



# Image Processing - Challenge Project

## OST — Ostschweizer Fachhochschule

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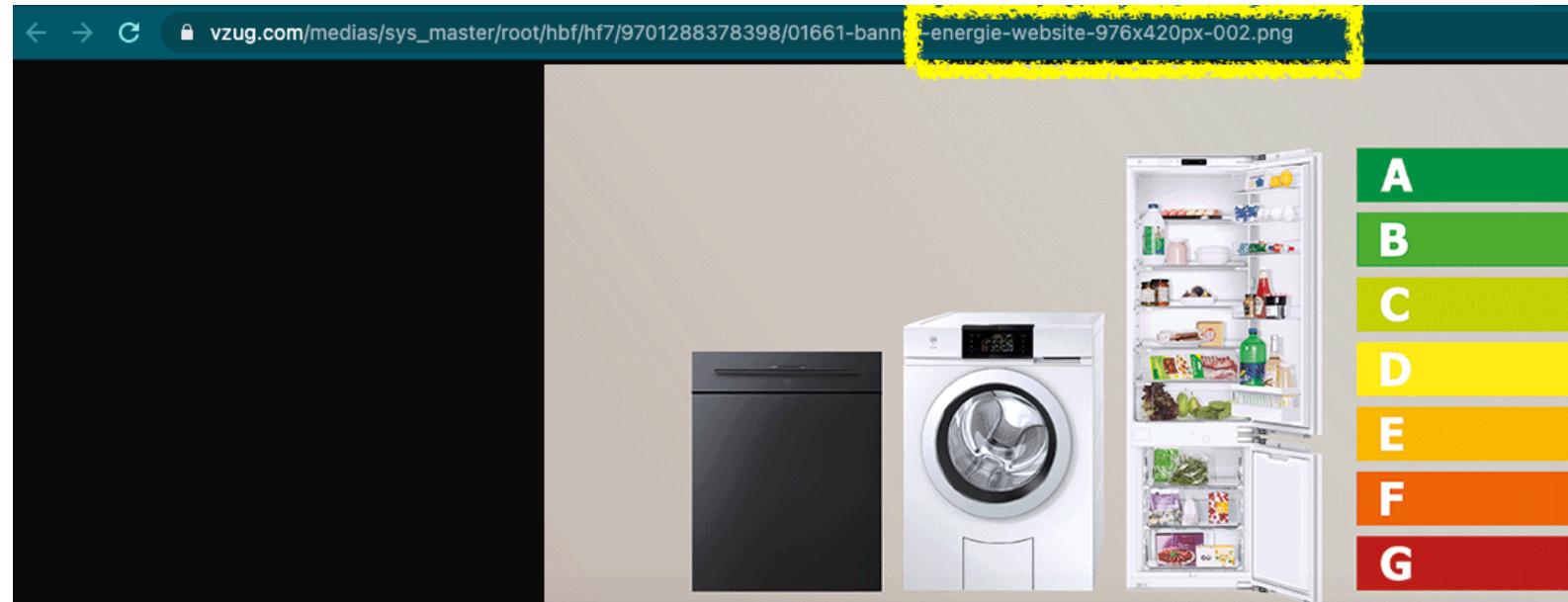
DS1 - Thomas Bocek

## 1. Introduction

# Goal

Problem: Often you need to resize, adjust quality, and convert on demand:

- Responsive Websites
- Upload of an image



Solution: Our ImgProcessing service converts the image **on-the-fly** and provides a simple *REST API*.

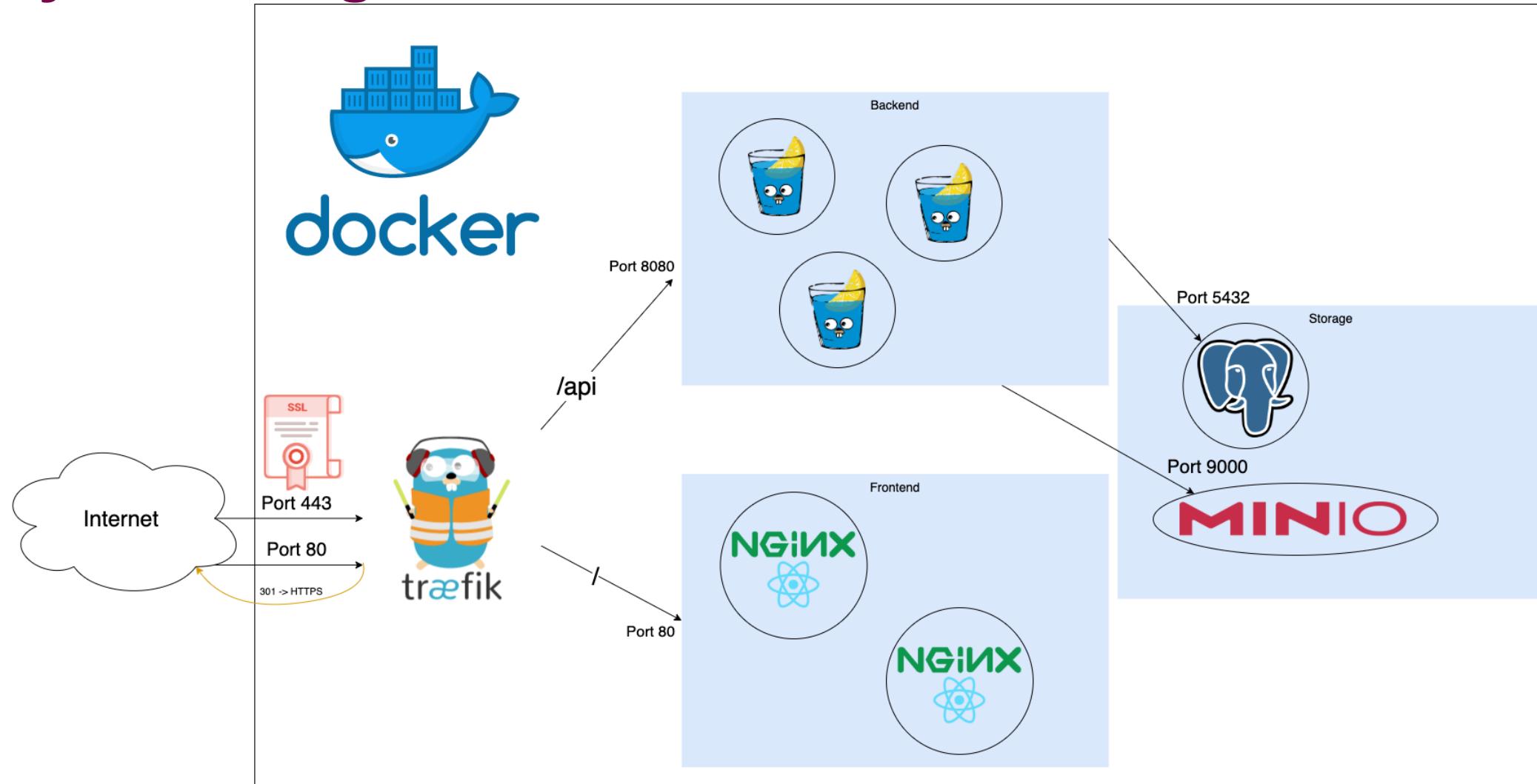
## 2. Technology

# Setup

- Backend
  - go (1.16.3)
    - gin (1.6.2)
    - JWT
- Frontend
  - ReactJS (17.0.2)
    - Material-UI
    - Served by Nginx (1.19.9)
- Loadbalancer
  - Traefik (2.4.8)
- Storage
  - PostgreSQL (13.2)
  - MinIO - Object Storage (RELEASE.2021-03-26)
- Präsentation
  - LaTeX

## 2. Technology

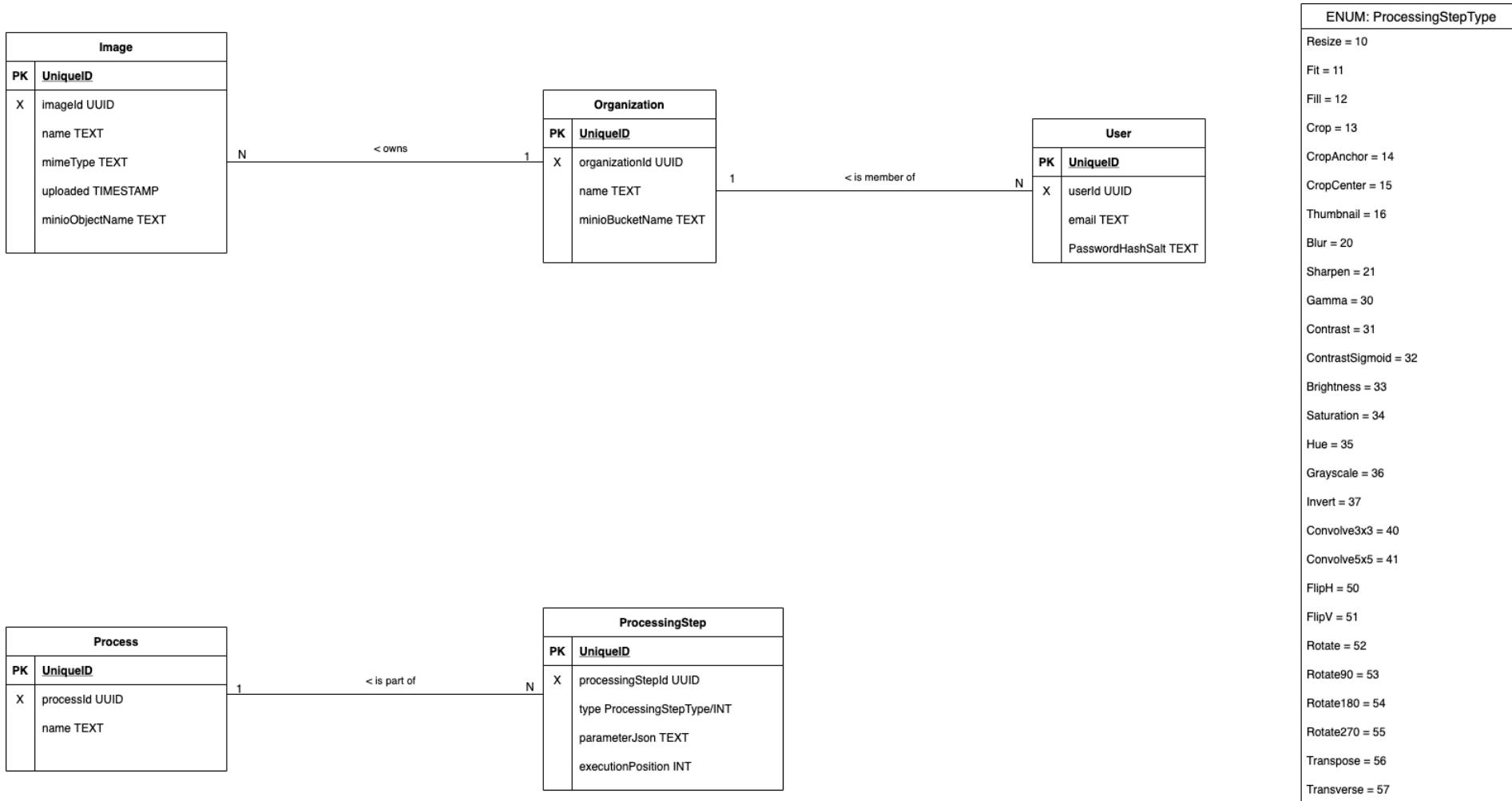
# System Diagram



### 3. Development

# Data Model

imgProcessing Entity Relations



### 3. Development

## Github Actions

- Docker Images - builded and versioned by Github Actions
  - Frontend
  - Backend
- Security by scanning for **CVE**

📦 2 packages

📦 <b>frontend</b> latest	⬇️ 276
Published 8 days ago by imgProcessing in imgProcessing/backend	
📦 <b>backend</b> latest	⬇️ 270
Published 8 days ago by imgProcessing in imgProcessing/backend	

### 3. Development

## docker-compose

- Prod and Dev environment
- Restricted access on prod

### 3. Development

## Loadbalancer

### Traefik:

- Docker Socket mounted:
  - + Autodiscover
  - - Security
- HTTP -> HTTPS Middleware
- Self-signed cert with **mkcert** for development
- Healthchecks

### 3. Development

## Backend

### 3. Development

## Frontend

### 3. Development

## Storage

#### 4. Legal

## Fulfillment of Requirements

- Dockerized: Used (images hosted on Github)
- Load balancing: Trafik
- Scalable service: Backend and Frontend
- JWT Authentication: Used
- Latest FOSS: Used

# Demo

<https://imgprocessing.pesc.xyz>

# End

Source Code