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**



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		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])	



(continued)

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])	141
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])	149
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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."
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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