

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

BUNGIE, INC.,
Petitioner,

v.

WORLDS INC.,
Patent Owner.

Case No. IPR2015-01325
Patent No. 8,145,998

SECOND DECLARATION OF MICHAEL ZYDA, D.SC.

BUNGIE EXHIBIT 1000

I, Michael Zyda, declare as follows:

1. As discussed in my prior declaration (Ex. 1002), I have been retained by Bungie Inc. (“Bungie”) to serve as an expert witness and consultant in connection with these proceedings. I provide this declaration to clarify a point made in my prior declaration and raised during my deposition.

2. Thomas Funkhouser’s article “RING: A Client-Server System for Multi-User Virtual Environments” (“Funkhouser,” Ex. 1005) described a virtual reality system utilizing a client-server architecture. Funkhouser was published in a collection of papers entitled “Proceedings of the 1995 Symposium on Interactive 3D Graphics” (“1995 SI3D,” Ex. 1006).

3. I understand that Bungie submitted an electronic copy of Funkhouser obtained from the ACM Digital Library as Exhibit 1005. I also understand that Bungie submitted a scan of the 1995 SI3D publication as Exhibit 1006.

4. I understand that Patent Owner and the Board identified an error in my prior declaration with respect to a quote from Funkhouser. In particular, I quoted from a caption to Plate II that did not appear in the same form in Exhibits 1005 and 1006. I understand that in its Institution Decisions, the Board did not find this error to be material and instituted trial. I also do not believe this error to be material, and it does not change my opinions with respect to unpatentability.

5. I believe that my deposition testimony adequately clarified the record, by identifying how this error was made as well as why it does not change my opinions with respect to unpatentability. Nonetheless, I understand that Patent Owner has objected to that portion of my testimony as well as to the exhibit

necessary to understand the nature of the error. Accordingly, I was asked to provide this declaration so that, if necessary, Patent Owner and the Patent Trial and Appeal Board will have a clear explanation of the matter.

6. I have reviewed the document that Bungie has marked as Exhibit 1037. Based on my review, I believe Exhibit 1037 to be the version of Funkhouser that was submitted to me and the other organizers of the 1995 SI3D symposium prior to the conference.

7. Once a paper has been accepted for publication, it is very common for the authors to make an electronic copy available on the internet. In addition to the electronic copy available from the ACM (Ex. 1005) and the physical book also available from the ACM or third-party resellers (Ex. 1006), Prof. Funkhouser has made electronic copies of his paper freely available on the internet.

8. A simple Google search for the article title brings up a version of Funkhouser available on now-Prof. Funkhouser's Princeton University website. The article can be downloaded from <http://www.cs.princeton.edu/~funk/ring.html>. I understand that an electronic copy of the article downloaded from that website is what has been marked as Exhibit 1037 by Bungie and served on Patent Owner.

9. That Exhibit 1037 is the same as the copy of Funkhouser that was submitted to me and the other organizers of the 1995 SI3D symposium is consistent with metadata in the PostScript copy of the article available at www.cs.princeton.edu/~funk/symp95.ps.gz, which indicates that the PostScript file was generated from TeX (a typesetting program) output on December 19, 1994.

Authors were required to submit final versions of articles for printing in the 1995 SI3D publication around that time.

10. Exhibit 1037, the copy of Funkhouser available from Prof. Funkhouser, is of higher quality than Exhibit 1005, the copy of Funkhouser available from the ACM Digital Library. As I understand the Board noted in its Institution Decisions, some of the stippling in Exhibit 1005 is difficult to make out. The stippling is much clearer in Exhibits 1006 and 1037. This is likely because Exhibit 1005 was scanned by the ACM from a paper document, causing some degradation in the conversion from analog paper to a digital file.

11. Other than the quality of the copy and images, there appear to be two differences between Exhibit 1005 and Exhibit 1037.

12. First, Exhibit 1005 contains the ACM copyright and permission to copy stamp in the lower left-hand corner. Exhibit 1037 contains a space for the stamp, but does not contain the stamp itself.

13. This is consistent with Exhibit 1037 being the as-submitted version of Funkhouser, because the ACM copyright stamp is added by the ACM when the article is published.

14. Second, Exhibit 1005 contains two color images together occupying approximately half a page, one inset within the other, and a single caption labeling the images "Plates I and II." The other portion of the page contains images associated with a different paper. Exhibit 1037 contains the same color images, but they each are given their own half of a full page and separate captions labeling the

images “Plate I” and “Plate II.” Consequently, the two captions in Exhibit 1037 are combined into a single caption in Exhibit 1005.

15. Providing color pages in a published volume was a meaningful expense in 1995. Accordingly, the ACM would often limit the amount of space for color images allowed per article. It appears that this is what was done with Funkhouser: a full page of color images was consolidated into around half a page of color images (the other portion of the page containing images from a different article). Because the images were placed with one inset in the other, the captions also had to be combined into a single caption.

16. I understand that Patent Owner identified my quotation of “only 14 remote entities” from the caption to Plate II as not existing in Exhibits 1005 and 1006, though it does appear in Exhibit 1037. As explained during my deposition, the modifications to the text of the caption in Exhibit 1005, from Exhibit 1037, the as-submitted publicly available version distributed by Prof. Funkhouser, are minor and do not affect my opinion regarding the unpatentability of the challenged claims. It is of no moment whether one particular client “must process updates, simulate behavior, and store surrogates for only 14 remote entities” or whether each client “must process update messages, simulate behavior, and store surrogates only for remote entities potentially visible to one of its local entities.” *Compare* Ex. 1037 at 09 *with* Ex. 1005 at 09. The substance of the disclosure of Funkhouser is the same.

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