

Lindsay Kay - 3D Web Developer

Personal Information

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Summary

Freelance 3D graphics software engineer providing Web-based solutions for BIM, CAD and medicine; independent open source developer.

Recent Work Experience

- 2019–present **BIM/WebGL Software Developer** *OpenProject*, Berlin, Germany.
 - Developing a BIM version of the open source OpenProject online project management software, using the xeokit SDK.
- 2019–present **BIM/WebGL Software Developer** *D-Studio*, Mechelen, Belgium.
 - Providing BIM software development and consultancy services on the xeokit SDK.
- 2019–2019 **BIM/WebGL Software Developer** *PlanRadar*, Vienna, Austria.
 - Providing BIM software development and consultancy services on the xeokit SDK.
- 2017–2019 **BIM/WebGL Software Developer** *BIMData*, Lyon, France.
 - Created the 3D viewer within the BIMData IFC visualization platform
 - Writeup: xeolabs.com/portfolio/bimdata
- 2010–2019 **Medical Visualization/WebGL Developer** *BioDigital Systems*, New York, New York.
 - Created the core 3D rendering tech within the BioDigital Human Web-based medical visualization platform
 - Over three million subscribed users
 - Won the 2015 Webby Award for Best Healthcare Website
 - Won the 2013 SXSW Classic Interactive Award
 - Lead 3D development (2010-2015, 2018-2019)
 - Writeup: xeolabs.com/portfolio/biodigital-human
- 2018–2018 **CAD/WebGL Developer** *SolidComponents*, Halmstad, Sweden.
 - Created the 3D viewer within the SolidComponents online CAD product catalog
- 2018–2018 **BIM/WebGL Developer** *TNO*, Amsterdam, Netherlands.
 - Contributed various features to BIMSURFER V3.
- 2015–2017 **BIM/WebGL Developer** *TNO*, Amsterdam, Netherlands.
 - Created the 3D viewer within BIMSURFER V2, an open source tool for Web-based IFC visualization
- 2016–2016 **WebGL Developer** *zSpace*, Sunnyville, CA.
 - Created WebGL demos for the zSpace 300 mixed-reality 3D display.

- o Demonstrated at GDC 2017
- o Writeup: xeolabs.com/portfolio/xeogl-and-zspace

Selected Projects

- 2013–2013 **Smile Train**, New York. Created the 3D rendering tech within the WebGL-based Smile Train virtual surgery simulator, which provides surgeons in 1100 hospitals in 150 countries with next generation surgical training technology for learning surgical techniques in cleft lip and palate repair.
 - o Won NTSA Award for Outstanding Achievement in Modeling & Simulation
 - o Showcased at TEDMED 2014
 - o smiletrain.org
- 2019–present **xeokit**, Berlin, Germany. A dual-licensed 3D WebGL SDK for viewing large BIM and CAD models in the browser.
 - o Presented at SIGGRAPH 2019.
 - o Users include OpenProject, PlanRadar, HOK, Eyeonym, uniZite, Blue Star Qatar, D-Studio, BIMData and BuildSort
 - o xeokit.io
- 2015–present **xeogl** - An open source WebGL-based 3D library for engineering visualization.
 - o xeogl.org
- 2007–2016 **SceneJS** - One of the first popular open source WebGL 3D libraries.
 - 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 Download: xeolabs.com/pdfs/OpenGLInsights.pdf
- 2010 **SceneJS WebGL Library**, *WebGL Camp #1, Stanford University, 2010*
 - o <http://www.gameenginegems.net/gemsdb/article.php?id=1188>

Education

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

Skills & Background Knowledge

Technical skills (*recent*)

3D graphics algorithms
 3D application, engine and API design
 WebGL (1 & 2), OpenGL, glTF
 Medical and architectural visualization, BIM, BIMServer, BIMSurfer
 C, C++, Java, JavaScript/ECMA6, HTML, CSS, Git, Linux, Open Source
 Remote freelancing, technical writing