

## ICT-PSP Project

### LIFE 2.0

Geographical positioning services to support independent living and social interaction of elderly people

## ICT-PSP-270965

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### WP2 – Platform design

#### Public report - Deliverable

#### Use cases and requirement list

#### Extract

#### Executive summary and introduction

Due date of deliverable: MXX  
Actual Submission date:

Deliverable ID: **WP2/D2.2**  
Deliverable Title: **Use cases and requirement list**  
Responsible partner: Polimi  
Contributors:  
Estimated Indicative  
Person Months:

Start Date of the Project: 1 January 2008

Duration: 36 Months

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**LIFE 2.0 CIP-ICT-PSP-270965**

Revision:

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## Section 1 Executive summary

### 1.1 Description of the deliverable content and purpose

Deliverable 2.1.2 describes requirements list and use cases for the design of Life 2.0 platform. To obtain these results a series of local activities finalised to share, analyse and assess with end users and other stakeholders (potentially interested in designing new solutions for elderly independence living) have been carried on starting from the scenarios collected in deliverable 2.1.1.

The methodology adopted to carry on these activities has been developed within the framework of co-design and living lab approach.

This approach can be summarized as follows:

- Users engagement. Communities Sustainability
- Experiment ideas, services, concepts, products.
- Discovering what users wants and needs.
- Discovering unexpressed needs.
- Source of new ideas.
- Speeding up acceptance. Earlier adopters. Users do the selling.
- Large scale sustainable behaviour transformation

Basically the idea that underlines this approach is the definition of use cases and requirements for LIFE 2.0 service platform with all of the stakeholders that can have an interest in services for elderly (from end users to services providers, from social services, to public services, from families to friends).

To implement this approach a series of local workshops (in Milano, Aalborg, Barcelona and Joensuu) with local researchers, companies and users' organization, have been conducted to evaluate scenarios of the project (deliverable 2.1) and to derive requirements. Then scenarios and requirements have been formalised in use cases. Local workshops have been organised from each local pilots. All partners elaborated their own methodology (methodologies applied are described for each of the local partners in the specific chapter of this deliverable) and conducted them involving different classes of stakeholder.

Results of the local workshops have been elaborated exploiting two different tools:

1. a table for the description of the requirements (**UML** template),
2. a tool (**CANVAS**) to elaborate a first business model for the service scenarios analysed during local workshop.

The table for describing requirement (see Fig.1) is a tool that has been elaborated within the project SPICE (Service Platform for Innovative Communication Environment), FP6, 2006, where Telecom Italia was one of the partner.

Requirements are the most basic understanding about the business logics of the problem to be solved. That means, if the client wants to develop software to control the library, you need to keep track of the books to be rented, the customers that borrowed the books etc. They start saying that this software must be online on the internet to let the customers search the available items 24h a day online, among other details. When you read these small sentences, depending on how rich they are about the specification of the system to be developed, you need to extract the main ideas the client wants to tell you. Sometimes, they cannot clearly state what they want and keep changing functionalities, or do not understand about software at all. Once the user stories are gathered, they must be translated into a list of Functional and Non-Functional Requirements.

Later on, Functional Requirements must be represented using some kind of documentation tool such as diagrams, which most people (stakeholders, developers, software engineers) can understand. Since adhering to conventions is the best way to transmit information, one of the most used languages is Unified Modelling Language, in short **UML**. UML is used in this project to describe functional and non-functional requirements extracted from the scenarios. This is the UML template we used:

<b>Brief Description:</b>	XXX <2 to 3 sentences describing the purpose and goals of use case>
<b>Preconditions:</b>	XXX <the stable state(s) that the system must be in for the use case to start>
<b>Environment:</b>	{ Home   Mobile   Both } <the environment in which the use case takes place>

<b>Basic Flow:</b> <the complete flow of events that normally happens when everything goes right >		
Line	System Actor Action	System Response
1	XXX e.g. The sales assistant asks the system to process a new order. <write a single sentence describing what the system actor does as an interaction across the system boundary>	XXX e.g. The system asks the sales assistant for identification <write a single sentence describing what the system does in response as an interaction across the system boundary, or, if absolutely essential, what the system does internally>
2	XXX e.g. The sales assistant identifies themselves to the system <add further lines as necessary until the flow is complete>	XXX e.g. The system displays a blank order screen with a blank order line to the sales assistant <keep the action and the response in pairs. If the system does more than one thing, then add another line for each additional action>
<b>Post Condition:</b>	XXX <the state of the system at the end of the basic flow, or things guaranteed to be true at the end of a successful use case>	

**Activity Diagram**  
 <if there is complex iteration and selection, include an activity diagram, or a reference/hyperlink to one here. Activity diagrams should not duplicate or replace the text of the flows but augment it where prose is difficult to use to describe complex conditionality. There is no need to include every line in the use case as an activity.>

UML template

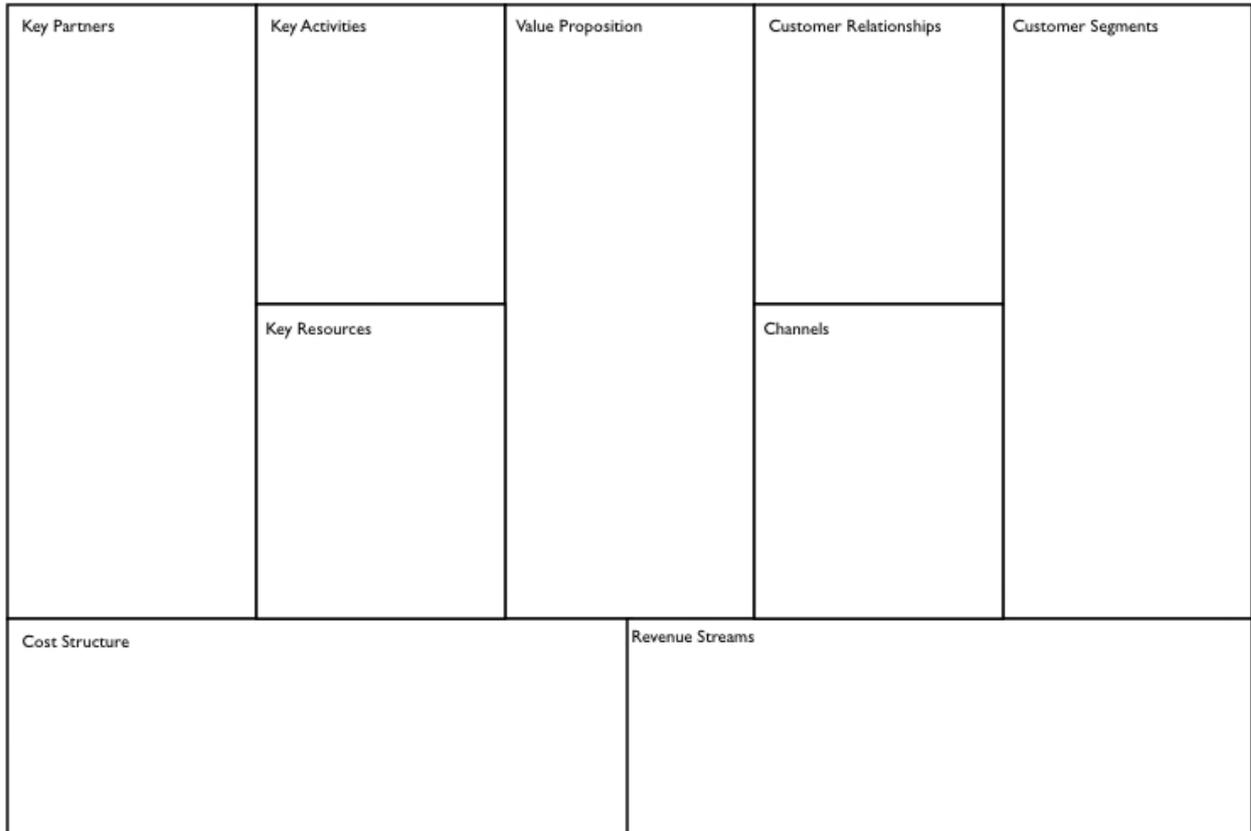
**Business Model Canvas** (Osterwalder, A., Pigneur, Y., (2009) Business Model Generation, self publishing) is a tool elaborated from business science that help to build up possible business model for a business idea (fig 2).

There are many different representations of business model structure in managerial literature, from very simplified ones to rich and articulated. Despite this diversity it is possible to find some common features in many of these representations. Such features could be summarised in the following way:

- a) The offering or value proposition. This represents “anything offered to the market that might satisfy a want or need of the targeted customers” (Chesbrough, 2004). In addition to this definition, the value proposition should also show the reasons for differentiation and explain why the offering itself is a better solution than the other ones available on the market. In many business models representations, such as the business model canvas (Osterwalder and Pigneur, 2009) which has gained large popularity among practitioners, the competitive dimensions of the offering is not particularly stressed in favour of a deep analysis of customers needs and wants. The misperception of the relevance of differentiation among the dimensions of value proposition might implicitly risk to produce offerings that lack of distinctiveness or are particularly weak when compared to existing solutions.
- b) The customer segments. It is implicit in the definition of value proposition to have a clear perception of the receivers of the value created for the marketplace. A description of the targeted customers should not only focus on descriptive variable such as lifestyle or demographics, but should have present a deep understanding of the behaviours of customers and the kind of activities they perform under the scope of the value proposition.
- c) The revenue model. It explains the way through which the company extracts value from the market and is related to revenue sources, pricing policies and strategies, transaction models and margins and volume policies. Even though some authors include the cost structure in this part of the business model (Hamel, 2002), it might be argued that costs should be more related to key processes, procurement and distribution structure and policies and value chain activities and be taken only as an input for the determination of the revenue model.
- d) The internal resources and assets. These elements might be perceived as the internal building blocks that allow to develop and implement the business model. They are related to both tangible and intangible assets, as well as knowledge and relationship resources that support the value proposition and generate, through their combination in processes and value chains, a sustainable competitive advantage.
- e) The network of suppliers and distributors. These subjects are the external part of the business model and they contribute to the creation of the value and its delivery to the final customers. The external network is composed by primary and secondary stakeholders (like debtors, public institutions, etc.) that might affect company’s performance.

f) The key processes and value chain. This part of the model shows how the company performs its key activities utilising key resources and assets and integrating with the external network (Ankenbrand, 2011). This component of the business model bridges all the other parts and shows the different kind of relationships between all of them.

### Business Model Canvas



Source: Business Model Generation by Alexander Osterwalder, and Yves Pigneur

The Business Model Canvas is strategic management tool, which allows us to develop and sketch out new or existing business models. It is a visual template pre-formatted with the nine blocks of a business model.

The Business Model Canvas was initially proposed by Alexander Osterwalder (2009)] based on his earlier work on Business Model Ontology.

Formal descriptions of the business become the building blocks for its activities. With the context of the local workshops a simplified version of the Canvas has been used that allow a rapid first prototyping of possible business models.

Elements that composed the simplified canvas are the following:

- costs
- revenues
- value proposition

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- channels
  - customers
  - value chain
  - partners.

This deliverable reports, for each of the Life 2.0 pilots, the description of the activities conducted during the local workshops and the obtained results in terms of: requirements list; use cases and activity diagrams.

Results reported in D 2.2 together with those obtained for D 2.1 will represent the basis on which to lead the general workshop that will be held in Milano in June 21 and 22<sup>th</sup>, 2011.