



Benjamin Vetter

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German, English

web application development, interface design, data visualization, visual design, and illustration

1 | Projects

Kleki (since 2010, founder, maintainer)

- HTML5 painting tool and image editor
- More than 1 million monthly users (October 2022), utilized by american schools
- Layers (with blend modes), various tools, filters, clipboard, upload
- Cross-platform for desktop, tablet, smartphone
- Multi-touch gestures (pinch-to-zoom, rotate, etc.), pen pressure support (Apple Pencil, Wacom)
- Image editing filters via WebGL (hue/saturation, curves, blur, tilt-shift, etc.)
- Multi-language: English, German, Chinese, Japanese
- Embedded on 2draw.net, and other websites
- Open-source as: Klecks on GitHub
- Merlot peer-review (4.5/5)

TypeScript

Canvas API

WebGL

GLSL

CSS

Parcel

Jamstack

Open-Source



Illustration by Anton Batov

Living Together (2014, 2020)

- Created 625 artworks, over 50 musical pieces, and a custom WebGL-based website
- Intuitive map navigation for 20,000 x 20,000 pixels of art, written from scratch.
- Dynamically loads appropriate resolution (also considers devicePixelRatio)
- Original art was 5,000 x 5,000 pixels. Upscaling aided by IBM/MAX-Image-Resolution-Enhancer, and waifu2x
- Cross-platform for desktop, tablet, smartphone (mouse, touch, keyboard input)

TypeScript

WebGL

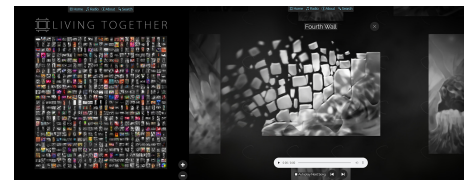
esbuild

Node.js

Photoshop

Ableton Live

Docker



Map view, and detail view

Real-Time Visualization of Flood Simulation Data

(2013-2014, TUD)

- Animated with dynamically flowing water (changing water level and flow vector)
- Minor thesis for computergraphics and hydraulic engineering chair at TU-Dresden
- Different visualizations possible (photorealistic animated water, or vector field glyphs)
- Research, concept, implementation
- "Real-Time Visualization of Urban Flood Simulation Data for Non-Professionals" (EnvirVis 2015)
- Talk at Dresden Hydraulic Engineering Colloquium 2014
- Demonstration (Youtube)

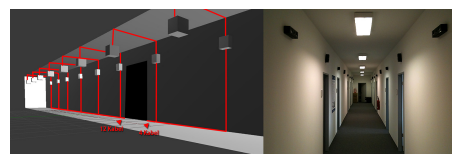
Java OpenGL GLSL Blender GIS



Spatial Audio For A Hallway (2013, TUD)

- Sounds can be interactively moved in real-time through a hallway with 16 speakers and 4 sound cards.
- Self-guided concept, implementation, and installation. Successful.

C C++ PortAudio QT HTML5 (GUI)



Webchemistry (since 2013, founder, maintainer)

- HTML 5 vector sketching tool for idea generation, based on the desktop application Alchemy
- Open-source on GitHub (GPLv3)
- Cross-platform for desktop, tablet, smartphone
- Multi-touch gestures (pinch-to-zoom)
- UI optimized for mobile and desktop through usertests
- Had more than 750,000 users since 2013

JavaScript Canvas API SVG CSS

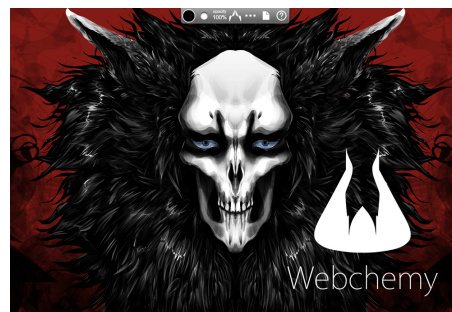
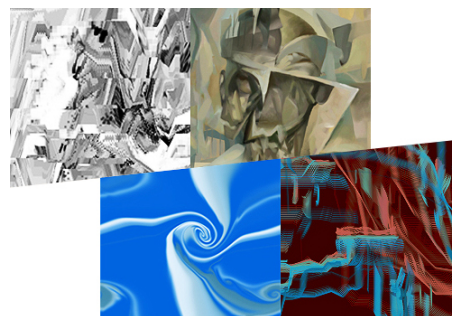


Illustration by Chilkat

Creative Prototypes (since 2010, founder)

- A series of experimental visual tools on the web
- Designed for pen input (e.g. Apple Pencil)
- Utilizing 3D models, fluid simulation, generative algorithms
- Animated / alive canvases
- 8 unique tools

JavaScript Canvas API WebGL GLSL CSS



Creations made with the developed tools

Game-Development

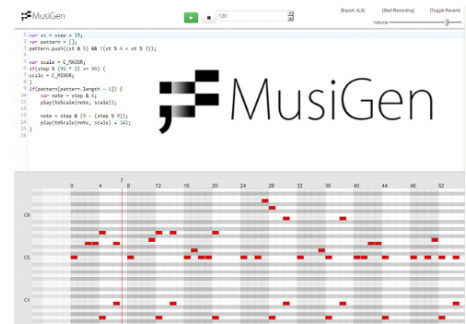
- Multiple participation in Ludum Dare Game Jam
- Extruder - Winner in category "Innovation" among 700 entries
- Credited on: QB, Walkover (on Steam), Source Forts (Half-Life 2 modification)

Java OpenGL JavaScript C++ C# Delphi Source-Engine Ableton Live Photoshop

MusiGen (2013, founder)

- Prototype - HTML5 live coding tool for music creation
- Create midi notes (controlling synths) and custom waveforms via integrated texteditor
- Real-time visualization of notes and waveforms in piano roll timeline
- Using Web Audio API for audio synthesis
- Export to Ableton Live possible

JavaScript Web Audio API Web Workers Bootstrap



Illustrations

- Focus on figurative art and surreal worlds populated by expressive dynamic shapes
- A wide variety of styles, media, and themes
- Done illustrations for Saxony state high-school book (Ernst Klett Verlag)

Photoshop Blender Kleki Sculptpris



2 | Work

since September
2022

DB Systel GmbH
Senior Fullstack Developer

2020 - 2021
(11 months)

Kuravisma GmbH
Web-Developer for online tutoring platform

Angular TypeScript Tailwind CSS Firebase Nest.js MongoDB
GitLab Google Cloud Platform

2017 - 2020
(2 years 4
months)

Trans4mation IT GmbH
Full stack web development. 3 bigger projects with ~4 team members each. Evaluation of possible architectures and implementation. Creation of a system which triggers calculation cascades over medium sized datasets (>100k multicolumn entries) and then summarizes their results.

Angular Laravel/Symfony TypeScript MySQL Elasticsearch
Bootstrap OpenAPI Docker Azure Azure DevOps

2015
(3 months)

Student assistant to chair of hydraulic engineering at TUD

Real-time visualization of flood simulation data. Visualizing further simulation data with the technology from my research paper.

Java OpenGL GLSL Blender GIS

2013
(4 months)

Student assistant to chair of computer science at TUD

Spatial audio for a hallway (16 speakers) - design, programming, and installation.

C C++ PortAudio QT HTML5 (GUI)

3 | Education

2007 - 2017

TU Dresden - media computer science (dropped out)

2005 - 2006

CS 1 & 2, and 3D modeling at Schülerrechenzentrum Dresden