



POLITECNICO MILANO 1863

M.Sc. Computer Science and Engineering

Hypermedia Applications (Web and Multimedia) Project

Design Report

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Chapter 1

Abstract

This document provides information about the design of a voluntary association website. It has been carried out focusing on:

- the graphical representation, by means of the IDM (Interactive Dialogue Model) schemas (Conceptual IDM or C-IDM, Logic IDM or L-IDM and Page IDM or P-IDM);
- the design-in-the-small (low and high fidelity wireframes);
- the diagrams for the database design (E-R diagram and Relational tables).

A series of scenarios have been provided as well, in order to illustrate some of the typical navigation paths available for users on the website.

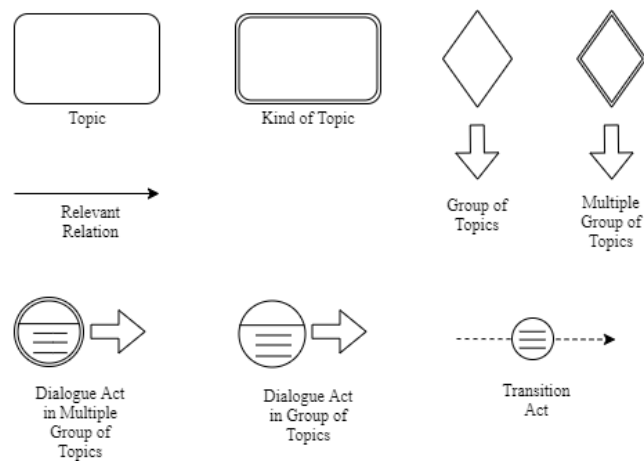
Chapter 2

Graphical representations

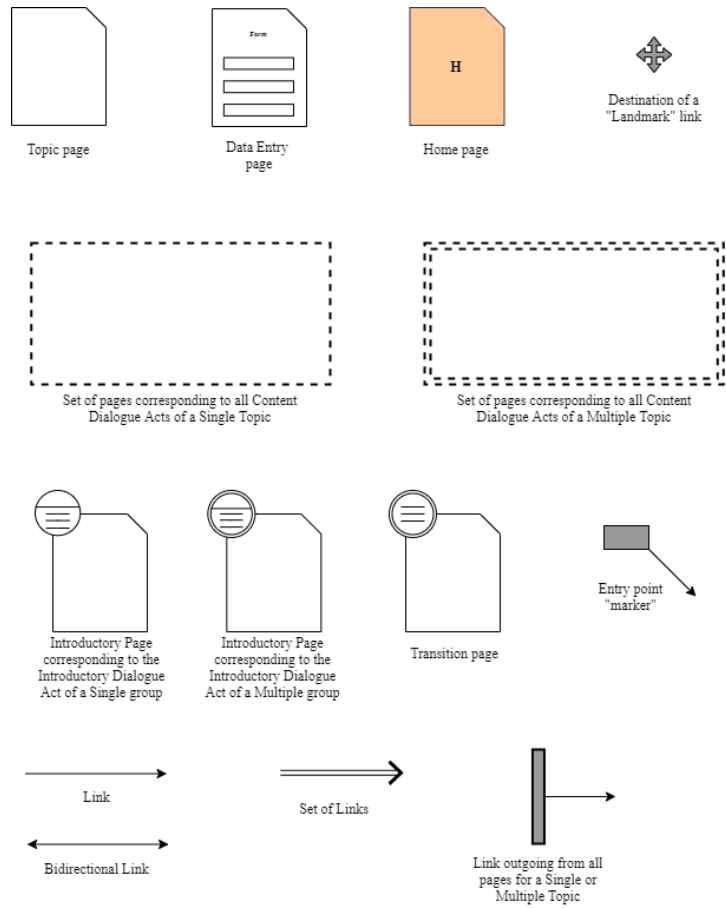
The design-in-the-large is represented by the following IDM schemas.

2.1 Notation

This figures show the notation used to build the IDM schemas.

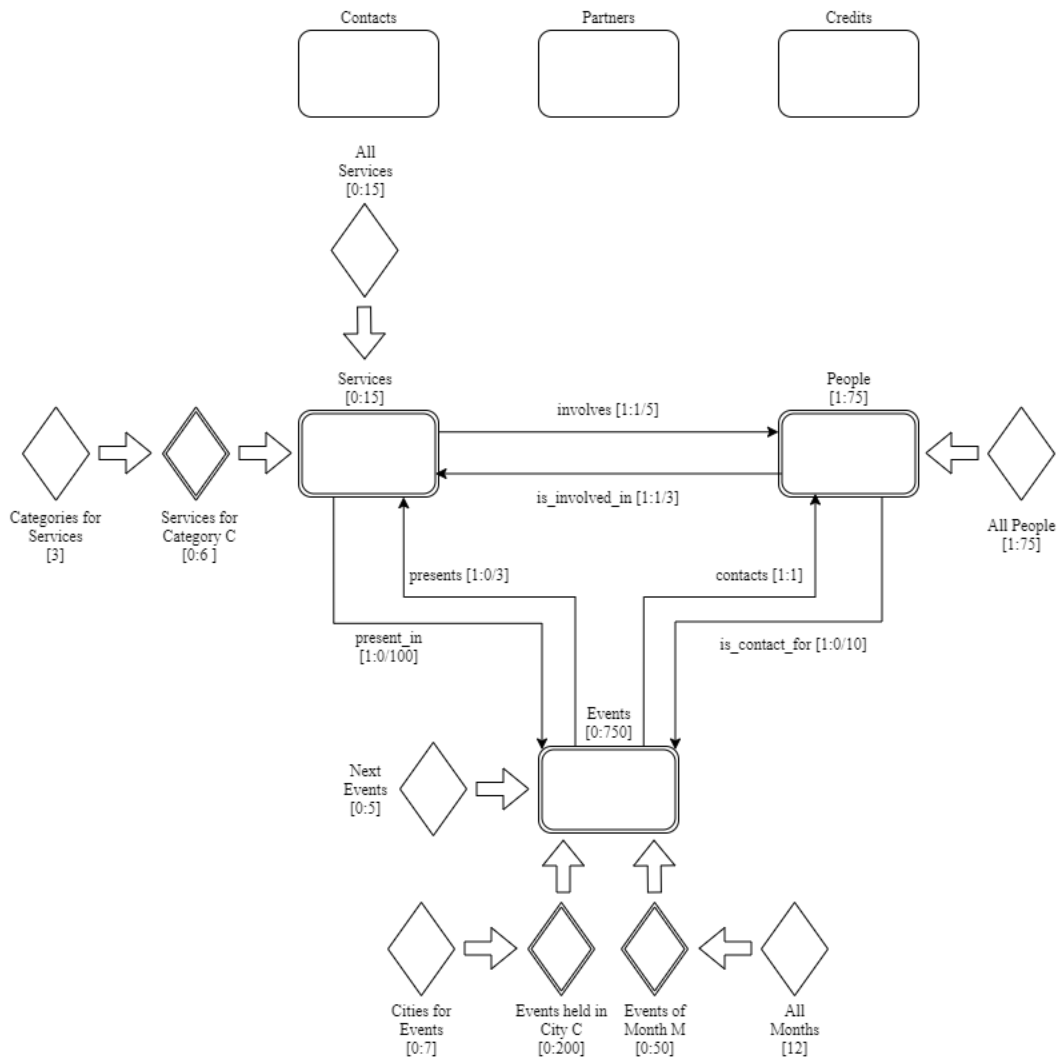


Notation for C-IDM and L-IDM schemas



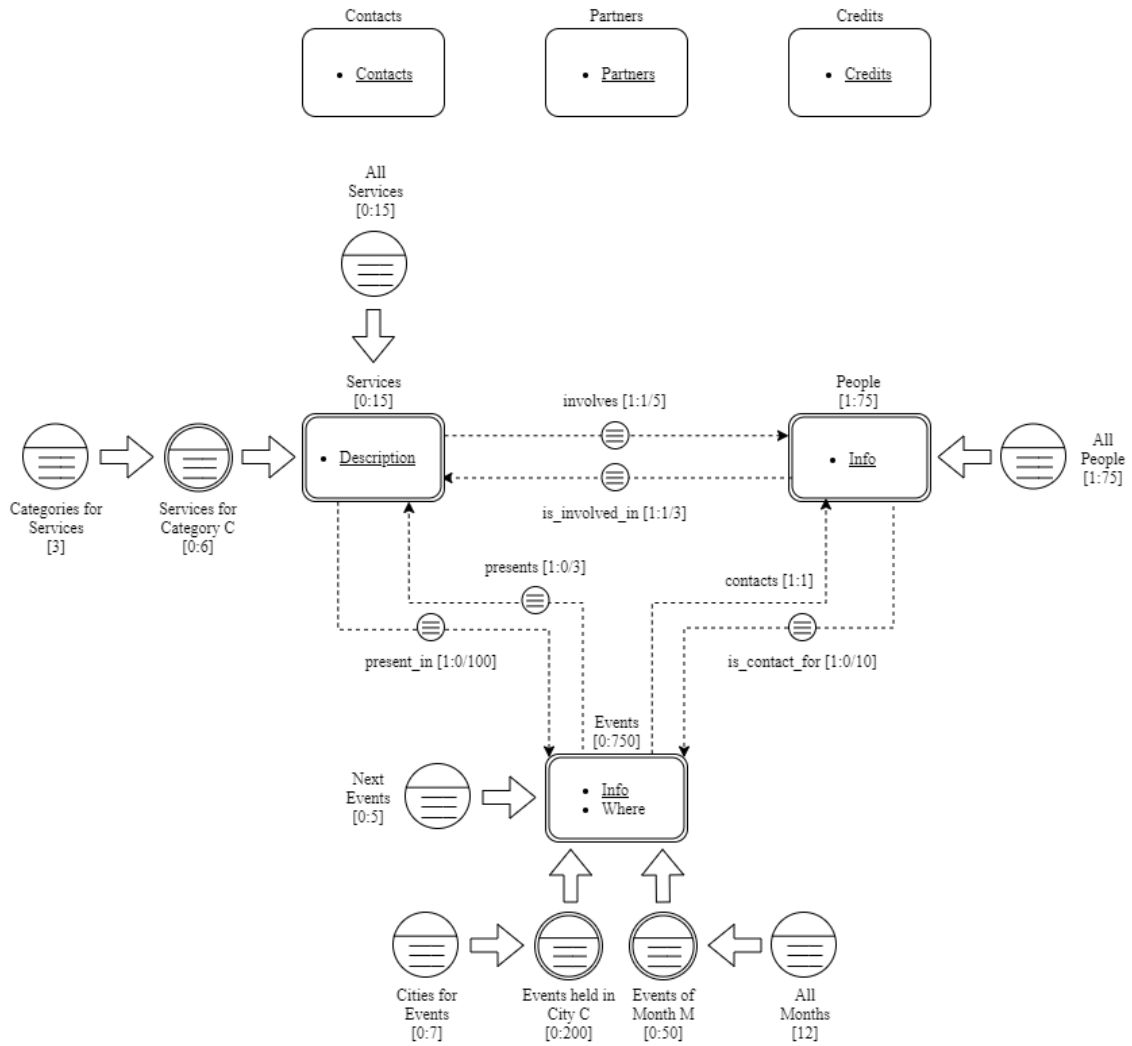
Notation for P-IDM schema

2.2 C-IDM schema



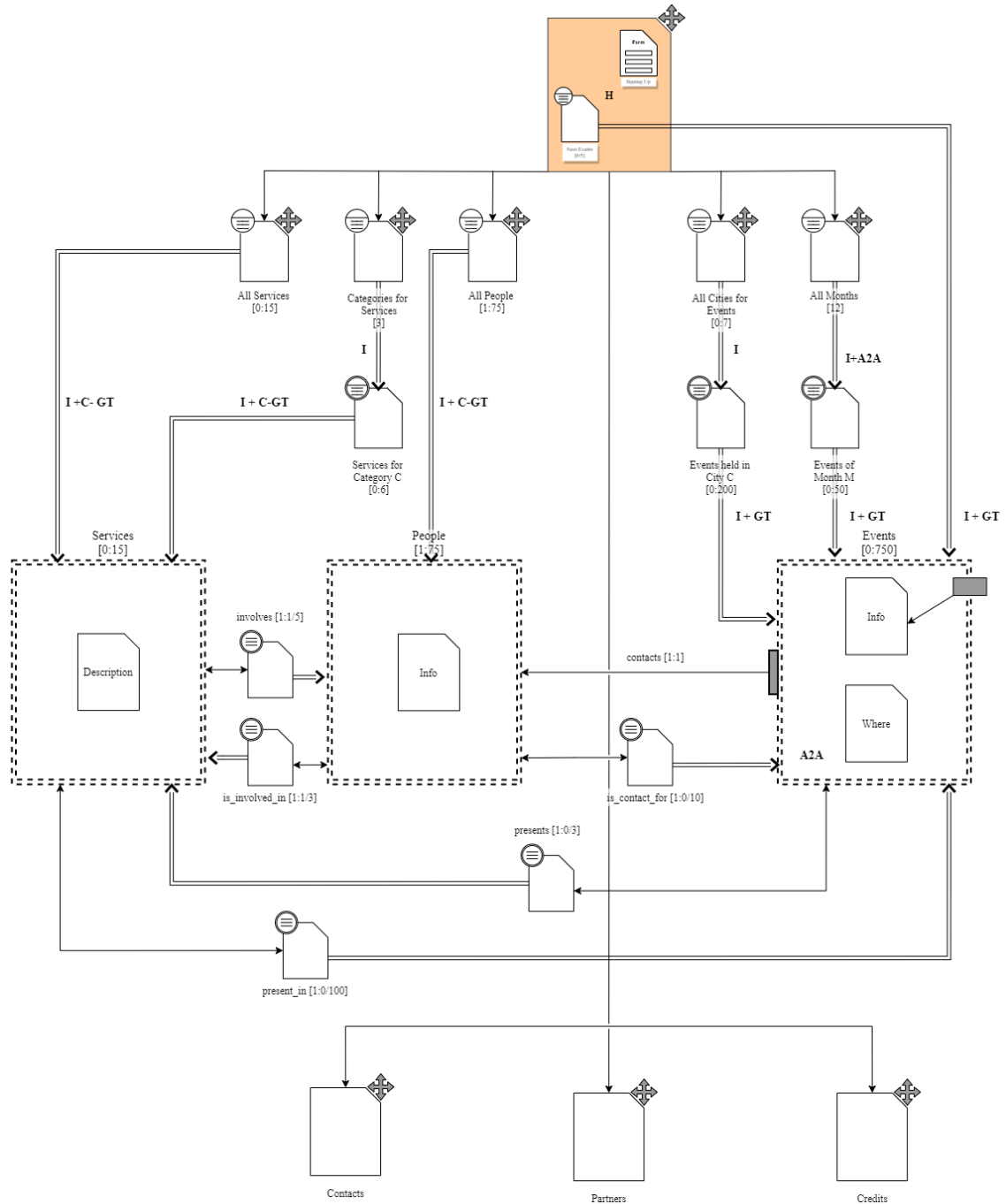
C-IDM schema

2.3 L-IDM schema



L-IDM schema

2.4 P-IDM schema



P-IDM schema

Chapter 3










Design in-the-small

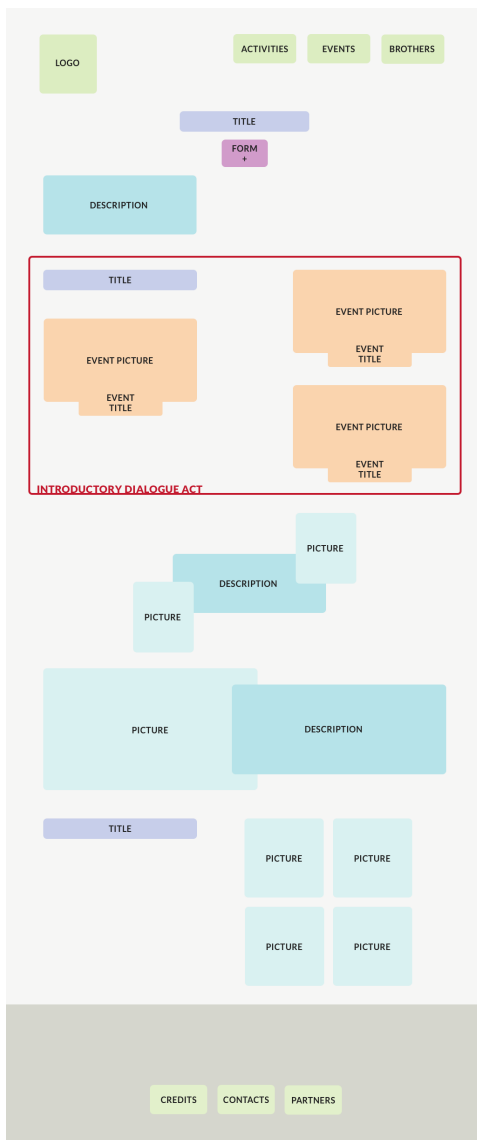
Low and high fidelity wireframes are provided in this chapter. The terms “Services” and “People” used in the schemas shown above will be replaced by the terms “Activities” and “Brothers”, respectively.

In order to distinguish the type of elements in the page, the low fidelity wireframes have been constructed using different colours, according to the convention, reported over each one of them.

All the elements have been classified directly on the Wireframes, for readability reasons. The Screenshot related to each Wireframe is reported in the right-handside.

3.1 Homepage

	TITLE		FORM BUTTON		STRUCTURAL LINK
	PICTURE		FOOTER		GROUP LINK
	TEXT		LANDMARK		TRANSITION LINK












Wireframe

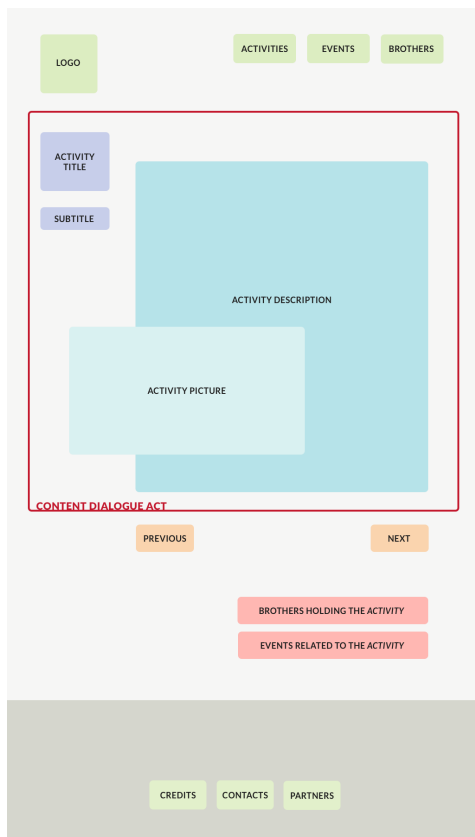


Screenshot

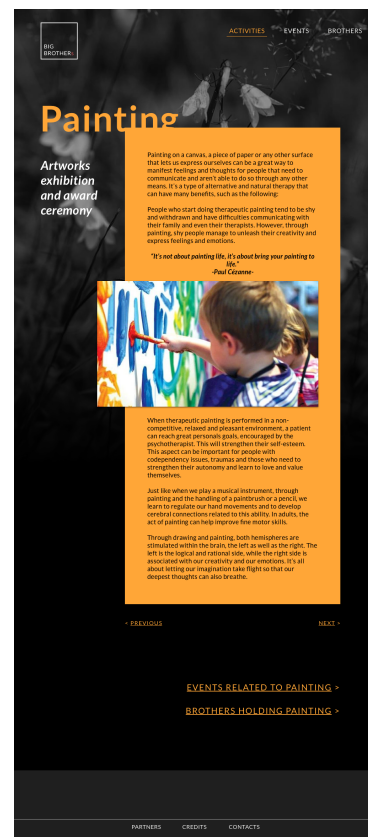
3.2 Multiple Topic pages

3.2.1 Activity page

	TITLE		FORM BUTTON		STRUCTURAL LINK
	PICTURE		FOOTER		GROUP LINK
	TEXT		LANDMARK		TRANSITION LINK

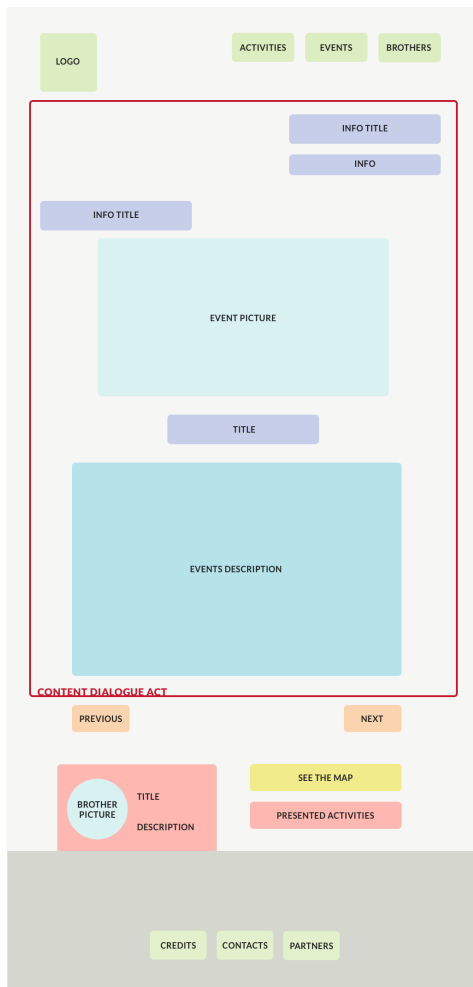
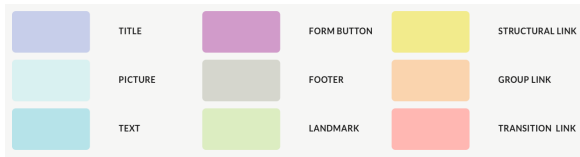


Wireframe



Screenshot

3.2.2 Event page












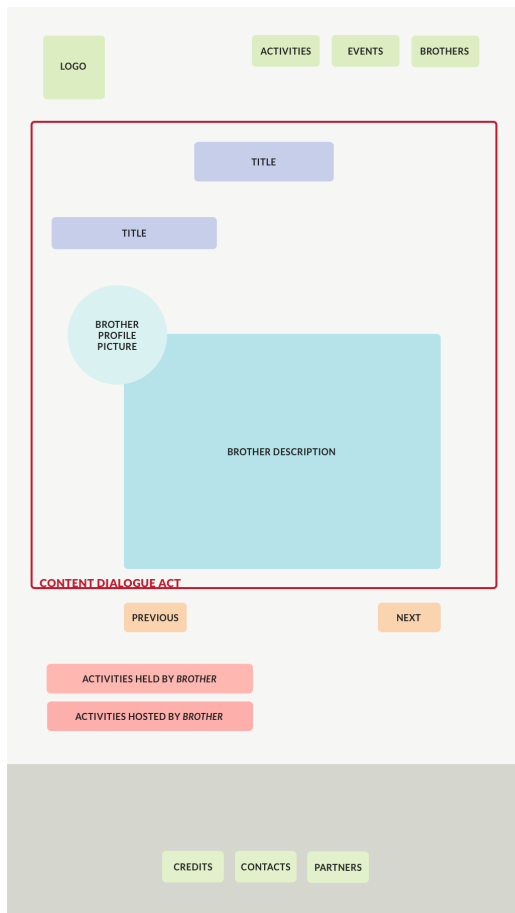
Wireframe



Screenshot

3.2.3 Brother page

	TITLE		FORM BUTTON		STRUCTURAL LINK
	PICTURE		FOOTER		GROUP LINK
	TEXT		LANDMARK		TRANSITION LINK












Wireframe

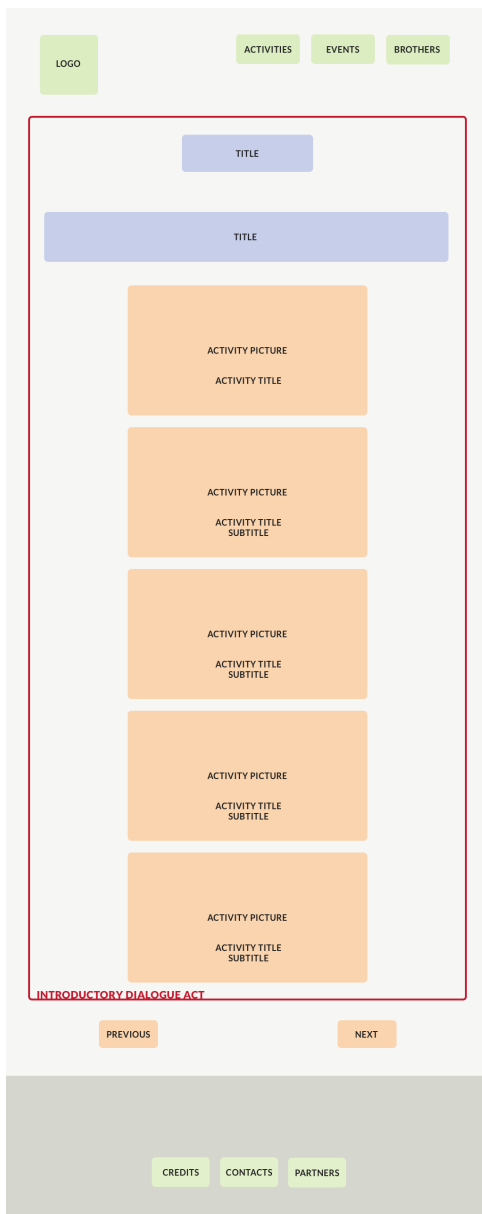


Screenshot

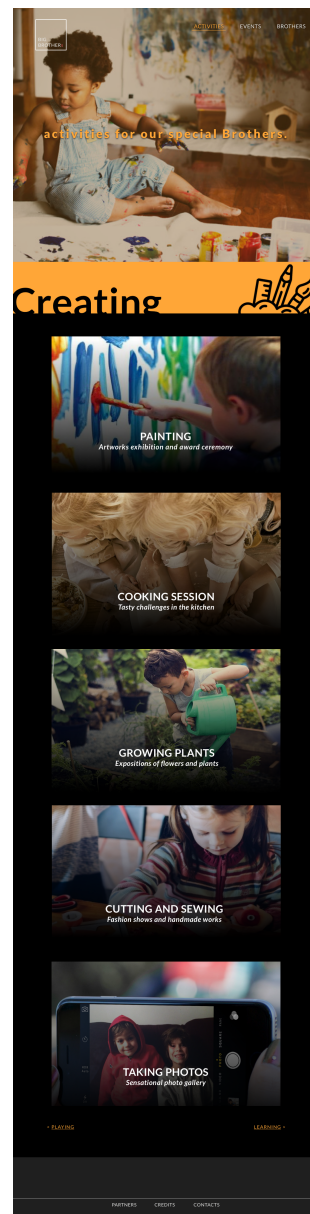
3.3 Introductory pages

3.3.1 Activities Introductory page

	TITLE		FORM BUTTON		STRUCTURAL LINK
	PICTURE		FOOTER		GROUP LINK
	TEXT		LANDMARK		TRANSITION LINK

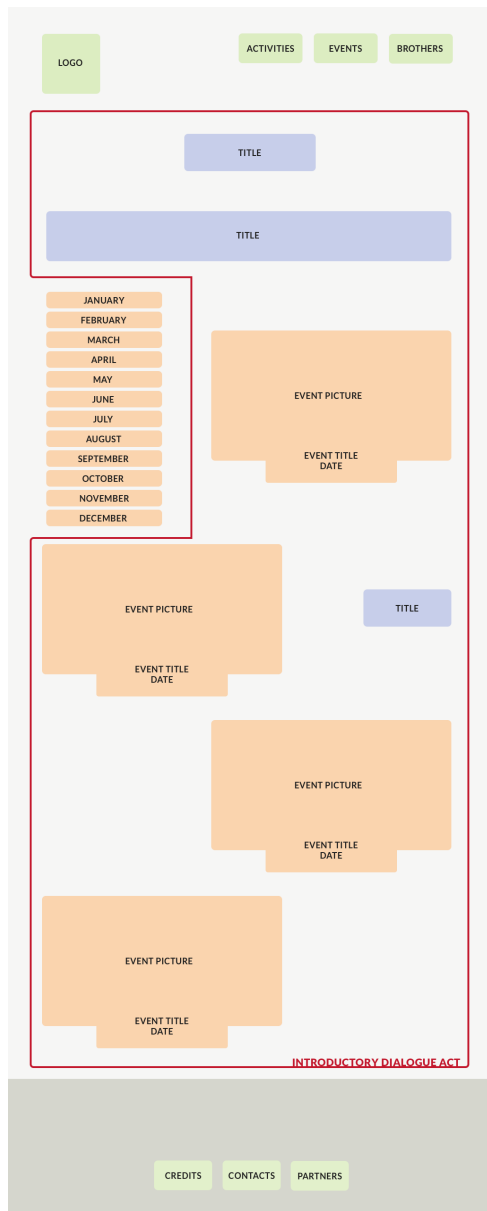
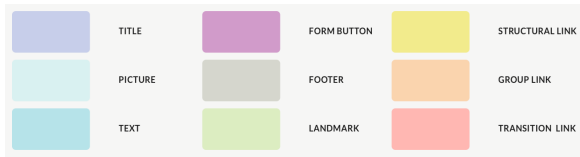


Wireframe



Screenshot

3.3.2 Events Introductory page



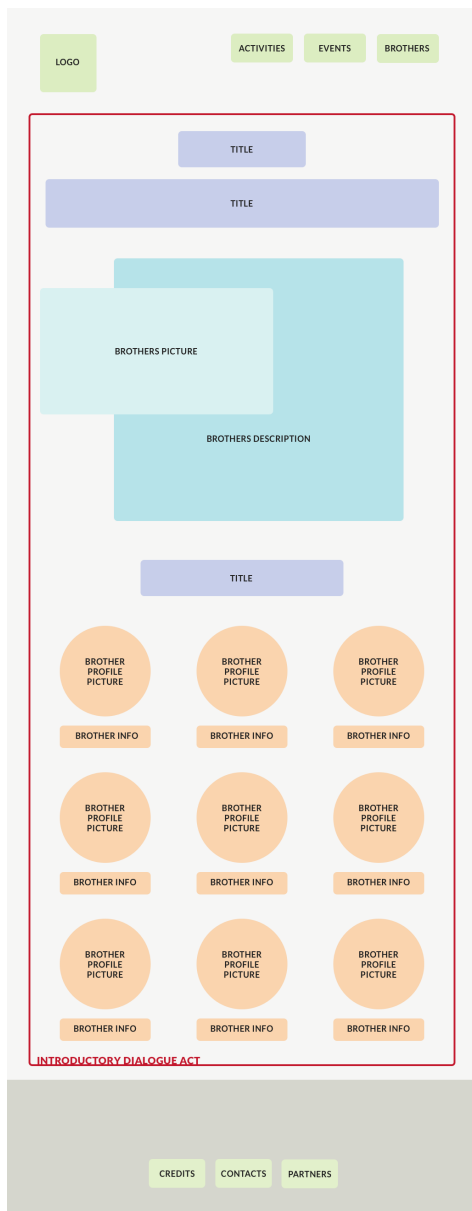
Wireframe



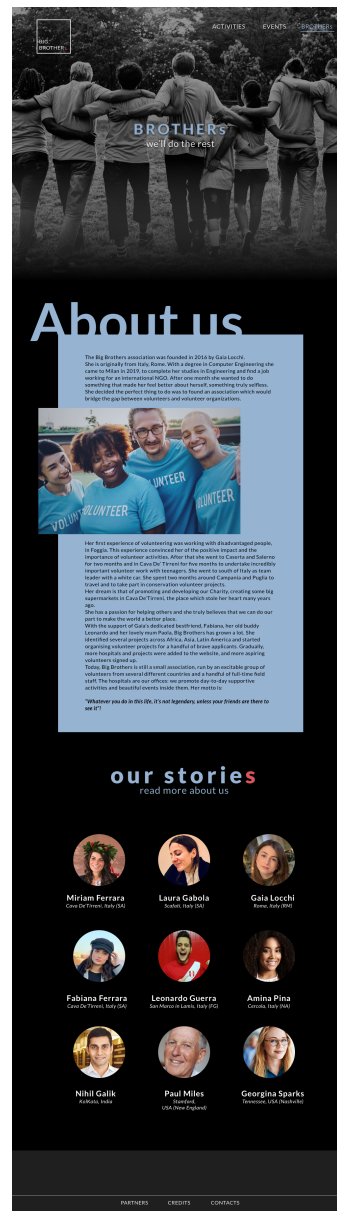
Screenshot

3.3.3 Brothers Introductory page

	TITLE		FORM BUTTON		STRUCTURAL LINK
	PICTURE		FOOTER		GROUP LINK
	TEXT		LANDMARK		TRANSITION LINK












Wireframe

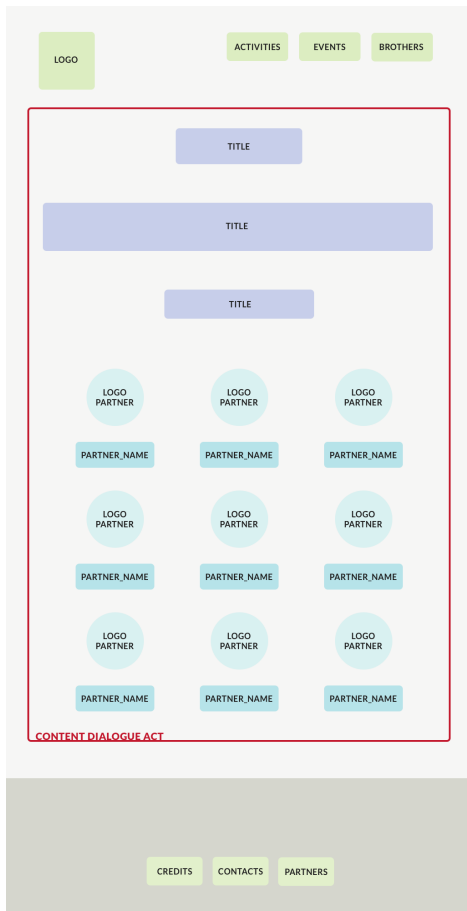


Screenshot

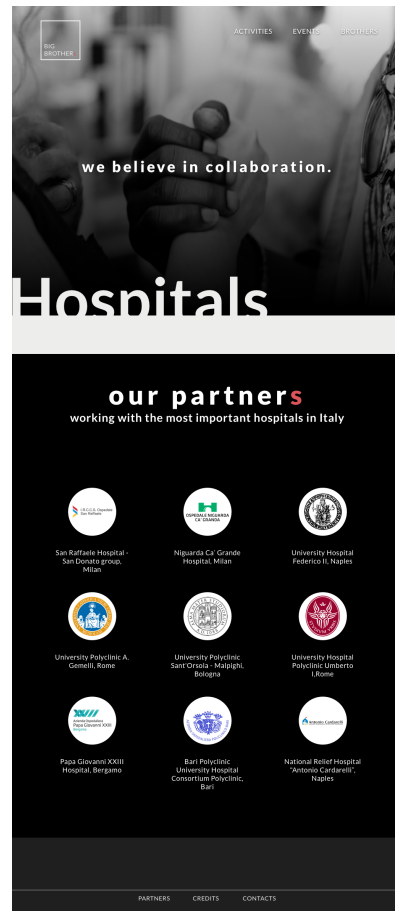
3.4 Single Topic page

3.4.1 Partners page

	TITLE		FORM BUTTON		STRUCTURAL LINK
	PICTURE		FOOTER		GROUP LINK
	TEXT		LANDMARK		TRANSITION LINK



Wireframe



Screenshot

Chapter 4

Scenarios

The following scenarios have the aim to provide some exemplifying information about the end user profiles, the goals they may want to accomplish and the task of actions required by the system, in order to fulfill their needs.

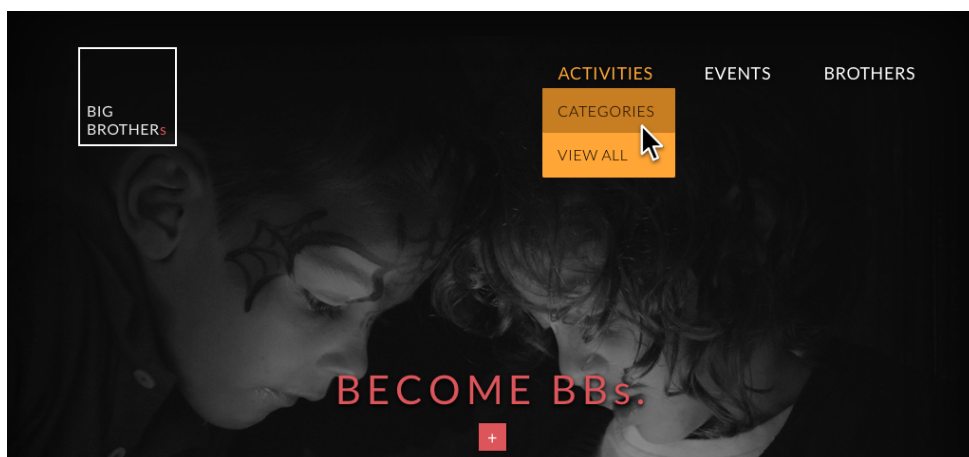
The terms “Services” and “People” used above will be replaced by the terms “Activities” and “Brothers”, respectively.

Some screenshots are provided to better illustrate the description of the features.

4.1 Scenario 1: Activities, Events

Ted is a 45 years old man who broke his leg and is currently hospitalized in one of the structures affiliated with the association. He loves playing board games and came to know about the activities organized by Big Brothers talking to his roommate. In order to retrieve additional information, he visits the website of the association and:

- hovers the mouse over the “Activities” button and selects “Categories” from the pop-up menu;



- he is shown a page containing three categories: “Playing”, “Creating” and “Learning”;
- he clicks on “Playing”, which is the one he is more interested in;

activities for everyone

All categories

find out your favorite category!

Playing

Our games involve everyone, from the biggest to the youngest. Many exciting challenges, many head to head but above all a lot of fun. Board games, puzzles, strategy games, card games and much more! Every day we involve our special brothers in different games that tickle their curiosity.

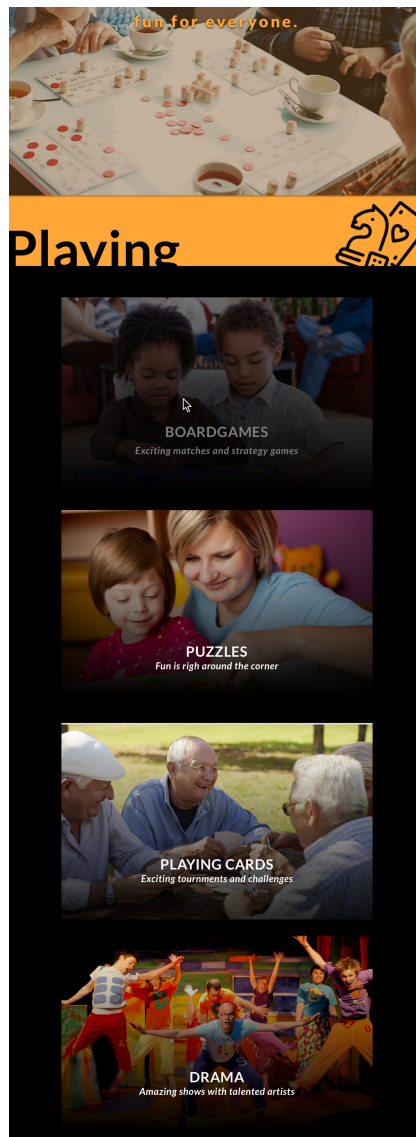
Creating

There is no right or wrong way to be creative. When they create, it gives them the feeling of freedom. There are many activities capable of stimulating the creativity of patients. All Big Brothers have created many laboratories where they can express their creativity. We have fun experimenting together. Photography, cooking, painting, gardening, cutting and sewing and theatrical performances are just some of the activities we like to do together.

Learning

Learning means discovering new things. Be curious about the world. We love to amaze our little brothers with exciting stories, we love to listen to those of the older ones. Sometimes we stage these wonderful stories with small theatrical performances, other times we enjoy watching them projected on the wall with delicious popcorn.

- the following page gives him the possibility to choose between “Board Games”, ”Puzzles”, ”Playing Cards” and “Drama”;




- he clicks on “Board Games”, reads the information about the chosen activity and decides to take part in the next chess match.

BoardGames

Exciting matches and strategy games

Board games entertain and bring people together through competitive and cooperative game play. Some of the most popular board games are: Monopoly, Chess, Checkers, Bridge, Kalooki 40, Scrabble, and many more. However, board games offer a lot more than just entertainment. In fact, these games beneficially impact health in multiple aspects at any age. The Big Brothers know well the health benefits of board games:

One of the side effects of playing board games is laughing. Laughing has been shown to increase endorphins, those are chemicals that bring up the feeling of happiness. Sharing laughter and fun can promote empathy, compassion, and trust with others.



One of the primary benefits of playing board games is reducing the risk of cognitive declines, such as that associated with dementia and Alzheimer's.

Along with laughing and increasing your endorphins, they can help you lower or maintain your blood pressure. This release of endorphins helps muscles to relax and blood to circulate, which evidently will lower your blood pressure. High blood pressure is associated with a greater risk of artery damage, heart disease, and stroke.

You can always benefit from a healthy distraction like playing board games since it is an excellent way to kick back and relax. Many board games require the use of fine motor skills to pick up or move pieces, actions that take both coordination and dexterity.

Board games are very helpful when they are added to occupational therapy treatments, as well in places like classrooms for special needs to help improve muscle and nerve function over time.

**JOIN US!
THERE WILL BE A LOT OF FUN!**

[← PREVIOUS](#) [NEXT →](#)

[EVENTS RELATED TO BOARDGAMES >](#)

[BROTHERS HOLDING BOARDGAMES >](#)

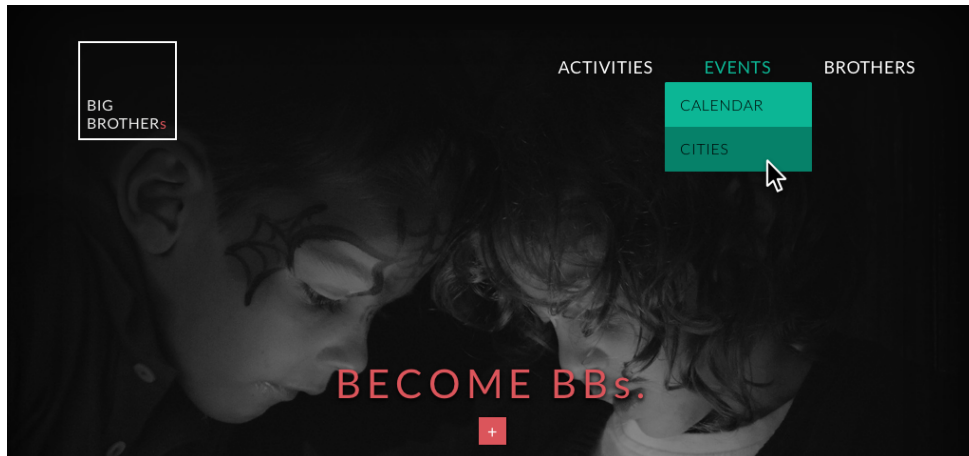
In the Board Games dedicated page he notices a “Related Events” button and reaches a page containing all the planned events about the activity by clicking on it. Ted scrolls the page and finds out that the final of the chess tournament will be held the next week.



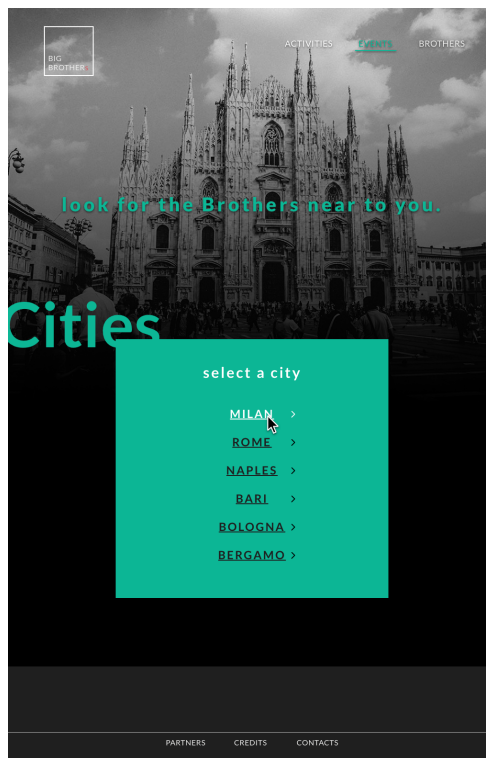
4.2 Scenario 2: Events

Mary is a Milan woman, whose daughter, Lily, has recently been in one of the BBs' affiliated structures in Milan due to a surgery. During the hospitalization, Lily took part to the drama activity and now she wants to be present at the show organized by the association. With the aim of fulfilling her daughter's wish, Mary:

- hovers the mouse over the "Events" button and select "Cities" from the pop-up menu;



- selects the city of Milan among the alternatives;

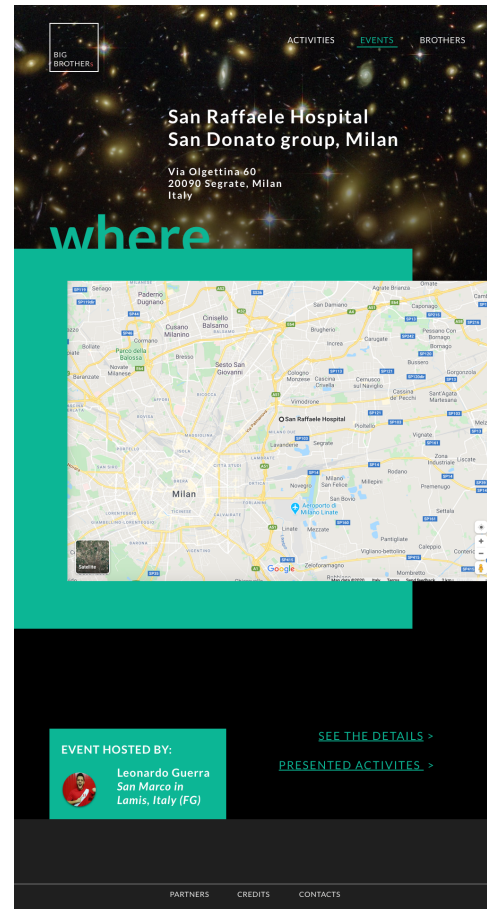


- looks at the page listing all the events held in Milan to find the one she is searching for and finally clicks on “The Wizard of Oz”;



- reads the information about the event, including its date, start and end time.

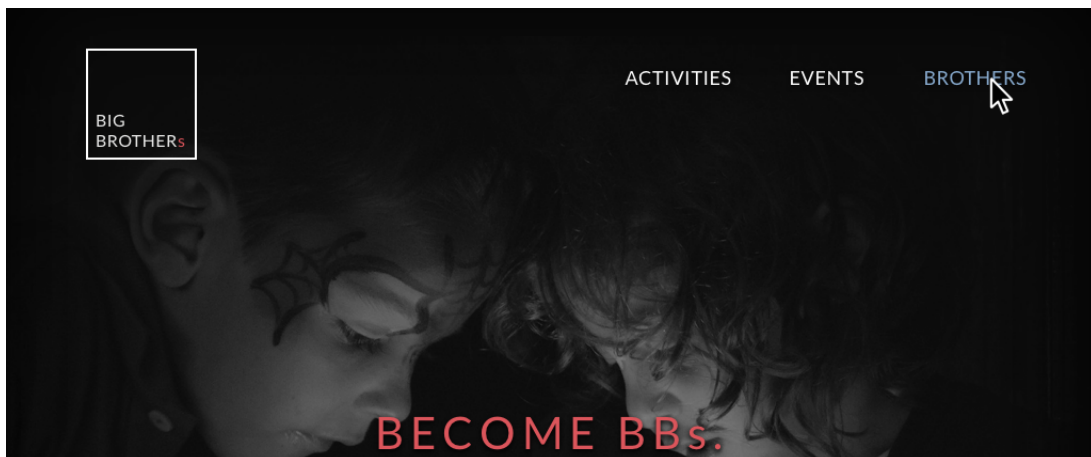
Since she does not remember the exact address of the hospital, she clicks on “See the map” and looks at the page containing all the position information.



4.3 Scenario 3: Brothers

Marshall is a Computer Science Engineering student. He discovered the existence of the BBs association when, going to visit his friend Barney, he told him with great enthusiasm about the activities he had taken part in and how the days of hospitalization had passed without even realizing it. So Marshall, fascinated by the work of the association, decided to join it. First, he wants to take a peek at the voluntaries' profiles, in order to figure out if he has the minimum required set of soft skills to be part of Big Brothers. Therefore, Marshall:

- clicks on the “Brothers” button and sees the list of all the volunteers;



- clicks on a volunteer called “Leonardo Guerra” and reads his information in the page that opens.

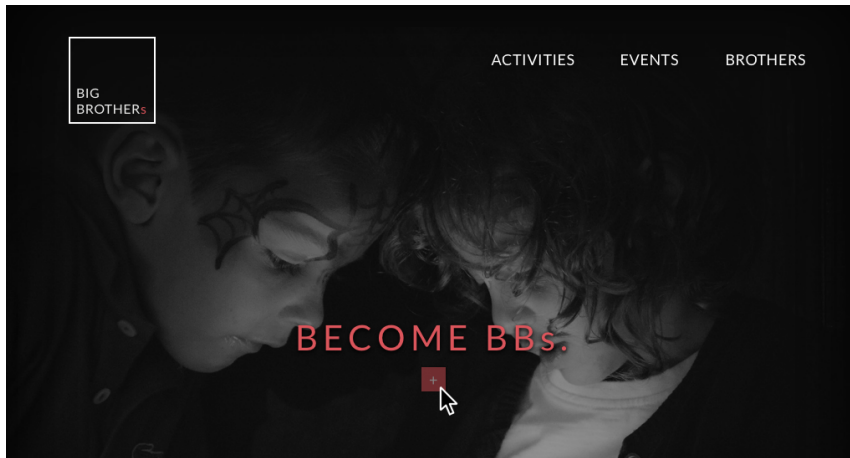


There, Marshall notices that Leonardo is a university student, just like he is. Then, he clicks on “Next” and begins to browse the other volunteers’ profiles. He notices that he has common interests with the majority of them and convinces himself to fill in the form to request the membership. In order to do that, Marshall:

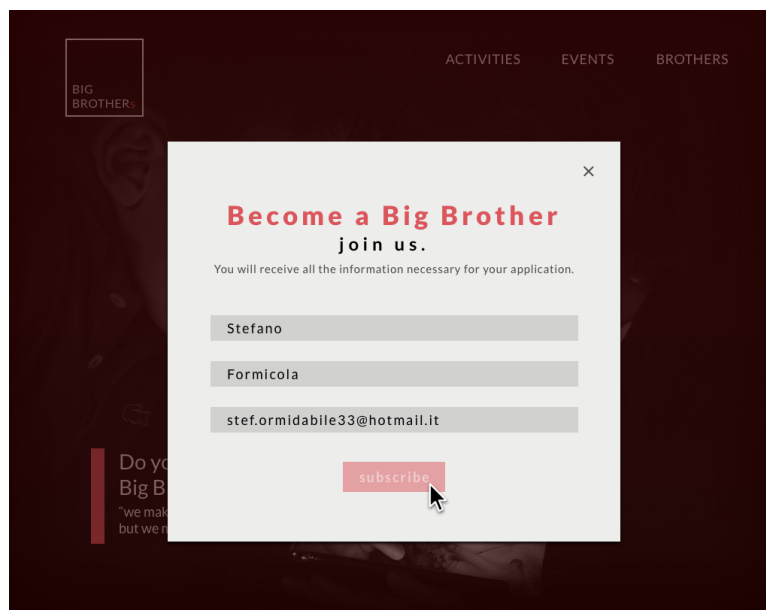
- clicks on the association logo in the top-left corner of the page and lands on the homepage;



- clicks on the “+” button under the title “Become BBs”;



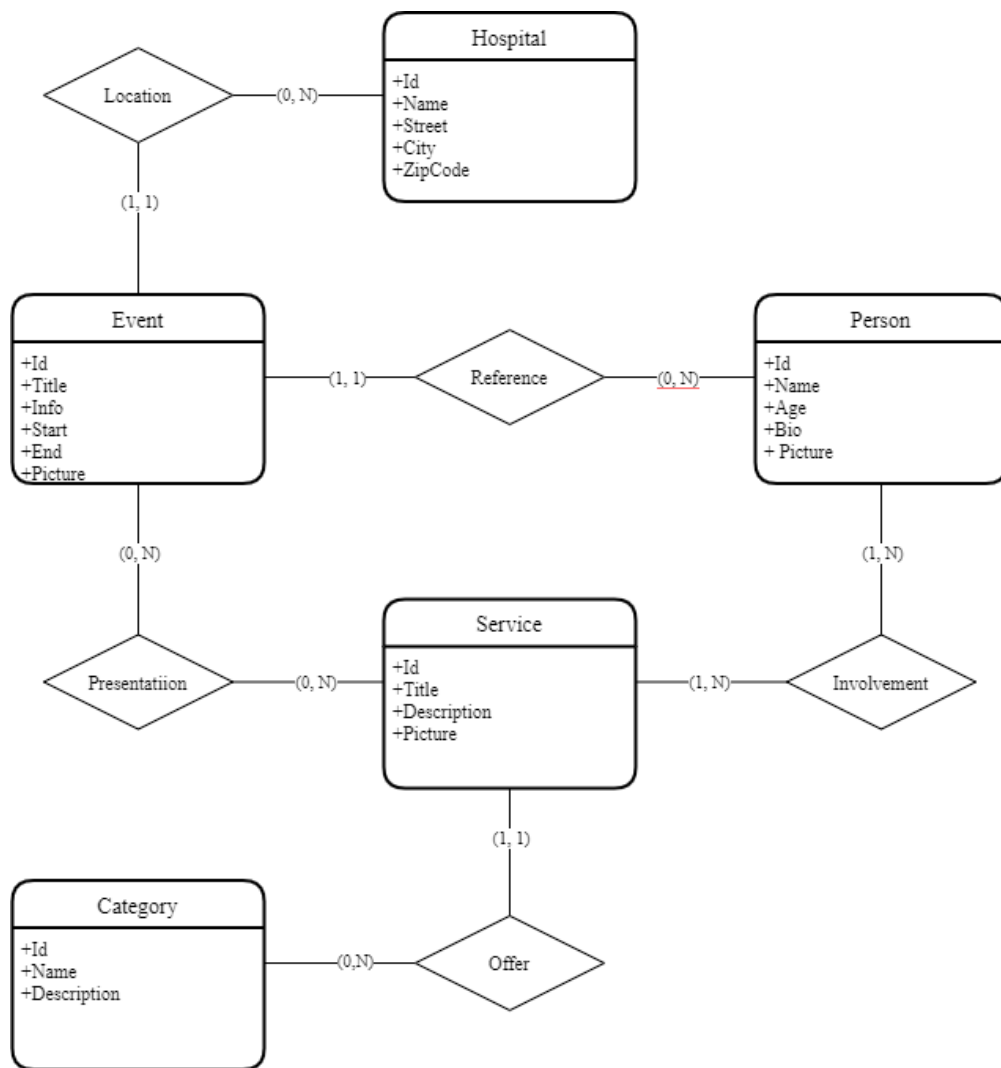
- compiles the form which has popped up and finally clicks on “subscribe”.



Chapter 5

DB design

5.1 E-R diagram



Entity-Relation diagram

5.2 Relational Tables

Service	
PK	<u>id: integer</u>
FK	<u>category_id: integer</u>
	title: varchar
	description: text

Person	
PK	<u>id: integer</u>
	name: varchar
	age: integer
	bio: text
	picture: varchar

Event	
PK	<u>id: integer</u>
FK	<u>person_id: integer</u>
FK	<u>service_id: integer</u>
FK	<u>hospital_id: integer</u>
	title: varchar
	info: text
	start: timestamp
	end: timestamp
	picture: varchar

Hospital	
PK	<u>id: integer</u>
	name: varchar
	street: varchar
	city: varchar
	zip_code: varchar

Involvement	
PK,FK1	<u>service_id: integer</u>
PK,FK2	<u>person_id: integer</u>

Presentation	
PK,FK1	<u>service_id: integer</u>
PK,FK2	<u>event_id: integer</u>

Relational Tables