



L.M. Geoinformatics Engineering

AA 2021/21

# HYPERMEDIA APPLICATIONS

Design Document

Date: 25/07/2021

Authors: Matteo Bresciani – mtr. 944639 - matteo.bresciani@mail.polimi.it  
Gabriele D’Ascoli – mtr. 944275 - gabrieleangelo.dascoli@mail.polimi.it

Link: <https://toptech-polimi.herokuapp.com/>

# Contents

<b>1. Abstract.....</b>	<b>3</b>
<b>2. Graphical Representation.....</b>	<b>4</b>
2.1 C-IDM Diagram.....	4
2.1.1 C-IDM Notes.....	5
2.2 P-IDM Diagram.....	6
2.2.1 P-IDM Notes.....	7
<b>3. Content tables.....</b>	<b>8</b>
<b>4. Mapping Content tables into pages.....</b>	<b>10</b>
<b>5. Visual Design (Wireframe and screenshots).....</b>	<b>11</b>
5.1 Commented low fidelity wireframes.....	11
5.2 Commented high fidelity wireframes.....	21
<b>6. Scenarios.....</b>	<b>31</b>
6.1 Case 1.....	31
6.1.1 Textual narrative.....	31
6.1.2 Sequence.....	31
6.2 Case 2.....	33
6.2.1 Textual narrative.....	33
6.2.2 Sequence.....	33
6.3 Case 3.....	35
6.3.1 Textual Narrative.....	35
6.3.2 Sequence.....	36
<b>7. DB Design.....</b>	<b>39</b>
7.1 Relational Tables.....	39
7.2 ER.....	40

# 1. Abstract

This document contains the decisions made regarding the design specification of the project of the Hypermedia Application (Web and Multimedia) course for the academic year 2020/2021.

The project consists in designing and implementing a website for an ICT company.

The document is composed by the IDM models (interactive dialogue model) that define which are the main concept of the website (C-IDM) also providing a logical description of the pages structure (P-IDM), the scenarios to better understand the main idea behind the navigation and the contents provided by the website the content tables with their mapping with the pages, then the low and high fidelity wireframes of our website and how it will look like after the development and at the end the Entity Relationship diagram that describe the structure of the database.

Every decision has been made in order to optimize the content of the website, making it simple and attractive.

Diagrams and Wireframes are created using *draw.io* and *Figma*.

## 2. Graphical Representation

### 2.1 C-IDM

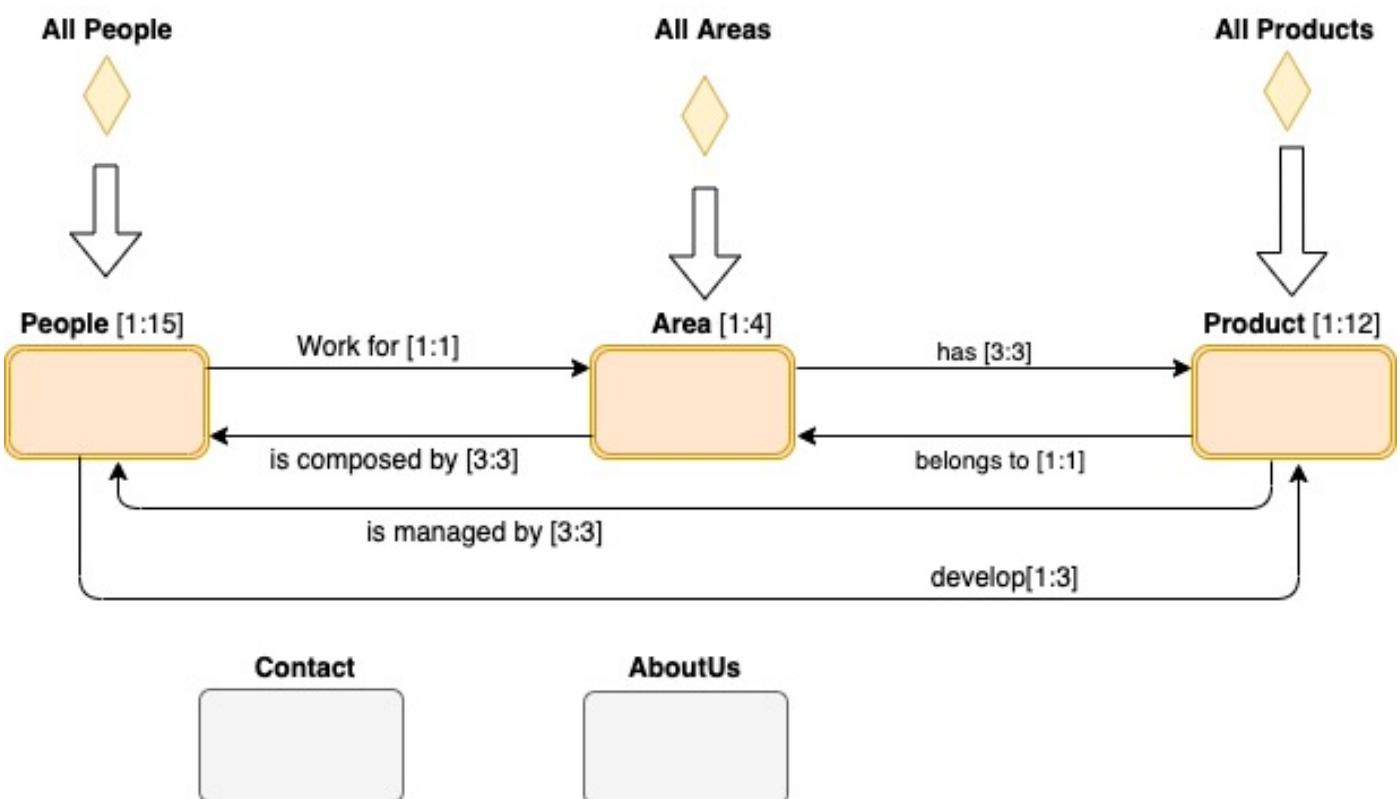


Figura 1 C-IDM describes the content of the web site in the large

### 2.1.1 C-IDM Notes

Here is a brief description of diagram's component.

Topics:

- Contacts: relevant contacts for the website, include a form to fill with information to get in contact with the company.
- About us: general information about the company

Kind of topics:

- Area: working fields of the company.
- Product: services offered by the company, related to a certain area.
- People: all people working in the company

Groups:

- All areas
- All products
- All people

## 2.2 P-IDM

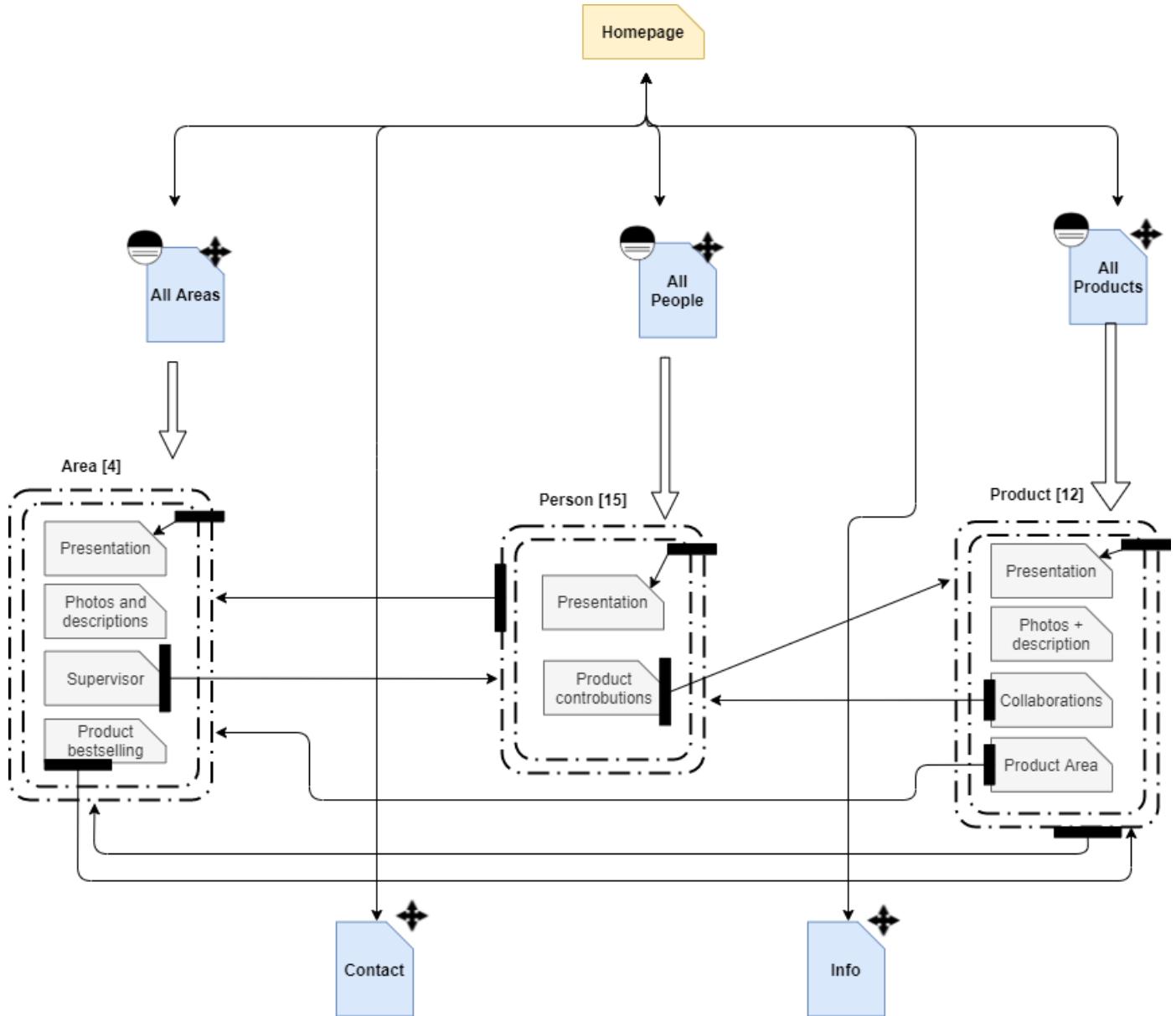


Figure 2: Page Interactive Dialogue Model

### 2.2.1 P-IDM Notes

P-IDM Diagram is an Interactive Dialogue Model, and it is based on C-IDM. It describes the navigational architecture of the website.

We can notice that for each page aggregation (dashed lines in the diagram), the content spans a single physical page in the website. This means that there are no more internal relations we need to highlight: all the links are visible in this main P-IDM Diagram.

### 3. Content tables

Content tables describe the content of our website in the small.

Each component of the C-IDM Diagram corresponds to a table ( see Chapter 2.1 C-IDM Diagram).

<b>GROUP OF TOPICS: All areas</b>
<b>Title:</b> Text (max 20 char)
<b>Subtitle:</b> Text (max 20 words)
<b>Items Preview:</b> LIST OF [Area image; Area name; Area description]
<b>Page description:</b> Text (max 100 words)

<b>GROUP OF TOPICS: All people</b>
<b>Title:</b> Text (max 20 char)
<b>Subtitle:</b> Text (max 20 words)
<b>Page presentation:</b> <Image, Text (max 100 words)>
<b>Items Preview:</b> LIST OF [Area name, LIST OF (Person image; Person name; Person role)]

<b>GROUP OF TOPICS: All products</b>
<b>Title:</b> Text (max 20 char)
<b>Subtitle:</b> Text (max 20 words)
<b>Items Preview:</b> LIST OF [Product image; Product name; Brief Description]
<b>Development strategies:</b> [<Image1, Text>, <Image2, Text>, <Image3, Text>]

<b>KIND OF TOPIC: Areas</b>
<b>Area Name:</b> Text (max 30 char)
<b>Area brief description:</b> [<Image1, Text>, <Image2, Text>, <Image3, Text>]
<b>Area long description:</b> [Image1, Text1 ( max 300 words), Image2, Text2 ( max 300 words), Image3, Text3 ( max 300 words)]
<b>Bestselling:</b> “Bestselling”
<b>Bestselling product:</b> [Image, Name, Text (max 50 char)]
<b>Supervisor:</b> “Supervisor”
<b>Area manager:</b> [Person image; Person name, Person role]

<b>KIND OF TOPIC: Products</b>
<b>Product Name:</b> Text (max 30 char)
<b>Product image:</b> Image
<b>Product long description:</b> Text (max 300 words)
<b>Functionalities section:</b> “Functionalities”
<b>Product functionalities:</b> [Text1 ( max 50 words), Text2 ( max 50 words), Text3 ( max 50 words)]
<b>Collaborations section:</b> “Collaborations”
<b>Related Team:</b> [Area image; Text (max 100 char)]
<b>Related Area manager:</b> [Person image; Person name, Person role]

<b>KIND OF TOPIC: People</b>
<b>Person anagraphic/image/citation/contribution:</b> [Text1 (max 50 char), image, Text2 (max 50 words), Text3 (max 50 words)]
<b>Contributions title:</b> “Contributions”
<b>Managed Products:</b> LIST OF [Product image; Product name; Text (max 50 char)]
<b>Form title:</b> “Send a message!”
<b>Contact us /form:</b> multipart/ form-data

<b>TOPIC: Contacts</b>
<b>Title:</b> Contact
<b>Contact us/Image:</b> Image
<b>Practical info/addresses/contacts:</b> [Text1 (max 50 words), Text2 (max 50 words), Text3 (max 50 words), Text4 (max 50 words)]
<b>Form title:</b> “Contact us!”
<b>Contact us /form:</b> multipart/ form-data

<b>TOPIC: About Us</b>
<b>Title:</b> “About Us”
<b>Overview:</b> [3 images, Text1 (max 300 words), Text2 (max 300 words), Text3 (max 300 words)]
<b>Leadership team title:</b> “Leadership team”
<b>Leadership team overview:</b> [ 3 images, Name1 (max 50 char), Name2 (max 50 char), Name3 (max 50 char), Role1 (max 20 char), Role2 (max 20 char), Role3 (max 20 char)]

## 4. Mapping Content Tables into Pages

The mapping of the content tables is useful if the content of one or more tables is divided over several pages.

In our case, each table corresponds to a single page of the website.

This chapter would be a repetition of the previous one.

*See chapter 3. Content tables.*

## 5. Visual Design (Wireframes and Screenshots)

Visual Design is divided in two parts: Low fidelity design and High fidelity design. In Low fidelity design, the initial model of pages is presented and all links are highlighted. In High fidelity design, the final design of pages is showed by screenshot.

According to project specifications, wireframes have been created only for the main pages. Main pages are:

- Home Page
- One Topic page (we have chosen two topic pages: AboutUs and Contact)
- Every kind of Topic pages
- Three introductory pages for groups (we have chosen Areas, Products and People)

### 5.1 Commented low fidelity wireframes

Low fidelity wireframes show the base structure of pages: fixed Header on the top, fixed Footer on the bottom and variable content in the middle. They also highlight links (where links are and which is their category) and the orientation information (in order to understand where user is in the website).

Link’s Categories are:

- **transition links:** allow the user to move from a page of a given topic to a page of a different topic that have a semantic relationship with it (e.g., from the product page to the related area)
- **group links:** enable the user to move across the elements of a group, e.g., from the introductory page of a group (in which there is the list of all components)
- **landmark links:** are those available in all pages ( e.g., menu fixed in the header)



Transition Links

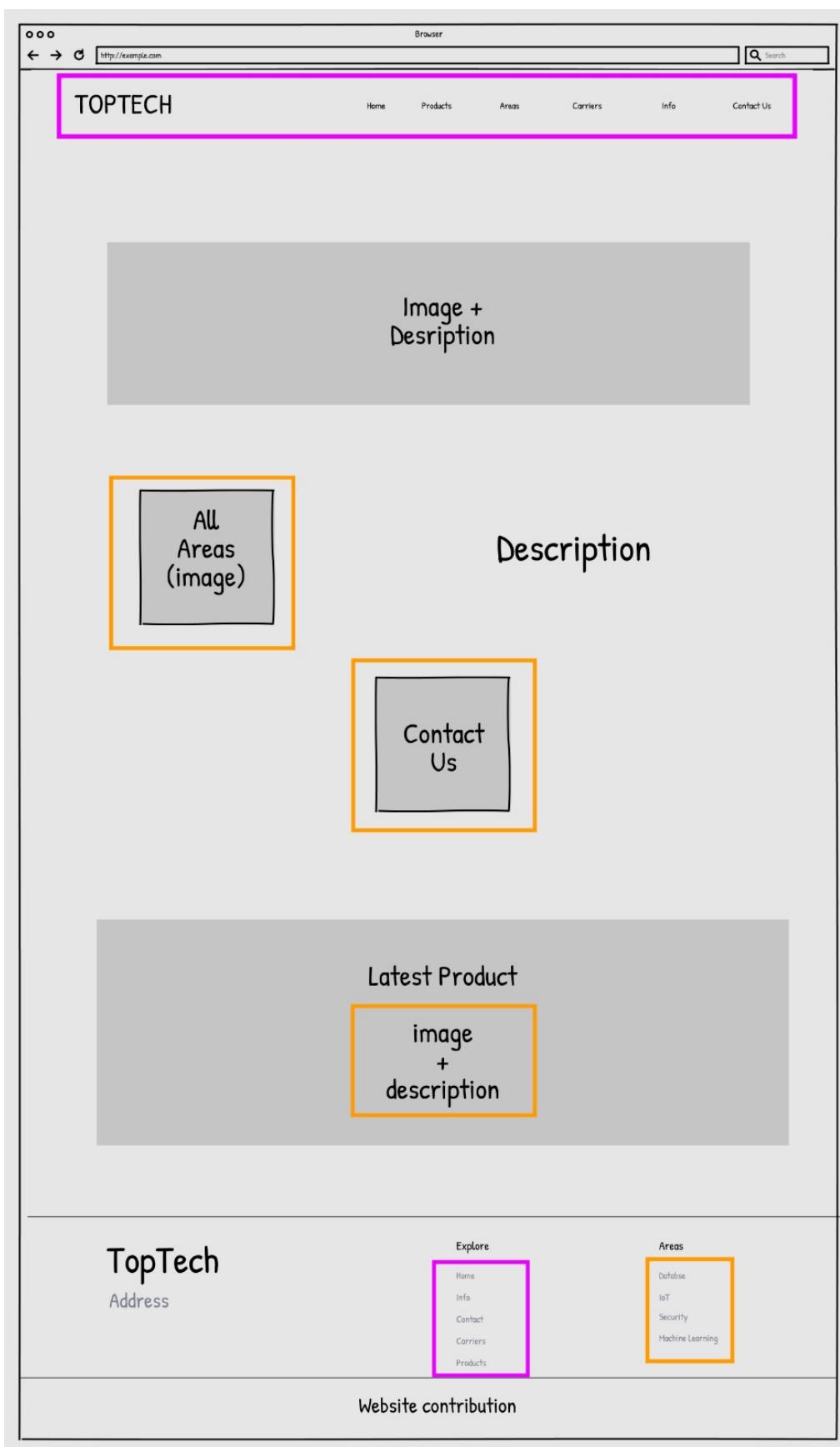


Landmark

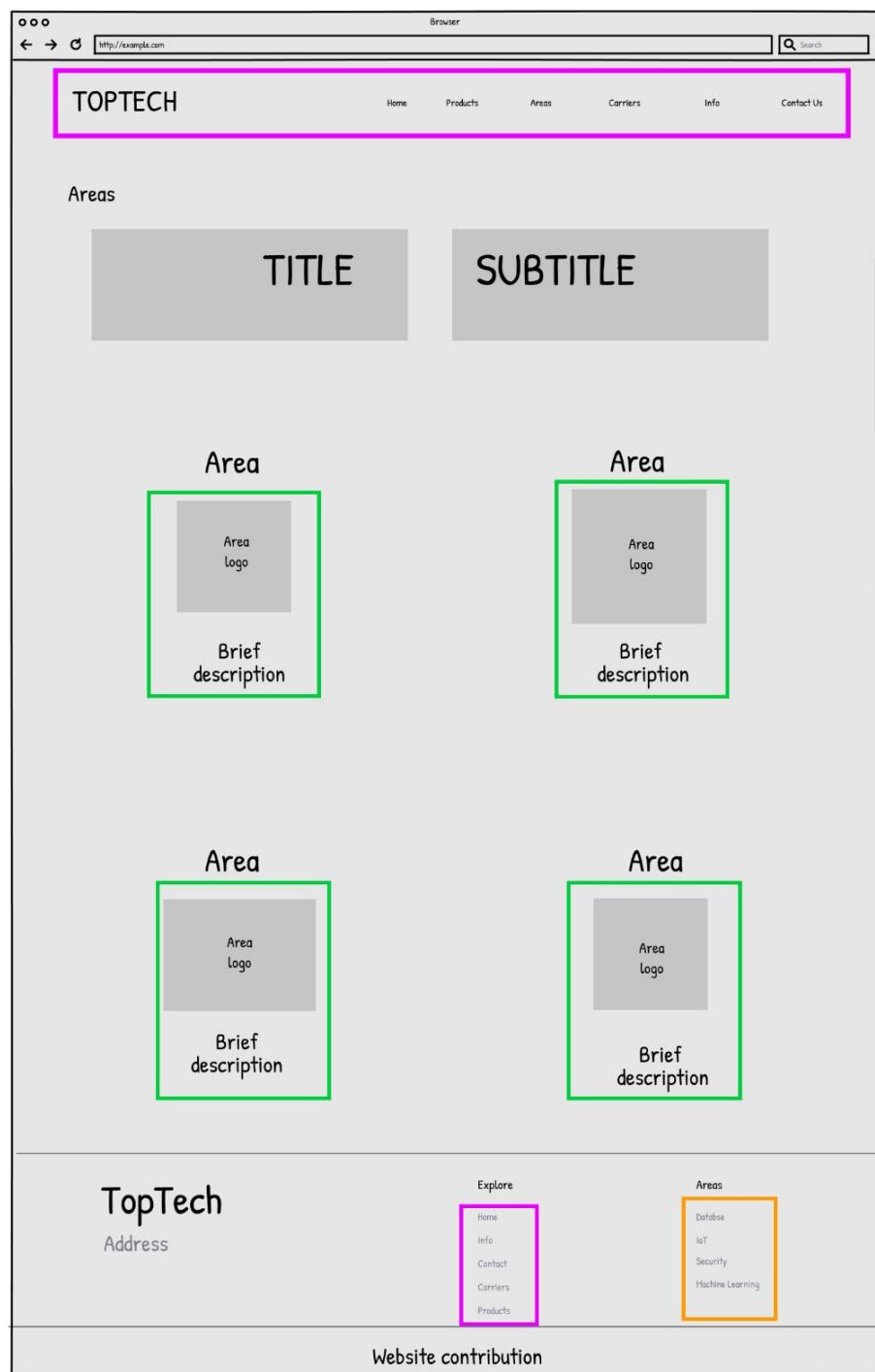


Group Links

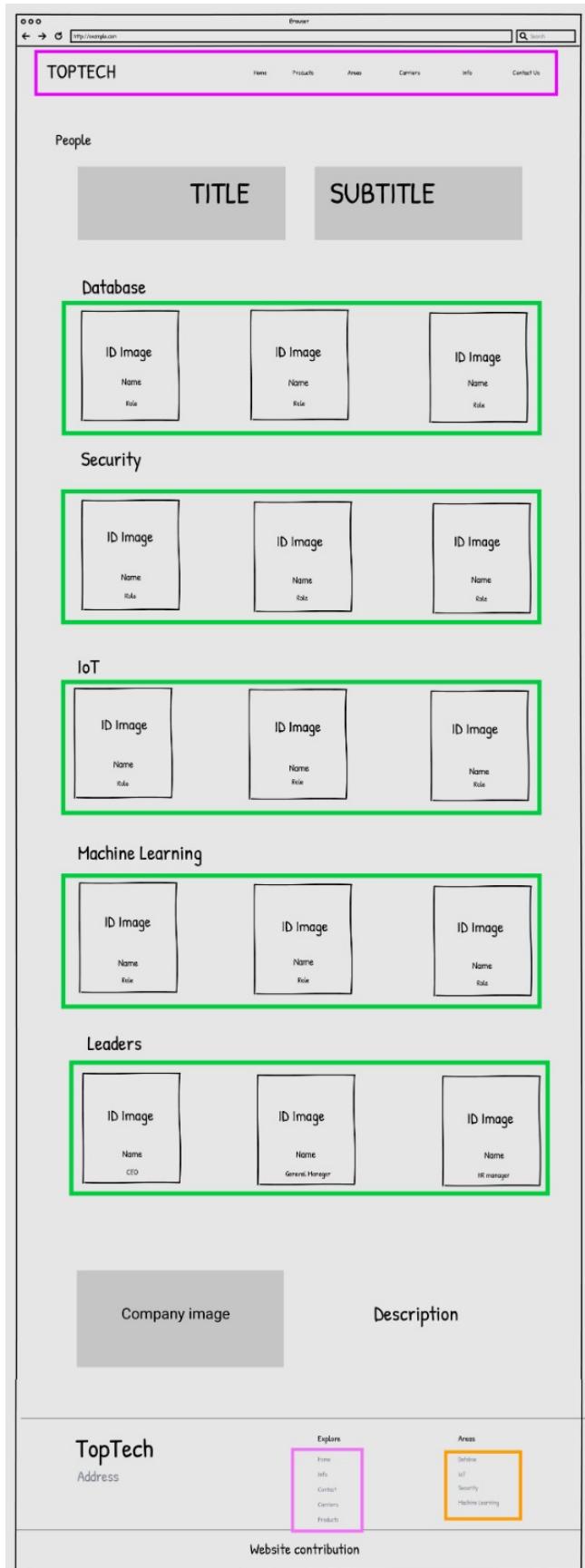
These are the low design wireframes:



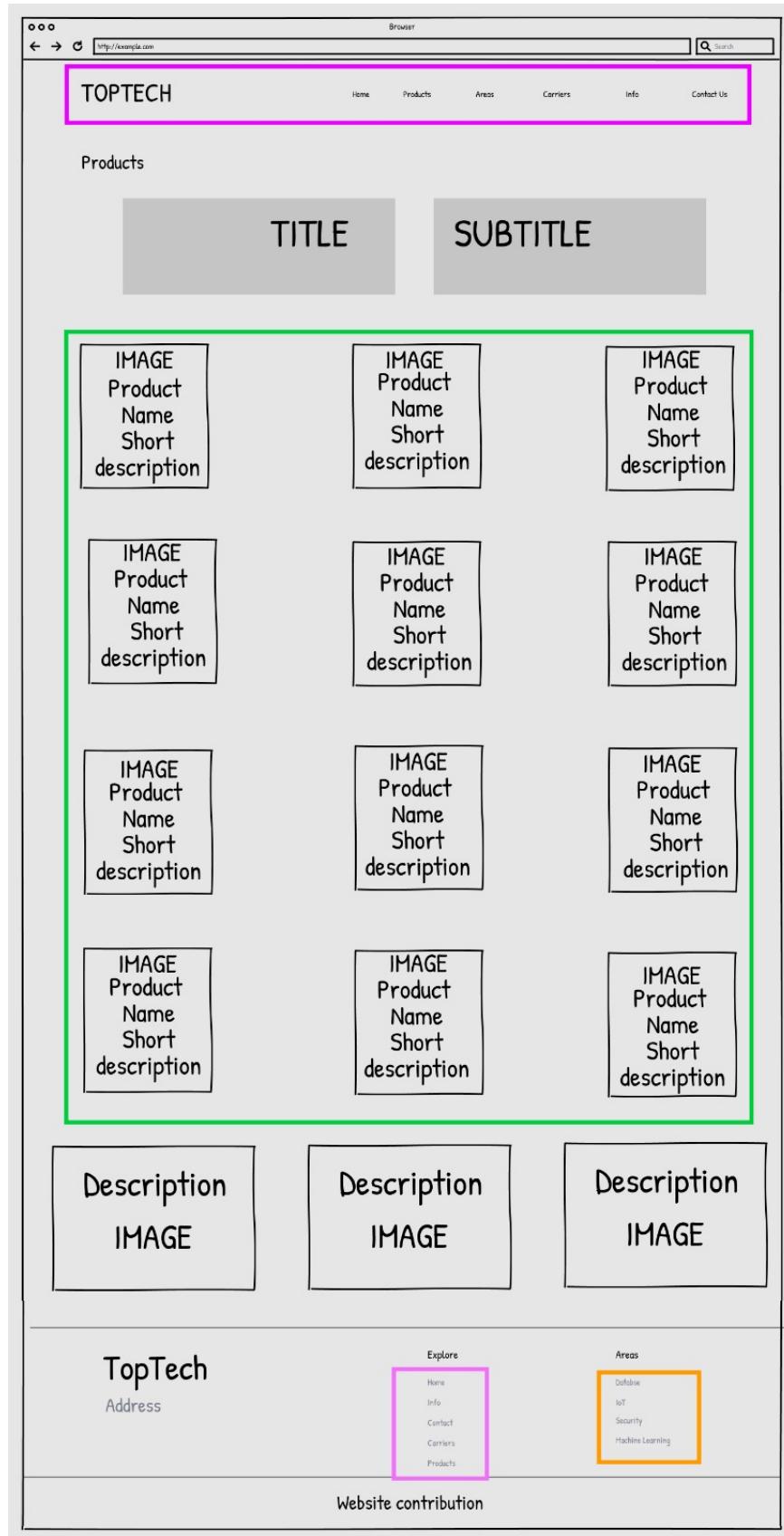
Wireframe 1\_Homepage



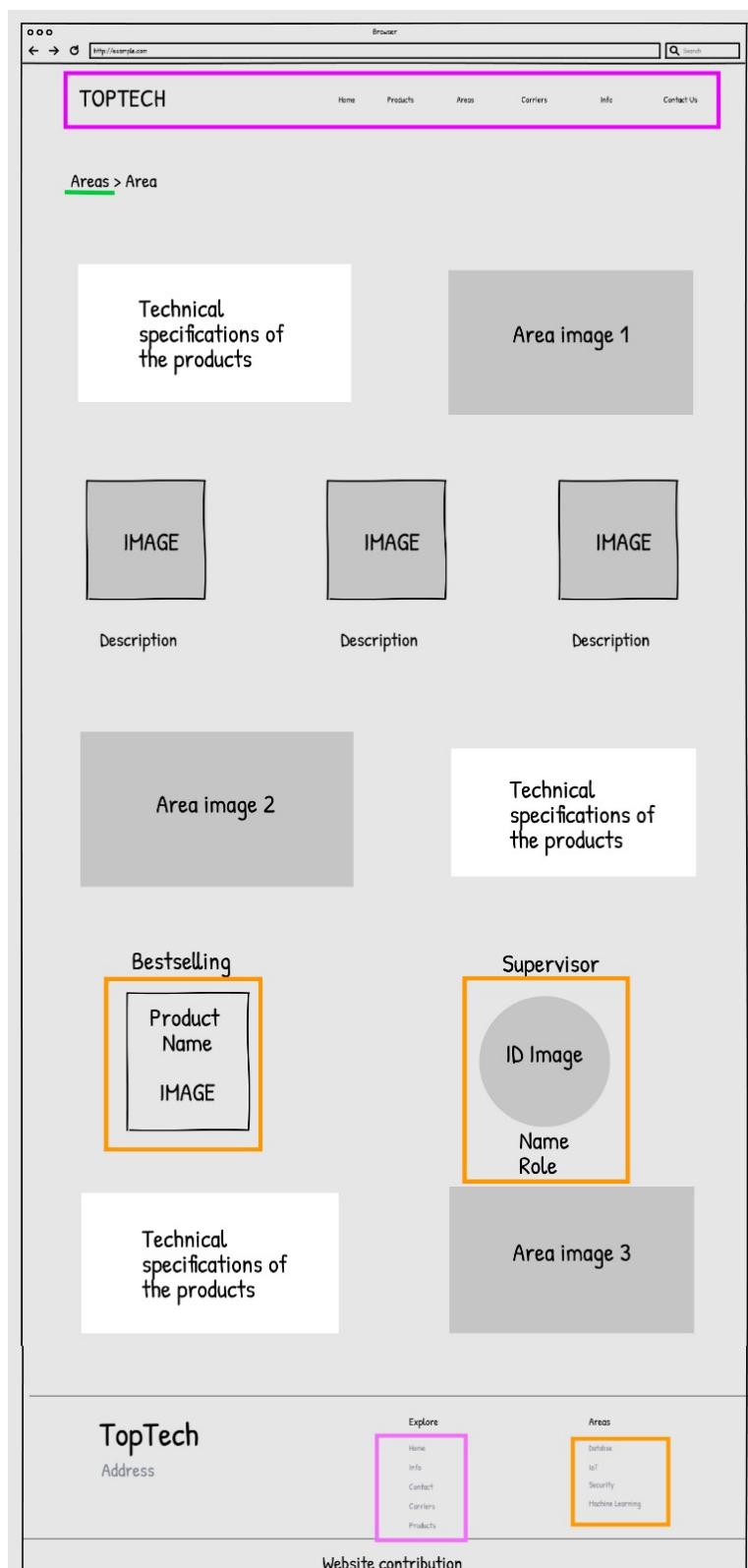
Wireframe 2 \_All Areas



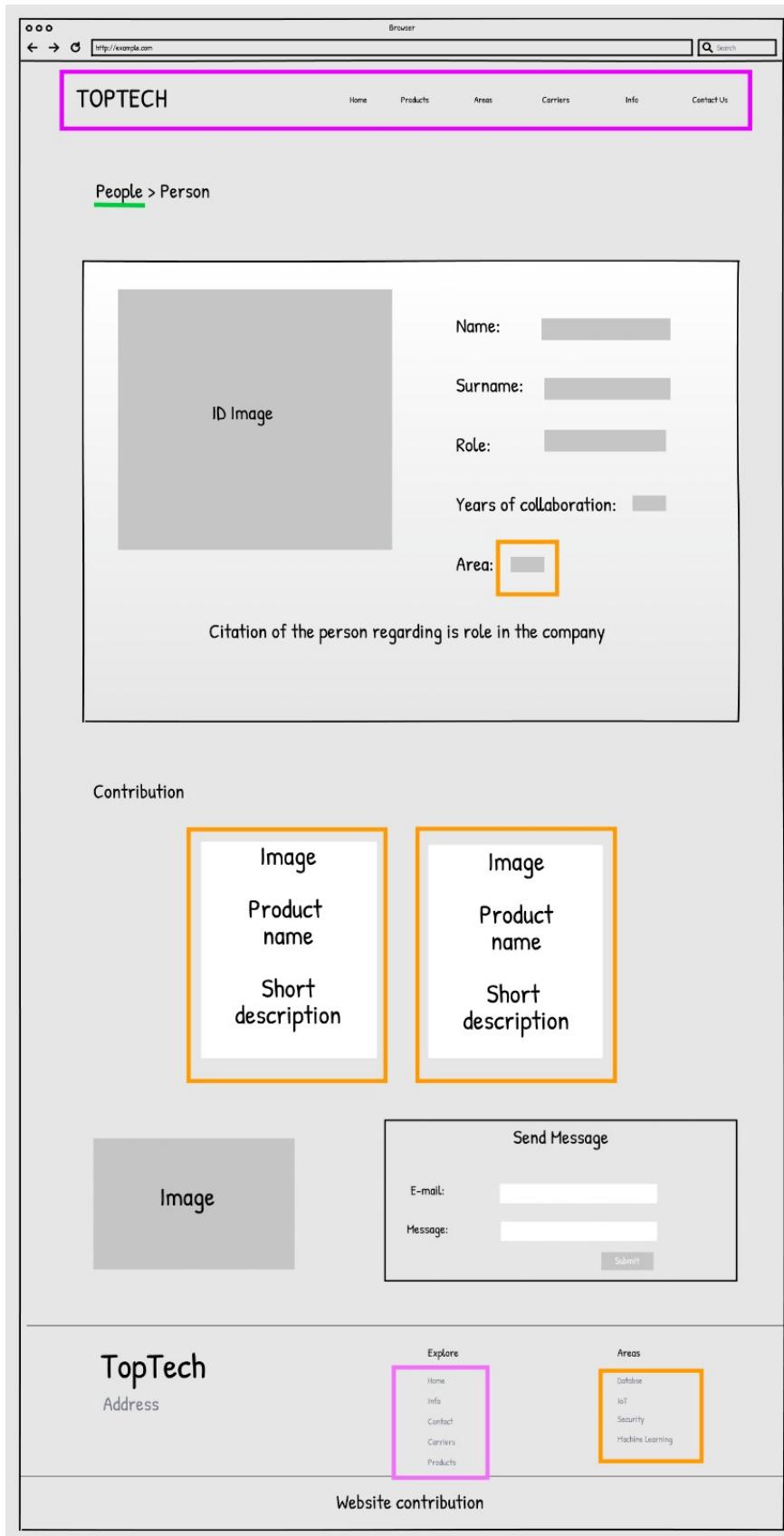
Wireframe 3 \_All People



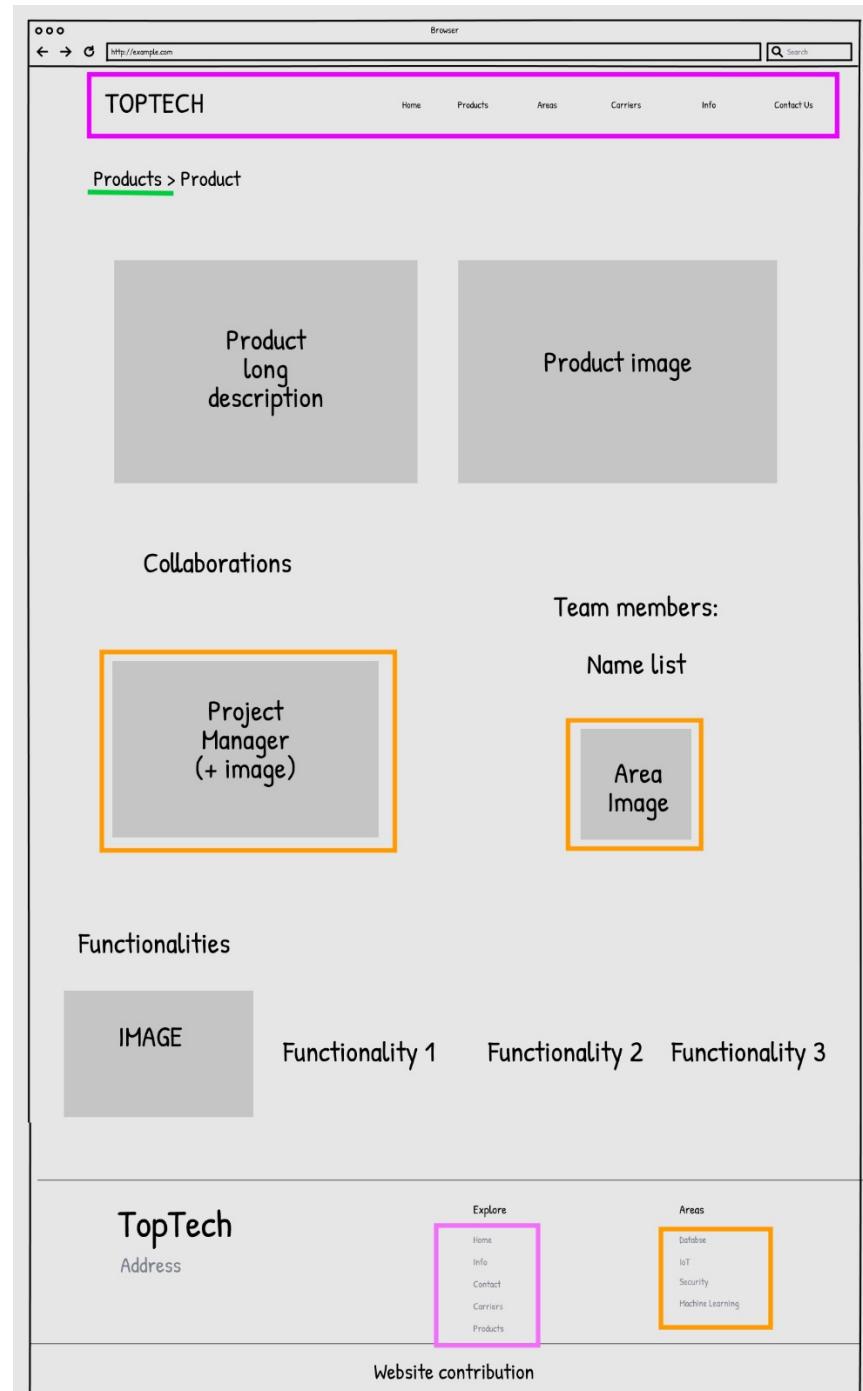
Wireframe 4 \_All Products



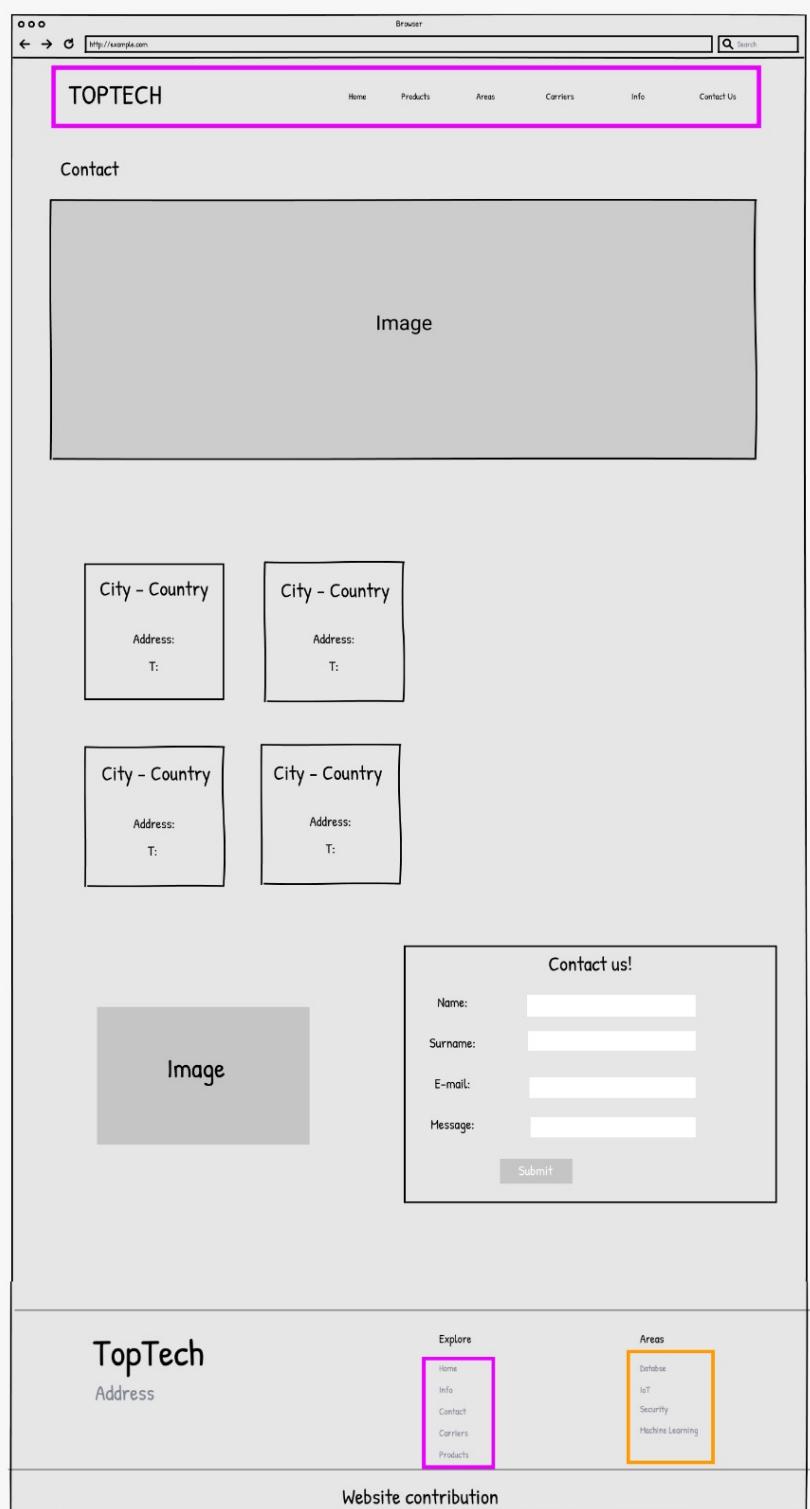
Wireframe 5\_ Kind of Topic Area



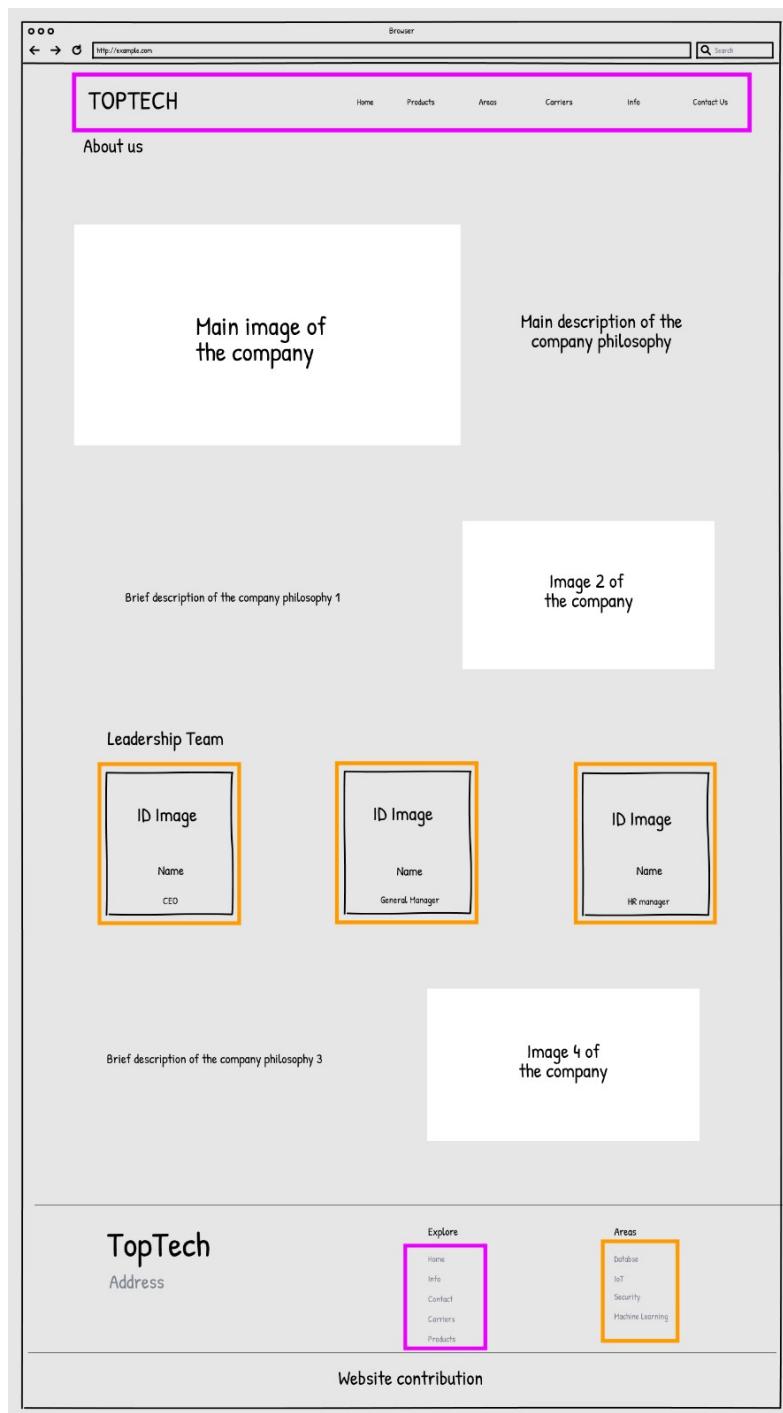
Wireframe 6\_ Kind of Topic Person



Wireframe 7\_ Kind of Topic Product



Wireframe 8\_ Topic Contact



Wireframe 9\_ Topic AboutUs

## 5.2 Commented high fidelity wireframes

While the wireframes allowed an approximate visualization of the design, screenshots show the final version of the main pages of our website. Screenshots refer to the same pages as the wireframes with the addition of the Homepage one.

### Homepage

Header and Footer (they will be the same for all the other pages, for this reason, they contain LANDMARKS). Links clickable by the user in the Header are: HOME and the LOGO of the Company to go back home, the links referring to the groups of Topics AREAS, PRODUCTS and PEOPLE and the topics ABOUTUS and CONTACTS.

In the Footer there are the same links of the header regarding the group of topics and topics but with the addition of the links for the AREA Kind of topics.

The wireframe shows the layout of the TopTech Systems website. At the top is a blue header bar with the company logo 'TOPTECH' on the left and navigation links for 'Home', 'Products', 'Areas', 'People', 'About Us', and 'Contacts' on the right. Below the header is a large black banner featuring the text 'GLOBAL SOLUTIONS FROM LOAD RACK TO BACK OFFICE' in white. To the left of the banner is a block of text describing the company's focus on streamlining data management and bringing efficiencies from the load rack to the back office through presets and automation software. To the right of the banner is a background image of a city at night seen from space. Below the banner is a blue section containing a grid of icons related to data management and security, with a 'Go to our Areas' button. To the right of this grid is a 'Built for Change' section with a subtext about how businesses embrace change to drive value in each area, accompanied by a 'Contact Us' button. Further down is a 'Latest product' section featuring a large image of 'TopTech GreenGrass' software, which handles messaging, data management, synchronization, and ML inference to edge devices. At the bottom is a blue footer section with the company address (Via Schiaffino 11, 20158 Milano, Italy, P. IVA IT13187610152), links to 'EXPLORE' (Products, People, About Us, Contact) and 'AREAS' (Data Base, IoT, Security, Machine Learning), and a note indicating the website was developed by Bresciani Matteo & D’Ascoli Gabriele at Politecnico of Milan.

Wireframe 10 \_ Home page

**GROUP OF TOPICS: ALL AREAS** This is the introductory page for Areas and it contains the list of them. Every image is a GROUP LINK that allows user to open and read specific information about it.

The wireframe displays the 'Areas' section of the TopTech website. At the top, there's a blue header bar with the 'TOPTECH' logo and navigation links for Home, Products, Areas, People, About Us, and Contacts. Below the header, a breadcrumb trail shows 'Areas /'. The main title 'OUR AREAS OF INTEREST' is centered above four white rectangular boxes, each representing a service area:

- Database**: Features an icon of three stacked cylinders. Description: 'With Toptech databases, you don't need to worry about database management tasks such as server provisioning, patching, configuration, or backups.'
- Security**: Features an icon of a padlock inside a circular frame. Description: 'Security concerns dominate how we outsource computation. Emerging security technology will fundamentally change future IT systems.'
- IoT**: Features an icon of a network of nodes connected by lines. Description: 'With the proliferation of devices, you increasingly need solutions to connect them, and collect, store, and analyze device data.'
- Machine Learning**: Features an icon of a brain with circuit board patterns. Description: 'Explore machine learning services that fit your business needs, and learn how to get started.'

Below these boxes is a dark callout box containing the text: 'TopTech was built by performance experts to redefine what organizations can achieve with AI-driven optimization.'

At the bottom, there's a footer section with the 'TOPTECH' logo, address details (Via Schiaffino 11, 20158 Milano, Italy, P. IVA IT13187610152), and links for EXPLORE (Products, People, About Us, Contact) and AREAS (Data Base, IoT, Security, Machine Learning). A note at the bottom states: 'Developed by Bresciani Matteo & D'Ascoli Gabriele Politecnico of Milan'.

Wireframe 11\_ All Areas

**GROP OF TOPICS: ALL PRODUCTS** This is the introductory page for products and it contains the list of them. Every image is a GROUP LINK that allows user to open and read specific information about it or to go to related areas.

The wireframe displays the 'Products' section of the TopTech website. At the top, there's a navigation bar with links to Home, Products, Areas, People, About Us, and Contacts. Below the navigation is a breadcrumb trail 'Products /'. The main content area features a title 'POWERFUL TECHNOLOGY PRODUCTS' and a subtitle 'Comprehensive suite of terminal solutions for increased efficiency, better information visibility, and improved service for your customers.' Below this, a grid of 12 product cards is shown in four rows of three. Each card includes an icon, the product name, and a brief description.

Product	Description
TopTech Cloudant	Data layer for hyperscale, resilient and globally available applications
TopTech Elasticache	Memcached-compatible managed in-memory store with sub-millisecond latencies
TopTech db2-warehouse	A highly flexible, client-managed operational data warehouse
TopTech DataRiskManager	Detect, analyze and visualize data related business risks
TopTech Macie	Discover and protect your sensitive data at scale
TopTech Cognito	Simple and secure access, registration and access control tools
TopTech Maximo	Intelligent asset management, monitoring, predictive maintenance and reliability
TopTech GreenGrass	Messaging, data management, synchronization, and ML inference to edge devices
TopTech IoT-analytics	Analysis for IoT devices
TopTech Watson-Knowledge Catalog	Catalog, interpret, regulate, analyze and distribute business-ready data to your data citizens
TopTech SageMaker-Debugger	Optimize ML models with real-time monitoring of training metrics and system resources
TopTech Pipelines	First purpose-built CI/CD service for machine learning

Below the grid, there are three sections: 'Agile transformation' (with a circular double-headed arrow icon), 'DevOps' (with a circular arrow icon), and 'Application modernization' (with a cloud icon). Each section has a brief description and a link to its respective area.

**Agile transformation**  
Drive disruption by applying Lean principles to achieve substantial performance improvements, accelerating business change.

**DevOps**  
Streamline IT by bringing business, development and operations teams together and applying automated processes.

**Application modernization**  
Transform your legacy applications to become more agile and efficient through the power of New IT.

**TOPTech**  
Via Schiaffino 11  
20158 Milano, Italy  
P. IVA IT13187610152

**EXPLORE**  
Products  
People  
About Us  
Contact

**AREAS**  
Data Base  
IoT  
Security  
Machine Learning

Developed by Bresciani Matteo & D’Ascoli Gabriele  
Politecnico of Milan

Wireframe 12 \_All Products

**GROUP OF TOPICS: ALL PEOPLE** This is the introductory page for people and it contains the list of them. Every image is a GROUP LINK that allows user to open and read specific information about people who working in the company.

The wireframe shows the 'People' section of the TopTech website. At the top, there's a banner with the text 'DIVERSITY EMPLOYEES GUARANTEES COMPETITIVENESS' and a subtext: 'Our Group reflects the diversity of our employees. At TotalEnergies, the wide variety of talents drives our competitiveness, our ability to innovate and our attractiveness.' Below the banner, there are several sections representing different areas:

- Database**: Features three circular profile pictures of Dario Fracassetti (Data Scientist), Martin Attoche (Project Manager), and Jonathan Mancilla (Senior Software Engineer).
- Security**: Features three circular profile pictures of Osmaní Martínez (Project Manager), Camilla Stefaní (IT Security Specialist), and Ilaria Panicucci (Senior Software Engineer).
- IoT**: Features three circular profile pictures of Paolo Bozzola (Project Manager), Luca Valentini (Computer Scientist), and Giancarlo Vitali (Senior Software Engineer).
- Machine Learning**: Features three circular profile pictures of Roberto Clemente (Project Manager), Luisa Bianchi (Support Specialist), and Bruno De Luca (Senior Software Engineer).
- Leaders**: Features three circular profile pictures of Fabrizio Venditti (CEO), Paola Falcone (Global Manager), and Antonella Barberis (HR Manager).

At the bottom of the page, there's a photograph of a group of people working together in an office environment, followed by a footer with contact information and navigation links.

Wireframe 13 \_ All People

**KIND OF TOPIC:** Area This page contains the explanation of one Area and the TRANSITION LINKS to move to related products and to Person who managed this Topic. On the top of the page there is the Orientation Information fo the user.

The wireframe displays the TopTech website's IoT area page. At the top, the navigation bar includes links for Home, Products, Areas, People, About Us, and Contacts. The main content area has a blue header "Areas / IoT". Below this, a large text block discusses the technological evolution of the Internet of Things across various sectors, mentioning Big Data as a valuable commodity. To the right of the text is a large image of a person standing in front of a futuristic cityscape with numerous glowing icons representing connectivity. Below this section are three smaller images: a city skyline with a grid overlay, a night scene of a city with glowing lights, and a close-up of a hand holding a small device with a circular interface. Below these images, descriptive text highlights TopTech IoT's reliable cloud infrastructure, its role as the only vendor for data management and analytics, and its focus on industrial IoT applications for quality and maintenance. A large image of a complex network of nodes and connections follows. The page then splits into two columns: "Bestselling" on the left featuring a product card for "TopTech Maximo" (Intelligent asset management, monitoring, predictive maintenance and reliability) and a portrait of "Paolo Bozzola, PROJECT MANAGER"; and "Supervisor" on the right featuring a portrait of a supervisor. The bottom section contains a summary of the growing interest in IoT startups, a large image of a futuristic cityscape, and a footer with contact information, explore links, and areas like Data Base, IoT, Security, and Machine Learning. The footer also credits the developers: Bresciani Matteo & D'Ascoli Gabriele from Politecnico di Milan.

Wireframe 14 \_Kind of topic Area

**KIND OF TOPIC: Product** This page contains the explanation of one Product and the TRANSITION LINKS to move to related Area and to Person who managed this Topic. On the top of the page there is the Orientation Information fo the user.

TOPTECH
Home
Products
Areas
People
About Us
Contacts

Products / TopTech Watson-Knowledge Catalog

TopTech Watson Knowledge Catalog enables business users to locate, manage, categorize and share data assets, datasets, analytical models and their relationships with other members of the organization. It serves as a single source of truth for data engineers, data stewards, data scientists and business analysts to gain self-service access to data they can trust



## Collaborations

---

**Team Members**

---

Luisa Bianchi

Bruno De Luca

**Area**

---



Discover the most relevant assets faster with intelligent suggestions provided by Watson™ technology and colleagues within your organization

Protect data from misuse and securely share assets through automated dynamic masking of sensitive data items, then proactively manage policies

Seamless integration with Watson Studio helps data citizens quickly drive productive use of data in a powerful suite of data science

TOPTECH
Via Schiaffino 11
20158 Milano, Italy
P. IVA IT13187610152

**EXPLORE**

- [Products](#)
- [People](#)
- [About Us](#)
- [Contact](#)

**AREAS**

- [Data Base](#)
- [IoT](#)
- [Security](#)
- [Machine Learning](#)

Developed by **Bresciani Matteo & D’Ascoli Gabriele**  
Politecnico of Milan

Wireframe 15 \_Kind of Topic Product

27

KIND OF TOPIC: Person This page contains the explanation of one Person and the TRANSITION LINKS to move to related Area and to managed Products. On the top of the page there is the Orientation Information fo the user.

The page contains also a Contact FORM that the user can use to keep in touch directly with the person.

The wireframe illustrates the 'Person' detail page of the TopTech website. At the top, a blue header bar features the TopTech logo on the left and navigation links for Home, Products, Areas, People, About Us, and Contacts. Below the header, a breadcrumb trail shows 'People / Camilla Stefani'. The main content area has a blue background. It displays a profile picture of Camilla Stefani, her name, role, years of collaboration, and a specific area of expertise (Area: Security). A quote by Steve Jobs is shown below. The 'Contribution' section lists two products: 'TopTech Cognito' (simple and secure access tools) and 'TopTech Macie' (discover and protect sensitive data). In the bottom right corner, a 'Send a Message!' form includes fields for E-mail and Message, and a Submit button. The footer contains the TopTech logo, address (Via Schiaffino 11, 20158 Milano, Italy), and P. IVA IT13187610152, along with links to Explore (Products, People, About Us, Contact) and Areas (Data Base, IoT, Security, Machine Learning). A note at the bottom states: 'Developed by Bresciani Matteo & D'Ascoli Gabriele Politecnico di Milan'.

## TOPIC: Contact

This page contains the list of Contacts of all the company offices. The page contains also a Contact FORM that the user can use to keep in touch with the company.

The wireframe illustrates the layout of the TOPTECH Contact page. At the top, there's a blue header bar with the TOPTECH logo and navigation links for Home, Products, Areas, People, About Us, and Contacts. Below the header, a grey navigation bar shows the current page as 'Contact /'. The main content area features a large blue banner with four communication icons (@, phone, mobile, envelope) and the text 'Get in touch with us!'. Below this, there are four boxes listing office contact details:

- Italy - Milan**  
Via Schiaffino, 11  
20158 MILANO  
T: +39 02 4951 7001
- USA - Boston**  
211 Congress Street  
Boston, MA 02110  
T: +1 617 936 0212
- USA - Los Angeles**  
12130 Millennium Drive  
Los Angeles, CA 90094  
T: +1 323 524 0524
- Singapore**  
5 Temasek Blvd,  
Singapore 03898

On the left side, the TOPTECH logo is displayed. On the right side, there's a 'Contact Us!' form with fields for Name, Surname, E-mail, and Message, followed by a Submit button. The footer contains the TOPTECH logo and address, along with links for Explore (Products, People, About Us, Contact) and Areas (Data Base, IoT, Security, Machine Learning). A note at the bottom states 'Developed by Bresciani Matteo & D'Ascoli Gabriele Politecnico of Milan'.

**TOPIC: About us** This page contains information about history, philosophy and the scope of the company. There are TRANSITION LINKS that allow user to visit the Person pages of the leadership team’s members of the company, in order to read who manage the ICTea.

The wireframe illustrates the layout of the TopTech About Us page. At the top, there's a blue header bar with the TopTech logo and a navigation menu with links to Home, Products, Areas, People, About Us, and Contacts. Below the header, the page title "About Us /" is displayed. The main content area features a large image of two professionals working on a laptop in front of a digital interface. To the right of the image is a text block: "Founded in Italy in 2000, today TopTech is a multinational group that focuses its consulting offering on hard technology challenges with large-scale business impact in data bases, security, IoT and machine learning." Below this, a smaller text block states: "TopTech started as a research spinoff at Politecnico di Milan and was incubated at its startup accelerator. Data and experimentation are part of our DNA." To the right of the text is a photograph of the historic Palazzo Madama in Milan. The sidebar on the left is titled "Leadership Team" and lists three team members with their portraits and titles: Fabrizio Venditti (CEO), Paola Falcone (GENERAL MANAGER), and Antonella Barberis (HR MANAGER). The footer contains the TopTech logo, the company address (Via Schiaffino 11, 20158 Milano, Italy, P. IVA IT13187610152), and links to Explore (Products, People, About Us, Contact) and Areas (Data Base, IoT, Security, Machine Learning). A note at the bottom of the footer states: "Developed by Bresciani Matteo & D’Ascoli Gabriele Politecnico of Milan".

## 6. Scenarios

The following chapter will focus on the presentation of general scenarios, which are “a narrative description of what people do and experience as they try to make use of computer systems and applications” (M. Carroll, “Scenario-based Design”, Wiley, 1995); each scenario describes a possible usage of the web site by the users in real life and presented in order of complexity.

### 6.1 Case 1

#### 6.1.1 Textual narrative

**User profile:** a graduating computer engineer is looking for a company that will give him the opportunity to do an internship in the software development sector after graduation.

**Goals:** the user wants to contact the company to get information on vacant positions and to give his availability.

**Context:** the user visits the TopTech company website during a study break, looking for a way to submit his application.

**Tasks:** the user navigates through the sections of the website, accesses the Contacts section and fills out the appropriate form to communicate with the company by entering his data.

#### 6.1.2 Sequence

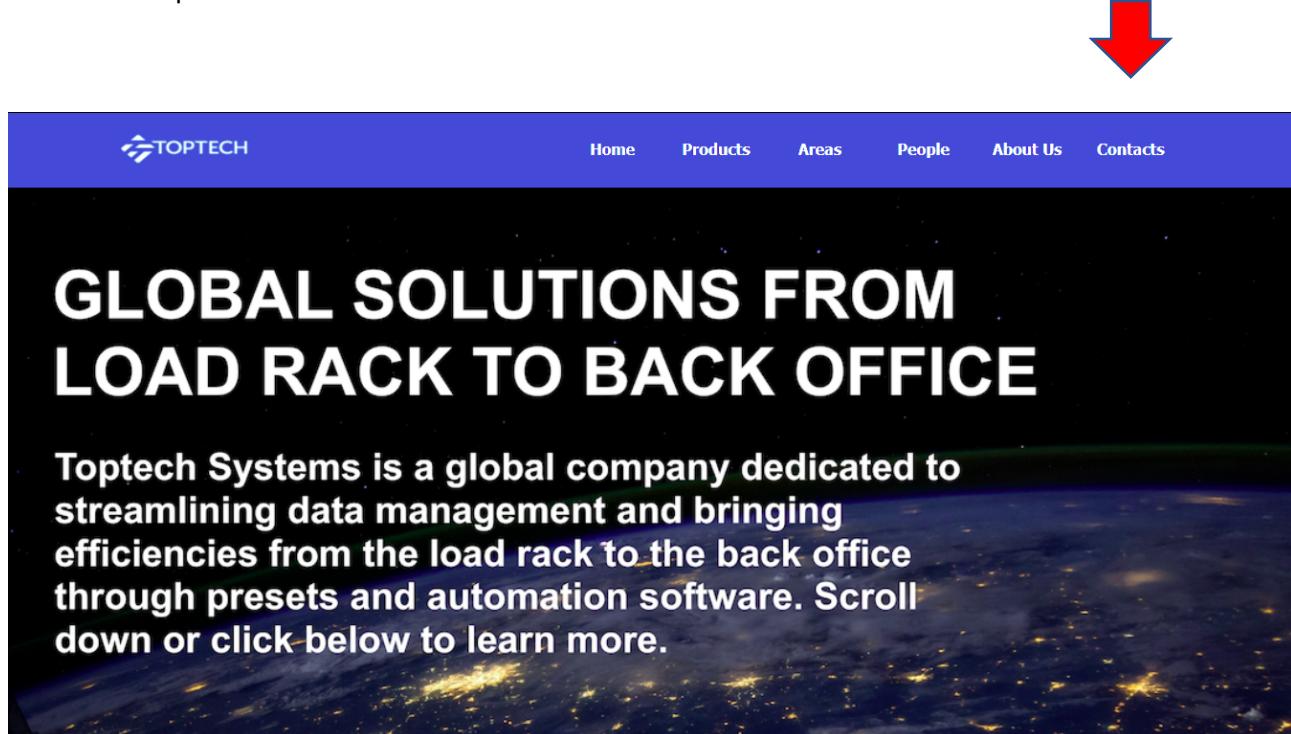


Figure1. User visits the TopTech website and selects Contact

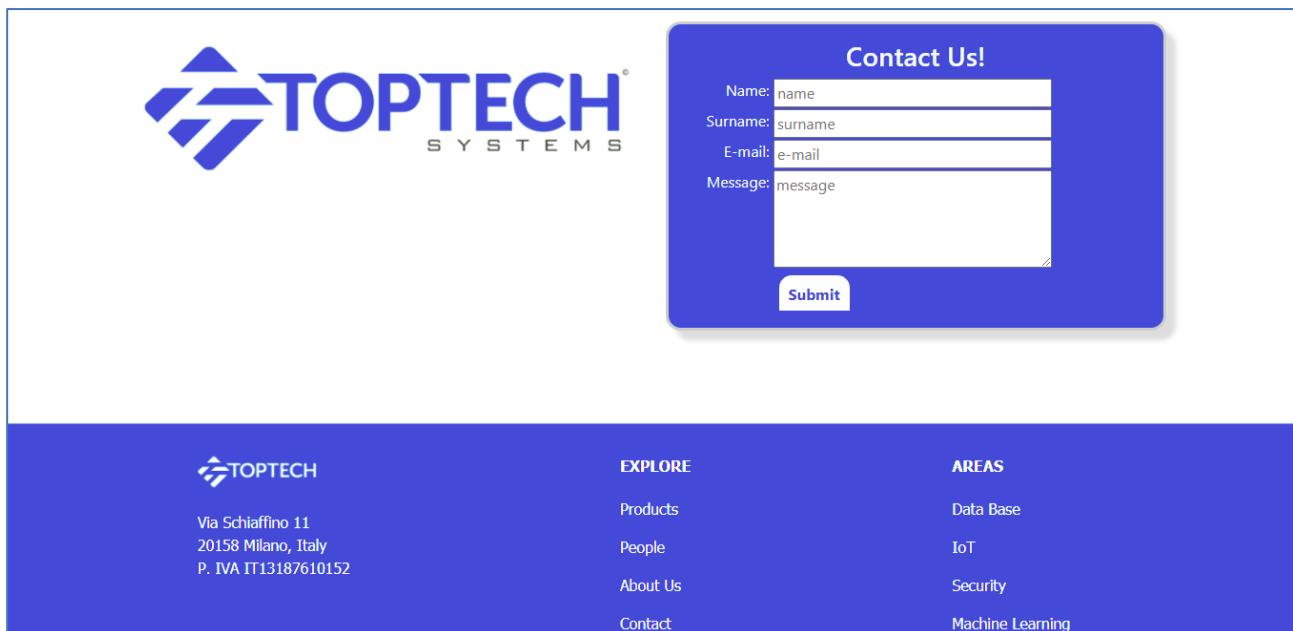


Figure2. User visualize the Contact page and find the Contact form

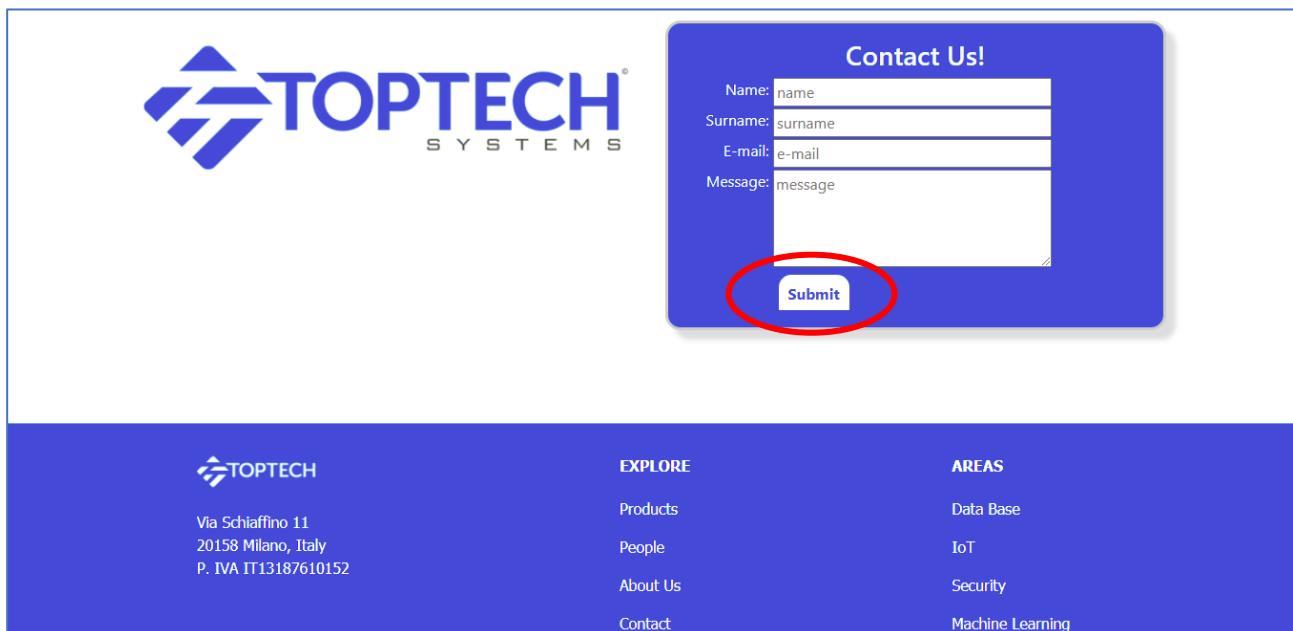


Figure 3. User fills the form with the required information and clicks Submit to send the request

## 6.2 Case 2

### 6.2.1 Textual narrative

**User profile:** a scientific informant in the IT sector is carrying out an IT company monitoring campaign on behalf of a company that deals with market analysis.

**Goals:** the user acquires information from the company's website about the best-selling product in the IoT sector among those proposed by the TopTech company.

**Context:** the expert within the monitoring campaign for which he is collaborating visits the TopTech website in search of the data he needs for his market analysis.

**Tasks:** the user visits the website of the TopTech company, navigates between the various sections and accesses the one relating to the treated areas; once you have chosen the IoT area you are interested in, you can view the bestselling product in that area and the page relating to it with all its technical specifications and functionalities.

### 6.2.2 Sequence

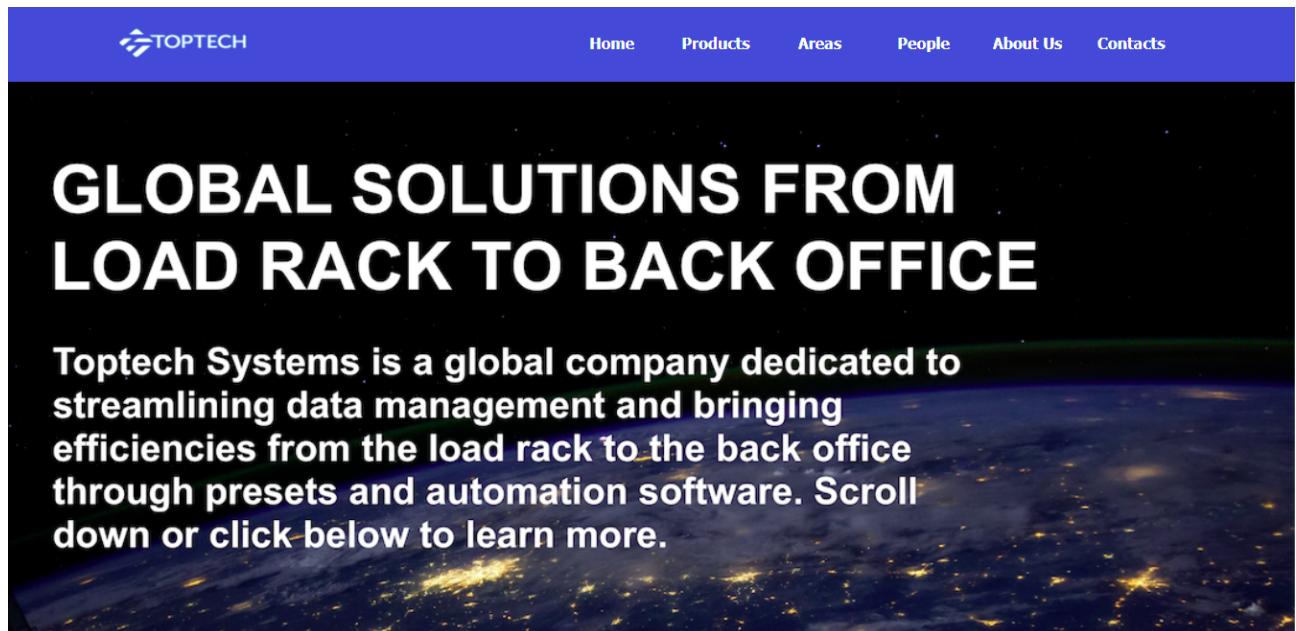


Figure 4. The expert visits the TopTech Company website and select Areas to access to the interested area

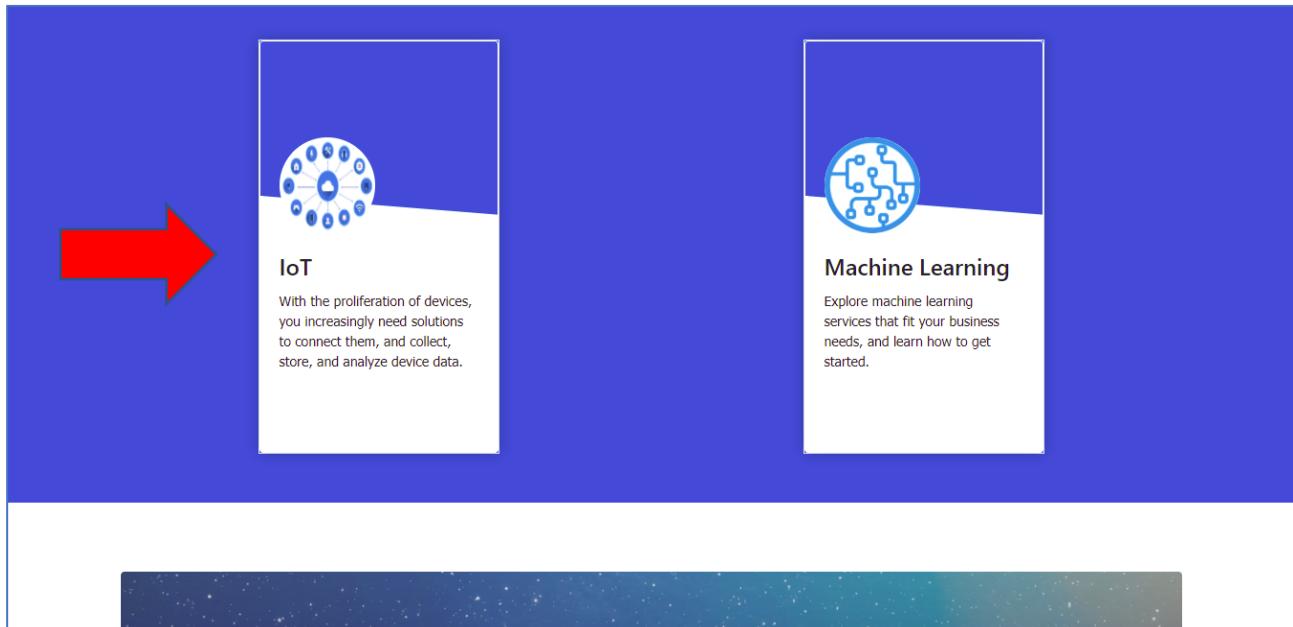


Figure 5. Once accessed to Areas section the user search and clicks on the IoT area

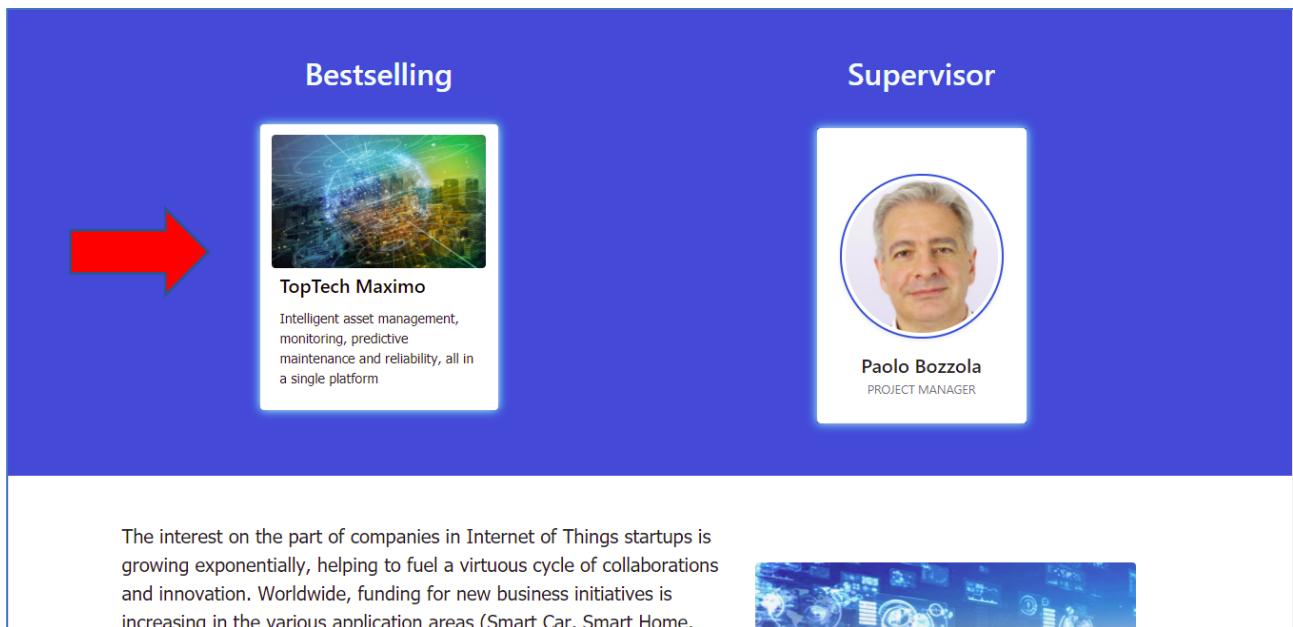


Figure 6. Scrolling down in the relative page the user visualize the Bestselling of the Area and click on it

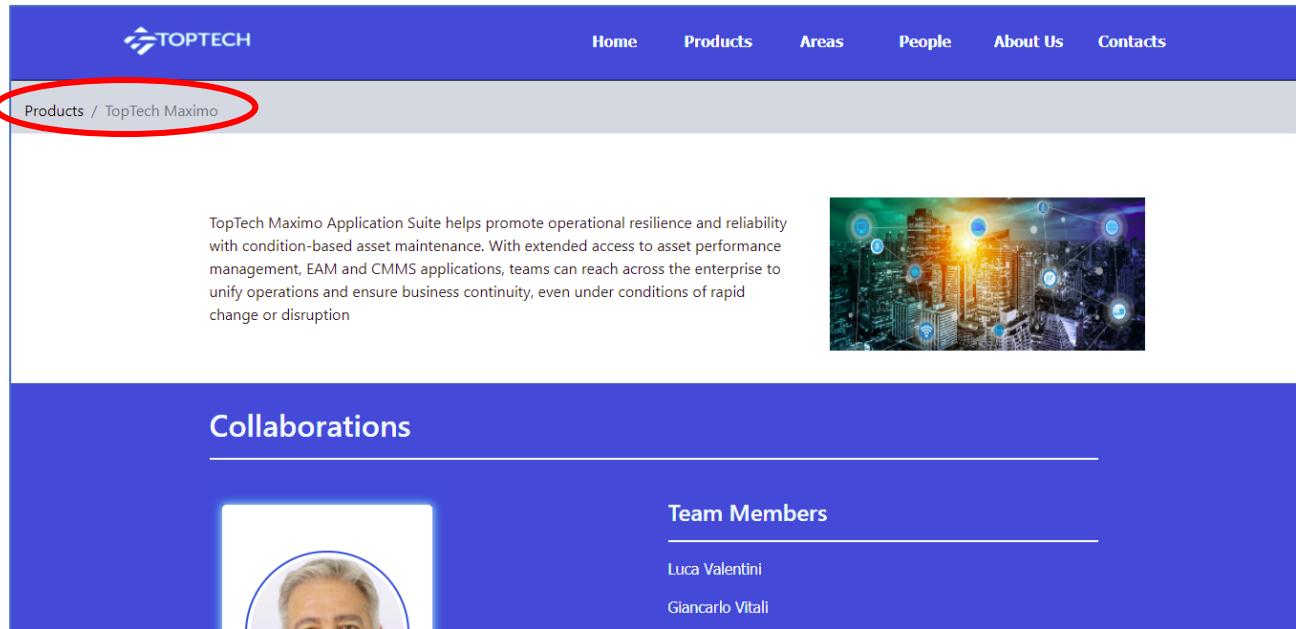


Figure 7. The user so access to the page of the Product and find all the related information

## 6.3 Case 3

### 6.3.1 Textual narrative

**User profile:** the data processing manager of a bank branch is testing a new TopTech Security IT sector product and is unable to fully utilize a particular feature.

**Goals:** the customer wants to contact the TopTech project manager responsible for product development to ask him for clarification on the use of the purchased product.

**Context:** the data processing manager, approaching the use of the new product at his workplace with data relating to the bank's customers, visits the TopTech website in search of information regarding the development team of the purchased product and a way to contact the project manager directly.

**Tasks:** the customer visits the website of the TopTech company, navigates between the sections of the site and accesses the Products section; at this point he searches for the purchased product among those offered by the company, accesses its relative page within which he will find the person at the head of the research team. At this point, the customer accesses the project manager's card and, by entering their data, uses the appropriate contact form to interact directly with the manager and expose the matter to him.

### 6.3.2 Sequence

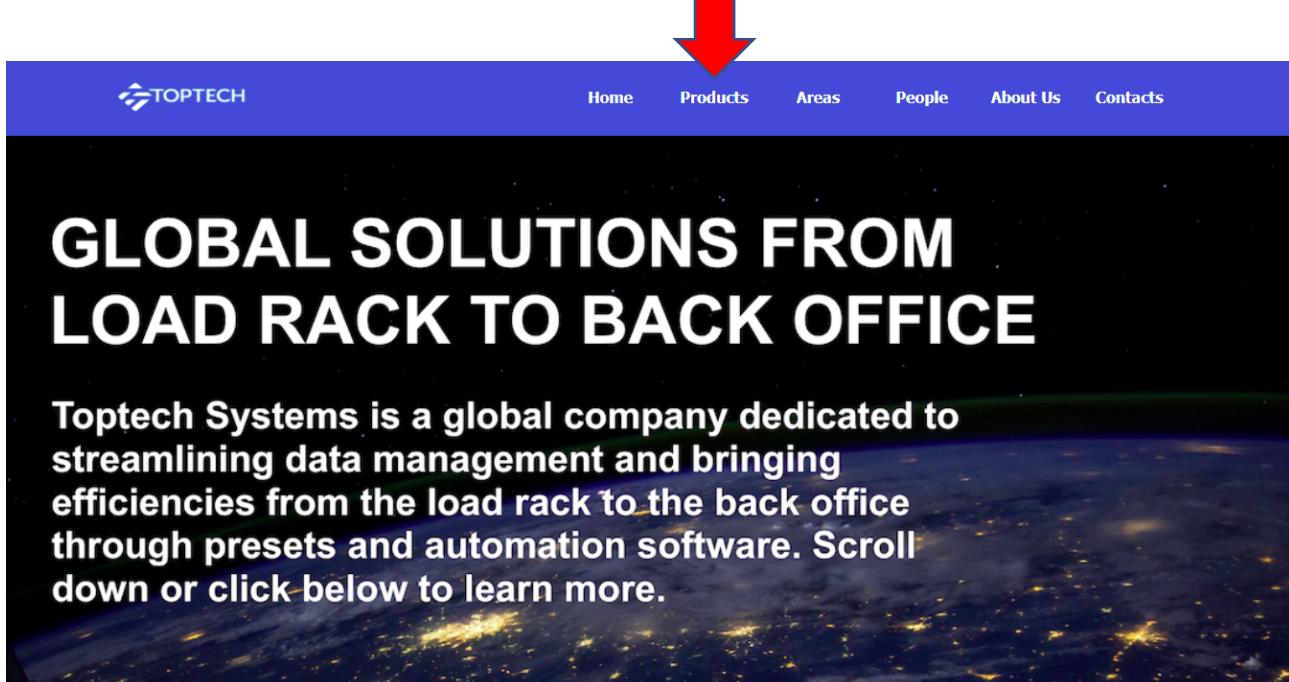


Figure 8. The customer visits the Website of the TopTech company and select the Products section

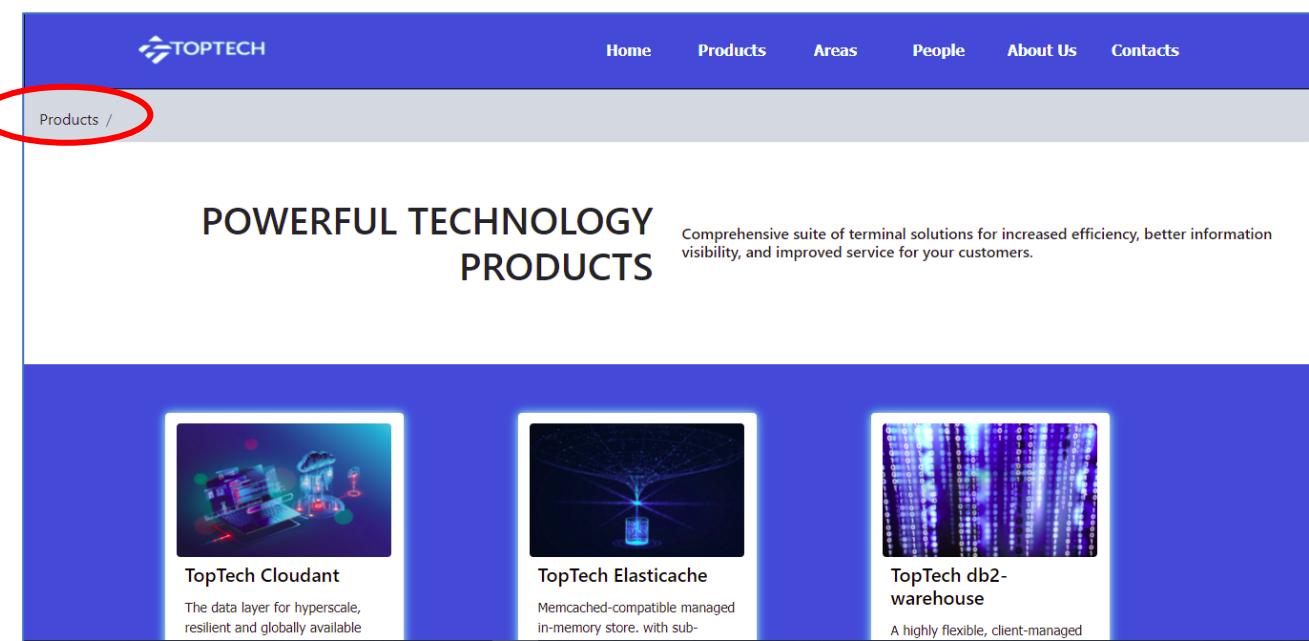


Figure 9. The user access to the page containing all the TopTech products

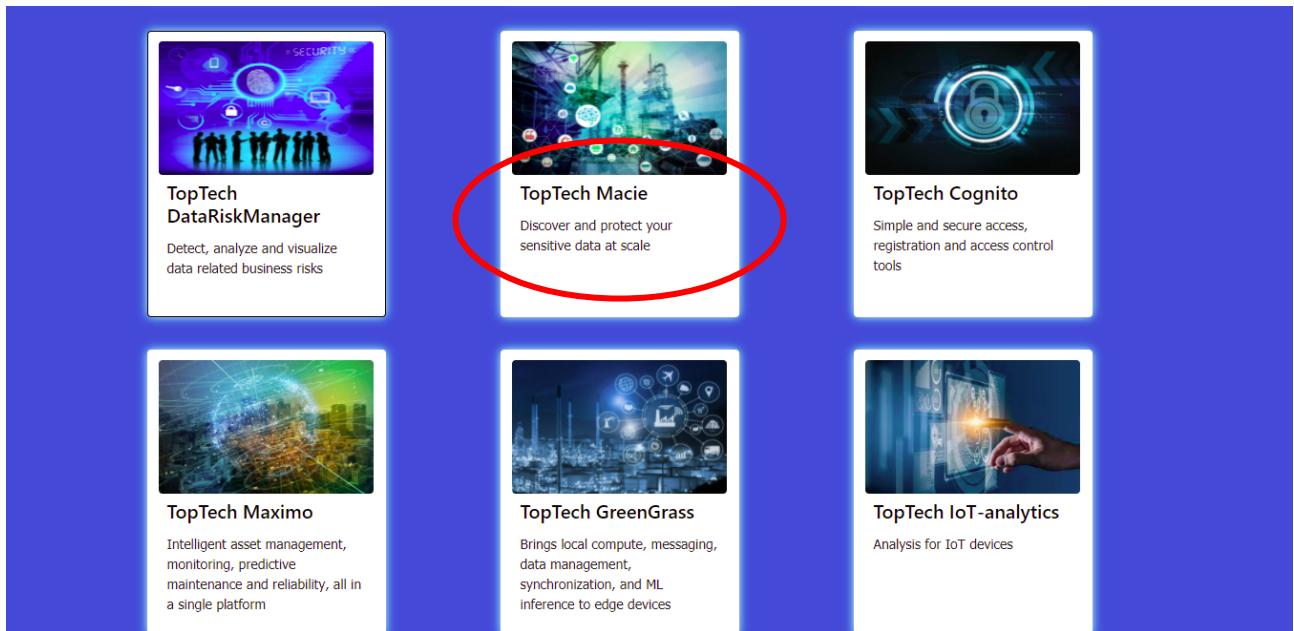


Figure 10. Scrolling down in the page the customer finds and clicks on the purchased product

The image shows a user profile page with a blue header and background. On the left, there is a large circular profile picture of a woman with a red arrow pointing to it. Below the picture, the name "Osmani Martinez" and the title "PROJECT MANAGER" are displayed. To the right, there are two sections: "Team Members" (listing Camilla Stefani and Ilenia Panicucci) and "Area" (represented by a circular icon with a padlock).

Figure 11. Once accessed to the relative page the user visualize and clicks on the person leading the team

The screenshot shows a website for 'TOPTECH'. At the top, there's a blue header bar with the 'TOPTECH' logo on the left and navigation links for 'Home', 'Products', 'Areas', 'People', 'About Us', and 'Contacts' on the right. Below the header, a grey navigation bar indicates the current page: 'People / Osmani Martinez'. A red circle highlights this bar. The main content area has a blue background. It features a portrait photo of a woman named Osmani Martinez. To the right of the photo, her details are listed: Name: Osmani Martinez, Role: Project manager, Years of collaboration: 10, and Area: Security. Below this, a quote by Napoleon is displayed: "Know when to cut your losses if necessary. Don't let your desire to succeed be the enemy of good judgment. If Napoleon had left Moscow immediately, he may have returned with a salvageable army." At the bottom of the content area, the word 'Contribution' is centered.

Figure 12. The customer enters into the personal page of the Project Manager

The screenshot shows the same 'TOPTECH' website. On the left, the company logo and name are visible. On the right, a blue callout box titled 'Send a Message!' contains a form with fields for 'E-mail:' (with placeholder 'e-mail') and 'Message:' (with placeholder 'message'). A red circle highlights the 'Submit' button at the bottom of the form. A large red arrow points from the right side of the screen towards this 'Submit' button. At the bottom of the page, there's a dark blue footer section containing the company address: Via Schiaffino 11, 20158 Milano, Italy, P. IVA IT13187610152, along with links to 'EXPLORE' (Products, People, About Us, Contact) and 'AREAS' (Data Base, IoT, Security, Machine Learning).

Figure 13. In this page the customer uses the form to keep in contact directly with the person in charge

## 7. DB Design

### 7.1 Relational tables

For our WebApp we saved informations into Databases to keep them stored in an organized way and we have used PostgreSQL as DBMS.

We created a DB for: the service Area (tab 8.1), Product (tab 8.2), Person for the people working in ICTea (tab 8.3) and AboutUs (tab 8.4). We have also initialized databases which will then be filled in by the user for the ContactUs (tab 8.5) sections.

<b>Area</b>	
<b>PK</b>	<b>idArea: int</b>
	name_area: string
	initial_description: varchar
	area_logo: string
	small_description: string[]
	small_image: string[]
	large_description: varchar[]
	large_image: varchar[]

Tab 8. 1

<b>Person</b>	
<b>PK</b>	<b>idPerson: int</b>
	name: string
	role: string
	area: string
	id_image: string
	contribution_years: int
	cit: varchar
	product_contribution: string[]
	team_members: string[]

Tab 8. 3

<b>Product</b>	
<b>PK</b>	<b>idProduct: int</b>
	name: string
	brief_description: varchar
	large_description: varchar
	functionalities: varchar[]
	area: string
	image_product: string
	large_image: string
	manager: string

Tab 8. 2

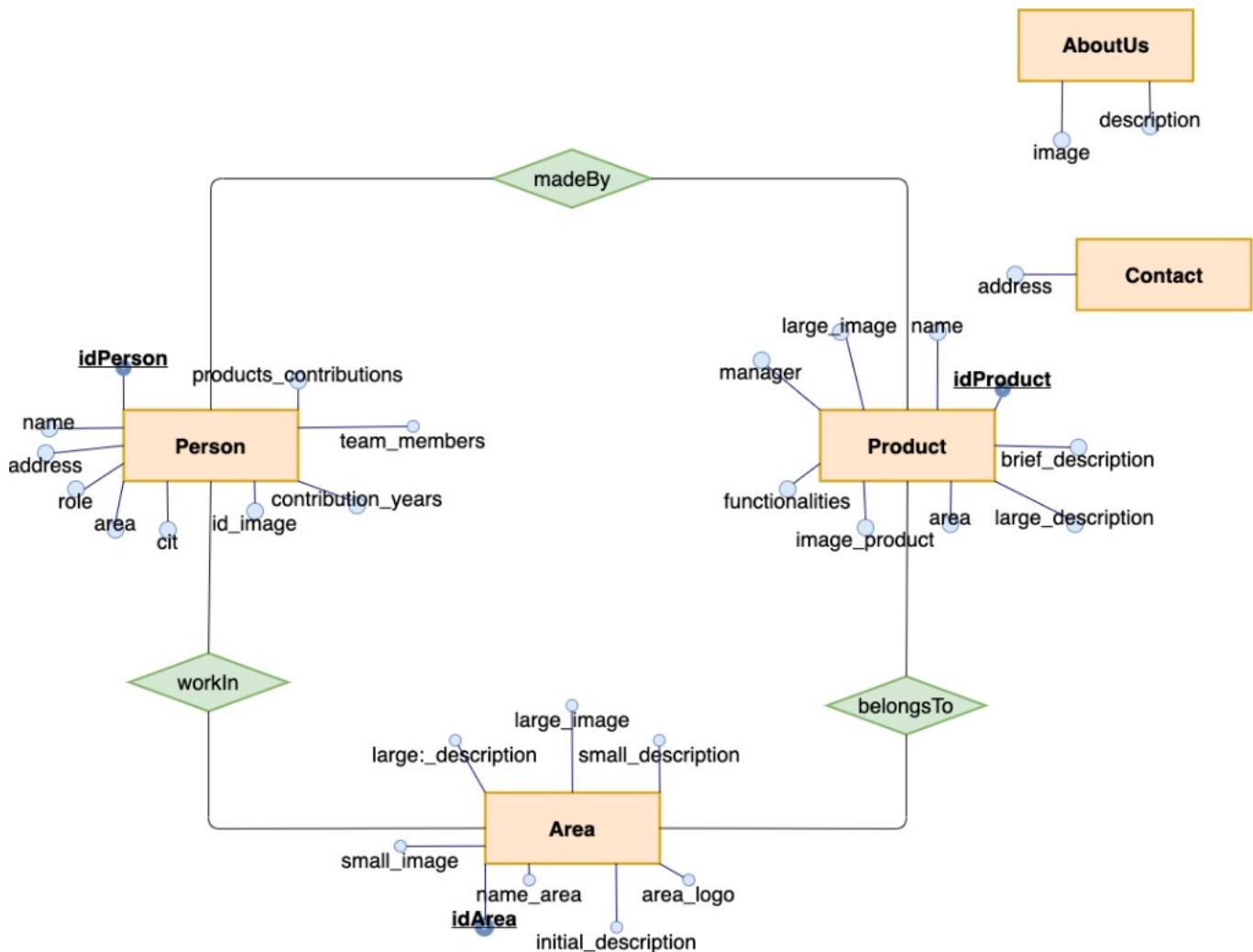
<b>AboutUs</b>	
	description: varchar[]
	image: string[]

Tab 8. 4

<b>Contacts</b>	
	address: String[]

Tab 8. 5

## 7.2 ER



The Area, Person and Product databases are closely related:

- Each product is associated with a responsible person and an area to which it belongs
- Each person can be responsible for one area and for several products
- Each area has its own manager and several products

Contact and AboutUs databases don't have a relationship.