Lindsay Kay - 3D Web Developer

Personal Information

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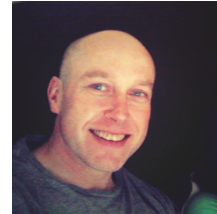
Summary

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

Recent Work Experience

2017–2019 **WebGL Developer** *Move to BIM,* Lyon, France. Built the 3D viewer within the BIMData IFC visualization platform.

- Writeup: xeolabs.com/portfolio/bimdata

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

2010–2018 **WebGL Developer** *BioDigital Systems,* New York, New York. Built the core 3D rendering technology within the BioDigital Human.

- Delivering high-detail, web-based medical visualizations
- Lead 3D development (2010-2015)
- Over three million subscribed users
- Won the 2015 Webby Award for best Healthcare Website
- Won the 2013 SXSW Classic Interactive Award
- Writeup: xeolabs.com/portfolio/biodigital-human

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,* Sunnyville, CA. Created WebGL demos for the zSpace 300 mixed-reality 3D display.

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

Selected Projects

2013–2013 **Smile Train** - 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 Won NTSA award for Outstanding Achievement in Modeling & Simulation

o smiletrain.org

2015–2017 **BIMSurfer** - A WebGL-based 3D viewer for BIMServer

o bimsurfer.org

2019–present **xeokit** - An open source SDK for viewing high-detail 3D IFC models in the browser.

o xeokit.io

2015–present **xeogl** - An open source WebGL-based 3D visualization library for STEM

o Powers BIMSurfer, BIMData and SolidComponents

o xeogl.org

2007–2016 **SceneJS** - An open source WebGL-based 3D scene graph library

o 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 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