

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

**DECLARATION OF DR. PETER LINDSTROM
REGARDING 1997 ARTICLE ENTITLED “AN INTEGRATED GLOBAL
GIS AND VISUAL SIMULATION SYSTEM”**

I, Peter Lindstrom, make the following declaration based on my personal knowledge:

1. My name is Peter G. Lindstrom. I am a computer scientist and project leader in the Center for Applied Scientific Computing at Lawrence Livermore National Laboratory, Livermore, California. I studied and conducted research in a doctoral program at Georgia Institute of Technology (“Georgia Tech”) from 1994 to 2000 and earned my Ph.D. in Computer Science from Georgia Tech in 2000.
2. As part of my study and research at the Graphics, Visualization, and Usability Center (GVU) at Georgia Tech, I worked on a project related to a visual simulation system called Virtual Geographic Information System (“VGIS”) between 1994 and 1997.
3. During this project, I conducted research on various technical issues in an integrated visual simulation system supporting visualization of global multiresolution terrain elevation and imagery data, static and dynamic 3D objects with multiple levels of detail, non-protrusive features such as roads and rivers, distributed simulation and real-time sensor input, and an embedded geographic information system. My research covered the requirements of real-time rendering, very large datasets, and heterogeneous detail management and their strong impact to the structure of the system. I was the lead author of a research paper relating to VGIS titled “An Integrated Global GIS and Visual Simulation System,” along with

David Koller, William Ribarsky, Larry F. Hodges, Augusto Op den Bosch, and Nick Faust. I will refer to this publication simply as “the Lindstrom Publication” for purposes of this declaration.

4. The Lindstrom Publication was published online on the Georgia Tech website as a GVU Technical Report in 1997. I specifically recall the publication of the Lindstrom Publication online in 1997 and I am confident based on my own recollection that the Lindstrom Publication was published in 1997 because I was responsible for finalizing the paper for online publication. The Lindstrom Publication was published online as a GVU Technical Report in 1997 and was available to the public for free through the Georgia Tech website and File Transfer Protocol (FTP) site. The Lindstrom publication could be located by the general public through a search of the online Georgia Tech catalog. The general public could also locate and obtain a copy of the Lindstrom publication through an Internet or web search engine. I checked the GVU FTP site at least once in 1997 after the Lindstrom Publication was published and observed that the Lindstrom Publication was, in fact, available for download in a location accessible to the public.

5. Attached to this declaration as Exhibit A is a true and correct copy of the Lindstrom Publication that was published and made publicly accessible in

1997. I recognize Exhibit A as a true and correct copy of the Lindstrom Publication from my own recollection.

6. At the time the Lindstrom Publication was published, it was made available to the public at the GVV FTP site located at <ftp://ftp.gvu.gatech.edu>.

5 Subsequent to the publication of the Lindstrom Publication, the ftp site was changed to a different address at <ftp://ftp.cc.gatech.edu>. While the address has changed, the current address still directs users to the same Georgia Tech FTP directory to which the Lindstrom Publication was uploaded in 1997. The Lindstrom Publication is currently available
10 at <ftp://ftp.cc.gatech.edu/pub/groups/gvu/tr/1997/97-07.pdf>, while the color plates that were published as part of this figure are available
at <ftp://ftp.cc.gatech.edu/pub/groups/gvu/tr/1997/97-07.figures.pdf>. I have examined these online copies of the Lindstrom Publication and they are the same documents which I recall being published in 1997, and are identical to Exhibit A
15 with the addition of color in the color plates.

7. I worked with two people at Georgia Tech on the logistics for the publication of the Lindstrom Publication at online GVV Technical Reports. I originally sent the manuscript of the Lindstrom Publication to Ms. Elaine Swobe, who was the GVV Center's technical report coordinator. Mr. Randy Carpenter,
20 who was a research scientist at GVV and the manager of the GVV lab in 1997, also

communicated and worked with me in publishing the Lindstrom Publication. Mr. Carpenter oversaw the publication of certain reports originating out of the GVU lab and was the person who ultimately posted the Lindstrom Publication online.

8. Attached to this declaration are two email communications, which I
5 recognize as emails that I received in 1997 relating to the publication of the Lindstrom Publication. These emails and the date stamp on the electronic publication are consistent with my recollection that the Lindstrom Publication was published in the spring of 1997.

9. The first email, dated April 3, 1997, is attached to this declaration as
10 Exhibit B. This email is a message from Ms. Swobe to me, copying Mr. Carpenter, indicating that the Lindstrom Publication had been assigned a Tech Report number, meaning that it had been selected for online publication.

10. The second email, dated May 13, 1997, is attached as Exhibit C. This
15 email is a message from Mrs. Swobe to the GVU Advisory Board, faculty, and graduate students (including me) announcing the release and public availability of GVU Technical reports in March and April of 1997, including the Lindstrom Publication. I received this email through the GVU graduate student email list, gvu-grad@cc.gatech.edu, which appears on the carbon copy (CC) line of Exhibit C.

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