


His main objective is to promote the physical activities at school (outside the scope of the sporting courses), creating and officially recognizing sport centers in all schools of this education system.

5.2.1.6 The Ministry of National Defence

The service implicated in the SAFIR project is the Infrastructures Division, Geomatics Service.

The Belgian Army proposes some of the military sport infrastructures at disposal for sporting clubs (not directly to the citizens at the moment).

Within the Infrastructures Division, the information (geographical or not) is exchanged through an intranet named “INFRANET”. One of their priorities now is to improve the Information Process Management (access, gathering, update).

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5.2.2 System and Business Context


The main usages already identified can be grouped in 4 categories and represented via the following schemes:

1. Managing sporting infrastructures
2. Practising sport
3. Organizing sport events
4. Promoting sport activities

5.2.2.1 Managing sporting infrastructure

The sporting infrastructures can be managed by:

- the local authority (municipality)
- the Sport Centers of the Ministry of the French Community (ADEPS),
- the “Fonds des Bâtiments scolaires” for the schools
- the Ministry of National Defence in military domains
- the CGT in tourism domains
- a sporting club or association, recognised by the Ministry of the French Community
- a private owner

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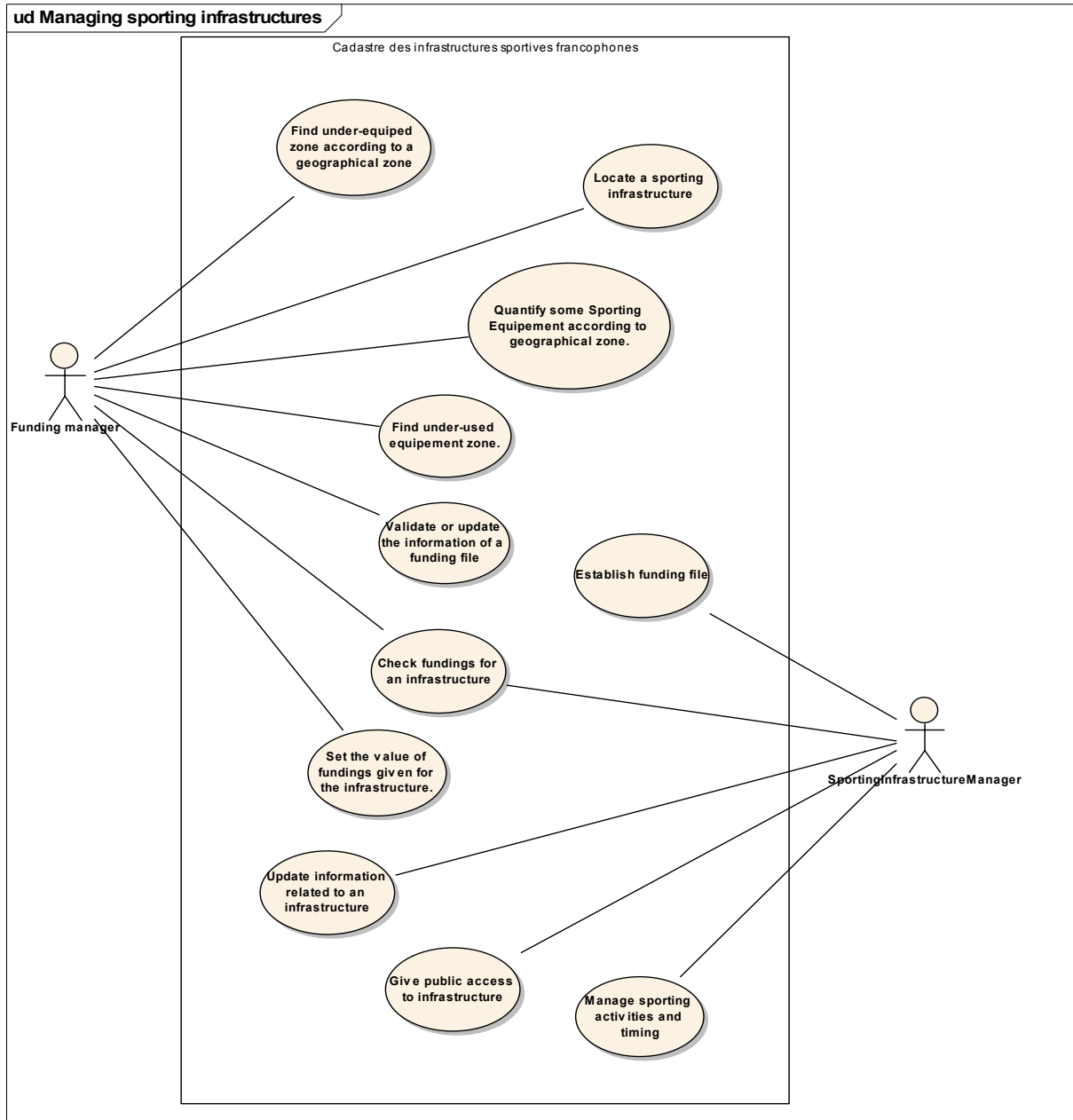



Figure 1 : Managing sporting infrastructures

The Ministry of Walloon Region gives funding to local authorities for the implementation or for the renovation of sporting infrastructures (262 municipalities in the Walloon Region)

The Ministry of French Community gives funding:

- for the exploitation of sporting infrastructures in the French Community covering the Brussels and Walloon Regions
- for the exploitation of sporting infrastructures included in tourism domains, via his Organization of Tourism (CGT)
- for the exploitation of sporting infrastructures included in schools
- for the exploitation of local sporting centers (CSL)

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5.2.2.2 Practising a sport

The persons mostly interested by the information concerning “Sports” are sportmen, (citizens, clubs, associations, federations):

- To localize a sporting infrastructure
- To find sporting activities in a region
- To reserve a sporting infrastructure

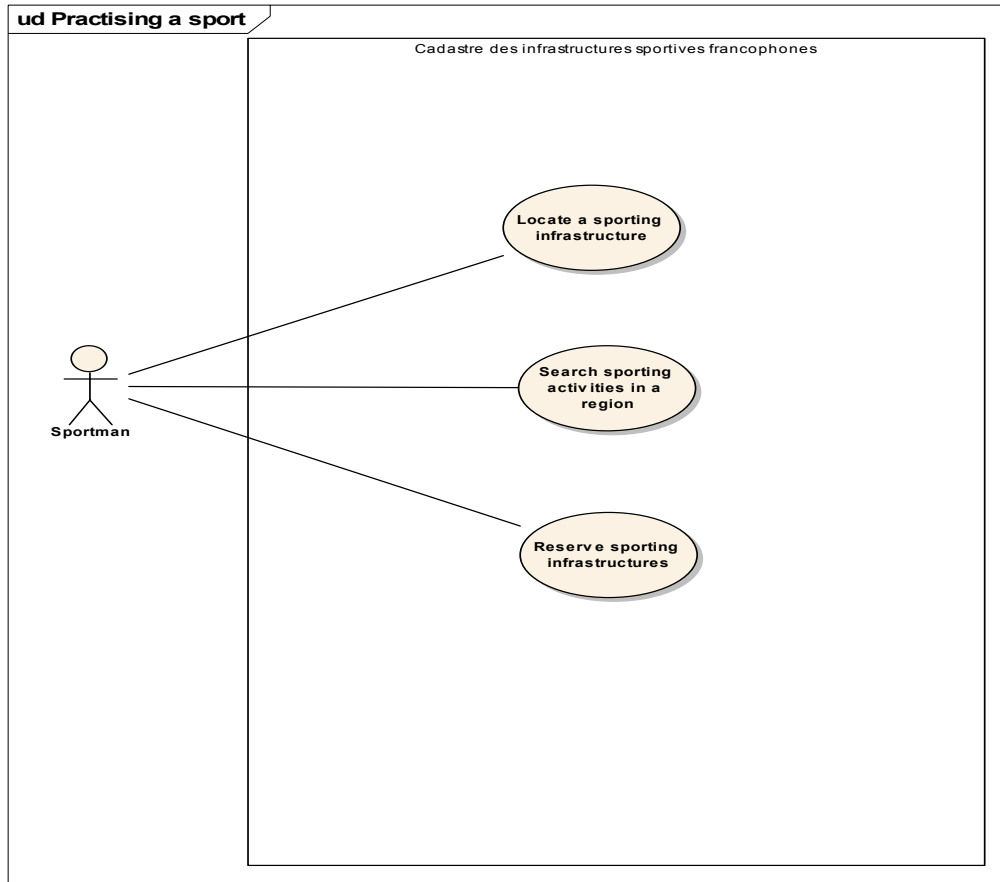



Figure 2 : Practising a sport

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5.2.2.3 Organizing sporting events

The types of organizers of sporting events depend on the level of organization:

- at local level: citizens, clubs, schools, municipalities,
- at regional level: sporting clubs, sporting centers, regional sporting federations, regional sporting associations,
- at national level: sporting clubs, national sporting federations or associations, the CIOB (Comité international Olympique Belge),
- at international level: sporting clubs, national and international sporting federations or associations, the CIOB (Comité international Olympique Belge).

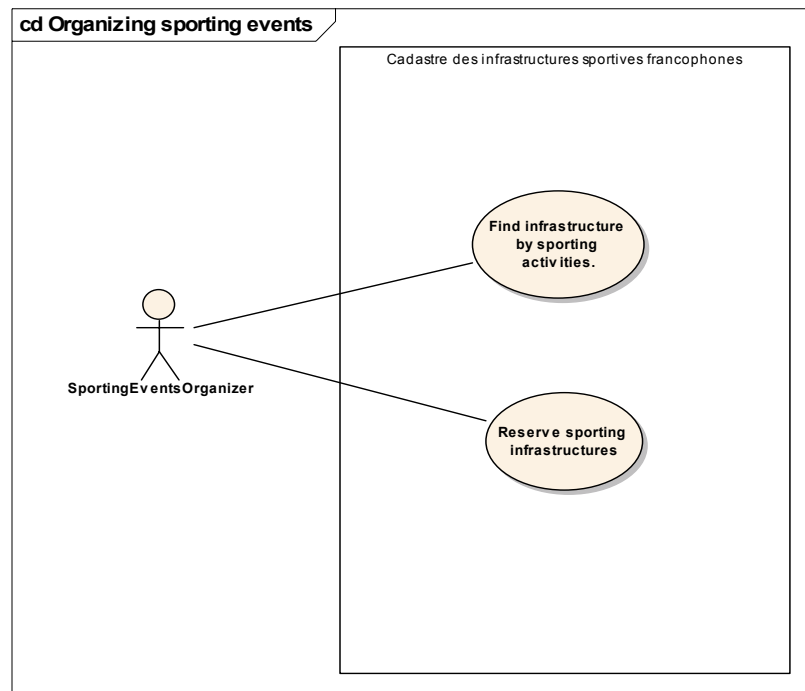



Figure 3: Organizing sporting events

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5.2.2.4 Promoting sporting activities

The role of promotion is very important to develop sport practice and is provided by different associations, in particular the AISF and the AES which groups sporting federations, and the F.R.N.S.E.L. for schools.

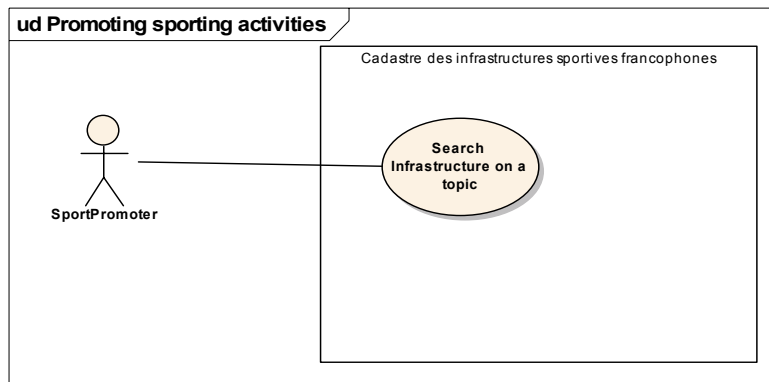


Figure 4 : Promoting sporting activities

5.2.3 Research Results and Analysis

5.2.3.1 Introduction

For the first session organised on 23th September in Namur, the Division INFRASPORTS of the Walloon Region presented the main actual usages of the existing database

These needs are grouped in three main categories:

- Help to decision and planning
- Communication
- Information research

The Division INFRASPORTS already identified the main users, actual or potential, having the same interests in the registration and management of the Sport infrastructures:


- The Ministry of the “Communauté française”
- The AISF
- The AES
- The Ministry of National Defense
- The FRSEL
- The Fonds des Bâtiments Scolaires de la Communauté Française

During the second session organized on 21th October, this first list of needs was presented to all participants selected by the Division INFRASPORTS and discussed.

5.2.3.2 Analysis of discussion results

The DGPL/DBIS, Division of Sport Infrastructures

This service has developed a database, firstly for internal use only, as a “management and decision tool”. This alphanumerical database is linked with GIS information allowing spatial analysis, which is very useful for the management.

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The service treats around 500 files/year for funding of implementation or maintenance of Sport Infrastructures in the Walloon region.

The primary information comes mainly from the local authorities where the infrastructure is/or will be implemented.

The inspectors (controllers) of the DBIS Service visit on site to check, add or modify the data, every time a new query is treated.

One of the objectives is now to delegate to the municipalities the updating process of the data.

The content of the database is naturally interesting for many others organizations, for example the sport clubs, sport federations, the COIB,

That is the reason why another objective is to extend the use of the gathered data and to contribute to larger usages.

The Ministry of French Community manages actually 17 sporting centers ADEPS located both in Walloon and Brussels regions. So it could be interesting to include these Brussels sport centers in the database, which could be renamed "Cadastre of French sport infrastructures".

One of their objectives is to create an interaction between the different e-Gov portals and to exchange authentic data with a particular attention to pricing, intellectual property, protection of private rights,...

From their point of view, the Cadastre would have to include not only public infrastructures but also private ones (private owner, public access), as fitness centers, swimming pools, tennis, equitation centers, in order to enlarge the citizens requirements.

The AES (Association des Etablissements Sportifs), which regroups sport infrastructures from the Brussels and Walloon regions, manages a Cadaster, with some other elements than the Walloon one but without any geographical information link. It should be interesting to match the both cadastres to create an added value one.


The leitmotif of **The « AISF » (Association Interfédérale du Sport Francophone)** association of all French sport federations (AISF) in Belgium is providing information, training, giving advice and assistance. The website contributes to this promotion via "le Guichet du Sport". On a SAFIR project point of view, it should be interesting to identify, via a statistical analysis of the FAQ, the most usual questions to help to the creation of specific Use Cases.

The F.R.S.E.L. (Fédération Royale des Sports de l'Enseignement Libre) promote the sporting activities at school (outside the scope of the sporting courses), creating and officially recognizing sport centers in all schools of this education system. The website of each federation provides all information concerning school activities.

Currently, the small sport infrastructures at school are not registered in the Walloon database. It could be very useful to add them.

The Ministry of National Defence proposes some of the military sport infrastructures at disposal for sporting clubs (not directly to the citizens at the moment). Via their website (<http://mil.be/Infrasports>), query is possible with search criteria such as the name of the municipality, the sport discipline, the name of the contact person.

Within the Infrastructures Division, the information (geographical or not) is exchanged through an intranet named "INFRANET". One of their priorities now is to improve the Information Process Management (access, gathering, update)

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5.2.3.3 Innovative Scenarios

For some Use cases first identified, the voice interface could bring an added value.

- ⇒ The “on the field” control by The controllers of the Walloon Region to verify the data received via the questionnaire (add, verify, modify, ...)
- ⇒ The data encoding for each of the data producers
- ⇒ The reservation of the sport hall by users (sport clubs or citizens)

5.3 Brussels Region Pilot

5.3.1 General Presentation

Brussels Regional Informatics Centre (CIRB) is a public organism linked to the Brussels Region which has the mission to computerize the public sector of the Region. His role is to organise, to promote and to disseminate the use of ICT's towards the municipalities and the others Brussels administrations. It also offers services in telematics, telecommunications through IRISnet and GIS services.

The contribution of the CIRB will be to put his technical expertise in GIS into the SAFIR Project. Indeed, the CIRB owns UrbIS®©, which is the GIS database of the Brussels Region. The interest of the CIRB in the SAFIR project is to have new ways of completing the UrbIS ®© towards voice interface to facilitate its use by the public's agents.

The Geomatic Department of CIRB is composed of two units: “Production” unit and “Technologies and Development” unit.

The “Production” unit is in charge of the manufacture, the update and the distribution of the cartographic data of the UrbIS ®© system. UrbIS®© is organized in 4 main databases: UrbADM, UrbMAP, UrbTOP and UrbFOT.

The “Technology and Development” unit is in charge of the design, the development and the deployment of the tools and the procedures used by the “Production” unit, and also in charge of the development of GIS and WebGIS applications using the UrbIS®© cartographic data.

Currently, the Geomatic department is developing a project concerning the continuous update of UrbIS ®©. This project covers on the one hand the update data gathering, the validation of these data, and the update of UrbIS ®©, the distribution of the databases, and on the other hand the analysis, the development, the deployment and the maintenance of a data information system for continuously updating UrbIS ®©. Moreover, the Geomatic department studies the installation of linear traffic network. The scenarios under consideration in the SAFIR project concern the phases of collection and validation of the updating UrbIS®© data and the statement of the linear traffic network data.

5.3.2 Actors

A Collector is a CIRB employee who receives the update information and introduces it into the internal UrbIS ®© system.


An Operator is a person charged to control, to validate the collected data and to modify the UrbIS ®© data

A Supervisor is a person charged to check the execution of the collections and to analyze the quality of provided work.

A Supplier is a person/society who provides information for update the UrbIS ®© data.

5.3.3 System and Business Context

5.3.3.1 Innovative Scenarios

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Scenario 1 - Continuously update of the UrbIs GIS system of the Brussels Region. Validation of the addresses and of the town planning licenses for buildings and public ways

A team of cartographers is in charge to collect and validate the data necessary to update the UrbIs system. The mission of these cartographers is to check the street public numbers. They also need to check if the UrbIs objects are in conformity with the granted licenses for town planning. This type of work is composed of 3 phases:

Phase 1. Transfer the data to be validated on cartographers' mobile devices. A sector of the UrbIs Map is prepared and transferred. This sector has a size of 500mx250m and contains the basic layers of UrbIs Map, as well as the objects which must be checked. Currently, the cartographer uses a paper support.

Phase 2. Update the data. The cartographer goes on his sector. He launches the application for updating the UrbIs objects, application which has a voice interface. This application also allows the voice encoding of general remarks and integrates in the same time the position via a GPS functionality. The application also checks if the work to be done is completely carried out by the cartographer.

Phase 3. Update of the UrbIs database. The cartographer returns to his office and transfers the data recorded on the mobile device to an application which carries out possible conversions and also validates the data. The cartographer performs the modifications based on general remarks recorded by voice interface. These modifications generate specific interventions which can be carried out only in the back-office.

Scenario 2 - Update of the linear traffic network based on the UrbIs GIS system

The CIRB has implemented a vectorial geographical database on which routes are mapped out. The main user of this database is the Regional Company for Public Transport STIB. The STIB already made use of these data to provide a journey plan service on its Internet site www.stib.irisnet.be. This service was developed within the framework of European project CITIES 1998-2001. Updating this database requires an ambulation on every street of the Brussels Region territory (up to 1700 km total linear length). This ambulation can be considered only by using a vehicle. This makes the use of a system based on voice interface of greater interest. This type of work comprises 3 phases:

Phase 1. Preparation of the work of the agents. A route based on the UrbIs Map is prepared and transferred on the PDA of the employee. This route includes the UrbIs map background and the extract of the linear traffic network to be updated. Currently, the agent uses a paper support.

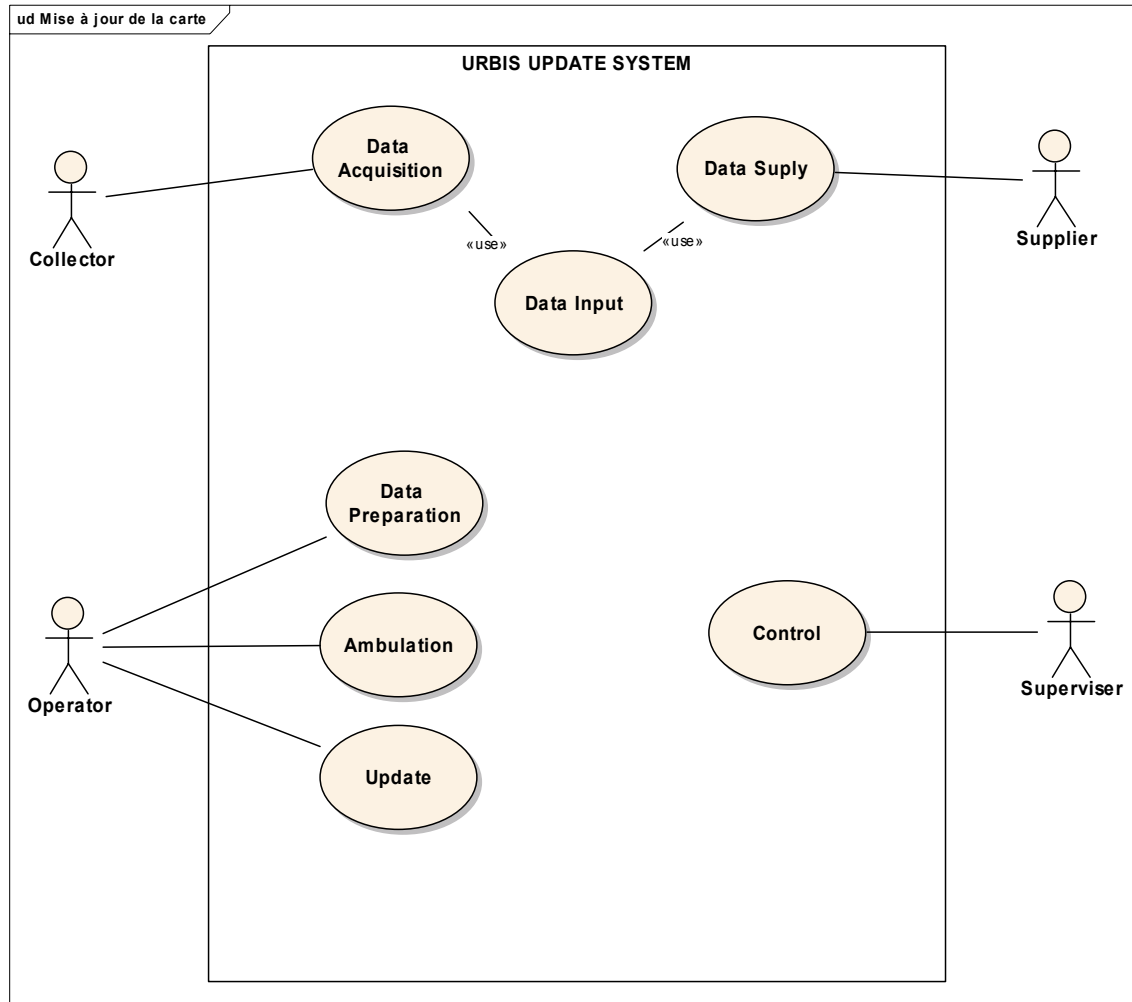
Phase 2. Ambulation. The agent carries out the route in a vehicle and encodes by means of the voice interface the information associated with the arcs which are crossed (direction of circulation, speed authorized, number of ways, restrictions, etc.). The agent launches the application to update the UrbIs objects, application which uses a voice interface. It also allows the encoding of the free observations, as well as an automatic positioning via a GPS functionality. The application also checks if the work to be done is completely carried out by the cartographer.

Phase 3. Update of the UrbIs database. The agent returns to his office and transfers the data recorded on the PDA to an application which carries out possible conversions and also validates the data. The agent performs the modifications based on general remarks recorded by voice interface. These modifications generate specific interventions which can be carried out only in the back-office.

Note: For those two scenarios, a PDA is mentioned as the remote unit. However, we should mention that these scenarios are part of a preliminary stage of definition of the pilots, and that according to the need in CPU power, the PDA could be replaced by a Tablet PC.

5.3.3.2 Models

Scenario 1 : Update of the UrbIS©© system



Use case : Preparation


| | |
|--------------------------|------------------------------------|
| Operator | System |
| Login | |
| Select the zone to check | Display a graphical zone of seized |
| Logout | Print the map |
| | |

Use case : Ambulation

| | |
|-------------------------|---------|
| Operator | Système |
| Go and annotate the map | |
| | |

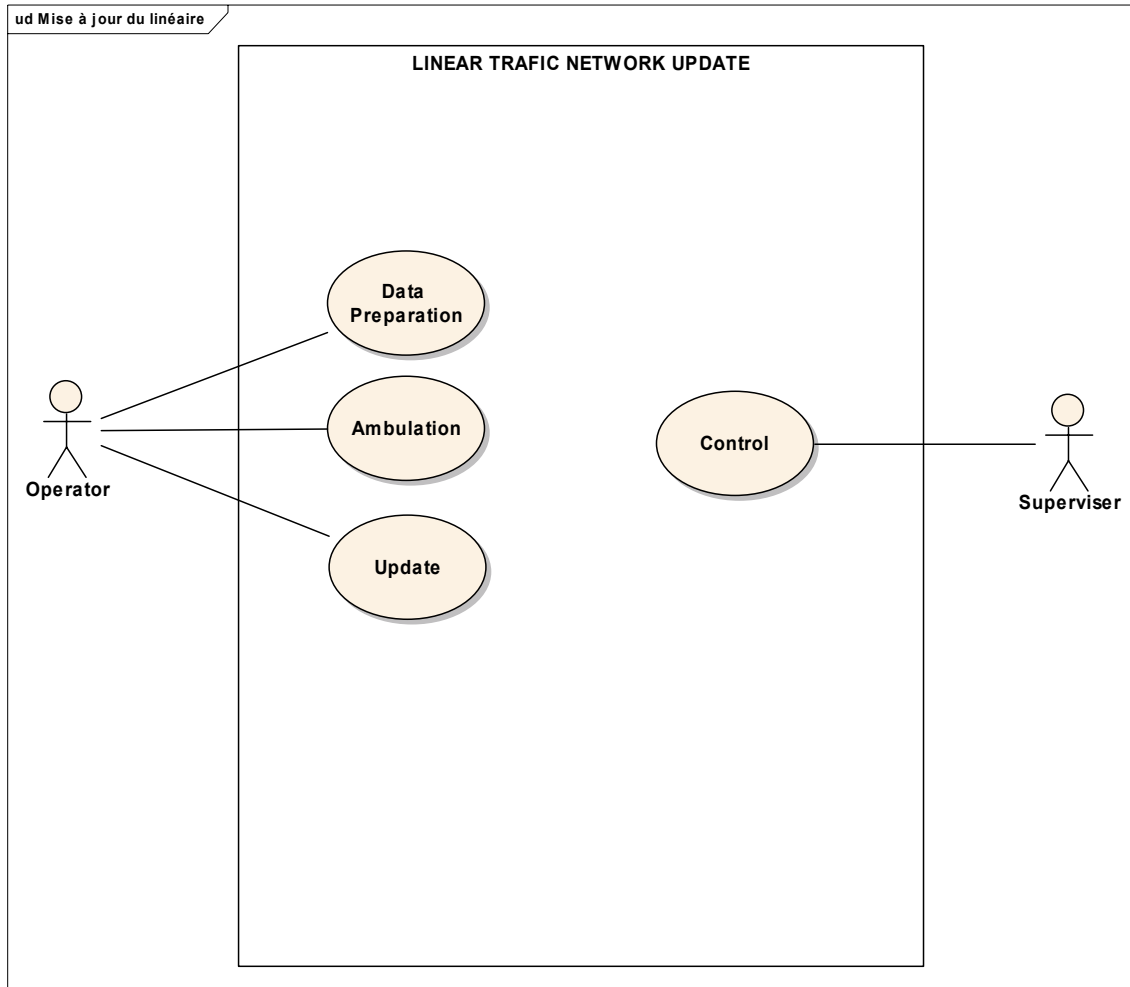
Use case : Update

| | |
|--------------------------|------------------------------------|
| Opérateur | Système |
| Login | |
| Select the zone to check | Display a graphical zone of seized |
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| | |
|--------|---------------|
| | Print the map |
| Logout | |
| | |


Scenario 2 : Update of the UrbIS ®© system



5.4 Vratsa Region Pilot

Vratsa is one of the twenty eight districts in Bulgaria, which has ten municipalities of which seven in the plain area of the country and three in the mountain area. Most developed in the region are agriculture and light industry (food and textile). The region however has longest traditions in agriculture and the private farmers predominate. In this regard and with the view of the state strategy of stimulation of the agriculture in the area, and having in mind the perspectives of the SAPARD program a decision was intuitively taken to select the district directorate of agriculture and forest or municipality directorate of agriculture and forest to be selected as SAFIR pilot instead the Vratsa city cadastre or Vratsa unemployment agency. More about the selection criteria and procedure will be published in the deliverables of WP6.

5.4.1 General Presentation

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The national directorate of agriculture and forests (DAF) is part of the Bulgarian Ministry of Agriculture and Forests (MAF) and is responsible for maintaining the information about agriculture land (parcels, soil quality, etc. geo information), registration of farmers and the land they work, issuing the official land sketches, keeping the cadastral information regarding agricultural lands, collecting statistical information about the grown crops, servicing citizens providing them with information, sketches, etc. to fulfill these tasks the directorate has 28 districts branches, which on the other hand have a total of 233 municipality branches around Bulgaria. On each level of DAF's organizational structure the responsibilities are different to accomplish the business and institutional goals of the directorate (See figure 1 – Business context).

5.4.2 Actors

5.4.2.1 Municipality directorate of agriculture and forests (MDAF)

After the change of the social system in Bulgaria in 1989 the 233 land commissions were created (municipality directorates of agriculture and forest) to return the confiscated lands to their previous owners. Since then (and now that all lands have been returned) they are responsible of measuring and separating/merging the land parcels as well as keeping the GIS and cadastral information up to date, and issuing the official sketches about parcels.

5.4.2.2 Private geodesist companies

To collect the necessary information, to keep GIS data up-to-date and for doing measurements in the field the MDAF uses the services of highly professional licensed private companies, which provide the GIS and soil data in specified interface formats for upload in the MDAF GIS system. Currently there are around one hundred licensed geodesist companies in Bulgaria.

5.4.2.3 District directorate of agriculture and forest (DDAF)

The DDAF is responsible of farmer registration procedures, collection and aggregation of statistical information as well as providing information services to citizens. they are also in cooperation with the State fund "Agriculture" and the SAPARD agency in the process of funding the farmers.

Remark: The process of funding the farmers is extremely attractive opportunity for a pilot with great dissemination potential, but at this moment the future of the two funding agencies is unclear. When Bulgaria joins the EU in 2007 it is foreseen that only one paying agency will remain and with completely new structure and procedures. That is why it was decided to have a stable pilot with DAF which however can evolve encompassing the agriculture funding process.

5.4.2.4 Citizens


In the context of the business processes presented in Figure 1 citizens are all people that would eventually need information and/or use any e-gov services provided by DAF or its subordinates.

5.4.2.5 Farmers

Farmers as presented in Figure 1 are a special kind of citizens who are subject to registration at DAF, eventually funded by any paying agency and provide statistical info about the crops they grow or intend to grow.

5.4.2.6 National directorate of agriculture and forest (DAF)

DAF is responsible of aggregating the collected information into a centralized system – Agricultural Land Information System (ALIS) and doing the final collection of statistical information for EUROSTAT. It controls and manages its subordinates (DDAF and MDAF).

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5.4.3 System Context

Currently the Agricultural land information system (ALIS) is implemented and working in Bulgaria at the different levels of authority. The MDAFs are collecting the GIS information in their local data bases, then the information is aggregated at district level and finally all districts' data is aggregated in the Ministry of agriculture and forests ("Land property registers and IT" department) centralized data base.

ALIS is an ESRI based GIS system, which is adapted for the needs of Bulgarian requirements and particularly the Ministry of agriculture. Further examination of ALIS interfaces and structure will be performed in the frames of WP6 (Bulgarian pilot preparation).

The digitalization of GIS information is currently going on for the entire country and Vratsa municipality is the first one that has finished this process. ALIS contains all GIS data as well as cadastral and property (ownership) information.

The registration of farmers is done in separate system/register yet.

Geodesist companies use very old DOS based systems to record the data they collect.

5.4.4 Business Context

Figure 1 shows the business use cases within DAF with relative description of each significant use case below.

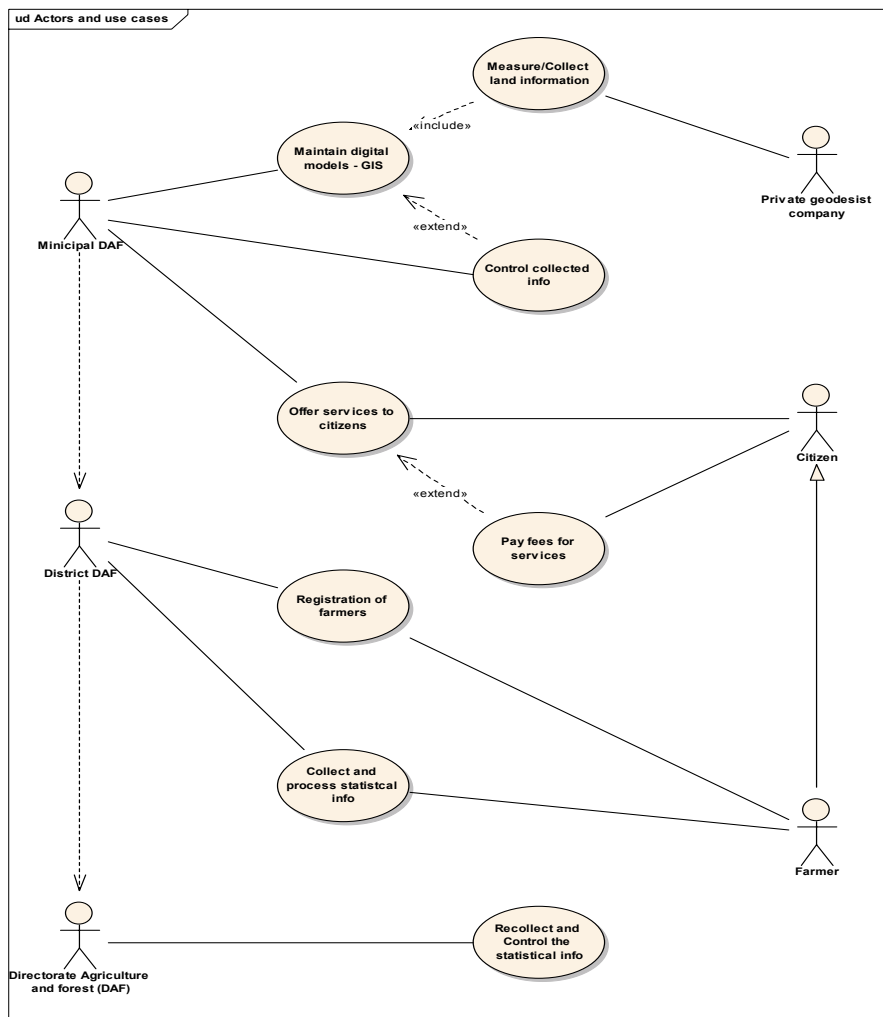



FIGURE 1 – Business context

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5.4.5 Business Use case: Maintain digital models

Basic scenario:

- MDAF assigns the task of measuring on the spot, collecting soil and all other GIS info to a licensed geodesist company for a specified area (the process of selection of company is a public tender based procedure)
- geodesists research and measure in the field
- specialists collect ownership information
- all collected data is sent to municipality in a specified format
- the data received in MDAF is checked for inconsistencies or lack of critical information
- the data is converted into ALIS/ESRI format and recorded into the MDAF GIS data base
- geodesist company gets payed

An alternative scenario occurs when the collected data is incorrect or insufficient or when there are complaints by land owners regarding the reliability of information.

5.4.6 Business use case: Offer services to citizens

Basic scenario:

- citizen wants to buy or sell land parcel/s and goes to municipality for required documents
- MDAF check the GIS, cadastral or ownership information
- MDAF issues official sketch of the parcel/s
- citizen pays fees for the service

Alternative scenario may occur depending on the type of service citizen requires. All possible services are to be examined in the frames of WP6.

5.4.7 Business use case: Registration of farmers

Basic scenario:

- citizen wants to apply for the farmer registration
- citizen fills the application (including the land he owns or rents and declares he will cultivate).
- citizen attaches all required papers
- application info is checked by DDAF against GIS, cadastral and property data
- application is accepted
- DDAF registers citizen as a farmer

Alternative scenario may occur in case of inconsistent application info of discrepancies found against ALIS data base.

5.4.8 Business use case: Collect and process statistical information

At the end of each cultivation period (usually one year) through declarations all farmers state the crops they have grown, collected and other statistical information.


Basic scenario:

- farmer fills declaration
- declaration is checked against ALIS data base and farmer register in DDAF
- declaration is accepted
- checks are performed on the spot for selected declarations by DDAF
- information is recorded in data base
- statistical information is aggregated at the Ministry

Alternative scenario might occur in case of incomplete declaration information or frauds found during checks on the spot.

5.4.9 Business use case: Recollect and control the statistical info

Basic scenario:

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- DAF sends specialists in the field to collect crops info regarding squares 6/6 kilometers (the entire country is separated in such squares)
- data is collected and recorded in the statistical data base
- the information is checked against the one collected through declarations
- statistical data is sent to EUROSTAT

Alternative scenario might occur in case of huge discrepancies between aggregated data from declarations and the one collected on the spot by DAF.

5.4.10 Research Results and Analysis

5.4.10.1 Innovative Scenarios

After the first interviews with DAF and MDAF it appeared that all procedures of data collection on the spot by the specialists in the field (GIS as well as statistical data) will be enormously eased by voice activating the data collection and recording it to the respective data base.


Basic scenario:

- specialist/geodesists (other) goes on the spot with voice activated and GPS embedded mobile device
- specialist measures easily
- specialist says what he sees and records all collected data in the data base
- if online connected the central data base is updated, otherwise a simple download is performed at the end of the day/mission

This 'voice' scenario would save not only time and resources, but would increase consistency of data and prevent human mistakes during data collection and transfer.


Other scenarios will also be researched in connection with farmer registration, declaration processing and services provided to citizens.

With respect to the education level of most farmers it is expected voice activated procedures of registering and declaring to have huge social effect and allow more citizens working in agriculture to apply for farmers and receive aid.

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6 Validation of Results

As the analysis and results are based on the discussions with the potential users an implicit validation has taken place. Apart from this the validation process will continue during the following project stages. This ongoing validation process will also be supported by input from the advisory board.

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Morgan L. David (1988), Focus groups as qualitative research, Newbury Park: Sage Publications: Qualitative research methods series.

Stewart W. David and N. Shamdasani (1990), Focus groups: theory and practice, London: Sage Publications (Applied social research methods series).

Web Sites

MRW-DGPL-DIS (Direction des Infrastructures Sportives)
http://mrw.wallonie.be/dgpl/fr/infra_sportive

Cabinet du Ministre des Sports de la Communauté française
<http://cfwb.be>

Ministère de la Défense Nationale, Direction des infrastructures
<http://mil.be/Infrasports>

L'association établissements sportifs (AES)
<http://www.aes-asbl.be/>

L'ASSOCIATION INTERFEDERALE DU SPORT FRANCOPHONE
<http://www.aisf.be/>

Fédération Royale Sportive de l'Enseignement Libre asbl
<http://www.frsel.be/federal/>