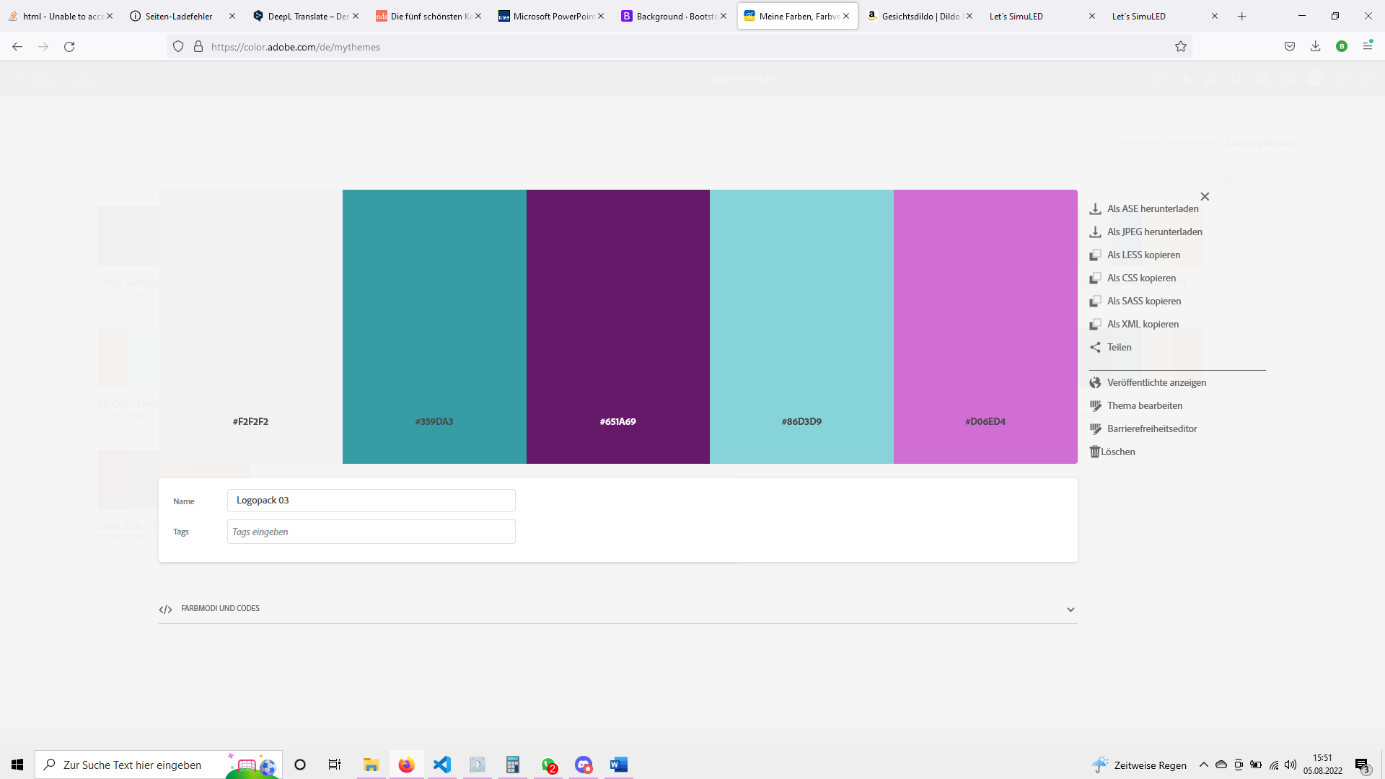
Design

# To give an authentic and realistic impression of a lamp store, it was important to us that the website applies familiar design principles. Due to this we decided to design a bright user interface that invites the user to discover the website. Clear shapes and colors should give the user a feeling of trust. The colors petrol and purple should capture the LED charm of a smart lamp and at the same time look timeless and modern. The CSS basis was created with Bootstrap. This allows us to create an interface as simple and familiar as possible.



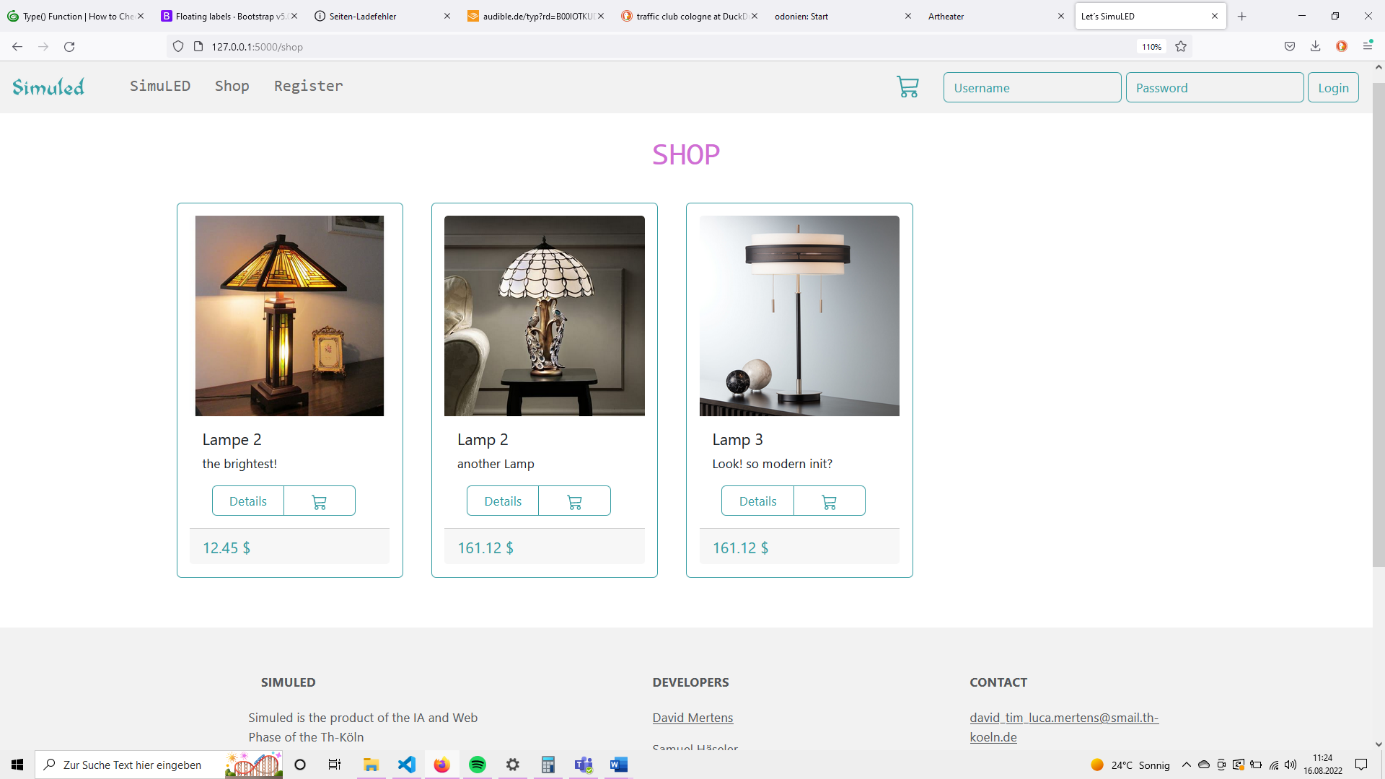
Applications of the different colors

The white/cream tone was used by us to make light areas stand out from the white background. This color is used for example in the navbar or the shopping cart.

The petrol tone is our main highlight color. Similar to a blue or green hue, the petrol tone inspires confidence and positivity. Unlike blue and green, petrol is not yet overused. That's why it looks fresh and unspent to the observing eye. Almost all UI elements use this color.

In contrast, the purple hue is meant to function as a warning signal. For example, the logout button uses this color.

Both petrol and purple are used in two different intensity levels. The darker shade is used when something should be particularly legible or should have a clear distinction from the background. Whereas the light tone is used when the element should appear particularly discreet and friendly.

The Web Content

Ein Bild, das Text, Screenshot, drinnen enthält.

Automatisch generierte BeschreibungA guiding motif in the design language of this website is the use of bootstrap cards. These are easily modifiable and thus customizable. They are used in the store and in the shopping cart to display individual items. The cards are adapted to the color concept of the website and have petrol-colored highlights. As we see them again and again on the website, it looks very familiar and simple to the viewer. The rounded corners and the discreet design are also striking. We also find this design in other areas of the website like the border of the buttons and the navigation elements. On the website we find a lot of white and light gray space. This is to focus on the essential elements of the website and create a feeling of tidiness. The eye of the website visitor can come to an rest here.

The Use of SASS

When creating the website, the combination of Sass (a stylesheet language) and Bootstrap (framework) was very handy. Bootstrap has default parameters, which can be used if you do not make any further adjustments. For example, the CSS class btn-primary always creates a button in the Bootstrap default color. Sass now allows us to access exactly these parameters and use our own color wherever the default color is used. This way it was very easy for us to provide a custom web experience without having to write much custom CSS.

$theme-colors: (

        "primary": #359DA3,

        "light": #F2F2F2,

        "secundary": #86D3D9,

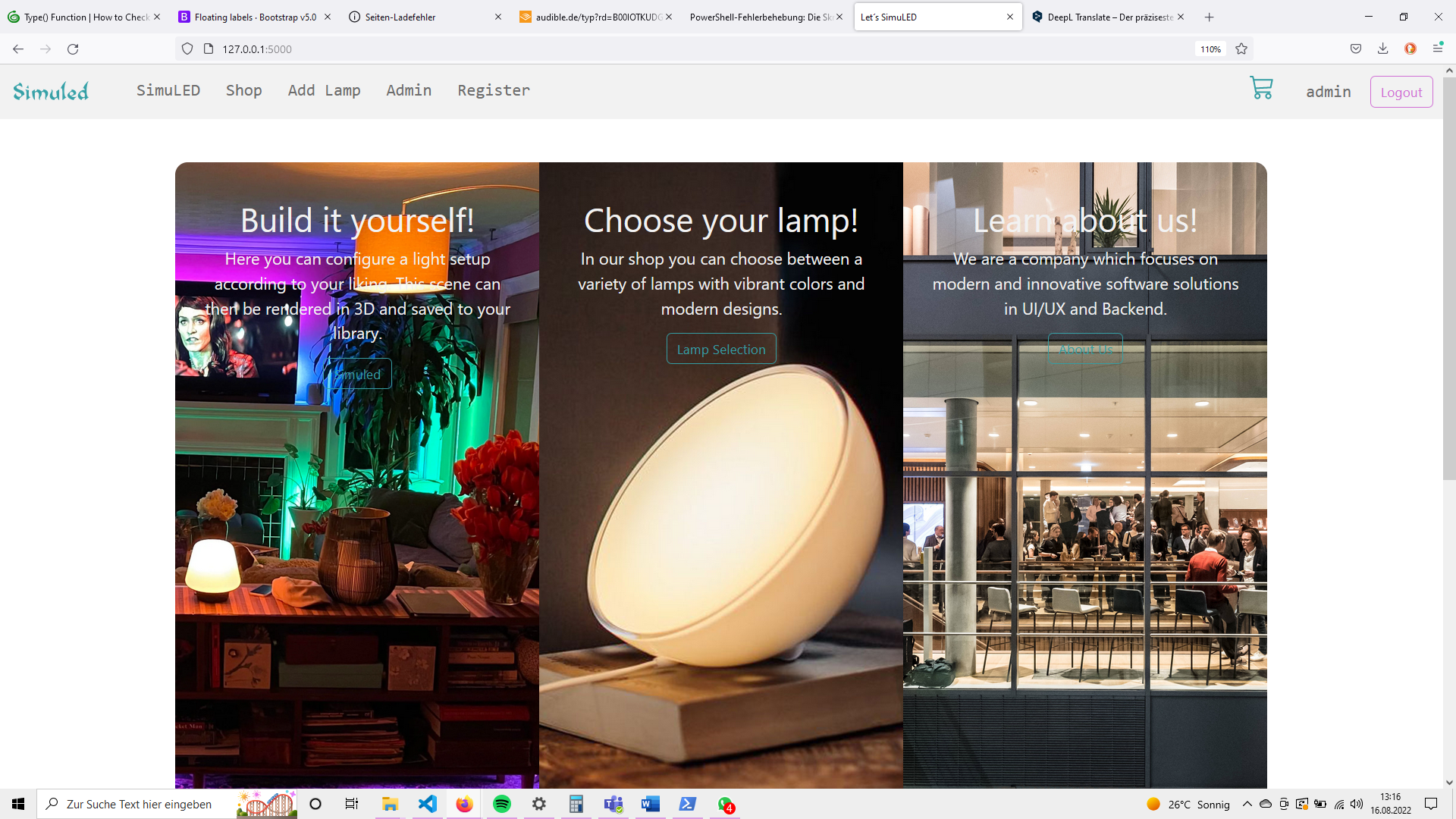
        "warning": #D06ED4,

        "danger": #651A69,

        "dark": #595959,

);

Fonts

The font of the navigation elements is monospace. Monospace is a widely used font and is easy to read. At the same time, it is also associated with machinery and technology in its design aesthetics. This is to make clear to the visitor of the website that this is a technical tool.

Landing Page

Simuled

Shop

Register

Shopping Cart

Admin

addLamp

The Structure

The basic structure of the website is rather simple. There are 7 different pages that can be reached through the navbar. 2 of them (red in the graphic) are only allowed for administrators. If it makes sense, the individual sites are also linked to each other and allow a quick and easy use.

For the content of the website that should be the same on all pages, we use the Jinja 2 function "Template Inheritance". Here the mother file "Base" contains important information that is taken over by all child files. The most obvious elements here are certainly the navbar and the footer. But also, a shared css file is inherited.

User

Cart

Render

Lamp

The Database

We have decided to use a SQLalchemy database to record various information. This contains e.g. information about the users or the lamps.

In the following I will go through the different database models and discuss the details:

User:

In the user model the link between username and password is created and stored. Here we use a hash encryption to encrypt the password and store the password securely in the database. Also, here we find the link to related cart or render objects that can be associated with the user.

Lamp:

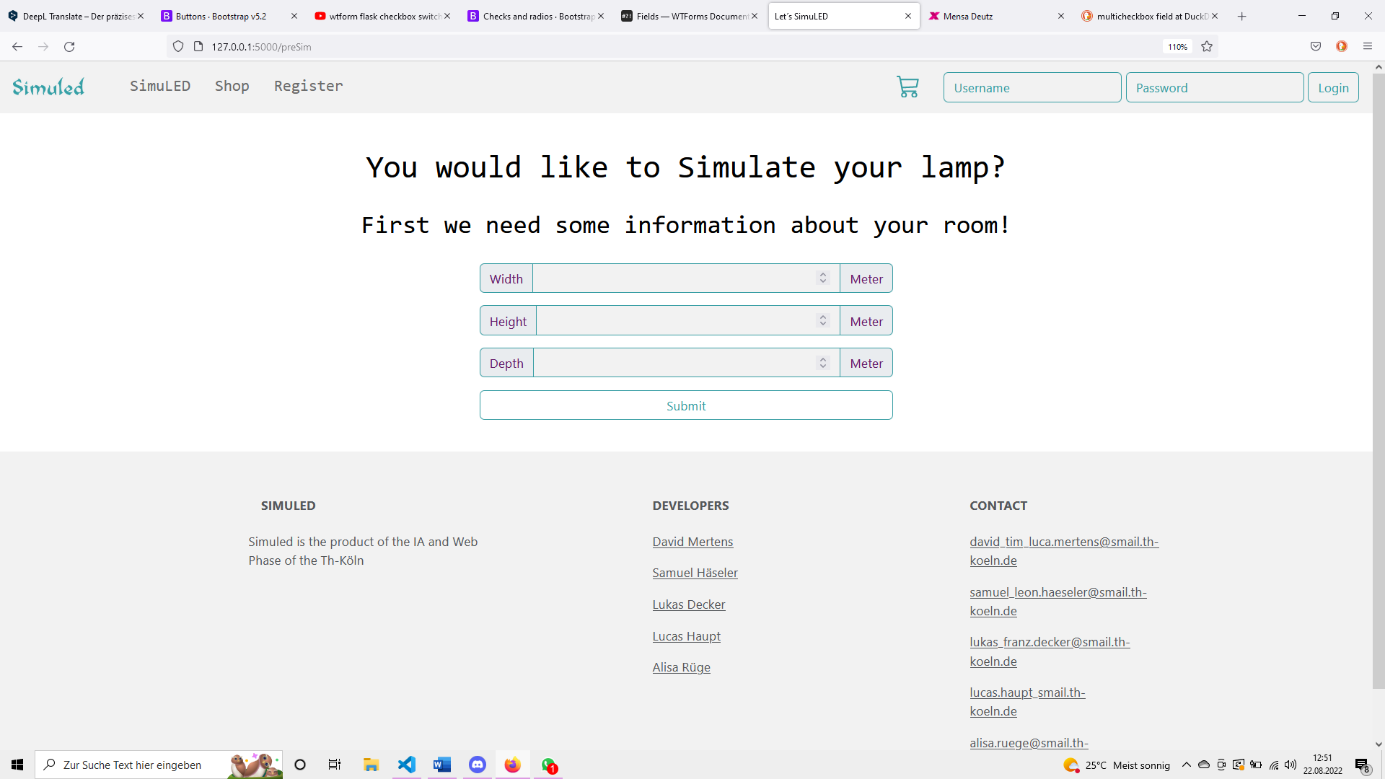
We have tried to make it as easy as possible for a website owner to dynamically add new lamps to the store. In the database model of the lamp you will find all important information about the lamp. Here is also the reference stored where on the server the image and or the GLTF to the lamp is stored. We have actively decided not to store the image in the database to prevent it from being clogged with unnecessary images.

Cart:

In each cart item the connection between a user and a lamp is established. This database model is only intended to link the other two models.

Render:

Every rendered image that is produced by Blender is then saved on the Server. The connection to this image is then saved in the Database under the Render Model. This is then assigned to the user.

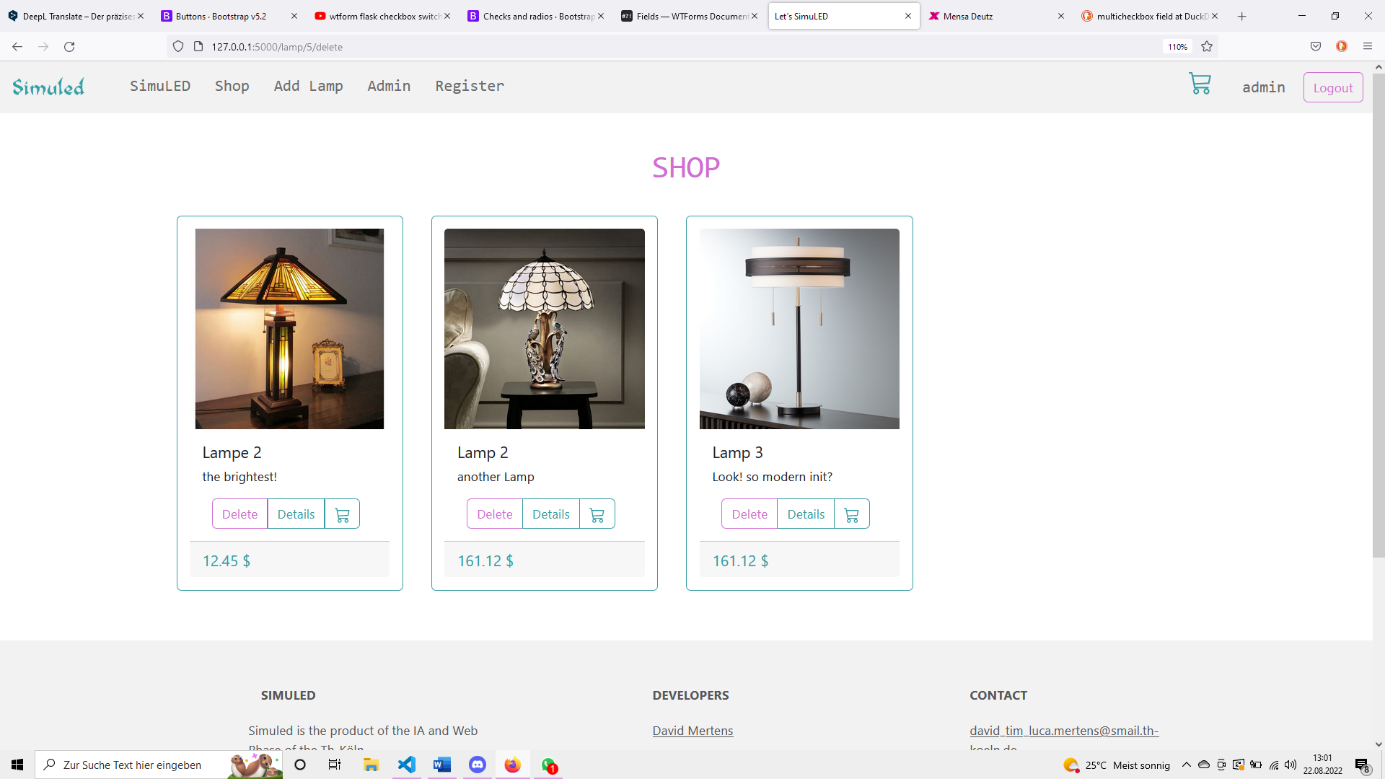
Features of the individual HTML Pages

PreSim.html:

if you click on the tab Simuled in the navbar, you will get to the HTML page: preSim, here you will be asked for the information necessary to create the room. This spatial information is then passed on to the next page when you submit the form.

Simuled.html:

The features of this Webpage are described in further details later on in this documentary, but the key features are: Simulating a light situation and adjusting the furniture around the light. In addition, you have the option to render the current view in better quality and then save this rendered image. At the bottom of the page we find a small gallery of images that the current user has already rendered.

Shop.html:

On this page we see all the lamps uploaded by the website operator. In a gallery we get them displayed with some user options. These user options differ depending on whether a user is logged in as admin or not. As a normal user you have the possibility to put the lamp in the shopping cart and to display more detailed data about the lamp. the latter option leads you further to the page Lamp.html. As an admin, there is also the option to delete the lamp from the database. This should make it easier for a website owner to run the webshop without having to deal with code.

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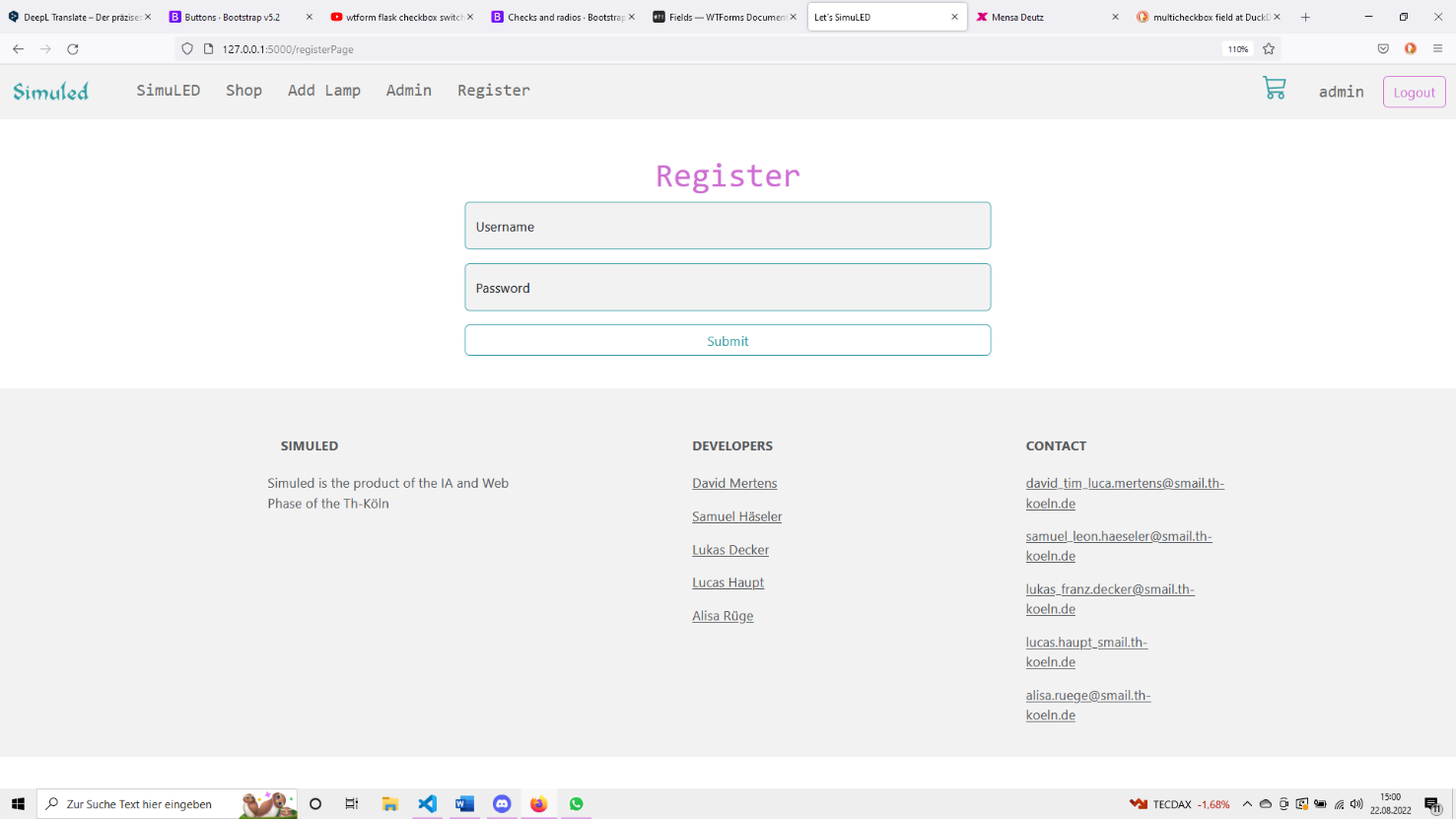
Automatisch generierte BeschreibungAddLamp.html:

To extend this concept of accessibility, we decided to create a page where an admin can easily add a lamp. Here all important data of a lamp is entered to store it in the database. This tool is supported by a small JS script, which displays the entered information directly as it will be displayed later in the store. Through this, no confusion can arise as to what individual values entered stand for. This page is only accessible as an Administrator.

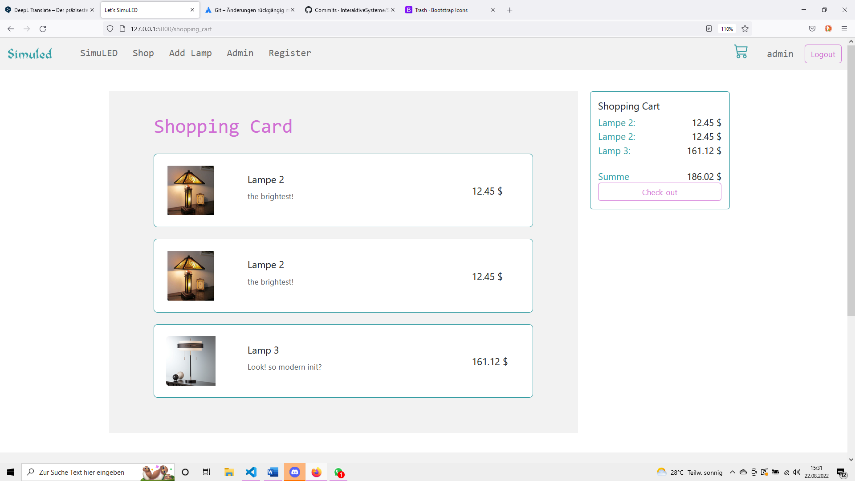
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Automatisch generierte BeschreibungAdmin.html

To make it as easy as possible for a possible administrator to overview the current state of the database, there is the admin page. Here you have the possibility to see and delete single database entries. but this is limited to the databases User and Lamp.

Register.html

The register page is pretty self-explanatory. Here the user has the possibility to create a new account. Here it is also checked whether the user follows the predefined standards. These include that each user name may only exist once and must be at least 5 characters long. It is also checked whether the password is between 8 and 128 characters long.

ShoppingCartV3.html

On the shopping cart page, the user can view his shopping cart again before ordering it. Here all the lamps that are in the cart are listed and displayed again. on the right side we see an overview of the costs incurred by the purchase of the lamps. Directly below these costs, the user can click on Place Order to place an order. This button opens a small window where the billing information is requested. After the order is placed, the shopping cart empties.