

Petition for *Inter Partes* Review of
U.S. Patent No. 10,664,518 B2

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

NIANTIC, INC.,
Petitioner

v.

NANT HOLDINGS IP, LLC, and NANTWORKS, LLC,
Patent Owners

U.S. Patent No. 10,664,518 B2
Issue Date: May 26, 2020

Title: Wide Area Augmented Reality Location-Based Services

**PETITION FOR *INTER PARTES* REVIEW
OF U.S. PATENT NO. 10,664,518 B2**

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List of Exhibits

Ex. No.	Description of Document
1001	U.S. Patent No. 10,664,518 (“518 Patent” or “518”)
1002	Declaration of Dr. Michael Zyda (“Zyda”)
1003	U.S. Patent Application Publication No. 2008/0132251 (“Altman”)
1004	U.S. Patent Application Publication No. 2013/0124563 (“CaveLie”)
1005	U.S. Patent Application Publication No. 2008/0268876 (“Gelfand”)
1006	U.S. Patent Application Publication No. 2013/0178257 (“Langseth”)
1007	U.S. Patent No. 8,762,047 (“Sterkel”)
1008	Excerpts from Oliver Bimber and Ramesh Raskar, <i>Chapter 1: A Brief Introduction to Augmented Reality</i> , in <i>Spatial Augmented Reality: Merging Real and Virtual Worlds</i> , CRC Press (2005)
1009	Paul Milgram and Fumio Kishino, <i>A Taxonomy of Mixed Reality Visual Displays</i> , IEICE Transactions on Info. Sys., E77-D (12):1321-29 (1994)
1010	Jean-Marie Normand et al., <i>A new typology of augmented reality applications</i> , AH ’12 Proceedings of the 3rd Augmented Human Int’l Conference (Mar. 2012)
1011	U.S. Patent No. 3,050,870 (“Heilig”)
1012	Ivan E. Sutherland, <i>A head-mounted three dimensional display</i> , AFIPS ’68 (Fall, Part I): Proceedings of the December 9-11, 1968 Fall Joint Comput. Conf., Part I, pp. 757-64 (1968)
1013	Grégory Maubon, <i>A little bit of history from 2006: Nokia MARA project</i> , https://www.augmented-reality.fr/2009/03/un-petit-peu-dhistoire-de-2006-projet-mara-de-nokia/
1014	U.S. Patent No. 6,553,310 (“Lopke”)

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1015	U.S. Patent Application Publication No. 2002/0044152 (“Abbott”)
1016	Excerpts from Lester Madden, <i>Professional Augmented Reality Browsers for Smartphones</i> , Programming for junaio, Layar, and Wikitude (2011)
1017	Jonathan Raper et al., <i>Applications of location-based services: a selected review</i> , J. Location Based Servs., 1(2):89-111 (2007)
1018	Paul G. Savage, <i>Blazing Gyros: The Evolution of Strapdown Inertial Navigation Technology for Aircraft</i> , J. of Guidance, Control, and Dynamics, 36(3):637-55 (2013)
1019	Jeong Won Kim et al., <i>A Step, Stride and Heading Determination for the Pedestrian Navigation System</i> , J. Global Positioning Sys., 3(1-2):273-79 (2004)
1020	Press Release, <i>Apple Reinvents the Phone with iPhone</i> (Jan. 9, 2007), https://www.apple.com/newsroom/2007/01/09Apple-Reinvents-the-Phone-with-iPhone/
1021	U.S. Patent No. 8,745,494 (“Spivak”)
1022	U.S. Patent No. 5,848,373 (“DeLorme”)
1023	Michael R. Macedonia et al., <i>Exploiting Reality with Multicast Groups</i> , Proceedings of the Virtual Reality Annual Int’l Symposium (VRAIS ’95) (1995)
1024	U.S. Patent No. 6,882,933 (“Kondou”)
1025	Reserved
1026	U.S. Patent No. 9,317,133 (“Korah”)
1027	Duy-Nguyen Ta et al., <i>SURFTrac: Efficient Tracking and Continuous Object Recognition using Local Feature Descriptors</i> , 2009 IEEE

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Ex. No.	Description of Document
	Conference on Computer Vision and Pattern Recognition, pp. 2937-44 (2009)
1028	Carsten Magerkurth et al., <i>Pervasive Games: Bringing Computer Entertainment Back to the Real World</i> , ACM Comput. in Entm't, 3(3):1-19 (July 2005)
1029	Bruce Thomas et al., <i>ARQuake: An Outdoor/Indoor Augmented Reality First Person Application</i> , IEEE Int'l Symposium on Wearable Comput., pp. 139-46 (2000)
1030	Bruce Thomas et al., <i>First Person Indoor/Outdoor Augmented Reality Application: ARQuake</i> , Personal and Ubiquitous Computing, 6:75-86 (2002)
1031	U.S. Patent Applicaton Publication No. 2004/0164897 ("Treadwell")
1032	Michael Zyda, <i>From Visual Simulation to Virtual Reality to Games</i> , IEEE 38(9):25-32 (Sept. 2005)
1033	Michael Zyda, <i>Creating a Science of Games</i> , Commc'ns of the ACM 50(7):27-29 (July 2007)
1034	U.S. Patent No. 8,519,844 ("Richey")
1035	International Patent Application Publication No. WO 2013/023705 ("Hoffman")
1036	U.S. Patent Application Publication No. 2013/0073988 ("Groten")
1037	U.S. Patent Application Publication No. 2013/0124326 ("Huang")
1038	Excerpts from NantWorks' Disclosure of Asserted Claims and Infringement Contentions and Ex. 3, dated 1/28/2021, served in <i>Nantworks, LLC v. Niantic, Inc.</i> , Case No. 3:20-cv-06262-LB (N.D. Cal.)

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