

# Hypermedia Applications - Design Document

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*Link to running prototype: <https://smartsolver.herokuapp.com>*

*Link to GitHub repository: <https://github.com/gabrielevensen/Hypermedia-Application.git>*

November 19, 2021

## **Abstract**

In the development of the web application of the ICT company (providing high-technological and eco-friendly logistic services), the design document is created in order to support the design phase of the web application. The Design document provide the key concepts in the appearance of the web application. In order to support the design phase of the web application the Interactive Dialogue Model is used to create the conceptual design. This step of the design process is used to capture the dialogue between the user and the application, capture the relevant subject changes and then find a way to organize this dialogue using different strategies. Apart from this the design document includes concrete page design using wire frames, interaction scenarios and the database design. Three interaction scenarios are introduced and demonstrate how the user would navigate across the pages of the web application. To explain the structure of the data base, an Entity Relationship diagram and Relational tables are provided.

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## 1 C-IDM Diagram

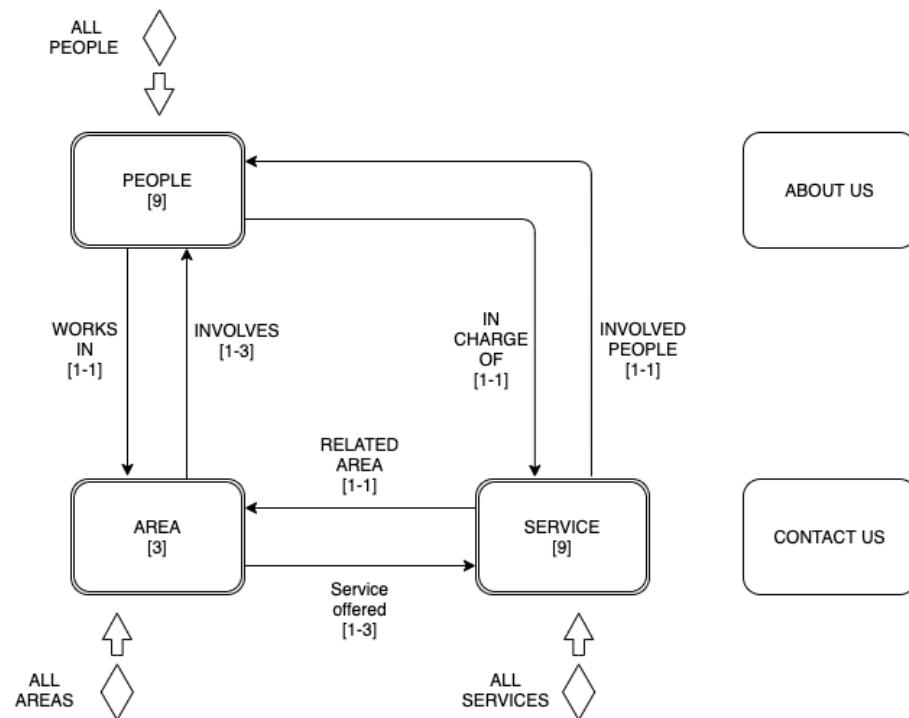


Figure 1: Content Interactive Dialogue Model diagram.

## 2 Content Tables

### 2.1 Group

Table 1: Content Table All Services

Group: All Services
Title: "All our services "
Subtitle: "Max 20 words"
Service Preview item: [Service; Image , Title and Preview text (max 100 characters)];

Table 2: Content Table All Areas

Group: All Areas
Title: "Areas of the company"
Subtitle: Max 20 words
Area Preview item: [Area; Image, Title and Preview text (max 80 characters)];

Table 3: Content Table All People

Group: All People
Title: "Meet our employees"
Subtitle: Max 20 words
People Preview item: [People; Image, Name, Position and Preview text (max 80 characters)];

## 2.2 Multiple topic

Table 4: Content Table Service

Multiple topic: Service
Service Title: Text (max 40 char)
Service Image: Image
Informative text: Text (max 600 char)
Related area Title: "Related area of this service"
Area Preview item: [Area; Image, Title and Preview text (max 80 characters)];
Involved people Title: Person in charge of service
People Preview item: [People; Image, Name, Position and Preview text (max 80 characters)];

Table 5: Content Table Area

Multiple topic: Area
Service Title: Text (max 40 char)
Subtitle: Objective text
Area Image: Image
Summary text: Text (max 500 char)
Related services Title: "Services in this area"
Service Preview item: [Service; Image , Title and Preview text (max 100 characters)];
Involved people Title: "People specialized in this area"
People Preview item: [People; Image, Name, Position and Preview text (max 80 characters)];

Table 6: Content Table People

Multiple topic: People
Title: Name of employee
Employee image: Image
Informative text: Text about employee (max 300 char)
Related services Title: "In charge of"
Service Preview item: [Service; Image , Title and Preview text (max 100 characters)];
Related area Title: "Works in this area"
Area Preview item: [Area; Image, Title and Preview text (max 80 characters)];

### 2.3 Topic

Table 7: Content Table About Us

Topic: About Us
Title: "Who we are"
Subtitle: "Based in Milano with clients all over the globe"
Image of people working together: Image
Subject 1 title: "Our history"
Subject 1 text: Text (max 600 char)
Subject 2 title: "Big data analysis and smart solutions"
Subject 2 text: Text (max 600 char)
Subject 3 title: "Sustainability"
Subject 3 text: Text (max 600 char)

Table 8: Content Table Contact Us

Topic: Contact Us
Title: "Contact Us!"
Subtitle: "If you want to get more information about our services just contact us"
Image of customer with employees: Image
Practical information title: "Location and contact information"
How to get here: Interactive map
Contact information: Text; Address, Mail, Telephone and Office hours (max 200 char)

### 3 Mapping Content Tables into Pages

#### 3.1 Group

##### 3.1.1 All Services

Table 9: Pages All Services

Page All Services
Orientation info: Orientation text "Services"
Title: "All our services "
Subtitle: "Max 20 words"
Service Preview item: [Service; Image , Title and Preview text (max 100 characters)];
Page All Services Continuation
Service Preview item: [Service; Image , Title and Preview text (max 100 characters)];

##### 3.1.2 All Areas

Table 10: Page All Areas

Page All Services
Orientation info: Orientation text "Areas"
Title: "Areas of the company"
Subtitle: Max 20 words
Area Preview item: [Area; Image, Title and Preview text (max 80 characters)];

### 3.1.3 All People

Table 11: Pages All People

Page All People
Orientation info: Orientation text "People"
Title: "Meet our employees"
Subtitle: Max 20 words
People Preview item: [People; Image, Name, Position and Preview text (max 80 characters)];
Page All People Continuation
People Preview item: [People; Image, Name, Position and Preview text (max 80 characters)];

## 3.2 Multiple Topic

### 3.2.1 Service

Table 12: Pages Service

Page Service
Service Title: Text (max 40 char)
Service Image: Image
Informative text: Text (max 600 char)
Page Service Continuation
Related area Title: "Related area of this service"
Area Preview item: [Area; Image, Title and Preview text (max 80 characters)];
Involved people Title: Person in charge of service
People Preview item: [People; Image, Name, Position and Preview text (max 80 characters)];

### 3.2.2 Area

Table 13: Pages Area

Page Area
Service Title: Text (max 40 char)
Subtitle: Objective text
Area Image: Image
Summary text: Text (max 500 char)
Page Area Continuation
Related services Title: "Services in this area"
Service Preview item: [Service; Image , Title and Preview text (max 100 characters)];
Involved people Title: "People specialized in this area"
People Preview item: [People; Image, Name, Position and Preview text (max 80 characters)];

### 3.2.3 People

Table 14: Pages People

Page People
Title: Name of employee
Employee image: Image
Informative text: Text about employee (max 300 char)
Page People Continuation
Related services Title: "In charge of"
Service Preview item: [Service; Image , Title and Preview text (max 100 characters)];
Related area Title: "Works in this area"
Area Preview item: [Area; Image, Title and Preview text (max 80 characters)];

### 3.3 Topic

#### 3.3.1 About us

Table 15: Pages About Us

Page About Us
Title: "Who we are"
Subtitle: "Based in Milano with clients all over the globe"
Image of people working together: Image
Page About Us Continuation 1
Subject 1 title: "Our history"
Subject 1 text: Text (max 600 char)
Subject 2 title: "Big data analysis and smart solutions"
Subject 2 text: Text (max 600 char)
Page About Us Continuation 2
Subject 3 title: "Substainability"
Subject 3 text: Text (max 600 char)

#### 3.3.2 Contact us

Table 16: Pages Contact Us

#### 4 P-IDM Diagram

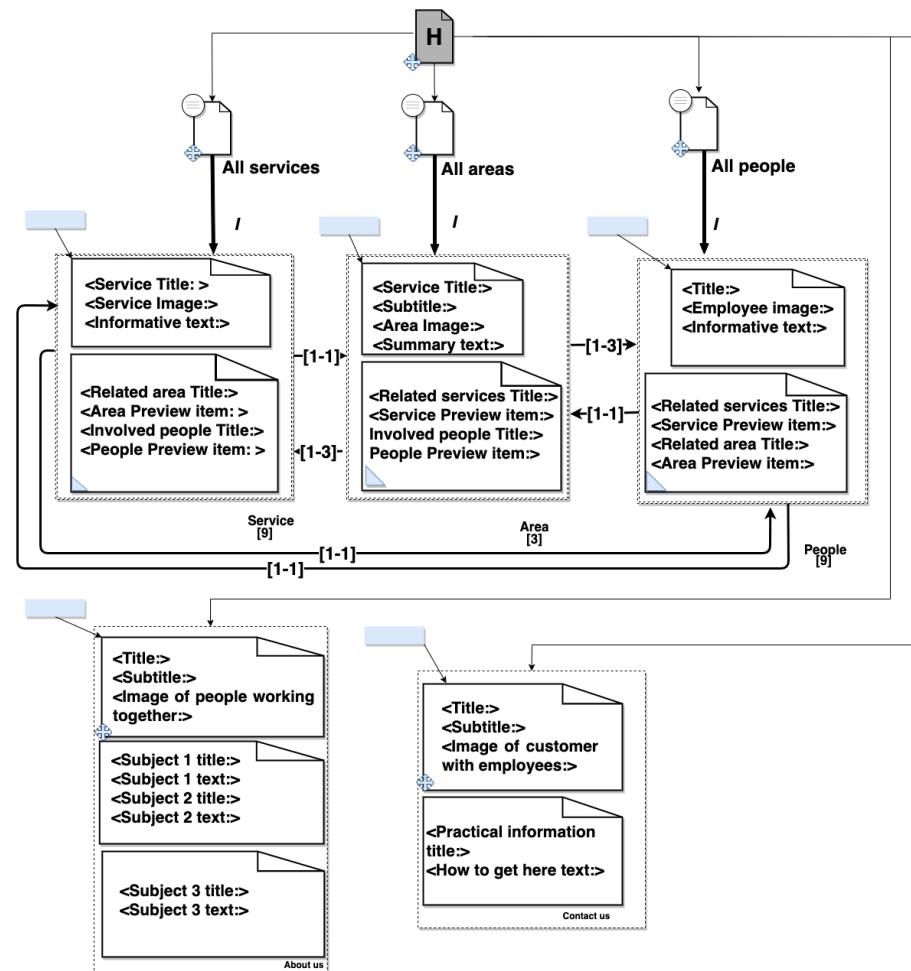


Figure 2: P-IDM Diagram.

## 5 Visual Design

### 5.1 Wire frames

#### 5.1.1 Homepage



Figure 3: Homepage

### 5.1.2 Group Pages

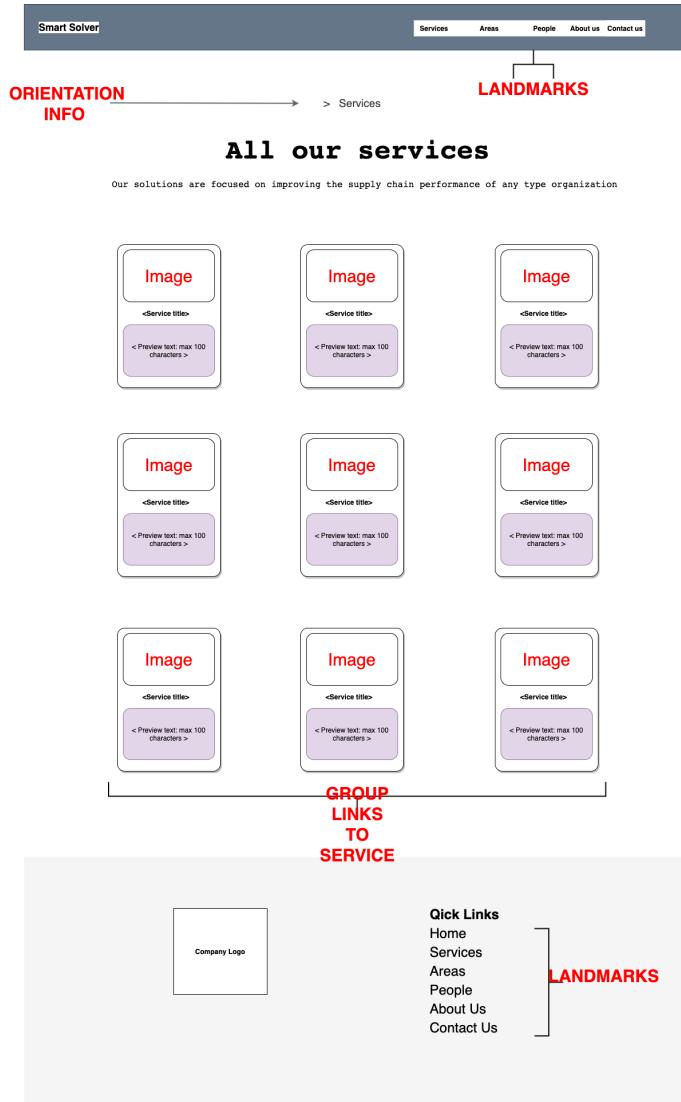


Figure 4: All services

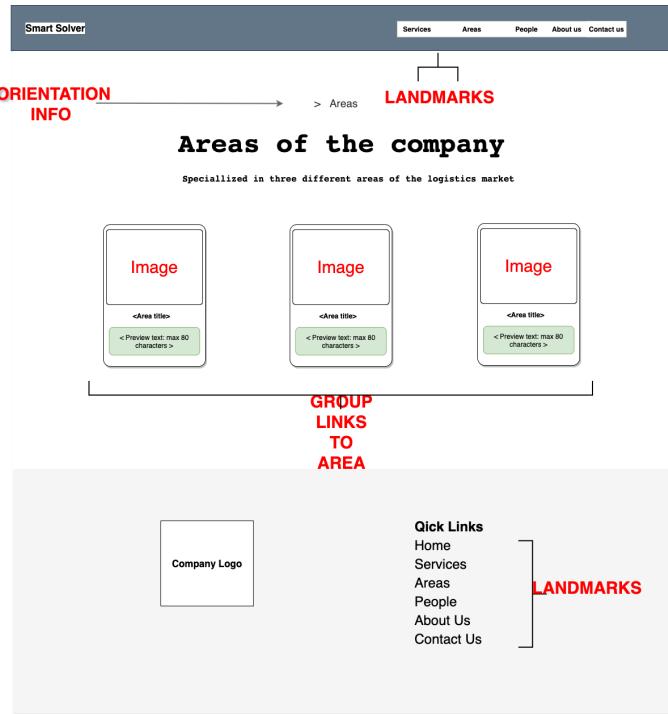


Figure 5: All areas

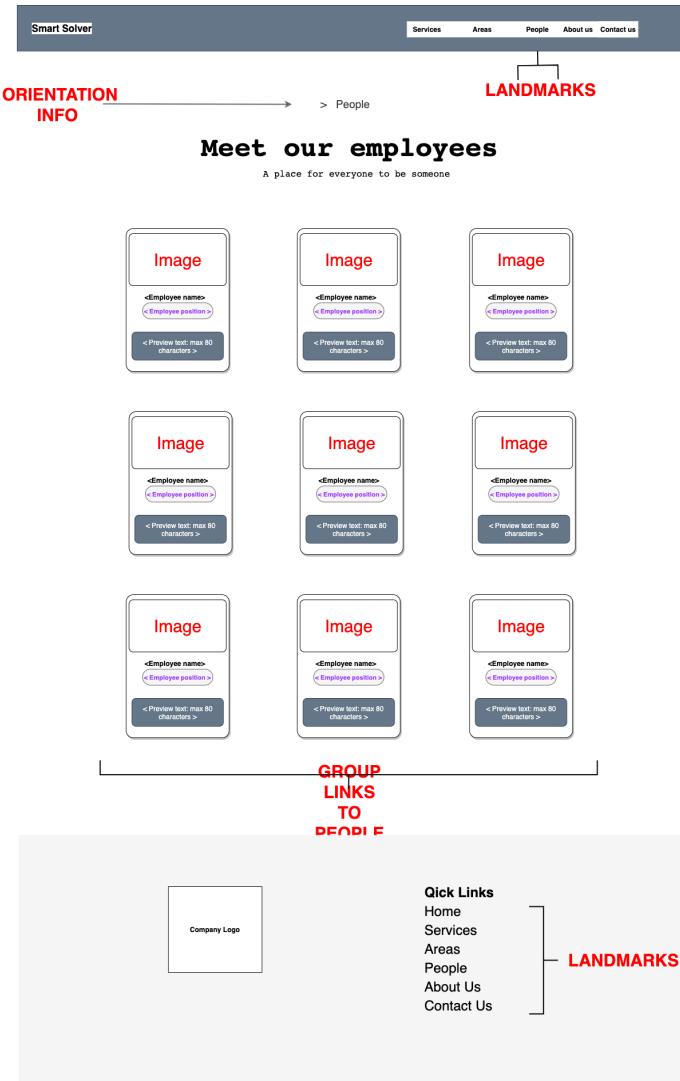


Figure 6: All people

### 5.1.3 Multiple Topic Pages

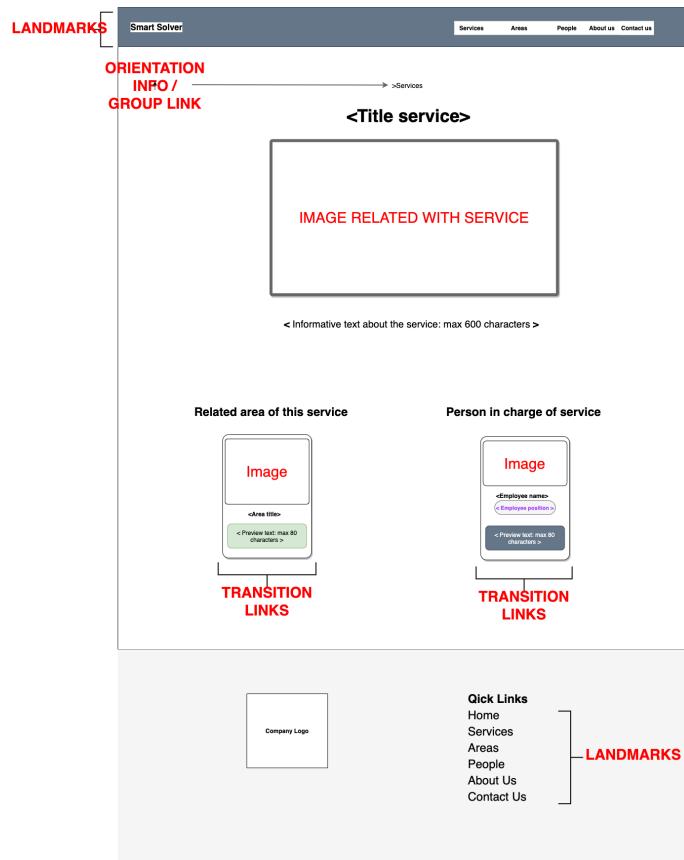


Figure 7: Service

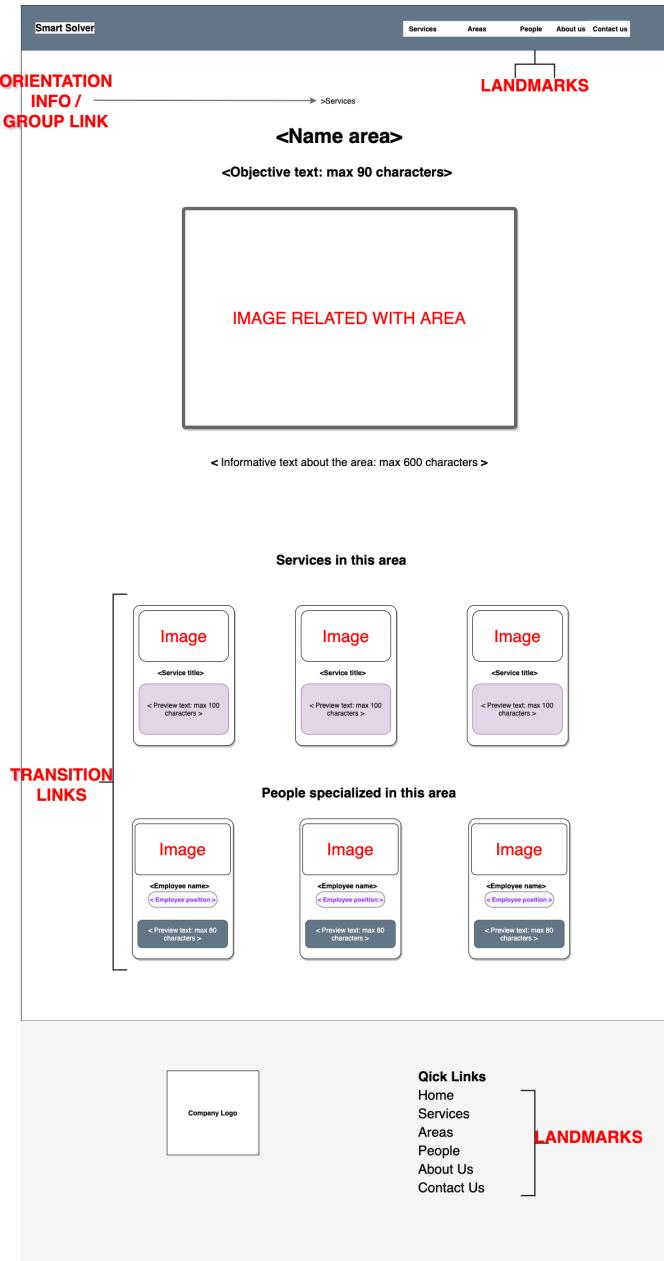


Figure 8: All area

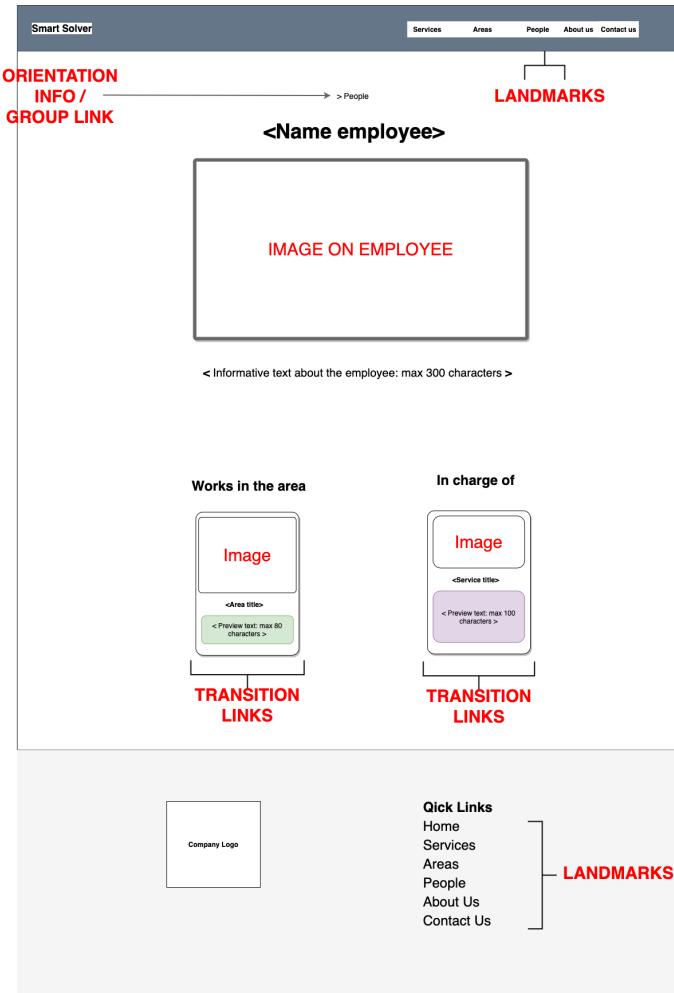


Figure 9: people

#### 5.1.4 Topic Pages

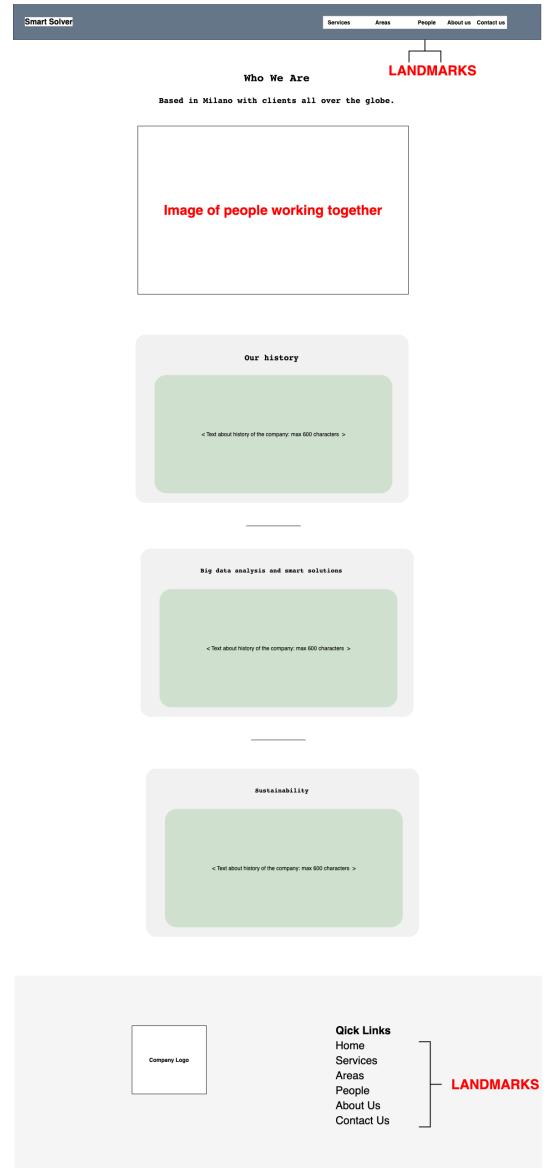


Figure 10: About us

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Figure 11: Contact us

## 5.2 Screenshots

### 5.2.1 Homepage

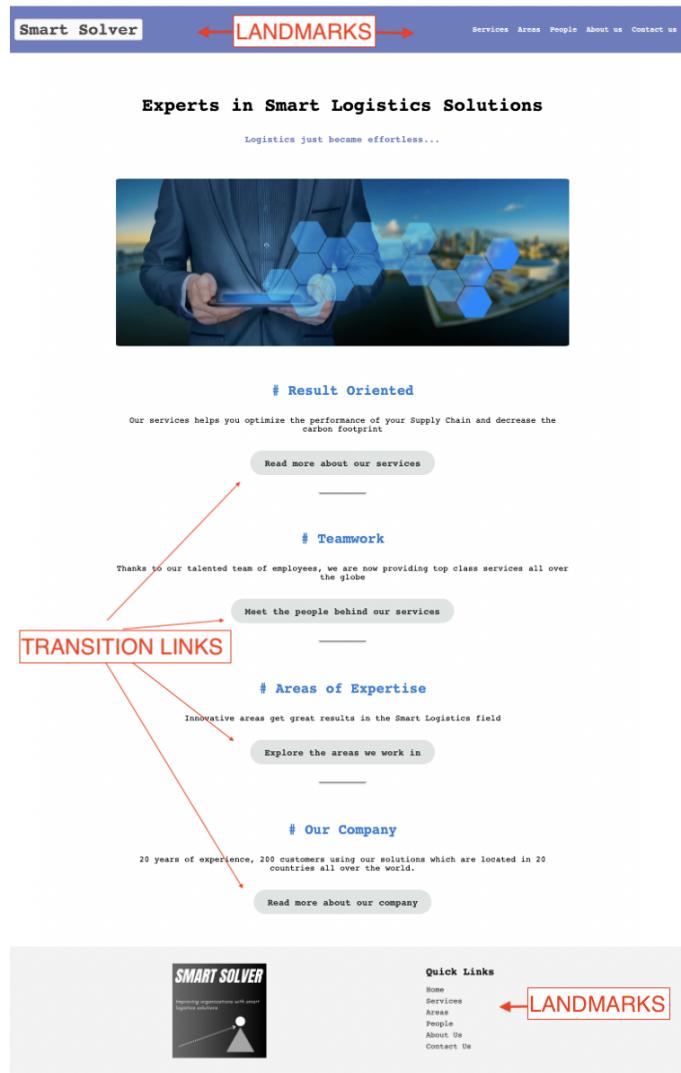


Figure 12: Homepage

### 5.2.2 Group Pages

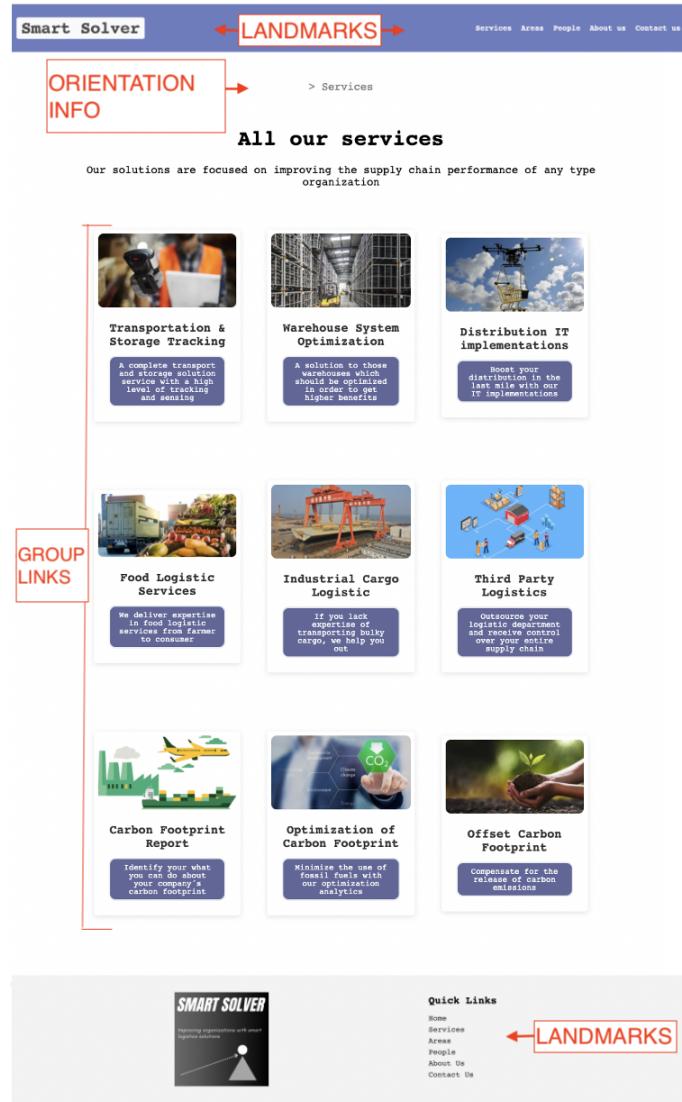


Figure 13: All services

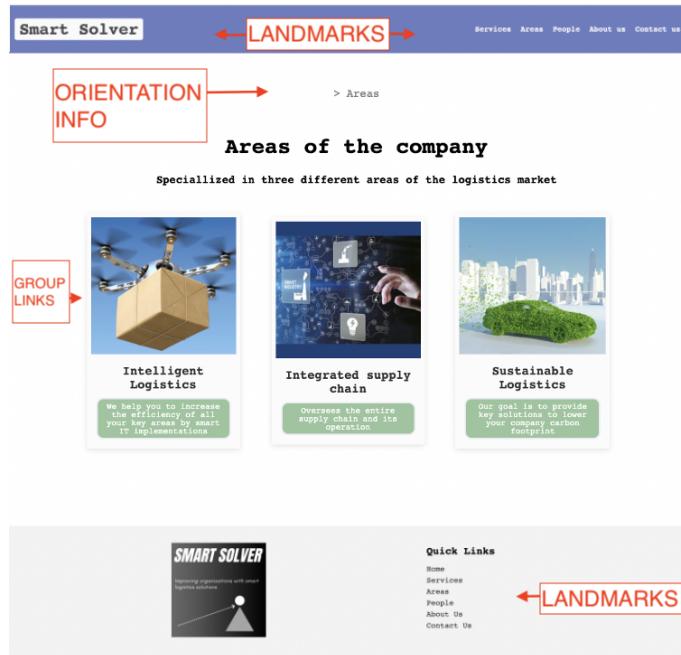


Figure 14: All areas

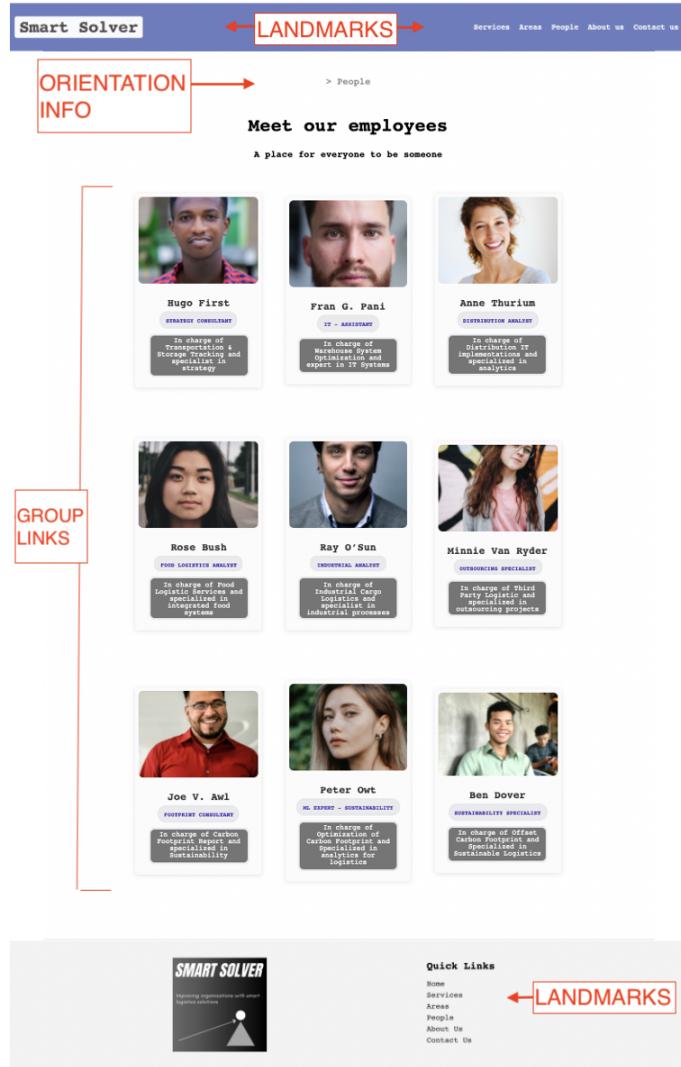


Figure 15: All people

### 5.2.3 Multiple Topic Pages

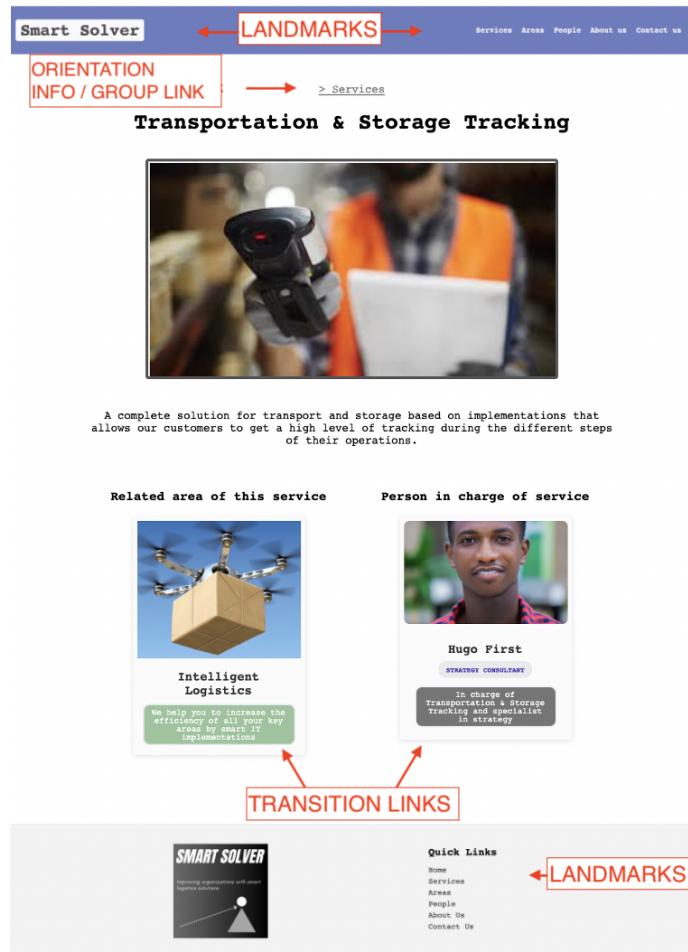


Figure 16: Service

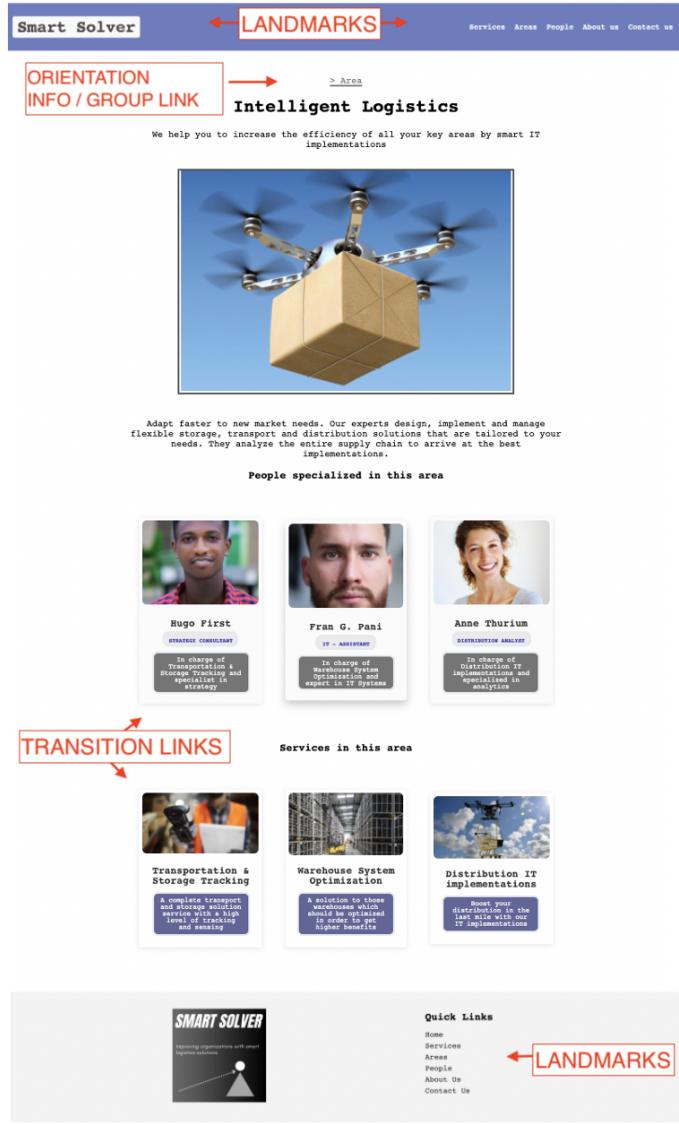


Figure 17: Area



Figure 18: Employee

### 5.2.4 Topic Pages

The screenshot shows the 'About us' section of the Smart Solver website. At the top, there is a navigation bar with links for 'Smart Solver', 'LANDMARKS' (highlighted with a red border), 'Services', 'Areas', 'People', 'About us', and 'Contact us'. Below the navigation, the section title 'Who We Are' is displayed, followed by the subtitle 'Based in Milano with clients all over the globe.' A photograph shows several people working in an office, with one person pointing at a wall covered in colorful sticky notes. Below this, the 'Our history' section contains a paragraph about the company's origins and growth. The 'Big data analysis and smart solutions' section discusses how the company uses data to drive decision-making. The 'Sustainability' section highlights the company's focus on environmental challenges and reducing carbon emissions. At the bottom, there is a footer with the 'SMART SOLVER' logo, a 'Quick Links' menu, and another 'LANDMARKS' link.

Figure 19: About us



Figure 20: Contact us

## 6 Interaction Scenarios

In this section there are three interaction scenarios. They describes a flow of user interactions across our site, given a user of a specified profile and goal. The introductions is made of three textual narratives in which the user profile, goal and main task to achieve for the user are presented. Screenshots are taken of the interactive element activated by the user at every step.

### 6.1 Narrative 1

The first user is the founder of an e-commerce product retailer store. They want to optimize the logistic department of their business. The user enters the

website and want to read more about the area of intelligent logistic. Using the Area landmark in the header the user enters the Group page of areas. Then the user press on the intelligent logistic card and reads more about the area.



(a) Using the Area landmark in the header.



(b) User press on the intelligent logistic card.



(c) Arrives at right location on the web-page.

Figure 21: First Interaction scenario

## 6.2 Narrative 2

Another company want to lower their carbon footprint. The company want to know where the biggest co2 emission comes from and are interested in the Carbon Footprint Report service.



(a) Using the "Services" landmark in the header.



(b) User press on the Carbon Footprint Report service card.

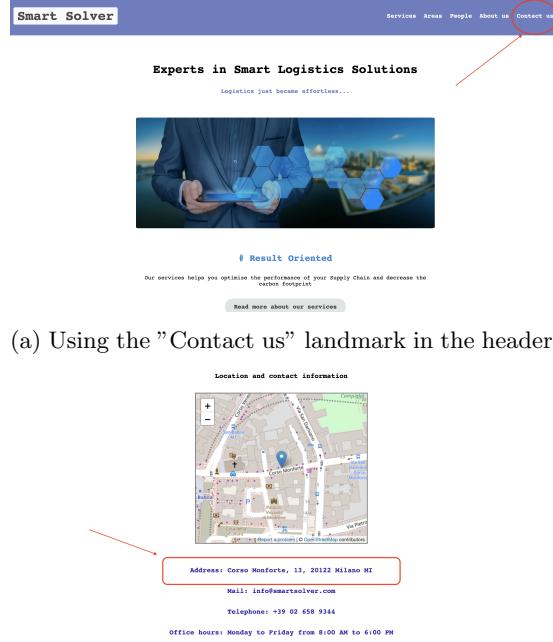


(c) Arrives at right location on the web-page.

Figure 22: Second Interaction scenario

### 6.3 Narrative 3

A customer of the Smart Solver is having a meeting at our local office. The customer has forgotten at what address the company is located and tries to find the information in the Smart Solver website.



(a) Using the "Contact us" landmark in the header.

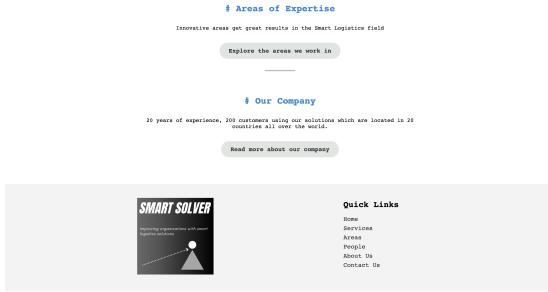


(b) Scroll down the contact page and find address.

Figure 23: Third Interaction scenario

### 6.4 Narrative 4

A journalist enters the Smart Solver web-page to learn how the company work with sustainability. The user scrolls down the main page and press the transition link "Read more about our company". The journalist then enters the About Us page. She scrolls down and found an article with the title "Sustainability".



(a) Scroll down the main page and press at "Read more about our company".



(b) User scroll down the About us page and finds the article about sustainability.

Figure 24: Fourth Interaction scenario

## 6.5 Narrative 5

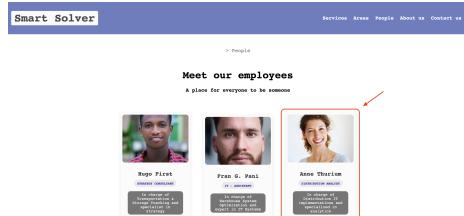
A competitive company providing logistic solutions need to hire more competent employees. The guy from the competitive company's Human Resources department met a person at a intelligent logistics exhibition. He noticed this person was very talented when they were speaking. He can not remember his name but do remember that he work at Smart Solver. The guy enters Smart Solver web-site and start looking in All People landmark. The guy thinks he see the person he is looking for and press on that employee card. It is the wrong person. The human resources guy makes another try, goes back to All People page and press another card that with a face that seems familiar and finds the guy.

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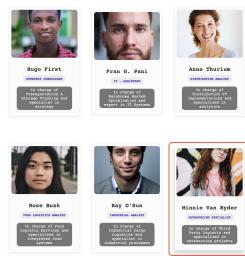
(a) Press link at People in the landmark.



(b) Press a employee card.



(c) Wrong employee card. Uses the orientation/Group link to go back to All People.



(d) Press another different employee card.



(e) Finds the right employee.

Figure 25: Fifth Interaction scenario

## 7 DB Design

Entity Relationship Diagram and Relational Tables for the content and relevant relationships of the website.

### 7.1 E-R Diagram

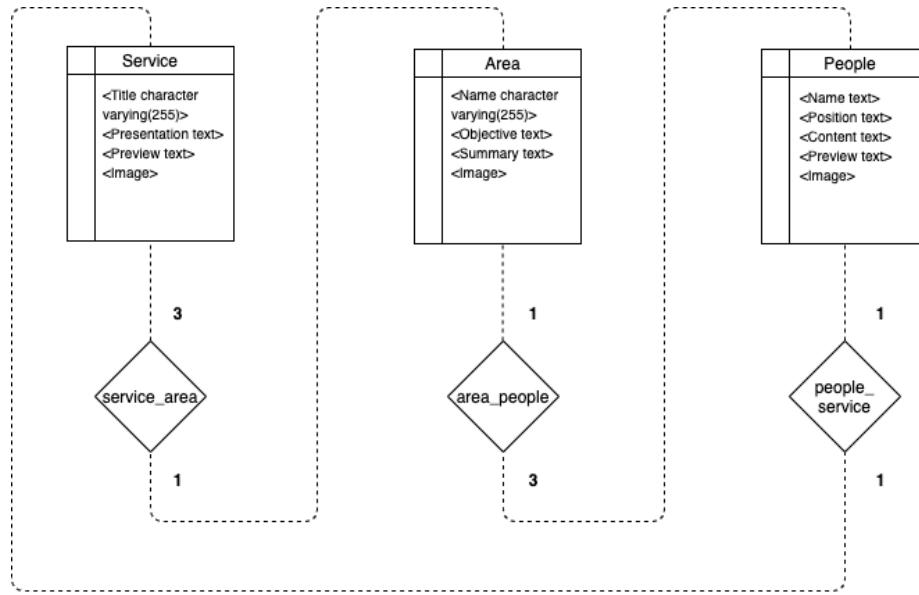


Figure 26

### 7.2 Relational Tables

Table 17: Service

<b>id</b> [PK] integer	<b>title</b> character varying (255)	<b>presentation text</b>	<b>preview text</b>	<b>image</b> character varying (255)
1	Transportation & Storage Trac...	A complete soluti...	A complete ...	<a href="https://encrypted-tbn0.gstatic.com">https://encrypted-tbn0.gstatic...</a>
2	Warehouse System Optimizati...	A complete soluti...	A solution t...	<a href="https://cdn.pixabay.com/phot...">https://cdn.pixabay.com/phot...</a>
3	Distribution IT implementations	Improve the level ...	Boost your ...	<a href="https://cdn.pixabay.com/phot...">https://cdn.pixabay.com/phot...</a>
4	Food Logistic Services	Transportation of...	We deliver e...	<a href="https://www.prs-refrigeration....">https://www.prs-refrigeration....</a>
5	Industrial Cargo Logistic	This service is pe...	If you lack e...	<a href="https://www.nyteknik.se/ponil...">https://www.nyteknik.se/ponil...</a>
6	Third Party Logistics	We have many ye...	Outsource y...	<a href="https://www.nogin.com/wp-c...">https://www.nogin.com/wp-c...</a>
7	Carbon Footprint Report	A carbon footprin...	Identify you...	<a href="https://encrypted-tbn0.gstatic.com">https://encrypted-tbn0.gstatic...</a>
8	Optimization of Carbon Footp...	Big data analysis ...	Minimize th...	<a href="https://www.ncsl.org/portals/...">https://www.ncsl.org/portals/...</a>
9	Offset Carbon Footprint	Certified greenho...	Compensat...	<a href="https://media.istockphoto.co...">https://media.istockphoto.co...</a>

Table 18: Area

<b>id</b> [PK] integer	<b>name</b> character varying (255)	<b>objective</b> text	<b>summary</b> text	<b>image</b> character varying (255)
1	Intelligent Logistics	We help you t...	Adapt faster t...	<a href="https://miro.medium.com/ma...">https://miro.medium.com/ma...</a>
2	Integrated supply chain	Oversees the ...	The global dis...	<a href="https://www.impresasanita.it/...">https://www.impresasanita.it/...</a>
3	Sustainable Logistics	Our goal is to...	Identification ...	<a href="https://cdn.pixabay.com/phot...">https://cdn.pixabay.com/phot...</a>

Table 19: People

<b>id</b> [PK] integer	<b>name</b> text	<b>position</b> text	<b>content</b> text	<b>preview</b> text	<b>image</b> character varying (255)
1	Hugo F...	STRATEGY ...	Spent 7 yea...	In charge of...	<a href="https://images.unsplash.com...">https://images.unsplash.com...</a>
2	Fran G. ...	IT - ASSISTA...	Three years...	In charge of...	<a href="https://images.unsplash.com...">https://images.unsplash.com...</a>
3	Anne T...	DISTRIBUTI...	15 years ex...	In charge of...	<a href="https://www.webconsultas.co...">https://www.webconsultas.co...</a>
4	Rose B...	FOOD LOGIS...	Masters de...	In charge of...	<a href="https://images.unsplash.com...">https://images.unsplash.com...</a>
5	Ray O'S...	INDUSTRIAL...	8 years of e...	In charge of...	<a href="https://images.unsplash.com...">https://images.unsplash.com...</a>
6	Minnie ...	OUTSOURCI...	Masters de...	In charge of...	<a href="https://images.unsplash.com...">https://images.unsplash.com...</a>
7	Joe V. ...	FOOTPRINT ...	Spent 3 yea...	In charge of...	<a href="https://images.unsplash.com...">https://images.unsplash.com...</a>
8	Peter O...	ML EXPERT ...	8 years of e...	In charge of...	<a href="https://images.unsplash.com...">https://images.unsplash.com...</a>
9	Ben Do...	SUSTAINAB...	I have been ...	In charge of...	<a href="https://images.unsplash.com...">https://images.unsplash.com...</a>