

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SALESFORCE, INC.,
Petitioner

v.

IQX CORP.,
Patent Owner

Case IPR2026-00477
U.S. Patent No. 12,200,165

**PETITION FOR *INTER PARTES* REVIEW
OF U.S. PATENT NO. 12,200,165**

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PETITIONER'S EXHIBIT LIST

Exhibit No.	Description
1001	U.S. Patent No. 12,200,165 to Spindler et al., issued January 14, 2025 (“the ’165 patent”)
1002	File History of U.S. Patent No. 12,200,165 (“’165 Patent File History”)
1003	Declaration of Bernard J. Jansen, Ph.D.
1004	<i>Curriculum Vitae</i> of Bernard J. Jansen, Ph.D.
1005	U.S. Patent Publication No. 2011/0178897 A1 to Balasubramanian <i>et al.</i> (“Balasubramanian”)
1006	U.S. Patent Publication No. 2022/0006895 A1 to Spindler <i>et al.</i> (“Spindler”)
1007-1008	<i>Intentionally Left Blank</i>
1009	U.S. Patent No. 10,264,413 B1 to Bogineni <i>et al.</i> (“Bogineni”)
1010	<i>Intentionally Left Blank</i>
1011	U.S. Patent No. 7,020,685 B1 to Chen <i>et al.</i> (“Chen”)
1012	U.S. Patent Publication No. 2016/0239867 A1 to Sinha <i>et al.</i> (“Sinha”)
1013	U.S. Patent No. 11,170,380 B1 to Long <i>et al.</i> (“Long”)
1014	International Patent Application Publication No. WO 2018/103039 to Wang <i>et al.</i> (“Wang”)
1015	U.S. Patent Publication No. 2020/0067976 A1 to Jakobsson <i>et al.</i> (“Jakobsson”)
1016	U.S. Patent Application Publication No. 2016/0005070 A1 to Burr <i>et al.</i> (“Burr”)
1017-1018	<i>Intentionally Left Blank</i>

Exhibit No.	Description
1019	U.S. Patent Application Publication No. 2012/0191546 A1 to Phelan <i>et al.</i> (“Phelan”)
1020-1021	<i>Intentionally Left Blank</i>
1022	File History of U.S. Application No. 18/483,670 (U.S. Patent No. 12,126,752)
1023	<i>Intentionally Left Blank</i>
1024	“Best Computer Science Scientists 2026” - Data Sources for the 12th Edition of the Research.com Best Computer Science Scientists Ranking (Page 13), accessed at https://research.com/scientists-rankings/computer-science?page=13
1025	Jafarzadeh, H., Aurum, A., D’Ambra, J., & Ghapanchi, A. “A Systematic Review on Search Engine Advertising,” <i>Pacific Asia Journal of the Association for Information Systems</i> , 7(3):1-32
1026	Ioannidis, John P.A. (2025), “August 2025 data-update for “Updated science-wide author databases of standardized citation indicators,” Elsevier Data Repository, V8, doi: 10.17632/btchxktzyw.8
1027-1031	<i>Intentionally Left Blank</i>
1032	RCS Universal Profile Service Definition Document, GMS Association, Nov. 16, 2016
1033-1036	<i>Intentionally Left Blank</i>
1037	U.S. Patent Application Publication No. 2011/0078762 A1 to Bijlsma (“Bijlsma”)
1038	U.S. Patent Application Publication No. 2013/0254036 A1 to Trinh <i>et al.</i> (“Trinh”)
1039	U.S. Patent Application Publication No. 2015/0142906 A1 to Tolcher (“Tolcher”)

Exhibit No.	Description
1040	U.S. Patent Application Publication No. 2005/0278231 A1 to Teeter (“Teeter”)
1041	U.S. Patent Application Publication No. 2014/0052562 A1 to Oliveira <i>et al.</i> (“Oliveira”)
1042	U.S. Patent Application Publication No. 2003/0101345 A1 to Nyberg (“Nyberg”)
1043	U.S. Patent Application Publication No. 2015/0373200 A1 to Zitnik <i>et al.</i> (“Zitnik”)
1044	U.S. Patent Application Publication No. 2007/0124399 A1 to Gillespie <i>et al.</i> (“Gillespie”)
1045	U.S. Patent Application Publication No. 2011/0314287 A1 to Escott <i>et al.</i> (“Escott”)

I. INTRODUCTION

Salesforce, Inc. (“Petitioner”) petitions for *inter partes* review, seeking cancellation of claims 1-20 of U.S. Patent No. 12,200,165 (“the ’165 patent”; EX1001), assigned to IQX Corp (“Patent Owner”). The ’165 patent suffers from two fatal issues—(1) the ’165 patent’s priority application (Spindler) is prior art and renders obvious the challenged claims; and (2) even without breaking priority, the challenged claims recite well-known customized message generation, authentication, and machine learning techniques that are rendered obvious by Balasubramanian-Chen-Sinha. The Board should therefore institute IPR and cancel claims 1-20.

II. THE ’165 PATENT

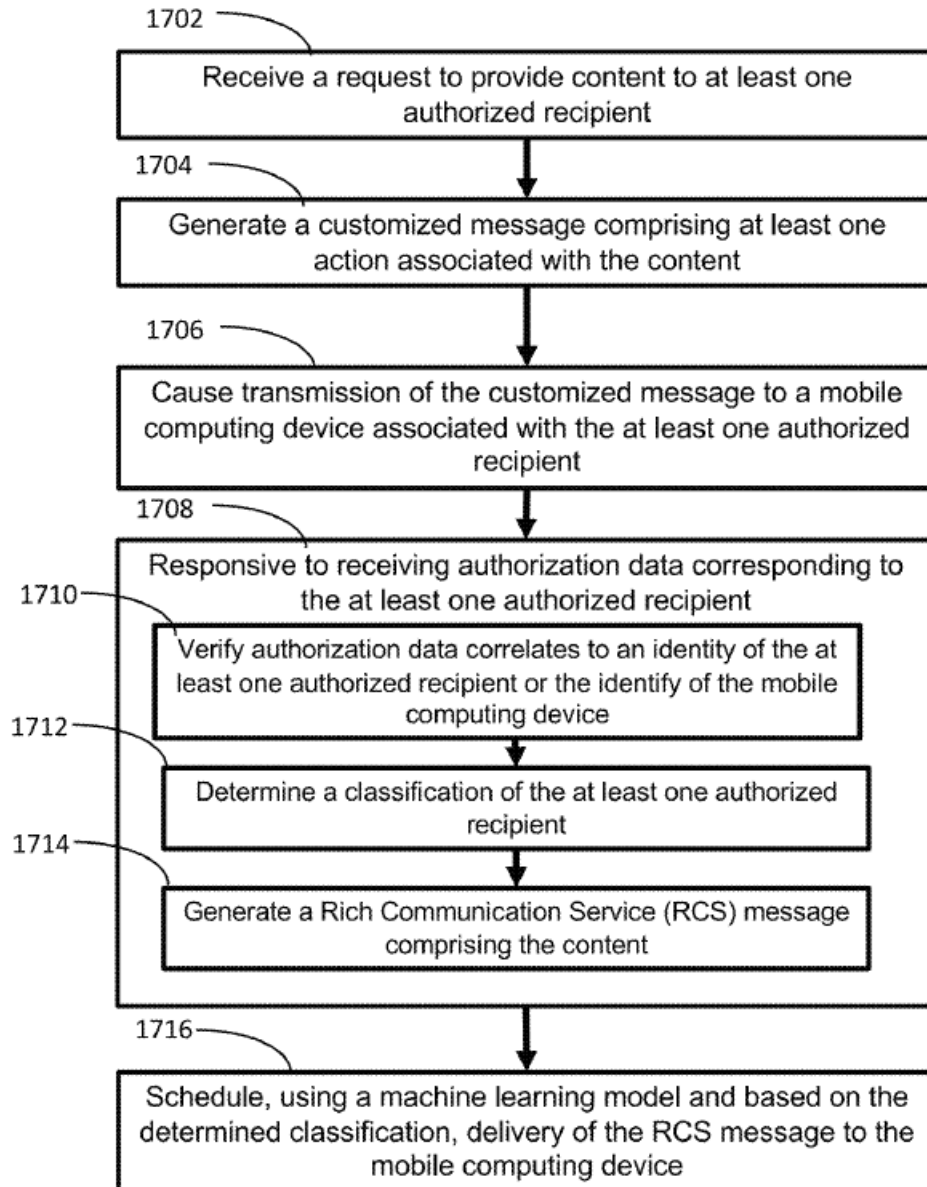
A. Overview

The ’165 patent issued on January 14, 2025, from U.S. Application No. 18/896,197 (“the ’197 application”). EX1001, (45), (21). The ’165 patent claims priority, through multiple Continuation and Continuation-in-part (CIP) applications, to a provisional application filed September 27, 2018. *Id.*, 1:9-26. As explained below, however, the challenged claims are correctly entitled to priority no earlier than its September 25, 2024, filing date. Section IV.F.1.

The ’165 patent relates to security and access control for mobile devices and describes “systems and methods for providing secure access and authentication

when using mobile devices to access and/or purchase content.” EX1001, 1:29-30, 1:61-63.

Figure 17 illustrates the claimed “process 1700 for generating and sending [RCS] messages.” EX1001, 39:66-40:2.



EX1001, FIG. 17.

The process begins by “receiving a request to provide content to at least one authorized recipient,” such as a subscriber who has authorized marketing and/or promotional messages, or a user that has authorized transactional messages, reminders, alerts, or notifications. EX1001, 40:10-23. Next, “a customized message comprising at least one action associated with the content” is generated, based on user preferences, location, or time zone and may include a secure link to access additional content. EX1001, 40:24-42. The “action” may include purchasing, viewing content, opting into additional messages or content, performing a transaction, selecting a suggested response, or returning to a prior browsing or application session. *Id.*

After the user selects the link, the system verifies the identity of the authorized recipient or mobile computing device and then determines a classification of the recipient, generates an RCS message based on that classification, and schedules delivery of the message accordingly. EX1001, 40:54-41:57.

The challenged claims recite only well-known concepts associated with a messaging subscription service. For example, claim 1 recites generating a customized message, transmitting the message to a mobile computing device, requesting authorization data, and verifying the identity of the authorized recipient or device. EX1001, 46:48-47:5 (Claim 1). The claims further recite generating an

RCS message, a well-known messaging technology for more than a decade.

EX1003, ¶53. Finally, the claims apply machine learning to determine a recipient classification and schedule delivery of the RCS message based on that classification. EX1001, 46:48-47:5 (Claim 1). But each of these elements was well known long before the filing of the '165 patent. Sections V-VII; EX1003, ¶¶39-71. *See also* EX1003, ¶¶72-77.

B. Prosecution History

During prosecution, the claims were never formally rejected. *See generally*, EX1002. The Examiner made the conclusory finding that the prior art failed to teach the well-known features of requesting authorization data and scheduling RCS-message delivery using a machine-learning model based on a determined classification. *Id.*, 0245; EX1003, ¶¶78-79.

C. Person of Ordinary Skill in the Art (“POSA”)

A POSA would have had a bachelor’s degree in Computer or Electrical Engineering, Computer Science, or equivalent discipline, and approximately two years’ experience in e-commerce, telecommunications, or computer networking. Additional education could substitute for professional experience, and significant work experience could substitute for formal education. EX1003, ¶36.

D. Claim Construction

Claims must be given their ordinary and customary meaning in light of the specification—“the meaning that the term would have to a person of ordinary skill

in the art in question at the time of the invention.” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312-1313 (Fed. Cir. 2005) (en banc); 37 C.F.R. § 42.100(b). Petitioner submits that all claim terms should receive their plain and ordinary meaning in the context of the ’165 patent specification.

III. IDENTIFICATION OF THE CHALLENGE (37 C.F.R. § 42.104(B))

Petitioner requests IPR based on the grounds summarized below.

Ground	35 U.S.C. §	Claims	References
1A	103	1-2, 7-8, 13-15, 20	Balasubramanian, Chen, Sinha
1B	103	1-2, 5, 7-8, 11, 13-15, 18, 20	Balasubramanian, Chen, Sinha, Bogineni
1C	103	3-4, 9-10, 16-17	Balasubramanian, Chen, Sinha, Burr, with or without Bogineni
1D	103	6, 12, 19	Balasubramanian, Chen, Sinha, Jakobsson, with or without Bogineni
2A	103	1-2, 7-8, 13-15, 20	Spindler, Long, Wang
2B	103	1-2, 5, 7-8, 11, 13-15, 18, 20	Spindler, Long, Wang, Bogineni
2C	103	3-4, 9-10, 16-17	Spindler, Long, Wang, Burr, with or without Bogineni
2D	103	6, 12, 19	Spindler, Long, Wang, Jakobsson, with or without Bogineni

IV. OVERVIEW OF THE ASSERTED ART

A. Balasubramanian (EX1005)

Balasubramanian published July 21, 2011, and is prior art under 35 U.S.C. §§ 102(a)(1)-(a)(2).

Like the '165 patent, Balasubramanian is directed to “a system and method for facilitating electronic commerce over a network.” EX1005, Abstract. Balasubramanian’s system includes a user device that facilitates conducting financial transactions, such as purchasing products, with merchant devices and a service provider over a network. EX1005, ¶¶21-24, FIG. 1.

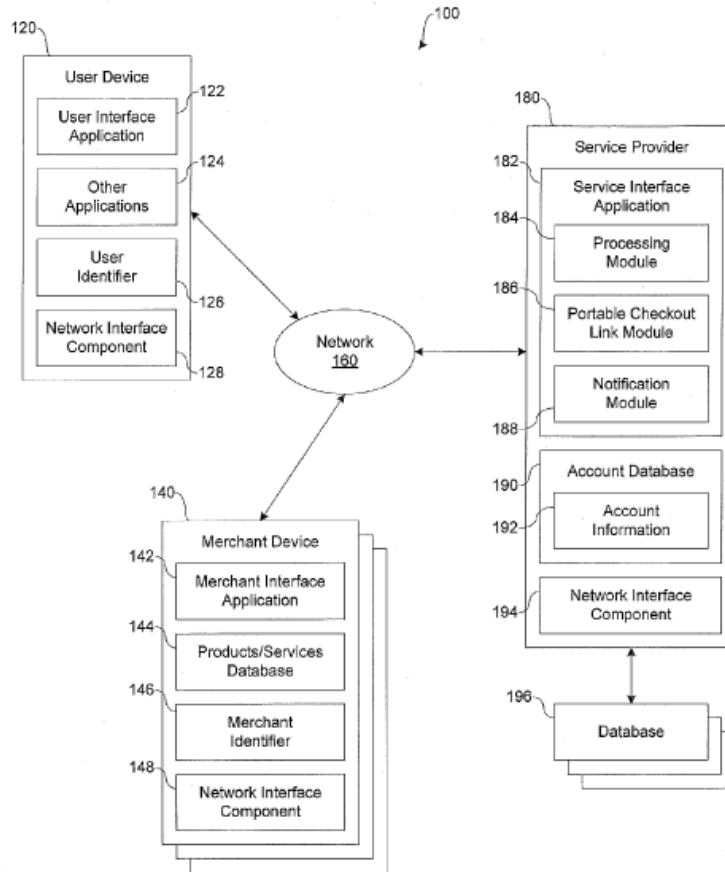


Fig. 1

EX1005, FIG. 1

When online shopping, users may place items in a virtual shopping cart, but “may withdraw from purchase or abandon the checkout prior to payment.”

EX1005, ¶6. When this occurs, the shopping cart may be deleted, resulting in lost revenue for the merchant and payment service provider. *Id.*

To solve this issue, Balasubramanian’s service provider sends notifications to the user (by email, alert, text message, or voice message), that include selectable links (e.g., “portable checkout link[s]” (“PCLs”)) to incomplete and/or abandoned

transactions. EX1005, ¶¶9, 20, 42, 45-48, 55, 72-74, 84. Selecting a link returns the user to the abandoned or incomplete transaction, where it can then be completed.

EX1005, ¶¶42, 45, 55, 74-76, 79. *See also* EX1003, ¶¶80-82.

B. Chen (EX1011)

Chen issued March 28, 2006, and is prior art under 35 U.S.C. §§ 102(a)(1)-(a)(2).

Chen is directed to enabling wireless devices, including devices without browsers, to access Internet based hypermedia content. EX1011, 1:11-16. Many Internet-connected devices can display “hypermedia content, such as web pages” that include content using “standard web protocols and mark-up languages,” e.g., “Hypertext Transport Protocol (HTTP)” and “Hypertext Markup Language (HTML).” *Id.*, 1:33-39. However, “many earlier-generation wireless devices are not equipped with microbrowsers,” limiting their ability to access such hypermedia content. *Id.*, 1:49-52.

To address this limitation, Chen enables wireless devices to receive remotely stored hypermedia content, including HTML documents, from network servers. EX1011, 3:55-61. “The retrieved hypermedia information is provided to wireless device 100 in the form of [Short Message Service (“SMS”)] messages.” *Id.*, 3:61-62. *See also* EX1003, ¶¶83-84.

C. Sinha (EX1012)

Sinha published August 18, 2016, and is prior art under 35 U.S.C.

§§ 102(a)(1)-(a)(2).

Sinha discloses that online shoppers often “add items to an online shopping cart” and leave without completing the purchase, thereby “abandon[ing]” the cart.” EX1012, ¶1. Although “persistent online shopping cart[s]” allow customers to later access abandoned items, reminder emails can “lead to brand irritation and potentially lost customers.” *Id.*, ¶¶2-4. To solve this issue, Sinha computes the likelihood that a customer will return, and when uncertainty exists, sends tailored advertising to the customer using “machine learning technique[s].” *Id.*, ¶¶18, 24, 51. *See also* EX1003, ¶¶85-86.

D. Bogineni (EX1009)

Bogineni was filed May 1, 2018, and issued April 16, 2019. Bogineni is available as prior art under 35 U.S.C. § 102(a)(2).

Bogineni evidences that RCS messaging was well known prior to the ’165 patent. EX1009, 1:6-12. *See also* EX1003, ¶87.

E. Jakobsson (EX1015)

Jakobsson was filed October 25, 2017, and published February 27, 2020. Jakobsson is prior art under 35 U.S.C. § 102(a)(2).

Jakobsson’s techniques detect phishing-attempt communications by evaluating how a recipient is likely to interpret a message and whether the apparent

sender matches the actual sender. EX1015, ¶¶33-34. The system determines whether a message was authorized by the purported authoritative entity and, if not, makes a security determination and selects an action for the message, such as delivering or blocking the message, or sending a warning. EX1015, ¶¶54, 74-75, 99. *See also* EX1003, ¶¶88-89.

F. Spindler (EX1006)

1. Spindler is available as prior art to the '165 patent.

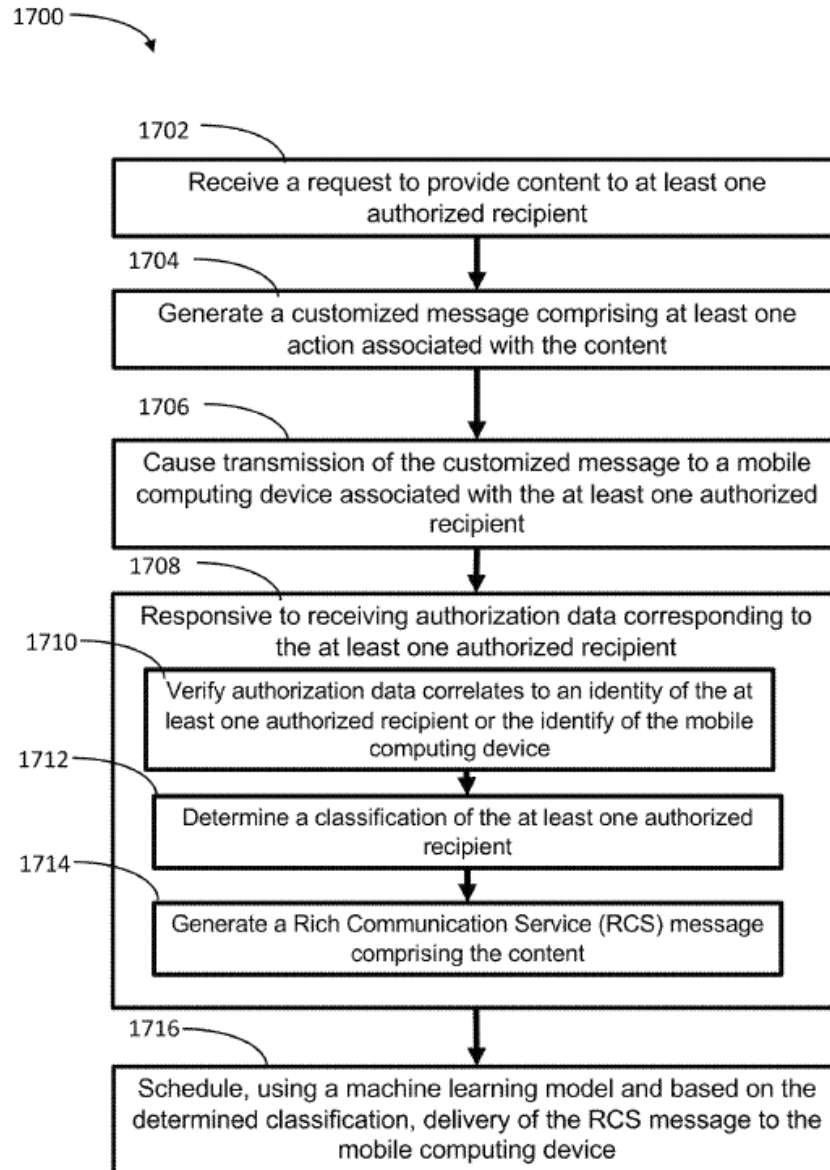
Spindler is the patent application publication of an earlier application in the '165 patent's priority chain. As explained below, however, the challenged claims are correctly entitled to priority no earlier than their **September 25, 2024**, filing date. Because Spindler published **January 6, 2022**, more than one year before September 25, 2024, it is available as prior art to the '165 patent at least under 35 U.S.C. § 102(a)(1), and is not subject to the 35 U.S.C. § 102(b)(1) exception.

To claim an earlier filing date, each application in the priority chain must satisfy 35 U.S.C. § 112's written-description requirement. *Lockwood v. Am. Airlines, Inc.*, 107 F.3d 1565, 1571 (Fed. Cir. 1997). That is not the case here.

The '165 patent claims priority to a filing date of September 25, 2019, and even further to a provisional application filed September 27, 2018. EX1001, (63), (60). However, the '197 application was (correctly) filed as a CIP of U.S. Application No. 18/483,670 ("the '670 application"), adding ten figures and

approximately eighty paragraphs of disclosure not present in the pre-CIP '670 application. *Compare generally* EX1001, *with* EX1022, 0368-0397, 0342-0349. The challenged claims find written description support only in the added material. EX1003, ¶103.

Specifically, the challenged claims require, among other things, determining a recipient classification, generating an RCS message, and using a machine learning model to schedule delivery of that message based on the classification. EX1001, 46:48-47:5 (Claim 1). This claimed functionality finds support in Figure 17 and its accompanying description. *See, e.g.*, EX1001, 39:66-42:52. But Figure 17 was added in the '197 CIP application and does not appear in the priority '670 application. *Compare* EX1022, 0342-0359, *with* EX1002, 0006-0013. EX1003, ¶¶103-104.



EX1001, FIG. 17.

Among other things, the '165 patent claims recite “*a classification of the at least one authorized recipient*” and scheduling “*delivery of the RCS message*” “*using a machine learning model and based on the determined classification.*” But these limitations are unsupported by the '670 priority application. EX1003, ¶105.

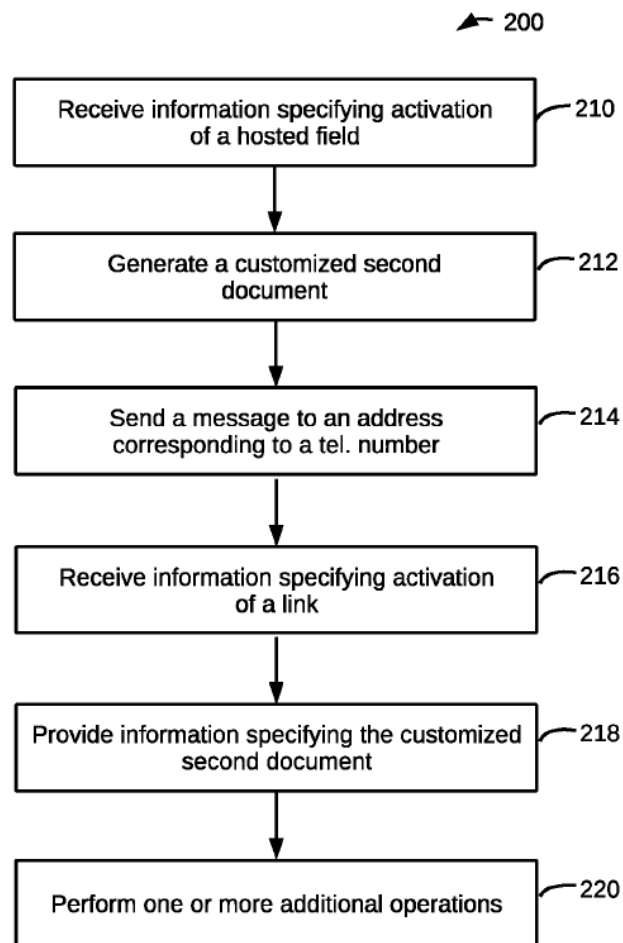
Indeed, the '670 application does not even use the terms “classification,” “schedule,” “machine learning,” or “Rich Communication Service (RCS)” at all.

Any argument that the missing features would have been obvious over the '670 application is irrelevant because written description requires disclosure, not obviousness. *Lockwood*, 107 F.3d at 1572 (“A description which renders obvious the invention for which an earlier filing date is sought is not sufficient”).

An application is entitled to an earlier priority date *only* where the claimed subject matter is common to both applications. *Transco Products Inc. v. Performance Contracting, Inc.*, 38 F.3d 551, 557 (Fed. Cir. 1994). Because the pre-CIP '670 application lacks any written description support at least for “*determining, based on the identity of the at least one authorized recipient or the identity of the mobile computing device, a classification of the at least one authorized recipient,*” generating “[an RCS] message comprising the content,” and “*scheduling, using a machine learning model and based on the determined classification, delivery of the RCS message to the mobile computing device,*” the '165 patent is not entitled to the September 25, 2019, priority date (or any earlier date in the priority chain). Instead, the claims are entitled only to the September 25, 2024 filing date of the '197 application that disclosed the new features. Spindler, published January 6, 2022, more than one year prior is available as prior art. EX1003, ¶106.

2. Overview

As a member of the same patent family, Spindler shares a similar specification to, and discloses many of the same concepts as the '165 patent. Indeed, Spindler discloses a computer system that includes one or more electronic devices 110 connected via network 116 to hosting computer 114 and cloud-based computer 112, which performs method 200 (similar to the '165 patent) for dynamically generating a customized document. EX1006, ¶¶31, 48, FIG. 2; EX1003, ¶¶90-94



EX1006, FIG. 2.

G. Long (EX1013)

Long issued November 9, 2021, and is prior art under 35 U.S.C.

§§ 102(a)(1)-(a)(2) as of the September 25, 2024, priority date. Section IV.F.1.

Like the '165 patent, Long is directed to e-commerce on mobile devices, including messaging-based subscriptions and payments initiated from a mobile website or application. EX1013, 2:48-51.

Long discloses dynamic deeplinking that transitions users between interfaces on a mobile device. EX1013, 1:40-44. A promotional message containing a link may be presented through a mobile website, application, email, advertisement, or text message, and selecting the link opens a messaging application with a pre-populated message containing purchase or subscription information and a recipient telephone number. *Id.*, 3:1-9, 6:57-7:8. *See also* EX1003, ¶¶95-96.

H. Wang (EX1014)

Wang published June 14, 2018, and is available as prior art under at least 35 U.S.C. § 102(a)(1).

Wang describes an e-commerce message-distribution platform that uses machine learning to target message delivery. EX1014, (54), ¶12. Wang's platform "delivers the message to the relevant target users" while "ensuring that the desired amount of message deliveries ... is achieved for the client." *Id.*, ¶14. *See also* EX1003, ¶¶97-99.

I. Burr (EX1016)

Burr published January 7, 2016, and is prior art under 35 U.S.C.

§§ 102(a)(1)-(a)(2).

Burr teaches presenting recommended products to an online consumer in a scrollable carousel. EX1016, ¶¶1, 21, 40, 47, 60, FIG. 3A. *See also* EX1003, ¶¶100-101.



EX1016, FIG. 3A.

V. GROUND 1A: BALASUBRAMANIAN-CHEN-SINHA RENDERS OBVIOUS CLAIMS 1-2, 7-8, 13-15, 20.

A. Motivation to Combine

A POSA would have been motivated to combine Balasubramanian, Chen, and Sinha to arrive at the techniques claimed by the '165 patent. EX1003, ¶¶107-115.

To start, Balasubramanian and Chen are in the same field of endeavor as each other and the '165 patent (e.g., facilitating electronic commerce over a network), and are analogous art. EX1001, 1:35-41; EX1005, ¶¶2, 8; EX1011, 1:11-16; EX1003, ¶108.

Balasubramanian teaches that a user may “select items to purchase by clicking on a link for a specific item,” but withdraw from purchase prior to payment. EX1005, ¶¶5-6. In that case, a service provider sends a notification that includes one or more “portable checkout link[s]” (PCLs) to the user reminding the user of the abandoned checkout. EX1005, ¶¶9, 20, 45, 55, 72. Balasubramanian allows users to access the shopping cart containing abandoned transactions by selecting a PCL. EX1005, ¶¶43, 55, 75. A POSA would have understood that this access is, e.g., via a web browser of the user device. EX1005, ¶25; EX1003, ¶109.

However, Chen explains many earlier-generation wireless devices are not equipped with web browsers and thus are restricted on accessing hypermedia content on the Internet. EX1011, 1:49-52. Because Balasubramanian’s service provider may connect with various types of user devices, including “generally known types of wired and/or wireless computing devices,” a POSA would have understood that the service provider can also be configured to serve the earlier-generation wireless devices that lack web browsers as discussed in Chen. EX1005, ¶23; EX1011, 1:49-52; EX1003, ¶110. Furthermore, because SMS “does not

require that the wireless device is active and within range when a message is sent”

a POSA would have understood that SMS messages can serve user devices that

have weak or temporarily lost connections. EX1011, 1:58-62; EX1003, ¶110. In

Chen, user devices access a webpage (e.g., shopping cart) without using a web

browser or while having connection issues, by enabling a wireless device “to

receive remotely stored hypermedia information, such as ... HTML documents...,

from one or more network servers” as SMS messages. EX1011, 3:55-61. A POSA

would have understood that Chen’s solution would have enabled

Balasubramanian’s service provider to serve more types of user devices, especially

those without a web browser and/or with bad connections, thereby benefiting both

the user and the service provider. A POSA, therefore, would have been motivated

to modify Balasubramanian’s service provider to send the HTML documents of the

shopping cart to the user device via a text message. EX1003, ¶111.

A POSA would have had a reasonable expectation of success in making this

modification because it would have involved only the routine application of a

known processing and transmission technique. EX1003, ¶112. Chen’s technique

relies on network servers transmitting documents through SMS, functionality

readily supported by Balasubramanian’s service-provider architecture. *Compare*

EX1011, 3:55-61, *with* EX1005, ¶¶9, 20, 48, 55, 72, 92. Implementing Chen’s

SMS-delivery technique in Balasubramanian therefore would not have presented any unreasonable technical challenges. EX1003, ¶112.

A POSA would further have been motivated to combine Sinha with Balasubramanian-Chen. To start, Sinha is in the same field of online shopping on websites as Balasubramanian, Chen, and the '165 patent, and is thus analogous art. *Compare* EX1012, ¶¶29, 37, *with* EX1001, 1:36-57, 28:53-29:24, 29:64-30:2, 35:9-36; EX1005, ¶¶6-7, 56, 63; EX1003, ¶113. Balasubramanian addresses the issue of abandoned online shopping carts by sending notifications encouraging users to complete the abandoned transaction. EX1005, ¶¶5-6, 9, 20, 45, 55, 72. Sinha recognizes that customers may compare shopping carts at different online stores before deciding where to purchase. EX1012, ¶3. Thus, each online store wants to be the one that the customer eventually chooses. *Id.* To improve conversion, Sinha calculates a “likelihood” whether a customer will return to an abandoned cart, and when uncertainty exists, delivers tailored advertising content to the customer to encourage completion of the purchase. EX1012, ¶24. A POSA, therefore, would have been motivated to incorporate Sinha’s targeted advertising techniques into Balasubramanian-Chen to improve the chance that users return to abandoned shopping carts and complete checkout. EX1003, ¶114.

A POSA also would have had a reasonable expectation of success. EX1003, ¶115. Sinha’s customer classification model module 212 uses machine-learning

techniques to predict whether users will return to abandoned carts. EX1012, ¶51.

Customer classification model module 212 is a part of online shopping cart analysis module 108, which may be implemented in software, hardware, firmware, or server-based computing systems. EX1012, ¶¶28, 34, 50. Balasubramanian likewise includes a service-provider server capable of performing Sinha's machine learning and customer classification functions. EX1005, ¶¶21, 92, FIG. 1; EX1003, ¶115.

B. Independent claim 1

1. [1.P]¹

Balasubramanian discloses the preamble. EX1003, ¶116. Balasubramanian's "service provider," implemented as a computer system, "provide[s] processing for network-based transactions including online information and/or financial transactions on behalf of the user." EX1005, ¶40. Service provider 180 implements the methods of Figures 2A-2C. EX1005, ¶¶62-86.

2. [1.A]

Balasubramanian-Chen-Sinha teaches element [1.A]. EX1003, ¶¶117-121.

Balasubramanian teaches "*at least one authorized recipient*." In Balasubramanian, a user ("*at least one ... recipient*") is prompted "to establish a user account for login with the service provider," and is asked to provide personal

¹ See the Claim Appendix for a recitation of the claim language.

and financial information. EX1005, ¶26. This personal and financial information, such as the user identifier 126, is passed from the user device to the service provider to verify the user. EX1005, ¶¶28, 58, 65-66. The user is an “authorized recipient” because the user registers with and is verified by the service provider. EX1003, ¶118.

Balasubramanian teaches “*receiving a request to provide content.*” The user registers with and provides information to the service provider. EX1005, ¶¶26, 28, 58, 65. When shopping on a website, users place items in a virtual shopping cart, but “may withdraw from purchase or abandon the checkout prior to payment.” EX1005, ¶6. After verifying the user, Balasubramanian’s service provider sends them a notification (“*to at least one authorized recipient*”), directing them to the abandoned shopping cart (“*content*”). EX1005, ¶¶9, 28, 45, 47, 55, 65-66, 72. A POSA would have found it obvious that, during registration, the service provider receives a request from the user to receive messages regarding the abandoned shopping cart (“*receiving a request to provide content*”). EX1003, ¶119.

To the extent Patent Owner argues that Balasubramanian does not teach or suggest “*receiving a request to provide content,*” Chen expressly teaches that limitation. Chen teaches a pull mode of operation where a network server, including a proxy server, receives an SMS request for Internet-based content from a wireless device without a browser. EX1011, 3:13-19, 4:7-10. The server then

transcodes the requested content and sends the transcoded content to the wireless device via SMS. EX1011, 3:31-40. Thus, a POSA would have understood that the server's receipt of the SMS request corresponds to "*receiving a request to provide content.*" EX1003, ¶120.

A POSA would have been motivated to modify Balasubramanian's service provider to receive the SMS request taught by Chen and to send the HTML documents of the shopping cart in the form of SMS messages to user devices ("*provide content to at least one authorized recipient*") that do not have a web browser and/or with bad connections. Section V.A; EX1003, ¶121.

3. [1.B]

Balasubramanian teaches element [1.B]. EX1003, ¶¶122-123.

Balasubramanian's service provider sends a notification ("*a ... message*") that includes PCLs, i.e., selectable links ("*comprising at least one action*") that lead the user to the abandoned shopping cart ("*associated with the content*"). EX1005, ¶¶9, 20, 47, 55, 63, 72, 74. Because the notification reminds the user of their abandoned shopping cart, it is "*a customized message*" for the user. *Id.* A POSA would have understood that, in order to **send** the notification, the service provider must first "*generat[e]*" the notification. EX1003, ¶123.

4. [1.C]

Balasubramanian teaches element [1.C]. EX1003, ¶¶124-125.

Balasubramanian's service provider sends (*"caus[es] transmission of"*) a notification (*"the customized message"*) to a user's user device, e.g., a mobile communication device or other "wired and/or wireless computing devices" (*"to a mobile computing device associated with the at least one authorized recipient"*). EX1005, ¶¶9, 20, 23, 47, 55, 72; EX1003, ¶125.

5. [1.D]

Balasubramanian teaches element [1.D]. EX1003, ¶¶126-127.

Balasubramanian teaches that when a user selects a PCL corresponding to an incomplete transaction (*"responsive to receiving an indication associated with selecting the at least one action"*), the service provider prompts the user to login (*"requesting authorization data corresponding to the at least one authorized recipient"*). EX1005, ¶¶55, 76, 78. The service provider then "receive[s] user information, such as identify information," and verifies the user's account based on that information. EX1005, ¶78. The service provider verifies the user account using personal information, e.g., usernames, passwords, photographs, biometric IDs, addresses, and phone numbers, as well as banking information. EX1005, ¶¶65-66. Thus, a POSA would have understood that the information used to verify the user account constitutes *"authorization data corresponding to the at least one authorized recipient."* EX1005, ¶78; EX1003, ¶127.

6. [1.E.1]

Balasubramanian teaches element [1.E.1]. EX1003, ¶¶128-129.

After receiving user information “such as identity information” from the user, (*“responsive to receiving the requested authorization data”*)

Balasubramanian’s service provider verifies the user’s account in account database 190 based on that information (*“verifying that the authorization data correlates to an identity of the at least one authorized recipient or an identity of the mobile computing device”*). EX1005, ¶78. Because the user information includes identity information and is used to for account verification, a POSA would have understood that the service provider verifies that the information correlates to the user’s identity (*“verifying that the authorization data correlates to an identity of the at least one authorized recipient”*). EX1003, ¶129.

7. [1.E.2]

Balasubramanian teaches element [1.E.2]. EX1003, ¶¶130-133.

Balasubramanian teaches *“determining ... a classification of the at least one authorized recipient.”* EX1003, ¶131. The ’165 patent describes three classification tiers, including a second tier in which a user has selected one or more actions, but has not completed a transaction. EX1001, 42:8-23. Balasubramanian similarly teaches that a user may select items for purchase but abandon checkout prior to payment. EX1005, ¶¶5-6. A POSA would have understood that such a user would

be classified in the '165 patent's second tier (*"a classification of the at least one authorized recipient"*). EX1003, ¶131.

Balasubramanian further teaches that the service provider monitors shopping activity and maintains user accounts containing account information associated with each user. EX1005, ¶¶56-57. For users who abandon checkout, Balasubramanian's service provider sends a reminder notification. EX1005, ¶¶9, 20, 45, 55, 72. Once a purchase is completed, the service provider stores information regarding the completed transaction and updates its status from incomplete to complete. EX1005, ¶¶10, 79. A POSA would have understood that the service provider would no longer send a reminder for that completed transaction. EX1003, ¶132. Such a user is classified in the '165 patent's first classification tier. *Id.*; EX1001, 42:8-19. Thus, the service provider selectively sends notifications to users based on whether the user has abandoned or completed checkout (*"determining ... a classification of the at least one authorized recipient"*). EX1003, ¶132.

Finally, because the service provider verifies the user account based on user information, the determination is based on the user's identity (*"based on the identity of the at least one authorized recipient"*). EX1005, ¶78; EX1003, ¶133.

8. [1.E.3]

Balasubramanian teaches element [1.E.3]. EX1003, ¶¶134-137.

Balasubramanian's teaches sending a notification by text message, but does not specify a particular messaging protocol. EX1005, ¶¶9, 20, 48, 55. As Dr. Jansen explains, a POSA would have understood that "text message" encompassed well-known messaging technologies, including RCS, thereby rendering obvious "*generating [an RCS] message.*" EX1003, ¶135. A POSA also would have found RCS obvious to try in Balasubramanian's system because only a finite number of messaging protocols were in widespread use at the time of the '165 patent—RCS being one of them. *Id.*

Furthermore, as discussed above, a POSA would have been motivated to modify Balasubramanian's service provider to "*generate*" and send the shopping cart HTML documents ("*the content*") as SMS messages to user devices lacking a web browser or experiencing connectivity issues, thereby teaching a "*message comprising the content.*" EX1003, ¶136; Section V.B.2. As just discussed, a POSA would have found it obvious to send that content in an RCS message rather than an SMS message, resulting in "*[an RCS] message comprising the content.*" EX1003, ¶136.

A POSA further would have understood that the service provider could send both the initial notification and the RCS message containing the shopping cart HTML documents. EX1003, ¶137. This provides alternative approaches to access the shopping cart: through the PCL when the device has browser access, or through

the HTML content delivered in the RCS message when it does not. *Id.*; EX1005, ¶¶9, 20, 47, 55, 63, 72, 74.

9. [1.F]

Balasubramanian-Chen-Sinha teaches element [1.F]. EX1003, ¶¶138-142.

Balasubramanian-Chen-Sinha teaches “*scheduling, ... based on the determined classification, delivery of the RCS message to the mobile computing device.*” EX1003, ¶139. In the combination, Balasubramanian’s service provider sends shopping cart HTML documents via SMS messages, as taught by Chen. *Id.*; Section V.B.2. A POSA would have found it obvious to send that content in an RCS message (“*delivery of the RCS message to the mobile computing device*”), instead of or in addition to the text message, to obtain the additional functionality provided by RCS. Section V.B.6; EX1003, ¶139.

As discussed above, Balasubramanian selectively sends reminder notifications to users who have abandoned checkout (“*based on the determined classification*”). EX1005, ¶¶9, 20, 45, 55, 72; Section V.B.7. Balasubramanian further teaches sending such notifications according to a schedule, such as periodically or when items are about to run out of stock (“*scheduling, ... based on the determined classification*”). EX1005, ¶¶9, 47. A POSA would have understood that the RCS message follows the same schedule. EX1003, ¶140. Thus, the service provider schedules and sends the RCS message based on the determination that the

user selected items but abandoned the checkout (“*scheduling, ... based on the determined classification, delivery of the RCS message to the mobile computing device.*”). *Id.*

As further discussed above, Balasubramanian’s shopping cart represents “*the content,*” and the user can return to complete an abandoned transaction. EX1005, ¶¶45, 75; Section V.B.2. A POSA would have been motivated to incorporate Sinha’s tailored advertising content into the shopping cart to increase the likelihood of completing the purchase. Section V.A; EX1012, ¶24; EX1003, ¶141.

Sinha teaches sending tailored advertising content to a customer based on a computed “likelihood” of purchase, which reflect uncertainty about whether the customer will return to complete an abandoned transaction. EX1012, ¶24. That likelihood is computed using machine learning modeling techniques (“*using a machine learning model*”). EX1012, Abstract, ¶¶5-6, 18, 32, 49-52. Because delivery of the RCS message containing the shopping cart content is based on that likelihood, a POSA would have understood the combination to teach “*scheduling, using a machine learning model ..., delivery of the RCS message to the mobile computing device.*” EX1003, ¶142.

C. Claim 2

Balasubramanian-Chen-Sinha teaches claim 2. EX1003, ¶¶143-144.

In Balasubramanian-Chen-Sinha, the service provider sends the RCS message that includes the HTML documents of the shopping cart to the user device (*“delivering the RCS message to the mobile computing device”*). Section V.B.9; EX1003, ¶144. Because the service provider both determines the delivery schedule and sends the RCS message, a POSA would have found it obvious that the RCS message is delivered according to that schedule (*“delivering the RCS message to the mobile computing device according to the scheduled delivery”*). EX1003, ¶144.

D. Claim 7

Balasubramanian teaches claim 7. EX1003, ¶¶145-146.

Balasubramanian’s PCLs correspond to the *“at least one action.”* EX1005, ¶¶9, 20, 47, 55, 63, 72-74; Section V.B.3. Because the PCLs lead the user to the abandoned shopping cart, they are *“associated with the content.”* *Id.*

Balasubramanian further teaches that the user may return to the shopping cart and complete a previously abandoned transaction. EX1005, ¶¶42, 45, 75. Thus, a POSA would have understood that the PCLs provide *“one or more options to”* *“perform a transaction”* and *“return to a prior browsing session.”* EX1003, ¶146.

E. Independent claim 8

1. [8.P]

Balasubramanian discloses the preamble. EX1003, ¶147. Balasubramanian’s *system* includes user device(s), merchant device(s), and a service provider.

EX1005, ¶21, FIG. 1. Users register with the service provider, which verifies them

and sends notifications regarding incomplete transactions, including periodically or when selected items are about to run out of stock, change price, or become discounted (automated messaging). EX1005, ¶¶20, 26, 47, 66, 70. As Dr. Jansen explains, a POSA would have found it to be obvious that, through registration, the user agrees to receive such messages thus subscribes to receive notifications from the service provider. EX1003, ¶147. Accordingly, Balasubramanian teaches a “*messaging subscription and distribution system*.” Because the notifications are triggered and sent automatically based on transaction status and related conditions, it also teaches “[a]n automated *messaging subscription and distribution system*.” *Id.*; EX1005, ¶¶20, 47.

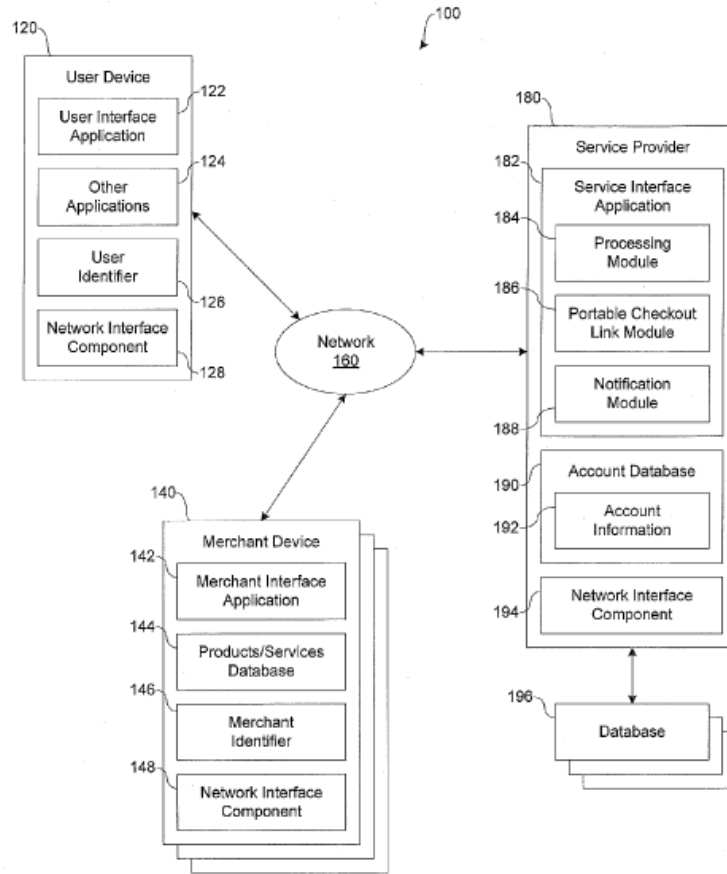


Fig. 1

EX1005, FIG. 1.

2. [8.A]

Balasubramanian discloses element [8.A]. EX1003, ¶148. User device 120, merchant device(s) 140, and service provider 180 may each be implemented as computer system 400. EX1005, ¶92, FIG. 4. Computer system 400 includes a “processor.” EX1005, ¶93 (emphasis added).

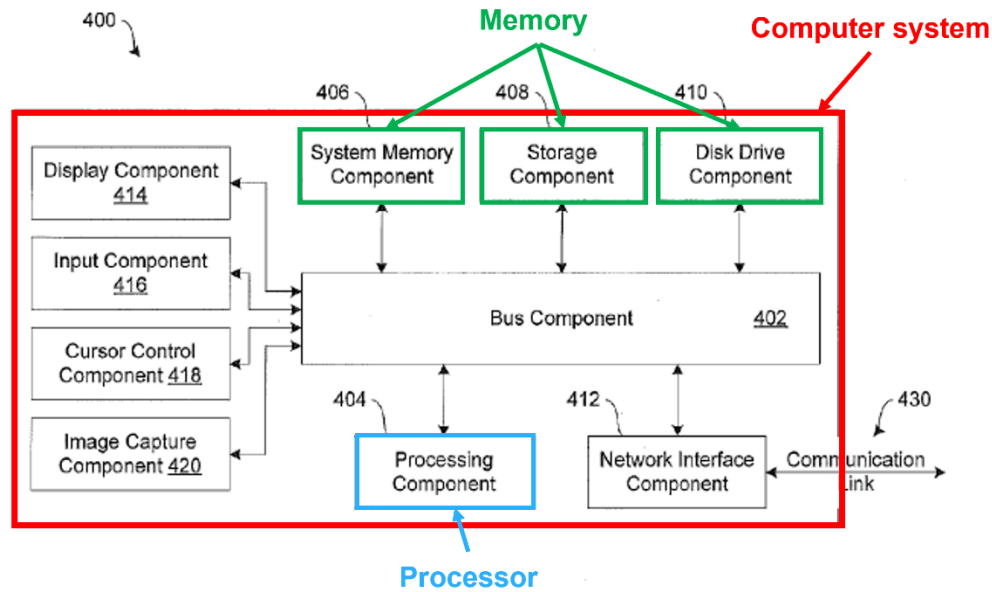


Fig. 4

EX1005, FIG. 4 (annotated).

3. [8.B]

Balasubramanian discloses element [8.B]. EX1003, ¶¶149-150.

Balasubramanian's computer system includes "*memory*." EX1005, ¶93, FIG.

4. Balasubramanian's computer system "**performs specific operations** by processor 404 executing ... **instructions** contained in system memory component." EX1005, ¶94 (emphasis added); EX1003, ¶150.

4. [8.C]–[8.H]

Balasubramanian-Chen-Sinha teaches or renders obvious these elements for the reasons explained regarding claim elements [1.A]–[1.F]. Section V.B; EX1003, ¶151.

F. Claim 13

Balasubramanian-Chen-Sinha teaches or renders obvious claim 13 for the same reasons as explained for claim 7. Section V.D; EX1003, ¶152.

G. Independent claim 14

1. [14.P]

Balasubramanian discloses the preamble. EX1003, ¶¶154-155.

Balasubramanian teaches that processor 404 performs operations by executing instructions stored in memory component 406, which may be loaded from static storage component 408 or disk drive component 410. EX1005, ¶94. A POSA would have understood that at least static storage component 408 is a “*non-transitory computer-readable storage medium*.” EX1003, ¶155.

2. [14.A]–[14.F]

Balasubramanian-Chen-Sinha teaches or renders obvious these elements for the reasons explained regarding claim elements [1.A]–[1.F]. Section V.B; EX1003, ¶156.

H. Claims 15, 20

Balasubramanian-Chen-Sinha teaches or renders obvious these claims for the same reasons as respectively explained for claims 2 and 7 above. Sections V.C–V.D. EX1003, ¶157.

**VI. GROUND 1B: BALASUBRAMANIAN-CHEN-SINHA-BOGINENI
RENDERS OBVIOUS CLAIMS 1-2, 5, 7-8, 11, 13-15, 18, 20.**

A. Motivation to Combine

Several claims recite RCS messages. As explained above, such RCS messages are rendered obvious by Balasubramanian. To the extent Patent Owner argues that Balasubramanian does not teach or suggest an RCS message, Bogineni expressly discloses RCS messages. A POSA would have been motivated to modify Balasubramanian-Chen-Sinha in further view of Bogineni to use RCS messages. EX1003, ¶¶158-162.

To start, Bogineni and Balasubramanian are in the same field of mobile device communication, and are thus analogous art. *Compare* EX1009, 1:6-7, 1:47-2:22, *with* EX1001, Abstract, 5:46-48; EX1005, ¶¶21, 23-24, 29, 31; EX1003, ¶159.

Balasubramanian's service provider sends notifications to user devices, including text messages, but does not specify the underlying messaging protocol. EX1005, ¶¶9, 20-21, 48, 55. Furthermore, in Balasubramanian-Chen-Sinha, the service provider sends the HTML documents of the shopping cart ("*the content*") in the form of SMS messages. Section V.B.8. A POSA would have looked to known messaging technologies, including the well-known technique for sending text messages to mobile devices (like Balasubramanian's user device) via RCS messages, as taught by Bogineni. EX1003, ¶160. Bogineni teaches that RCS

provides text messaging similar to SMS while offering additional functionality unavailable in SMS. EX1009, 1:7-12. A POSA would have been motivated to modify the service provider to send the message that includes the HTML documents of the shopping cart (“*the content*”) as an RCS message instead of a text message to obtain those known advantages. EX1003, ¶160.

Furthermore, a POSA would have had a reasonable expectation of success in combining Balasubramanian with Bogineni. EX1003, ¶161. Bogineni teaches that RCS messaging may be implemented using Internet protocol (IP) multimedia subsystem (IMS)-based or non-IMS architectures, including hypertext transfer protocol (HTTP) communications and device application programming interfaces (APIs). EX1009, 1:47-2:4. Balasubramanian’s system includes mobile devices, computer systems, and communication networks capable of supporting those conventional technologies. EX1005, ¶¶21-22, 92; EX1003, ¶161. A POSA would have understood that Balasubramanian’s network would support the IMS and therefore support IMS-based RCS messaging. EX1003, ¶161. Because Balasubramanian’s network can be the Internet, the network also supports HTTP communications, which enables non-IMS RCS messaging. *Id.* Finally, because Balasubramanian’s user device, merchant devices, and service provider can be implemented as computer systems, they are readily available to install APIs and thus support non-IMS RCS messaging via the APIs. EX1005, ¶92; EX1003, ¶161.

A POSA would therefore not have experienced any unreasonable technical hurdles in implementing these modifications. EX1003, ¶161.

The combination would merely amount to combining prior art elements according to known methods to yield the predictable (yet improved) result of sending text message having the additional functionality available with RCS messages. EX1009, 1:7-12; EX1003, ¶162.

B. Claims 1-2, 7-8, 13-15, 20

Balasubramanian-Chen-Sinha-Bogineni teaches these claims. EX1003, ¶¶163-165. As discussed above, Balasubramanian-Chen-Sinha teaches, or at least renders obvious, these claims. Section V. To the extent Patent Owner argues that Balasubramanian-Chen-Sinha does not teach RCS messages, Bogineni does. EX1003, ¶164. Specifically, the combination schedules and transmits the shopping cart HTML documents (“*comprising the content*”) as “[*an RCS*] message” to obtain the additional functionality provided by RCS. EX1009, 1:7-9; EX1003, ¶164; Section VI.A.

C. Claims 5, 11, 18

Balasubramanian-Chen-Sinha-Bogineni teaches these claims. EX1003, ¶¶166-168.

Balasubramanian-Chen-Sinha-Bogineni teaches sending the shopping cart (“*the content*”) as “[*an RCS*] message.” Section VI.B. Bogineni further teaches

various APIs for using the RCS message service, including “a send read report API for sending a read report for an RCS message” and “a receive read report for receiving a read report for an RCS message.” EX1009, 4:4-16. Bogineni’s “send read report” and “receive read report” for RCS messages are the claimed “*send and receive indicators provided in a user interface of the mobile computing device.*” EX1003, ¶167. Balasubramanian’s user devices include applications that interface with APIs and each other “for improved efficiency and convenience” of the “user interface application” of the user device. EX1005, ¶27. Thus, a POSA would have understood that the transmitted and received “read report[s]” supported by the APIs are provided to the user interface application of the user device via the applications 124 (“*provided in a user interface of a mobile computing device*”). EX1003, ¶167.

As Dr. Jansen explains, a POSA would have understood that Bogineni’s RCS message shows real-time typing status between the sender and the receiver (“*indicate real time typing between an RCS message provider and the mobile computing device or between another computing device and the mobile computing device*”), because this is part of the RCS standard. EX1003, ¶168. In particular, the RCS standard “RCS Universal Profile Service Definition Document, Version 1.0,” published November 16, 2016, mandates, as standard elements, the use of indicators that inform a user of “*real time typing.*” For example, standard element

US5-7 explains “[a]s a user, I want to see when the other party is currently writing a message,” and standard element R5-7-1 instructs that “[t]he other party shall be able to see an ‘is typing’ notification whenever the creator of a message is typing.” EX1032, 47. Because the RCS Universal Profile Definition mandates these functions, a POSA would have understood that they would be included in the RCS functionality of Bogineni. EX1003, ¶168.

**VII. GROUND 1C: BALASUBRAMANIAN-CHEN-SINHA
(-BOGINENI)-BURR RENDER OBVIOUS CLAIMS 3-4, 9-10, 16-17.**

A. Motivation to Combine

Independent claims 1, 8, and 14 would have been obvious over Balasubramanian-Chen-Sinha (Ground 1A) and/or Balasubramanian-Chen-Sinha-Bogineni (Ground 1B). Sections V, VI. A POSA would have been motivated to further modify these combinations in view of Burr to include “*a carousel of selectable options...*,” as recited in dependent claims 3, 9, and 16. EX1003, ¶¶169-175.

To start, Balasubramanian, Chen, Sinha, Bogineni, and Burr are in the same field of mobile device communication and e-commerce as the ’165 patent, and are thus analogous art. *Compare* EX1016, Title, ¶¶2, 29, 49, 79-80, *with* EX1001, Abstract, 5:46-48; EX1005, ¶¶2, 8, 20-21; EX1011, 1:11-16; EX1012, ¶¶29, 37; *see also* EX1003, ¶170.

In Balasubramanian-Chen-Sinha(-Bogineni), the shopping cart includes multiple “*selectable options*,” including selectable items, checkout options, and payment options. *See* EX1005, ¶5. However, Balasubramanian does not specify how those options are displayed in the user interface. Thus, a POSA would have looked to the prior art for guidance as to specific user-interface formats for displaying the multiple selectable purchase options in Balasubramanian. EX1003, ¶171.

One well-known technique for such display is via a carousel, such as that taught by Burr. EX1003, ¶172. Burr teaches an e-commerce system that identifies, ranks, and promotes additional products, based on the consumer’s personal information. EX1016, ¶¶21, 59. These items may be displayed “as a carousel of product information” including “a limited, but scrollable subset” items likely to interest the user. *Id.*, ¶¶47, 60. Each displayed item may include a button enabling the user to add the item to a shopping cart. *Id.* The “carousel” allows the user to view additional recommended items in the collection. *Id.*, ¶¶67-69.

A POSA would have been motivated to implement Balasubramanian’s multiple selectable options as Burr’s carousel. EX1003, ¶173. Doing so would have predictably resulted in a scrollable user interface presenting the most relevant options to the user, which is advantageous on mobile devices with limited screen space. *Id.*; EX1016, ¶¶21, 47, 60, 65, 67; EX1005, ¶5.

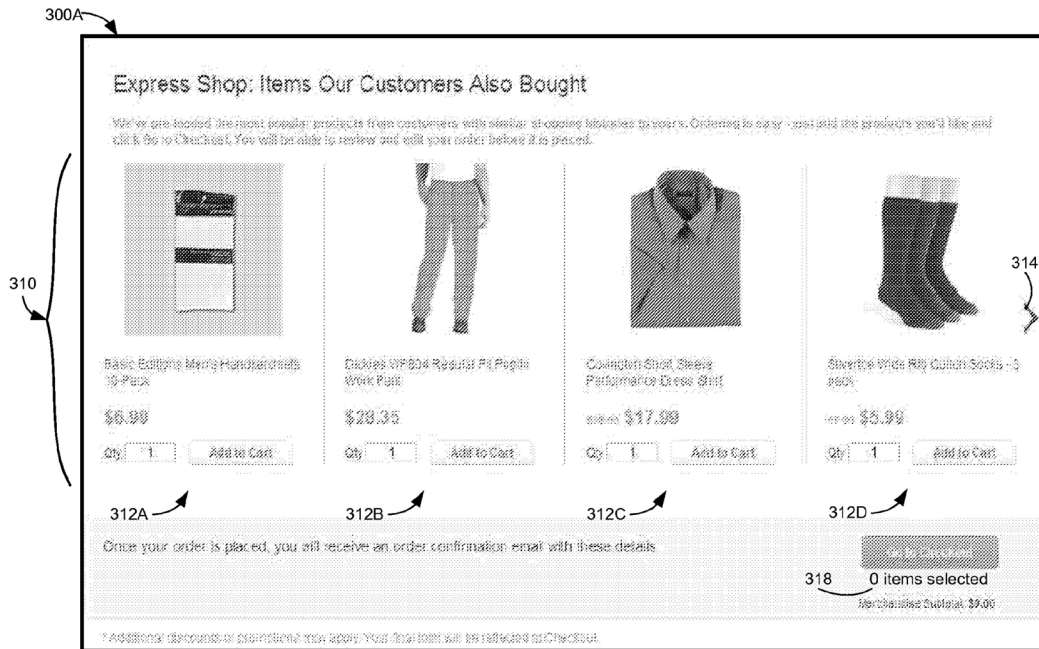
A POSA would have had a reasonable expectation of success in modifying Balasubramanian-Chen-Sinha(-Bogineni) further in view of Burr. EX1003, ¶174. Burr's carousel is displayed on consumer devices, such as Balasubramanian's user device, which is readily available to perform functions of Burr's consumer device. *Id.*; EX1016, ¶49; EX1005, ¶23.

And such a combination would merely amount to combining prior-art elements according to known methods to yield the predictable (yet improved) result of presenting Balasubramanian's customized, selectable options as “a carousel ... that display[s] a limited, but scrollable subset of” items. EX1016, ¶60; EX1003, ¶175.

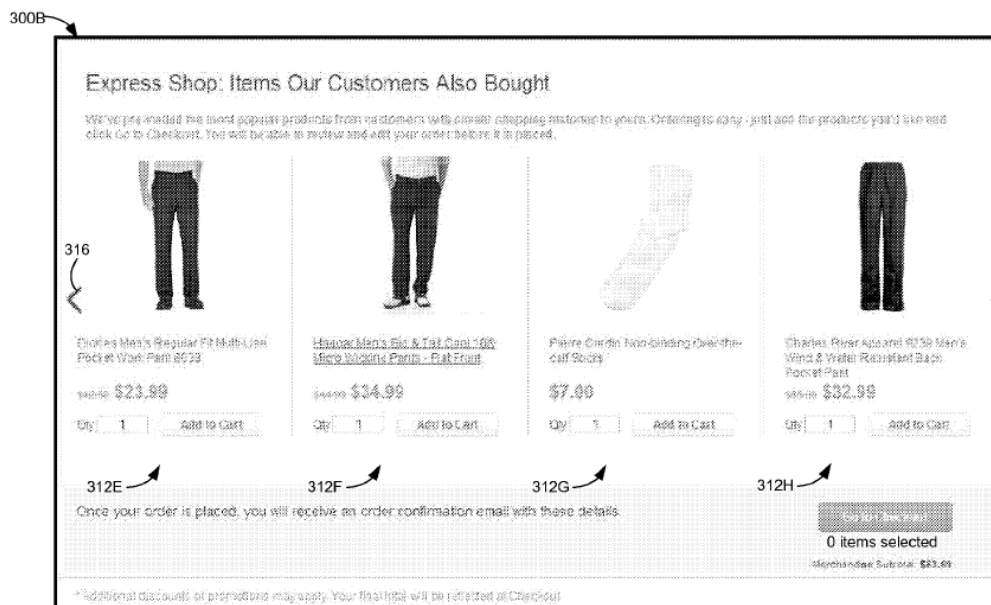
B. Claims 3, 9, 16

Balasubramanian-Chen-Sinha(-Bogineni)-Burr render obvious these claims. EX1003, ¶¶176-178.

As discussed, Burr teaches “*a carousel of selectable options.*” EX1016, ¶60. Burr's “carousel” is shown in Figures 3A-3B:



EX1016, FIG. 3A.



EX1016, FIG. 3B.

In the combination with Burr, Balasubramanian's shopping cart with multiple selectable options would be displayed as a "scrollable" "carousel" of the items. EX1016, ¶60; Section VII.A. As taught by Burr, each selectable option

would be displayed with, e.g., a product image, description, price, quantity box, and “[a]dd to cart” button, and arrows would enable the user to scroll among the options. EX1016, ¶¶47, 60, 67-69, FIGs. 3A-3B; Section VII.A. A POSA would have understood that, in Balasubramanian-Chen-Sinha(-Bogineni)-Burr, the shopping cart includes selectable options in the form of a carousel (“*the content comprises a carousel of selectable options*”). EX1003, ¶178.

C. Claims 4, 10, 17

Balasubramanian-Chen-Sinha(-Bogineni)-Burr render obvious these claims. EX1003, ¶¶179-180.

In the combination with Burr, Balasubramanian’s shopping cart, including the carousel of selectable options, is displayed on the user’s device (“*the content is provided in the user interface*”). Section VII.A-VII.B. Balasubramanian further teaches that the user interface application of the user device may be implemented “as a web browser to view and search information available over the network 160” (“*the user interface is within a browser executing on the mobile computing device*”). EX1005, ¶25. In the combinations, the content is included in the RCS message, Section V.B.8, but may also be accessed in a browser as disclosed in Balasubramanian when a browser is available. EX1003, ¶180.

**VIII. GROUND 1D: BALASUBRAMANIAN-CHEN-SINHA(-BOGINENI)
-JAKOBSSON RENDER OBVIOUS CLAIMS 6, 12, 19.**

A. Motivation to Combine

Independent claims 1, 8, and 14 would have been obvious in view of Balasubramanian-Chen-Sinha (Ground 1A) and/or Balasubramanian-Chen-Sinha-Bogineni (Ground 1B). Sections V, VI. A POSA would have been motivated to modify Balasubramanian-Chen-Sinha(-Bogineni) in further view of Jakobsson to include sender verification and warning messages, as recited in dependent claims 6, 12, and 19. EX1003, ¶¶181-188.

To start, Balasubramanian, Chen, Sinha, Bogineni, and Jakobsson are in the same field of electronic commerce, and are thus analogous art. *Compare* EX1015, ¶¶52-53, *with* EX1001, 1:35-41; EX1005, ¶¶2, 8, 20-21; EX1003, ¶182.

As discussed above, in Balasubramanian-Chen-Sinha(-Bogineni), the service provider schedules and sends the shopping cart HTML documents in an RCS message. Sections V.B.8-V.B.9. Because the shopping cart website is provided by merchant devices, a POSA would have understood that the HTML documents originate from the merchant devices. EX1005, ¶¶25, 33, 63; EX1003, ¶183. However, Balasubramanian-Chen-Sinha(-Bogineni) do not disclose verifying the origin of the HTML documents before transmission. A POSA would have recognized the importance of such verification to protect against fraudulent or

unwanted messages. EX1003, ¶183. This need would have led a POSA to Jakobsson, which discloses such verification techniques. *Id.*

Jakobsson explains that “unscrupulous individuals” can use electronic messaging, e.g., for fraud or spam, and discloses techniques for detecting phishing-attempts that impersonate trusted entities. EX1015, ¶¶2, 33. Jakobsson evaluates sender information and determines whether the apparent sender matches the actual sender. EX1015, ¶¶34, 48, 54, 100. When the sender cannot be verified, the system may erase, flag, annotate, or otherwise warn users about the message. *Id.*, ¶¶96, 99; EX1003, ¶¶184-185.

A POSA would have been motivated to modify the Balasubramanian-Chen-Sinha(-Bogineni) service provider to verify that an RCS message originates from the merchant device, as taught by Jakobsson, to reduce prevent phishing attempts. EX1003, ¶186.

A POSA would have had a reasonable expectation of success. EX1003, ¶187. Jakobsson explains that its classification platform may operate as a standalone device or be incorporated into existing system components and may be implemented by service providers. EX1015, ¶¶38, 41. Balasubramanian’s service provider is capable of performing the functions of Jakobsson’s service provider platform 200. EX1003, ¶187.

Finally, Jakobsson teaches implementation using processors, memory, and computer-readable storage media. EX1015, ¶31. As discussed above, Balasubramanian's service provider includes those same components. Sections V.E, V.G. Thus, a POSA would have understood that Balasubramanian's service provider could readily perform Jakobsson's verification functions without undue technical difficulty. EX1003, ¶188. The combination merely applies a known verification technique to a known messaging system to achieve the predictable (yet improved) result of detecting phishing communications. *Id.*; EX1015, ¶33.

B. Claims 6, 12, 19

Balasubramanian-Chen-Sinha(-Bogineni)-Jakobsson teach these claims. EX1003, ¶¶189-192.

Jakobsson discloses techniques for detecting phishing-attempts. EX1015, ¶33. When platform 200 receives a communication, it evaluates information including "the sender/originator of the communication." EX1015, ¶48. A POSA would have been motivated to modify Balasubramanian's service provider to perform platform 200's functions, including evaluating the sender/originator of the RCS message ("*determining a sender of the RCS message*"). Section VIII.A; EX1003, ¶190.

Platform 200 verifies the sender/originator of the communication. EX1015, ¶¶54, 96. If the sender is unauthorized, the process transfers to a warning module (*“responsive to failing to authorize the determined sender of the RCS message”*). EX1015, ¶¶96, 99, claim 1. The warning module sends a warning (e.g., by email, SMS) to “a user associated with [a] message recipient” (*“delivering, ..., an SMS message indicating a warning about the RCS message”*). EX1015, ¶99, claim 2. Jakobsson explains that the message recipient “corresponds to an account or mail box where a message will be delivered.” *Id.* Thus, a POSA would have understood that the warning module sends the warning to the user. EX1003, ¶191.

Finally, Jakobsson’s warning can explain the message was filtered, provide statistics regarding the message or sender, and include “other information related to or explaining scam messages.” EX1015, ¶99. When this occurs, the message may be withheld and the warning sent instead. A POSA would have found it obvious to send the warning according to the message delivery schedule so the user receives information about the undelivered message (*“delivering, according to the scheduled delivery”*). *Id.*; EX1003, ¶192.

**IX. GROUND 2A: SPINDLER-LONG-WANG RENDERS OBVIOUS
CLAIMS 1-2, 7-8, 13-15, 20.**

A. Motivation to Combine

A POSA would have been motivated to modify Spindler in view of Long and Wang to arrive at the techniques claimed by the '165 patent. EX1003, ¶¶193-206.

Spindler, Long, and Wang are in the same field of endeavor as each other and the problem addressed by the '165 patent (e.g., facilitating e-commerce transactions via mobile devices), and are thus analogous art. EX1006, ¶¶2-3, 9, 31; EX1001, 1:41-54; EX1014, ¶12; EX1013, 2:48-51; EX1003, ¶194.

Spindler teaches dynamically generating customized content (i.e., “*second document*”) for subscribers that facilitates and transactions and improves the user experience. EX1006, ¶¶6, 37, 46. However, as discussed above, Spindler does not disclose “*generating a ... message comprising the content.*” Section IV.F.1. A POSA also would have recognized browser-based access can be limited by device capabilities (e.g., no web browser) or connection issues (e.g., weak or temporarily lost connections) and therefore would have looked to the prior art for specific techniques for extending Spindler’s teachings to delivering the content to mobile devices without relying on a web browser. Section V.A; EX1003, ¶195. Long is such a reference.

Long addresses similar e-commerce usability problems by using deeplinks that open a mobile messaging application with transaction information pre-populated for the user. EX1013, 1:32-44, 3:4-9, 7:4-8. This pre-populated information allows users to “initiate a process to purchase a product or service from the recipient when the message is sent,” simplifying the transaction to a sequence of only two clicks by the user. *Id.*, 3:28-34, 3:65-4:2. Long’s process results in an “improved user experience and engagement when interacting with the mobile device.” *Id.*, 1:40-44.

Long, like Spindler, describes a technique for “completing mobile subscriptions, communications, and/or purchases.” EX1013, 2:48-54. Long’s technique begins when a user of a mobile device clicks “a custom-rendered deeplink” in a promotional message, e.g., on a mobile website, application, advertisement, or in a text message. *Id.*, 3:1-7, 6:57-60. Clicking the deeplink causes a server to “initiate a messaging application at the user mobile device 150 with a message pre-populated with purchase or subscription information.” *Id.*, 7:4-8. The information for the message “can be communicated to the messaging application using the deeplink” and may include shopping cart, product, and pricing information. *Id.*, 3:19-20, 15:28-31. Thus, in Long, the message generated at the messaging application itself comprises the content of interest (e.g., the

product and purchase information), which is distinct from the link (i.e., the action) that the user selects to cause that message to be generated. EX1003, ¶197.

A POSA would have been motivated to incorporate Long’s deeplinking technique into Spindler for the predictable result of an e-commerce technique having reduced user friction and increased conversion of sales. EX1003, ¶198. Both references seek to improve the e-commerce user experience. EX1013, 1:32-44; EX1006, ¶¶4-6. Both techniques send links associated with customized content to a user’s mobile device. EX1013, 6:57-66; EX1006, ¶¶34-35. Activating the link enables a purchase or subscription transaction. EX1013, 7:11-16; EX1006, ¶37. Unlike Spindler, which links to a “customized second document” that “allows completion of [a] given transaction,” EX1006, ¶37, Long’s technique generates a message that itself contains the customized transaction content in the user’s mobile messaging application, so that the user can complete the transaction with just one more click. EX1013, 15:22-37.

A POSA would also have had a reasonable expectation of success because the modification would have involved only the routine application of Long’s well-known “click-to-text” communication scheme to the application of “purchasing one or more tickets to an upcoming event” described by Spindler. EX1013, 7:4-17; EX1006, ¶37. Long’s communication scheme requires nothing more than the

electronic device 110, client 404, and ADDP 410 already disclosed by Spindler.

EX1006, ¶¶31, 80-81; EX1003, ¶199.

In Spindler-Long, a POSA would have been motivated to implement Spindler’s “link to the customized second document” with Long’s deeplink, such that activating the link opens the text messaging application pre-populated with transaction content (e.g., event tickets, shopping cart information, etc.) from the customized second document. EX1006, ¶¶34-35; EX1013, 15:22-37; EX1003, ¶200. A POSA would have understood this modification would allow the user to complete a transaction through the messaging application (as in Long) rather than navigating to a separate webpage (as in Spindler) thereby providing the “improved user experience and engagement” explicitly taught by Long. EX1013, 1:32-44, 3:40-45; EX1003, ¶200.

In Spindler-Long, a POSA would have found it obvious to perform user authentication and verification “responsive to receiving the requested authorization data.” *See, e.g.*, EX1001, claim 1. Spindler conditions the provision of transaction content on successful authentication. EX1006, ¶¶37-38, 78. Long discloses the same sequence. EX1013, 15:58-16:2, 16:17-22. A POSA would have been motivated to preserve this authenticate-first ordering in the combination—performing Spindler’s verification upon activation of Long’s deeplink, before the message comprising the content is generated and rendered at the user’s device—to

prevent the “fraud and other criminal activity” that “undermines people’s trust,” consistent with Spindler’s stated purpose. EX1006, ¶4; EX1003, ¶201.

Spindler also does not disclose the well-known use of machine learning to classify, schedule and deliver text messages, such as marketing messages for e-commerce. Section IV.F.1. Machine learning techniques were known to provide many benefits, such as providing more relevant content for subscribers, better targeting of potential transactions to subscribers, and improved engagement and reaction rates. EX1014, ¶¶46-48 (relevancy threshold), 40-43 (targeting relevant user group), 53 (adjusting relevancy levels); EX1003, ¶202. Thus, a POSA would have been motivated to further incorporate such well-known machine learning techniques into Spindler-Long, and would have looked to the prior art for guidance as to specific techniques to do so. EX1003, ¶202. Wang is such a reference.

Wang teaches “[m]essage distribution platforms may strive to improve the experience of clients and users involved in the message distributions through the platform,” using e.g., “[t]echniques for machine learning a message distribution platform.” EX1014, ¶¶13-14. Wang’s platform uses “various data regarding a user relevant to on-line shopping activities” to determine “a relevancy level between a user and an advertisement content.” *Id.*, ¶¶17, 48. Users may be grouped together and scheduled to receive delivery of one or more advertisements based on the relevancy level. *Id.*, ¶¶39, 41. In addition, “adjusting unit 114 may determine an

adjusted grouping criterion to form a new target user group,” and the “relevancy score threshold of each advertisement item” may be “dynamically adjust.” *Id.*, ¶¶55, 59; EX1003, ¶203.

A POSA would have been motivated to modify Spindler-Long in view of Wang for the predictable result of an e-commerce technique that better optimizes advertising messages sent to users. EX1014, ¶13; EX1003, ¶204. Spindler teaches providing event information to subscribers via a mobile device. EX1006, ¶¶11, 30. Wang teaches providing advertising messages to users of mobile devices. EX1014, ¶49. A POSA would have realized that, like in Wang, the message comprising the content in Spindler-Long could be scheduled and delivered using a machine learning algorithm, to thereby optimize the messages sent to the subscribers in the Spindler-Long system. EX1003, ¶204.

A POSA would have had a reasonable expectation of success in making this modification because it would have involved only the application of Wang’s use machine learning and its scheduling and distribution scheme, which Wang specifically describes as application to mobile devices, to the subscription-based system described by Spindler-Long. EX1014, ¶¶49-50; EX1003, ¶205.

In Spindler-Long-Wang, a POSA would have been motivated to use Wang’s machine-learning techniques to determine “a relevancy level” between users and advertisement content, identify target user groups, and schedule delivery of

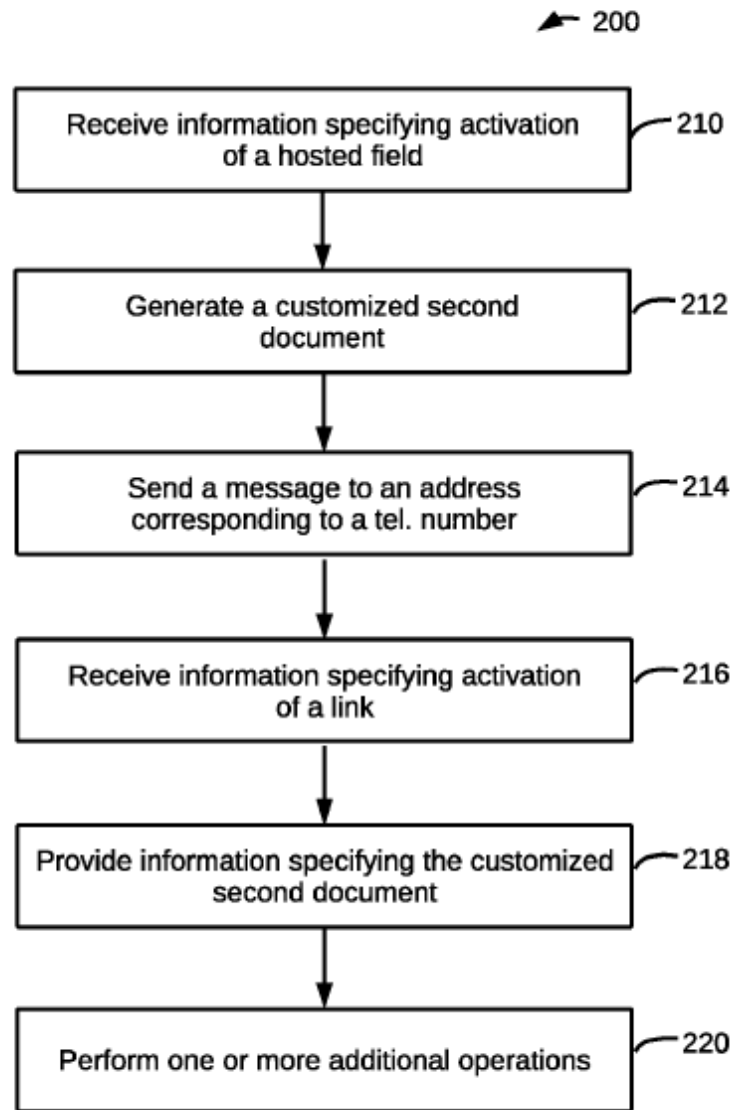
messages to those groups. EX1014, ¶¶41-42, 48; EX1003, ¶206. A POSA would have understood that applying those techniques to the Spindler-Long system would improve user and client experience in message distribution. EX1014, ¶13; EX1003, ¶206. In the combination, scheduling unit 130 would determine the delivery schedule for that message, including its time frame, and load balancing unit 112 would then control delivery of the message according to that schedule. EX1014, ¶¶40, 44; EX1003, ¶206.

B. Independent Claim 1

1. [1.P]

Spindler discloses the preamble. EX1003, ¶¶207-208.

Specifically, Spindler's "method 200" "may be performed by a computer" ("*computer-implemented method*"). EX1006, ¶48, FIG. 2. By performing method 200, Spindler's cloud-based computer 112 "dynamically generates [the] customized second document." *Id.*, ¶¶28, 31, 48-51; EX1003, ¶208.



EX1006, FIG. 2.

2. [1.A]

Spindler discloses element [1.A]. EX1003, ¶¶209-211.

Spindler discloses “*at least one authorized recipient.*” EX1003, ¶210. The ’165 patent describes that an “*authorized recipient*” “may be a subscriber that has authorized marketing and/or other promotional type messages.” EX1001, 40:19-23. Spindler’s computer “receives information” from a user (“*authorized recipient*”)

specifying a willingness to receive messages, which Spindler calls an “opt-in.”

EX1006, ¶¶28, 32, 88. As a result, Spindler’s subscriber receives promotional messages regarding “transactions (such as one or more upcoming events) of interest to the individual or subscriber.” *Id.*, ¶34. EX1003, ¶210.

Spindler discloses “*receiving a request to provide content*” to the subscriber. EX1003, ¶211. When a subscriber indicates “they would like to receive text messages,” this “input may be provided to the ADDP.” EX1006, ¶71. In response, Spindler’s computer generates and sends messages containing “a link to the customized document showing events of interest” (“*content*”). *Id.*, ¶¶34, 72. Thus, Spindler’s computer receives the subscriber’s request to receive text messages regarding content of interest (“*receiving a request to provide content to at least one authorized recipient*”). EX1003, ¶211.

3. [1.B]

Spindler-Long teaches element [1.B]. EX1003, ¶¶212-215.

Spindler discloses “*generating a ... message comprising at least one action associated with the content.*” After receiving the request, Spindler’s computer “dynamically generates a customized second document” containing information about transactions of interest to potential subscriber. EX1006, ¶¶28, 34, 49. This information is the claimed “*content.*” Spindler’s computer sends the subscriber a message “includ[ing] a link to the customized second document.” *Id.*, ¶50. The link

is an “*action*” associated with that content because “[t]he message may include an actionable item, e.g., a link to purchase tickets or view a customized webpage.” *Id.*, ¶84. Thus, Spindler’s message “*compris[es] at least one action*” (the link/actionable item) “*associated with the content*” (the customized document and its transaction information). EX1003, ¶213. In Spindler-Long, Spindler’s link is implemented as Long’s deeplink, which remains the claimed “*action*” associated with, but distinct from, the “*content*” (the transaction information), which is pre-populated into the message generated upon activation of the deeplink. Sections IX.A, IX.B.8; EX1003, ¶213.

Spindler’s message is “*a customized message*.” EX1003, ¶214. The message includes “a unique e-commerce micro-website ... link” generated for a specific subscriber. EX1006, ¶82. The linked webpage is “created de novo for each subscriber” and tailored to the specific interests of the subscriber. *Id.*, ¶¶40, 66. Because each message includes a unique, subscriber-specific link, the message is “*a customized message*.” EX1003, ¶214.

A POSA would have understood that, before sending the message, Spindler’s computer first “*generat[es]*” the message. *See, e.g.*, EX1006, ¶60, FIG. 3 (processor 320 instructs interface circuit 318 to send message 326, “such as an SMS message,” including the link). EX1003, ¶215.

4. [1.C]

Spindler discloses element [1.C]. EX1003, ¶¶216-217.

Spindler's computer "*caus[es] transmission of the customized message*" by "sending a message ... to an address corresponding to the telephone number." EX1006, ¶¶34, 50 (operation 214). The telephone number is associated with the subscriber's electronic device, which may be "a cellular telephone," "a tablet computer," or other mobile device ("*a mobile computing device associated with the at least one authorized recipient*"). *Id.*, ¶¶31-32, 106. For example, the message may be an SMS message received and displayed on the subscriber's cellular telephone. *Id.*, ¶¶34-35, ¶83; EX1003, ¶217.

5. [1.D]

Spindler discloses element [1.D]. EX1003, ¶¶218-220.

Spindler discloses "*receiving an indication associated with selecting the at least one action.*" EX1003, ¶219. If the subscriber [] **activates the link**, the **electronic device provides to computer 112 information "specifying activation of the link."** EX1006, ¶¶35, 51 (operation 216). Likewise, "processor 312 may **provide information 332**" that "**specif[ies] activation of the link.**" *Id.*, ¶¶61-62. This information is "*an indication associated with selecting the at least one action*" (the link/actionable item). EX1003, ¶219.

“*Responsive to*” receiving such an indication, Spindler’s computer “*request[s] authorization data corresponding to the at least one authorized recipient.*” After receiving the activation information and in delivering the customized content, Spindler’s ADDP may perform a “security check and hold.” EX1006, ¶90. The subscriber may be required to provide authorization data such as “4-digit PIN code” sent “via MMS/SMS” or a “hot cookie” stored the subscriber’s device.” *Id.*, ¶¶90, 92. Spindler may also require a client ID, client keyword, client third-party API platform identifier, and subscriber telephone number. *Id.*, ¶91. If authentication succeeds, “an access link is generated 512.” *Id.*, ¶92. Thus, Spindler’s PIN code and hot cookie are “*authorization data*” corresponding to the subscriber (“*authorized recipient*”). EX1003, ¶220.

6. [1.E.1]

Spindler discloses element [1.E.1]. EX1003, ¶¶221-222.

After (“*responsive to*”) receiving the requested authorization data—e.g., the PIN code or hot cookie—Spindler’s system verifies the identity of the subscriber and/or the electronic device. For example, Spindler explains that the identity of the subscriber is confirmed via 2FA form 616 (“*verifying that the authorization data correlates to an identity of the at least one authorized recipient*”) and “[o]nce the identity is confirmed using the hot cookie,” which is stored on the subscriber’s device, (“*verifying that the authorization data correlates to ... an identity of the*

mobile computing device) “the commerce is validated ..., which may allow financial information (such as credit-card charges) to process.” EX1006, ¶93. Thus, Spindler verifies both the identity of the authorized recipient (via the 2FA form) and the mobile computing device (via the hot cookie). EX1003, ¶222.

7. [1.E.2]

Spindler-Long-Wang renders obvious element [1.E.2]. EX1003, ¶¶223-225.

As discussed above, a POSA would have been motivated to modify Spindler-Long in view of Wang to schedule delivery of the content message to subscribers. Section IX.A. Wang teaches scheduling messages to “a target group of users” determined based on a “grouping criterion” (“*classification*”) which may include a threshold relevancy level/score of a user to an advertisement item. EX1014, ¶41. Thus, Wang teaches determining “*a classification of the at least one authorized recipient.*” EX1003, ¶224.

In Spindler-Long-Wang, the classification is determined “*based on the identity of the at least one authorized recipient or the identity of the mobile computing device.*” To determine *each user’s* relevancy level, Wang’s historical behavior determination unit collects historical shopping data, including “the user’s past shopping behavior/experience.” EX1014, ¶¶47, 63, 66. Because this information is *particular to each user*, a POSA would have understood, or at least found it obvious, that it is associated with the user’s identity. EX1003, ¶225.

Accordingly, Wang’s “grouping criterion” based on a user’s historical shopping behavior is at least a classification “*based on the identity of the at least one authorized recipient.*” *Id.*

8. [1.E.3]

Spindler-Long renders obvious element [1.E.3]. EX1003, ¶¶226-230.

Spindler’s computer may “**send a message**” to a telephone number, where “**the message includes a link to the customized second document.**” EX1006, ¶34; Section IX.B.3. In Spindler-Long, Spindler’s link is implemented as Long’s deeplink such activating the link opens a messaging application on the user’s mobile device “with a message pre-populated with purchase or subscription information.” EX1013, 3:4-9, 7:4-8; Section IX.A. The purchase information may include a shopping cart identifier, product information, and pricing information. EX1013, 15:28-31. This purchase information corresponds to the transactions of interest in Spindler’s customized second document (“*the content*”). EX1006, ¶¶28, 34, 49; Section IX.B.3. Thus, in the combination, the generated message does not merely include a link to the content; rather, the message is itself pre-populated with the content and is therefore a “*message comprising the content.*” EX1003, ¶227. A POSA would have understood, or at least found it obvious, that the message is “*generat[ed]*” at the user’s mobile device when activation of Long’s deeplink opens the messaging application and pre-populates the message. *Id.*

Moreover, Long discloses that the click-to-text server itself generates and sends messages comprising the content to the user's mobile device. Long's server can "generate a response message" including the URI of the second user interface and send it to the mobile device to open the interface with a message and phone number pre-populated. EX1013, 10:23-28, Abstract (server "sending a HTTP response message including the URI of the second user interface and the purchase information" to the mobile device). Upon receiving the message, the click-to-text server authenticates the user based and determines whether the user is a new or existing customer. *Id.*, 15:58-16:2. For existing customers, Long's server sends messages containing shopping cart, shipping, and payment information. *Id.*, 16:17-22, 17:37-43, FIGs. 5G, 6G. These messages are "*generat[ed]*" after Long's server authenticates the user, "*compris[e] the content*" (e.g., the product, price, shipping, and payment information), and (3) are delivered to the user's mobile device. EX1003, ¶228. Thus, whether the message comprising the content is pre-populated at the mobile device upon activation of the deeplink or generated and sent by the server, Spindler-Long renders obvious generating a "*message comprising the content*" responsive to authorization of the user. *Id.*

In either implementation, the message comprising the content is generated "*responsive to receiving the requested authorization data.*" EX1003, ¶229. Claim 1 requires generating the RCS message, along with the verifying and determining

steps of elements [1.E.1]-[1.E.2], “*responsive to receiving the requested authorization data.*” EX1001, claim 1. Spindler-Long satisfies that sequence. Spindler requires authentication and confirms the recipient’s telephone number before “dynamically generating the customized webpage” from which the content is drawn. EX1006, ¶¶37-38. Likewise, Long authenticates the user before transmitting messages containing cart, shipping, and payment information. EX1013, 15:58-16:2, 16:17-22. A POSA therefore would have generated the message comprising the content only after the recipient was authorized. Section IX.A; EX1003, ¶229.

Further, Spindler-Long renders obvious that the generated message is an “*RCS message.*” EX1003, ¶230. In the combination, the message appears in the native messaging application of the user’s mobile device: Long explains that “a proper deeplinking ... can direct the user to the native text messaging application.” EX1013, 10:36-40; *see also id.*, 3:4-9, 7:4-8. A POSA would have known, before the ’165 patent, RCS was one of a finite number of widely used text-messaging protocols for such native messaging applications, alongside SMS and MMS. EX1003, ¶230. A POSA would have found it obvious to implement the message generated in the mobile device’s messaging application as a well-known RCS message to obtain RCS’s additional functionality. *Id.* At a minimum, a POSA would have found it obvious to try the RCS protocol as one of the finite number of

known, predictable options for messages generated in a native messaging application. *Id.*

9. [1.F]

Spindler-Long-Wang renders obvious element [1.F]. EX1003, ¶¶231-235.

Spindler-Long-Wang renders obvious “*scheduling ... delivery of the RCS message to the mobile computing device.*” EX1003, ¶232. Wang describes a message distribution system in which messages are scheduled for delivery “to users of a user group.” EX1014, Abstract, ¶50. Wang’s scheduling unit determines an advertisement delivery schedule, including a time frame, display slot, and delivery budget for delivering the advertisement to a user in the target group. *Id.*, ¶¶40, 50. A load balancing unit causes delivery of the advertisement based on that schedule. *Id.*, ¶51. Wang further teaches delivering these messages to a user’s mobile device. *Id.*, ¶49. Thus, in Spindler-Long-Wang, the RCS message comprising the content (element [1.E.3]), would be scheduled for delivery to the user’s mobile computing device (e.g., a smart phone), as taught by Wang. EX1003, ¶232. Wang separates the scheduling of delivery from the delivery itself—the scheduling unit determines the delivery schedule and the load balancing unit controls delivery based on that schedule. *Id.*; EX1014, ¶¶40, 44, 51.

This scheduled delivery is consistent with Spindler-Long. The message comprising the content is “delivered” when it is rendered in the device’s messaging

application upon activation of Long's deeplink. EX1013, 3:4-9, 7:4-8; Section IX.B.8. In the combination, Wang's machine-learning scheduler determines when that delivery occurs. EX1014, ¶¶50-51; EX1003, ¶233.

Spindler-Long-Wang renders obvious that the delivery is scheduled “*using a machine learning model and based on the determined classification.*” EX1003, ¶234. Wang describes a machine learning system for scheduling and delivering messages to groups of users. EX1014, Title, Abstract, ¶¶14, 40. Wang further explains that messages may be scheduled to a target group determined based on “grouping criterion.” EX1014, ¶41; Section IX.B.7. Thus, Wang teaches a machine learning system that determines user classifications and uses those classifications to generate a delivery schedule for messages. EX1003, ¶234.

C. Claim 2

Spindler-Long-Wang renders obvious claim 2. EX1003, ¶¶236-237.

Spindler-Long-Wang renders obvious “*delivering the RCS message to the mobile computing device according to the scheduled delivery.*” Wang teaches that, after a delivery schedule is determined, load balancing unit 112 “**causes the advertisement to be delivered to users**” through relevant applications “**based on the received delivery schedule.**” EX1014, ¶51. Wang further explains that the “advertisement item” may be a message delivered to a user's “Mobile Computing Device 210-3.” *Id.*, ¶49. Thus, in Spindler-Long-Wang, the RCS message

comprising the content (Section IX.B.8) would be delivered to the user’s mobile device according to the scheduled delivery. EX1003, ¶237.

D. Claim 7

Spindler discloses claim 7. EX1003, ¶¶238-239.

Activation of Spindler’s link implemented as Long’s deeplink (“*the at least one action associated with the content*”) causes the computer to send “information specifying the customized second document” to the user device, which “may allow **completion of a given transaction**” such as purchasing event tickets. EX1006, ¶¶36, 52. Thus, Spindler’s link implemented as Long’s deeplink “*comprises one or more options to: perform a transaction.*” EX1003, ¶239.

E. Independent Claim 8

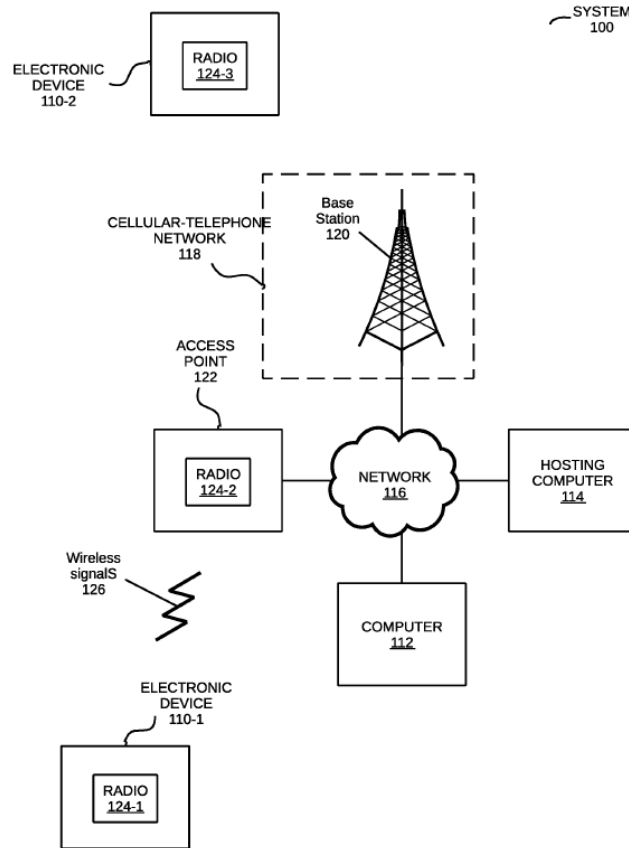
1. [8.P]

Spindler discloses the preamble. EX1003, ¶¶241-243.

Spindler discloses **system 100**, which includes electronic devices 110 (e.g., a cellular telephone), hosting computer 114, network 116, and cloud-based computer 112 that performs method 200. EX1006, ¶¶31, 48, FIG. 1; EX1003, ¶242.

Spindler’s system is an “*automated messaging subscription and distribution system.*” Subscribers opt in to receive text messages by selecting a hosted field option indicating they wish to receive text messages”). EX1006, ¶¶71, 88. Upon opt-in, the customer becomes a subscriber and is “added to the Amplify data

structure” (“*subscription*”). *Id.* The ADDP then automatically generates and distributes messages to subscribers. *Id.*, ¶¶71-73. EX1003, ¶243.



EX1006, FIG. 1.

2. [8.A]

Spindler discloses element [8.A]. EX1003, ¶¶244-245.

Spindler’s computer 112 includes a **processor 320** (“*a processor*”), which “may dynamically generate a customized second document 322” and “may instruct 324 interface circuit 318 to send a message 326 ... to an address corresponding to the telephone number.” EX1006, ¶¶59-60, FIG. 3; *see also id.*, ¶97 (processing subsystem 810 “can include one or more microprocessors”); EX1003, ¶245.

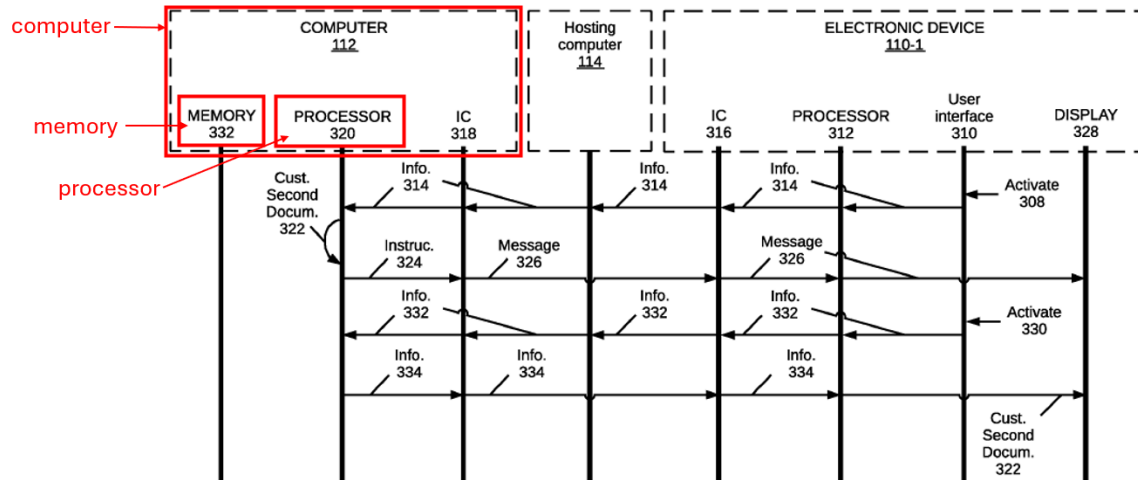


FIG. 3

EX1006, FIG. 3 (abridged, annotated).

3. [8.B]

Spindler discloses element [8.B]. EX1003, ¶¶246-247.

Spindler’s computer 112 includes **memory 332** (“*memory*”). EX1006, FIG. 3 (reproduced above). The memory may be “configured to store program instructions” such that, “when the program instructions are executed by the processor, they cause the computer to perform” operations including receiving the information specifying activation of the hosted field, dynamically generating the customized second document, sending the message, and providing the customized second document upon activation of the link. *Id.*, ¶¶98, 113; EX1003, ¶247.

4. [8.C]–[8.H]

Spindler-Long-Wang discloses or renders obvious these elements for the reasons explained regarding claim elements [1.A]–[1.F]. Section IX.B; EX1003, ¶¶248-249.

F. Claim 13

Spindler-Long-Wang discloses or renders obvious claim 13 for the same reasons as explained for claim 7 above. Section IX.D; EX1003, ¶250.

G. Independent Claim 14

1. [14.P]

Spindler discloses the preamble. EX1003, ¶¶252-253.

Spindler discloses “a non-transitory computer-readable storage medium for use in conjunction with a computer, the computer-readable storage medium storing program instructions that, when executed by the computer, cause the computer to carry[] out one or more operations,” including the operations of method 200.

EX1006, ¶¶98, 127; EX1003, ¶253.

2. [14.A]–[14.F]

Spindler-Long-Wang discloses or renders obvious these elements for the reasons explained regarding claim elements [1.A]-[1.F]. Section IX.B; EX1003, ¶¶254-255.

H. Claims 15, 20

Spindler-Long-Wang discloses or renders obvious these claims for the same reasons as respectively explained for claims 2 and 7 above. Sections IX.C-IX.D; EX1003, ¶256.

**X. GROUND 2B: SPINDLER-LONG-WANG-BOGINENI RENDERS
OBVIOUS CLAIMS 1-2, 5, 7-8, 11, 13-15, 18, 20**

A. Motivation to Combine

Several claims recite RCS messages. As explained above, such RCS messages are rendered obvious by Spindler. To the extent Patent Owner argues that Spindler does not teach or suggest RCS messages, Bogineni does. A POSA would have been motivated to modify Spindler-Long-Wang further in view of Bogineni to include RCS messages. EX1003, ¶¶257-262.

To start, Bogineni, Spindler, Long, and Wang are in the same field of mobile device communication as the '165 patent (e.g., facilitating e-commerce via messages to mobile devices), and are thus analogous art. *Compare* EX1009, 1:6-7, 1:47-2:22, *with* EX1001, Abstract, 5:46-48; EX1006, ¶30; EX1014, ¶¶14-15; EX1013, 2:48-51; EX1003, ¶258.

In Spindler-Long-Wang, the text messages sent to a user “may include [an SMS] message.” EX1006, ¶34. That message is generated in, and rendered by, the native messaging application of the user’s mobile device. Section IX.B.8; EX1013, 10:36-40. However, neither Spindler nor Long discusses any details about how these messages would be implemented. EX1003, ¶259.

As explained above, one well-known technique for sending messages to mobile devices (like Spindler’s electronic device) is via RCS messages, as taught by Bogineni. Section VI.A; EX1003, ¶260. A POSA would have been motivated to

implement RCS messages as the specific text message type the Spindler-Long-Wang text messages to provide the additional functionality available with RCS messages. *Id.*

Similar to Balasubramanian, Spindler's electronic devices, hosting computer, and cloud-based computer can be implemented as computer systems and the network can be the Internet. EX1006, ¶¶30-31, 80. Thus, a POSA would have had a reasonable expectation of success in further modifying Spindler-Long-Wang in view of Bogineni for the same reasons discussed in Section VI.A above. EX1003, ¶261.

The combination would merely amount to combining prior art elements according to known methods to yield the predictable (yet improved) result of sending text messages having the additional functionality available with RCS messages. EX1009, 1:7-12; EX1003, ¶262.

B. Claims 1-2, 7-8, 11, 13-15, 20

Spindler-Long-Wang-Bogineni teaches these claims. EX1003, ¶¶263-265. As discussed above, Spindler-Long-Wang teaches, or at least renders obvious, these claims. Section IX. To the extent Patent Owner argues that Spindler-Long-Wang does not teach an RCS message as recited in claims 1-2, 8, and 14-15, the combination with Bogineni does. Specifically, in the combination, the message comprising the content that is generated in the mobile device's messaging

application (Section IX.B.8) is implemented as “[an RCS] message” in order to provide the additional functionality that RCS messages provide. EX1009, 1:7-12; Section X.A; EX1003, ¶264.

C. Claims 5, 11, 18

Spindler-Long-Wang-Bogineni teaches these claims. EX1003, ¶266. The combination renders obvious the use of RCS messages. *Id.* As explained in Ground 1B (Section VI.C), Bogineni teaches RCS messages including “*send and receive indicators provided in a user interface of the mobile computing device,*” and a POSA would have understood that Bogineni’s indicators “*indicate real time typing between an RCS message provider and the mobile computing device or between another computing device and the mobile computing device,*” because this is part of the RCS standard. EX1003, ¶266; Section VI.C. Therefore, because Spindler-Long-Wang-Bogineni implements Spindler’s text messages as RCS messages, the combination renders obvious these claims. *Id.*

**XI. GROUND 2C: SPINDLER-LONG-WANG(-BOGINENI)-BURR
RENDER OBVIOUS CLAIMS 3-4, 9-10, 16-17.**

A. Motivation to Combine

Independent claims 1, 8, and 14 would have been obvious over Spindler-Long-Wang (Ground 2A) and/or Spindler-Long-Wang-Bogineni (Ground 2B). Sections IX, X. A POSA would have been motivated to further modify these

combinations in view of Burr to include “*a carousel of selectable options...*” as recited in dependent claims 3, 9, and 16. EX1003, ¶¶267-273.

To start, Spindler, Long, Wang, Bogineni, and Burr are in the same field of mobile device communication and e-commerce as the ’165 patent (e.g., facilitating e-commerce transactions via mobile devices), and are thus analogous art. *Compare* EX1016, Title, ¶¶2, 29, 49, 79-80, *with* EX1001, Abstract, 5:46-48; EX1006, ¶30; EX1014, ¶¶14-15; EX1009, 1:6-7, 1:47-2:22; EX1013, 2:48-51; EX1003, ¶268.

In Spindler-Long-Wang(-Bogineni), the customized content presented to Spindler’s subscriber may include multiple selectable transaction opportunities that the user may navigate through.” EX1006, ¶¶72, 83. However, Spindler does not discuss any details about how these multiple selectable options would be arranged and displayed within the user interface of the user’s mobile computing device. EX1003, ¶269. Thus, a POSA would have looked to the prior art for guidance as to specific user-interface formats that could be used for presenting multiple selectable purchase options. *Id.*

One well-known technique for displaying multiple product options to a consumer on a computing device is via a carousel, such as the one taught by Burr. EX1003, ¶270; *see* Section VII.A.

A POSA would have been motivated to implement Spindler’s multiple selectable transaction options as a carousel of selectable options, as taught by Burr.

EX1003, ¶271. This modification would predictably result in a user interface that presents “a limited, but scrollable subset” of options most relevant to the user.

EX1016, ¶¶21, 60. A “scrollable” carousel would be particularly beneficial on Spindler’s mobile devices, which have limited display areas. EX1003, ¶271. It would also further Spindler’s goal of avoiding “a cumbersome user experience” by easily providing content that is relevant to the subscriber and “immediately actionable,” and encouraging the subscribers to complete transactions. *Id.*; EX1006, ¶¶6, 40.

Furthermore, a POSA would have had a reasonable expectation of success in modifying Spindler-Long-Wang(-Bogineni) further in view of Burr. EX1003, ¶272. Burr’s carousel is displayed in ordinary webpages on consumer devices, including e.g., cell phones. EX1016, ¶49. Spindler’s mobile computing devices can display such webpages. EX1006, ¶¶50-51. Indeed, Spindler’s customized content is itself a dynamically generated webpage that is rendered in a browser on the subscriber’s cellular telephone. *Id.*, ¶¶34, 83. Implementing Burr’s carousel in that webpage would have required only conventional user-interface and webpage-design techniques. EX1003, ¶272.

In Spindler-Long-Wang(-Bogineni)-Burr, a POSA would have been motivated to display Spindler’s multiple transaction opportunities as a carousel displaying “a limited, but scrollable subset” of items. EX1016, ¶¶47, 60, 65, 67;

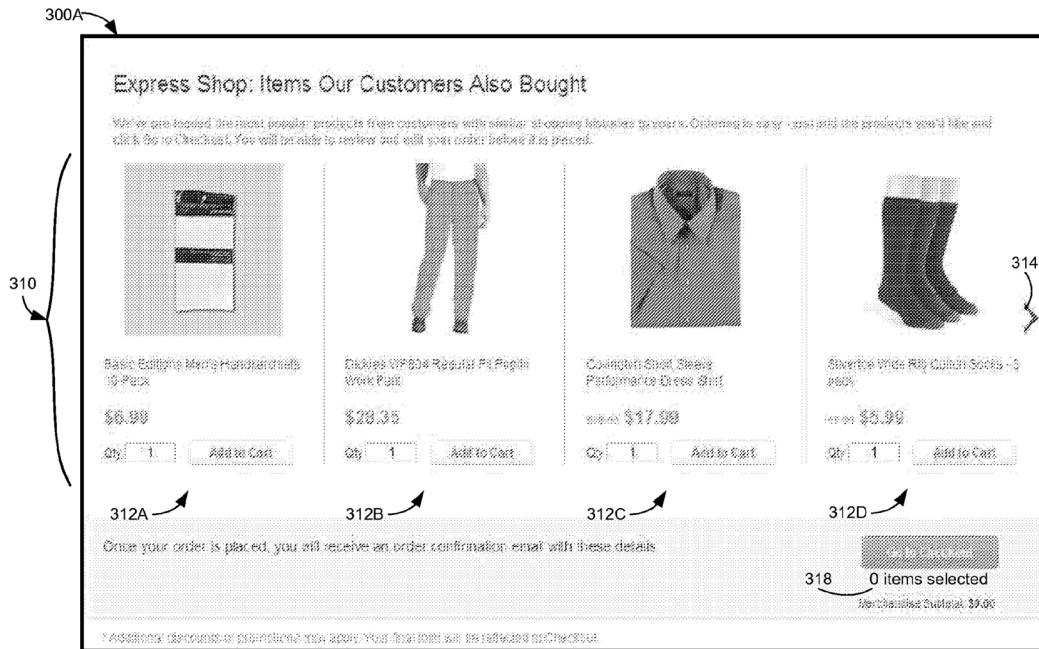
EX1006, ¶¶72, 83, 90. This modification would enable subscribers to order promoted items “with minimum additional effort” while increasing the likelihood that the displayed items are of interest to the user. EX1016, ¶21. The combination merely combines prior art elements according to known methods to yield the predictable (yet improved) result of presenting Spindler’s customized, selectable transaction options as “a carousel ... that display[s] a limited, but scrollable subset of” items. EX1016, ¶60. EX1003, ¶273.

B. Claims 3, 9, 16

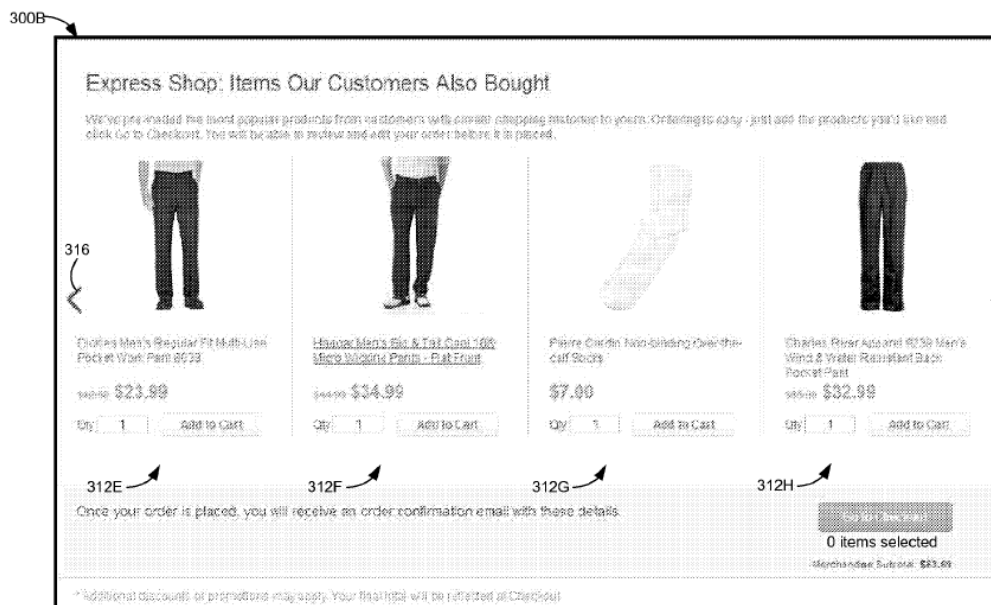
Spindler-Long-Wang(-Bogineni)-Burr render obvious these claims. EX1003, ¶¶274-279.

The further combination with Burr renders obvious that “*the content comprises a carousel of selectable options in a user interface of the mobile computing device.*” EX1003, ¶275. Spindler’s customized document includes one or more transactions of interest and is displayed in a browser on the subscriber’s cellular telephone with “options to navigate through and choose to commence an e-commerce transaction” (“*in a user interface of the mobile computing device*”). EX1006, ¶¶72, 83; Section XI.A.

As discussed above, Burr teaches using “a carousel ... that display[s] a limited, but scrollable subset” of items (“*a carousel of selectable options*”). EX1016, ¶60; EX1003, ¶276. Burr’s “carousel” is shown in Figures. 3A-3B:



EX1016, FIG. 3A.



EX1016, FIG. 3B.

In the combination with Burr, Spindler's customized document containing multiple transactions or event would be displayed as a "scrollable" "carousel" of items. EX1016, ¶60; Section XI.A. As taught by Burr, each selectable option may

include a product image, description, price, quantity box, and “Add to cart” button, with arrows allowing users to scroll among options. EX1016, ¶¶47, 60, 67-69, FIGS. 3A-3B; Section XI.A. Because the carousel is rendered in a browser on the subscriber’s cellular telephone, the content comprises “*a carousel of selectable options in a user interface of the mobile computing device.*” EX1003, ¶277.

The combination with Burr renders obvious that the selectable options include “*performing at least one secure transaction.*” Claims 3, 9, and 16 recite that the “*selectable options*” include “*performing at least one secure transaction, scheduling an appointment, or resuming at least one abandoned user journey.*” EX1001, 47:9-15 (claim 3). Because the alternatives are disjunctive, “*performing at least one secure transaction,*” alone, satisfies these claims. EX1003, ¶278.

In the combination with Burr, selecting a carousel option would initiate Spindler’s e-commerce transaction, e.g., a ticket purchase, which is completed following security checks. EX1006, ¶¶83, 90-93; EX1016, ¶¶65-66; Sections IX.B.5-IX.B.6. This modification merely causes Spindler’s transaction process to begin upon selection of a carousel item. EX1003, ¶279. Burr likewise teaches that selecting a carousel option effects a secure transaction. EX1016, ¶¶62, 65-66. Thus, the carousel includes one or more options for “*performing at least one secure transaction.*” EX1003, ¶279.

C. Claims 4, 10, 17

Spindler-Long-Wang(-Bogineni)-Burr render obvious these claims. EX1003, ¶¶280-281.

In the combination with Burr, Spindler’s customized content, including the carousel of selectable options, is displayed on the subscriber’s cellular telephone (“*the content is provided in the user interface*”). Section XI.B; EX1006, ¶¶72, 83. Spindler further teaches that the content is rendered in a browser on the subscriber’s cellular telephone (“*the user interface is within a browser executing on the mobile computing device*”). EX1006, ¶83; *id.*, ¶¶34-35, 50-51. In the combination, the content is included in the RCS message (Section IX.B.8), but may also be accessed through a browser when available. EX1003, ¶281.

**XII. GROUND 2D: SPINDLER-LONG-WANG(-BOGINENI)
-JAKOBSSON RENDER OBVIOUS CLAIMS 6, 12, 19.**

A. Motivation to Combine

Independent claims 1, 8, and 14 would have been obvious in view of Spindler-Long-Wang (Ground 2A) and/or Spindler-Long-Wang-Bogineni (Ground 2B). Sections IX, X. A POSA would have been motivated to modify Spindler-Long-Wang(-Bogineni) further in view of Jakobsson to include sender verification and warning messages, as recited in dependent claims 6, 12, and 19. EX1003, ¶¶282-288.

To start, Spindler, Long, Wang, Bogineni, and Jakobsson are in the same field of mobile device communication as the '165 patent, (e.g., facilitating e-commerce transactions via mobile devices), and are thus analogous art. *Compare* EX1015, ¶¶33, 44, *with* EX1001, Abstract, 5:46-48; EX1006, ¶30; EX1014, ¶¶14-15; EX1009, 1:6-7, 1:47-2:22; EX1013, 2:48-51. EX1003, ¶283.

In Spindler-Long-Wang(-Bogineni), Spindler's customized messages are delivered to the subscriber's cellular telephone as text messages, and particularly as RCS messages. Section IX.B. Spindler recognizes that online transactions are susceptible to fraud and, accordingly, employs security measures against threats "such as SIM-case swapping or fraudulent use of a link." EX1006, ¶¶4, 78. Another well-known technique for protecting message recipients not discussed in Spindler is to verify the sender of a message and to take a security action when the sender cannot be verified. EX1003, ¶284. Thus, a POSA would have looked to the prior art for guidance for verifying message senders and protecting message recipients from unauthorized messages in Spindler's system. *Id.* Jakobsson is such a reference.

Jakobsson teaches that when a message sender cannot be verified, a warning module sends a warning to the recipient. Section VIII.A; EX1003, ¶¶285-286.

A POSA would have been motivated to further modify Spindler-Long-Wang(-Bogineni) in view of Jakobsson to protect subscribers from phishing

messages impersonating the system or its clients. EX1015, ¶¶33-34; EX1003, ¶287. Jakobsson's sender verification and warning techniques would merely add security measures that protect subscribers. EX1003, ¶287. The combination would further Spindler's goal of addressing "fraud and other criminal activity" that undermines user's willingness to conduct transactions online. EX1006, ¶4. A POSA also would have recognized that Spindler's messages, sent on behalf of authoritative entities such as third-party ticket or event providers, are exactly the type of communications Jakobsson identifies as targets for impersonation attacks. EX1006, ¶¶38, 67; EX1015, ¶33; EX1003, ¶287.

Furthermore, a POSA would have had a reasonable expectation of success in further modifying Spindler-Long-Wang(-Bogineni) in view of Jakobsson. EX1003, ¶288. Jakobsson's techniques expressly apply to the text messages taught by Spindler. *Compare* EX1015, ¶¶33, 44, *with* EX1006, ¶34. Jakobsson further explains that its techniques may be implemented as a process, apparatus, system, a computer program product, or a processor. EX1015, ¶31. Thus, modification would merely amount to combining prior art elements according to known methods to yield the predictable (yet improved) result of delivering the Spindler's text messages with sender verification and delivering an SMS warning about any message whose sender cannot be verified. EX1015, ¶¶34, 99; EX1003, ¶288.

B. Claims 6, 12, 19

Spindler-Long-Wang(-Bogineni)-Jakobsson render obvious these claims.
EX1003, ¶¶289-292.

The further combination with Jakobsson renders obvious “*determining a sender of the RCS message.*” Jakobsson’s platform processes the RCS message of Spindler-Long-Wang(-Bogineni) and evaluates “the sender/originator of the communication.” EX1015, ¶48; Section XII.A. Jakobsson further determines whether “the apparent sender” identified in the “‘from’ field” is “likely to correspond to the actual sender.” EX1015, ¶¶54, 100. Thus, the combination “*determin[es] a sender of the RCS message.*” EX1003, ¶290.

The further combination with Jakobsson renders obvious that, “*responsive to failing to authorize the determined sender of the RCS message, delivering ... an SMS message indicating a warning about the RCS message.*” EX1003, ¶291. Jakobsson teaches that, when a message is “not authenticated” with the expected digital signature, it likely is not from the purported sender (“*failing to authorize the determined sender*”). EX1015, ¶66; *see also id.*, ¶¶54, 100. In that event (“*responsive to*”), “processing transfers to a warning module” that sends a warning to the recipient. *Id.*, ¶99. The warning may be sent “by email, by SMS or conveyed in another appropriate electronic manner” (“*delivering ... an SMS message*”) and may describe the filtered message, message headers, and sender information, or

related statistics (“*indicating a warning about the RCS message*”). *Id.*; EX1003, ¶291.

The further combination with Jakobsson renders obvious delivered the SMS warning “*according to the scheduled delivery.*” As discussed above, delivery of the RCS message is scheduled by a machine learning model. Section IX.B.9; EX1003, ¶292. When the sender cannot be authorized, Jakobsson sends a warning in place of the withheld message. EX1016, ¶¶96, 99. Because the warning message replaces the scheduled message, it is likewise delivered “*according to the scheduled delivery.*” EX1003, ¶292.

XIII. GROUNDS FOR STANDING (37 C.F.R. § 42.104(A))

Petitioner certifies that the ’165 patent is available for IPR and Petitioner is not barred or estopped from requesting IPR of any ’165 patent claim.

XIV. MANDATORY NOTICES (37 C.F.R. § 42.8(A)(1))

Real Party-in-Interest (37 C.F.R. § 42.8(b)(1)): The real party-in-interest is Salesforce, Inc.

Related Matters (37 C.F.R. § 42.8(b)(2)): The ’165 patent is at issue in pending litigation *IQX Corp. v. Salesforce, Inc.*, Civil Action No. 7:26-cv-00213 (W.D. Tex.), filed May 28, 2026.

U.S. Patent Nos. 12,368,799; 11,876,924; and 12,438,978 are also at issue in the above litigation proceeding and are being challenged in the below concurrently filed IPRs:

Patent No.	Case No.
12,368,799	IPR2026-00475
11,876,924	IPR2026-00476
12,438,978	IPR2026-00478

The '165 patent claims the benefit of U.S. Patent Nos. 12,126,752; 11,876,924; and 11,765,262.

U.S. Patent Nos. 12,368,799; 12,438,978; 11,949,806; and 12,647,506, and pending U.S. Patent Application Nos. 19/680,798 and 19/645,697, claim the benefit of the '165 patent.

Lead and Back-up Counsel (37 C.F.R. § 42.8(b)(3)):

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Service Information (37 C.F.R. § 42.8(b)(4)): Please direct all correspondence regarding this Petition to counsel at the above addresses and PTAB@sternekessler.com. Petitioner consents to service by email at the addresses above.

XV. CONCLUSION

The challenged claims are unpatentable and IPR is warranted.

Respectfully submitted,

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APPENDIX A: LISTING OF CLAIMS

Claim 1

Element	
[1.P]	A computer-implemented method comprising:
[1.A]	receiving a request to provide content to at least one authorized recipient;
[1.B]	generating a customized message comprising at least one action associated with the content;
[1.C]	causing transmission of the customized message to a mobile computing device associated with the at least one authorized recipient;
[1.D]	responsive to receiving an indication associated with selecting the at least one action, requesting authorization data corresponding to the at least one authorized recipient;
[1.E.1]	responsive to receiving the requested authorization data: verifying that the authorization data correlates to an identity of the at least one authorized recipient or an identity of the mobile computing device;
[1.E.2]	determining, based on the identity of the at least one authorized recipient or the identity of the mobile computing device, a classification of the at least one authorized recipient; and
[1.E.3]	generating a Rich Communication Service (RCS) message comprising the content; and
[1.F]	scheduling, using a machine learning model and based on the determined classification, delivery of the RCS message to the mobile computing device.

Claim 2

Element	
[2]	The computer-implemented method of claim 1, further comprising: delivering the RCS message to the mobile computing device according to the scheduled delivery.

Claim 3

Element	
[3]	The computer-implemented method of claim 1, wherein the content comprises a carousel of selectable options in a user interface of the mobile computing device, the selectable options including performing at least one secure transaction, scheduling an appointment, or resuming at least one abandoned user journey.

Claim 4

Element	
[4]	The computer-implemented method of claim 3, wherein the content is provided in the user interface and the user interface is within a browser executing on the mobile computing device.

Claim 5

Element	
[5]	The computer-implemented method of claim 1, wherein the content comprises send and receive indicators provided in a user interface of the mobile computing device that indicate real time typing between an RCS message provider and the mobile computing device or between another computing device and the mobile computing device.

Claim 6

Element	
[6.P]	The computer-implemented method of claim 1, further comprising:
[6.A]	determining a sender of the RCS message;
[6.B]	responsive to failing to authorize the determined sender of the RCS message, delivering, according to the scheduled delivery, an SMS message indicating a warning about the RCS message.

Claim 7

Element	
[7.P]	7. The computer-implemented method of claim 1, wherein the at least one action associated with the content comprises one or more options to:
[7.A]	perform a transaction, select a suggested response, return to a prior browsing session, or return to a prior application session.

Claim 8

Element	
[8.P]	8. An automated messaging subscription and distribution system, the system comprising:
[8.A]	a processor; and
[8.B]	memory configured to store program instructions, wherein, when executed by the processor, the program instructions cause the processor to perform operations comprising:
[8.C]	receiving a request to provide content to at least one service subscriber;
[8.D]	generating a customized message comprising at least one action associated with the content;
[8.E]	causing transmission of the customized message to a mobile computing device associated with the at least one service subscriber;
[8.F]	responsive to receiving an indication associated with selecting the at least one action, requesting subscription data corresponding to the at least one service subscriber;
[8.G.1]	responsive to receiving the requested subscription data: verifying that the subscription data correlates to an identity of the at least one service subscriber or an identity of the mobile computing device;
[8.G.2]	determining, based on the identity of the at least one service subscriber or the identity of the mobile computing device, a classification of the at least one subscriber; and
[8.G.3]	generating, based on the determined classification, a Rich Communication Service (RCS) message comprising the content; and
[8.H]	scheduling, using a machine learning model and based on the determined classification, delivery of the RCS message to the mobile computing device.

Claim 9

Element	
[9]	The system of claim 8, wherein the content comprises a carousel of selectable options in a user interface of the mobile computing device, the selectable options including performing at least one secure transaction, scheduling an appointment, or resuming at least one abandoned user journey.

Claim 10

Element	
[10]	The system of claim 9, wherein the content is provided in the user interface and the user interface is within a browser executing on the mobile computing device.

Claim 11

Element	
[11]	The system of claim 8, wherein the content comprises send and receive indicators provided in a user interface of the mobile computing device that indicate real time typing between an RCS message provider and the mobile computing device or between another computing device and the mobile computing device.

Claim 12

Element	
[12.P]	The system of claim 8, wherein the operations further comprise:
[12.A]	determining a sender of the RCS message;
[12.B]	responsive to failing to authorize the determined sender of the RCS message, delivering, according to the scheduled delivery, an SMS message indicating a warning about the RCS message.

Claim 13

Element	
[13.P]	The system of claim 8, wherein the at least one action associated with the content comprises one or more options to:
[13.A]	perform a transaction, select a suggested response, return to a prior browsing session, or return to a prior application session.

Claim 14

Element	
[14.P]	A non-transitory computer-readable storage medium for use in conjunction with a computer, the computer-readable storage medium storing program instructions that, when executed by the computer, cause the computer to carry out one or more operations comprising:
[14.A]	receive a request to provide content to at least one authorized recipient or subscriber;

[14.B]	generate a customized message comprising at least one link associated with the content;
[14.C]	cause transmission of the customized message to a mobile computing device associated with the at least one authorized recipient or subscriber;
[14.D]	responsive to receiving an indication associated with selecting the at least one link, request subscription data corresponding to the at least one authorized recipient or subscriber;
[14.E.1]	responsive to receiving the requested subscription data: verify that the subscription data correlates to an identity of the at least one authorized recipient or subscriber or an identity of the mobile computing device;
[14.E.2]	determine, based on the identity of the at least one authorized recipient or subscriber or the identity of the mobile computing device, a classification of the at least one authorized recipient or subscriber; and
[14.E.3]	generating a Rich Communication Service (RCS) message comprising the content; and
[14.F]	scheduling, using a machine learning model and based on the determined classification, delivery of the RCS message to the mobile computing device.

Claim 15

Element	
[15]	The non-transitory computer-readable storage medium of claim 14, wherein the operations further comprise: delivering the RCS message to the mobile computing device according to the scheduled delivery.

Claim 16

Element	
[16]	The non-transitory computer-readable storage medium of claim 14, wherein the content comprises a carousel of selectable options in a user interface of the mobile computing device, the selectable options including performing at least one secure transaction, scheduling an appointment, or resuming at least one abandoned user journey.

Claim 17

Element	
[17]	The non-transitory computer-readable storage medium of claim 16, wherein the content is provided in the user interface and the user interface is within a browser executing on the mobile computing device.

Claim 18

Element	
[18]	The non-transitory computer-readable storage medium of claim 14, wherein the content comprises send and receive indicators provided in a user interface of the mobile computing device that indicate real time typing between an RCS message provider and the mobile computing device or between another computing device and the mobile computing device.

Claim 19

Element	
[19.P]	The non-transitory computer-readable storage medium of claim 14, wherein the operations further comprise:
[19.A]	determining a sender of the RCS message;
[19.B]	responsive to failing to authorize the determined sender of the RCS message, delivering, according to the scheduled delivery, an SMS message indicating a warning about the RCS message.

Claim 20

Element	
[20.P]	The non-transitory computer-readable storage medium of claim 14, wherein the at least one link associated with the content comprises one or more options to:
[20.A]	perform a transaction, select a suggested response, return to a prior browsing session, or return to a prior application session.

CERTIFICATE OF WORD COUNT (37 C.F.R. § 42.24(d))

1. This Petition for *Inter Partes* Review complies with the type-volume limitation of 14,000 words, comprising 13,879 words, excluding the parts exempted by 37 C.F.R. § 42.24(a)(1).

2. This Petition for *Inter Partes* Review complies with the general format requirements of 37 C.F.R. § 42.6(a) and has been prepared using Microsoft® Word 2016 in 14-point Times New Roman font.

Respectfully submitted,

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Date: September 24, 2026

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CERTIFICATE OF SERVICE (37 C.F.R. §§ 42.6(e)), 42.105(a))

I certify that the above-captioned **PETITION FOR *INTER PARTES***
REVIEW FOR U.S. PATENT NO. 12,200,165 and associated Exhibits 1001-
1006, 1009, 1011-1016, 1019, 1022, 1024-1026, 1032, 1037-1045 were served in
their entireties upon the Patent Owner on September 24, 2026, via FedEx®
Express at the following addresses:

AURORA CONSULTING LLC c/o ASHLEY SLOAT
810 Cottageview Dr., Ste. G10
Traverse City, MI 49684
Correspondence Address of Record for U.S. Patent No. 12,200,165

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Respectfully submitted,

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