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 Title: Wide Area Augmented Reality Location-Based Services

DECLARATION OF DR. MICHAEL ZYDA



Table of Contents

			Page			
I.	INTRODUCTION AND QUALIFICATIONS					
	A.	Qualifications and Experience	1			
		1. Curriculum Vitae	4			
	B.	Materials Considered	5			
II.	PERSON OF ORDINARY SKILL IN THE ART ("POSITA")					
III.	LEC	LEGAL PRINCIPLES USED IN THE ANALYSIS11				
	A.	Prior Art	11			
	B.	Claim Construction	12			
	C.	Legal Standards for Obviousness	14			
	D.	Reasonable Expectation of Success	19			
IV.	RELEVANT TECHNOLOGY BACKGROUND					
	A.	Introduction to Augmented Reality	19			
	B.	History of Augmented Reality	22			
	C.	Location-Based Tracking in AR Systems	26			
	D.	Object Recognition in AR Systems	32			
	E.	Augmented Reality Gaming35				
V.	THE '518 PATENT					
	A.	Overview of the Specification	40			
	B.	Overview of the Challenged Claims4				
	C.	Agreed Claim Terms	44			
	D.	Disputed Claim Terms	45			
VI.		APPLICATION OF THE PRIOR ART TO THE CHALLENGED CLAIMS OF THE '518 PATENT4				
	A.	Brief Description and Summary of the Prior Art	47			
		1. Altman – U.S. Pat. App. Pub. No. 2008/0132251 [Ex. 1003]	47			
		2. Langseth – U.S. Pat. Pub. No. 2013/0178257 (Ex. 1006)				



Table of Contents

(continued)

Page

	3.		Lie – U.S. Pat. App. Pub. No. 2013/0124563 [Ex.	.53
	4.	Gelfa	and – U.S. Pat. Pub. No. 2008/0268876 [Ex. 1005]	.56
	5.	Sterk	el – U.S. Pat. No. 8,762,047 [Ex. 1007]	.59
B.			Obviousness of Claims 1-9, 11-14, 18-20, 23-32, Over Altman in View of Langseth	.63
	1.	Indep	pendent claim 1	.63
		a.	Preamble	.63
		b.	Manner, Rationale, and Motivation to Combine Altman with Langseth	.80
		c.	"at least one sensor, including a location sensor;" (1[a])	.85
		d.	"a display;" (1[b])	.89
		e.	"a non-transitory computer readable memory storing software instructions; and" (1[c])	.91
		f.	"at least one processor coupled with the non- transitory computer readable memory, the at least one sensor, and the display; and, upon execution of the software instructions, is configurable to:" (1[d])	.95
		g.	"obtain sensor data from the at least one sensor wherein the sensor data includes a device location obtained from the location sensor;" (1[d][i])	.98
		h.	"obtain an area of interest via an area database based on at least the device location within the sensor data;" (1[d][ii])	.99
		i.	"access an area tile map of the area of interest, the area tile map represented by a set of tile subareas that includes one or more tessellated tiles from a tessellated tile map:" (1[d][iii])	116



(continued)

	J.	based at least in part on the device location relative to one or more locations of tile subareas from the set of tile subareas, wherein the identified tile subarea covers at least a portion of the area of interest, and wherein one or more tessellated tiles within the identified tile subarea are associated with one or more AR content objects;" (1[d][iv])126
	k.	"populate the non-transitory computer readable memory with at least one of the one or more AR content objects associated with the one or more tessellated tiles corresponding with the identified tile subarea; and" (1[d][v])
	1.	"render the at least one of the one or more AR content objects that is associated with the identified tile subarea on the display based on a view of interest." (1[d][vi])
2.	senso	2: "The device of claim 1, wherein the location recomprises at least one of the following location rs: a global positioning system (GPS) sensor, an e sensor, and a wireless sensor."
3.	locati positi locati	on includes at least one of the following: a global oning system (GPS) location, a wireless signal on, a depth of field location, and an image-based taneous location and mapping (SLAM) location."153
1.	senso	14: "The device of claim 1, wherein the at least one r further includes one or more of the following: a ra, an accelerometer, and a gyroscope."
5.	furthe	15: "The device of claim 1, wherein the sensor data er includes at least one of device position data and e orientation data."



Table of Contents

(continued)

Page

6.	Claim 6: "The device of claim 5, wherein the at least one of the one or more AR content objects is rendered based on the view of interest, wherein the view of interest is derived from at least one of the device position data and the device orientation data."
7.	Claim 7: "The device of claim 1, wherein the at least one of the one or more AR content objects is rendered on the display as an overlay of an image related to the real-world."
8.	Claim 8: "The device of claim 1, wherein the area of interest comprises one of the following: a landmark, user-defined boundaries, state-defined boundaries, natural boundaries, a city, a country, a business, a shopping center, a warehouse, a stadium, a wilderness area, a road, a garden, a zoo, an amusement park, a beach and a building."
9.	Claim 9: "The device of claim 1, wherein the area of interest comprises a restaurant."
10.	Claim 11: "The device of claim 1, wherein the area of interest comprises an outdoor setting."170
11.	Claim 12: "The device of claim 1, wherein the device communicatively couples with the area database over a network."
12.	Claim 13: "The device of claim 1, wherein the at least one of the one or more AR content objects is obtained from an AR content database."
13.	Claim 14: "The device of claim 13, wherein the device is communicatively coupled with the AR content database over a network."
14.	Claim 18: "The device of claim 1, wherein the at least one of the one or more AR content objects comprises a game object."



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