IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF ILLINOIS
EASTERN DIVISION

GROUPON, INC.,
    Plaintiff,
 	
    v.
 	
INTERNATIONAL BUSINESS MACHINES
CORPORATION,
    Defendant.
	Civil Action No. 1:16-cv-5064
	
	JURY TRIAL DEMANDED

RESPONSIVE CLAIM CONSTRUCTION BRIEF OF GROUPON, INC.

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I.   INTRODUCTION

U.S. Patent No. 7,856,360 (the "'360 patent") was prosecuted by the inventor—a computer scientist with a Ph.D. from MIT—not a patent lawyer. While the claims are not paradigms of claim drafting style or beauty, they are definite and understandable to one skilled in the art as shown by their allowance by the Patent Office after an extensive examination and the attached declaration of Dr. Michael Shamos—an expert in computer science and electronic commerce. The stylistic deficiencies on which IBM hangs its brief—with no expert support—provide no basis for invalidating the '360 patent that was duly issued and is presumed valid. Indeed, courts must construe claims to preserve their validity. *See, e.g.*, *Ruckus Wireless, Inc. v. Innovative Wireless Solutions, LLC*, 824 F.3d 999, 1004 (Fed. Cir. 2016) (A claim "should be construed to preserve its validity."). The Court easily can and should do so here.

II.   OVERVIEW OF THE PATENT AND ITS PROSECUTION HISTORY

The computer system of the '360 patent—developed by Stanford- and MIT-educated Ph.D. electrical engineers—gathers physical location information from mobile devices (via a global positioning system (GPS) or otherwise), trait information of users of those devices, and information about venues and businesses. (JA-0045 at 4:57-63; JA-0046 at 6:39-54; JA-0048 at 9:26-40.) It then uses that information to determine the demographics of attendees or likely attendees at those venues and businesses and of others nearby (JA-0046 at 5:11-21) and correlates trait and location data by using specific classification algorithms "including but not limited to statistical classification techniques (including Bayesian Decision Theory, etc.), vector quantizers, neural network algorithms, [and] other Computer Science search and ranking algorithms" (JA-0047 at 8:38-43; JA-0049 at 11:15-23). The patent's unique combination of mobile internet technology, social networking, and statistical analysis enables targeting location-based offers and services in ways that were not previously available. For example, using the '360 patent, local

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businesses can strategically target advertisements or rewards to potential customers—in real-time—based on customers' current location and proximity to the business, as well as their interests and demographics. (JA-0046 at 6:39-54; JA-0047 at 7:33-39, 7:52-56; JA-0048 at 9:26-40; *see also* Shamos Decl. ¶ 33.)

The '360 patent was filed on July 7, 2008 as a continuation-in-part of an application filed on January 30, 2006. It was filed and prosecuted by the lead inventor James Kramer, a computer scientist with a Ph.D. from MIT. The first and only office action dated January 21, 2010 rejected all of the originally filed claims. Original claims 1 and 5-47 were subject to a double patenting rejection over the 2006 application, which was resolved via a terminal disclaimer. (JA-0813.) Four claims, 44-47, were rejected as claiming non-statutory subject matter pursuant to 35 U.S.C. § 101 under the then-controlling machine-or-transformation test. (JA-0814.) Claims 13-47 were rejected as indefinite for being unclear as to the nature of the claimed "demographic" information, and two of the claims, 44-45, were also rejected for omitting certain elements—the correlation between the demographic information and location information. (JA-0814-15.) The Examiner noted that both the 101 and 112 rejections would be overcome if this correlating step were explicitly claimed. Only the first 12 of the original 47 claims—and only two of the original six independent claims—were rejected over the prior art. (JA-0815-19.)

The inventor canceled all of the pending claims, and submitted a new claim set, based on the Examiner's suggested amendments and identification of allowable subject matter. The inventors submitted two more rounds of amendments to further clarify the claims in light of the Examiner's original feedback. (JA-0877, JA-0925, JA-0966.) The claims then issued without further action from the Patent Office.

III.   DISPUTED CLAIM TERMS AND PHRASES

The parties identified 9 claim terms for construction. The parties agreed on constructions

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of two of these terms. The parties dispute constructions of the remaining terms.[1]

A.   Claim preambles

The parties dispute whether the preambles of claims 1, 2, 3, 22, 27, and 52 are limiting. IBM agrees that the preambles as whole are not limiting, but asserts that selected portions are limitations. (Br. 3-6.) IBM fails to cite any case supporting its position here. IBM also argues that the preambles of the system claims 1, 22, and 27 render those claims invalid because they recite a "system comprising members" and thus claim human beings. But no court in this country has ever found a claim invalid because it is directed to a *system* involving human beings. Nor is the '360 patent unique in this respect, many U.S. patents have articulated claims of systems involving interactions with human beings in language similar to the challenged claims, including patents assigned to IBM itself. No court has ever found such claims invalid, because there is no such prohibition. If this Court finds the system claims of the '360 patent invalid for this reason, it will be the first to do so.

1.   The Preambles of Claims 1, 2, 3, 22, 27, and 52 Are Not Claim Limitations.

Generally, claim preambles are not limitations. *Howmedica Osteonics Corp. v. Zimmer, Inc.*, 640 F. App'x 951, 956 (Fed. Cir. 2016). Indeed, "a preamble does not limit an invention 'where a patentee defines a structurally complete invention in the claim body and uses the preamble only to state a purpose or intended use for the invention.'" *Id.* (quoting *Rowe v. Dror*, 112 F.3d 473, 478 (Fed. Cir. 1997)). Both are true here: the preambles recite the intended use and environment for the inventions and the claim bodies describe complete inventions. Further, contrary to IBM's assertions, the preambles were neither amended nor relied upon during prosecution to overcome any prior art rejection. The preambles are not claim limitations.

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[1] GPN-0001-6 (included in Groupon's Appendix, filed concurrently herewith) reflects the parties' positions.

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        a.   The preambles recite the intended use and environment of the invention while the bodies of the claims describe complete inventions.

The preambles of claims 1, 2, 3, 22, 27, and 52 recite the intended use and environment for the invention. (Shamos Decl. ¶ 37.) The specification states that the field of the invention "is providing services to venues." (JA-0044 at 1:5.) The Summary of the Invention explains:

> The subject invention provides a system for providing a service to venues where people aggregate. The service involves information concerning the traits, behaviors or demographics of people who attend said venues. Such information is of interest to the venues and to members, where the members are associated with an organization, such as Hoozware, for processing and transmitting information to the venues and the members. The venues have characteristics or promotional material of interest to the members.

(JA-0045 at 4:40-48.) The Summary of the Invention further explains that a data processor receives data from mobile communication devices of members, processes the data, and transmits derived information to the venues and members. (*Id.* at 4:48-49.) Accordingly, the invention is used to provide a service to a venue where people aggregate in an environment in which members who are associated with an organization have mobile communication devices for receiving and transmitting information about the venues. (Shamos Decl. ¶ 38.) The preambles recite this purpose and environment. *See C.R. Bard, Inc. v. M3 Sys.*, 157 F.3d 1340, 1350 (Fed. Cir. 1998) (finding a preamble not limiting because it "simply states the intended use or purpose of the invention"); *Symmes v. King*, No. 90-1412, 1991 U.S. App. LEXIS 8567, at *5-6 (Fed. Cir. May 3, 1991) (finding that a preamble that "merely indicates the environment in which the claimed invention operates" is not limiting) (citation omitted); *Enpat, Inc. v. Shannon,* No. 6:11-cv-00084, 2011 U.S. Dist. LEXIS 137751, at *22 (M.D. Fla. Nov. 30, 2011) (finding a preamble not limiting because it "at most, provides 'reference points' for understanding limitations set forth in the body of claim").

The preambles are also not limiting because the bodies of the claims describe complete

inventions, and the preambles do not affect the structure or steps of the claims. (Shamos Decl. ¶ 40.) In its brief, IBM argues that the preambles recite a necessary aspect of the invention: "that the system comprises 'members' and that the system 'requires at least one member to attend the venue." (Br. at 4.) First, deletion of the phrase "said system comprises members" changes neither the structure nor the steps of the claims. The bodies of the claims specifically and separately recite "members" and do not refer back to the "members" in the preamble. (*See*, *e.g.*, JA-0075, claim 1 ("receiving real-time data . . . from a mobile communication device of at least one member"); *id.*, claim 2 (same); JA-0076, claim 3 (same); JA-0077, claim 22 (same); *id.*, claim 27 ("prior to a member being in a venue, informing said member of said reward"); JA-0078, claim 52 (same); Shamos Decl. ¶ 43.) Indeed, no phrase or limitation in the bodies of the claims depends on the phrase "said system comprises members" for any antecedent basis. *See C.R. Bard, Inc.*, 157 F.3d at 1350 (a preamble that "simply states the intended use or purpose of the invention . . . usually does not limit the scope of the claim unless the preamble provides antecedents for ensuing claim terms and limits the claim accordingly").[2] The phrase "said system comprises members" neither clarifies nor alters any of the limitations in the bodies of the claims. (Shamos Decl. ¶ 42.)

Second, the bodies of the claims make clear that the system is configured to receive information from "at least one member" who attends the venue. (*See* JA-0075-77, claims 1, 2, 3, and 22 (reciting in the bodies "from a mobile communication device of *at least one member presently or recently at said venue*" (emphasis added)) and JA-0077-78, claims 27 and 52 (reciting in the bodies "informing said member of said reward that is receivable *upon said member indicating in real time said member's presence* in said venue; *receiving said indicating* from . . .

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[2] Nor does IBM argue that any term in the body relies for antecedent basis on any phrase in any preamble of the claims of the '360 patent.

said member") (emphasis added); *see also* Shamos Decl. ¶ 44.) The phrase in the preamble, "at least one member to attend a venue," is thus duplicative of the language in the bodies of the claims. *Symantec Corp. v. Computer Assocs. Int'l, Inc*., 522 F.3d 1279, 1288-89 (Fed. Cir. 2008) ("If [the preamble] is reasonably susceptible to being construed to be merely duplicative of the limitations in the body of the claim . . ., we do not construe it to be a separate limitation.").

IBM also argues that members "associated with an organization for processing and transmitting information to venues" is necessary to clarify that "members" in the body of the claims "cannot be any 'members'—they must be 'members' that are 'associated with an organization.'" (Br. at 4.) But no such clarification is necessary. (Shamos Decl. ¶ 45.) First, that a "member" belongs to an organization is inherent in the word "member." A "member" is "one who belongs to a group or organization." (GPN-0009.) The phrase "members associated with an organization" in the preambles is not necessary to understand the meaning of the term "member(s)" in the bodies of the claims. (Shamos Decl. ¶ 46.)

Second, the tautology that a member belongs to an organization does not change or clarify either the structure or steps of the claims, which are clear and complete without it. (Shamos Decl. ¶ 47.) The phrase in the preambles merely states the environment of the invention—the system provides services to a venue where people aggregate by processing information received from mobile devices of members belonging to an organization that provides the service. (*Id.*) IBM cherry-picks words from the preambles and changes the meaning of the phrase in the process. The preambles recite "said system comprising members associated with an organization for processing and transmitting information to said venues." It is the system that performs the processing and transmitting, not the members. (Shamos Decl. ¶ 48.) The processing and transmitting in the preambles are duplicative of the bodies of the claims that already recite processing and transmitting. (*See, e.g.*, JA0075-78, claims 1, 2, 3, 27, and 52 (reciting the data processor

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"processing said real-time data" or "processing said indicating to provide processed data" and "communicating to a recipient said processed data")); *Symantec Corp.,* 522 F.3d at 1288-89.

                  b.   The preambles were not amended or relied on by the inventors to distinguish any prior art.

As an exception to the general rule that a preamble is not a limitation, a preamble may be limiting if relied on by the patentee during prosecution. *Id.* at 1288. Any such reliance, however, must be *clear* and in response to *prior art*. *Id.* at 1289 (finding a preamble term non-limiting because "[t]he prosecution history fails to demonstrate clear reliance on the preamble during prosecution to distinguish the claimed invention from the prior art") (internal quotations and citation omitted); *Enpat,* 2011 U.S. Dist. LEXIS 137751, at *27-28 (preamble not limiting where "revision of the preamble . . . was *not* in response to cited prior art"). No such reliance is present in the prosecution history of the '360 patent. IBM's assertion to the contrary relies on isolated statements from the prosecution history that are taken out of context. Even a cursory read of the prosecution history confirms that IBM is wrong.

First, the original application included six independent claims. (JA-0280-91 (*see* claims 1, 10, 13, 21, 41 and 42).) The examiner rejected only two of these claims over the prior art. (JA-0815-16 (rejecting claims 1 and 10).) Thus, the inventors did not need to—nor did they— amend or distinguish the majority of the original independent claims to overcome any prior art. Instead, they incorporated into the claims the specific instructions provided by the examiner as part of his 112 and 101 rejections. (Shamos Decl. ¶¶ 50-51.)

In the first—and the only—office action, the examiner explained as part of his 112 rejection that an amendment adding a correlation between the demographic information and location information would constitute "allowable subject matter" and that an amendment incorporating elements that "determines [sic] the (portion of) demographic information to send based on the

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received location information" would overcome the 101 rejection. (JA-0815.) In response, the inventors replaced the original claims with claims incorporating those specific suggestions. (Shamos Decl. ¶ 52.) Indeed, in the remarks accompanying the claim replacement, the inventor stated: "The Examiner's feedback regarding allowable subject matter of claims [] is gratefully appreciated. Accordingly, original claims [] have been cancelled and new claims [] have been added based on the Examiner's feedback." (JA-0854.) IBM only quotes the second sentence of this passage, wrongly implying that the new claims were added to overcome a prior art rejection rather than to incorporate the allowable subject matter identified by the examiner. (Br. at 5.)

IBM also crops the following phrase from the inventors' remarks to support its argument: "the new claims have been extensively amended and avoid the earlier rejections." (*Id.*) But the inventors said this in response to the *112 rejection*, not in response to any prior art rejection.

Claim Rejections – 35 USC § 112, 2nd paragraph

It is believed that the presently submitted claims avoid the subject rejection. Except for new claims 117-119, all of the other new claims are encompassed within the scope of new claim 54, the new initial claim. The new claims have been extensively amended and avoid the earlier rejections and, for the most part, follow the Examiner's advice. Now included in new claim 54 is the requirement that the data received by the data processor is received in real-time. That is, the data comes from a

(JA-0904; *see also* Shamos Decl. ¶ 54.)

Nor were the examiner's specific requests added to *any* preamble. Indeed, the preambles of the original claims already recited "members" and "members associated with an organiza-tion"—the two terms that IBM asserts were added during the prosecution. (*See, e.g.*, JA-0280.) Neither was the language "system comprises members" in the preambles of the new claims add-ed to distinguish any prior art. Indeed, the phrase "system comprises members" is not mentioned anywhere in the inventors' remarks. The inventors did not rely on it to overcome any prior art rejection. The examiner did not rely on it either. He allowed the new claims without mentioning the phrase in the notice of allowance or elsewhere. (JA-0991; *see also* Shamos Decl. ¶ 55.)

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Where, as here, a revision to a preamble was *not* in response to cited prior art, the preamble is not limiting. *Catalina Mktg. Int'l, Inc. v. Coolsavings.com, Inc.*, 289 F.3d 801, 808-10 (Fed. Cir. 2002) (finding that without "clear reliance on the preamble during prosecution to distinguish the claimed invention from the prior art," the preamble is not limiting).

Second, contrary to IBM's assertion, the inventors did not rely on the phrase "members of an organization" to overcome a prior art rejection. (Br. at 6.) In the discussion from which IBM quotes, the inventors explained that the cited Inselberg reference "is directed to people already at a venue . . . and [in Inselberg] the [individual] has already chosen the venue prior to receiving information about the game and the reward." (JA-0959.) The invention of the '360 patent, by contrast, "provides the information about the game and the reward prior to the [individual] attending the venue . . . [and the individual] is a member of an organization which is providing a service to venues." (*Id.*) Thus, unlike the cited Inselberg reference, which "provides rewards . . . once the individual is at the venue," the invention of the '360 patent provides rewards to "encourag[e] the individual to attend a venue." (JA-0907; *see also* Shamos Decl. ¶ 58.)

IBM also misconstrues the following sentence: "Unlike Inselberg, the individuals of the subject invention are members of an organization which provides for social networking." (Br. at 6.) Again, read in context, the inventors were distinguishing Inselberg not because it did not have members of an organization, but because it did not have a social networking component allowing "one individual to [provide information] to another individual." (JA-0908; *see also* Shamos Decl. ¶ 59.) Nor does IBM's citation to page JA-0962 of the prosecution history support its assertion. Instead, consistent with the other remarks, this passage explains that the invention is different because information is shared about and among members to encourage attendance at a venue. (JA-0962 (stating that "the subject invention requires an organization *with members*; . . . discloses attendee demographics *to other members* and venues; and . . . has a primary

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goal to use the real-time demographics of attendees at a venue or real-time characteristics of a venue in order *to encourage members to go to such venue*”) (emphasis added); *see also* Shamos Decl. ¶ 60.) The prosecution history lacks a clear reliance on any preamble language to overcome any prior art.

1. **Claims 1, 22, and 27 Do Not Claim Human Beings.**

IBM seeks to construe portions of the preambles as limitations solely to argue that all system claims in the '360 patent are invalid for purportedly claiming a human organism through the preamble phrase "said system comprises members." As explained above, the preambles are not limitations, and there is no reason to construe them as such merely to invalidate the claims. The bodies of the claims properly claim a computer system with a "data processor" and do not raise any issues relating to the patenting of humans. The law does not prohibit system claims with human involvement—in fact, numerous patents issued by the U.S. Patent Office, including those assigned to IBM itself, claim such systems. (*See, e.g.,* U.S. Patent No. 7,543,232 assigned to IBM, GPN-0056, (claiming a "system . . . comprising users"); U.S. Patent No. 6,751,669, GPN-0067-68, (claiming a "system comprising [] users comprising agents and brokers").)[3] Indeed, in its motion to dismiss under § 101, IBM did not cite a single case invalidating a claim to a system with human participants.[4] Nor is Groupon aware of such a case. *C.f. Baxter Int'l, Inc.*

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[3] *See also, e.g.*, U.S. Patent No. 7,155,455, GPN-0077, ("the network having *users . . . users comprising individuals*"); U.S. Patent No. 5,209,323, GPN-0084, ("In the fire escape chute of claim 1, further *comprising persons* exiting a chute segment . . . ."); *see also* GPN-0021-24.

[4] Instead, it cited the Leahy-Smith America Invents Act ("AIA") and its codification that "no patent may issue on a claim directed to or encompassing a human organism." (Dkt. 33, Motion at 4.) This Act was enacted to prevent patenting of *human clones*, i.e. biological artifacts. *See* 157 Cong. Rec. H4448–51 (daily ed. June 22, 2011); *see also* Joe Matal, *A Guide to the Legislative History of the America Invents Act: Part I of II*, 21 Fed. Cir. B.J. 435, 510 (2012). IBM also cited *Animal Legal Def. Fund v. Quigg*, 932 F.2d 920, 923 (Fed. Cir. 1991) and *Voter Verified, Inc. v. Premier Election Solutions, Inc.*, 698 F.3d 1374, 1383 (Fed. Cir. 2012), both of which are similarly inapplicable. *Animal Legal Def. Fund* discussed the prohibition of patents directed at human beings in determining whether "animal" patents are similarly not patentable. 932 F.2d at

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v. Carefusion Corp., No. 15-cv-09986, 2016 U.S. Dist. LEXIS 63581 (N.D. Ill. May 13, 2016) (rejecting a 101 challenge to claim that recited human patient); *see also z4 Techs., Inc. v. Microsoft Corp.*, 507 F.3d 1340, 1344, 1348 (Fed. Cir. 2007) (affirming jury verdict of infringement and no invalidity and district court denial of JMOL of invalidity as to claims reciting a "user," which the Federal Circuit construed as "a person or a person using a computer"). What our patent law prohibits is patenting human organisms (e.g., clones) or genes based on "the rule against patents on naturally occurring things." *Ass'n for Molecular Pathology v. Myriad Genetics, Inc.*, 133 S. Ct. 2107, 2116 (2013). That rule does not apply to the '360 patent.

Here, the claims are not directed to human beings, human organisms, or human genes. They are not directed to any natural phenomenon or living thing. Any such reading of the claims in light of the claims themselves, specification, and prosecution history is nonsensical. The claims are directed to a computer system with a data processor that is used by humans and that operates on information provided by humans. Indeed, one skilled in the art would not understand the claims as claiming human beings or a system encompassing human beings as its components. (Shamos Decl. ¶¶ 62-63.) One skilled in the art would understand, after reading the specification and prosecution history, that humans use and interact with the claimed system and are not physically part of it. (*Id.*)

Moreover, where possible, claims must be construed to preserve their validity. *E.g.*, *Ruckus Wireless*, 824 F.3d at 1004. Here, there is no need to construe the preambles as limitations solely as a means to invalidate the system claims with bodies that recite complete inventions. But, even if the preambles of the system claims were deemed to be limitations—and they are not—they should and can be construed to reflect the claimed invention—which is a computer

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923-24. In *Voter Verified, Inc.*, the court held that a "human voter" cannot constitute a permissible structure to defeat a challenge under § 112 ¶ 6. 698 F.3d at 1383.

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system, not a human organism. If construed, their proper construction should be: "A system for providing a service to venues where people aggregate, said system **involving** members associated with an organization for processing and transmitting information to said venues, said members or non-members, said members having mobile communication devices wherein at least one member is required to attend a venue, said system comprising." (Shamos Decl. ¶ 64.)

First, "involving" is a synonym of "comprising." (GPN-0013 (identifying "include, comprise, comprehend, embrace, involve" as synonyms).) Second, the bodies of the claims make clear that the system is designed to process information received from members, not to encompass them. (*See, e.g.*, claim 1 (reciting "receiving real-time data . . . from a mobile communication device of at least one member," "processing said real-time data," "combining real-time data from a plurality of members," "prior to a member being in a venue, informing said member of said reward"); claim 22 (reciting "receiving real-time data . . . from a mobile communication device of at least one member . . . said real-time data comprising location information," "correlating said location information"); claim 27 (reciting "receiving said indicating [of presence in a venue] from a mobile communication device of said member," "processing said indicating").)

Third, the Summary of the Invention confirms that the system involves members: "The subject invention provides a system for providing a service to venues where people aggregate. The service *involves* information concerning the traits, behaviors or demographics of people who attend said venues." (JA-0045 at 4:40-44 (emphasis added).) So does the rest of the specification. (*See, e.g.*, *id.* at Abstract ("Using the system, members can determine before going to a venue . . . which venue has their preferred attendee demographic, atmosphere, music, cover charge, drinks specials, friends, etc."); 12:16-19 ("Members . . . logging into the [] system . . . .").) The intrinsic evidence demonstrates that human members interact through their mobile devices with the claimed computer system to provide and receive information and re-

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wards. (Shamos Decl. ¶ 65.) IBM ignores this intrinsic evidence and bases its argument solely on the interpretation of the word "comprising." But claims cannot be interpreted in a vacuum; they must be interpreted in light of the intrinsic record, including the claim language itself, the specification, and prosecution history—none of which supports IBM's position. *See, e.g.*, *Medrad, Inc. v. MRI Devices Corp.*, 401 F.3d 1313, 1319 (Fed. Cir. 2005) ("We cannot look at the ordinary meaning of the term . . . in a vacuum. Rather, we must look at the ordinary meaning in the context of the written description and the prosecution history.") (citation omitted).

B.   data processor

Groupon's Proposed Construction	IBM's Proposed Construction
one or a combination of computing devices that either have or have access to a database of information[5]	a processor and computer memory that either has or has access to a database of information

The parties agree that a data processor either has or has access to a database of information. The parties dispute, however, whether the data processor is "one or a combination of computing devices" or "a processor and computer memory." The specification makes clear that the claimed data processor is the former.

The specification explains that the data processor "can be a computer server," but "may comprise a computer server, desktop computer, laptop computer, portable computer or any other convenient computing device or combination of distributed or networked computing and/or data communication devices." (JA-0045 at 4:51; JA-0059 at 31:65-32:1.) Thus, a data processor need not be just a single computer; it can also be a *combination* of computing devices.[6] (Shamos

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[5] To focus the parties' disputes, Groupon has modified its construction by replacing "computer servers and application programs" with "computing devices."

[6] IBM argues that Groupon's original construction was inaccurate because it recited a "computer server" rather than a computer. But a computer server is a computer. (GPN-0017 (defining "server" as "a computer").) And if IBM had mentioned that this was an issue it had with Groupon's construction, Groupon would have modified it at that time. Further, Groupon's modification of its construction moots IBM's argument based on the claim differentiation doctrine.

Decl. ¶ 69.) Groupon's construction correctly captures the disclosure in the specification. (*Id.*)

IBM's construction is improper for several reasons. (*Id.* at ¶ 70.) First, it ignores the explicit disclosure in the specification that a data processor can be "a combination" of computing devices. Second, IBM's construction does not "track[] . . . faithfully" the following phrase in the specification: "The data processor can be a computer server and typically includes at least a microprocessor and computer memory." (Br. at 14.) IBM ignores the references to a computer server and the fact that this sentence says "typically" and "at least" and thus is not limiting or exhaustive. (Shamos Decl. ¶ 70.) The Court should reject IBM's construction and adopt the one proposed by Groupon.

C. said data processor: [...] [operation]ing

Groupon's Proposed Construction	IBM's Proposed Construction
said processor is capable of [...][operation]ing	The disputed language recites method steps.

The parties dispute whether the system claims recite method steps or capabilities of the claimed "data processor." IBM also argues that if the system claims do not recite method steps then they are invalid for reciting indefinite limitations under 35 U.S.C. § 112 ¶ 6. As described below, and as explained by Dr. Shamos, the system claims recite capabilities of the claimed processor and do not include any method steps or indefinite § 112 ¶ 6 limitations.

1. The System Claims Recite Capabilities of the Claimed Data Processor.

The system claims of the '360 patent do not recite any method steps. IBM's argument to the contrary is yet another attempt to invalidate the claims, this time under the doctrine articulated by the Federal Circuit in *IPXL Holdings, L.L.C. v. Amazon.com, Inc.*: a claim reciting both an apparatus and method of using that apparatus is indefinite because "it is unclear whether infringement . . . occurs when one creates [an infringing] system . . ., or whether infringement oc-

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(Br. at 16.)

curs when the user actually uses [the system in an infringing manner]." 430 F.3d 1377, 1384 (Fed. Cir. 2005). But the system claims of the '360 patent are not indefinite under that doctrine.

In *UltimatePointer, LLC v. Nintendo Co.*, the Federal Circuit held that functional steps in a system claim reciting a structure for performing those functions are construed as capabilities of the recited structure, not method steps. The claim in *UltimatePointer* recited "an apparatus for controlling a feature on a computer generated image, the apparatus comprising . . . an image sensor, *said image sensor generating data* related to the distance between a first point and a second point." 816 F.3d 816, 819 (Fed. Cir. 2016) (emphasis added.) The defendant argued—as IBM does here with regard to "data processor" "receiving," "correlating," "communicating," etc.— that the language "generating data" after "image sensor" is a method step rendering the system claim indefinite under the *IPXL* doctrine. *Id.* at 826-27. The Federal Circuit disagreed.

First, the court reiterated that "apparatus claims are not necessarily indefinite for using functional language." *Id.* at 826 (citation omitted). Second, the court found the claims definite because "the 'generating data' limitation reflects the capability of that [image sensor] structure rather than the activities of the user." *Id.* at 827. The Federal Circuit contrasted Ultimate Pointer's claims from those it previously found invalid in *IPXL* and in *In re Katz Interactive Call Processing Litigation,* 639 F.3d 1303 (Fed. Cir. 2011) because those claims mixed structural elements with naked method steps performed by a user. *Id.* The court explained that the system claim in *IXPL* was invalid because it recited "input means" and "the user uses the input means," which left unclear whether the infringement occurred when the system was created or when the user used the claimed means. *Id.* And the claims in *In re Katz Interactive Call Processing Litigation* were invalid because they were directed to a system but recited "wherein said certain of said individual callers digitally enter data," which was "directed to user actions, not system capabilities." *Id.* By contrast, according to the court, Ultimate Pointer's claims did not recite user

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actions; rather, they recited capabilities of the image sensor, and were thus valid under the *IXPL* doctrine. *Id.* at 827-28.

The system claims of the '360 patent are indistinguishable from those the Federal Circuit found valid in *UltimatePointer*. Both sets of claims are directed to a system comprising a component (image sensor or data processor) operating (("generating" or for example, "receiving" "correlating," "communicating"). Just like Ultimate Pointer's claims, the claims of the '360 patent recite the *capabilities* of the data processor.[7]

None of IBM's arguments or cited cases changes this result. First, IBM argues that claim 22 requires "said member checking-in using said mobile communication device" and "[t]his has nothing whatsoever to do with the capabilities of a data processor." (Br. at 8.) IBM ignores the entire limitation in which this phrase appears. The relevant claim language of claim 22 is to the right. A straight-forward reading of the claim shows that it does not require a step of a member checking-in; it instead requires that the "real-time data" to be received by the data processor is either "provided by a position-sensing device," or "provided by said member checking-in using said mobile communication device." This language describes how the real-time data may be created—it is not a separate step. (Shamos Decl. ¶ 73.)

> a data processor, said data processor:
>   receiving real-time data comprising information about
>   attendees at said venue from a mobile communication
>   device of at least one member presently or recently at
>   said venue, said real-time data comprising location
>   information of said member provided by
>   (1) a position-sensing device, or
>   (2) said member checking-in using said mobile com-
>   munication device;

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[7] The claims of the '360 patent are also like the claims upheld by the Federal Circuit in *Microprocessor Enhancement Corp. v. Texas Instruments, Inc.*, 520 F.3d 1367 (Fed. Cir. 2008). In *MEC*, the claim at issue was directed to a computer processor with different "stages" "performing a boolean algebraic evaluation," "producing an enable-write," "enabling" or "disabling," and "determining." *Id.* at 1371-72; *see* GPN-0379. The Federal Circuit found that the claim was "clearly limited to a . . . processor possessing the recited structure and *capable* of performing the recited functions." *MEC*, 520 F.3d at 1375.

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Second, IBM argues that the claims require a "member presently or recently at said venue" and that "an indication is received 'in real time [of] said member's presence in said venue," neither one of which, according to IBM, is a capability of the data processor. (Br. at 8-9.) The claim language, however, makes clear that these phrases are not separate claim limitations, but instead characterize data that the data processor receives. For example, the entire relevant passage of claim 1 that includes the phrase "member presently or recently at said venue" is reproduced to the right. This passage makes clear that it recites a capability of the data processor—that it can

> a data processor, said data processor:
> (1) receiving real-time data comprising information about a venue or attendees at said venue from a mobile communication device of at least one member presently or recently at said venue; and

receive real-time data *from* a mobile communication device of a member. (Shamos Decl. ¶ 74.)

Similarly, the entire claim limitation in which the phrase "in real time said member's presence at said venue" appears, reproduced to the right, shows that the claim recites capabilities of the data processor. The data processor is to *inform* a member that a reward is receivable when that member

> a data processor, said data processor:
> comprising information of a reward;
> performing in the following order:
> prior to a member being in a venue, informing said member of said reward that is receivable upon said member indicating in real time said member's presence in said venue;

indicates in real-time that he or she is at the venue—this limitation describes another capability of the data processor, that it informs the member when a reward is receivable, not the user action of being present at the venue. (Shamos Decl. ¶ 75.)

Third, none of the phrases that IBM cites from the prosecution history are to the contrary. (Br. at 9.) The statements IBM quotes merely explain what data the data processor can receive ("data received by the data processor is received in real-time" (JA-0904)) or when a member is informed of a reward ("the member is informed of a reward prior to the member being present at a venue" (JA-0905)) or what data can be provided to a recipient ("the processed data … to be supplied to a recipient" (JA-0907-08)). (Shamos Decl. ¶ 76.) Nor does IBM cite any authority to support its apparent argument that statements made during prosecution of a patent can define

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whether a claim limitation is a system limitation or a method limitation. Indeed, the statements IBM quotes apply equally to the system *and* method claims of the '360 patent. (*Id*.) As the relevant Federal Circuit cases addressed above explain, the relevant inquiry is whether the claim language itself mixes system and method limitations. Here, it does not.

Finally, IBM cites *Nassau Precision Casting Co.* and *Rembrandt Data Technologie*s, neither of which is on point. In *Nassau*, the Federal Circuit did not address whether a claim mixed system and method steps. *Nassau Precision Casting Co. v. Acushnet Co., Inc.*, 566 F. App'x 933 (Fed. Cir. 2014) (deciding, as part of a non-infringement inquiry, whether steps in a *method* claim were directed to a design process or a manufacturing process.) That decision is inapplicable here, especially in light of the Federal Circuit's *UltimatePointer* precedent, which is directly on point. And in *Rembrandt Data Technologies, LP*, the claim at issue was nothing like the system claims of the '360 patent. There, the challenged system claim recited three apparatus elements—buffer means, fractional encoding means, second buffer means—and, as its fourth element, an action—"transmitting the trellis encoded frames"—not linked to any structural component. *See Rembrandt Data Techs., LP v. AOL, LLC*, 641 F.3d 1331, 1339 (Fed. Cir. 2011). The '360 patent claims are indistinguishable from those that the Federal Circuit has specifically blessed: they do not recite any actions not linked to any structural component.

2. 35 U.S.C. § 112 ¶ 6 Does Not Apply and Does Not Render the System Claims Indefinite.

As yet another attempt to invalidate the claims, IBM argues in the alternative that the system claims recite means-plus-function elements and are indefinite. (Br. at 13-14.) But "the failure to use the word 'means' . . . creates a rebuttable presumption . . . that § 112, para. 6 does not apply." *Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1348 (Fed. Cir. 2015) (en banc). IBM fails to rebut this presumption, which requires a showing that "words of the claim are [not] un-

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derstood by *persons of ordinary skill in the art* to have a sufficiently definite meaning as the name for structure." *Id.*

First, IBM has submitted no evidence as to how a person of ordinary skill in the art would view the claims, and instead relies only on attorney argument. As the testimony of Dr. Shamos shows, one of ordinary skill in the art would find the claims definite. (Shamos Decl. ¶¶ 71-81.)

Second, IBM's own construction of the term "data processor" requires a processor and a computer memory that has or has access to a database—that is a definite structure. (Br. at 14; Shamos Decl. ¶ 68); *see Panoptis Patent Mgmt., LLC v. Blackberry Ltd.*, No. 2:16-CV-62, 2017 U.S. Dist. LEXIS 16650, *48-49 (E.D. Tex. Feb. 6, 2017) (finding that "'processor' is not a 'nonce' term but rather connotes a class of structures"). Based on this alone, IBM cannot overcome a presumption that the claims—which do not recite any "means"—are governed by § 112, para. 6.

Third, to the extent IBM argues that the claims must recite an algorithm to avoid § 112 para 6, they do. (Shamos Decl. ¶ 79). They recite a specific set of steps to be performed by the data processor. (*Id.*); *St. Isidore Research, LLC v. Comerica Inc.*, No. 2:15-cv-1390, 2016 U.S. Dist. LEXIS 126866, at *41-42 (E.D. Tex. Sept. 18, 2016) (finding that a claim "discloses an algorithm" when it "describes in detail the operation of the 'transaction processing module'" and "as a whole discloses a series of steps the module performs when it is in operation").

Finally, even if § 112 ¶ 6 did apply—and it does not—here the claims are definite because the specification of the '360 patent describes in detail algorithms employed by the data processor. (Shamos Decl. ¶ 80.) For example, in order to "receiv[e] real-time data comprising information about a venue or attendees at said venue," Figure 3 and the accompanying text describe a process by which a member's mobile application sends location information as well as venue information via "SMS message, email, telephone call and the like." (JA-0061 at 35:47-

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64.) The data processor waits for these messages and processes them, checking to see if they contain location information to show a member at a given venue. (JA-0062 at Fig. 4; 36:57-59; 37:5-11, 37:51-67.) The specification further describes how the data processor "correlate[es] said information about said attendees at said venue with trait information of said member" and "combin[es] real-time data from a plurality of members." (*See id.* at 37:57-59 ("If [the received message includes a member's location], the member's traits are combined with the traits of other members estimated to be at the venue to provide 406 demographics for the venue.").) These "combined characteristics" are then "communicat[ed] to a recipient." (*Id.* at 38:6-13 ("The Hoozware system server 100 [(a.k.a. data processor (*id.* at 36:58-50))] processes the desired demographics and venue characteristics with weighting factors . . . . The ranked list of venues and measures of match are sent 409 typically to the member's mobile phone and/or home computer.").) IBM did not and cannot meet its burden to show that the claims are indefinite for reciting means-plus-function elements for which the specification discloses no corresponding structure. *Elcommerce.com, Inc. v. SAP AG,* 745 F.3d 490, 505-06 (Fed. Cir. 2014) ("[W]hether a patent adequately sets forth structure corresponding to a claimed function necessitates consideration of the disclosure of the specification from the viewpoint of one skilled in the art" and "absence of evidence provided by technical experts" amounts to "a failure of proof" because "attorney argument is not evidence." (citation omitted)), *vacated on other grounds*, 564 F. App'x 599 (Fed. Cir. 2014) (en banc).

D. said data processor comprises/comprising

Groupon's Proposed Construction	IBM's Proposed Construction
said data processor stores information concerning[8]	said data processor has

Several claims recite "said data processor comprises/comprising" certain information

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[8] To simplify the parties' disputes, Groupon has modified its construction by removing "and using" from its original proposal as storing information implies that it is for use.

(e.g., reward, trait). The parties dispute whether these phrases mean that the data processor "has" or "stores information concerning" the information recited in the claims. It is unclear what IBM means when it proposes that the data processor "has" the recited information. Even under IBM's construction, a data processor includes a computer memory and has or has access to a database. For a computer to "have" anything, it needs to store it. (Shamos Decl. ¶ 82.) Indeed, the specification consistently explains that the data processor "stores information concerning traits and behaviors of the members, venue characteristics, and other information, in a database." (JA-0046 at 5:9-11.)[9] Groupon's construction is more accurate and should be adopted by the Court.

E. recently/recent

Groupon's Proposed Construction	IBM's Proposed Construction
Not indefinite; no construction necessary.	Indefinite

As another attempt to invalidate the claims, IBM contends that the terms "recently" and "recent" are indefinite. The Supreme Court in *Nautilus* held that "a patent is invalid for indefiniteness if its claims, read in light of the specification delineating the patent, and the prosecution history, fail to inform, with reasonable certainty, those skilled in the art about the scope of the invention." *Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120, 2124 (2104). Thus, whether a term is indefinite is examined from the view of one skilled in the art and requires expert testimony from one skilled in the art. *Id.* at 2128 ("definiteness is to be evaluated from the perspective of someone skilled in the relevant art"). IBM has provided no such testimony and instead relies solely on attorney argument. Attorney argument is not evidence and is insufficient to meet the clear and convincing standard required to overcome the well-established presumption

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[9] IBM argues that its construction implies that the information (e.g., reward, trait) exists while Groupon's construction lacks such implication. (Br. at 18.) But "stores" in Groupon's construction does not lack or recite any more of a temporal requirement than "has" in IBM's construction. And whether or not the system claims recite capabilities of the data processor is an issue for the Court to resolve with respect to the terms "said data processor: […] [operation]ing" addressed above, not this term.

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that patent claims are valid. *See, e.g.*, *Sonix Tech. Co. v. Publ'ns Int'l, Ltd.*, 844 F.3d 1370, 1377 (Fed. Cir. 2017) (confirming that "[i]ndefiniteness must be proven by clear and convincing evidence" (citation omitted)); *Johnston v. IVAC Corp.*, 885 F.2d 1574, 1581 (Fed. Cir. 1989) ("Attorneys' argument is no substitute for evidence."); *Invitrogen Corp. v. Clontech Labs., Inc.,* 429 F.3d 1052, 1068 (Fed. Cir. 2005) ("Unsubstantiated attorney argument … is no substitute for competent, substantiated expert testimony."); *Whirlpool Corp. v. Ozcan*, No. 2:15-cv-2103, 2016 U.S. Dist. LEXIS 179492, at *11-13 (E.D. Tex. Dec. 28, 2016) (finding reliance solely on "attorney argument based on the patent's intrinsic evidence" unpersuasive and insufficient "to meet the high burden necessary to establish that [] claims are indefinite").

That deficiency aside, the claims, the specification, and the prosecution history of the '360 patent confirm that the terms "recently" and "recent" are not indefinite. (Shamos Decl. ¶ 85); *Sonix Tech. Co.,* 844 F.3d at 1377-78 (rejecting argument that "visually negligible" was indefinite because "claims involving terms of degree are [not] inherently indefinite" and "visually negligible" unlike "aesthetically pleasing" is not "purely subjective" (citations omitted)); *see also Enzo Biochem, Inc. v. Applera Corp.*, 599 F.3d 1325, 1333-36 (Fed. Cir. 2010) (finding that "not interfering substantially" is not indefinite). First, the word "recent" had a well-known and *definite* meaning at the time of the patent (and still does). It means "just before the present time." (GPN-0020; *see also* GPN-0010 (defining "recent" as "[o]f, belonging to, or occurring at a time immediately before the present").) Second, the law is clear—"the dispositive question in an indefiniteness inquiry is whether the 'claims,' not particular claim terms, 'read in light of the specification delineating the patent, and the prosecution history, fail to inform, with reasonable certainty, those skilled in the art about the scope of the invention.'" *Cox Comm'cns, Inc. v Sprint Comm'cn Co.*, 838 F.3d 1224, 1231 (Fed. Cir. 2016) (citation omitted).

The patent describes that the invention allows "members to have mobile access to *real-*

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time information about the venues" so they "can determine before going to a venue . . . which venue has their preferred attendee demographics, atmosphere, music, cover charge, drink specials, friends, etc." (JA-0001 at Abstract (emphasis added).) Consistently, the claims recite that the data processor is configured to receive "real time data . . . from a mobile communication device of at least one member presently or recently at said venue." (JA-0075-77 at claims 1, 2, 3, and 22.) "Recently" therefore refers to a time period that can still generate *real-time* data. (Shamos Decl. ¶ 86.) The prosecution history confirms that "'recently' intends useful real-time data" so that one can evaluate "interest in attending the venue." (JA-0953.) As the inventors explained, "if the real-time data is sufficiently temporally related to the present scene at the venue to be useful to the recipient concerning the venue, then it is included in the scope of the claim." (*Id.*) And "[i]f the data is not useful as no longer being timely, then it is not included." (*Id.*) Thus, one skilled in the art after reading the claim language, the specification, and the prosecution history would understand the meaning of the terms "recently" and "recent" as just before the present time and sufficiently temporally related to the present scene at the venue to generate real-time data about a venue. (Shamos Decl. ¶ 85.)

IBM argues that the statements made during prosecution of the '360 patent purportedly show that the term "recently" is "subjective." The inventors made the statements for the opposite reason—to specify why the term is *not* subjective. (JA-0953 ("In the event that the Examiner considers the term 'recently' as subjective, the Examiner is respectfully requested to consider the following.").) The inventors' explanation—which the examiner accepted—makes clear that the term "recently" in the claims refers to a time period, the present or just before the present time, when real-time data can be collected. Real-time data is not subjective; it reflects the current state at a venue. (Shamos Decl. ¶ 87.) It does not depend on any member's opinion of that state. And whether the real-time data is useful or not again does not depend on any member's

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opinion—it is an objective determination of whether the real-time data reflects or closely approx-

imates the current state at a venue. (*Id.*) IBM's attorney argument does not overcome the pre-

sumption of validity of the claims and justify deviating from the well-established rule that claims

must be construed to preserve their validity.

F.   attendees at said venue

Groupon's Proposed Construction	IBM's Proposed Construction
No construction necessary.	all people that are present at the venue, including members and non-members

The phrase "attendees at said venue" requires no construction. It is a common, well-

understood, non-technical term, and is used that way in the patent. Its plain and ordinary mean-

ing is "people attending the venue." (*See* IBM-004 (defining "attendee" as "a person who is pre-

sent on a given occasion or at a given place").)

Through its construction, IBM attempts to rewrite the claims by changing the claimed

"attendees" to "all attendees." There is no intrinsic or extrinsic support for such a re-write. And

IBM's arguments defy common sense. First, IBM agrees that an "attendee" is "a person who is

present on a given occasion or at a given place," but argues that the plural of "attendee" is "*all*"

such people. (Br. at 23.) Of course, applying basic rules of the English language, the plural of

"attendee" is "people who are present on a given occasion or at a given place," not *all* people.

Second, when the inventors were referred to all attendees in the specification, they used language

such as the "total number of attendees"; no such language is present in the claims, and there is no

justification for importing it. (JA0046 at 6:57-58); *Phillips v. AWH Corp.*, 415 F.3d 1303, 1320

(Fed. Cir. 2005) (en banc). The well-understood lay term "attendee at said venue" requires no

construction and it certainly should not be construed contrary to its ordinary meaning as pro-

posed by IBM.

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G. demographic of

Groupon's Proposed Construction	IBM's Proposed Construction
No construction necessary.	statistics concerning a selected population

IBM's original construction for this term was "statistics summarizing information about." IBM changed its construction in its opening brief, but it continues to argue that "demographic of" refers to "a statistical summary of information about the people at the venue." (Br. at 22-23.) "A statistical summary of information" is not the ordinary meaning of "demographic," which refers to statistical characteristics of human populations or segments of human population based on age, gender, income, etc. (*See* JA-0016 (defining "demographics" as "the statistical characteristics of human populations"); *see also* JA-0044 at 1:50-51 ("by demographics is meant a statistic concerning a selected population"); JA-0047 at 8:33-36 ("Dictionary.com defines 'demographics' as . . . a statistic characterizing human populations (or segments of human populations broken down by age or sex or income etc.).") The term "demographic of" is not a technical term. It is a commonly used term that needs no construction. Groupon, however, does not oppose the construction proposed by IBM in its brief, but requests that the Court reject IBM's additional vague assertion that it requires a "statistical summary."

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Dated: March 6, 2017   Respectfully submitted,

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CERTIFICATE OF SERVICE

I hereby certify that on March 6, 2017, a true and correct copy of the foregoing document, Plaintiff Groupon, Inc.'s CLAIM CONSTRUCTION BRIEF, was electronically filed and served upon counsel of record via the Court's CM/ECF System.

    /s/ J. David Hadden
    J. David Hadden

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