



POLITECNICO
DI MILANO

HYPERMEDIA APPLICATIONS PROJECT 2017
DESIGN DOCUMENT

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Abstract

This document contains the design specifications of the Hypermedia Applications (Web and Multimedia) course's project for the academic year 2016/2017. The project consists in designing and implementing a website for a medical clinic.

The first chapter contains the IDM design models, realized using Microsoft Visio, and enriched with textual descriptions.

The second chapter contains 3 scenarios used to describe different type of usage of the website.

The last chapter contains wireframes for the pages presented in the P-IDM model. These wireframes were created using Balsamiq.

The interactive mock-up, included in this delivery, was also designed using Balsamiq.

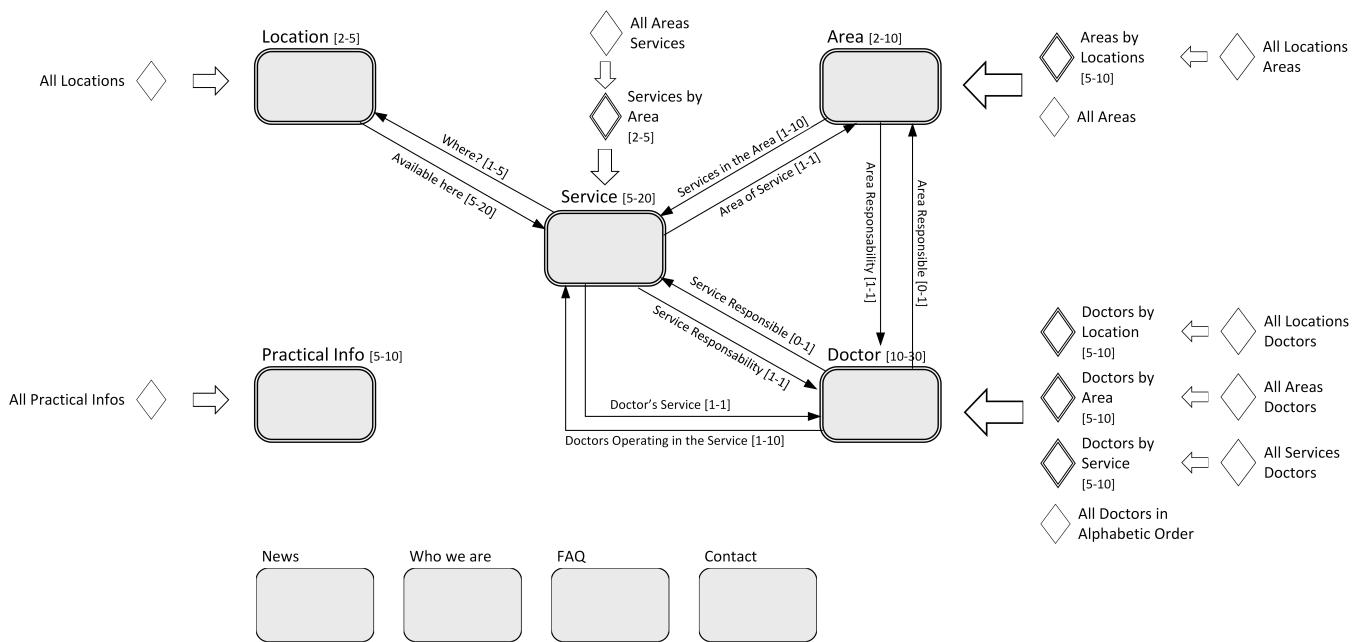
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IDM

This chapter includes the 3 different schemas of the IDM technique.

2.1 C-IDM

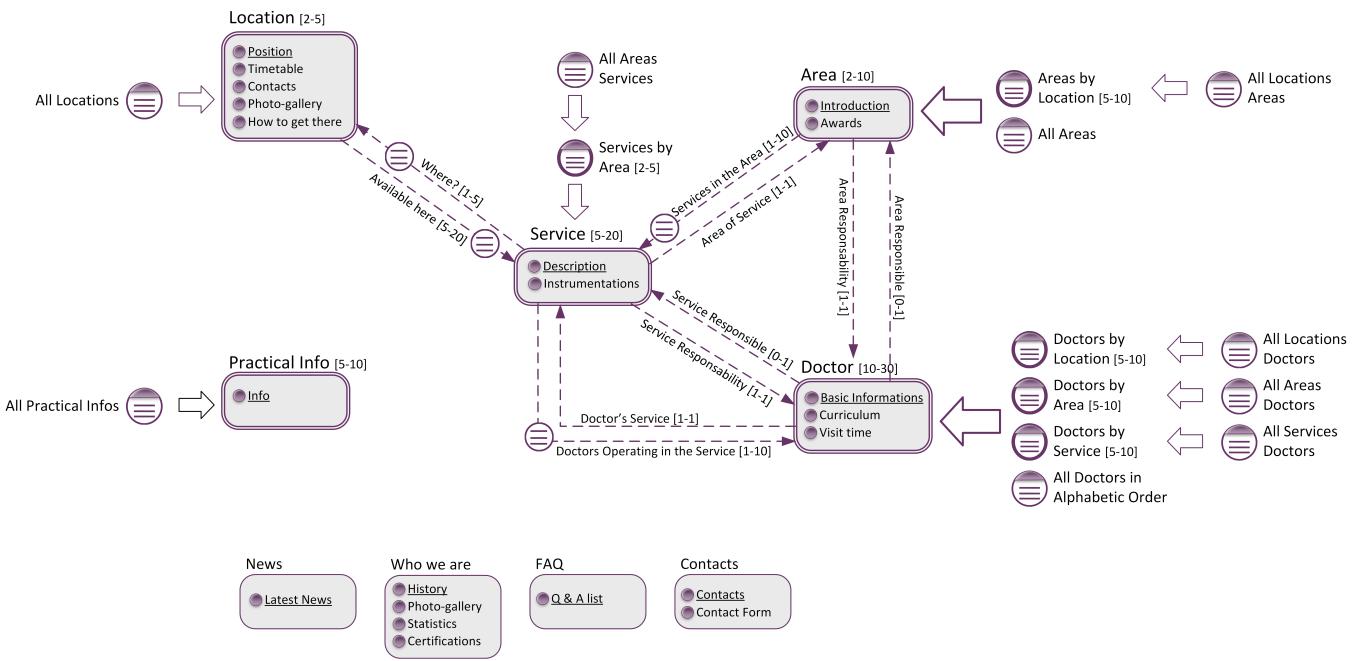


2.1.1 Notes

Beside the given textual specifications followed to design the schemas, we added a single topic named *Contact*, because we think that it could be a valid dialog with the user, as explained in next pages. This topic deals with general contact informations about the whole clinic. This topic is also a useful handle for those users that want informations but still don't know which location they need to contact.

From the textual specifications, and more directly from the C-IDM, we can immediately notice that the groups of almost all multiple topics are also topics in their turn. This could lead to some problems, especially to one (*The Services and Areas Problem*), which we will explain in the P-IDM section.

2.2 L-IDM



2.2.1 Notes

For every topic, we chose these fragmentations:

Location The dialog act *Position* includes both address informations and interactive map. We considered also *Timetable* as a relevant dialog act for users surfing this page, because its structure is more complicated rather than a simple couple of times. *Contacts* includes phone numbers and e-mails, but also indications to help the user in picking the right one when there is the need. The dialog act *Photo-gallery* let users know more about the appearance of both interiors and exteriors. Finally, *How to get there* tells the best ways to reach the place for each kind of trasportation.

Service It includes two dialog act: *Description*, in other words how that service works, modalities, requirements, when to benefit from it and costs; *Instrumentations* is about which tools that service needs (if any) including picture(s) of them.

Area The dialog with the user is looking to give a summary description of the ward chosen, as well as focusing on recognitions, prizes and achievements by the *Awards* act.

Doctor *Basic informations* act consists of a photo of the doctor, name, surname and e-mail as well. While the dialog act named *Curriculum* summarises main records about the doctor's career in few paragraphs. We considered also *Visit time* as relevant act, representing the doctor's schedule, that could be complicated and not always so linear as a simple table.

Practical Info Every topic of *Practical Info*, once selected by the group, has only one dialog act, *Info*, that includes many useful explanations or answers to particular logistical problems.

News Since we are dealing with a clinic, the *News* topic is quite simple, just telling the latest more important fact, informing those users interested in.

Who We Are This is an important topic, especially for those users that didn't know the clinic before. The clinic can make them feel safe showing its reliability through their *History*, pictures (*Photo-gallery*), statistic records (*Statistics*) and *Certifications*.

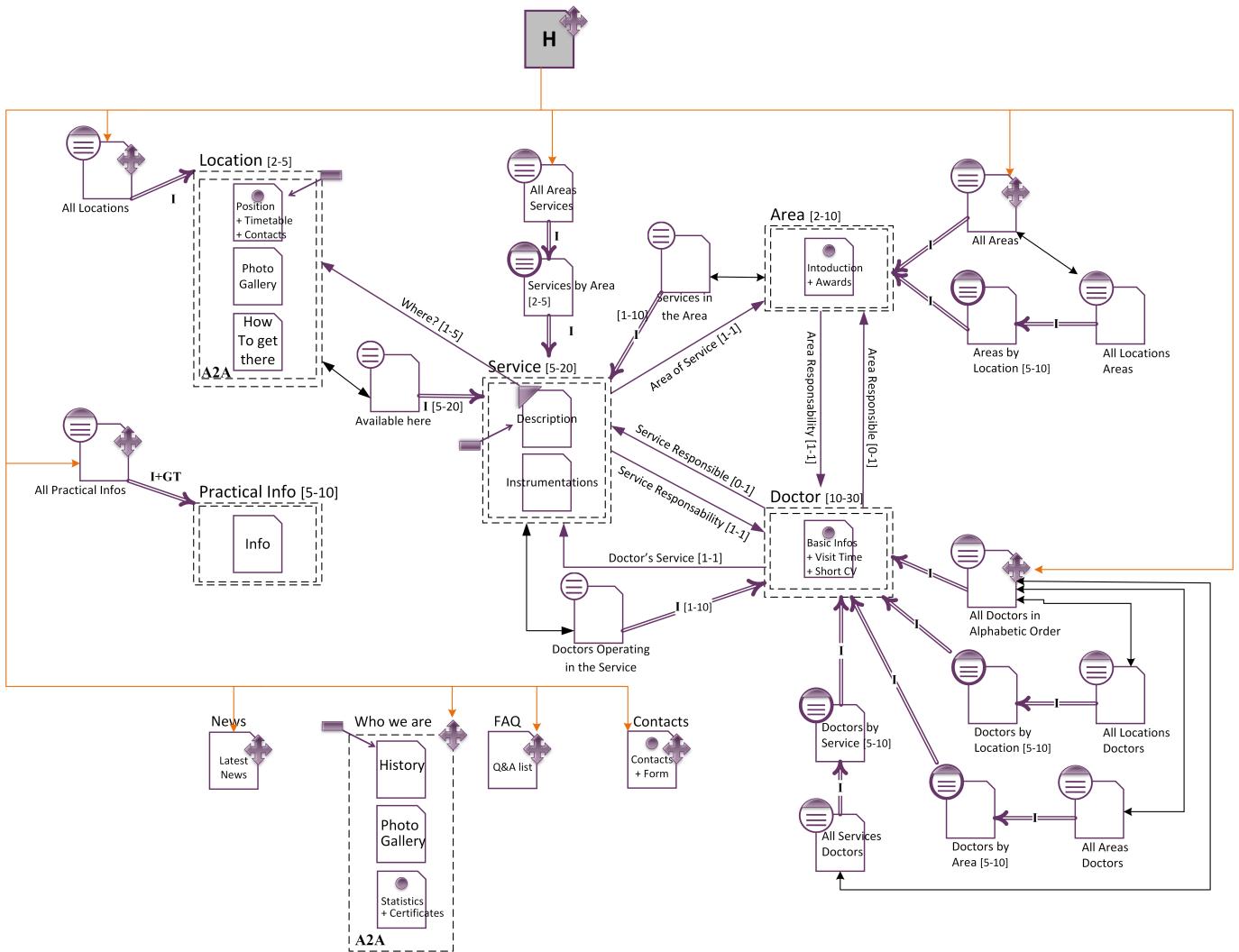
FAQ It includes a list of common questions with the answer, so a single dialog act called *Q & A list*.

Contact We represent this additional topic with two dialog acts: one, named *Contacts*, includes informations as phone numbers, emails and indications for each of them; while the second one represents the general requests of info form, that can drive the user in his/her research. For this reason we included it as a dialog act named *Contact Form*.

For what concern transition dialog acts, we didn't used them in relations with low cardinalities as [0:1] or [1:1], considering them self-explanatory with respect to the change of subject. In our schema, all the transition acts contain list of different topics that it's possible to switch the subject to.

The introductory dialog acts representation inherits very clearly the same division criterias and structure from the textual specifications of groups already used in the C-IDM.

2.3 P-IDM



2.3.1 Notes

Passing from the L-IDM schema to the P-IDM one, we merged several dialog acts. The main reason is that we wanted to speed up the navigation for the user, putting together similar short acts in the same page. At the

same time, we don't want to lose the representation of these acts joining them together directly in the L-IDM. In particular the main merged choices (w.r.t. to their page) are:

Location *Position*, *Timetable* e *Contacts* are different dialog acts that we consider useful together, in the same page. Moreover they don't take too much space inside the page, so they can easily be merged.

Area We thought that there could be many reference from the *Introduction* act to the *Awards* one, so it's good to have them in the same page. Further, not all the areas have (many) awards, so this configuration can lead easily to a single page.

Doctor We merged all the dialog acts here. Since they are short acts they are suitable to stay together. As said in the notes of the L-IDM schema, the *Curriculum* act is shorter than a real curriculum (that is not showed in the clinic website).

Who We Are We only merged *Statistics* and *Certifications* because they deal to the same purpose, i.e. show the clinic reliability. Despite the first two acts have also that purpose, it's better to split them due to their dimensions.

Contact It's useful to have both the acts in the same page. In the L-IDM we still represented them separated, because we think that it's important underline the existence of both.

All those that were transition acts are translated into transition pages, except the relation *Where?*, that shows the list of available locations for a service. We pushed this transition inside the page of the *Service*, because the cardinality of this relation is quite low.

We added some bidirectional links between introductory pages as follow:

- One double arrow to link *All Areas* with *All Locations - Areas*. In this way once the user wants to choose a particular area, (s)he can also choose to search it by picking a location in the first place (from *All Locations - Areas*) and then from the introductory page of the multiple group *Areas by Location* select the right one. The link is bidirectional, so from the all locations of areas is possible to come back and see all the areas.
- The same strategy is used on *All Doctors*, but this time it's possible to choose topics with respect to three different groups. From the

introductory page of *All Doctors in Alphabetic Order* is possible to select the other introductory pages of single groups (*All Locations - Doctors*, *All Areas - Doctors*, *All Services - Doctors*) and from them to continue filtering once the user has chosen the specific group (e.g. choosing a Location). Otherwise (s)he can come back to the all doctors page to change the filtering category.

For the landmark links choice, we pick those main introductory pages for multiple topics, as well as pages of single topics. Altogether the introductory page *All Areas - Services* is not among the landmark links, we still linked the homepage with that. In the next section is more clear why we did that and also which is the problem beside.

2.3.2 The Services and Areas problem

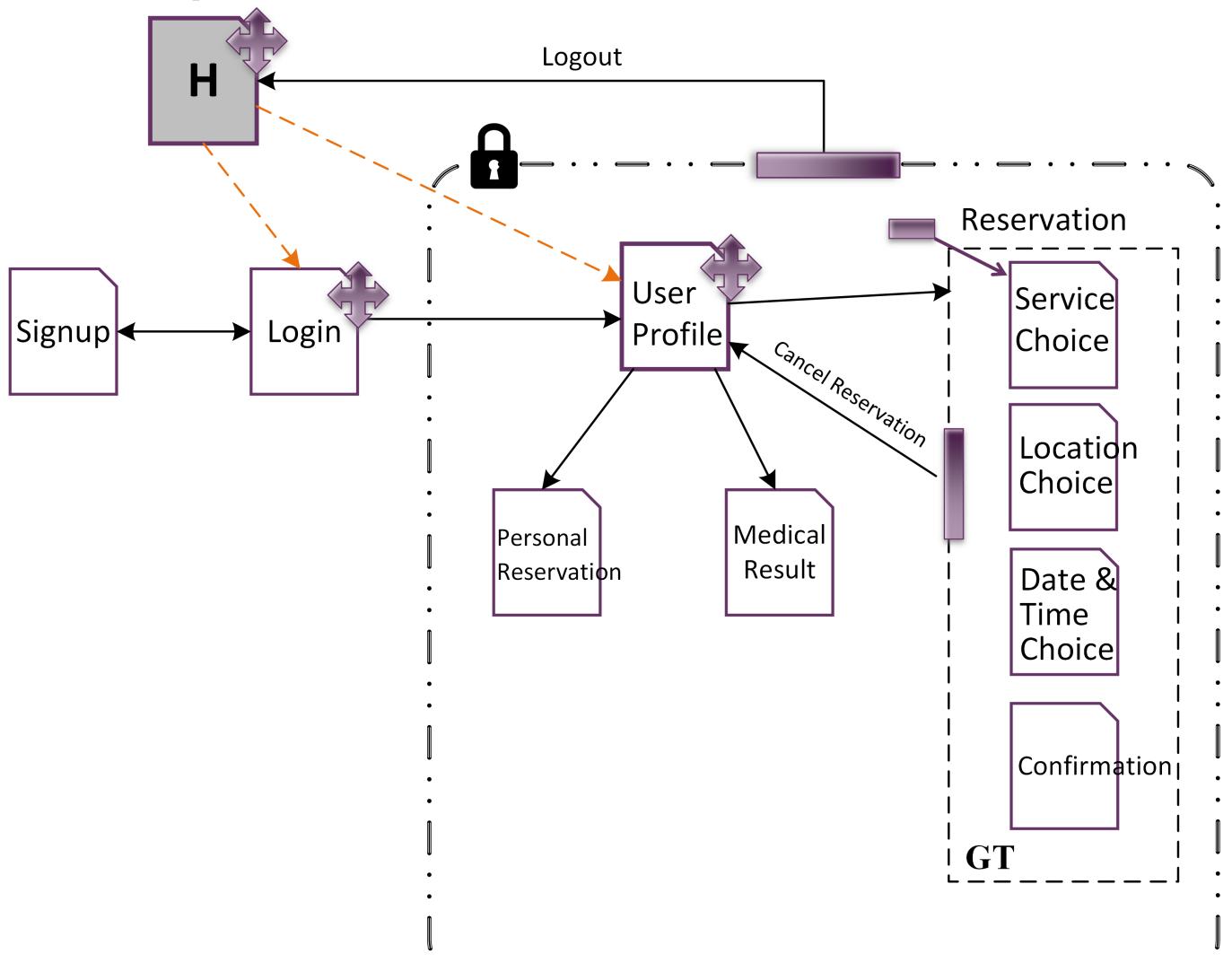
From the textual specifications, we have a couple of groups in the topic *Service* called *All Services - Areas* and *Services by Area*. These two groups could seem superfluous and redundant: *All Services - Areas* replicates *All Areas*, while *Services by Area* replicates the relation *Services in the Area*. More concretely, from the introductory page *All Areas* we can choose an area *X*; from that we can see a list of services available in the area *X* and choose one by using the transition page *Services in the Area*. That's exactly what we could do starting from the introductory page *All Areas - Services*, then *Services by Area*. In this way the only difference is that we do not pass through the Area page. This could be confusing for the user if it is not managed in the right way.

We analyzed different solutions, included pushing groups or removing some of them, but all seem to be problematic. We adopted a good trade-off solution between usability for the user and good design for the project: as you can see in the diagram, we inserted *All Areas* as landmark link and we didn't insert the introductory page *All Areas - Services*. Actually to pick a service in the website is more comfortable using the relation from areas (or locations as well) rather than search the service from groups of services. We also added a link from the homepage (not landmark) to *All Areas - Service*, in order to give anyway the possibilities to explore directly services, not only areas where to find services from (that still remain the preferred choice, since we made it available from landmarks). Finally, as you can see in the mockups section, in the orientation info we decided to display *Service* under the area because of their association (every service is precisely in one area, while it is at least in one location). In this way, if we arrive in a service from the home page throughout the introductory page *All Areas -*

Services, we would get the same result of navigating from *All Areas*.

2.3.3 Reservation Form

We also propose a model for the reservation form, available from the private section of the user. Users has the possibility to sign up and login their own private area. From there it's possible to make reservations, view the reservation records and medical results. We modeled this part in an other P-IDM schema, without combining it directly with the previous. The purpose of the following schema is to give an idea of the page structure of the private section, so we used also a not so standard notations of P-IDM:



The lock symbol means that all the pages inside its box are protected by a

user login authentication. There are two new landmark links to the pages *User Profile* and *Login*. Their orange arrow is dashed, to emphasise that: before logging in, the user would see only the link to the login page among the landmarks; after the authentication, the link to the login page is replaced by but that one pointing the user profile page. Additionally, for modeling reasons we imagined the reservation as a topic and we marked its navigation pattern as “Guided Tour” (GT), because the logic behind the reservation process is very similar a guided tour, with *next* and *previous* choices. From the mock-ups is possible to see better how the private section should work.

Scenarios

Here we define different usage scenarios of our website.

3.1 Scenario - Broken knee

Mario Rossi is an accountant that plays soccer with his friends on the weekends. One day, during a match, he did a very rapid movement and broke a tendon of his knee. He went home limping because of the pain. When he arrived home, he tries to call the hospital, and discovers that the waiting times there are tremendous (more than one month). So, remembering an ad he saw some time before on a street poster, he decides to get information about our clinic. He opens the browser and visits our website. On the home page, he selects the health areas, and clicks on surgery. He reads the page and clicks on "Services" to discover specific surgery services. In this list, he finds what he was looking for: orthopedic surgery. He clicks on it and discovers that we are fully prepared to fulfill his needs. Mario also wants to find out where the surgery will take place: so, he browses all the locations in which the service is available. He notices that one of the locations is very near his house, so he decides to have the surgery there (given that he moves with difficulty it is a great advantage). Having decided to use our service, now he wants to discover how to reserve an appointment with the responsible doctor for orthopedic surgery: he clicks on practical info and reads the reservation section. Here, he discovers that any surgery requires a preliminary visit with the responsible doctor and that the reservation can be done directly on the website. To access the reservation, the website asks him to log in or register. Being the first time he uses our service, he decides to register and follows the instructions. Once registered, he makes a reservation for the following day with the responsible doctor of the service, specifying the reason of the appointment. He later receives an e-mail as a confirmation and remainder of the appointment.

3.2 Scenario - Blood Analysis

Anna Bianchi feels very tired and weak everyday, so she decides to go to her doctor to get some insights. The doctor prescribes her a blood test to have further details. Our clinic offers also some services as public (SSN - "Servizio Sanitario Nazionale"). She calls the USL ("Unità Sanitaria Locale") and place a reservation through them. She is assigned an appointment in 2 weeks. She pays the "ticket" as a normal public service. To know where to go on the examination day, she opens our website and searches all among all the location the one that was assigned to her. Having no car, she checks how to reach the location by public transportation. Then, during the examination, she was told that her results would have been available in a couple of days, both physically on paper and digitally. Because of her full-time job, to find some spare time to get the results is very difficult: so, she decides to register on the website. When the results are ready, she receives an email stating that the results are available, so she checks them on the website personal page and forward them to the doctor.

3.3 Scenario - CyberKnife

John Green is a CyberCutlery&Co salesman: his current job is to advertise and present a new technology of the company, CyberKnife, a revolutionary non-invasive therapy machinery. He spots us as possible clients, so, to gather information about us, he opens our website. He browse the "Who we are" page to get an idea of our clinic: he discovers that we have a lot of patients (but relatively, less radiotherapy ones), and many excellence certifications. Since he is quite happy, he inspect the radiotherapy health area to get some further info: here he finds out that the machinery we use is highly invasive. He finally checks out who the responsible for the area is, Drs. Curie, and writes down her personal contact to talk with her.

Wireframes

This chapter lists all the wireframes we designed for the website, organized by topic.



Figure 4.1: Home page wireframe

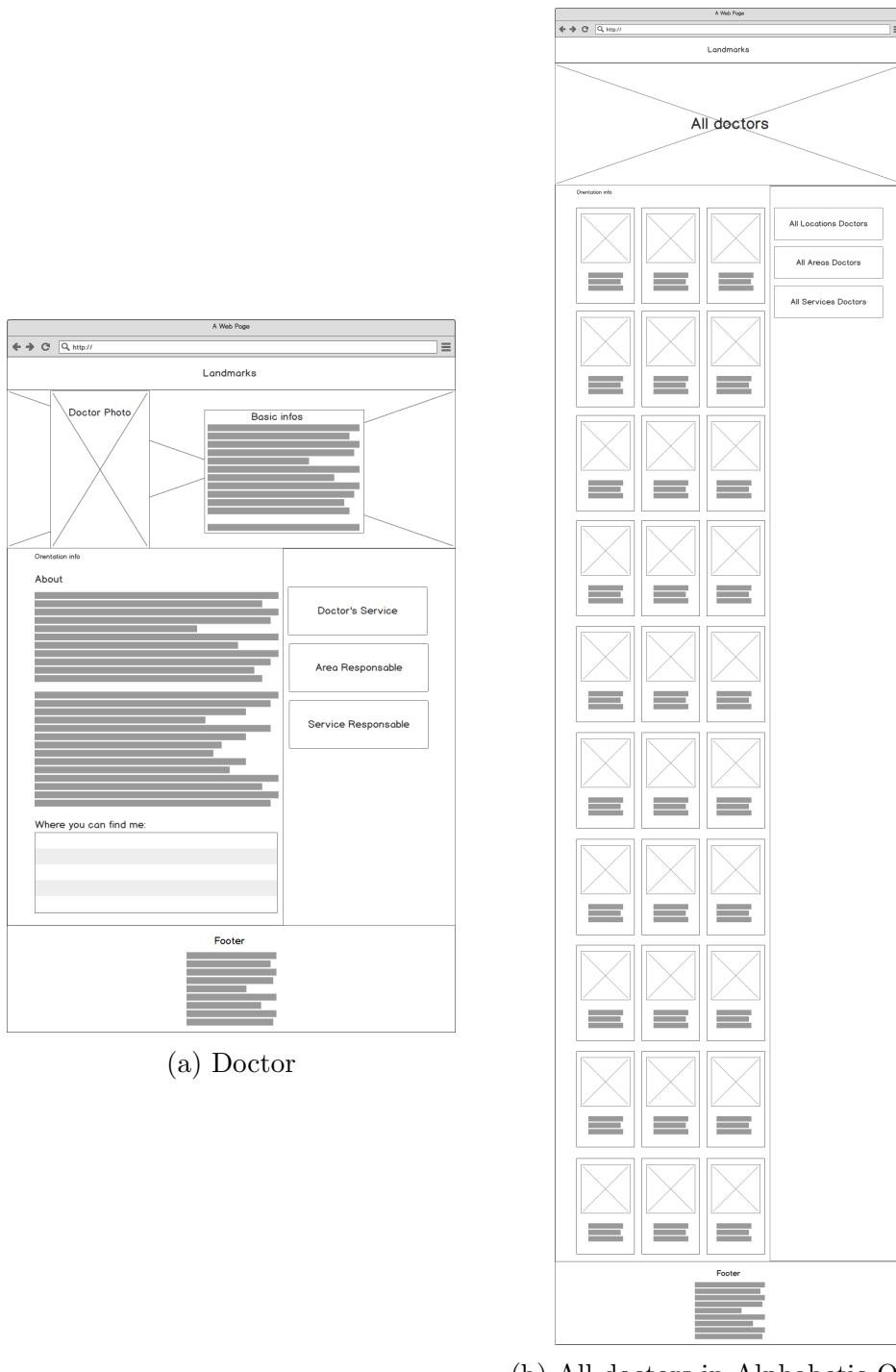


Figure 4.2: Doctors wireframes

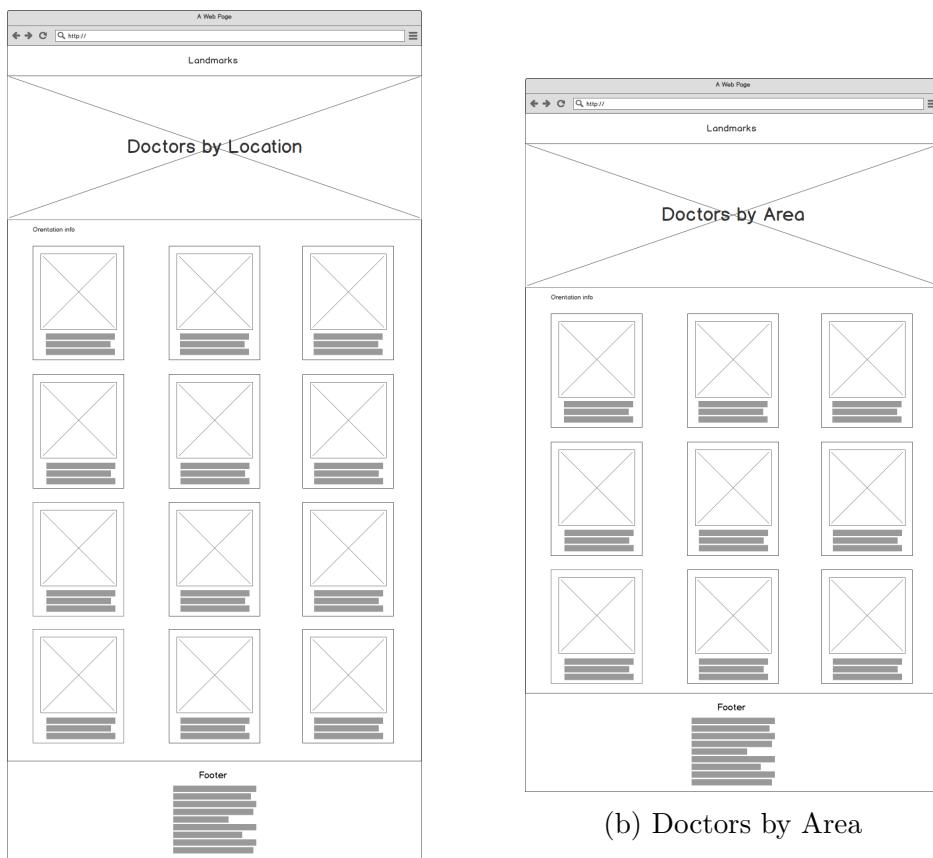


Figure 4.3: Doctors wireframes.

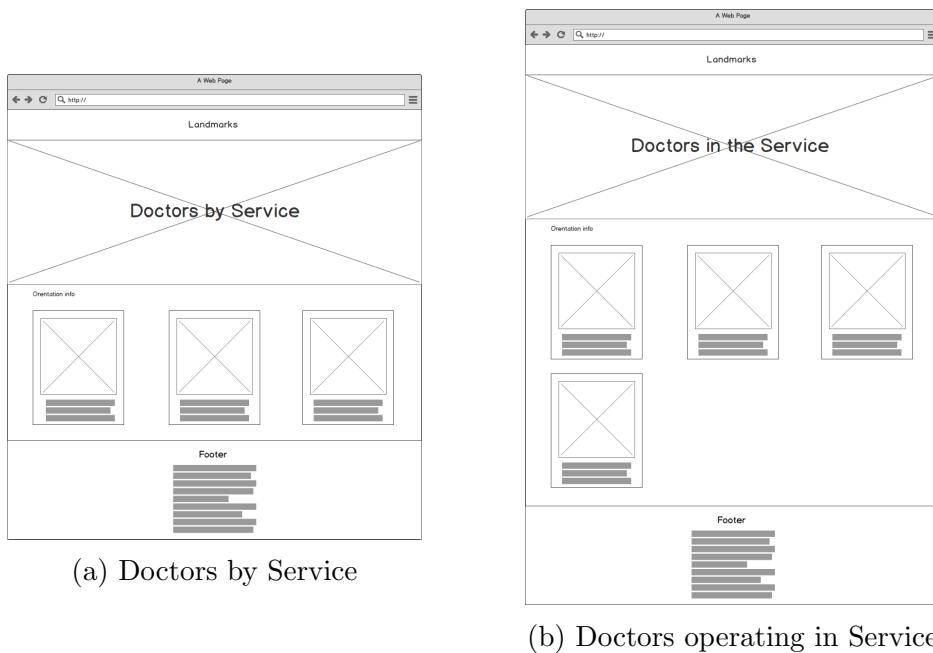


Figure 4.4: Doctors wireframes.

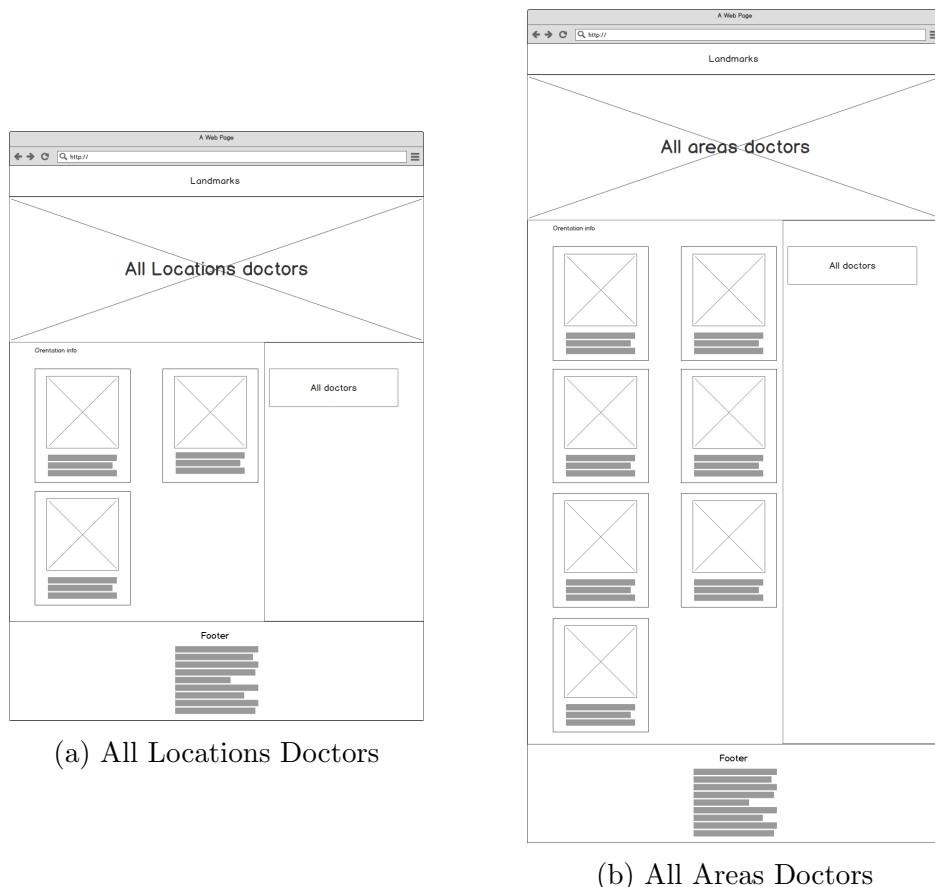


Figure 4.5: Doctors wireframes.

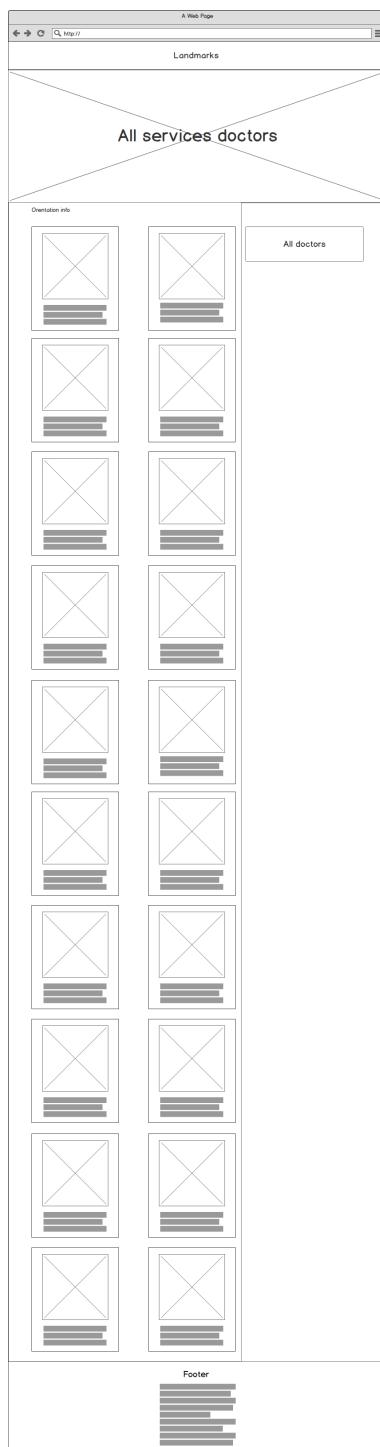


Figure 4.6: All Service Doctors

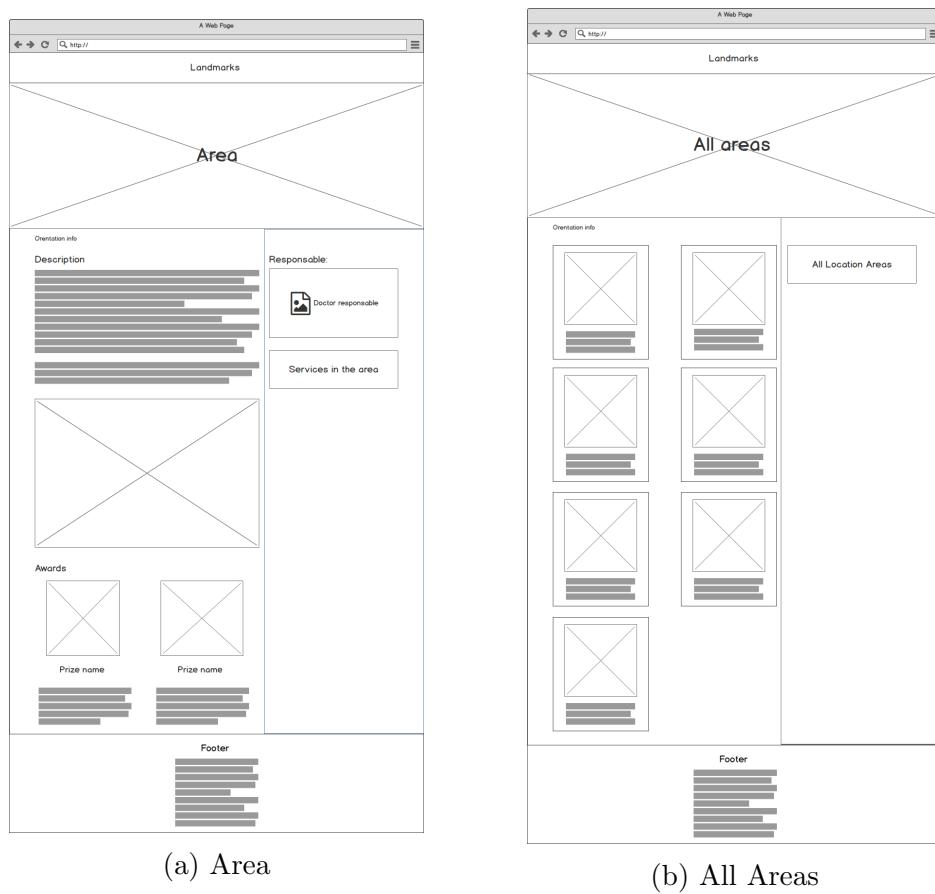


Figure 4.7: Areas wireframes

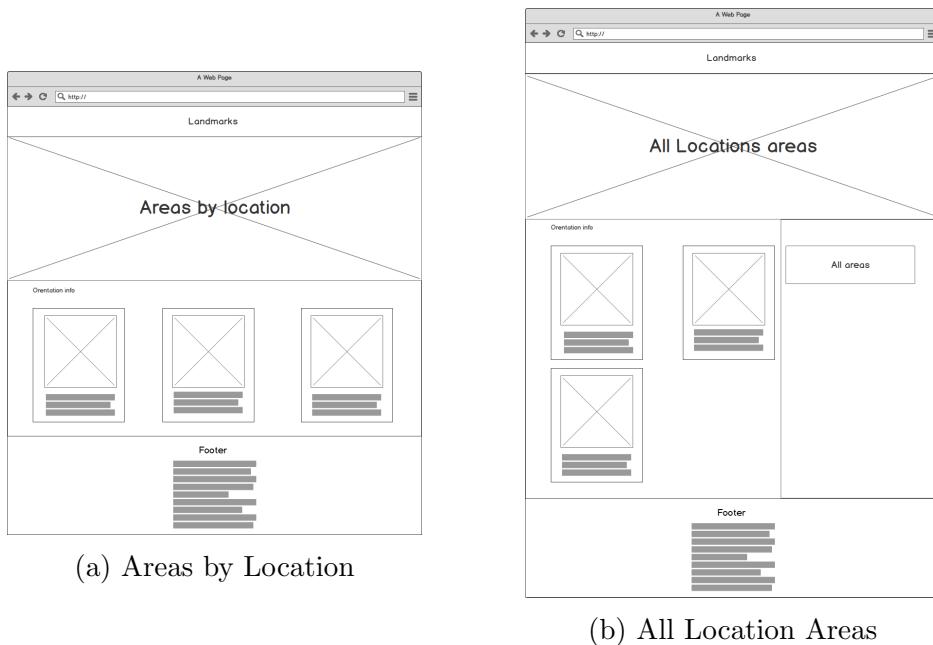


Figure 4.8: Areas wireframes

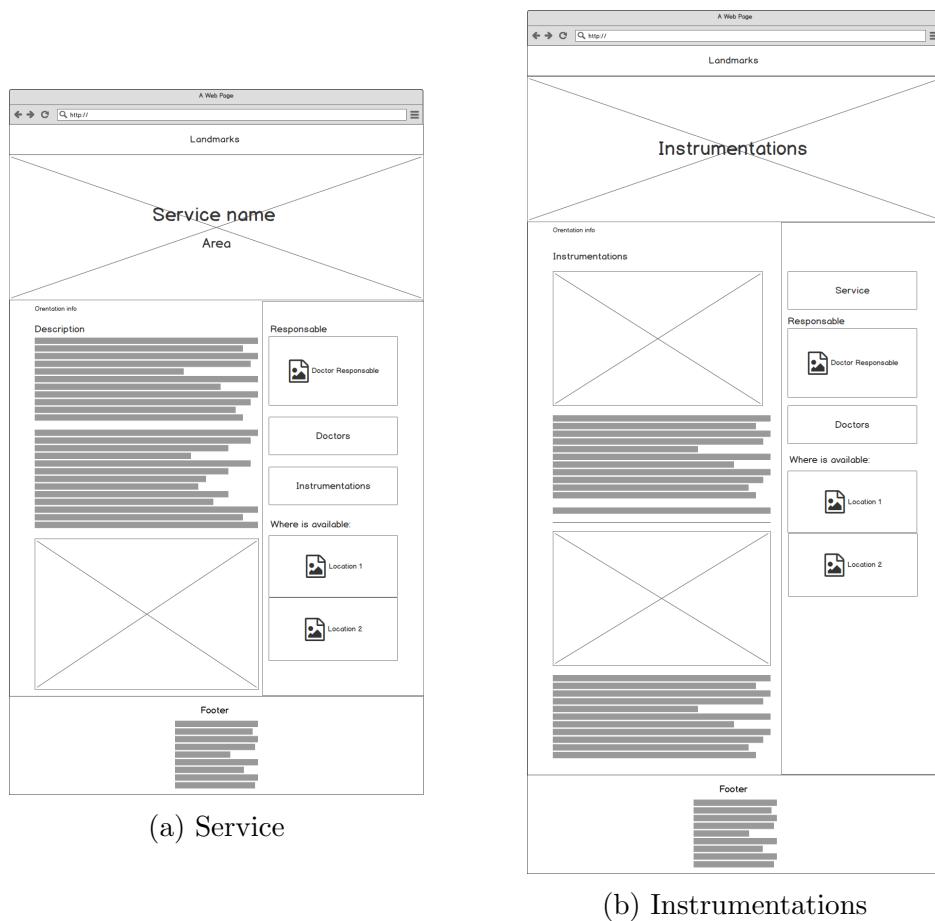


Figure 4.9: Services wireframes

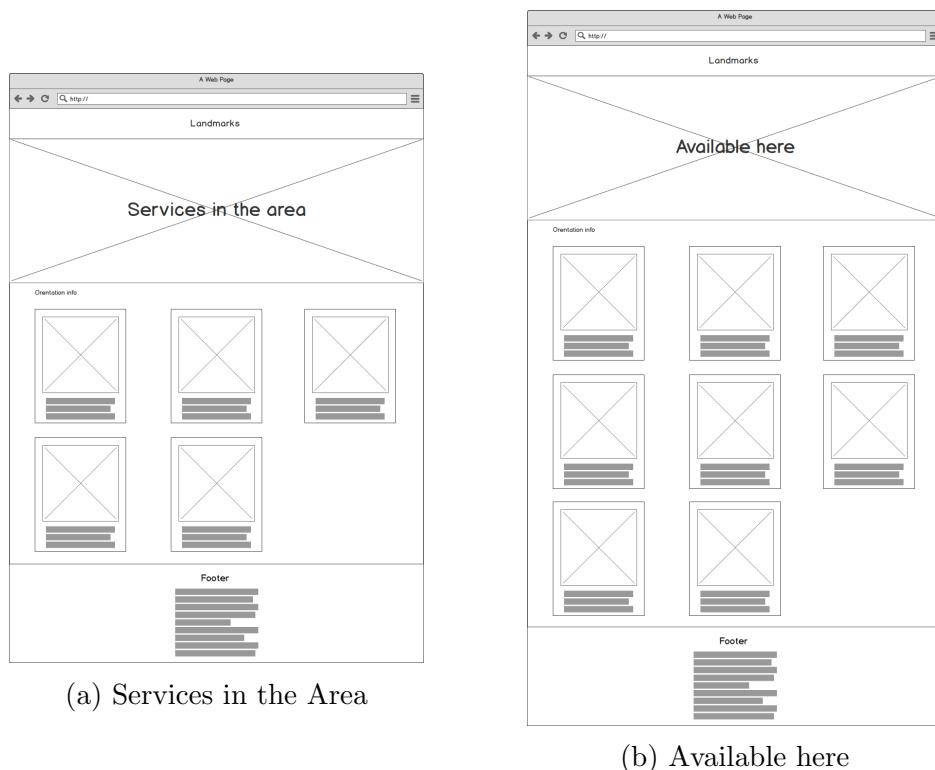


Figure 4.10: Services wireframes

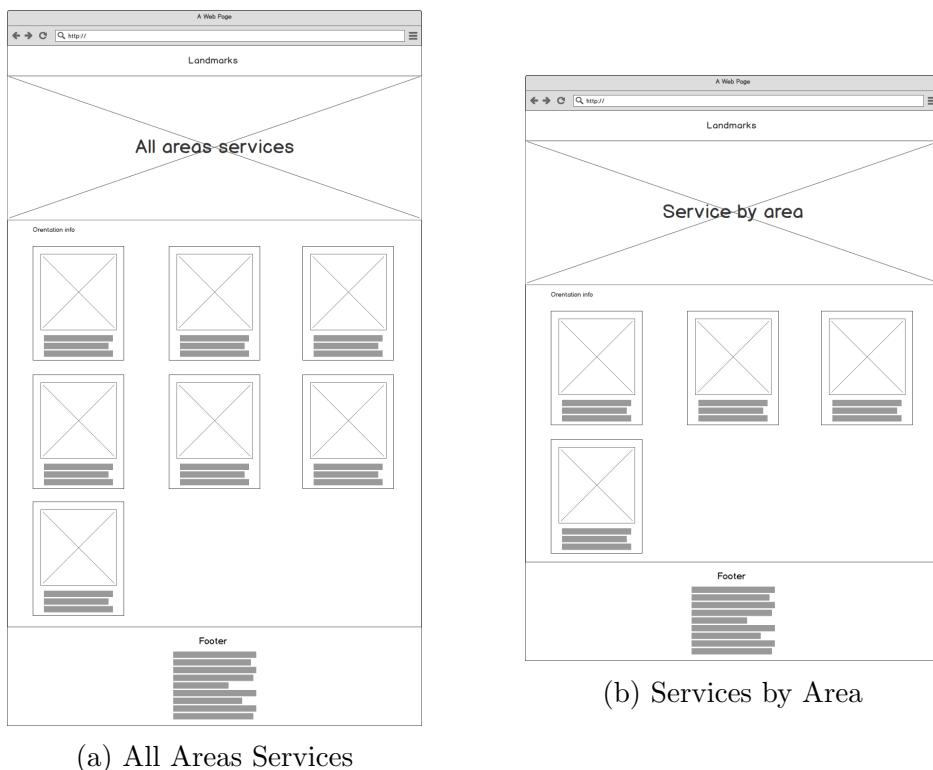


Figure 4.11: Services wireframes

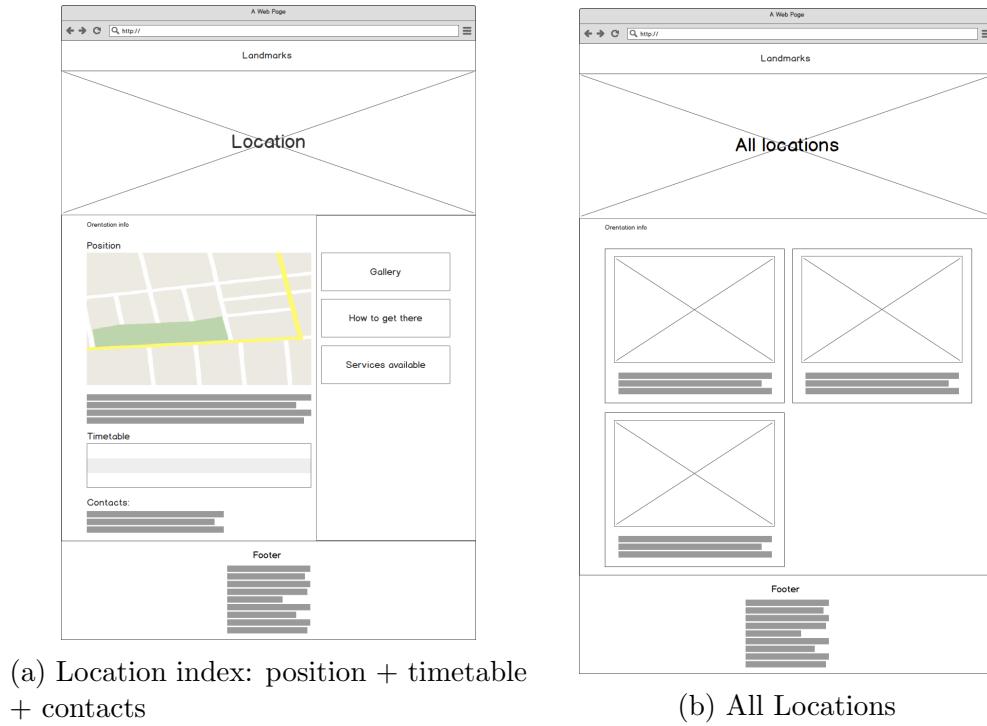


Figure 4.12: Locations wireframes

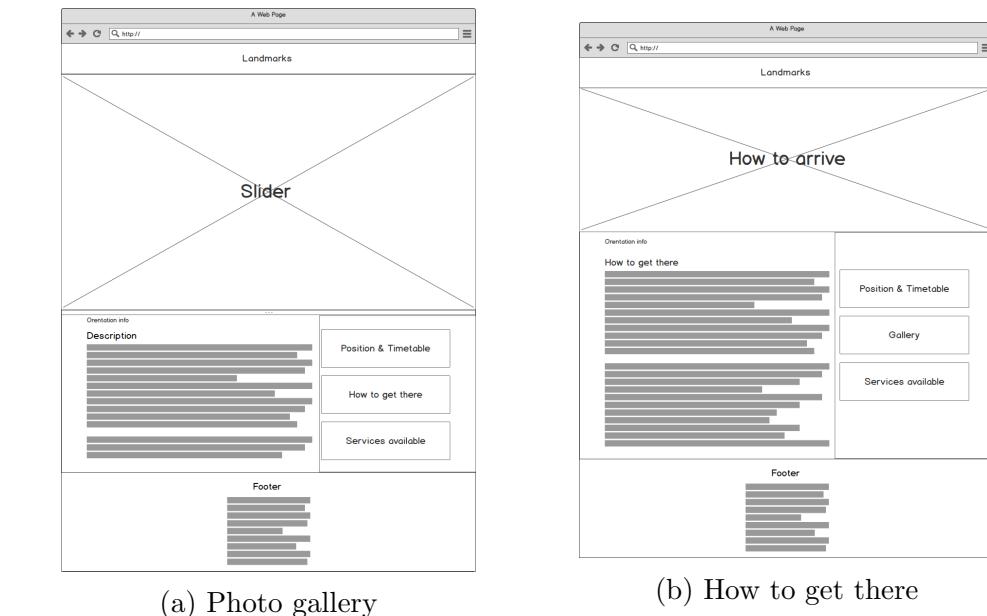
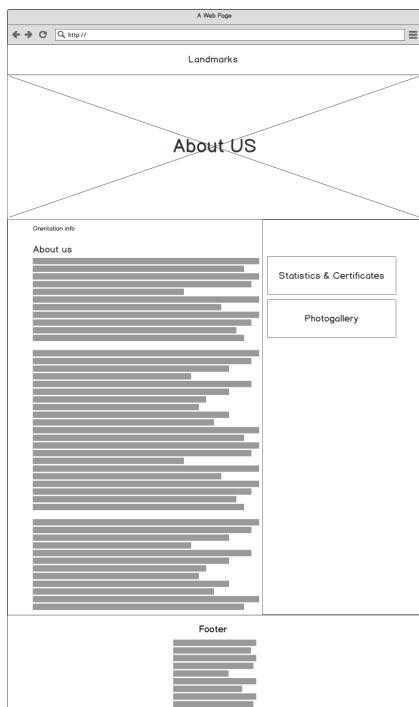


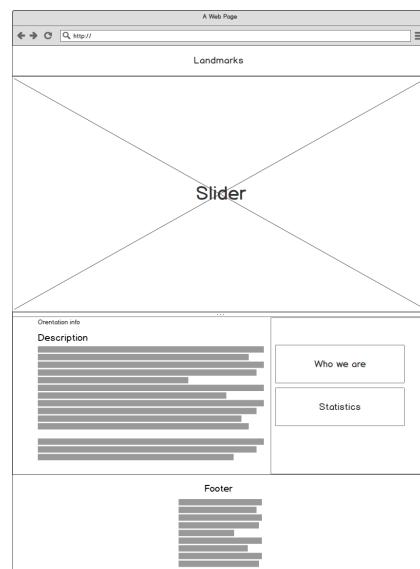
Figure 4.13: Locations wireframes



Figure 4.14: Practical Infos wireframes



(a) Who we are - History



(b) Who we are - Photo Gallery

Figure 4.15: Who we are wireframes

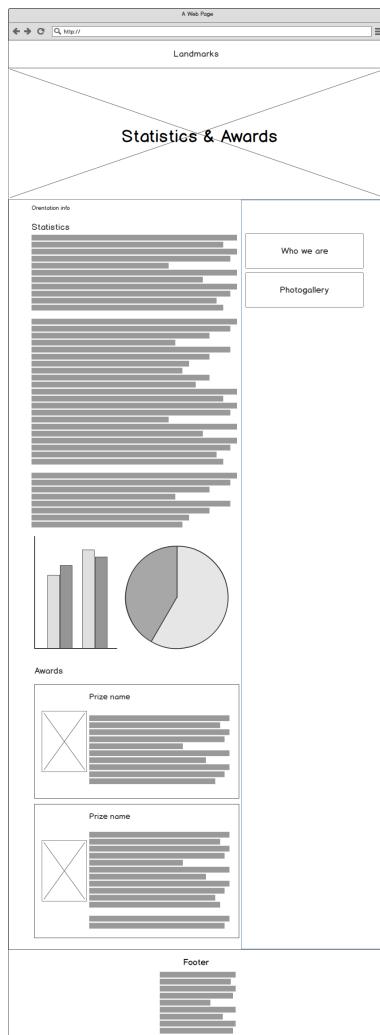


Figure 4.16: Who we are - Statistics

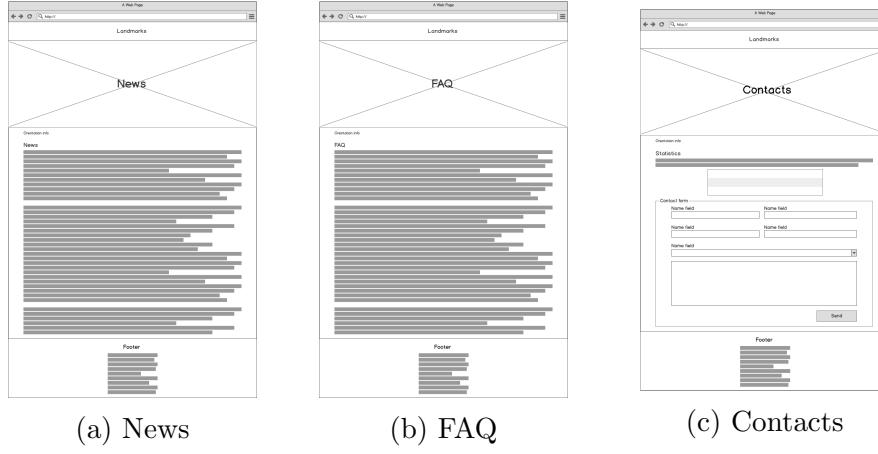


Figure 4.17: News + FAQ + Contacts wireframes

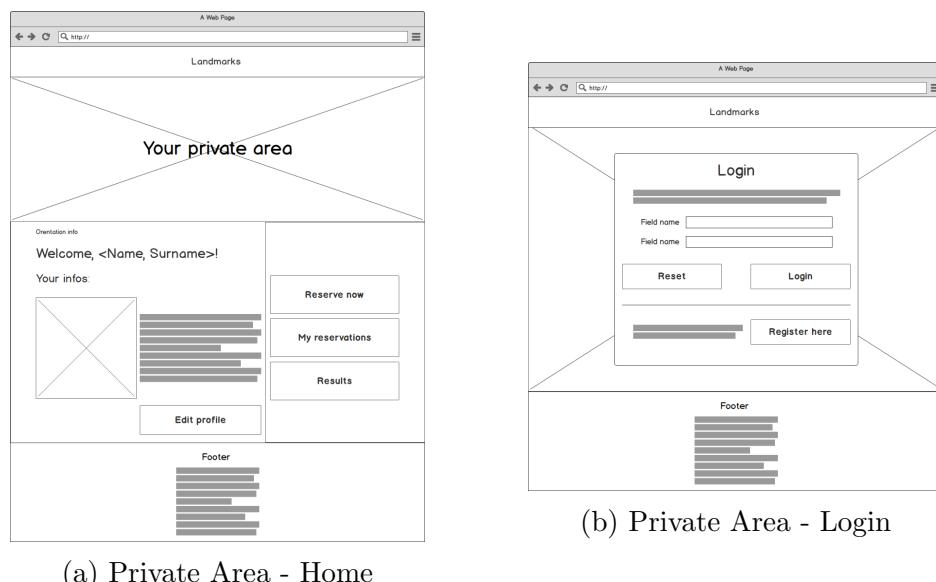


Figure 4.18: Private Area wireframes

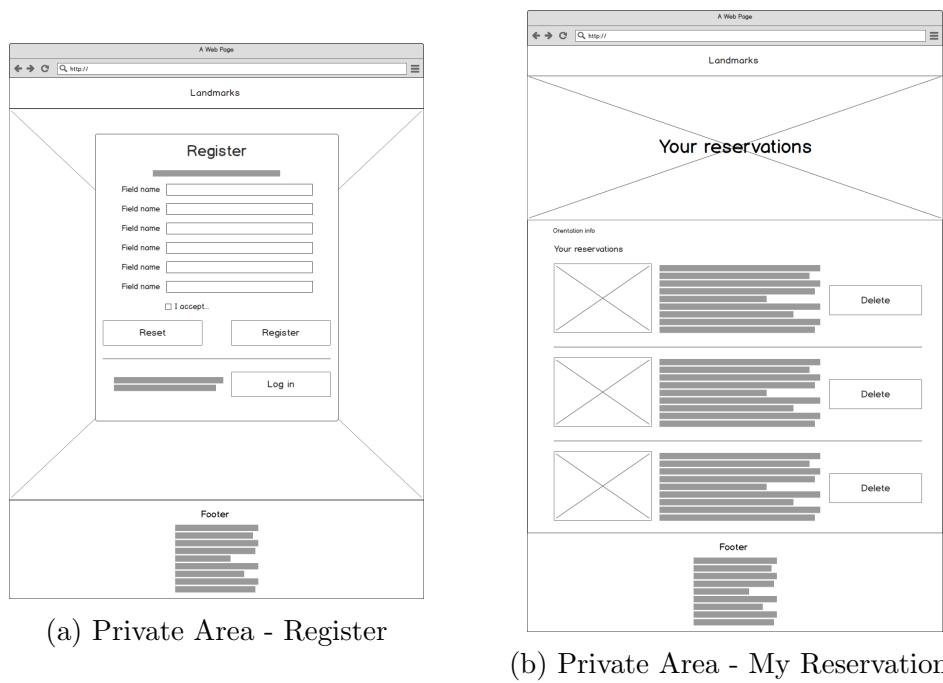


Figure 4.19: Private Area wireframes

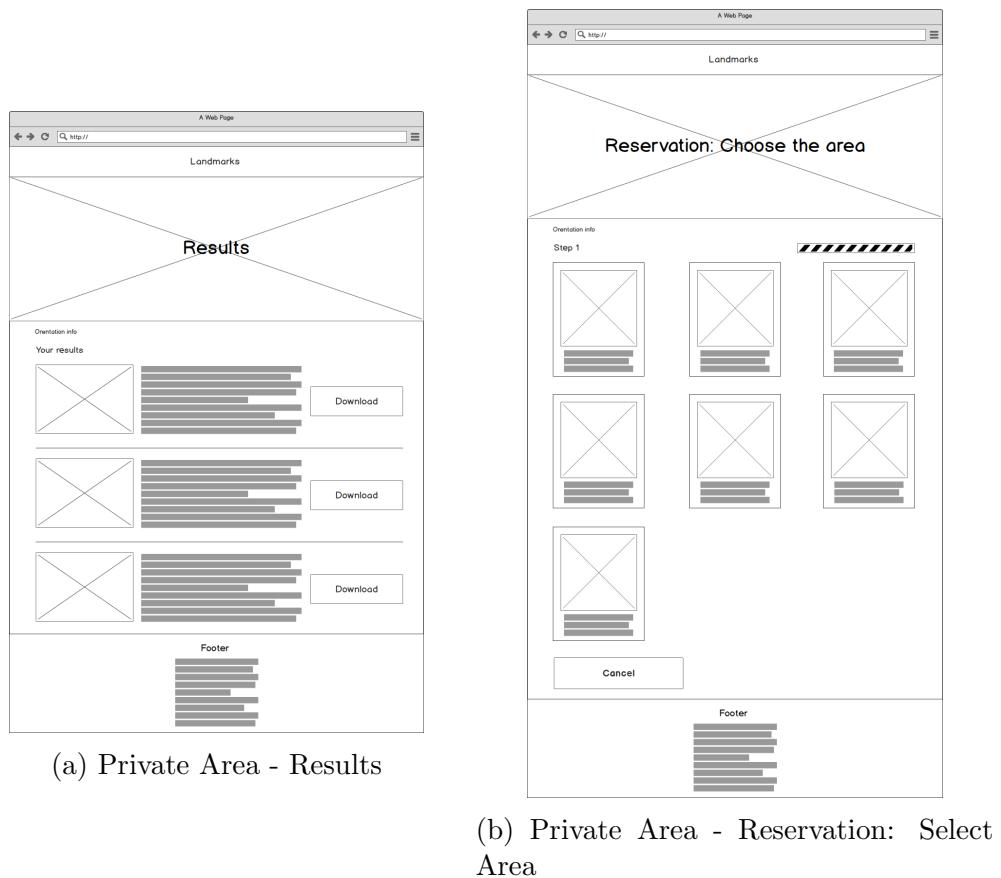


Figure 4.20: Private Area wireframes

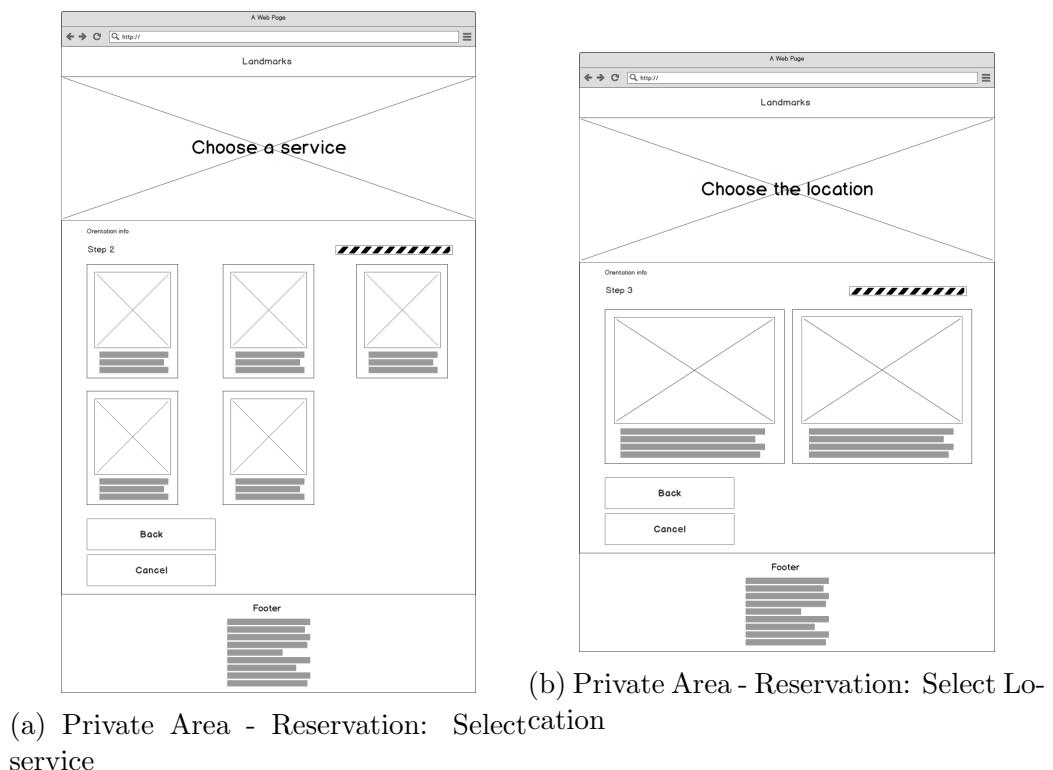


Figure 4.21: Private Area wireframes

The image contains two wireframe diagrams of web pages, labeled (a) and (b).

(a) Private Area - Reservation: Select Date and Hour

This wireframe shows a calendar interface for May 2017. The days of the week are labeled S, M, T, W, T, F, S. The days of the month are listed in rows, with the 5th highlighted in blue. To the right of the calendar, there is a grid labeled "Hour1" through "Hour6". Below the calendar are "Back" and "Next" buttons, and a "Cancel" button. At the bottom is a "Footer" section.

(b) Private Area - Reservation: Review the reservation

This wireframe shows a review page titled "Check your infos". It displays several horizontal bars of different lengths, likely representing reserved timeslots. Below this are sections for "Orientation info" and "Further infos", each containing a large empty box. At the bottom are "Back", "Reserve", and "Cancel" buttons, and a "Footer" section.

Figure 4.22: Private Area wireframes

4.1 Comments

In the wireframes of *Available here*, *Services in the Area* and *Doctors operating in Service*, the back-navigation to the previous topic (respectively: location, area, service) is not provided as a button in the panel on the right (as in the other pages), because the back-navigation is provided by the breadcrumb (i.e. *Orientation info* in the wireframes).

All the wireframes will be also displayed in the detailed pdf, part of this delivery.

The interactive mock-up, developed in Balsamiq, contains an OSX-only font, so it will be different on other OS.