

Lindsay Kay - 3D Web Developer

Personal Information

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Summary

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

Recent Work Experience

- 2017–present **WebGL Developer** *Move to BIM*, Lyon, France. Responsible for the 3D viewer within the BIMData IFC visualization platform.
 - o Writeup: xeolabs.com/portfolio/bimdata
- 2010–present **WebGL Developer** *BioDigital Systems*, New York, New York. Responsible for the core 3D rendering technology within the BioDigital Human Web-based medical visualization platform.
 - o Lead 3D development (2010-2015, 2018-present)
 - o Over three million subscribed users
 - o Won the 2015 Webby Award for best Healthcare Website
 - o Won the 2013 SXSW Classic Interactive Award
 - o Writeup: xeolabs.com/portfolio/biodigital-human
- 2018–2018 **WebGL Developer** *SolidComponents*, Halmstad, Sweden. Built the 3D viewer within the SolidComponents online CAD product catalog.
- 2018–2018 **WebGL Developer** *TNO*, Amsterdam, Netherlands. Contributed to BIMSURFER V3, a WebGL2-based 3D viewer that renders massive tiled models streamed from BIMServer.
- 2015–2017 **WebGL Developer** *TNO*, Amsterdam, Netherlands. Built the 3D viewer within BIMSURFER V2, an open source tool for Web-based visualization and evaluation of Building Information Models (BIM).
- 2016–2016 **WebGL Developer** *zSpace*, Sunnyvale, 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. Responsible for the 3D rendering tech within a WebGL-based virtual surgery simulator providing surgeons in 1100 hospitals in 150 countries with next generation surgical training technology for learning surgical techniques in cleft lip and palate repair.

- o NTSA award for Outstanding Achievement in Modeling & Simulation
- o smiletrain.org

- 2019–present **xeokit**, Berlin, Germany. A dual-licensed 3D WebGL SDK for viewing large BIM models in the browser. Providing development and support services to licensed SDK users.
- o Users include Konstruktum, OpenProject, PlanRadar, Eyeonym, uniZite, Blue Star Qatar and D-Studio
 - o xeokit.io
- 2015–present **xeogl** - An open source WebGL-based 3D library for engineering visualization.
- o Users include BIMSurfer, BIMData, BIMSpot, AirSquire, SolidComponents and Energie IP
 - o xeogl.org
- 2007–2016 **SceneJS** - One of the first popular open source WebGL 3D libraries.
- o Users include BioDigital, BIMSurfer and the ESA
 - 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*

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, xeogl
 Medical and architectural visualization, BIM, BIMServer, BIMSurfer
 C, C++, Java, JavaScript/ECMA6, HTML, CSS, Git, Linux, Open Source
 Remote freelancing, technical writing