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To Whom It May Concern:

Ryan Callahan worked at Demonstratives, Inc. (DI) and at Engineering Systems, Inc. (ESI) after Demonstratives, Inc. was acquired by ESI in May, 2014. His job title was Technical Artist and he was employed from April 30th, 2012 to January 31st, 2014 as a contractor and was a full-time employee from January 31st, 2014 until July 22nd, 2016. During his tenure at DI and ESI, Ryan worked with a number of sophisticated digital graphics, modeling, and animation tools and contributed to a number of projects detailed below. Due to the confidential and legal nature of our work, the materials described below are not available for demonstration purposes.

Ryan's Experience with Graphics Tools:

Adobe PhotoShop: Is a highly sophisticated image editing tool used to create and edit raster images. At ESI Ryan worked in Photoshop with a very high degree of skill to edit photographs, rendered images from tools like 3ds Max, charts and graphs generated from data analysis tools, and to generate raster images de novo.

Adobe Illustrator: Is a vector graphics creation and editing tool that is used at ESI to create vector graphics for use in a variety of tools including Microsoft PowerPoint and Adobe After Effects. Much of what Ryan created in Adobe Illustrator were stand-alone graphics that were incorporated into a PowerPoint slide deck or used as a piece of print media. However, he also used Illustrator to create assets for use as a component in other 2D animations set up in PowerPoint or After Effects.

Microsoft PowerPoint: Is a slide creation and presentation tool that is used very broadly in the legal community. Because of its wide adoption for making legal presentations, ESI frequently develops PowerPoints for clients. However, ESI delivers a sophisticated twist to PowerPoint development, utilizing assets created in a variety of 2D and 3D tools (many in this list) and leverage using PowerPoints presentation and animation capabilities. Ryan worked to develop many PowerPoint presentations, often creating his own asset using Adobe PhotoShop, Adobe Illustrator and Autodesk 3ds Max.

Dassault Systèmes Solidworks: Is a solid modeling computer-aided design (CAD) program that Ryan used to create highly accurate 3D models that could be imported into an animation tool such as 3ds Max.

Adobe After Effects: Is a visual effects, motion graphics, and compositing software application that ESI uses to create and assemble 2D animations or to sweeten 3D animations with motion effects like glare from rendered lights, fog, and a wide variety of special effects. Ryan used Adobe After Effects to create 2D animated sequences that were rendered as movies and embedded within PowerPoint presentations for visually compelling presentation elements that go far beyond the native capabilities of PowerPoint.

Autodesk 3ds Max: Is a 3D modeling, animation, and rendering software package that Ryan used to create, texture, and render 3D models. He also used 3ds Max to setup animations illustrating components of device assemblies created in Solidworks.

Volume Graphics VG Studio: Is a highly technical tool used to visualize and animate industrial computed tomography (CT) data. Ryan underwent formal VG Studio training sponsored by ESI and worked with VG Studio in our office in Ames, IA.

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Exemplar Projects Ryan Worked On:

E-Cigarettes Patent Litigation Case: Ryan worked on a patent case involving e-cigarettes. In developing graphics for the case he used 3Ds, Illustrator, and PhotoShop to create 3D and 2D images for several types of e-cigarettes. To do this accurately, he manually deconstructed actual e-cigarettes, created geometry and textures for specific components of the device, created scan overlays, and produced detailed vector representation diagrams.

Aviation Accident Component Case: ESI was charged with analyzing distorted seat rails that were in an airplane crash. Ryan's role in the project was to provide measurements of specific components of the distorted seat rails from CT scans that were made from the accident parts. Each rail had to be cut up in VG Studio. The voxel data sets were then extracted from the CT scans, cleaned up, registered, and measured. VG Studio is a very complex tool that Ryan utilized to extract the rails and provided the needed data to our consultant.

Molecular Biology Patent Cases: Ryan developed PowerPoint slides for several patent cases that involved topics in molecular biology. These cases are particularly challenging due to the foreign nature of the subject matter for most fact finders. Ryan used Adobe Photoshop, Illustrator, and PowerPoint to develop 2D animations illustrating complex concepts such as silica bead based DNA replication and DNA sequencing. Ryan created the vector art assets, aligned all the nucleotides and other elements necessary to make the animation work, and animated the process in PowerPoint accurately and precisely. This was a tedious project, but resulted in an effective presentation tool.

Sincerely,



Charles A. Fox, Ph.D.
Director of Visualization
Engineering Systems, Inc.