Lindsay Kay - 3D Web Developer

Personal Information

Location	Berlin, Germany
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Summary

Freelance 3D software engineer providing Web-based solutions for visualization in BIM, CAD, medicine and architecture; open source contributor; living in Berlin, Germany since 2011, originally from Christchurch, New Zealand.

Recent Work Experience

2017–2018 **WebGL Developer** *Move to BIM,* Lyon, France. Built the WebGL-based 3D viewer within the BIMData BIM visualization platform.

- Features include cross-sections, annotations, measurements, ViewCube, BCF and a glTF-based geometry pipeline
- Powered by xeogl
- Case study: xeolabs.com/portfolio/bimdata

2018–2018 **WebGL Developer** *SolidComponents,* Halmstad, Sweden. Built the WebGL-based 3D CAD (3DXML) viewer within the SolidComponents™ online product catalog.

- Powered by xeogl

2010–2018 **WebGL Developer** *BioDigital Systems,* New York, New York. Built the core WebGL-based rendering technology within the BioDigital Human, the leading online 3D platform for the exploration of anatomy, medical conditions and treatments.

- Lead 3D development (2010-2015)
- Delivering high-detail, web-based anatomical visualizations
- Over three million subscribed users
- Won the 2015 Webby Award for best Healthcare Website
- Won the 2013 SXSW Classic Interactive Award
- Based on private optimized fork of SceneJS
- Case study: xeolabs.com/portfolio/biodigital-human

2018–2018 **WebGL Developer** *TNO,* Amsterdam, Netherlands. Contributed to BIMSurfer V3, a cutting-edge WebGL2-based 3D viewer that renders massive tiled models streamed from BIMServer.

2015–2017 **WebGL Developer** *TNO,* Amsterdam, Netherlands. Built the WebGL-based 3D viewer within BIMSurfer, the first open source tool for Web-based visualization and evaluation of Building Information Models (BIM).

- Powered by xeogl

Selected Open Source Projects

2015–present **xeogl** - open source WebGL-based 3D visualization library for STEM
- o Powers the BIMSurfer, BIMData and SolidComponents 3D viewers
- o Physically-based rendering
- o Interactively renders millions of objects
- o Imports glTF, OBJ, 3DXML, STL
- o xeogl.org

2015–2017 **BIMSurfer** (V2) - WebGL-based 3D viewer for BIMServer - the first open source tool for Web-based visualization and evaluation of Building Information Models (BIM)
- o Powered by xeogl
- o bimsurfer.org

2007–2016 **SceneJS** - one of the first widely-used open source WebGL 3D engines (now retired)
- o Private optimized fork powers the BioDigital Human
- o scenejs.org

Talks & Publications

2015 **The xeogl & SceneJS WebGL Libraries,** *Berlin WebGL Meetup 2015*

2012 **SceneJS - A WebGL-Based Scene Graph Engine,** *OpenGL Insights 2012*
- o xeolabs.com/pdfs/OpenGLInsights.pdf

2010 **SceneJS WebGL Library,** *WebGL Camp #1, Stanford University, 2010*

Education

2000–2004 **BSc, Computer Science,** University of Canterbury, Christchurch, New Zealand
- o Course tutor for papers on software engineering and algorithms

Skills & Background Knowledge

Technical skills *(recent)*

3D graphics algorithms

3D application and engine architecture, API design

WebGL, WebGL2, OpenGL, glTF, xeogl

MedViz, IFC, BIM, BIMServer, BIMSurfer

C, C++, Java, JavaScript/ECMA6, HTML, CSS, Git, Linux, Open Source

Remote working, freelancing, technical writing