

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

AMAZON.COM, INC. AND AMAZON.COM SERVICES LLC,
Petitioners

vs.

LIGHTGUIDE, INC.,
Patent Owner

Case IPR2023-01423

Patent No. 10,528,036
Title: LIGHT GUIDED ASSEMBLY SYSTEM
Issue Date: April 7, 2009

DECLARATION OF FREDERIK KJELDSSEN

I, Frederik Kjeldsen, declare as follows:

I. INTRODUCTION

1. I am an engineer who currently resides in Poughkeepsie, New York. I am retired from International Business Machines Corporation (“IBM”) after working there for 33 years. For 27 of those years I worked for the IBM Watson Research Center in Yorktown, New York. My research work focused on various applications of computer vision.
2. During my time at IBM I authored or co-authored nearly 50 academic articles, including the following:
 - Rick Kjeldsen et al., *Interacting with Steerable Projected Displays* (in Proc. of 5th Int’l Conf. on Automatic Face and Gesture Recognition (May 20-21, 2002)) (Ex. 1005) (cited as “Kjeldsen”)
 - Claudio S. Pinhanez, Frederik C. Kjeldsen, Anthony Levas, Gopal S. Pingali, Mark E. Podlaseck, Paul B. Chou, *Ubiquitous Interactive Graphics* (dated May 17, 2002)) (Ex. 1006) (cited as Pinhanez-I)
 - Claudio Pinhanez, Rick Kjeldsen, Anthony Levas, Gopal Pingali, Mark Podlaseck, Noi Sukaviriya, *Applications of Steerable Projector-Camera Systems* (in Proc. of the IEEE International

Workshop on Projector-Camera Systems at ICCV (October 12, 2003)) (Ex. 1014) (cited as “Pinhanez-II”)

3. I have confirmed that each of these exhibits is a true and correct copy of the articles that my team and I published. As discussed below, I also have personal knowledge that each of these articles was available to the community of interested researchers in various ways, including through journals, conference proceedings, and in-person demonstrations. These, and most other publications produced as part of the Everywhere Display project have been continuously available on the internet from the time of their publication to this day at various web sites of ED-projector group members, IBM’s publications web pages and sites such as CiteSeer, ResearchGate and IEEE Xplore.
4. As for the Kjeldsen reference (Ex. 1005), that article was published in the Proceedings of the 5th International Conference on Automatic Face and Gesture Recognition that took place May 20-21, 2002. I recall attending that conference and presenting this paper to approximately 40 attendees. I estimate that there were 150-200 attendees total at the conference. The conference was advertised to the public by the IEEE and attracted a mixture of university professors, graduate students, industrial research lab employees, and other independent researchers. All attendees at the

conference received a copy of the proceedings that included my paper, either at registration or in the mail within a few weeks of the conference. My paper, and the proceedings as a whole, were also available to the general public for purchase from the publisher shortly after the conference (i.e., in 2002). On the ED-Projector team, our standard practice for papers like this was to place them on our work website either at the time the papers were accepted for publication or shortly after they were actually published.

Exhibit 1005 would have been made available according to this practice in 2002 at IBM Research web pages such as

<https://research.ibm.com/people/p/pinhanez/publications/fg02.pdf> although I do not remember the exact date it was added. Our team was also expected to add documents such as this to IBM's research library database, which was a searchable database available to the general public using a web browser (to my recollection, without any password required). IBM's expectations were that publications such as Exhibit 1005 would be added to the research paper database in a timely manner (i.e., within the year of publication) and I expect that practice was followed here.

5. The Pinhanez-I publication (Ex. 1006) is another paper that I co-authored in connection with the Everywhere Display Projector team. This is an IBM research report titled *Ubiquitous Interactive Graphics* dated May 17, 2002.

This research report was published and available to the public through the IBM Research website through some combination of Claudio Pinhanez's webpage, other team member's web pages, the ED-Projector webpage or IBM's library database, all of which were public-facing and available using a standard web browser without a password. Although I do not recall specifically when this paper was published, I know that it was available at the latest in 2003 because I recall referencing this paper to interested parties quite often. Additionally, the paper would have been available to anyone running a web search for the ED-projector project, as the ED-projector website would have been indexed by those search engines. I specifically recall individuals mentioning that they found the ED-projector project website via the web.

6. Pinhanez-II (Ex. 1014) is a paper that was submitted to and presented at the Workshop on Projector-Camera Systems ("PROCAMS'03") as part of the International Conference on Computer Vision ("ICCV'03") in Nice, France. The annual ICCV conference was, and is, a leading public conference for publications related to computer vision, and was widely publicized through emails, on professional organization websites, via mailed flyers, advertisements, and word-of-mouth to academics and industry researchers from around the world. As of 2003, ICCV was typically attended by 500

people or more. The conference was advertised to the public by the IEEE and attracted a mixture of university professors, graduate students, industrial research lab employees, and other independent researchers. Attendees at the conference received a copy of the proceedings that included my paper, either at registration or in the mail, within a few weeks of the conference.

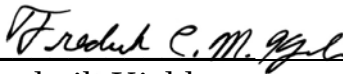
Pinhanez-II was submitted to and published as part of the ICCV conference and thus was provided to attendees of the conference in 2003. A true and correct copy of Pinhanez-II exists at what appears to me to be a copy of the CD-ROM of the proceedings for ICCV'03 at

<http://lear.inrialpes.fr/people/triggs/events/iccv03/cdrom/procams03/index.html>. Additionally, at least as of 2008, the paper was also available for download from Claudio Pinhanez's work website as shown by

<https://web.archive.org/web/20080423153608/https://research.ibm.com/people/p/pinhanez/publications/procams03.pdf>.

7. I declare under penalty of perjury that the foregoing is true and correct.

Date: September 5, 2023

By: 
Frederik Kjeldsen