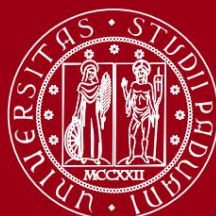


# RELATION

FROM

# TECHNOLOGIES

# WEB



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Front page

1. Website address: [http://tecweb.studenti.math.unipd.it/dpicello/TecWeb\\_Project/src/php/index.php](http://tecweb.studenti.math.unipd.it/dpicello/TecWeb_Project/src/php/index.php)

2. Default account

- Admin account (name/password): admin admin
- User account (name/password): user user

Furthermore, there are already other accounts that have already carried out actions, such as count "Davide" with password "aaa".

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### Group XX

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## 1. Introduction

The project was conceived with the aim of creating a website for an established painter working in the Padua area, as well as the mother of one of the members of the group. The main intent is to develop a digital portfolio that acts as a showcase for the artist's artwork, offering a detailed overview of past exhibitions, reviews from critics and curators of the exhibitions and the possibility for potential buyers to connect with the the artist through a dedicated form or through creation

of a personal account.



## 2 Requirements analysis

The site is aimed mainly at critics or collectors and therefore at PC users, or devices with large screens, as these are the devices from which they mainly work. However, the interface is also designed for the telephone version. Treating yourself furthermore, high resolution images are therefore not suitable for devices that they have a metered connection and a small screen that doesn't allow to have a complete vision. The initial goal was to create a portfolio site that exhibited the artist's paintings, his biography, the exhibitions in which he participated (with related critics' reviews) and contact details. However, to satisfy all better the project requirements, we opted to add some features more. Each user can create their own account through which they can interact with the works by making a booking request, accompanied by a message, where you can express the reasons for your interest and the contact details by the artist's accountant, as it is the latter who takes care of the negotiations, and not directly the artist herself. Furthermore, a contact form is available, which allows you to send messages to the artist, without needing to be logged in, where they will be indicated: name, surname, telephone number and a message. On the admin side (the artist or the merchant) from the dashboard it will be possible to view all the messages of the contact form, and those of booking requests from various users for the various works in order to be able to contact them. The admin also has pages available for adding works and modifying them, both those on canvas and on paper.



## 3 Work organization and planning

The idea came from Elio, who already had a portfolio site that he had developed for his artist mother, but it was completely rudimentary, composed only of html and css, completely inaccessible and without a division between content, presentation and behavior. After some meetings between us, we agreed that this idea would be the theme of our web technologies project, also motivated by the fact that what we would then produce would actually be used by the artist once the work was completed. Although an artist's website already existed, to develop this project we had to start from scratch due to the serious shortcomings of the other original. To facilitate collaboration we decided to use a repository on GitHub using the issue and board mechanism to assign tasks.

After seeing that everyone had predispositions for a certain area, we divided the work based on that.

### 3.1 Backend

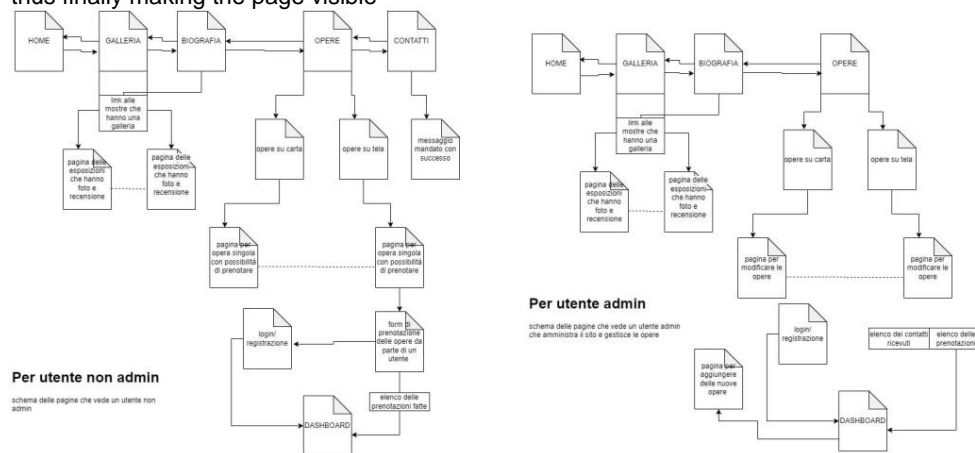
Davide and Mouad, with the help of Elio, took care of the back-end. The server-side development of this project required the definition of procedures for registration/login of new and old users, the insertion of new works, the possible modification of these, and a message mechanism from the user/client to 'artist, or whoever. The creation of these functions entailed quite a few challenges, mainly due to the various "particular" strings that can be inserted into the various fields of the various forms, and which created numerous problems with the SQL queries, which were not very easy to identify and resolve. Now, the entire site should be able to correctly manage the various particular cases, thanks to some control functions implemented first on the client side, with JavaScript, and then on the server side with PHP.

#### 3.1.1 Object-oriented programming

A real boost to the project was given by the development of a page builder, coded with PHP, which can be found in `paginaWeb.php`. When you need to create a new page, therefore, you just need to create a Web page type object which requires, as parameters, the HTML template of the page you need to create, a string which will then be inserted in the `<title>` tag of the new page, another string for the keywords, another string for the description and possibly a boolean parameter which, if set to false, prevents the construction of `navBar` and footer (to be used for some pages on the admin side that do not need them). The constructor then: Checks whether the session for this page is active, and if not, creates it Automatically takes the HTML content from the template specified in the first parameter Combine `generalTemplate` (a general page template), `navBarTemplate` ( the template



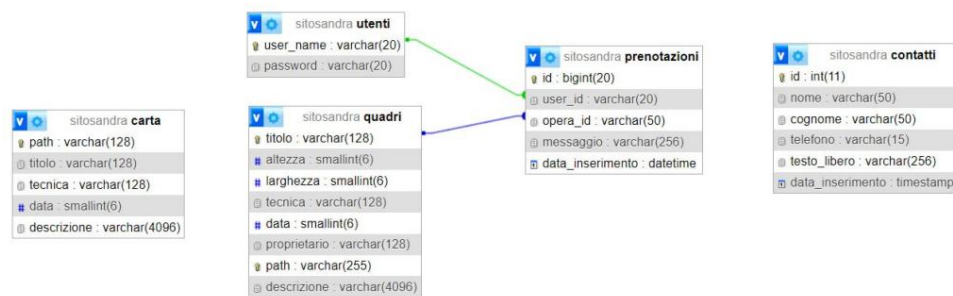
of the navigation bar), footer and the template of the previous point, saving the actual HTML code in the private variable of the `$structureHTML` object. The `navBar` is created dynamically thanks to the `printNavBar($currentPage)` function which is based to the page we are going to create will take care of generating the appropriate navigation bar, including `breadCrumb`: for example if I create the "home" page the logo and the home item of the navigation bar will not be clickable to avoid circular links, and the home item will have a certain CSS class to modify it visually, making the user understand where we are. If necessary, the object makes available 2 main methods: `addHTML($placeholder)$data)` which replaces the placeholder, loaded thanks to the templates, contained in the `$structureHTML` variable with the content of the second `printPage()` parameter which prints all the contents of `$structureHTML` thus finally making the page visible



### 3.1.2 General operation

The general operation consists of a database made up of five tables:

- paintings
- paper
- users
- reservations
- contacts



The

users who log in are directed to the dashboard: the standard user can view the reservations made, the admin can view all the reservations and messages received via the contact form and saved in the contact table. The admin also has links to pages used for modifying/adding/deleting a work from the paintings and paper tables. The back-end also takes care of setting the size with which the preview of a work is shown on listOpere.php, this value is determined using the square root of the long side of each work, in this way works with dimensions very different ones can appear more harmoniously on the same page and at the same time the user has an idea of the actual size of a work because the size relationship is respected.

## 3.2 Front-end

Gabriele, with the support of Elio, dedicated himself to the creation of the front-end, focusing on CSS, design and accessibility controls. During the design, we thoroughly discussed the layout organization for the different pages, paying particular attention to details to ensure a good experience on various devices. For example, the choice of color was a big problem especially if you intend to make a site with a dark theme given that many screens for phones and tablets are AMOLED or OLED so the blacks are much darker. To overcome this we did several tests to find a good scale that would work for both OLED and IPS panels. As regards web design and optimization of space on the page, we decided to focus on the content of the page by creating a minimal and responsive layout for the header and footer. There isn't much to discuss about the footer but on the header we find a responsive navbar which incorporates the site logo (top left) which refers to the home page which is now quite common to find on more famous sites such as: "Amazon, Ebay, YouTube..." a logo at the top right that refers to the home page, however, to make it even clearer that the logo is clickable we decided to equip it with an animation with a hover effect that darkens the logo when the mouse is hovered and clicked. Then we find a list with the main menu in the center which allows clear and intuitive desktop navigation, with the current page highlighted by a different color and not clickable. We decided to adopt this choice





for the navbar and the buttons not only for an aesthetic issue but to always make the user understand where he is by guiding him to his position, the rest of the links follow the formula of unvisited link (white colour) and visited link (orange colour -gold). Then on the right you will find the log in and register links which follow the same form as the previous links. If we switch to a tablet or phone, however, the links will be hidden by a sidebar accessible by pressing on the hamburger menu. The sidebar (which operates via javascript) will open on the right of the screen, this is because we thought that on the phone it could be very convenient to reach the links with the thumb, while on the tablet it doesn't make too much difference since most of the time it is used with two hands. Sidebar links have the same properties as navbar links. Moving on to the bodysuit, as mentioned before, we decided to give space to the content, carefully studying the design and the message that the site wants to communicate: "that is, this is a site by the artist Sandra Bertocco and the artist deals with art", ( we therefore decided to put his works at the center of many pages). For example, the home page is very simple and presents a short presentation chosen by the artist "protagonist of this site" and a carousel or presentation animated in CSS and automated in JavaScript. The works section is divided into two parts, one dedicated to works on paper and one dedicated to those on canvas. we decided to create a nice menu with different animations and use 2 of the author's works as backgrounds, this menu refers to a screen where the works are resized and thrown onto this transparent background, to do this we were inspired by the animation of some systems operators who, using the gestures of the three-four fingers at the top of the trackpad, throw all the windows on the desktop. By clicking on a work you can access the page of the selected work. Here we will be welcomed on desktop with a description on the right and the work on the left still clickable to see it in its entirety, from tablets and smartphones this may be difficult to understand so the work on the left is displayed above its description, in a larger format. As regards the gallery section here the choice of design is similar to that of the page dedicated to the works however this time there were 5 elements so the idea was to create for desktop (exclusively for desktop) a division into 5 columns with lots style: hover to illuminate the background when you hover the mouse, while for tablets and phones you will have a simple but functional sort of list to select the desired event or gallery. Each gallery page is made up of a carousel where the photos of each event/gallery scroll, the latter is entirely written in css without the use of javascript and a series of quotes from critics collected in a blockquote with a particular style. Given the long descriptions we have put a link at the footer to return to the top, this in general for all pages with very large content. Most of the front-end resources were used for the best possible creation of the user interface and therefore the part dedicated to administration was kept simple but functional with classic embellishments and basic CSS effects. We also tested and tried the site on different browsers which slowed down the work for example on safari the blur effect



does not apply and it is necessary to call `-webkit-blur` while it was running on firefox, this testing phase took a lot of time in the design, even the colors and aesthetic details changed between different browsers. We mainly used Google Chrome since it is the most used browser, Firefox, Edge, Safari and Brave, including the mobile versions of chrome and firefox. In conclusion, the front-end has been meticulously designed to provide an engaging and accessible user interface, with particular attention to consistency across different browsers and devices.



## 4 Accessibility and Usability

The site deals with abstract visual art content, so we had some doubts about it at first how to make it accessible, especially with regards to the paintings, and after valuable advice from the teacher, we opted for a description made by the artist as a description of the image that describes the composition of the painting or watercolor. Tests were carried out with the various tools provided by the various browsers which simulate the various visual disabilities, in addition to the choice of a non-contrasting color palette Between them. Furthermore, there are breadcrumbs that guide the user in his navigation with links to return to the desired pages. Browser tools also they also provided the possibility of checking whether the menu was accessible via "tab" however since we know that it is not possible to do an exhaustive check on everything in automatically we carried out the tabindex check on each page, as well as the color contrast control with external software, browser plugins, etc. that we had seen in class. And similarly to as shown in the laboratory we have used aria labels and skip features that allow the screen reader to skip sections of the page such as rereading the navbar menu by going directly to the content of the home page.



### **Concluding notes** (Optional) Future implementations

- a mechanism for an online auction could be added: by modifying the database and adding more secure php code suitable for managing transactions, a page dedicated to auctions on available paintings could be created where every registered user you can bid until the auction closes  
by the admin
- a chat mechanism between client and artist: improve the pre-booking mechanism by adding the possibility of replying from the admin to the various users by saving the various conversations in a layout similar to a WhatsApp chat or Facebook.
- personalize the user's account more: add more data to individual accounts to make them more personal and a password recovery mechanism for email or telephone.
- mechanisms to add new exhibitions and reviews: improve the admin side with the possibility of adding new exhibitions to the gallery with photos new ones and links to the paintings involved.

### **Critical points**

- The registration form only provides a username and a password, as it does not include an email or telephone number, it is impossible to  
the user can retrieve the credentials independently without contacting the administrator via the contact form.
- The page for editing works does not check once  
the delete button was clicked, which implies that the administrator could  
accidentally deleting a work from the database.
- The part of the site dedicated to the admin is less refined in terms of presentation compared to the user part because we wanted to concentrate all the resources to create a beautiful and accessible site for the user who visits an artistic site.
- For correct operation, the first access to the server must be made via the home page /php/index.php, which correctly launches the parameters necessary for browsing the site.
- The error pages 404, 403 and 500, working perfectly locally, unfortunately  
po we were unable to configure them correctly with the server.