Frank Willeke

Software Engineer in 3D graphics

Thaerstraße 17
10249 Berlin

frank@frankwilleke.de
www.frankwilleke.de

Personal details

Name	Frank Willeke
Place of birth	Braunschweig, Germany
Marital status	Not married, 1 daughter
Nationality	German

Work experience

Since March 2021
INSYDIUM LTD

> **March 2022 - March 2025**
> *Software Engineer*
> Advancing TerraformFX to new levels of awesomeness.
> Frameworks to develop Cinema 4d plugins independently from the used Cinema 4D release.

> **June 2021 - March 2022**
> *Senior Software Developer*
> Advancing Terraform4D (now TerraformFX) to a new level of artist-friendliness, ease of use, and power.

June 2020 - May 2021
Freelance
Software Developer
Working on Terraform4D, a modular, layer-based terrain generation system for Cinema 4D.

November 2016 - June 2020
Laubwerk GmbH
Senior Software Developer
Development of the latest incarnation of SurfaceSPREAD and SplineSPREAD, special renderer connection to Arnold, garden planning system for OBI, SVG exporter and in-house tools.

December 2009 - May 2016
Maxon Computer GmbH

       April 2014 - May 2016
       Senior Software Developer
       Development and conceptual design of future-proof new technologies, research & development

       April 2014 - May 2016
       Technical Manager
       Feasibility studies, code reviews, source integrations, structures, and processes

       September 2012 - April 2014
       Project Manager
       Personal responsibility for six developers in the areas modelling, motion tracking, and workflow

       December 2009 - April 2014
       Software Developer
       Development in C++ OSX and Windows.
       Specialised in: Shader, video post effects, GUI, workflow

2006 - December 2009
Freelance
3D Artist
Contracted 3D work e.g. for Priedemann Fassadenberatung (Großbeeren, Germany), Walter Wiese Architektur Consulting (Aachen, Germany), Tex Whitney Productions (Lilyfield, Australia), GE Transportation (General Electric, Chicago, USA), Polysius (Thyssen Krupp, Hamburg, Germany) und KI.KA / Mitteldeutscher Rundfunk (German children's television, Erfurt, Germany).

2005 - December 2009
Freelancer for Mitteldeutscher Rundfunk
(public broadcasting)
3D Artist
Animation, modelling, development of rigs and expressions for the children's TV channel KI.KA.

2005 - December 2009
Freelance
Software Developer
Plug-ins and scripts for Maxon Cinema 4D

August 2003 - June 2008
CADENAS Solutions GmbH, Wolfsburg
Project management, parametric CAD engineering, assembly scripting, and in-house development.

July 2002 - July 2003
MediaWorld GmbH, Braunschweig
Online and print media design, illustration

Education

2008 - 2009

Studied Turkish language at Tömer (subsidiary of Ankara Üniversitesi), Izmir

2003 - 2008

Vocational training as IT systems businessman
Final exams at IHK Braunschweig

2002

Community service at Paritätischer Hilfsdienst, Braunschweig, in the areas domestic services and food on wheels

2001

Graduation, intensified courses: English and music

1993 - 2001

High school: Gymnasium Ricarda-Huch-Schule, Braunschweig

1991 - 1993

Orientation stage: Orientierungsstufe Bültenweg, Braunschweig

1987 - 1991

Primary school: Grundschule Heinrichstraße, Braunschweig

Linguistic proficiency

German: Native
English: Business fluent

IT skills

Programming languages

        C++, Python, Lua

Development tools

        Apple Xcode, Microsoft Visual Studio

Versioning

        Git, Perforce

Graphic & video

        Affinity Photo, Affinity Designer, DaVinci Resolve, Adobe Photoshop

3D animation / modeling

        Maxon Cinema 4D, MoI3D, World-Machine

Audio

        Reason Studios, Ableton Live, Adobe Audition

Office

        LibreOffice, Microsoft Word, Microsoft Excel, Microsoft PowerPoint, Apple Pages, Apple Keynote, Apple Numbers

Awards

3D World Magazine: Image of the month August, 2009

        I won an ATI OpenGL graphics card for my rendering "Autumn Roads"

Commercial software projects

Terraform4D

Type: Cinema 4D plug-in
URL: https://terraform4d.com

A modular, layer based terrain generation system, that features great art directability and ease of use, as well as a powerful set of non-destructive tools to build exactly the landscapes you want.

ScoobyCamTools

Type: Cinema 4D plug-in
URL: https://help.maxon.net/us/index.html#TMOTIONCAM

Simulation of hand-held cameras, using a physically-based human rig and dynamically simulated effects. General workflow inspired by the real world. Morphing between camera tracks. Procedural, non-destructive, layer-based camera animation.

The project has been bought up by Maxon Computer GmbH in 2013 and has been integrated into Cinema 4D under the name "Motion Camera".

SurfaceSPREAD

Type: Cinema 4D plug-in
URL: http://www.laubwerk.com/store/surfacespread

Procedural generation of clones on surfaces, specialised in realistic, lifelike distribution of objects like trees, shrubs, and rocks on landscapes. Generation of procedural terrains, using fractals and shaping functions. Export of clone data to shaders and nodes.

The project has been bought up by Laubwerk GmbH in 2014 and is still being developed and distributed.

SplineSPREAD

Type: Cinema 4D plug-in
URL: http://www.laubwerk.com/store/surfacespread

Procedural generation of clones on splines, including faux randomness, controllable looping animation, projecting clones onto geometry. Export of clone data to shaders and nodes. Can be used for simulating flocks and swarms, fake particles in general, modelling (e.g. chains or train tracks, et cetera), and animating the created models.

The project has been bought up by Laubwerk GmbH in 2015 and is still being developed and distributed.

More software projects

Flock Modifier

Type: Cinema 4D plug-in, OpenSource
URL: https://github.com/fwilleke80/FlockModifier

A particle modifier that simulates the behavior of swarms and flocks (e.g. birds or fish) in Cinema 4D. Implemented on the basis of Craig Reynolds 1987 SIGGRAPH paper "Flocks, Herds, and Schools: A Distributed Behavioural Model".

Other Cinema 4D plug-ins

Most of my free Cinema 4D plug-ins are available as open source download under GPL 3.0 license on Github:

https://github.com/fwilleke80

qHunter

Type: Standalone

An experimental software to analyse the choice of words in texts. Written in 2007 in the course of a scientific research project of the TU Berlin. It allowed to compare arbitrary texts and check them for thematically similar choice of words, independently of the actual contents. For this, the software would be trained with an exemplary text, building a "Common Sense Matrix" that was developed specifically for this project. The software would automatically learn which words were actually relevant for the text's topic and which words were not. qHunter was successfully used to investigate if people would use similar choice of words when describing the same video material they were shown before. However, it could also be used to detect plagiarism in scientific papers, even if the plagiarist had completely shuffled the word order in sentences.