

Filfabs

A TEXTILE MATERIAL DATABASE FOR
VARIOUS FIELDS OF APPLICATIONS

User Guide



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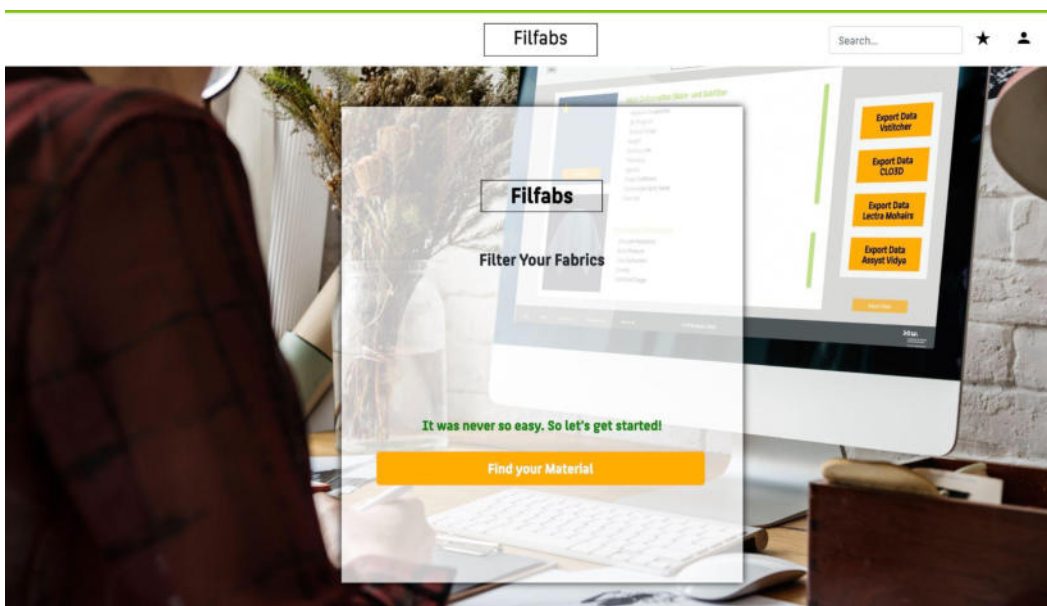
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1 Home Page

1.1. Overview

Welcome to **Filfabs - Filter your Fabrics**, your material database brought to you by *HTW Berlin*!

At first you will probably arrive at the home page (shown below). No matter what page you are on, you can always return to the homepage by clicking the *Filfabs*-logo in the header.



In the top right corner you can find the search bar, where you can search for materials (see chapter 3). Next to the search bar is the Favourites star-icon for saved material cards and on the far right is the profile icon.

Want to jump right into what *Filfabs* has to offer? Just click on **Find your Material** in the centre of the home page to view all available materials in the *Filfabs*-database.

1.2. Footer Links

Scroll down the homepage to find quick access links in the footer section. There you can go directly to the **FAQ**-pages containing answers to the most commonly asked questions, **T&C**, **About us**, **Imprint** and the **Privacy Policy**.



2 Register and Login

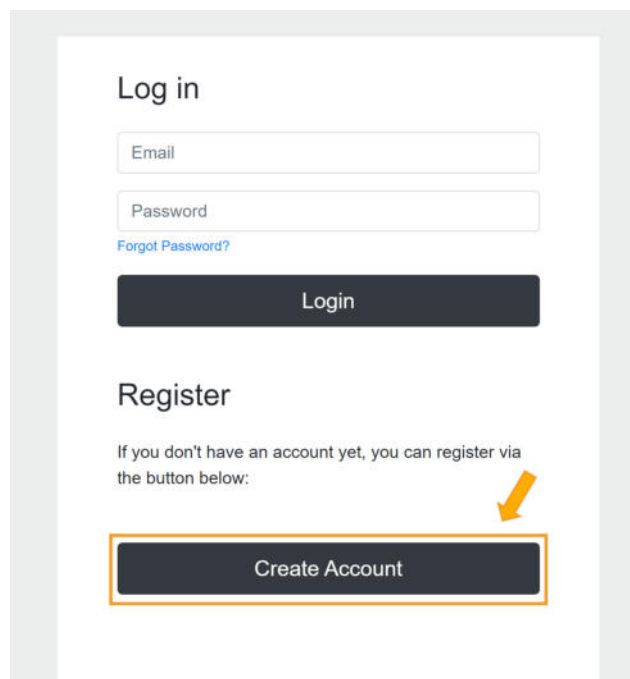
2.1. Register an account

You can get the most out of *Filfabs* by creating an account. Registration is easy:

→ Click on the **profile-icon** in the top right corner of the homepage.



→ Then click **Create Account** to be redirected to the registration page.

A screenshot of a web page for logging in and registering. The page is titled 'Log in' and features two input fields: 'Email' and 'Password'. Below the password field is a link that says 'Forgot Password?'. A dark grey button labeled 'Login' is positioned below the input fields. Underneath the login section is a 'Register' section. It contains the text: 'If you don't have an account yet, you can register via the button below:'. Below this text is a dark grey button labeled 'Create Account', which is highlighted with an orange border and an orange arrow pointing to it from the right.

→ You will be redirected to the registration form (shown below) which you may fill out using your first and last name, a valid email-address and a password with at least 8 characters (including upper and lower case letters and numbers).

No user account yet?

Create your account via the form below

Company name (optional)

Firstname

Lastname

Email

Password

Confirm Password

Create Account

→ When you're done, hit **Create Account**.

If you registered successfully you are automatically logged in upon clicking **Create Account**.
Your *Filfabs*-account is now ready to use!

Filfabs

Search...

Welcome to Filfabs, **Sara!**

User Profile

Name: Sara, Omar

Email: s @htw-berlin.de

Company:

Role: user

[Find your Material](#) [Log Out](#)

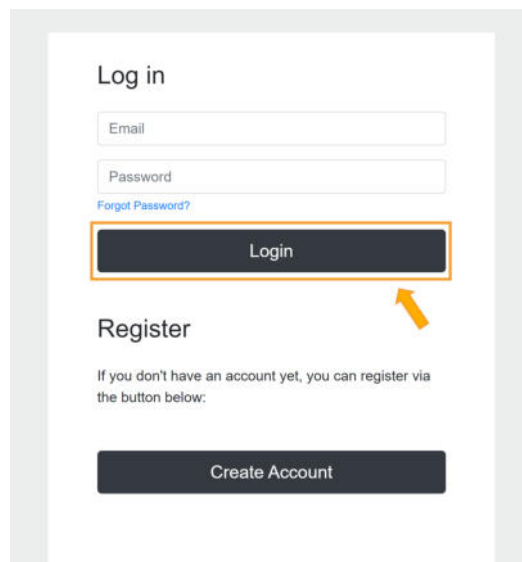
2.2. Login to your account

Login to your account to use *Filfabs* with your profile.

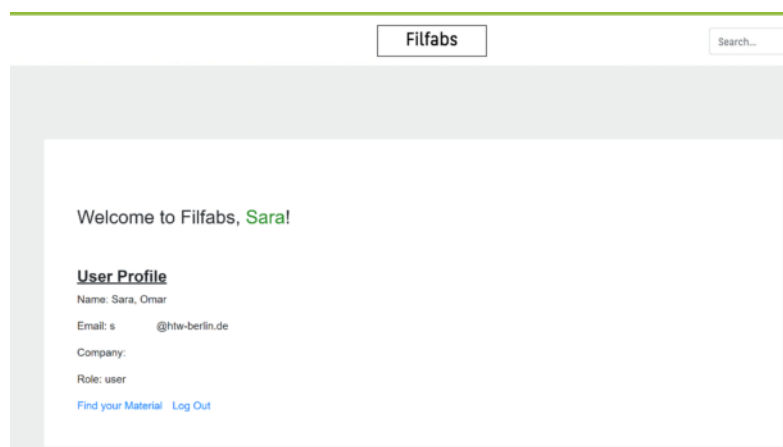
→ Click on the profile-icon in the top right corner.



→ Enter the email-address and password you used to register, then click **Login**.

A screenshot of the login and register form. The "Log in" section has two input fields: "Email" and "Password". Below the "Password" field is a link "Forgot Password?". A dark grey "Login" button is highlighted with an orange border, and an orange arrow points to it from the right. The "Register" section has the text "If you don't have an account yet, you can register via the button below:" and a dark grey "Create Account" button.

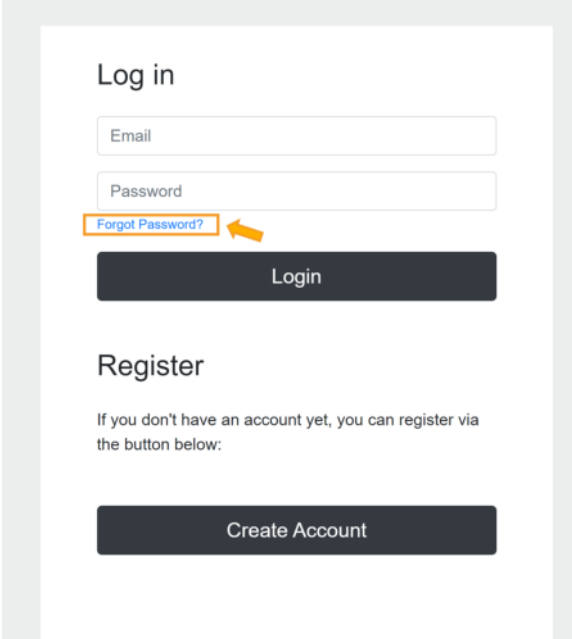
You have now successfully logged into your account!



2.3. Forgot password

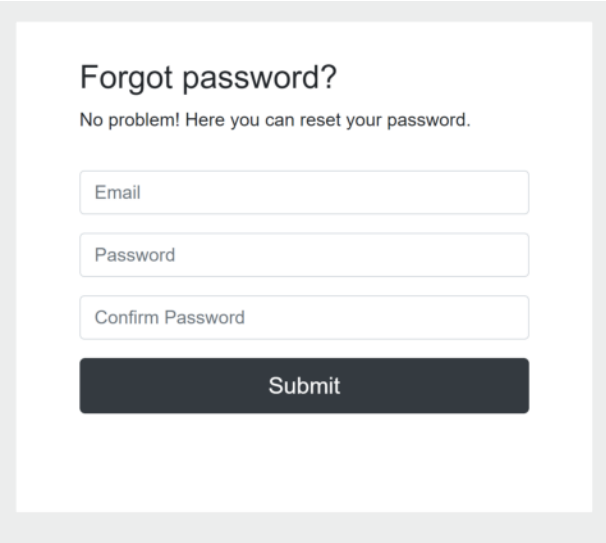
Can't remember your password? No problem, we can help.

→ Click **Forgot Password?**



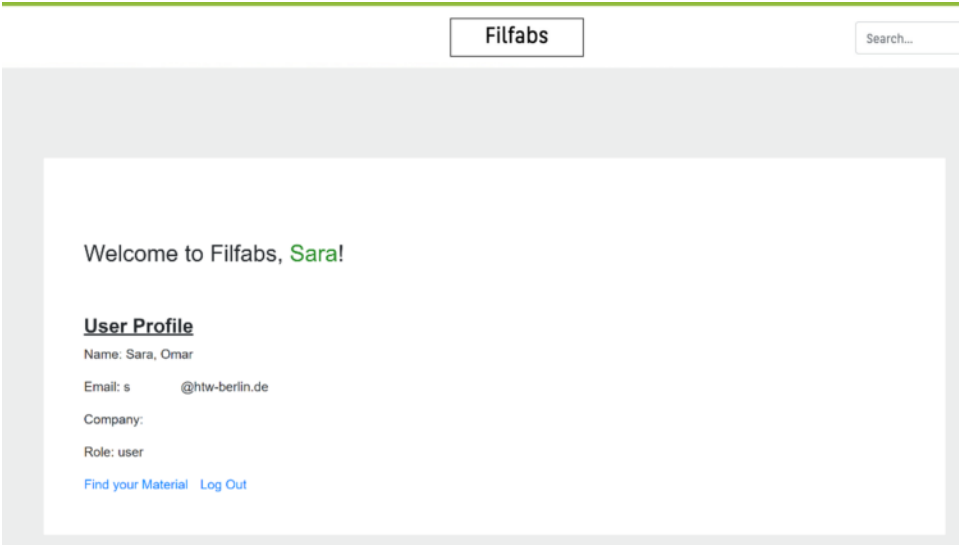
The image shows a user interface for logging in and registering. It features two main sections: 'Log in' and 'Register'. The 'Log in' section has two input fields for 'Email' and 'Password', followed by a 'Forgot Password?' link highlighted with an orange box and an arrow pointing to it. Below these is a dark 'Login' button. The 'Register' section has a text prompt: 'If you don't have an account yet, you can register via the button below:', followed by a dark 'Create Account' button.

→ You will then be redirected to this page. Enter your registered email-address and your new password (twice to confirm). When you're done, hit **Submit**.



The image shows a 'Forgot password?' page. It has a heading 'Forgot password?' and a sub-heading 'No problem! Here you can reset your password.' Below this are three input fields: 'Email', 'Password', and 'Confirm Password'. At the bottom is a dark 'Submit' button.

You have now successfully changed your password and will be automatically logged into your account after completing the last step. You may use your new password from now on.



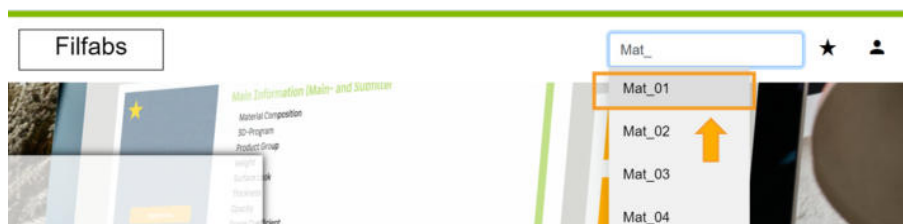
3 Search Materials

Looking for something specific? You can use the search bar located in the top right part of the header to search for materials in the database.

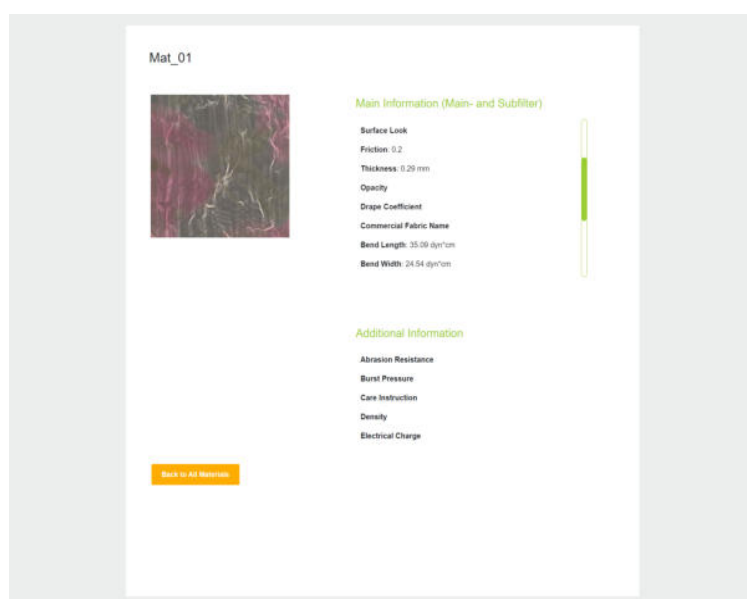
→ Click on the **search bar** in the top right corner of the header. -It's accessible from anywhere on *Filfabs*.



→ Now type in the name of the material you are looking for and press **Enter**. A drop-down menu with suitable material options will appear.



→ Click on the option you would like to view. You will then be taken to the details-view of the selected material (pictured below).

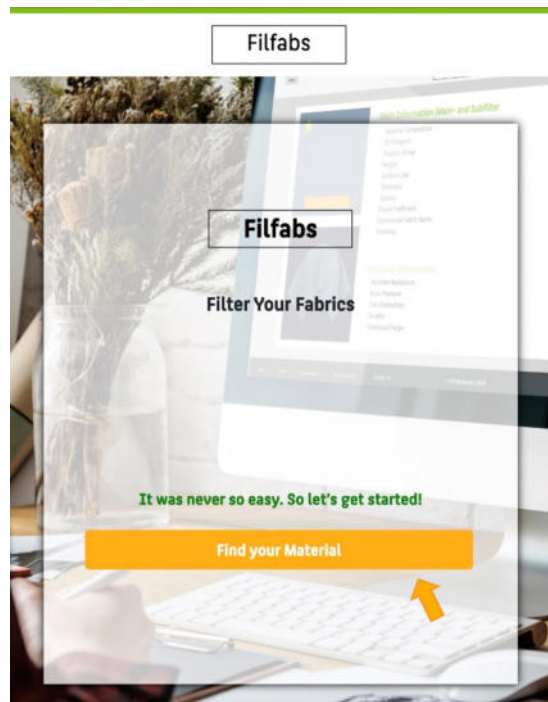


4 Materials

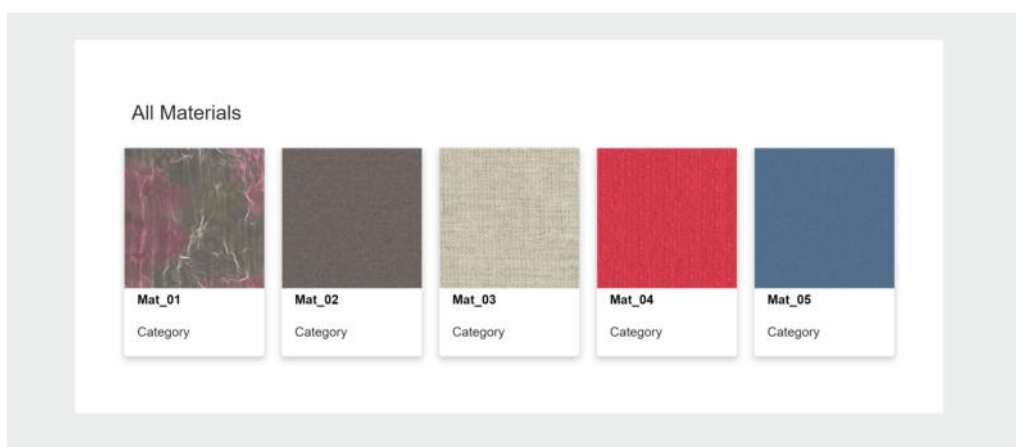
4.1. View All Materials

Whether you're logged in or just visiting *Filfabs*, you can view all listed materials with only one click.

→ Just click **Find your Material** on the home page.

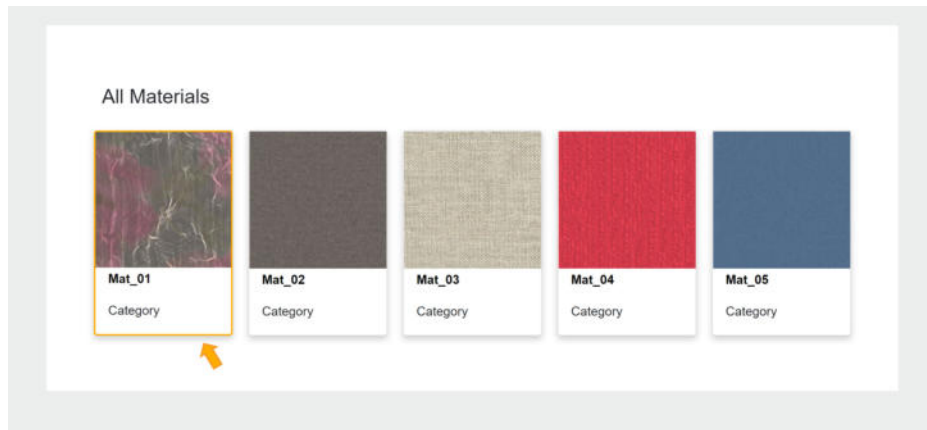


This will take you to the all materials-view (shown below).

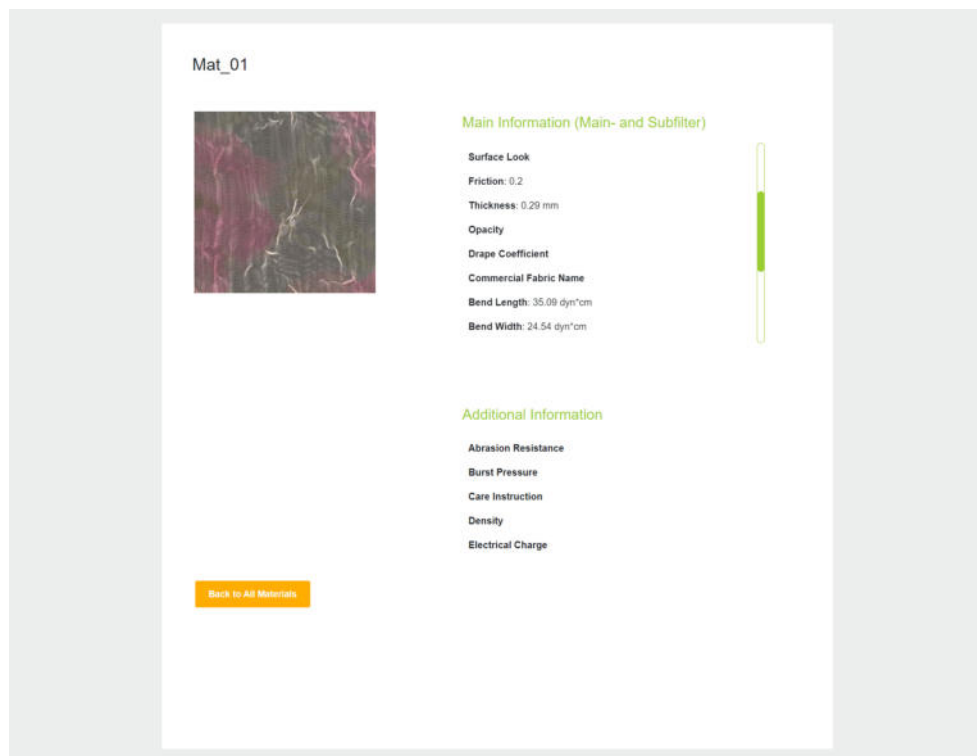


4.2. View Material Details

To view details of a listed material click on the any material card in the all materials-view (see below) *or* type in the name of the material in the search bar and click on it in the drop down list and press Enter (see p. 9) .



You will be taken to the details-view of the selected material (example below).



4.3. Add Materials

4.3.1. As Superadmin/ Admin

Filfabs offers users with administrative rights (Admins and Superadmins) the opportunity to add new materials to the database.

→ For this, head to the **profile-icon** in the top right corner and select **add material**.



→ You will be redirected to the form (shown below) where you may fill in the data for the material you wish to add. All fields need to be filled out, where not applicable you may enter "-".

To add an image please use the upload button at the bottom of the form.

A screenshot of a web form titled "Create a new material card". The form has two columns of input fields. The left column contains: Material Name (Mat_1), Mass g/m² (64), Friction (0.2), Thickness (mm) (0.29), Bend Width (dyn*cm) (24.54), and Bend Length (dyn*cm) (35.09). The right column contains: Stretch Width (N/m) (17.11), Stretch Length (N/m) (915.61), Stretch Linearity Width (%) (50), Stretch Linearity Length (%) (50), Shear (0.86), and Shear Linearity (%) (50). At the bottom left, there is a "Choose image" button and a "Browse" button. An orange arrow points to the "Browse" button. A "Submit" button is at the bottom left.

→ Finally, click **Submit**. You have now created a new material card for *Filfabs*!

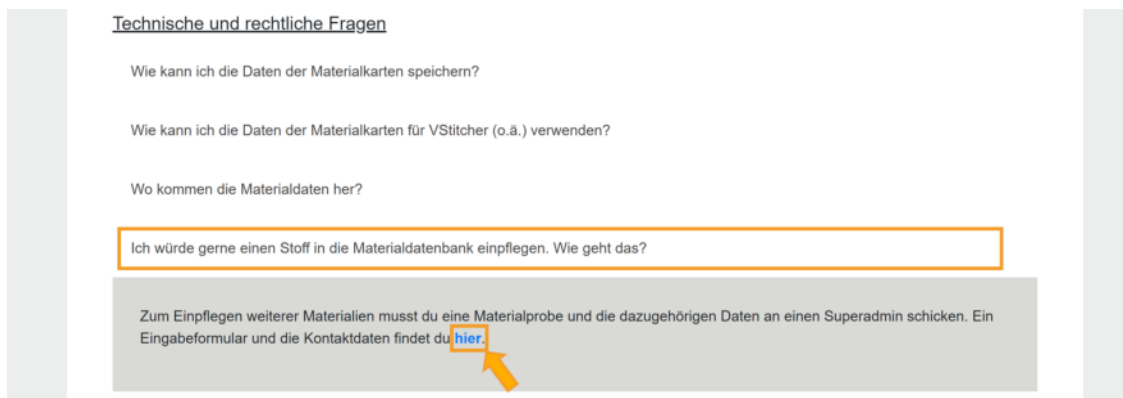
4.3.2. As User

As a user with basic rights you may use the contact form to request materials to be added to *Filfabs*.

→ Click on **FAQ** in the bottom left corner of the home page.



→ Then click on the question “*Ich würde gerne einen Stoff in die Materialdatenbank einpflegen...*”. The answer will open up below. There, click on **hier**.



→ Enter your name, email address and upload a **PDF** file containing the information on the material to be added. If available, we suggest to include at least commercial fabric name, material composition and product group in the uploaded file.

The image shows a web form titled "Add Material - Request Form". It contains the following elements:

- Name/ Contact Person:** A text input field containing "Max Mustermann".
- Company name:** A text input field containing "HTW Berlin".
- E-mail:** A text input field containing "abc@hotmail.com".
- File Upload:** A label "Choose a PDF file" next to a "Browse" button.
- Submit:** An orange "Submit" button at the bottom left.

→ When you're done filling out the form, click **Submit**.

Your request will now be processed and if further action is required you will be contacted with the email-address you submitted.

5 User roles

5.1. User Rights

The table below shows an overview of user privileges.

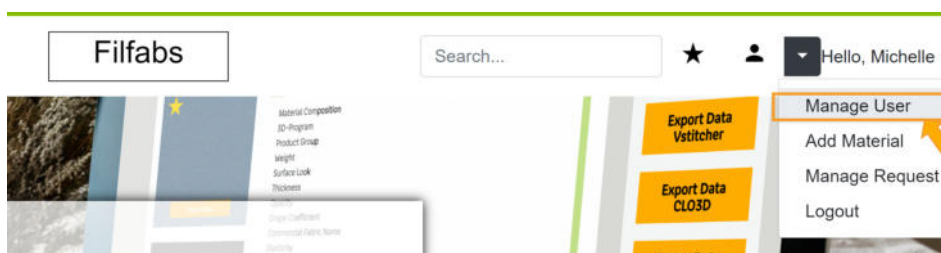
User rights*

		Superadmin	Admin	User	Unregistered User
Create	Material	✓	✓	×	×
Read		✓	✓	✓	✓
Update		✓	✓ (**)	×	×
Delete		✓	×	×	×
Create	User	✓	×	×	×
Read		✓	×	×	×
Update		✓	×	×	×
Delete		✓	×	×	×

*These are rights from developer's view (Read access also means the users can user filter, compare materials and download them.
 ** Admin can only update (change) the attributes of material cards that they've created

5.2. User Management

As superadmin (here “Michelle”) you can manage user accounts by selecting **Manage Users** in under the profile icon.



You will be redirected to the following user-management-page:

Manage Users

You can update the existing users or set their permissions here.

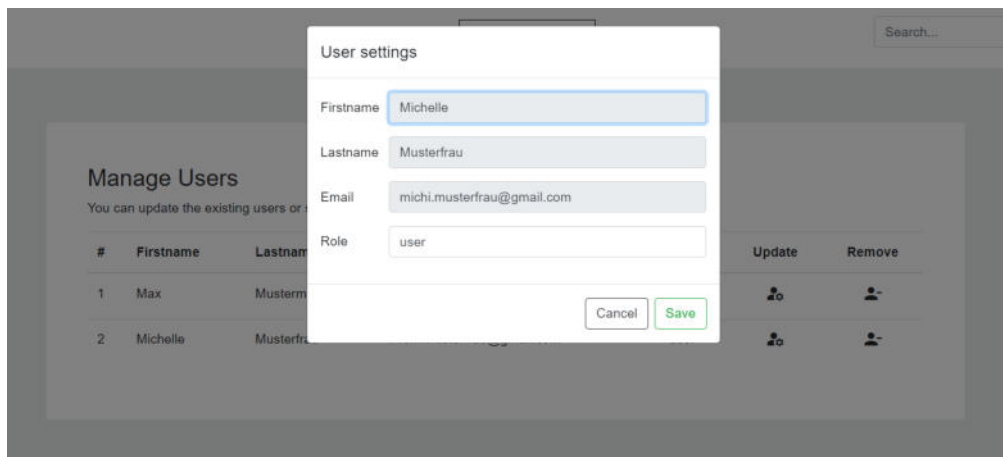
#	Firstname	Lastname	Email	Role	Update	Remove
1	Max	Mustermann	max.mustermann@gmail.com	user		
2	Michelle	Musterfrau	michi.musterfrau@gmail.com	user		

5.2.1. Change user role

Here you can change the role of a user account.

Click on the button in the Update-column next to the user you would like to change the role of. A modal (**User settings**) will appear where you may choose a new role for the selected user in the field **Role**.

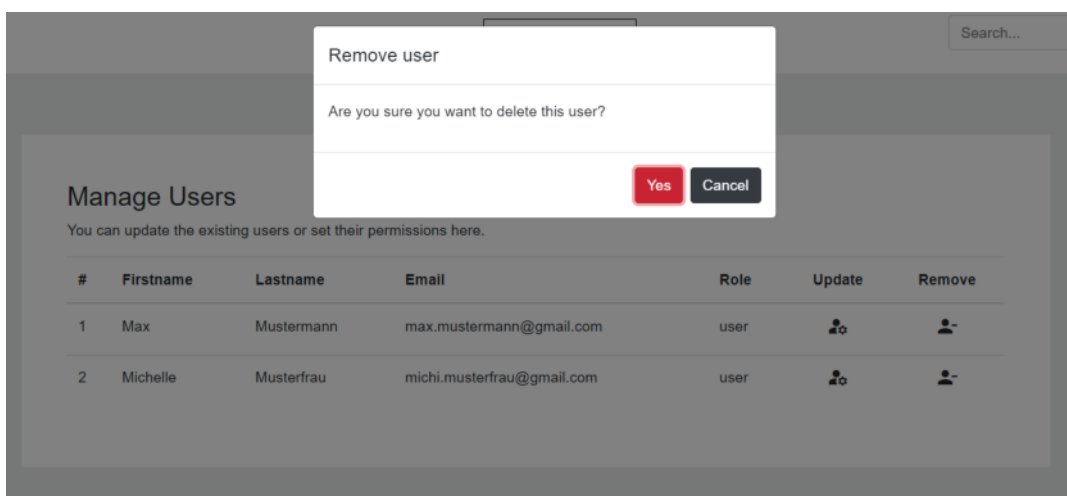
You can choose one role from three options: user, admin or superadmin. To complete the process click **Save** in the bottom right of the modal.



5.2.1. Delete user account

You also have the option to delete user accounts on *Filfabs*.

→ Click on the button in the **Remove**-column for the account you wish to delete. A modal will appear asking you to confirm the action (shown below). Click **Yes** to delete the account.



6 Technical Documentation

6.1 Set Up

6.1.1. General Set Up

IMPORTANT

- Please make sure that you have *Node.js* and *Docker* installed before starting to launch this project.
- Please make sure you do not already have MySQL running on your local machine as well as open ports 4200, 3306 and 8080.
- Please create a config.json file in the backend directory for the credentials for the connection to the database. You can find the template from `./backend/config.json/sample`. Due to data protection, `./backend/config.json` cannot be committed and published to the repository.

Your config.json file should have this structure and should be created only once (if you haven't deleted the whole setup). From now on, every time you need access to your database, you have to use these credentials.

```
{
  "database": {
    "host": "localhost",
    "port": 3306,
    "user": "root",
    "password": "YOUR_PASSWORD_HERE",
    "database": "filfabs"
  }
}
```

After cloning this project, navigate to the `filfabsfb5` directory in your terminal and run these commands to build images:

```
docker-compose up -d mysql
docker-compose up -d backend
docker-compose up -d frontend
docker-compose up -d --build mysql
docker-compose up -d --build backend
```

Docker sets up a virtual environment for you. After all the configurations are done, you can open Docker UI and there will be three docker images in *frontend*, *backend* & *mysql*. They should all be able to run (which means they are all green).

Open `localhost:8080` in your browser to start surfing the web app.

You can find more information on the structure of docker here: [docker-compose.yml](#), [frontend Dockerfile](#) and [backend Dockerfile](#)

6.1.2 For Developers

If you want to make changes, please open Docker UI and stop the frontend & backend server first. Then:

a) Launch Local Frontend

Open a terminal and run these commands:

```
cd frontend
npm install --legacy-peer-deps
npm install -g @angular/cli@~12.0.0 --save-dev
ng serve
```

Once finished, stop the server with **ctrl + c** .

b) Launch Local Backend

Open another terminal and run these commands:

```
cd backend
npm install
```

Pause now and look into the **./backend/config** and execute **node sample.data.js** to add some first data record into your database.

Start the server with:

```
npm start
```

Once finished, stop the server with **ctrl + c** .

c) Done making changes?

Rebuild the app with **docker-compose up -d --build frontend**. This will compile everything together.

6.2. File Structure

The project for *Filfabs* contains three file folders: *frontend*, *backend* and *uploads*.

6.2.1. Frontend: An Angular Web App

All the app's code goes in a folder named **src/**. In *src/* there are three folders: *app/*, *assets/*, and *environments/*.

```
src
├─ app
│  ├─ components
│  ├─ datamodel
│  ├─ guards
│  ├─ helpers
│  ├─ services
│  ├─ app-routing.module.ts
│  ├─ app.component.css
│  ├─ app.component.html
│  ├─ app.component.spec.ts
│  ├─ app.component.ts
│  ├─ app.config.ts
│  ├─ app.module.ts
│  └─ search.pipe.ts
├─ assets
└─ environments
```

→ The folder **app/** contains all the code of the web app itself. In Angular, everything is organised in modules and every application has at least one of them, the app root module. The app module is the entry point of the application and is the module that Angular uses to bootstrap the application. Components are the main building block for Angular applications. Each component consists of:

- An HTML template that declares what renders on the page
- A Typescript class that defines behaviour
- A CSS selector that defines how the component is used in a template.

The components of the Filfabs web app are in **components/**. For example:

```
home
├─ home.component.css
├─ home.component.html
├─ home.component.spec.ts
└─ home.component.ts
```

Aside from components **app/** also contains:

- **Datamodel:** This folders contains all of our interfaces, which define the 'signature' or shape of an API
- **Guards:** This router's navigation defines access to certain parts of the navigation. For development purposes, we recommend you to comment out all the files in this folder, as well as related information which is located in `app-routing.module.ts`
- **Helpers:** This folder stores user-defined functions that are used some typescript script
- **Services:** All the services available for *Filfabs* are used to interact with the backend

→ The folder **assets/** consists of all static files which are used in the web app, which are mostly .png files for logos, background images etc.

→ The folder **environments/** contains all information about api url and ports, which is used for frontend and backend communication between the app.

6.2.2. Backend

The main focus of the backend folder:

```
backend
├ config
├ controllers
├ models
├ routes
├ config.json
└ server.js
```

- **Models** contains models, schemas of the table in our database
- **Config** contains the database set-up. The table is created when we start the backend server the first time with `server.js`. Besides, in this folder there is sample data which is written in `sample.data.js`. When you run `node sample.data.js`, it will add five material data records and three default users with three different roles for testing usage.
- **Routes** contains routes to our backend endpoint where requests and responses are sent to.
- **Config.json** contains the credentials for our database (Host, user, port and password).

6.2.3. Uploads

This folder stores images and other files that are uploaded in through the forms on the */add-Material* and */contact* pages.

6.3. Current state of the database

users	
PK	<u>user_id int NOT NULL</u>
	firstname varchar NOT NULL
	lastname varchar NOT NULL
	has_role enum NOT NULL
	companyname varchar
	email varchar NOT NULL
	password varchar NOT NULL
	createdAt datetime
	updatedAt datetime

requestforms	
PK	<u>request_id int NOT NULL</u>
	personname varchar NOT NULL
	companyname varchar NOT NULL
	email varchar NOT NULL
	attachedfile varchar NOT NULL
	createdAt datetime
	updatedAt datetime

materials	
PK	<u>mat_id int NOT NULL</u>
	name varchar NOT NULL
	picture varchar
	mass float
	thickness float
	bend_w float
	bend_l float
	stretch_w float
	stretch_linearity_w float
	stretch_linearity_l float
	shear float
	shear_linearity float
	createdAt datetime
	updatedAt datetime

Notes:

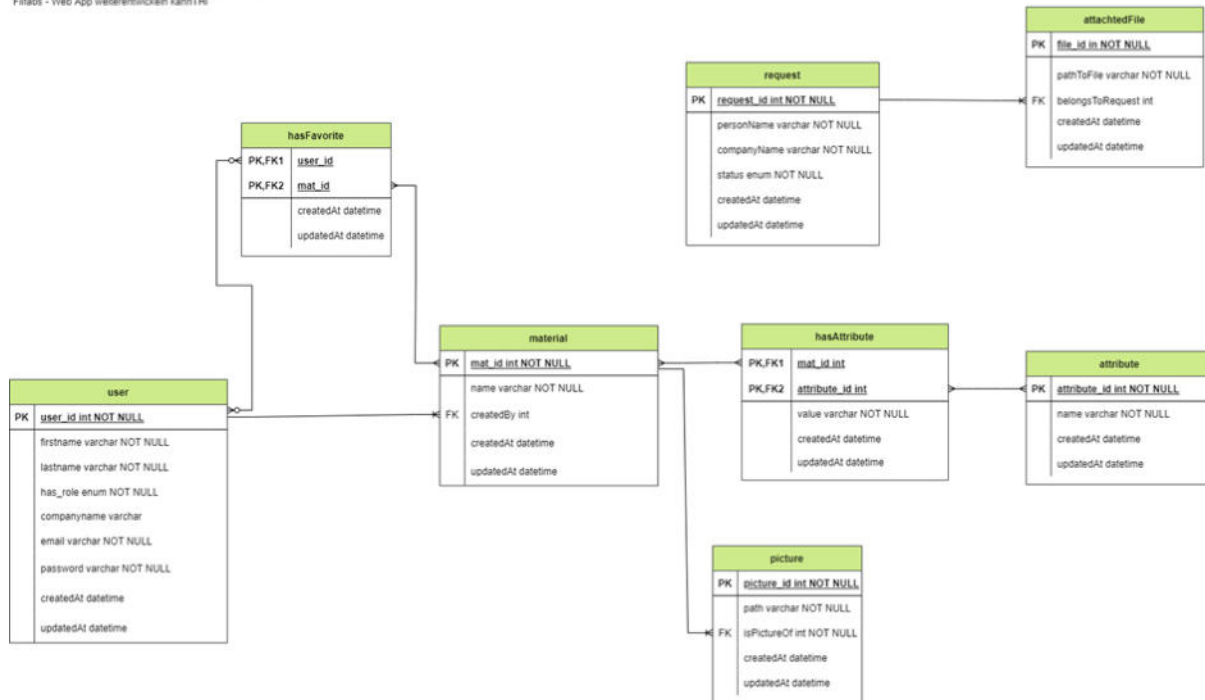
- These table are currently not connected to each other
- We use [Sequelize](#) to create our tables.
- *createdAt* and *updatedAt* are two default attributes of Sequelize. Their initial values are the value of the timestamps when a record is created. *updatedAt* will be changed if there are changes in values of the records

6.4. Prospects for further development

6.4.1. Suggestions for the database structure

Filfabs - Datenbank

Dieses ER-Diagramm dient dazu, den Entwickler*innen einen Überblick zu geben, wie man die Datenbank für die Filfabs - Web App weiterentwickeln kann!



Notes:

- **users** table stays the same
- **users**, **hasFavorite** and **material** should be linked together. A user can have different favourite materials, a material can be a favourite one of any user. Therefore, these favourite materials should not be stored in either **material** table or **user** table.
- **users** and **materials** can be linked together through a `user_id`, this connection is for storing the creator of the material. In the future, the Web App has to be extended so that users with the role Admin, can only manage (edit, delete) the materials, which they created. Therefore, we suggest building this connection.
- **materials** Table should be split to smaller tables:
- **pictures** can hold pictures of different materials. This table is linked to the material table through `mat_id` key.
- **hasAttribute**, **materials** and **attribute** should be linked together. This is because in the future, Filfabs will be used for different applications. The attributes of a material will

vary, a material can have one attribute that the others don't. As a result, the attributes should not be stored with *materials*.

- **requestForm**: In general, there should not be any dramatic changes in this table. It may be extended by adding an **attachedFile** table. In the future when a person sends a form to suggest a new material, it can be the case that he/she wants to attach different file formats that administrators of Filfabs Web App might be interested in. We also suggest adding a new attribute: *status*. This indicates if a request form has been seen/checked or approved.

6.4.2. Further features

The following features may be added to *Filfabs* in the future:

- Two-factor authentication
- Search filters
- Extending the */add-material* page to include a multi-step-form for different attributes of materials for different programmes. *Filfabs* currently only accommodates specifications for the program *VStitcher*.
- Comparison Page: Users should be able to compare attributes of up to four materials at once.
- Favourites Page: Users should be able to pin their favourite materials.
- Display embedded 3D-visualisation of materials.