

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

MAPLEBEAR INC. D/B/A INSTACART,
Petitioner,

v.

CONSUMERON, LLC,
Patent Owner.

IPR2023-00865
U.S. Patent No. 11,238,465

**DECLARATION OF DR. HENRY HOUH,
UNDER 37 C.F.R. § 1.68 IN SUPPORT OF PETITION FOR
INTER PARTES REVIEW**

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I, Henry Houh, do hereby declare as follows:

I. INTRODUCTION

1. I am making this declaration at the request of Maplebear Inc. d/b/a Instacart in the matter of the *Inter Partes* Review of U.S. Patent No. 11,238,465 (“the ’465 patent”) to Barron *et al.*

2. I am also being reimbursed for reasonable and customary expenses associated with my work and testimony in this investigation. My compensation is not contingent on the outcome of this matter or the specifics of my testimony, and I have no other interest in this case or the parties thereto.

3. I have been asked to provide my opinions regarding whether claims 1-19 (“the Challenged Claims”) of the ’465 patent are unpatentable as they would have been obvious to a person having ordinary skill in the art (“POSITA”) at the time of the alleged invention, in light of the prior art. It is my opinion that all of the limitations of the challenged claims would have been obvious to a POSITA.

4. In the preparation of this declaration, I have studied:

- a. the ’465 patent, Ex.1001;
- b. the prosecution history of the ’465 patent (“’465 File History”),
Ex.1002;
- c. U.S. Patent Application Publication No. 2016/0148302 (“**Carr**”),
Ex.1005;

- d. U.S. Patent No. 10,592,962 (“**Lauka**”), Ex.1006;
 - e. U.S. Patent Application Publication No. 2021/018293 (“**Yee**”),
Ex.1007;
 - f. U.S. Patent Application Publication No. 2013/0085807 (“**Cincotta**”),
Ex.1008;
 - g. U.S. Patent Application Publication No. 2014/0149160 (“**Argue**”),
Ex.1009;
 - h. U.S. Patent No. 10,510,084 (“**Dearing**”), Ex.1010; and
 - i. Any other document referenced below.
5. In forming the opinions expressed below, I have considered:
- the documents listed above;
 - the relevant legal standards, including the standard for obviousness,
- and any additional authoritative documents as cited in the body of this declaration; and
- my own knowledge and experience based upon my work in the field of electronic commerce as described below.

6. Unless otherwise noted, all emphasis in any quoted material has been added.

II. QUALIFICATIONS AND PROFESSIONAL EXPERIENCE

7. My complete qualifications and professional experience are described

in my *Curriculum Vitae*, a copy of which can be found in Exhibit 1004. The following is a brief summary of my relevant qualifications and professional experience.

8. I received a Ph.D. in Electrical Engineering and Computer Science from the Massachusetts Institute of Technology (“MIT”) in 1998. I also received a Master of Science degree in Electrical Engineering and Computer Science in 1991, a Bachelor of Science degree in Electrical Engineering and Computer Science in 1989, and a Bachelor of Science degree in Physics in 1990, all from MIT.

9. I am currently self-employed as an independent technical consultant. I am also president of a company, Einstein’s Workshop, that provides supplemental science, technology, engineering, and mathematics (“STEM”) education to children of all ages.

10. I first entered telecommunications in 1987 when I worked as a summer intern at AT&T Bell Laboratories as part of a five-year dual degree program at MIT. I continued to work at AT&T Bell Laboratories as part of this MIT program. While at MIT, I was a teaching assistant (“TA”) in the Electrical Engineering and Computer Science Department’s core Computer Architectures course. I first was a TA as a senior for a role typically reserved for graduate students. I later became head TA. The course covered various topics in computer architectures, as well as programming. As a TA, I helped write homework

assignments, lab assignments (including those that involved programming), and exams. I also taught in the recitation sections.

11. Later, as part of my doctoral research at MIT from 1991-1998, I was a research assistant in the Telemedia Network Systems (“TNS”) group at the Laboratory for Computer Science. The TNS group built a high-speed gigabit network and created applications that ran over the network. Example applications included ones for remote video capture, processing, and display of video on computer terminals. In addition to working on the design of core network components, designing and building the high-speed links (which included programmable logic devices), and designing and writing the device drivers for the interface cards (which included programmable logic devices), I also set up the group’s web server. Also, I helped to maintain, install, and upgrade the networking devices used within the group, along with other graduate students.

12. I also helped to build the web pages that initiated the above-mentioned video sessions via a web interface. Vice President Al Gore visited our group in 1996 and received a demonstration of—and remotely drove—a radio-controlled toy car with a wireless video camera mounted on it that was built by our group. This toy car device received commands transmitted over a network from a remote computer, and video data from the toy car was transmitted wirelessly then over a computer network back to the user controller. On occasion, we allowed

users visiting our web site to drive the toy car from their remote computer while they watched the video on their computer. The video stream was encoded by TNS-designed hardware, streamed over the TNS-designed network, and displayed using TNS-designed software.

13. I defended and submitted my Ph.D. thesis, titled “Designing Networks for Tomorrow’s Traffic,” in January 1998. As part of my thesis research, I analyzed local area and wide area flows to show a more efficient method for routing packets in a network, based on traffic patterns at the time. The traffic flow data included Ethernet, IP, TCP or UDP, and RTP header information, which I analyzed to come to the conclusions in my thesis.

14. From 1997 to 1999, I was a Senior Scientist and Engineer at NBX Corporation, a start-up that made business telephone systems for streaming packetized audio over data networks instead of using traditional telephone lines. NBX was later acquired by 3Com Corporation.

15. As part of my work at NBX, I designed the core audio reconstruction software algorithms for the telephones, as well as the packet transmission algorithms. I also designed and validated the core packet transport protocol used by the phone system. The protocol was used for all signaling in the phone system, including for the setup of conference calls. The NBX system also featured a computer interface for initiating phone calls, which could also initiate conference

calls. The NBX system also supported the Telephony Application Programming Interface (“TAPI”) that allowed other computer programs to integrate with our system telephony features. We obtained U.S. Patent No. 6,967,963, entitled “Telecommunication method for ensuring on-time delivery of packets containing time-sensitive data,” as part of this work. I also programmed the first prototype of our phone which communicated using IP, and I demonstrated our IP phones working over the Internet when we attended a trade show in California. The phone connected over the Internet to our headquarters in Andover, MA. I also programmed a data capture and analysis system that provided data on the operation of the system.

16. From 1999-2004, I was employed by Empirix or its predecessor company, Teradyne. Empirix was a leader in test tools for telecommunications protocols and systems, providing functional testing tools as well as load testing tools. From 2000-2001, I conceived and built a test platform for testing Voice-over-IP (VoIP). The first application on this new test platform was a cloud emulator for simulating the effects of transmitting VoIP over a busy network. The test platform was based on a network processor chip, which could be programmed to cut-through packets while processing packet data such as various protocol layer headers including addresses included therein and even packet data contents. I also designed a protocol analyzer built on the same platform. The application captured

and performed protocol decoding at various layers in the protocol stacks of captured packets, including detailed Ethernet header decoding, IP header decoding, TCP header decoding, UDP header decoding, RTP header decoding, and many other specified protocols. The application was also designed to reconstruct entire conversations that spanned multiple packets.

17. At Empirix, I also rearchitected the design of the Web Test division's core product, e-Test Suite. E-Test Suite was a software program designed to perform functional and load testing of web applications. Numerous e-Commerce companies used e-Test Suite software to test the capabilities of their web sites. I was technical lead on the project, and also worked on programming a Javascript interpreter for the product. Javascript is the flexible programming layer that allows users to interact with web pages through actions such as clicking and dragging that allows web page programmers to extend the functionality of a web page beyond clicking on links.

18. In 2006, as part of my role at BBN Technologies, I helped found PodZinger Inc., now known as RAMP Inc. PodZinger utilized BBN's speech recognition algorithms to search through the spoken words in audio and video segments. While I was Vice President of Operations and Technology, PodZinger followed its initial prototype with a full streaming audio and video search solution. I also created a social networking web site, which BBN sold to a venture-funded

startup company. In the process of creating the web site, I designed and specified the authentication and authorization protocols.

19. I also worked with setting up accounting systems and integrating on-line payment systems on numerous occasions. In 1994, I started a company, Agora Technology Group, that set up web sites for targeted advertising, and later provided consulting services to companies and organizations to set up their web sites. I managed all the finances and bookkeeping for the company, including keeping all the books and ledgers. Starting in the early 2000's, I integrated web payment systems with various web sites.

20. At my educational company, Einstein's Workshop, I created the initial web site that included shopping cart technology and integrated it with online payment solutions. I also evaluated, sourced, and configured the point-of-sale system for the company, which also involved integration with and setup of mobile shopping terminals. Furthermore, I set up the accounting system, built the web site, integrated various web payment mechanisms with the web site, set up mobile payment systems, and also set up a mobile point of sale system. At Einstein's Workshop, we teach programming to children of all ages, starting with Scratch programming for young elementary students and advancing through programming in Python and for game development for high school students. I conceived many of the programming classes and have taught programming to novice and more

advanced students. We also created an educational computer-aided design tool, called BlocksCAD. We received a grant, on which I was the principal investigator, to further develop BlocksCAD and successfully met our grant objectives.

BlocksCAD was spun-off from Einstein's Workshop and has been part of various incubator/accelerator programs in education as well as at the MIT Media Lab.

Today, BlocksCAD is used worldwide in makerspaces as well as in schools throughout the U.S.

21. I have been awarded several United States patents, including the following examples:

- U.S. Patent No. 7,975,296, "Automated security threat testing of web pages";
- U.S. Patent No. 7,877,736, "Computer language interpretation and optimization for server testing";
- U.S. Patent No. 7,801,910, "Method and apparatus for timed tagging of media content";
- U.S. Patent 7,590,542, "Method of Generating Test Scripts Using a Voice-Capable Markup Language"; and
- U.S. Patent No. 6,967,963, "Telecommunication method for ensuring on-time delivery of packets containing time-sensitive data."

III. LEVEL OF ORDINARY SKILL IN THE ART

22. I understand there are multiple factors relevant to determining the level of ordinary skill in the pertinent art, including (1) the levels of education and experience of persons working in the field at the time of the invention; (2) the sophistication of the technology; (3) the types of problems encountered in the field; and (4) the prior art solutions to those problems.

23. I have been informed that the earliest alleged priority date for the '465 patent is August 26, 2009. I also understand that the '465 patent may not be entitled to claim priority to the earliest alleged priority date, and thus, the priority date of the challenged claims may be April 20, 2020, the date on which the application which matured into the '465 patent was filed.

24. A person of ordinary skill in the art ("POSITA") in the field of the '465 patent, as of its earliest alleged priority date in August 2009, or as of its filing date in April 2020, would have been someone knowledgeable and familiar with the electronic commerce arts that are pertinent to the '465 patent. That person would have a bachelor's degree in electrical engineering, computer engineering, computer science, or equivalent training, and approximately two years of experience working in the field of electronic commerce or design of similar transaction-based systems. Lack of work experience can be remedied by additional education, and vice versa.

25. For purposes of this Declaration, in general, and unless otherwise

noted, my statements and opinions, such as those regarding my experience and the understanding of a POSITA generally (and specifically related to the references I consulted herein), reflect the knowledge that existed in the field as of the filing date of the '465 patent (i.e., April 20, 2020). Unless otherwise stated, when I provide my understanding and analysis below, it is consistent with the level of a POSITA prior to the filing date of the '465 patent.

IV. RELEVANT LEGAL STANDARDS

26. I am not an attorney. In preparing and expressing my opinions and considering the subject matter of the '465 patent, I am relying on certain basic legal principles that counsel have explained to me. These principles are discussed below.

27. I understand that prior art to the '465 patent includes patents and printed publications in the relevant art that predate the priority date of the alleged invention recited in the '465 patent.

28. I have been informed that a claimed invention is unpatentable under 35 U.S.C. § 103 if the differences between the invention and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains. I have also been informed by counsel that the obviousness analysis takes into account factual inquiries including the level of ordinary skill in the art,

the scope and content of the prior art, and the differences between the prior art and the claimed subject matter.

29. I have been informed by counsel that the Supreme Court has recognized several rationales for combining references or modifying a reference to show obviousness of claimed subject matter. Some of these rationales include the following: (a) combining prior art elements according to known methods to yield predictable results; (b) simple substitution of one known element for another to obtain predictable results; (c) use of a known technique to improve a similar device (method, or product) in the same way; (d) applying a known technique to a known device (method, or product) ready for improvement to yield predictable results; (e) choosing from a finite number of identified, predictable solutions, with a reasonable expectation of success; and (f) some teaching, suggestion, or motivation in the prior art that would have led one of ordinary skill to modify the prior art reference or to combine prior art reference teachings to arrive at the claimed invention.

30. I understand that the written description requirement of the patent statutes ensures that issued claims of a patent correspond to the scope of the written description that was provided in the original application. I understand that in determining whether the patent satisfies the written description requirement, one must consider the description from the perspective of a POSITA at the time of the

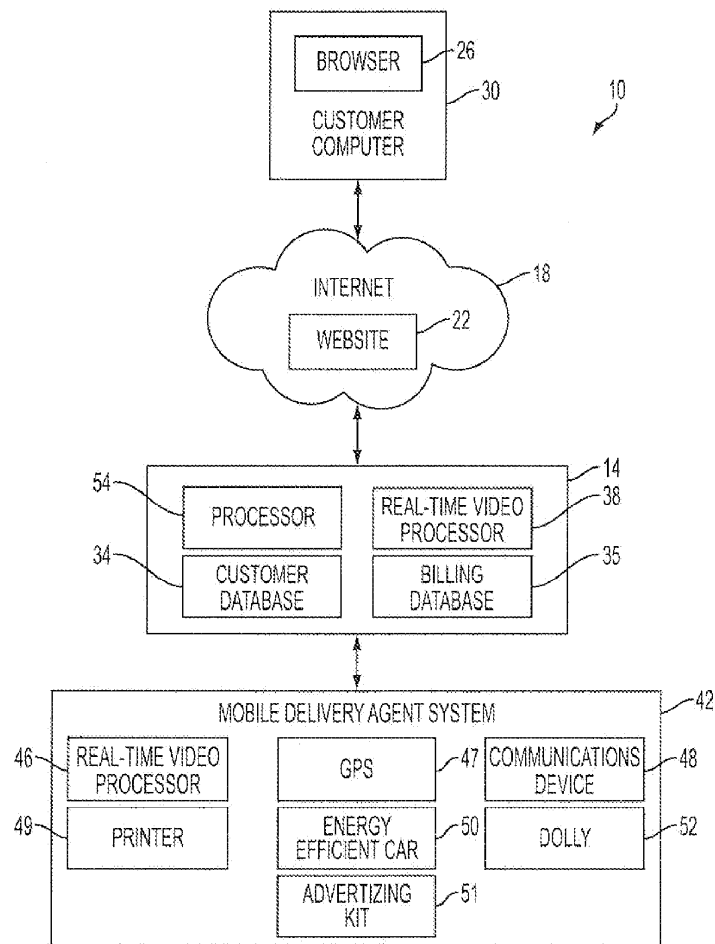
application's filing. The written description requirement is satisfied if a POSITA reading the original patent application would have recognized that it describes the full scope of the claimed invention as it is claimed in the patent, and that the application reasonably conveys that the inventor possessed the full scope of the invention by the filing date of the original application.

31. I have been informed that the written description requirement may be satisfied by any combination of the words, structures, figures, diagrams, formulas, and other material contained in the patent application. The full scope of a claim, or any particular limitation of a claim, need not be expressly disclosed in the original patent application, provided a POSITA would have understood that the full scope or missing limitation is inherently contained in the written description of the application.

32. I understand that in considering written description, it is important not to determine written description using the benefit of hindsight.

V. OVERVIEW OF THE '465 PATENT

33. The '465 patent "pertains to customer shopping and, more particularly, to a system and method for remote acquisition and delivery of goods." Ex.1001, 1:29-31. The '465 patent's system is depicted in Figure 1, which shows "a remote acquisition and delivery system." Ex.1001, 3:19-21.



'465 patent, Fig. 1

34. As shown above, the system of the '465 patent includes a “services provider [] equipped with at least one server 14 in communication with a wide area network (WAN), such as the internet 18.” Ex.1001, 3:21-23. A user, “via a customer computer 30”, “accesses a user interface,” which may be a website or application on the user’s mobile device. Ex.1001, 3:23-33.

35. The server 14 of Figure 1 includes a “customer database 34,” “billing database 35” and a “digital image capture processor 38.” Ex.1001, 3:40-44.

Additionally, the server “is in contact with a plurality of mobile delivery agent systems, such as indicated at 42.” Ex.1001, 3:44-46.

36. Each of the mobile delivery agent systems “includes a digital image capture device 46, such as a cell phone or other similar device incorporating a digital camera for taking still or video images...a global positioning system (GPS) 47, a communications system or device 48 and a printer 49.” Ex.1001, 3:46-53. The ’465 patent explains that the GPS “is preferably utilized to track a mobile delivery agent.” Ex.1001, 3:53-56.

37. Figure 2 depicts a “method for utilizing system 10.” Ex.1001, 4:26-27. After a customer registers with the system, the ’465 patent explains that the customer “may enter in the area he or she is interested in obtaining services” by “entering his or her local zip code or the address of a store where a desired product is being sold.” Ex.1001, 5:1-6. Subsequently, “information regarding the location and status of delivery agents in the desired area is displayed” and the user may select a delivery agent. Ex.1001, 5:6-10. The user may specify the exact location from which the agent is to purchase a product, or the system may calculate the closest location for the purchase. Ex.1001, 5:34-39.

38. After selection of a store location, the “selected delivery agent travels to the store location...and finds the desired product to be acquired.” Ex.1001, 7:13-15. The ’465 patent explains that the “digital image capture device 46 is utilized to

provide a streaming ‘street view’ for the customer’s entertainment and to show the progress of the delivery agent.” Ex.1001, 7:15-18. Additionally, the “GPS 47 is utilized with digital mapping technology to dynamically update the customer as to the location of the delivery agent.” Ex.1001, 7:19-21.

39. When the delivery agent arrives at the location, the delivery agent “communicates to the customer that the product has been identified, and the customer has the option of inspecting the product in real-time.” Ex.1001, 7:33-35. “If the customer chooses to inspect the product,... the delivery agent will utilize digital image capture device 46 to transmit real-time data to customer computer 30.” Ex.1001, 7:36-40. The customer may then approve or reject the product. If the customer approves, the delivery agent acquires the product and delivers it either curbside or “directly to the customer’s door or desired physical location.” Ex.1001, 8:4-8.

40. I note that the features described throughout the ’465 patent and claimed in the challenged claims were well-known prior to the 2020 priority date. For example, the Carr reference described below disclosed a similar technique for “allowing a customer to order goods on-line or remotely” which included steps such as “establishing a list of alternative goods if one or more goods in the customer order are unavailable.” Carr, Abstract. Carr similarly discloses steps of scanning a bar code to send information to a customer about alternative goods that

are available to fulfill a need for substitution. Carr, ¶¶95-96.

A. Applications to Which Priority is Claimed

41. As noted above, I understand that the '465 patent issued from the '133 application, filed April 20, 2020. I understand that the '133 application was a continuation of the U.S. Application No. 13/270,848 (the "'848 application" or "parent application"), filed October 11, 2011. The '848 application claims priority to earlier applications, the earliest which was filed on August 26, 2009.

42. I understand this means that, for those claims of the '465 patent for which written description support appears in the '848 application or an earlier application, the claims of the '465 patent are considered to have been filed on the filing date of that earlier application for the purposes of determining, as to those claims, whether a reference will qualify as prior art.

43. I also understand that, for any claims of the '465 patent for which written description support *does not* appear in the earlier application (such as the '848 application), the '465 patent is not considered to have been filed on the date of the earlier application's filing. Thus, depending on the adequacy of written description support for any particular claim, the effective filing date for that particular claim may be as early as October 11, 2011 (i.e., the filing date of the '848 application or earlier, e.g., August 26, 2009), or as late as April 20, 2020, the filing date of the '133 application that issued as the '465 patent.

44. I understand that claims 1-19 of the '465 patent are being challenged in this *inter partes* review, with claims 1 and 14 being the independent claims. I have reviewed these claims and the '848 application to determine whether the claims of the '465 patent have written description support in the '848 application. In view of the limitations recited in independent claims 1 and 14, it is my opinion that independent claims 1 and 14 recite subject matter that is not expressly disclosed, and is not reasonably conveyed, by the '848 application.

45. Specifically, the challenged independent claims recite multiple limitations that a POSITA would consider to not be reasonably conveyed by the disclosure of the '848 application. I address these limitations in the sub-sections below.

1. The '848 Application Does Not Provide Written Description Support for “*failing to locate an identified product of the set of one or more goods*” as recited in claim 1 or “*determining that the identified product is not available*” as recited in claim 14

46. Independent claim 1 of the '465 patent recites: “*upon failing to locate an identified product of the set of one or more goods, electronically transmitting information on a replacement product for the identified product of the set of one or more goods to the customer using the digital image capture device of the agent.*”

47. Independent claim 14 recites similar subject matter: “*determining that the identified product is not available.*”

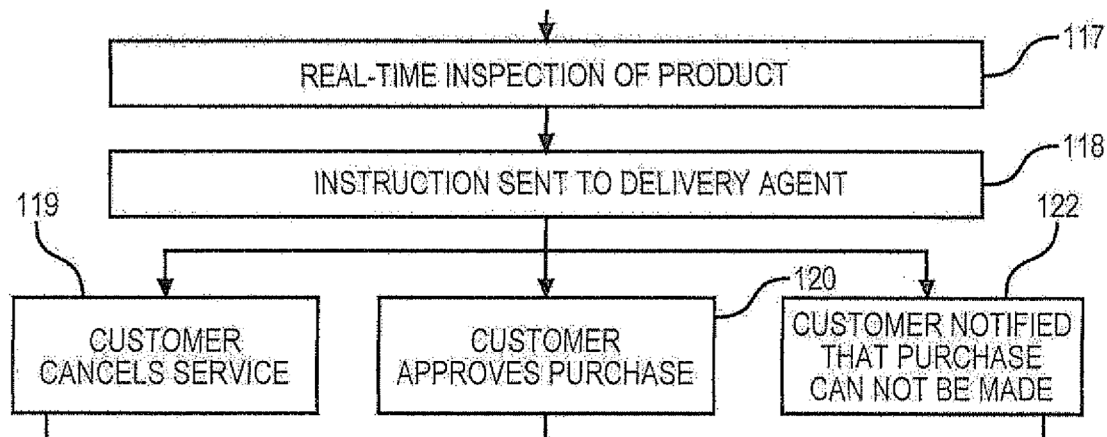
48. It is my opinion that these limitations of claims 1 and 14 are not disclosed by, or reasonably conveyed by, the '848 application.

49. Specifically, the '848 application does not describe a scenario corresponding to “*failing to locate an identified product of the set of one or more goods*” or “*determining that the identified product is not available.*” Instead of describing such scenarios, a POSITA would have interpreted the '848 application as assuming that products ordered by the customer are available. Thus, a POSITA would not have recognized the '848 application as contemplating scenarios in which the products cannot be located or in which the products are not available and the '848 application similarly does not contemplate what actions to take in those scenarios.

50. For example, the '848 application describes a method where a customer may enter “the address of a store where a desired product is being sold” ('848 application, ¶17) and may specify “the exact location from which the selected delivery agent is to purchase or otherwise acquire the product, such as a retail store location.” *Id.*, ¶18.

51. After a store is selected, “the selected delivery agent travels to the store location ... and **finds the desired product** to be acquired.” *Id.*, ¶23. Subsequently, after the delivery agent finds or locates the product, the customer optionally inspects the product at step 118, and “the customer either approves or

rejects acquisition.” *Id.*, ¶24. This is reflected in Figure 3 of the ’848 application, reproduced in part below, where, after the customer inspects the **located product** at step 117, the customer may (i) cancel the service in option 119, (ii) approve the purchase in option 120, or (iii) be notified that the purchase cannot be made in option 122.



'848 application, Fig. 3 (excerpt)

52. As paragraph 24 makes clear, in the ’848 application, the delivery agent “finds the desired product to be acquired.” *Id.*, ¶23. The ’848 application does not contemplate, or reasonably convey to a POSITA, the opposite scenario, i.e., that the delivery agent does not find the desired product to be acquired, or rather, that the delivery agent “*fail[s] to locate an identified product of the set of one or more goods*” or “*determin[es] that the identified product is not available.*”

53. Rather, the ’848 application makes clear that the underlying premise to Figure 3, and to the application as a whole, is that the products desired and ordered by the customer can be located and are available for inspection by the

customer (as specified in step 117).

54. The '848 application also states that the “customer either approves or rejects acquisition of the inspected product” and if “the product is rejected, the customer has the choice of inspecting another product or terminating the service.” '848 application, ¶24. This is not reflected in Figure 3, but in any event, this scenario in which the customer rejects a product again only occurs **after** “the inspected product” is available and found by the delivery agent, and the delivery agent has transmitted “real-time data to customer computer 30.” *Id.*, ¶¶24, 23. Because this scenario of product rejection again depends on the “identified product” being **located** or **available**, but ultimately rejected, it does not provide written description for “*failing to locate an identified product*” or “*determining that the identified product is not available.*”

55. I note that Figure 3 includes a potential occurrence at step 122 of notifying the customer that the purchase cannot be made, and the '848 application elaborates and details a situation in which “the delivery agent cannot complete the transaction for any reason.” '848 application, ¶25. But the circumstances related to the situation in which the delivery agent cannot complete **the transaction** are unrelated to **product availability** or **finding the product**. That is, product unavailability is not a reason the delivery agent cannot complete the transaction in the context of the '848 application. In fact, this is readily apparent from Figure 3

itself.

56. Specifically, the '848 application cannot disclose or reasonably convey product unavailability as a reason the delivery agent cannot complete the transaction because this would conflict with Figure 3 itself, which requires (in step 117, before step 122) a step of “real-time inspection of product” **before** any indication that the delivery agent cannot complete the transaction occurs. '848 application, Fig. 3. If the product is inspected, it has been located and is available, and there must be some other reason the transaction cannot be completed.

57. Further, although the application states that “the customer has the option of inspecting the product in real-time at 117” ('848 application, ¶23), that does not change the conclusion that the product is already found and available. This is because the preceding sentence states: “The delivery agent then enters the shopping location and **identifies the product of interest**” — that is, the delivery agent does not “*fail[] to locate*” the product or “*determin[e] that the identified product is not available.*” '848 application, ¶23. Likewise, the sentence including the customer’s “option”, describing the action leading up to step 117, states: “The delivery agent then communicates to the customer **that the product has been identified....**” — again, the delivery agent does not “*fail[] to locate*” the product or “*determin[e] that the identified product is not available*” but rather, the exact opposite. '848 application, ¶23.

58. Step 122 of Figure 3 is thus only related to a failure to complete a transaction of purchasing an **already-identified and available** product; step 122 does not disclose product unavailability as a reason a transaction cannot be completed. In other words, in step 122, the delivery agent has one or more products, but cannot purchase the product for some reason. Step 122 therefore does not convey that the delivery agent “*fail[s] to locate an identified product of the set of one or more goods*” or “*determin[es] that the identified product is not available.*”

59. The difference in terminology further supports my opinion that the ’848 application does not provide written description support for these claim limitations. For example, step 122 relates to the “transaction” not being completed, while the claim language relates to the unavailability of an “*identified product*” where the transaction may include multiple products. A failure to complete a transaction need not be related to any individual product’s availability. Additionally, the ’848 application fails to elaborate on the myriad reasons why a transaction cannot be completed beyond when a “purchase price is outside of the pre-approved credit limit.” *Id.*

60. In fact, aside from the disclosed credit limit scenario, a POSITA would have recognized numerous additional reasons why a transaction could not be completed. For example, the delivery agent may become suddenly unavailable,

the store could decide to not allow the delivery agent to purchase the goods, or the delivery agent's payment method could be faulty independent of the customer's credit limit. None of these possibilities are disclosed by the '848 application, and these scenarios are unrelated to the product requested by the user. Thus, the possibility that a product **cannot be located** or **is unavailable** is not contemplated by the '848 application, and is not disclosed as a reason the purchase cannot be made.¹

61. Thus, it is my opinion that '848 application does not contemplate, or reasonably convey to a POSITA, *"failing to locate an identified product of the set of one or more goods"* (claim 1) or *"determining that the identified product is not available"* (claim 14).

2. **The '848 Application Does Not Provide Written Description Support for *"determining the information from the bar or QR code, wherein the information includes at least one image of the replacement product"* (claim 1) or *"obtaining a bar code [or] QR code of a replacement product ... sending to the customer the information determined from the bar code or QR code ... wherein the information includes at least one image of the replacement***

¹ I also note that, because the '848 application does not describe *"failing to locate an identified product"* it also does not support *"a replacement product for the identified product of the first set of the one or more goods"* that cannot be located, as is recited in claims 1 and 14.

product” (claim 14)

62. Independent claim 1 of the ’465 patent recites: “*determining the information from the bar or QR code, wherein the information includes at least one image of the replacement product.*”

63. Independent claim 14 of the ’465 patent recites: “*electronically transmitting information to the customer ... including: obtaining a bar code [or] QR code of a replacement product for the identified product ... sending to the customer the information determined from the bar code or QR code ... wherein the information includes at least one image of the replacement product.*”

64. It is my opinion that these limitations of claims 1 and 14 are not disclosed by, or reasonably conveyed by, the ’848 application.

65. First, as discussed above, the ’848 application does not contemplate failing to locate a product and is thus also silent as to a “*replacement product*” for a product that could not be located. Thus, the ’848 application cannot disclose or reasonably convey these additional limitations requiring a **replacement** product for a product that cannot be located or for an unavailable product.

66. Additionally, the ’848 application does not disclose or reasonably convey the concept of determining an image of a replacement product from a bar code or QR code.

67. The ’848 application states:

If the customer chooses to inspect the product, the customer will communicate instructions to the delivery agent at 118, and the delivery agent will utilize digital image capture device 46 to transmit real-time data to customer computer 30. This data can be collected and relayed in various forms. For instance, a digital picture could be captured and sent to the customer. Along the same lines, digital video can be employed, perhaps in combination with voice transmissions corresponding to Skype™ communications. In accordance with these preferred embodiments, instructions can be in the form of several pre-approved commands. For example, the customer may request that the delivery agent zoom-in on a particular feature, zoom out, pan right or pan left. Such pre-approved commands will minimize miscommunications between the customer and the delivery agent. On the other hand, **the product data can be collected by scanning a bar code associated with the product, or perhaps a QR code.**

'848 application, ¶23.

68. The '848 application also states:

A customer may travel to a retail establishment and, either utilizing in-house gear provided by the retail establishment or utilizing person equipment, such as a cell phone incorporating a camera, bar code or QR code scanning device, record which products the customer may be interested in obtaining at a future time. For each product on the list, the customer sends information regarding the product such as pictures, bar codes, QR codes, video, instructions, recipes, specifications, ingredients, where manufactured, etc. to server 14.

'848 application, ¶29.

69. Finally, the '848 application states:

Certainly, there are various forms for data transmission and communication disclosed in connection with the most preferred embodiments of the invention, with these data forms including, but not being limited to, still images (either alone or in combination with image recognition software), streaming video (really just a series of still images), bar code data and QR data, all of which are generically encompassed by a digital image capturing device and an associated processing device. Certainly bar code and QR data may be preferable due to associated accuracies, the ability to readily conduct simultaneous price comparisons for the product via internet searching or links, and enabling a host of information related to the product to be presented, e.g., nutritional or health information, product ratings and the like. Still, the image recognition or visual search technology certainly has its advantages, such as enabling a customer to directly convey to an agent a desired product for purchase through just the use a camera-equipped smartphone that can scan a product observed on a television set or simply observed elsewhere, such as at someone else's house.

'848 application, ¶30.

70. However, these passages of the '848 application, and the application as a whole, does not contemplate determining, using a bar code or QR code, image information **from the** code. That is, the '848 application does not contemplate the use of a bar code or QR code to retrieve **image information** from or based on the

bar code or QR code as recited in claims 1 and 14.

71. Instead of disclosing such a relationship, bar/QR code data and images appear to be separate concepts or options. For example, in one passage quoted above, the '848 application lists “pictures, bar codes, QR codes” as alternative types of product data: “the customer sends information regarding the product such as pictures, bar codes, QR codes, video, instructions, recipes, specifications, ingredients, where manufactured, etc.” '848 application, ¶29.

72. Similarly, in claim 28, the '848 application lists images as a separate option, and not that images are obtained by way of bar codes or QR codes: “product data is in the form of images, video, bar codes, QR codes, image recognition and near field communication data.” '848 application, claim 28.

73. Likewise, as quoted above in ¶29, the '848 application contemplates creating an e-shopping list “by scanning bar codes on existing products which the customer wants replaced, **or** taking a visual image in combination with image recognition software.” '848 application, ¶29.

74. The '848 application also explains that “bar code and QR code data...enabl[e] a host of information related to the product to be presented, e.g., nutritional or health information, product ratings and the like,” but does not disclose that bar code and QR code data enable images related to the product to be presented. '848 application, ¶30. Paragraph 8 of the '848 application likewise

confirms that images are an alternative to bar code and QR code data: “digital pictures or video can be taken and used to communicate the product to the customer. **On the other hand**, bar codes, QR (Quick Response) codes...can be used in identifying and communicating information.” *Id.*, ¶8.

75. Thus, throughout the ’848 applications, the disclosure makes clear to a POSITA that bar/QR codes are one method of sending product information to a consumer (e.g., product name, nutritional information, etc.), and images are another method. There is no disclosure bridging the two concepts, i.e., nothing in the ’848 application contemplates using bar/QR code data to obtain an image, and sending that obtained image information to the user. For example, there is no disclosure in the ’848 application to suggest that a bar/QR code of a product is used to obtain image information of the product. Indeed, after describing that “bar code and QR data may be preferable,” the ’848 application states that “the image recognition or visual search technology certainly has its advantages, such as enabling a customer to directly convey to an agent a desired product for purchase through just the use [of] a camera-equipped smartphone” confirming that the two concepts are alternatives. ’848 application, ¶30.

76. In fact, the ’848 application suggests that bar codes or QR codes are not used to obtain images of replacement products, as doing so would be inconsistent with one of the alleged solutions the ’848 application suggests it

provides. The '848 application purports to solve issues present in “internet shopping” and, in particular, internet-based pictures that are “inadequate to accurately depict the item” selected by a customer. '848 application, ¶4. Such “inadequate” images on internet shopping sites would typically be static, previously stored images (e.g., in a database), just like images obtained using a bar/QR code scan. That is, a picture of an item (e.g., a box of cereal) available for sale on an internet-based shopping site would be obtained by the retailer, stored in a database, and retrieved any time a customer visited the product page for that item. Similarly, if a bar/QR code were scanned, and the information from the bar/QR code was used to obtain image information related to the product, that image information would be obtained from a database of previously-obtained and previously-stored images. Such an image would be static and would not change over time, and would not always reflect, for example, the product’s appearance as it appears on a store shelf when an agent is shopping on behalf of a customer (e.g., an image taken in the store may show the product as being shelved near other similar products, but an image stored in a database would likely show only the product itself).

77. But the '848 application purports to solve the issue of inadequate pictures by instead having an agent capture and transmit “real-time” pictures and video of a product in a store to a customer for inspection. '848 application, ¶23.

Sending a customer a static image of a replacement product from a database is inconsistent with the alleged solution of the '848 application, as such a static picture would not allow for customer inspection of the replacement product, but instead would be the same type of potentially “inadequate,” static image that the '848 application attempts to improve upon. Thus, because images are viewed as an alternative to bar code or QR code data, and because using a bar code or QR code to retrieve **image information** of a replacement product from or based on the bar code or QR code is inconsistent with the solution allegedly provided by the '848 application, it is my opinion that the '848 application does not provide written description support for obtaining, from a bar code or QR code, image information.

78. Accordingly, it is my opinion that these limitations of claims 1 and 14, requiring image information of a replacement product to be determined from a bar or QR code, are not disclosed by the '848 application, and are not reasonably conveyed to a POSITA reading the disclosure.

VI. CLAIM CONSTRUCTION

79. It is my understanding that in order to properly evaluate the '465 patent, the terms of the claims must first be interpreted. It is my understanding that for the purposes of this *inter partes* review, the claims are to be given their ordinary and customary meaning as would be understood by one of ordinary skill in the art in light of the specification and prosecution history, unless the inventor

has set forth a special meaning for a term.

80. With respect to the term “*mobile agent system*,” I have been informed that, in district court proceedings concerning related patents, the district court has construed the term “*mobile agent system*” as “a mobile system that includes at least a device to capture video or still images and a device set up to communicate with a remote server.” Though I do not express an opinion as to whether this construction is correct, I have been asked to apply it for purposes of my analysis below.

81. I also note that each independent claim recites the components of the “*mobile agent system*”:

1. *A method for remote acquisition and delivery of goods through one or more agents of a service provider, each agent having a mobile agent system in communication with at least one remote server, with each mobile agent system including: a digital image capture device and a communication device, said method comprising:*

14. *A method for remote acquisition and delivery of goods through one or more agents of a service provider, each agent having a mobile agent system in communication with at least one remote server, with each mobile agent system including: a digital image capture device and a communication device, said method comprising*

82. Based on this claim language alone, I am able to apply the prior art and determine whether it renders the claimed “*mobile agent system*” obvious in the event the district court’s construction is not adopted.

83. For all other terms, it is my opinion that none of the claim terms require a specific construction for the purposes of my analysis in this declaration, and all will be given their ordinary and customary meaning.

VII. IDENTIFICATION OF HOW THE CLAIMS ARE UNPATENTABLE

84. I have been asked to provide my opinion as to whether the Challenged Claims of the '465 patent would have been obvious in view of the prior art. The discussion below provides a detailed analysis of how the prior art references identified below teach the limitations of the Challenged Claims of the '465 patent.

85. As part of my analysis, I have considered the scope and content of the prior art and any differences between the alleged invention and the prior art. I describe in detail below the scope and content of the prior art, as well as any differences between the alleged invention and the prior art, on an element-by-element basis for each Challenged Claim of the '465 patent.

86. As described in detail below, the alleged invention of the Challenged Claims would have been obvious in view of the teachings of the identified prior art references as well as the knowledge of a POSITA. I apply the prior art as follows:

Grounds	Claim(s)	Basis
#1	1, 4, 5, 8, 9, 11, 12, 14, 16, 17	§ 103 Carr and Lauka
#2	2, 3, 10, 15	§ 103 Carr, Lauka and Yee
#3	6-7	§ 103 Carr, Lauka, and Cincotta
#4	13	§ 103 Carr, Lauka, and Argue
#5	18-19	§ 103 Carr, Lauka, and Dearing

A. Ground 1: Claims 1, 4, 5, 8, 9, 11, 12, 14, 16, and 17 are obvious under 35 U.S.C. § 103 over Carr in view of Lauka.

1. Summary of Carr

87. Like the '465 patent, Carr teaches “[t]echniques for allowing a customer to order goods on-line or remotely” and specifically addresses the situation in which “one or more of the goods in the customer order are unavailable.” Carr, Abstract. In Carr’s method, when a product in the customer’s order is unavailable, “a list of alternative goods” is established with “associated images and/or other information” and communicated to the customer, and the customer may “choose one of the alternative goods as a substitute good.” *Id.* at Abstract, ¶96. A “revised customer order including the alternative good” is then established. *Id.*, ¶8. Carr’s system includes “an order fulfillment system and an assembler device.” *Id.*, ¶6. In Carr, a “store employee or assembler may use an assembler device 36, such as a handheld computer device, 36, while collecting

items for the customer orders.” *Id.*, ¶86. The “handheld device 36 may perform several functions” including “scan[ning] the item UPC code.” *Id.*, ¶¶86-87. The images of the alternative goods presented to the customer are retrieved based on the scanned UPC codes. *See id.*, ¶¶95-96.

2. Summary of Lauka

88. Lauka discloses “methods for improving the efficiency of order fulfillment” and, like Carr, addresses the instance “[w]hen fulfilling an order in which substitutions are required, due to unavailability of particular products.” Lauka, Abstract. As pertinent to the analysis below, Lauka discloses a system “for receiving orders from customers” which includes “a plurality of workers, called ‘pickers’ 104, each with a handheld electronic device 106.” *Id.*, 3:11-18. The handheld electronic device can “comprise a smart phone” and the device may use the “smart phone’s existing camera ... along with the appropriate software to provide the functionality of the imaging device 206 and/or the scanner 208” of reading or interpreting “2D or 3D bar codes, universal product codes (UPC)” and other information. *Id.*, 3:29-4:19.

3. Reasons to Combine Carr and Lauka

89. It is my opinion that a POSITA would have been motivated to combine the teachings of Carr with those of Lauka. It would have been obvious, beneficial, and predictable to apply Lauka’s teaching of a picker using a “smart

phone” to assemble an order to Carr’s similar method, which likewise uses an employee handheld device. This combination would achieve the benefits disclosed by Lauka, which describes that using a smart phone as a picker device eliminates the requirement for a “dedicated handheld electronic device.” Lauka, 4:8-19.

90. As an initial matter, a POSITA, when considering the teachings of Carr, would have also considered the teachings of Lauka. Both Carr and Lauka relate to electronic commerce, and more specifically, to the delivery of goods ordered over the Internet.

Techniques for allowing a customer to order goods on-line or remotely and to pick-up the goods at a desired location or store are disclosed. The techniques include receiving a customer order. The customer order includes at least one good. The techniques further include establishing a list of alternative goods if one or more of the goods in the customer order are unavailable and allowing the customer to choose one of the alternative goods as a substitute good and establishing a revised customer order.

Carr, Abstract.

Systems and methods for improving the efficiency of order fulfillment are disclosed. When fulfilling an order in which substitutions are required, due to unavailability of particular products, the process of contacting the customer and receiving a selection from the customer can be separated from the picking process. The picker can continue to fulfill the order, while an automated system offers alternatives and

receives selections from the customer. If appropriate, the substitution can be appended to the picker's list. If the picker has completed the remainder of the order, on the other hand, a new order with the substitution can be created, which can later be aggregated with the original order. A variety of methods can be used to efficiently present substitutions to the customer and receive choices from the customer, including use of imagery of substitute items.

Lauka, Abstract.

As such, both Carr and Lauka are analogous art to the '465 patent, which states:

The present invention pertains to customer shopping and, more particularly, to a system and method for remote acquisition and delivery of goods.

Ex.1001, 1:29-31.

91. Carr discloses that “a store employee or assembler may use an assembler device 36, such as handheld computer device, 36 while collecting items for the customer orders.” Carr, ¶86. Carr specifically discloses that the “employee may use a scanner 74 on the handheld device 36 to scan the item UPC code” and that the “handheld device 36 may also include a communications device.” *Id.*, ¶¶87-88. However, Carr does not explicitly disclose that the scanner of the “handheld computer device” is a camera or image capture device.

92. A POSITA would have recognized at the time of the '465 patent that image capture devices, and specifically, image capture devices included within

handheld computing devices (e.g., smart phones) were increasingly being used as barcode scanners. For example, as detailed above, Lauka explicitly teaches that a “smart phone’s existing camera” could be used to provide the functionality of a barcode scanner. *See* Lauka, 3:29-4:19. Contemporaneous references also recognized the use of mobile devices as barcode scanners. *See, e.g.,* Attia, Abstract (“The present invention discloses a system and method for decoding barcodes using mobile device.”). And, Lauka provides an explicit motivation for doing so: using a smart phone as a barcode scanner eliminates the need for a “dedicated” handheld electronic device, which would have motivated a POSITA to use a smart phone as a barcode scanning device. *See* Lauka, 3:29-4:19.

93. A POSITA would have recognized additional benefits of utilizing a smart phone’s existing camera, as taught by Lauka, and a smart phone more generally, in the context of Carr’s teachings of a handheld device 36. For example, industry research acknowledged that “the laser barcode scanner has one deficiency ... lack of mobility” and thus the research proposed using an iPhone “as a mobile platform for decoding barcode rather than the use of the conventional scanner which is lack of mobility.” *See* Li, p. 92 (“Though the laser barcode scanner is very popular, yet it is lack of mobility. So we want a portable scanner as a substitute, without a doubt, iphone [sic] is a good choice.”).

94. Consistent with this industry research, a POSITA would have

recognized that dedicated barcode scanning devices did not have a form factor that would allow for carrying such devices in a store employee's pocket, in contrast to a smart phone, which could easily be placed into an employee's pocket. *Compare, e.g., Lauka, Fig. 2 (showing a traditional barcode scanning device) with Fig. 7 (showing form factor of typical smart phone device).* Using a device with greater mobility or portability, like a smart phone, would have improved Carr's methods, because in Carr, the "assembler traverses the facility or store in order to find and place into a bin the goods for the order" (Carr, ¶104); given the need for the employee to move throughout the store, increasing the portability of the assembler's device as taught by Lauka would have been beneficial (e.g., the assembler could carry items in his or her hands while the assembler device resided in the assembler's pocket for easy retrieval when needed), and thus a POSITA would have been motivated to incorporate these teachings of Lauka.

95. A POSITA would have also had a reasonable expectation of success in combining these teachings. Specifically, given the close overlap between the methods of both Carr and Lauka, a POSITA would have expected success implementing Lauka's technique meant for remote shopping in Carr, which likewise deals with remote shopping. Further, Lauka acknowledges using a smart phone's camera as a barcode scanner was known, and contemporaneous research confirms that it was possible and predictable to utilize a smart phone's camera to

do so. Indeed, well-before the '465 patent's priority date, researchers acknowledged "the availability of high performance barcode scanner apps" for smartphones. *See, e.g.,* Engelsma, p. 379 ("The rapid proliferation of smartphones and their associated application ecosystems is reshaping the way consumers shop for products and interact with the retailers who sell them. Smartphone horsepower, 3G+ bandwidth and the availability of high performance barcode scanner apps have made smartphones a powerful comparison shopping tool in the brick-and-mortar aisle."). Additionally, a POSITA would have recognized that combining the teachings would have not changed the intended functionality of Carr; rather, the combination merely changes the form factor of Carr's handheld device.

96. Accordingly, a POSITA would have found it obvious to apply Lauka's teachings to Carr's handheld electronic device because the combination merely amounts to the simple substitution of one known element (a smart phone) for another (Carr's handheld barcode scanner) to yield a predictable result.

4. Detailed Claim Mapping

a) Claim 1

[1.0.1] A method for remote acquisition and delivery of goods through one or more agents of a service provider,

97. Carr teaches "*remote acquisition and delivery of goods*":

The disclosure particularly describes how a **customer may order goods on-line or remotely** and arrange to pick-up the order at a

specified location, such as a store or to have **the goods in the order delivered to the customer.**

Carr, ¶40. Carr also teaches using “*one or more agents of a service provider*”:

In one embodiment, a system includes an order fulfillment system and an assembler device. The order fulfillment system is associated with a facility and is configured to receive a customer order placed by a customer. The customer order includes at least one good. **The order fulfillment system assists an assembler in assembling the customer order for the customer.** The assembler device is coupled to the order fulfillment system and is operable by the assembler. The assembler device is configured to allow the assembler to view a list of the at least one good in the customer order, and if one of the at least one good is not available at the facility, to allow the assembler to establish a list of substitute goods.

Carr, ¶6.

98. Carr’s delivery service is provided through a “store” or “plurality of stores” that “may be representative of a larger corporate environment which may provide many avenues of interface with a customer” (“*service provider*”). Carr, ¶¶42-43. An “assembler”—for example, a store employee²—“may collect items throughout the store 20 and arrange for those items to be assembled and ready for

² Dependent claim 8 recites: “*wherein the one or more agents is part of staff at an establishment which sells the first set of one or more goods.*”

delivery to one or more customer locations.” Carr, ¶¶53, 41.

99. Carr also teaches:

Many customers desire to **order items or goods remotely**, e.g., on-line, through the Internet, or using a specially designed application or app on a mobile device, such as a tablet or cell phone. The customer may desire that the goods in the order be **delivered to their home** or that the goods in the order be assembled and ready for the customer to pick-up at a specific location, e.g., a particular store, typically at a specific time.

Carr, ¶2.

100. Thus, Carr’s methodology that allows customers to remotely order goods for assembly and delivery through one or more assemblers of a store delivery service provider renders obvious a “*method for remote acquisition and delivery of goods through one or more agents of a service provider*,” as claimed.

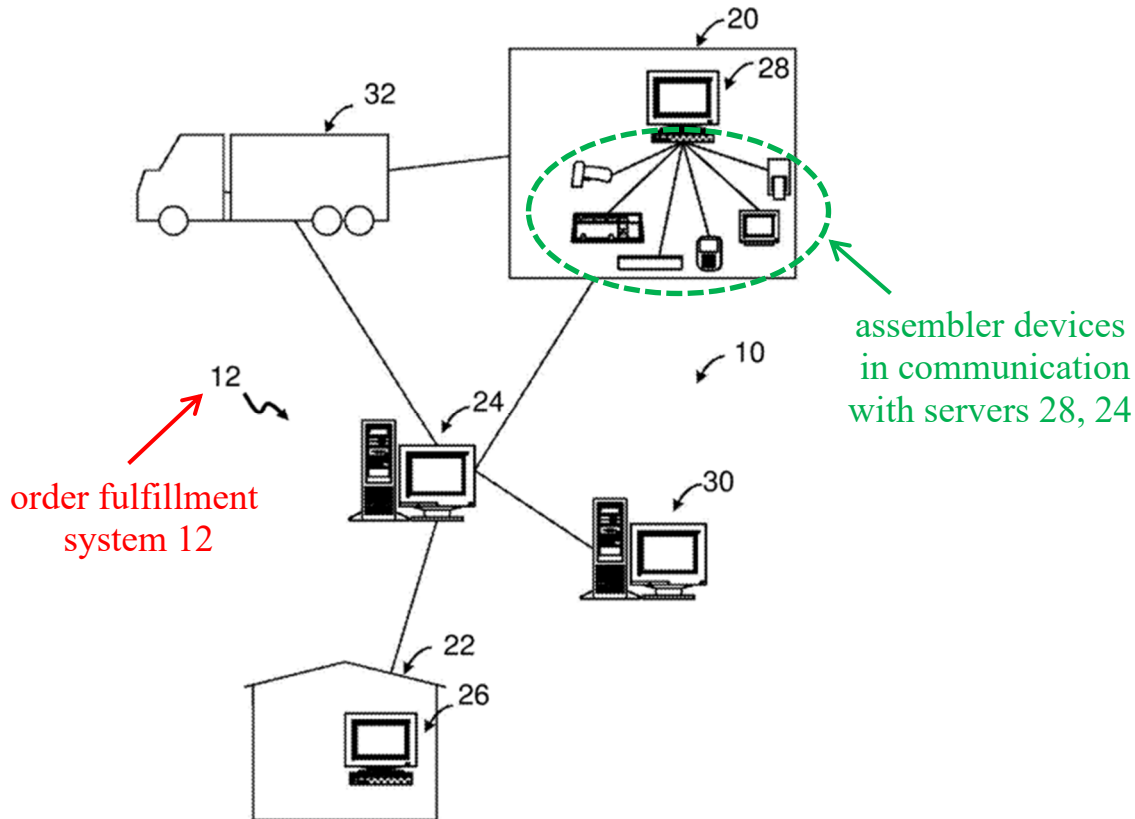
[1.0.2] each agent having a mobile agent system in communication with at least one remote server,

101. Carr teaches that each assembler uses a handheld device, also referred to as an assembler device:

Referring to FIG. 13, a **store employee or assembler** may use an **assembler device 36, such as handheld computer device, 36** while collecting items for the customer orders. The handheld device 36 may perform several functions. The **handheld device 36 may communicate with the second server 28** to receive a list of items

which need to be collected from the store 20 to fulfill the orders. The handheld device 36 may include a display 72. The display 72 may present a list of items to the store employee in the order that the employee will encounter the items while following a picking route through the store 20. The display 72 may also present the picking route to the employee; indicating how the employee should progress through the store 20 while collecting items for the customer order(s).

Carr, ¶86. As detailed above, Carr teaches that the “handheld device 36 may communicate with the second server 28 to receive a list of items which need to be collected from the store 20 to fulfill the orders.” *Id.*, ¶86. Carr further discloses that the “handheld device 36” includes a “communication device 116” that “allows the handheld device to communicate with another device, e.g., the first server 24 [or] the second server 28.” *Id.*, ¶122. For example, the “handheld device 36 may communicate with the second server 28 to receive a list of items which need to be collected from the store 20 to fulfill the orders.” *Id.*, ¶86.



Carr, Fig. 1 (annotated)

102. A POSITA would have recognized that Carr’s “first server 24” and “second server 28” to correspond to and teach the “*at least one remote server*” as recited. Carr states that the “second server 28 and other hardware components that may be located at the store or facility may be referred to as an order fulfillment system 12.” Carr, ¶49. In Figure 1, Carr shows that the “first server 24” is also part of the “order fulfillment system 12.” Thus, by disclosing that the components of the order fulfillment system “may be located at the store or facility,” a POSITA would have recognized that the first server and second server may **not** be located at the store or facility, and would therefore teach a “*remote server*” as recited.

103. Further, Carr’s “first server 24” and “second server 28” correspond to and teach the “*at least one remote server*” because a computing dictionary definition of “remote” is “Not in the immediate vicinity, as a computer or other device located in another place (room, building, or city) and accessible through some type of cable or communications link.” Microsoft Computer Dictionary, p. 448. In the context of Carr and a system with multiple servers and assemblers traveling around a store with handheld computers, the handheld computers exchange data with the servers using a communications link, such as a wireless communications link. Further, the servers would commonly be located in a server room or dedicated portion of the store or facility, with the assemblers being in a different room (e.g., the front of the store or the warehouse). Accordingly, the “first server 24” and “second server 28” of Carr are “remote” consistent with the dictionary definition and a POSITA’s understanding, and thus, Carr’s servers render obvious “*at least one remote server*” as recited.

104. Thus, Carr’s store employees/assemblers using handheld computer devices which communicate with the first and second servers, render obvious “*each agent having a mobile agent system in communication with at least one remote server,*” as claimed.

[1.0.3] with each mobile agent system including: a digital image capture device and a communication device, said method comprising:

105. Carr teaches:

In one embodiment, each handheld device 36 includes a Universal Product Code (UPC) scanner. Using the UPC scanner on the handheld device 36, the assemblers scan the UPC code of the item as the item is placed in the bin.

Carr, ¶ 74.

106. Carr similarly teaches that the **assembler device 36 includes a Universal Product Code (UPC) reader or scanner 74.** Carr, ¶ 94.

107. In view of the teachings of Lauka, a POSITA would have recognized that it was obvious to implement the UPC scanner functionality of Carr’s handheld device using an “imaging device” such as that taught by Lauka, which specifies that the “imaging device 206 can comprise a video or still camera” and “can be used to capture images.” Lauka, 3:49-57. In particular, Lauka teaches a “handheld electronic device 106” that is similarly used by agents within a store to gather items for a customer order, and that such a handheld device “can comprise a smart phone, tablet, or similar device” such that “the smart phone’s existing camera” can “provide the functionality” of barcode scanning. *Id.*, 4:10-21.

108. Carr also teaches that its “handheld device 36 may also include a communications device to permit the handheld device 36 to communicate.” Carr, ¶¶122, 88.

109. Thus, the combined teachings of Carr and Lauka render obvious

“each mobile agent system including: a digital image capture device and a communication device,” as claimed.

[1.1] receiving, through the at least one remote server, a first acquisition request from a customer for a first set of one or more goods;

110. Carr teaches that its method “includes the step of **receiving a customer order** at an order fulfillment system,” and states that the “**customer order includes** at least **one good**.” Carr, ¶9.

111. Carr also teaches a method as follows:

In another aspect of the invention, a method to facilitate the assembly and pick-up by the customer of the order is provided. **In a first step, the customer order is received at the first server 24.** In one embodiment, the first server 24 receives the order from an external system (not shown). Alternatively, the first server 24 may allow the user to place the order either from a website associated with the store 20 or via specialized software running on the customer device 26 (see above). **The customer order is associated with a customer and includes at least one good.**

Carr, ¶73; *see also* ¶60 (after a “customer completes an order, the order information pertaining to that order may be sent to the second server 28.”), Fig. 1.

112. Thus, Carr’s teaching of receiving an order with at least one good, which is received by the first and second servers, renders obvious “*receiving,*

through the at least one remote server, a first acquisition request from a customer for a first set of one or more goods,” as claimed.

[1.2] *contacting, through the communications device, the one or more agents;*

113. Carr teaches that the second server and handheld device 36 communicate:

The **second server 28 may communicate with the** customer device 26, a delivery service computer 34, and an **assembler device, such as a store handheld device, 36** via a communications connection or network 38.

Carr, ¶57.

114. Carr also teaches that the “second server 28 **provides a list of the goods** in the order ... **to one or more employees** of the store 20” and, as detailed above, “each assembl[er] may be equipped with a handheld device 36 that provides the assembler access to the list and allows the assembler to check off goods from the list as the goods are assembled.” *Id.*, ¶74.

115. Thus, Carr’s disclosure of the servers communicating orders to the handheld devices renders obvious “*contacting, through the communications device, the one or more agents,*” as claimed.

[1.3] *upon failing to locate an identified product of the set of one or more goods, electronically transmitting information on a replacement product for the identified product of the set of one or more goods to the customer using the digital image capture device of the agent, including:*

116. Carr teaches:

In one aspect the invention, the **system 10 addresses the situation in which one or more of the goods in the customer order are currently unavailable**. For instance, as discussed above, the system 10 allows the customer to select the store or facility at which the goods are to be picked up or from which the customer order is to be delivered. In some situations, **the selected store or facility may not have or may be out of stock of a particular good**.

Carr, ¶90; *see also* ¶107 (explaining that the “assembler may scan the UPC goods or items that are substitutes for the unavailable good” confirming that the assembler fails to locate the unavailable good).

117. Thus, Carr teaches “*failing to locate an identified product of the set of one or more goods*” as claimed, because a POSITA would have recognized that, when an item (“*an identified product*”) is out of stock, an order assembler would “*fail[] to locate*” the item and thus scan the UPC of substitutes for the unavailable good. If the product is not in stock in the store or facility, the product cannot be located by anybody in that store or facility, including the assembler.

118. Carr further teaches that, “if a particular good or item is not available at the store or facility, the assembler may establish a list of substitute goods.” Carr, ¶95; ¶105 (“The method further includes the step of allowing the assembler to establish, using the assembler device 36, a list of substitute goods, if one of the at

least one good is not available at the facility.”). Carr teaches that “the assembler may **establish the list of goods by using the UPC reader 74** to read the UPC of the goods the assembler has chosen to include.” Carr, ¶95. Carr then states that “the list of substitute goods, including the images and/or other information, is sent ... to the customer device.” Carr, ¶96. Thus, Carr teaches “*electronically transmitting information on a replacement product for the identified product of the set of one or more goods*” (the substitute goods and information) “*to the customer using the digital image capture device of the agent*” (using a smart phone’s image capture device operating as a UPC scanner in the combined Carr-Lauka teachings) as recited.

119. Thus, the combined teachings of Carr and Lauka render obvious “*upon failing to locate an identified product of the set of one or more goods, electronically transmitting information on a replacement product for the identified product of the set of one or more goods to the customer using the digital image capture device of the agent, including,*” as claimed.

[1.4] obtaining a bar or QR code of the replacement product;

120. Carr teaches that, when a particular item is not available, a bar code is read, or obtained:

In one aspect of the present invention, if a particular good or item is not available at the store or facility, **the assembler may establish a list of**

substitute goods. In one embodiment, the assembler may choose the substitute goods from goods that are available. In one embodiment, **the assembler may establish the list of goods by using the UPC reader 74 to read the UPC of the goods the assembler has chosen to include** Carr, ¶95, *see also* ¶107 (“scanning or reading the UPC code of a chosen potential substitute good or items”).

121. A POSITA would have recognized a “UPC code” as disclosed in Carr to be a “*bar ... code*” as recited, as a dictionary defines “Universal Product Code” as the “more formal term for BARCODE.” Oxford English Dictionary, p. 1943.

122. Thus, Carr’s teaching of scanning a UPC code for a substitute good, renders obvious “*obtaining a bar or QR code of the replacement product,*” as claimed.

[1.5] *determining the information from the bar or QR code, wherein the information includes at least one image of the replacement product; and;*

123. As detailed above, Carr teaches that “the assembler may establish the list of goods by using the UPC reader 74 to read the UPC of the goods the assembler has chosen to include.” Carr, ¶95.

124. Carr further teaches that, as part of establishing the list of goods using UPCs, associated images of the goods are retrieved from a database and transmitted to the customer:

In another aspect of the present invention, the **database 42, 44 may include images** and/or other information **related to the goods**

available at the facility. When the list of substitute goods is established [using UPCs], the **list of substitute goods, along with the associated images and/or other information**, e.g., nutritional information, **may be communicated to the customer** (see below).

Carr, ¶96.

125. To facilitate this retrieval of item information, Carr teaches that the database associates the UPC of an item with the item’s information. Thus, a POSITA would have interpreted Carr as teaching using the scanned UPC code to retrieve, or determine, from the database, images and/or other information for the list of substitute goods. *See also* Carr, ¶116 (“item database 104 stores item information associated with items or types of items in the store 20. For example, the item database 104 may store identification codes, Universal Product Codes (UPC) codes, item location in the store 20, as well as other information associated with the items. By way of example, the Item database 104 may be queried by the processing device 90 and may transmit information to the processing device to facilitate the use of item data.”).

126. By the time of the ’465 patent, a POSITA would have recognized Carr’s teachings of using a barcode to obtain image information as a well-known use of barcodes. For example, Du disclosed a method where a user “operates a portable imaging device to capture an image of identifying data, such as a bar code, that identifies a selected item” and subsequently the user may “obtain item

information (e.g., price, availability, etc.) associated with the selected item.” Du, Abstract, *see also* Figs. 3, 4a-4b. Similarly, the website Barodelookup.com states (in a 2019 Internet Archive capture): “At Barcode Lookup, you get product information, photos, and store pricing for millions of items worldwide – just by typing in the item’s barcode number.” Barodelookup, p. 1. Thus, a POSITA would have interpreted Carr as teaching using the scanned UPC code to retrieve, or determine, from the database, associated images and/or other information for the list of substitute goods.

127. Thus, Carr’s teaching of retrieving a substitute good’s information using a scan of its UPC code, wherein the information includes an image of the substitute good derived from the scan of the UPC code, renders obvious “*determining the information from the bar or QR code, wherein the information includes at least one image of the replacement product,*” as claimed.

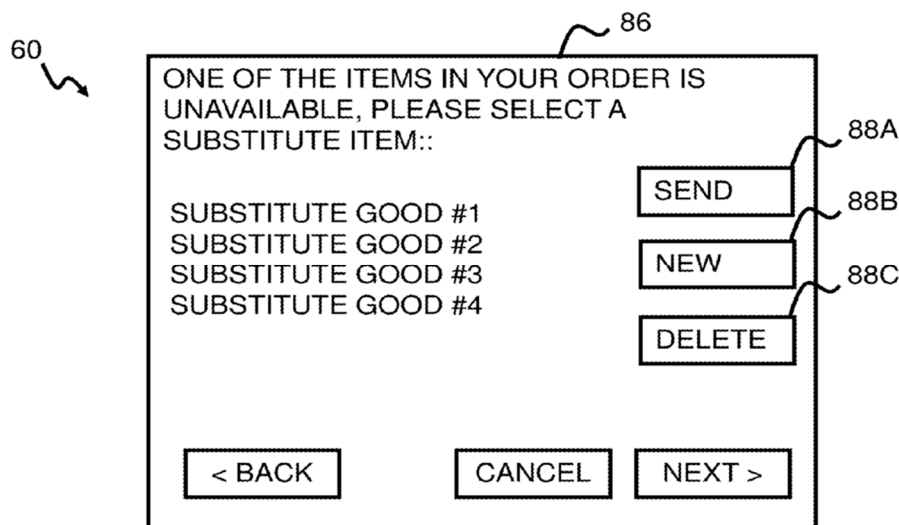
[1.6] *sending the information for the customer to approve the purchase of the replacement product based on the information determined from the bar or QR code; and*

128. After discussing the contents of the database, Carr then discloses that the images are sent to the customer. Specifically, Carr teaches:

When the list of substitute goods is established, the list of substitute goods, along with the associated images and/or other information, e.g., nutritional information, may be communicated to the customer (see below). **In one embodiment, the list of substitute goods, including**

the images and/or other information, is sent from the order fulfillment system 12, through the first or order server 24 to the customer device 26.

Carr, ¶ 96, *see also* ¶97 (“list of substitute goods may then be communicated to the customer and the customer allowed to choose one of the goods to be included in the order”), ¶98 (“the order server may be configured to communicate the list of substitute goods to the customer device”), ¶99 (“the list of substitute goods is sent to the customer device using the preferred method of communication.”) ¶51 (“A customer purchasing items from the store 20 for delivery to a customer location 22 or pick-up at a store 20 will typically view an internet webpage....The customer may select items or goods for purchase.”).



Carr, Fig. 12

129. Note that, although Figure 12 of Carr itself does not include any images, Figure 12 is only an example or sample of what may be sent to the

customer (*see* Carr, ¶108), and because Carr explicitly discloses sending images to the customer in paragraph 96, a POSITA would have interpreted Carr as teaching sending the list and images of the substitute goods.

130. Thus, Carr’s teaching of sending the list of substitute goods, including images in the database derived from scanning the UPC, to the customer device for the customer to choose one of the goods, renders obvious “*sending the information for the customer to approve the purchase of the replacement product based on the information determined from the bar or QR code,*” as claimed.

[1.7] *upon receiving approval of the purchase from the customer, acquiring the replacement product, via the agent.*

131. As detailed in the previous limitation, Carr teaches that the “list of substitute goods is sent to the customer device using the preferred method of communication” and Carr continues and states that this “method of communication allows the customer to **select one of the substitute goods as the alternative good.**” Carr, ¶99.

132. The customer’s selection of one of the substitute goods as the alternative good teaches “*approval of the purchase from the customer*” because the selection causes the assembler to obtain the good, because Carr then states that “[t]he alternative good is communicated back to the assembler” and the “assembler includes the alternative good in the customer order” and thus teaches “*upon*

receiving approval ... acquiring the replacement product, via the agent.” Id.,

¶101. Additionally, Carr teaches that its system provides functionality for the “customer” to “select items or goods for purchase” (Carr, ¶51) and thus, the customer’s selection of the substitute good, which is then included in the customer’s order, is an “*approval of the purchase*” as recited.

133. Thus, Carr renders obvious “*upon receiving approval of the purchase from the customer, acquiring the replacement product, via the agent,*” as claimed.

b) Claim 4

[4.1] *The method of claim 1, further comprising: obtaining consent from the customer to acquire the identified product using the communication device;*

134. As a preliminary note, because “*the identified product*” in claim 1 (from which this claim depends) is the product that is not located (i.e., the product that the delivery agent fails to locate), and a replacement product is instead included within the customer’s order, I have interpreted “*the identified product*” in this claim such that the claim refers to consent to acquire the replacement product. However, if this language is interpreted otherwise, I have provided an alternative claim mapping below.

135. Carr teaches that, in a “dialog box 86, the **list of substitute goods may be displayed and the customer prompted to select one of the substitute goods** on the list as the alternative good. Once selected, the customer may send the

chosen alternative good back to the assembler by **selecting a SEND button 88A.**”

Carr, ¶108. As discussed above, the assembler receives communications using their handheld device 36 (“*communication device*”). *Id.*, ¶¶74, 104, 110, 122.

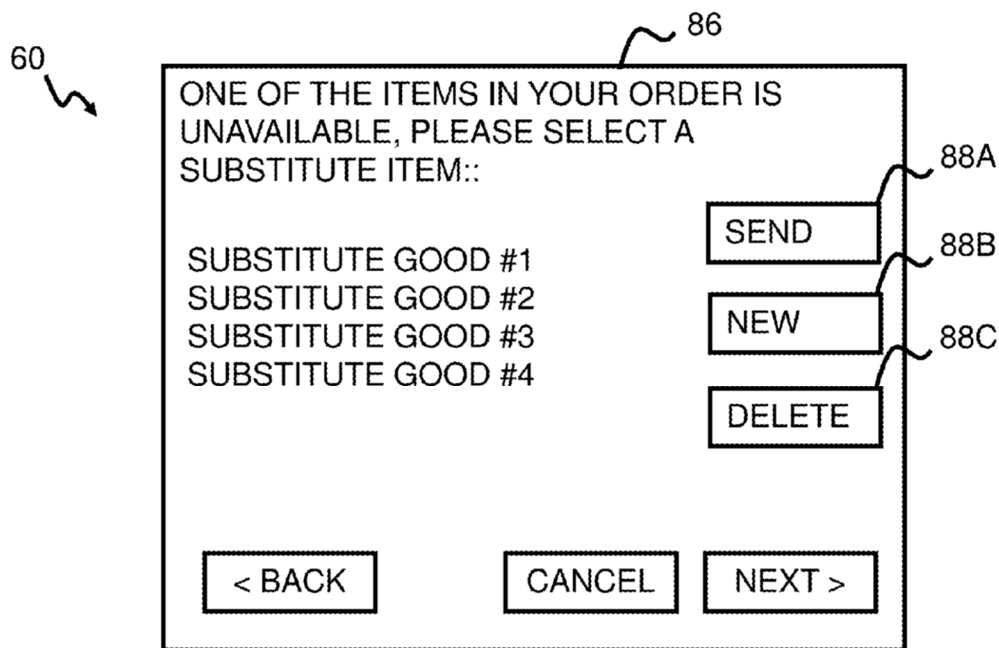


FIG. 12

Carr, Fig. 12

136. Carr also teaches that its system obtains consent from the customer to acquire products when the customer submits an order. For example, Carr teaches that its method “includes the step of **receiving a customer order** at an order fulfillment system” and states that the “**customer order includes at least one good,**” where the order is transmitted to the assembler’s handheld device 36. Carr, ¶¶9, 47-48, 74.

137. Thus, Carr’s teaching of receiving the customer’s selection of a substitute good and sending the chosen good to the assembler’s device, and Carr’s teaching of receiving a customer order of a specific good and transmitting the order to an assembler’s device, renders obvious “*obtaining consent from the customer to acquire the identified product using the communication device,*” as claimed.

[4.2] acquiring the identified product, via the one or more agents; and;

138. Carr teaches that, “[o]nce a chosen alternative good is sent back to the assembler, the assembler **retrieves the substitute good** and places the substitute good in the bin.” Carr, ¶110.

139. Thus, Carr renders obvious “*acquiring the identified product, via the one or more agents,*” as claimed.

[4.3] providing for delivery of the identified product to a delivery site.

140. Carr teaches that “a customer may use a store website or specially designed application or app 60 to order various **items for delivery to a customer location 22** ...” Carr, ¶76. Carr’s system provides for such delivery: “The first server 24 may include software to allow delivery of items to a customer.” *Id.*, ¶¶48, 50; *see also* ¶2 (“customer may desire that the goods in the order be delivered to their home”), ¶40 (“customer may order goods on-line ... and arrange to pick-up the order at a specified location, such as a store or to have the goods in the order delivered to the customer”), ¶44. Thus, Carr renders obvious “*providing for*

delivery of the identified product to a delivery site,” as claimed.

c) Claim 5

[5.1] *The method of claim 1, further comprising: checking the one or more goods off an electronic shopping list in real-time as each of the one or more goods is acquired.*

141. Carr discloses that “each assembl[er] may be equipped with a handheld device 36 that provides the assembler access to the list and allows the assembler to **check off goods from the list as the goods are assembled** and placed in a bin.” Carr, ¶74.

142. Thus, Carr’s disclosure of the assembler checking goods off the list in real-time with the electronic handheld device while the assembler picks the goods in the order renders obvious “*checking the one or more goods off an electronic shopping list in real-time as each of the one or more goods is acquired,*” as claimed.

d) Claims 8 & 11

[8.1] *The method of claim 1, wherein the one or more agents is part of staff at an establishment which sells the first set of one or more goods.*

[11.1] *The method of claim 1, wherein the one or more agents is part of staff at an establishment which sells the first set of one or more goods.*

143. These claims recite identical subject matter and accordingly, I have addressed them collectively.

144. Carr teaches “methods and computer product media that facilitates the

assembly of an order for a customer” and that the “present invention allows **an employee at the store or facility, i.e., an assembler...**” to assemble the goods. Carr, ¶41, ¶74 (“one or more employees of the store 20 (assemblers)”). Because the assemblers (“*the one or more agents*”) are disclosed as employees of the store (“*an establishment which sells the first set of one or more goods*”), a POSITA would have recognized the assemblers to be “*part of staff*” because a definition for “staff” is “all the people **employed** by a particular organization” and thus an “employee at the store or facility, i.e., an assembler” would be understood to be part of the staff at the store or facility. Oxford English Dictionary, p. 1733.

145. Thus, Carr renders obvious that “*the one or more agents is part of staff at an establishment which sells the first set of one or more goods,*” as claimed.

e) **Claims 9 & 12**

[9.1] *The method of claim 8, wherein the one or more agents utilizes in-house gear of the establishment for the mobile agent system.*

[12.1] *The method of claim 11, wherein the one or more agents utilizes in-house gear of the establishment for the mobile agent system.*

146. These claims recite identical subject matter and accordingly, I have addressed them collectively.

147. Carr teaches that the “assembler device” may be “a **store** handheld device, 36” and also discloses that “store 20 may include the second server 28 and **one or more handheld devices 36.**” Carr, ¶¶57, 84. Because the handheld device

is a “store” handheld device, the device is “*in-house gear of the establishment*” as recited.

148. Thus, by describing a store handheld device, Carr renders obvious “*the one or more agents utilizes in-house gear of the establishment for the mobile agent system,*” as claimed.

f) Claim 14

[14.0] *A method for remote acquisition and delivery of goods with a plurality of agents of a service provider at various geographic locations, each agent having a mobile agent system in communication with at least one remote server, wherein each mobile agent system includes a digital image capture device and a communication device, said method comprising:*

149. The subject matter of this limitation is similar to the subject matter of limitation [1.0] and is therefore also rendered obvious by the prior art.

150. Additionally, with respect to the claim language that specifies that the agents of a service provider are “*at various geographic locations,*” Carr teaches that the assemblers (“*agents*”) may be employees of a “store 20,” where the “store 20 may include, or be part of, a **plurality** of stores 20” such as “brick and mortar retail locations.” Carr, ¶¶42-43. Carr’s assemblers at multiple various brick and mortar retail store locations render obvious “*a plurality of agents of a service provider at various geographic locations.*”

[14.1] *receiving, through the at least one remote server, a first acquisition request from a customer for an identified product in a first set of one or more goods;*

151. The subject matter of this limitation is similar to the subject matter of limitation [1.1] and is therefore also rendered obvious by the prior art.

[14.2] *contacting, through the communications device, one of the plurality of agents;*

152. The subject matter of this limitation is similar to the subject matter of limitation [1.2] and is therefore also rendered obvious by the prior art.

[14.3] *determining that the identified product is not available; and*

153. The subject matter of this limitation is similar to the subject matter of limitation [1.3] and is therefore also rendered obvious by the prior art.

[14.4] *electronically transmitting information to the customer using the digital image capture device of the agent, including:*

154. The subject matter of this limitation is similar to the subject matter of limitation [1.3] and is therefore also rendered obvious by the prior art.

[14.5] *obtaining a bar code of QR code of a replacement product for the identified product of the first set of the one or more goods; and*

155. The subject matter of this limitation is similar to the subject matter of limitation [1.4] and is therefore also rendered obvious by the prior art.

[14.6] *sending to the customer the information determined from the bar code or QR code about the replacement product for the customer to approve the purchase of the replacement product, wherein the information includes at least one image of the replacement product;*

156. The subject matter of this limitation is similar to the subject matter of limitations [1.5]-[1.6] and is therefore also rendered obvious by the prior art.

[14.7] *upon receiving approval of the purchase from the customer, acquiring the replacement product, via the agent; and*

157. The subject matter of this limitation is similar to the subject matter of limitation [1.7] and is therefore also rendered obvious by the prior art.

[14.8] *providing for delivery of the replacement product.*

158. The subject matter of this limitation is similar to the subject matter of limitation [4.3] and is therefore also rendered obvious by the prior art.

Specifically, as detailed in the analysis of limitation [4.1] and [4.3], Carr teaches delivery of items to customers, including replacement products. Carr, ¶¶76, 48, 50, 2, 40, 44.

g) Claim 16

[15.1] *The method of claim 14, further comprising: delivering the replacement product to a delivery site with the agent.*

159. The subject matter of this limitation is similar to the subject matter of limitation [4.3] and is therefore also rendered obvious by the prior art.

160. Additionally, with respect to the claim language that the delivery is “*with the agent*,” Carr explains that in some embodiments the delivery site is a “parking spot” outside of the store where the customer is parked. Carr, ¶75. In this embodiment, an “employee of the store 20” (an “*agent*”) delivers the order to the parking spot delivery site. *Id.* (“[T]he system 10 may direct the customer to park their motor vehicle to an unoccupied parking spot PS1-PS8 and then when the

order is fully assembled direct an employee of the store 20, via a handheld device 36 for example, to deliver the bin(s) containing the order to the assigned parking spot PS1-PS8”). Carr thus renders obvious “*delivering the replacement product to a delivery site with the agent.*”

h) Claim 17

[17.1] *The method of claim 14, wherein a cellular telephone is used for both the digital image capture device and the communications device.*

161. As detailed in the analysis of limitation [1.0.2], Lauka teaches that “the handheld electronic device 106 can comprise a smart phone.” Lauka, 4:8-19. And, as explained in the section detailing the reasons to combine the teachings of Carr and Lauka, a POSITA would have found it obvious to utilize a smart phone as Carr’s assembler device 36, in the manner taught by Lauka. In such a combination, the assembler’s smart phone “*is used for both the digital image capture device and the communications device.*”

162. A POSITA would have interpreted a “smart phone” as taught by Lauka to render obvious “*a cellular telephone*” because it was common for POSITAs to refer to smart phones as having cellular connectivity. *See, e.g.,* Zheng, p. 1 (“generally, a **smart phone** is a next-generation, multifunctional **cell phone**...”).

163. Lauka also contemplates that the “handheld electronic device 106 can ... **utilize cellular location services**” (Lauka, 4:46-50) and that the “handheld

electronic devices 106” can be connected by a “cellular network connection” (Lauka, 13:4-8) confirming that Lauka’s smartphone handheld electronic device renders obvious “*a cellular telephone*” as claimed.

B. Ground 2: Claims 2, 3, 10, and 15 are obvious under 35 U.S.C. § 103 over Carr in view of Lauka and further in view of Yee.

1. Summary of Yee

164. Yee, like the ’465 patent, Carr, and Lauka, “relates to remote shopping systems.” Yee, ¶1. More specifically, Yee describes a “system for remote shopping” that, in part “includes a wearable device worn on a remote shopping assistant.” *Id.*, ¶3. Yee provides a customer, or shopper (sometimes referred to as a “remote shopper”), “the experience of shopping in real-time without needing to drive to the store or waiting in line to pay, and yet have control on grocery selection as well as personalizing it based on needs.” *Id.*, ¶12. In pertinent part, Yee’s system includes a “shopping assistant 101 ... equipped with various equipment to help with remote shopping assistance” including “different real-time localization systems like GPS.” *Id.*, ¶¶16, 23.

2. Reasons to Combine Yee with Carr and Lauka

165. For the reasons set forth below, a POSITA would have been motivated to combine the teachings of Yee with the teachings of Carr and Lauka. It would have been obvious, beneficial, and predictable to apply Yee’s teachings

regarding location information of a shopping assistant to the Carr and Lauka combination—for example, to provide “the experience of shopping in real-time without needing to drive to the store” as Yee provides. Yee, ¶12.

166. As an initial matter, a POSITA, when considering the teachings of Carr and Lauka, would have also considered the teachings of Yee. Carr, Lauka, and Yee all relate to the delivery of goods ordered over the internet. Carr, Abstract; Lauka, Abstract; Yee, ¶2. As such, Yee is analogous art to the ’465 patent. *See, e.g.*, Ex.1001, 1:29-31.

167. A POSITA would have been specifically motivated to incorporate Yee’s teachings because doing so would have provided additional interactivity and information to Carr’s customer that has placed an online order. Specifically, Yee’s teachings provide “periodic alerts allowing the shopper to be notified of different times that the shopping assistant may be in a specific aisle.” Yee, ¶42. These features are not explicitly taught in Carr, but a POSITA would have recognized a benefit to incorporating this feature of Yee.

168. For example, a POSITA would have recognized that a customer would appreciate the additional detail provided by location information on a shopper as the shopper travels through the store, as doing so would provide the customer the “experience of shopping in real-time” while being at home. Yee, ¶12. For example, other pertinent prior art references in the same field taught benefits of

such information, such as Park, which used “GPS-enabled mobile computing device[s]” to provide “visibility information ... to the customer” to provide customers “a very accurate representation of the status of their order.” Park, 47:25-48:8. In one example implementation of the combination, a POSITA would have found it obvious and desirable to modify Carr’s method such that, as the “assembler traverses the facility or store in order to find and place into a bin the goods for the order” (Carr, ¶104), the customer knows which goods have been obtained and which goods are still pending based on the shopper’s location in the store (as taught by Yee), providing greater detail into the shopping process than otherwise provided by Carr.

169. A POSITA would have also had a reasonable expectation of success in making the combination. The combination does not change the intended functionality of Carr, but rather adds additional communication with the customer. Any modifications to Carr’s methods and software to accommodate Yee’s additional information would have been relatively straightforward to a POSITA, as doing so would have been well-within the level of skill in the art.

170. Accordingly, a POSITA would have found it obvious to apply Yee’s teachings to Carr’s methods because the combination merely amounts to applying a known technique to a method ready for improvement.

3. Detailed Claim Mapping

a) Claim 2

[2.0] *The method of claim 1, wherein each mobile agent system further includes a global positioning system and*

171. As discussed above, the combined teachings of Carr and Lauka render obvious the recited “*mobile agent system*,” where Carr’s assembler device is implemented as a smart phone.

172. Lauka teaches that such a smart phone, or “*mobile agent system further includes a global positioning system*” as it teaches that its “handheld electronic device 106” embodied as a smart phone “can also use the transceiver 210 to provide location services. The transceiver 210 can utilize cellular location services, for example, or **GPS** to provide location information....” Lauka, 4:46-63.

173. Thus, Lauka’s transceiver utilizing GPS in the handheld smart phone device in view of Carr renders obvious “*each mobile agent system further includes a global positioning system*,” as claimed.

[2.1] *the method further comprising: sending to the first customer, information on the plurality of agents, including location information based on signals from the global positioning devices.*

174. Yee teaches that “the system may also send periodic alerts allowing the shopper to be notified of different times that the shopping assistant may be in a specific aisle.” Yee, ¶42. Yee elaborates and states “when the shopping assistant is shopping at a store, the system may **notify the remote shopper by sending** (via

the transceiver) **location information of which aisle the shopping assistant is located** at utilizing the [GPS] data.” Yee, ¶42. As discussed above, it would have been obvious and beneficial to include this functionality in Carr’s assembler device implemented as a smart phone.

175. In Yee, the “shopper” or “remote shopper” is analogous to the “customer” in Carr, i.e., the customer who orders goods to be delivered to his or her home (or other location). The “shopping assistant” in Yee is analogous to the “assembler” in Carr, i.e., the store employee that obtains goods in the customer’s order. *See, e.g.,* Yee, ¶16. Thus, Yee sends, to the remote shopper (“*sending to the first customer*”) location information on the shopping assistant (“*information on the plurality of agents, including location information based on signals from the global positioning devices*”).

176. Thus, Yee’s teaching of sending to the remote shopper location information on the agents using GPS data in view of Carr renders obvious this limitation.

b) Claim 3

[3.1] *The method of claim 2, wherein the information on the one or more agents includes an availability status of the one or more agents.*

177. Like Carr, Lauka discloses various ways in which “substitutions” for ordered products may be made. *See, e.g.,* Lauka, 7:42-8:60. As an aspect of this, Lauka teaches informing a customer whether an agent is available to substitute for

an ordered product, where agent “*availability status*” is based on a deadline.

178. Specifically, Lauka teaches:

In some examples, to avoid a sense of urgency, the original [substitution] request to the customer may not include a deadline. If the customer responds in a timely manner, then a deadline is obviated. If, on the other hand, the customer has not responded within a predetermined amount of time (e.g., 15 minutes from the courier cutoff, C), the management module 102 may send a reminder H to the customer including a deadline. If the customer does not respond within a predetermined amount of time (e.g., within 5 minutes of the courier cutoff, C), then the system can simply drop the item from the order to maintain the two-hour deadline.

Lauka, 8:20-30.

179. Thus, in Lauka, in the context of a replacement request, “the original request to the customer may not include a deadline” and “[i]f the customer responds in a timely manner, then a deadline is obviated.” Lauka, 8:20-30.

However, if “the customer has not responded within a predetermined amount of time (e.g., 15 minutes from the courier cutoff, C), the management module 102 may send a reminder H to the customer including a deadline. If the customer does not respond within a predetermined amount of time (e.g., within 5 minutes of the courier cutoff, C), then the system can simply drop the item from the order to maintain the two-hour deadline.” *Id.*

180. Lauka’s reminder sent to the customer including a deadline corresponds to “*information on the one or more agents*” including “*an availability status of the one or more agents*” as claimed. This is because the deadline informs the customer of when the agent will no longer be available to fulfill a substitution request. *See* Lauka, 7:54-57. In other words, the reminder informs the customer that, from the time the reminder is received to the deadline, the “*availability status of the one or more agents*” is that the agent is available to fulfill the substitution request, while after the deadline, the *availability status of the one or more agents* is that the agent is not available or unavailable to fulfill the substitution request. *See* Lauka, 8:31-36. For example, if the courier cutoff is 15 minutes, and the reminder to the customer is sent at 4:00 PM, the 15 minute cutoff conveys “*availability status of the one or more agents*” – the agent is available from 4:00 PM to 4:15 PM to fulfill a substitution request, and the agent is not available after 4:15 PM to fulfill the substitution request.

181. A POSITA would have been motivated to incorporate the teachings of Lauka of communicating a deadline to the customer, as doing so facilitates timeliness of fulfilling the customer’s order while also balancing the desire to fulfill customer orders. Carr teaches that the “list of substitute goods” is communicated to the customer and describes a scenario where the customer may “choose a substitute good within a predetermined time period,” (Carr, ¶97) and the

“predetermined time period” is analogous to Lauka’s deadline. However, Carr does not explicitly disclose that the predetermined time period is communicated to the customer. Lauka teaches communicating such a predetermined time period or deadline to the customer, which a POSITA would have seen as desirable, to ensure that the customer’s order is fulfilled as accurately as possible, while ensuring that the customer’s order is delivered according to the system’s timeline. Thus, a POSITA would have been motivated to incorporate this teaching of Lauka.

182. Thus, Lauka in view of Carr renders obvious “*the information on the one or more agents includes an availability status of the one or more agents,*” as claimed.

c) Claim 10

[10.1] *The method of claim 1, further comprising: delivering the identified product to the delivery site; and*

183. Carr teaches that its “system 10... may be configured to allow or facilitate orders to be efficiently delivered to the customer location.” Carr, ¶45. Carr also teaches that the “customer may desire that the goods in the order be delivered to their home.” Carr, ¶2; *see also* ¶125 (“store 20 is able to deliver orders to many customers on the same day that the order is placed”), ¶40. Thus, Carr renders obvious “*delivering the identified product to the delivery site,*” as claimed. *See also* analysis of limitation [4.1].

[10.2] *alerting the customer about delivery.*

184. Yee teaches that the “system may also send periodic alerts allowing the shopper to be notified of different times that the shopping assistant or associated delivery vehicle may be located en route to delivery....” Yee, ¶45. A POSITA would have incorporated the location-based teachings of Yee with Carr for the same reasons as set forth above, e.g., to add interactivity and provide the customer with more detailed information regarding his or her order.

185. Thus, Yee in view of Carr renders obvious “*alerting the customer about delivery,*” as claimed.

d) Claim 10

[15.1] *The method of claim 14, further comprising: alerting the customer about delivery.*

186. See limitation [10.2].

C. Ground 3: Claims 6-7 are obvious under 35 U.S.C. § 103 over Carr in view of Lauka and further in view of Cincotta.

1. Summary of Cincotta

187. Cincotta teaches an invention “related to online shopping” and focuses on “techniques for enhancing and facilitating the shopping experience for the shopper...by...enhancing the use of coupons.” Cincotta, ¶3.

2. Reasons to Combine Cincotta with Carr and Lauka

188. It is my opinion that a POSITA would have been motivated to combine the teachings of Cincotta with the teachings of Carr and Lauka. It would

have been obvious, beneficial, and predictable to apply Cincotta's teachings regarding promotional code information for items in a customer's shopping cart to the Carr and Lauka combination—for example, to provide the customer with the confidence “they are ... getting a good if not the best possible deal while shopping online” as Cincotta provides. Cincotta, ¶12.

189. As an initial matter, a POSITA, when considering the teachings of Carr and Lauka, would have also considered the teachings of Cincotta. Carr, Lauka, and Cincotta all relate to goods ordered over the internet. Carr, Abstract; Lauka, Abstract; Cincotta, ¶3. As such, Cincotta is analogous art to the '465 patent. *See, e.g.*, Ex.1001, 1:29-31.

190. A POSITA would have been specifically motivated to incorporate Cincotta's teachings because doing so would have resulted in an increased number of customers of the Carr system, by driving more users to use the system as discussed in more detail below, which a POSITA would have recognized as desirable.

191. For example, Cincotta teaches that “[o]nline vendors or merchants use promotions or coupons to attract shoppers to their sites” and that a “merchant's goal in offering the promotion is to drive traffic to the merchant's site.” Cincotta, ¶10. These features are not explicitly taught in Carr, but a POSITA would have recognized a benefit to incorporating these features of Cincotta, as a POSITA

would have recognized that customers would be naturally drawn to shopping platforms that offered promotions or coupons, and in particular, platforms that “automatically provide promotional code information from one or more promotions” (Cincotta, ¶42) because shoppers would appreciate the automatic application of discounts, instead of having to “search for and find a promotion code” (Cincotta, ¶10) as in the prior art. Thus, in one example implementation of the combination, a POSITA would have found it obvious to modify Carr’s method such that, just before the customer completes his or her order, the teachings of Cincotta would automatically provide applicable promotional codes for the items in the customer’s order, reducing the customer’s cost of the order.

192. Likewise, with respect to Cincotta’s teachings of providing reviews (*see* Cincotta, ¶¶159-164), a POSITA would have recognized that providing customers the ability to read reviews on products they are about to purchase would provide the customer with additional information to make a more knowledgeable purchasing decision, and in turn, add reviews to provide such information to future customers. Such reviews would have also potentially increased sales for stores, which would have thus been seen as a benefit to the store as well. This would have been consistent with the well-known benefits of online shopping reviews at the time of the ’465 patent. *See* Yatani, p. 1541 (“Many people read online reviews written by other users to learn more about a product or venue.... Online review

websites offer users a wealth of perspectives about products that can be purchased or locations that can be visited (which we will refer to as reviewed entities.”); Goes, p. 222 (“Online user reviews have become an increasingly important source of information for consumers. Many studies have shown that online reviews significantly affect consumer choices and product sales...”).

193. A POSITA would have also had a reasonable expectation of success in making the combination. The combination does not change the intended functionality of Carr, but rather provides additional features to the customer. Any modifications to Carr’s methods and software to accommodate Cincotta’s additional information would have been relatively straightforward to a POSITA, as doing so would have been well-within the level of skill in the art. For example, incorporating Cincotta’s teachings would have required the ability to modify the website of Carr, which would have required HTML and other web development skills that would be consistent with the level of skill of a POSITA.

194. Accordingly, a POSITA would have found it obvious to apply Cincotta’s teachings to Carr’s methods because the combination merely amounts to applying a known technique to a method ready for improvement.

3. Detailed Claim Mapping

a) Claim 6

[6.1] *The method of claim 1, further comprising: receiving product data from the customer regarding the one or more goods; and*

195. Carr teaches that the “first server 24 may host a store webpage which allows a customer to, via a customer device 26, interact with the store 20 and first server 24 to **place an order for one or more items or goods from the store 20.**”

Carr, ¶47. The identification of the one or more items or goods corresponds to “*product data from the customer*” and thus, Carr’s system with a store webpage receiving a customer order for goods renders obvious “*receiving product data from the customer regarding the one or more goods,*” as claimed.

[6.2] *checking the internet for a digital coupon associated with the product data.*

196. Cincotta teaches that an “one important aspect of the online shopping experience is the shopping cart which lists the items to be purchased.” Cincotta, ¶40. Cincotta continues and states that its shopping cart “may also automatically provide promotional code information from one or more promotions....The codes could include **publically [sic] available promotional codes collected by EOS computer 20 by crawling Internet 16.**” *Id.*, ¶42; *see also* ¶53 (“promotion codes for promotions, coupons, reduced cost shipping or other advantages for shopper 12...these advantages are implemented by providing a promotion code....”)

197. Thus, by describing crawling the Internet for promotion codes corresponding to coupons associated with a shopping cart of items to be purchased, Cincotta in view of Carr renders obvious “*checking the internet for a digital coupon associated with the product data,*” as claimed.

b) Claim 7

[7.1] *The method of claim 1, further comprising: generating product reviews associated with the product data which are accessible by the customer.*

198. Cincotta teaches a “virtual mall” embodiment in which “users visit [a] website and have immediate access to a comprehensive, full listing of e-commerce merchants.” In this embodiment, users are “able to interact with each merchant on three-different element tiers.” Cincotta, ¶144. In a third tier, Cincotta discloses providing users with “user reviews” from a company data base and further provides the ability to “**Add Reviews and Ratings.**” Cincotta, ¶¶159-164.

199. At the time of the ’465 patent, in the e-commerce arts, the use of user-generated reviews of products was commonplace. The ability for customers to access and review these reviews in the process of purchasing products was likewise well-known. *See, e.g.,* Yatani, p. 1 (“Many people read online reviews written by other users to learn more about a product or venue. However, the overwhelming amount of user-generated reviews and variance in length, detail and quality across the reviews make it difficult to glean useful information.”) Thus, Cincotta’s teachings of providing the ability to add reviews for products would have been understood to teach “*generating product reviews associated with the product data which are accessible by the customer.*”

200. Cincotta’s teachings of adding reviews which are accessible by users in view of Carr therefore renders obvious “*generating product reviews associated*

with the product data which are accessible by the customer,” as claimed.

D. Ground 4: Claim 13 is obvious under 35 U.S.C. § 103 over Carr in view of Lauka and further in view of Argue.

1. Summary of Argue

201. Argue discloses “methods ... for facilitating shopping assistance.”

Argue, Abstract. Argue specifically focuses on “an improved approach for delegating shopping tasks.” *Id.*, ¶5. As pertinent to the analysis presented below, Argue teaches a method that includes “defining [] a shopping list” by “receiving data from scanning an optical code (e.g. barcode) of a product using a camera of the” customer’s computing device. *Id.*, ¶62.

2. Reasons to Combine Argue with Carr and Lauka

202. It is my opinion that a POSITA would have been motivated to combine the teachings of Argue with the teachings of Carr and Lauka. It would have been obvious, beneficial, and predictable to apply Argue’s teachings of creating a shopping list by scanning barcodes of products to the Carr and Lauka combination—for example, to provide the customer with an alternative method of establishing the customer’s order.

203. As an initial matter, a POSITA, when considering the teachings of Carr and Lauka, would have also considered the teachings of Argue. Carr, Lauka, and Argue all relate to goods ordered over the internet. Carr, Abstract; Lauka, Abstract; Argue, ¶¶4-5, Fig. 1. As such, Argue is analogous art to the ’465 patent. *See, e.g.*, Ex.1001, 1:29-31.

204. Specifically, a POSITA would have been motivated to incorporate Argue’s teachings because doing so would have provided additional methods of establishing the customer’s order in the Carr and Lauka combination. Specifically, Argue’s teachings provide the ability to define a shopping list (analogous to the customer order in Carr) by “scanning an optical code (e.g. barcode) of a product using a camera.” Argue, ¶62. These features are not explicitly taught in Carr, but a POSITA would have recognized a benefit to incorporating this feature of Argue.

205. A POSITA would have been specifically motivated to incorporate Argue’s technique of using a barcode scan to order products into the Carr and Lauka system because doing so would add an efficient and desirable method of ordering products and address a known issue in one of Carr’s example implementations. Specifically, Carr contemplates that the “customer device 26 may include any suitable device including ... a handheld mobile device including a cellular telephone.” Carr, ¶56.

206. Before the ’465 patent, a POSITA would have recognized that inputting data into a handheld device was difficult for certain users, because of the small size of such handheld devices, and would have recognized that alternative input modalities for handheld devices were desirable. *See, e.g.,* Clough, ¶5 (describing known “fundamental issues” of input efficiency due to the “compact nature of PDAs”).

207. Given this issue, a POSITA would have recognized that Argue’s technique of using a barcode scan to assemble a shopping list would mitigate this known issue and would have been desirable, as incorporating the technique would have provided a simpler method for a user to order products in Carr’s system. *See also* Mault, ¶49 (“by scanning the barcodes of the packaging of food products... the user can assemble a shopping list”). Thus, a POSITA would have been motivated to incorporate the teachings of Argue of assembling a shopping list by scanning barcodes.

208. Utilizing Argue’s teachings in the Carr and Lauka system would have not only been advantageous, but a POSITA would have also had a reasonable expectation of success in making the combination. For example, the combination does not change the intended functionality of Carr but rather enhances Carr’s functionality. Further, Argue’s technique is meant to be implemented on a customer’s “mobile phone,” and Carr specifically teaches that its customers use a “handheld mobile device” to place orders. Argue, ¶26; Carr, ¶56. Thus, any modifications to Carr’s methods to accommodate Argue’s technique would have been relatively straightforward to a POSITA given that Argue’s teachings utilize the same components (e.g., handheld computing device), which are already present in the system and method of Carr. For example, a POSITA would have readily recognized how to adapt Carr’s mobile device to incorporate barcode-based input

to build the customer's order, as taught by Argue; doing so would have required no more than routine software programming that would have been well-within the level of skill in the art.

209. Accordingly, a POSITA would have found it obvious to apply Argue's teachings to the method taught by Carr and Lauka because the combination merely amounts to applying a known technique to a method ready for improvement.

3. Detailed Claim Mapping

a) Claim 13

[13.1] *The method of claim 1, wherein the first acquisition request is established by the customer by making a list of the first set of one or more goods by scanning bar codes or QR codes of existing products the customer wants replaced.*

210. Carr discloses that each "customer order will include at least one good" and describes a system "configured to allow the customer to place the customer order through the customer device" in one example "from a website associated with the store" but it does not further describe how the customer establishes the order. Carr, ¶¶60, 69, 73.

211. Argue provides further details on known ordering techniques, however, as it similarly discloses "methods...for facilitating shopping assistance" and describes a "method 700 for setting up a delegation of a shopping task" (i.e., analogous to Carr's customer order) which includes "defining 702 a shopping list."

Argue, Abstract, ¶62. Argue states that the “step of defining 702 a shopping list may include one or more of... receiving data from scanning of an optical code (e.g. barcode) of a product using a camera of the principal’s user computing device....” Argue, ¶62. Because the customer in Argue is scanning barcodes of products, a POSITA would have recognized that the customer has these products in his or her possession (i.e., in order to use the barcode on the product, the customer has physical access to the product, for example, in his or her pantry), and desires another purchase of the product, and thus these products that the customer scans optical codes of are “*existing products the customer wants replaced*” as recited. See, e.g., Mault, ¶47 (“reordering consumed items”), ¶49 (“by scanning the barcodes of the packaging of food products... the user can assemble a shopping list”).

212. Thus, Argue’s teachings of establishing a shopping list by scanning barcodes in view of Carr, renders obvious “*the first acquisition request is established by the customer by making a list of the first set of one or more goods by scanning bar codes ... of existing products the customer wants replaced,*” as claimed.

E. Ground 5: Claims 18-19 are obvious under 35 U.S.C. § 103 over Carr in view of Lauka and further in view of Dearing.

1. Summary of Dearing

213. Dearing teaches methods “for providing content associated with an

information item on a distribution item using a computing device.” Dearing, Abstract. In Dearing, the “information item 10 is shown as a barcode.” Dearing, 8:2-10. Responsive to scanning the barcode, “content associated with” the distribution item upon which the information item appears, such as “media files,” is retrieved, for example, from a database. *See* Dearing, 12:32-13:8, 8:47-55.

2. Reasons to Combine Dearing with Carr and Lauka

214. It is my opinion that a POSITA would have been motivated to combine the teachings of Dearing with the teachings of Carr and Lauka. It would have been obvious, beneficial, and predictable to apply Dearing’s teachings of retrieving content associated with a barcode from a database to the Carr and Lauka combination—for example, to provide implementation details for the methods taught by Carr.

215. As an initial matter, a POSITA, when considering the teachings of Carr and Lauka, would have also considered the teachings of Dearing. Dearing is at least reasonably pertinent to one of the problems allegedly addressed by the ‘465 patent of retrieving data from scanning a barcode. *See, e.g.,* Ex.1001, claim 1. As such, Dearing is analogous art to the ‘465 patent.

216. A POSITA would have been specifically motivated to incorporate Dearing’s teachings because doing so would have provided explicit detail on how to implement functionality disclosed in the Carr and Lauka combination.

Specifically, Dearing’s teachings provide detail on how Carr’s “item database 104” which “stores item information associated with items or types of items in the store 20” and which stores “Universal Product Codes (UPC) codes” and “other information associated with the items” (e.g., images) “may be queried” to retrieve such information associated with the items. Carr, ¶116. Dearing explicitly provides teachings that a POSITA would have recognized to be obvious in light of Carr, and a POSITA would have recognized that Carr operates in a manner consistent with that described in Dearing. Thus, in one example implementation of the combination, a POSITA would have found it obvious to implement Carr’s method of retrieving images of a good by scanning the barcode associated with the good and using information from the scan to query a database, as taught by Dearing. This would have been a well-known technique to a POSITA; given Carr’s database, a POSITA would have readily recognized how to query the database, using the UPC code, to retrieve associated images.

217. A POSITA would have also had a reasonable expectation of success in making the combination. The combination does not change the intended functionality of Carr, but rather, Dearing’s teachings merely provide implementation details for the methods of Carr. Thus, modifications to Carr’s methods and software would not be necessary, or at worst, would be minimal, to accommodate Dearing’s teachings, and such modifications would have been

relatively straightforward to a POSITA, as doing so would have been well-within the level of skill in the art.

218. Accordingly, a POSITA would have found it obvious to apply Dearing’s teachings to Carr’s methods because the combination merely amounts to the combination of prior art elements according to known methods.

3. Detailed Claim Mapping

a) Claim 18

[18.1] *The method of claim 1, wherein the at least one image is obtained from a database on a remote server which links bar or QR codes with images.*

219. As discussed above, Carr teaches that images of the substitute products are obtained from a database associated with the first server, where the images are associated with products that are linked to the UPC codes scanned by the assembler. For example, Carr teaches that “the assembler **may establish the list of goods by using the UPC reader 74 to read the UPC of the goods** the assembler has chosen to include.” Carr, ¶95. Carr further teaches that “The database 42, 44 may include images and/or other information related to the goods available at the facility.” Carr, ¶96. The list of goods and “**associated images**” are then transmitted to the customer. *Id.*, ¶96.

220. Carr further teaches that the information about each item scanned by the assembler is contained in and retrieved from a database, including the item’s UPC code and associated image: “the item database 104 stores **item information**

associated with items or types of items in the store 20. For example, the item database 104 may store identification codes, **Universal Product Codes (UPC) codes**, item location in the store 20, **as well as other information associated with the items.** By way of example, the item database 104 may be queried by the processing device 90 and may transmit information to the processing device to facilitate the use of item data.” Carr, ¶116; ¶96 (the “database 42, 44 may include **images and/or other information related to the goods** available at the facility”); *see also* ¶87 (“second server 28 may store...the UPC code for each item...and other information as necessary”).

221. A POSITA would have interpreted this disclosure in Carr to teach “*at least one image is obtained from a database on a remote server which links bar or QR codes with images*” because a POSITA would have recognized that the UPC, which uniquely identifies a single product, would be used as a key in a database table, with data associated with the UPC stored in association with the UPC. For example, a row of a database table may include columns corresponding to the UPC, item name, location in the store, a reference to an image file, and other pertinent information. This would have been an implementation of Carr’s database consistent with a POSITA’s knowledge at the time of the ’465 patent. As one example, a database table with two rows of data may appear as follows:

UPC (key)	ItemName	Aisle	Image	StockQuantity
1234567891234	Organic Bananas	2	bananas.jpg	946
2123456789123	1 lb. Strawberries	3	strawberries.jpg	35

Note that this is an extremely simplified example, and a real-world example would include much more data and may require a more complicated database structure; however, the same point applies – it would have been obvious to a POSITA that Carr’s database included UPC information correlated with other information, including image information, such that the image information would be obtained from the database. This is consistent with other literature in the e-commerce technologies, for example, the Barcode Lookup website cited above describes a “gigantic **database of barcodes** and product data” so that users can “get product information, **photos** and store pricing for millions of items worldwide – just by typing in the **item’s barcode number**” confirming that it was well-known to have a database linking barcode information and images. *See* Barcodelookup, p. 1; *see also* p. 3 (“Enter any product’s UPC...into Barcode Lookup, and find all kinds of information about the item including its manufacturer, name, description, photos and customer reviews.”). Thus, a POSITA would have interpreted Carr’s disclosure to teach “*at least one image is obtained from a database on a remote server which links bar or QR codes with images*” because Carr’s database **links**

together all “item information” associated with an item, where item information includes both a UPC code and image. Carr, ¶¶96, 116.

222. To the extent Carr does not explicitly teach this claim language, Dearing **explicitly** teaches “*at least one image is obtained from a database on a remote server which links bar or QR codes with images*” as claimed. Dearing describes that a “server 18 receives data indicating information about a distribution item 8 from an image of an information item 10 affixed to the distribution item 8.” Dearing, 12:32-13:8. The “information item 10 is shown as a barcode” throughout Dearing. Dearing, 8:2-10. The “data from the information item 10” (i.e., the data from the barcode) is then used “to query a database for content associated with the distribution item 8.” Dearing, 12:32-13:8. The response from the database may include “a link to content, such as a URL, or actual content that may be used by a computing device 14” such as “media files.” Dearing, 8:47-55. A POSITA would have recognized “media files” as including image files, as it was well-known at the time of the ’465 patent to refer to images as one form of media. *See, e.g.*, Microsoft Comp. Dictionary, p. 352 (“multimedia *n.* The combination of sound, **graphics**, animation, and video.”), p. 297 (“JPEG. *n.* 1. An ISO/ITU standard for storing images...2. A **graphic stored as a file** in the JPEG format.”). Thus, Dearing explicitly teaches a database linking bar code data with images, and retrieving such image content by scanning a bar code and querying a database to obtain the image

content.

223. Carr, or the combined teachings of Carr and Dearing, therefore render obvious “*at least one image is obtained from a database on a remote server which links bar or QR codes with images*” as claimed.

b) Claim 18

[19.1] *The method of claim 14, wherein the at least one image is obtained from a database on a remote server which links bar or QR codes with images.*

224. See [18.1].

VIII. CONCLUSION

225. This declaration and my opinions herein are made to the best of my knowledge and understanding, and based on the material available to me, at the time of signing this declaration. I declare that all statements made herein on my own knowledge are true and that all statements made on information and belief are believed to be true, and further, that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 or Title 18 of the United States Code.

Date: May 1, 2023



Henry Houh