

## Curriculum Vitae

<b>Name:</b>	Walter
<b>First name(s):</b>	<b>Jan</b> Douglas Bert
<b>Birthplace:</b>	Munich, Germany
<b>Date of birth:</b>	01/17/1967
<b>Address:</b>	Baerwaldstr. 17, D-10961 Berlin, Germany
<b>Cell Phone:</b>	+49-151-70152344
<b>Citizenship:</b>	German
<b>Languages:</b>	German, English
<b>Certification:</b>	Dipl. Inf.

## Education

From 10/08/1992 to 10/24/1996	Technische Universität Berlin
From 10/14/1988 to 09/30/1992	Friedrich–Alexander–Universität Erlangen–Nürnberg

## Employment

08/01/2022 – 07/31/2023	Autodesk, Berlin, Germany
12/01/2020 – 07/31/2022	Paramex, Coventry, UK
11/01/2011 – 09/30/2020	The Mill, London, UK
01/01/2009 – 10/31/2011	mental images, Berlin, Germany
09/25/2006 – 12/31/2008	mental images, Marina del Rey, CA, USA
08/27/2005 – 09/20/2006	Digital Domain, Venice, CA, USA
2003 – 2005	Filmakademie, Ludwigsburg
12/29/2002 – 08/26/2005	The Mill, London, UK
10/08/2001 – 12/28/2002	Mill Film, London, UK
05/29/2001 – 10/07/2001	Moving Picture Company, London, UK
07/07/2000 – 04/05/2001	Not a Number, Amsterdam
11/01/1997 – 06/30/2000	Q–bus Mediatektur GmbH, Berlin
09/09/1996 – 10/31/1997	Artemedia productions GmbH, Berlin
11/01/1995 – 09/08/1996	Fraunhofer Institute, Berlin Production Systems and Design Technology
03/31/1993 – 10/31/1995	CAS Peter Klose GbR, Berlin CAD Animation Software

## Programming Languages

30 years of C/C++, 25 years Python, 8 years Rust software development experience (plus other languages).

## **Autodesk**

Responsibility for the Autodesk product MtoA (Maya to Arnold). Integration of the Arnold renderer into existing Digital Content Creation (DCC) tool Maya.

## **Paramex**

Define a render pipeline using Arnold and Maya to create layers for an online car configurator (especially for Bentley Motors). The car parts (layers) are replaced in real-time in response to customer input/choices.

## **The Mill**

- Transition from from mental ray towards Arnold renderer
- Maintaining the MtoA (Maya to Arnold) pipeline
- Compiling 3rd party Arnold shaders
- Converting C++ code to Rust (about 100.000 lines of code)

See rs-pbrt (<https://www.rs-pbrt.org/about/>), a Rust based renderer. The source code can be found on GitHub ([https://github.com/wahn/rs\\_pbrt](https://github.com/wahn/rs_pbrt)) and Codeberg ([https://codeberg.org/wahn/rs\\_pbrt](https://codeberg.org/wahn/rs_pbrt)).

## **mental images**

- Production support for mental ray (e.g. Digital Domain during Speedracer)
- mental ray shader development (in C/C++)
- Converting C/C++ shaders to MetaSL (with backends to HLSL/GLSL etc.)
- Customer support in Content Creation Group (3DS Max and Maya scenes) for RealityServer.
- Custom Maya, 3DS Max, and Blender exporters (written in C++ and Python)

## **Digital Domain**

I worked on Flags of Our Fathers, Zoom, and the Speedracer movie.

- Data exchange between Houdini, Maya, Lightwave, and 3DS Max
- Mental ray pipeline for Zoom (re-creating whole HyperGraphs outside of Maya while overwriting certain shader parameters on a per object basis)
- Integrating Python into a Houdini ROP via Boost
- Various importers/exporters from/to several file formats
- Python GUI communicates via port with Houdini/Maya and via sockets with Asset Management System/Database

## The Mill

I worked on several commercials (e.g. Playstation — Mountain: <https://youtu.be/xRwgdZxYL-E>) and video music clips (e.g. Radiohead — Go to Sleep: <https://youtu.be/Fe6X9fLLp0Y>).

- Mental ray output shader
- CFD integration, mental ray volume shader (raymarcher)
- Mesh reduction algorithms, massive crowd system
- RenderMan shaders, massive integration
- XtoR — RenderMan exporter for XSI (RenderMan and mental ray shader library)
- Mental Ray geometry shaders
- XSI and Maya plugins
- Voxelizer
- Real-time lighting in Houdini's compositing system
- Maxwell rendering tests
- Teaching shader writing and Houdini at the Filmakademie Ludwigsburg

## Mill Film

I worked on Harry Potter and the Chamber of Secrets and the Black Hawk Down movies.

- Prototype for walking spiders
- Mental ray volume shader (raymarcher)
- Maya to mental ray
- Maya to RenderMan
- Solving motion blur and eyesplit problems (PRMan)
- Jig, Air (occlusion), Radiance, baking radiosity
- HDK (voxel field to I3D)

## Moving Picture Company

I worked on Harry Potter and the Sorcerer's Stone movie.

- Lighting tools
- Using Alfred dependencies on renderfarm (Maya/PRMan/Shake/Maya)
- Deep shadow (MPC's — not Pixar's) integration
- RenderMan and Maya communicate via sockets

## **Not a Number**

Today Blender is an open-source animation and rendering system but there was a time when Not a Number distributed the software for free and tried to be a commercial company at the same time.

- Python API
- Import/Export scripts (OpenInventor, VRML 2.0, RenderMan, Povray, Radiance, Panorama, Lightflow Rendering Tools, Lightwave, OBJ, and 3DS)

## **Q-bus**

VIN project for the International Net Management Center (INMC) of Deutsche Telekom, CeBIT exhibitions, Expo 2000 T-Digit job for Deutsche Telekom

## **Artemedia**

InfoBox at Potsdamer Platz, Virtual Reality (VR), automatic path generation (BSplines).

## **Fraunhofer**

CAESAR (ESPRIT project), semi-automatic repair of free form surfaces (NURBS), surface-surface intersections, industrial partners like DASA (German Aerospace) and British Airways (UK), cooperation with the University of Swansea (UK).

## **CAS**

Working prototype of a NURBS based modeler shown at CeBIT 1994, plugin for 3D Studio (DOS based). NURBS library with surfaces of revolution, interpolation, sweeping and other useful functions.