UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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DK Crown Holdings Inc.,
Petitioner

v.

Interactive Games LLC,
Patent Owner

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IPR2026-00493
Attorney Docket No.: 087764.0136

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# PETITION FOR INTER PARTES REVIEW OF CLAIMS 1-18 OF U.S. PATENT NO. 12,406,284

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## Exhibit List

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|---|---|
| **Ex. 1001** | U.S. Patent No. 12,406,284 B2 (the '284 Patent) to Lutnick et al. |
| **Ex. 1002** | Prosecution history of the '284 Patent |
| **Ex. 1003** | Expert Declaration of Michael Ian Shamos, Ph.D., J.D. |
| **Ex. 1004** | International Patent Application Publication No. WO 2009/061651 A1 to Gagner et al. ("Gagner") |
| **Ex. 1005** | U.S. Patent Application Publication No. 2008/0311893 A1 to Liu et al. ("Liu") |
| **Ex. 1006** | U.S. Patent Application Publication No. 2009/0286553 A1 to Northway et al. ("Northway") |
| **Ex. 1007** | U.S. Patent Application Publication No. 2008/0057894 A1 to Aleksic et al. ("Aleksic") |
| **Ex. 1008** | U.S. Patent Application Publication No. 2009/0209293 A1 to Louch ("Louch") |
| **Ex. 1009** | U.S. Patent Application Publication No. 2002/0138735 A1 to Felt et al. ("Felt") |
| **Ex. 1010** | U.S. Patent No. 6,983,331 B1 to Mitchell et al. ("Mitchell") |
| **Ex. 1011** | U.S. Patent Publication No. 2005/0174975 A1 to Mgrdechian et al. ("Mgrdechian") |
| **Ex. 1012** | U.S. Patent Application Publication No. 2006/0223518 A1 to Haney ("Haney") |
| **Ex. 1013** | Dynamic IP Address Definition, Linux Information Project, (Oct. 10, 2005) (available at https://www.linfo.org/dynamic_ip_address.html) |
| **Ex. 1014** | Microsoft Computer Dictionary (4th Edition), Microsoft Press (1999) |
| **Ex. 1015** | Overview of International Video Coding Standards (preceding H.264/AVC), Gary J. Sullivan, Ph.D. (Jul. 22-23, 2005) |
| **Ex. 1016** | Line Transmission of Non-Telephone Signals, Codecs For Videoconferencing Using Primary Digital Group Transmission, International Telecommunication Union (Mar. 1993) retrieved from (https://www.itu.int/rec/T-REC-H.120-199303-I/en) |
| **Ex. 1017** | K. Boudreau, Let a Thousand Flowers Bloom? An Early Look at Large Numbers of Software App Developers and Patterns of Innovation, Organization Science Vol. 23, No. 5, (September–October 2012) |
| **Ex. 1018** | Apple unveils iPhone SDK (March 6, 2008) |

| Exhibit No. | Description |
|---|---|
| **Ex. 1019** | U.S. Patent Application Publication No. 2003/0096651 to Black ("Black") |
| **Ex. 1020** | G. Kewney, Orange SPV, ZDNET (October 30, 2002) (available at https://web.archive.org/web/20220906021727/https://www.zdnet.com/product/orange-spv/) |
| **Ex. 1021** | J. Johnson et al., The Xerox Star: a retrospective, Computer, vol. 22, no. 9, (September 1989) (doi: 10.1109/2.35211) |
| **Ex. 1022** | Guide to the IBM Personal Computers, Byte The Small Systems Journal, IBM, (September 1984) |
| **Ex. 1023** | B. Myers, A Brief History of Human-Computer Interaction Technology, Interactions, vol. 5, no. 2, (Mar. 1, 1998) (doi: 10.1145/274430.274436) |
| **Ex. 1024** | Nevada Assembly Bill AB471 |
| **Ex. 1025** | Technical Standard 4 Mobile Gaming Systems, Nevada Gaming Commission (Date Adopted March 23, 2006) |
| **Ex. 1026** | History of Adopted Regulations, Nevada Gaming Commission (available at https://www.gaming.nv.gov/divisions/administration-division/history-of-adopted-regulations-technical-standards-and-technical-policies/) |
| **Ex. 1027** | Mobile Gaming System Policies, Nevada Gaming Commission (Date Adopted May 18, 2006) |
| **Ex. 1028** | Claim Chart for U.S. Patent No. 12,406,284, *Interactive Games, LLC v. DraftKings, Inc.*, No. 1:26-cv-11544-WGY (D. Mass. Apr. 2, 2026), ECF No. 1-12, Ex. 12 |
| **Ex. 1029** | U.S. Patent No. 5,519,760 to Borkowski et al. ("Borkowski") |
| **Ex. 1030** | U.S. Patent No. 6,246,751 to Bergl et al. ("Bergl") |
| **Ex. 1031** | Cascading Style Sheets, level 2 CSS2 Specification, W3C Recommendation, (May 12, 1998) (available at https://www.w3.org/TR/1998/REC-CSS2-19980512/cover.html#minitoc) ("W3C") |
| **Ex. 1032** | T. Richardson et al., The RFB Protocol Version 3.3, (July 16, 1998) (available at https://web.mit.edu/cdsdev/src/rfbproto.pdf) ("Richardson") |
| **Ex. 1033** | U.S. Patent No. 6,036,601 to Heckel et al. ("Heckel") |
| **Ex. 1034** | International Patent Application Publication No. WO 99/59283 to De Boor et al. ("De Boor") |
| **Ex. 1035** | U.S. Patent No. 6,161,127 to Cezar et al. ("Cezar") |
| **Ex. 1036** | U.S. Patent No. 6,487,538 to Gupta et al. ("Gupta") |

| Exhibit No. | Description |
|---|---|
| **Ex. 1037** | U.S. Patent No. 6,505,169 to Bhagavath et al. ("Bhagavath") |
| **Ex. 1038** | U.S. Patent No. 6,697,953 to Collins et al. ("Collins") |
| **Ex. 1039** | Internet X.509 Public Key Infrastructure Time-Stamp Protocol (TSP) Network Working Group Request for Comments: 3161, The Internet Society (August, 2001) ("RFC 3161") |
| **Ex. 1040** | U.S. Patent No. 7,190,976 to Enns et al. ("Enns") |
| **Ex. 1041** | U.S. Patent Application Publication No. 2004/0015608 to Ellis et al. ("Ellis") |
| **Ex. 1042** | U.S. Patent Application Publication No. 2003/0106022 to Goodacre et al. ("Goodacre") |
| **Ex. 1043** | U.S. Patent Application Publication No. 2006/0039469 to Liebbrandt et al. ("Liebbrandt") |
| **Ex. 1044** | U.S. Patent Application Publication No. 2004/0059708 to Dean et al. ("Dean") |
| **Ex. 1045** | U.S. Patent Application Publication No. 2004/0254014 to Quraishi et al. ("Quraishi") |
| **Ex. 1046** | U.S. Patent Application Publication No. 2005/0198029 to Pohja et al. ("Pohja") |
| **Ex. 1047** | L. Aalto et al., Bluetooth and WAP Push Based Location-Aware Mobile Advertising System, MobiSys '04, (June 6–9, 2004) ("Aalto") |
| **Ex. 1048** | U.S. Patent Application Publication No. 2005/0283806 to Torvinen et al. ("Torvinen") |
| **Ex. 1049** | U.S. Patent Application Publication No. 2006/0004627 to Baluja et al. ("Baluja") |
| **Ex. 1050** | U.S. Patent No. 7,251,476 to Cortegiano ("Cortegiano") |
| **Ex. 1051** | U.S. Patent Application Publication No. 2005/0143136 to Lev et al. ("Lev") |
| **Ex. 1052** | Secure Neighbor Discovery (SEND) Network Working Group Request for Comments: 3971, The Internet Society (March, 2005) ("RFC 3971") |
| **Ex. 1053** | U.S. Patent Application Publication No. 2007/0215794 to Cernasov et al. ("Cernasov") |
| **Ex. 1054** | U.S. Patent Application Publication No. 2008/0004097 to Maya et al. ("Maya") |
| **Ex. 1055** | International Patent Application Publication No. WO 2007/008597 to Amaitis et al. ("Amaitis") |

| Exhibit No. | Description |
|---|---|
| **Ex. 1056** | Security and Accountability For Every Port Act of 2006, Pub. L. No. 109-347, 120 Stat. 1884 (2006) ("SAFE Act") |
| **Ex. 1057** | U.S. Patent Application Publication No. 2008/0102956 to Burman et al. ("Burman") |
| **Ex. 1058** | U.S. Patent Application Publication No. 2007/0146200 to Norin et al. ("Norin") |
| **Ex. 1059** | Apple Reinvents the Phone with iPhone, (January 9, 2007) (available at https://www.apple.com/newsroom/2007/01/09Apple-Reinvents-the-Phone-with-iPhone/) ("Apple iPhone") |
| **Ex. 1060** | U.S. Patent Application Publication No. 2007/0283247 to Brenneman et al. ("Brenneman") |
| **Ex. 1061** | U.S. Patent Application Publication No. 2010/0240455 to Gagner et al. ("Gagner 455") |
| **Ex. 1062** | U.S. Patent Application Publication No. 2009/0125376 to Sundaresan et al. ("Sundaresan") |
| **Ex. 1063** | International Patent Application Publication No. WO 2008/118318 to Pacey et al. ("Pacey") |
| **Ex. 1064** | U.S. Patent Application Publication No. 2009/0264190 to Davis et al. ("Davis") |
| **Ex. 1065** | Electronic Signature Formats for long term electronic signatures, Network Working Group Request for Comments: 3126, The Internet Society (September 2001) ("RFC 3126") |
| **Ex. 1066** | U.S. Patent Application Publication No. 2010/0105482 to Pacey et al. |
| **Ex. 1067** | Samir S. Soliman et al., *Geolocation technologies and applications for third generation wireless*, 2 Wireless Commc'ns & Mobile Computing 229, 229–51 (May 2002) |

# I. Introduction

Challenged claims 1-18 of the '284 Patent recite a predictable aggregation of known mobile-wagering and web-display techniques—server-provided promotional content, location-based wagering authorization, non-interfering display areas, and routine display reformatting. Those concepts were well known long before the assumed February 13, 2009 priority date. Gagner disclosed non-interfering display of wagering and promotional content, Liu disclosed location-based wagering authorization (which was legally required by states since 2006), and Mitchell disclosed pixel-based display optimization techniques. During prosecution, the Examiner did not apply the material prior art or straightforward combinations presented here, which render every challenged claim obvious. Thus, the Board should institute[1] *inter partes* review ("IPR") and find claims 1-18 unpatentable under 35 U.S.C. § 103.

# II. Mandatory Notices under 37 C.F.R. § 42.8

## A. Real Party-in-Interest under 37 C.F.R. § 42.8(b)(1)

The following entities are real parties-in-interest:

- DK Crown Holdings Inc.,
- DraftKings Inc.,

[1] Petitioner intends to address discretionary considerations in its designated brief, should PO request discretionary denial.

- DraftKings Holdings Inc.,
- Crown Gaming Inc.,
- Churchill Downs Technology Initiatives Company,
- GeoComply USA Inc.,
- GeoComply Solutions, Inc.,
- Radar Labs, Inc.,
- SBTech (Global) Limited,
- Braze, Inc.,
- Crown DK CAN Ltd.,
- DK CAN Ltd.,
- Scarcity Labs Inc.,
- Black Throne Studios LLC,
- DK Crown Media LLC,
- Sports IQ Analytics Inc.,
- Dijon Systems Limited,
- DK UK Services Ltd.,
- DK Player Reserve LLC,
- DKDI LLC,
- DK Horse LLC,
- DK Horizon LLC,

- DK Horizon II LLC,
- DK Dash LLC,
- DK Shield LLC,
- DK Security Corporation,
- DK II Security Corporation,
- Context Investing LLC,
- Crown DFS Inc.,
- Crown PA DFS LLC,
- Crown DFS Malta Ltd.,
- Crown Europe Malta Ltd.,
- Crown Gaming Malta Ltd.,
- Crown Gaming Ireland Limited,
- Crown AL Gaming LLC,
- Crown AR Gaming LLC,
- Crown AZ Gaming LLC,
- Crown CA Gaming LLC,
- Crown CO Gaming LLC,
- Crown DC Gaming LLC,
- Crown DE Gaming LLC,
- Crown FL Gaming LLC,

- Crown IA Gaming LLC,
- Crown IL Gaming LLC,
- Crown IN Gaming LLC,
- Crown KS Gaming LLC,
- Crown KY Gaming LLC,
- Crown MA Gaming LLC,
- Crown MD Gaming LLC,
- Crown ME Gaming LLC,
- Crown MI Gaming LLC,
- Crown MN Gaming LLC,
- Crown MO Gaming LLC,
- Crown MS Gaming LLC,
- Crown NC Gaming LLC,
- Crown NE Gaming LLC,
- Crown NH Gaming LLC,
- Crown NJ Gaming LLC,
- Crown NV Gaming LLC,
- Crown NY Gaming LLC,
- Crown OH Gaming LLC,
- Crown OK Gaming LLC,

- Crown OR Gaming LLC,
- Crown PA Gaming LLC,
- Crown PR Gaming LLC,
- Crown SC Gaming LLC,
- Crown SD Gaming LLC,
- Crown TN Gaming LLC,
- Crown VA Gaming LLC,
- Crown VT Gaming LLC,
- Crown WA Gaming LLC,
- Crown WI Gaming LLC,
- Crown WV Gaming LLC,
- Crown WY Gaming LLC,
- Crown MD Online Gaming LLC,
- Northside Crown Gaming LLC,
- WHT KNT FL LLC,
- SBTech Malta Limited,
- SBTech (Global) Limited - Subsidiary Bulgaria,
- SBTech (Gibraltar) Limited,
- SBTech US LLC,
- Gaming Tech Limited,

- Blue Ribbon Software Ltd.,
- Blue Ribbon Holding Limited,
- Blue Ribbon Software Malta Limited,
- Software Co-Work Cyprus Limited,
- Software Co-Work LLC,
- Sky Star Eight Limited,
- Lucrative Green Leaf Limited,
- Golden Nugget Online Gaming Holdings, LLC,
- LHGN Holdco, LLC,
- Golden Nugget Online Gaming, LLC,
- GNOG CAN Ltd.,
- GNOG WA LLC,
- Simplebet LLC,
- Simple DCS, LLC,
- Simplebet (Malta) Limited.

**B. Related Matters under 37 C.F.R. § 42.8(b)(2)**

The following judicial or administrative matters would affect, or be affected by, a decision in this proceeding concerning U.S. Patent No. 12,406,284 ("'284 Patent"), where Patent Owner ("PO") is currently asserting the '284 Patent against Petitioner.

- *Interactive Games LLC v. DraftKings, Inc.*, No. 1:26-cv-11544-WGY (D. Mass., filed Apr. 2, 2026).

**C.** Lead and Back-Up Counsel under 37 C.F.R. § 42.8(b)(3)

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- Andrew D. Wilson (Reg. No. 74,093)
- Jacob McDonald (Reg. No. 74,336)
- Michael Kachmarik (Reg. No. 78,141)
- Erica Rose (Reg. No. 80,286)

The fax number for lead and backup counsel is (202) 639-7890.

**D. Service Information under 37 C.F.R. § 42.8(b)(4)**

A copy of this entire Petition, including all Exhibits and a power of attorney, is being served by Federal Express , costs prepaid, to the correspondence address of record for the '284 Patent at the USPTO: 26111-STERNE, KESSLER, GOLDSTEIN, & FOX P.L.L.C., 1101 K Street, NW, 10th Floor, Washington, DC

20005; and by email to the attorney or agent of record for Patent Owner in the Litigation: Michael Joffre, Sterne, Kessler, Goldstein, & Fox P.L.L.C., MJOFFRE@sternekessler.com.

Please address all correspondence to lead and back-up counsel. Petitioner consents to service at lead counsel's address provided above. Petitioner consents to electronic service, provided it is made to the following e-mail address: DL-DraftKings-IG@BakerBotts.com.

A Power of Attorney is filed concurrently herewith under 37 C.F.R. § 42.10(b).

## III. Claim Listing

### A. Claim 1

| | |
|---|---|
| 1[a] | A mobile phone comprising: |
| 1[b] | at least one computer processor configured to execute a mobile application that causes the at least one computer processor to: |
| 1[c] | display a user interface on a touch screen of the mobile phone; |
| 1[d] | send location data to one or more server computers, wherein the location data includes GPS data and Internet Protocol (IP) data; |
| 1[e] | receive low priority data from the one or more server computers, wherein the low priority data includes an image, text, or video data, and |
| 1[f] | wherein the low priority data is based at least on a type of the mobile phone or the location data; |
| 1[g] | identify an area of the user interface to display the low priority data based on information from the one or more server computers that indicates a location to display the low priority data on the user interface such that the low priority data does not interfere with high priority data displayed on the user interface; |
| 1[h] | compare a size of the identified area to a size of the low priority data; |
| 1[i] | in response to the comparison, reformat the low priority data to fit the identified area, |
| 1[j] | wherein the reformatting comprises at least one of: converting a format of the low priority data, resizing the low priority data, compressing the low priority data, decompressing the low priority data, or converting a color of the low priority data; |
| 1[k] | display the low priority data at the identified area of the user interface; |
| 1[l] | send, to the one or more server computers, a signal that a user interacted with the low priority data displayed at the identified area of the user interface; |
| 1[m] | after receiving the signal, display a player prevention alert and prevent the user of the mobile phone from placing a wager via the mobile application based on a determination that the mobile phone is not in a gaming area; |
| 1[n] | receive input from the user, the input indicating an interaction with the touch screen of the mobile phone or a button of the mobile phone; |
| 1[o] | based on the input, remove the player prevention alert; |
| 1[p] | determine that the user is enabled to place the wager via the mobile application; and |

| | |
|---|---|
| 1[q] | based on a determination that the user is enabled to place the wager via the mobile application, allow the user to place the wager via the mobile application. |

### B. Claim 2

| | |
|---|---|
| 2 | The mobile phone of claim 1, wherein the location data indicates the mobile phone is at an edge of an area where gambling is allowed, and wherein the low priority data is based on the mobile phone being at the edge of the area where gambling is allowed. |

### C. Claim 3

| | |
|---|---|
| 3[a] | The mobile phone of claim 1, wherein, to prevent the user from placing the wager via the mobile application, the at least one computer processor is further configured to: |
| 3[b] | repeatedly send location data to the one or more server computers; |
| 3[c] | detect a disruption in a connection to the one or more server computers; and |
| 3[d] | in response to the disruption: |
| 3[e] | prevent the user from placing the wager via the mobile application; and |
| 3[f] | display second low priority data on the touch screen of the mobile phone. |

### D. Claim 4

| | |
|---|---|
| 4[a] | The mobile phone of claim 1, wherein the low priority data includes a display time and wherein the at least one computer processor is further configured to: |
| 4[b] | determine the low priority data has been displayed at the identified area of the touch screen for the display time; and |
| 4[c] | in response to a determination that the low priority data has been displayed at the identified area of the touch screen for the display time, display second low priority data at the identified area. |

### E. Claim 5

| | |
|---|---|
| 5[a] | The mobile phone of claim 1, wherein the at least one computer processor is further configured to: |
| 5[b] | receive second low priority data; |

| | |
|---|---|
| 5[c] | determine that displaying the second low priority data will reduce battery consumption at the mobile phone; and |
| 5[d] | display the second low priority data based on a determination that the second low priority data will reduce battery consumption at the mobile phone. |

### F. Claim 6

| | |
|---|---|
| 6[a] | The mobile phone of claim 1, wherein the at least one computer processor is further configured to: |
| 6[b] | determine a battery level at the mobile phone is below a predefined threshold; and |
| 6[c] | in response to the determination the battery level is below the predefined threshold, |
| 6[d] | alter a manner of operation of the mobile phone to conserve the battery level, |
| 6[e] | wherein to alter the manner of operation of the mobile phone to conserve the battery level, the at least one computer processor is configured to: dim a brightness level of the touch screen of the mobile phone; reduce a volume level of a speaker of the mobile phone; or shorten a video length of the low priority data. |

### G. Claim 7

| | |
|---|---|
| 7 | The mobile phone of claim 1, wherein the at least one computer processor is further configured to: determine not to download second low priority data from the one or more server computers based on a determination that a battery level at the mobile phone is below a predefined threshold. |

### H. Claim 8

| | |
|---|---|
| 8 | The mobile phone of claim 1, wherein the at least one computer processor is further configured to: detect, via a light sensor of the mobile phone, that a level of ambient light is above a predefined threshold; and alter a brightness level of the touch screen of the mobile phone. |

## I. Claim 9

| | |
|---|---|
| 9[a] | The mobile phone of claim 1, wherein the low priority data includes audio and the at least one computer processor is further configured to: |
| 9[b] | determine that the user is near the mobile phone; |
| 9[c] | detect, via a microphone of the mobile phone, that a level of ambient noise is above a predefined threshold based on a determination that the user is near the mobile phone; and |
| 9[d] | increase a volume level of a speaker of the mobile phone; |
| 9[e] | wherein to determine that the user is near the mobile phone, the at least one computer processor is further configured to: identify a user voice in audio detected by the microphone of the mobile phone; identify the user in an image captured by a camera at the mobile phone; or identify a signal from a second mobile phone by an antenna of the mobile phone. |

## J. Claim 10

| | |
|---|---|
| 10[a] | The mobile phone of claim 1, wherein the low priority data includes a digital signature from the one or more server computers and a timestamp, and the at least one computer processor is further configured to: |
| 10[b] | authenticate the digital signature from the one or more server computers; and |
| 10[c] | determine that the timestamp is within a predefined time from a current time. |

## K. Claim 11

| | |
|---|---|
| 11[a] | The mobile phone of claim 1, wherein the at least one computer processor is further configured to: |
| 11[b] | determine the low priority data received from the one or more server computers is approved for display, wherein to determine the low priority data received from the one or more server computers is approved for display, the at least one computer processor is configured to: |
| 11[c] | identify a first border of an image of the mobile application; |
| 11[d] | identify a second border of an image in the low priority data; |
| 11[e] | overlay the image in the low priority data on top of the image of the mobile application; and |
| 11[f] | while the images are overlain, determine the first border and the second border are separated by a predetermined number of pixels. |

### L. Claim 12

| | |
|---|---|
| 12[a] | The mobile phone of claim 1, wherein the at least one computer processor is further configured to: |
| 12[b] | detect a second mobile phone based on a signal from the second mobile phone, wherein the signal includes Bluetooth data or near field communication (NFC) data; |
| 12[c] | target the detected second mobile phone via a targeting interface; and |
| 12[d] | transmit the low priority data to the targeted second mobile phone. |

### M. Claim 13

| | |
|---|---|
| 13 | The mobile phone of claim 1, wherein to compare the size of the identified area to the size of the low priority data, the at least one computer processor is further configured to compare an amount of pixels of the identified area to an amount of pixels of the low priority data. |

### N. Claim 14

| | |
|---|---|
| 14 | The mobile phone of claim 1, wherein the location data further includes cellular phone data. |

### O. Claim 15

| | |
|---|---|
| 15 | The mobile phone of claim 1, wherein the received low priority data is further based on at least one of a current balance of money associated with the mobile gaming application, a last outcome of a game in the mobile gaming application played by the user, total winnings of the user, transaction data of the user, an average deposit amount of the user, a bet made by the user, an average bet amount of the user, a bet limit of the user, a loss limit of the user, or a deposit limit of the user. |

### P. Claim 16

| | |
|---|---|
| 16 | The mobile phone of claim 1, wherein to display the low priority data, the at least one computer processor is further configured to: display an indication that a priority of the low priority data is greater than a priority of second low priority data. |

### Q. Claim 17

| | |
|---|---|
| 17 | The mobile phone of claim 1, wherein to display the low priority data, the at least one computer processor is further configured to compare at least one of a current time or a current date to at least one of a start time or a start date included in the low priority data. |

### R. Claim 18

| | |
|---|---|
| 18 | The mobile phone of claim 1, wherein the player prevention alert comprises a warning that a location of the mobile phone cannot be determined. |

## IV. Requirements under 37 C.F.R. § 42.104

### A. Grounds for Standing

Petitioner certifies that the ’284 Patent is eligible for IPR and that Petitioner meets the eligibility requirements set forth in 37 C.F.R. §42.104.

### B. Identification of Challenge and Statement of Precise Relief Requested

| Ground | Claims | Basis for Challenge |
|---|---|---|
| 1 | 1, 4, 11, 13-18 | Obvious over Gagner[2] in view of Liu[3] and Mitchell[4] |
| 2 | 2 | Obvious over Gagner in view of Liu, Mitchell, and Northway[5] |
| 3 | 3 | Obvious over Gagner in view of Liu, Mitchell, and Haney[6] |
| 4 | 5-7 | Obvious over Gagner in view of Liu, Mitchell, and Aleksic[7] |
| 5 | 8-9 | Obvious over Gagner in view of Liu, Mitchell, and Louch[8] |

[2] International Patent Application Publication No. WO 2009/061651 (“Gagner”) (EX1004).

[3] U.S. Patent Application Publication No. 2008/0311893 (“Liu”) (EX1005).

[4] U.S. Patent No. 6,983,331 (“Mitchell”) (EX1010).

[5] U.S. Patent Application Publication No. 2009/0286553 (“Northway”) (EX1006).

[6] U.S. Patent Application Publication No. 2006/0223518 (“Haney”) (EX1012).

[7] U.S. Patent Application Publication No. 2008/0057894 (“Aleksic”) (EX1007).

[8] U.S. Patent Application Publication No. 2009/0209293 (“Louch”) (EX1008).

| | | |
|---|---|---|
| 6 | 10 | Obvious over Gagner in view of Liu, Mitchell, and Felt[9] |
| 7 | 12 | Obvious over Gagner in view of Liu, Mitchell, and Mgrdechian[10] |

## V. The ’284 Patent

### A. Specification

The ’284 Patent discloses a client-server mobile wagering system in which users access wagering games through mobile gaming devices (“MGDs”) 110, 115, 120 that receive wagering and promotional content from one or more servers. Each MGD may determine its location, such as its position within a casino, which the system uses to authorize wagering only in permitted areas and select content for display in designated portions of the user interface. EX1001, Abstract, 13:33-67, 18:46-19:31, Fig. 1 (below). The content must be formatted properly for display on the device. EX1001, 59:26-40.

[9] U.S. Patent Application Publication No. 2002/0138735 (“Felt”) (EX1009).

[10] U.S. Patent Application Publication No. 2005/0174975 (“Mgrdechian”) (EX1011).

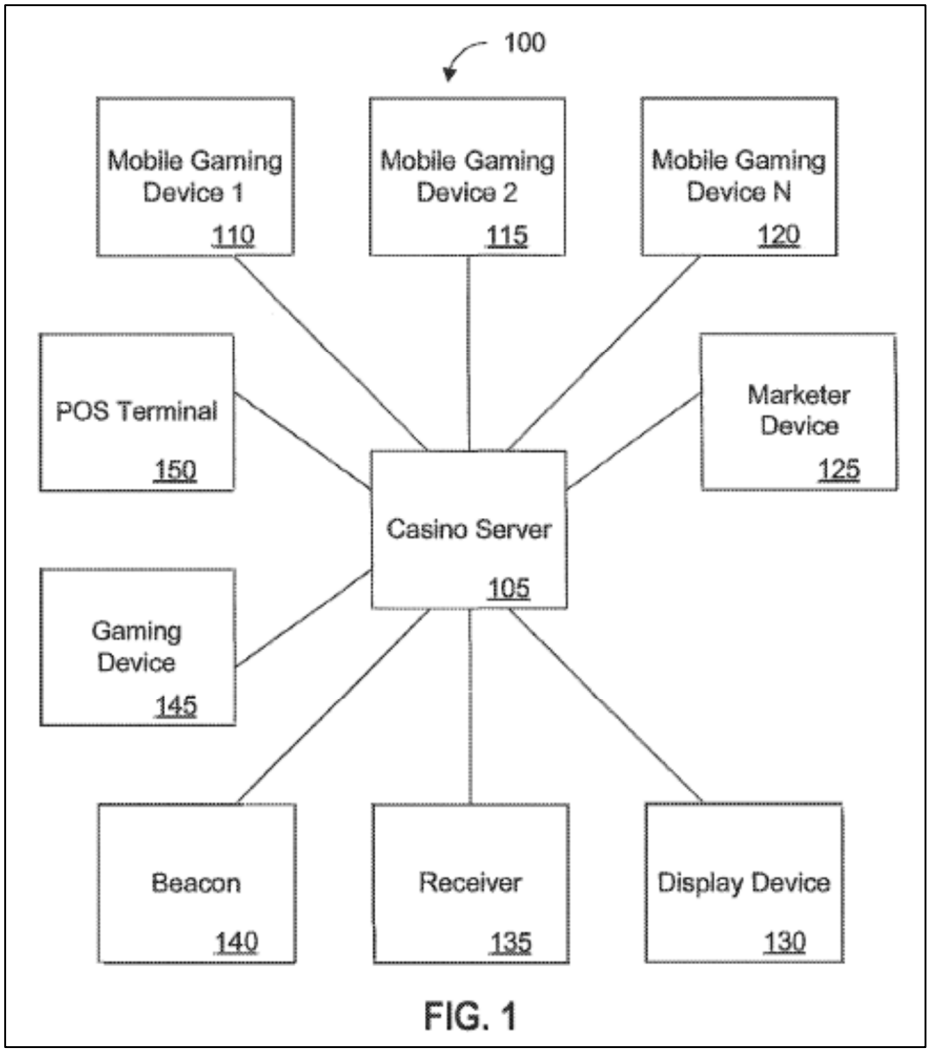



FIG. 1

The ’284 Patent also describes preserving battery level in the MGDs by adjusting brightness and volume based on ambient light and noise levels. EX1001, 36:45-67, 28:10-17, 48:18-49:7. The ’284 Patent further describes transmitting promotional material between nearby devices. EX1001, 44:61-45:19.

**B. Priority**

The ’284 Patent was filed May 1, 2024 and issued September 2, 2025, and claims priority through a series of continuation applications to U.S. Patent Application No. 12/147,005, filed on February 13, 2009. EX1001, (22), (45), (63).

Petitioner assumes, without conceding, that the '284 Patent is entitled to its earliest-claimed priority date of February 13, 2009, and is subject to pre-AIA provisions of Title 35.

### C. Prosecution History

After the first non-final (and only substantive) rejection dated September 4, 2024, the Examiner suggested to the applicant that then-dependent claims 5-6 would be allowable if rewritten in independent form. EX1002, 261. Applicant accepted the suggestion, despite never previously identifying the location-restricted wagering limitations of those claims as an inventive feature. EX1002, 247-258. Applicant later submitted broadening amendments after the first notice of allowance. EX1002, 125-136.

## VI. Level of Ordinary Skill in the Art

A person of ordinary skill in the art ("POSITA") at the time of the '284 Patent would have been a person with a bachelor's degree in computer engineering, electrical engineering, computer science, applied mathematics, or a similar field and at least two years of experience in the development of gambling game hardware or software functionality. EX1003, ¶¶43-47. A person with less education but more relevant practical experience may also meet this standard. *Id.*

A POSITA familiar with the development of gambling game hardware or software would also be familiar with how gambling regulations impact design

choices for wagering devices and how location-based services/techniques are used to determine wagering device location. *Id.*

## VII. Claim Construction

Unless otherwise noted, Petitioner applies the ordinary and customary meaning of all claim terms in view of the interpretive guide in the specification. EX1001, 1:40-18:45; *Phillips v. AWH Corp.*, 415 F.3d 1303, 1316 (Fed. Cir. 2005) (en banc).

## VIII. Summary of Prior Art

### A. Gagner (EX1004)

Gagner was filed October 29, 2008, designated the U.S., and published in English, and is therefore prior art under pre-AIA §102(e).[11] EX1003, ¶¶151-160.

Gagner discloses presenting "**secondary content**" during a wagering game, either in a separate secondary content section or directly within a **primary content section** of the game, so players will not overlook ancillary information, such as pictures, graphics, sounds, advertisements, reminders, additional game information, and other notifications. EX1004, [0036]-[0038], [0040]-[0043], Fig. 1 (below).[12]

[11] Gagner also claims priority to a U.S. Provisional Application filed November 9, 2007.

[12] Annotations supplied throughout unless otherwise indicated.

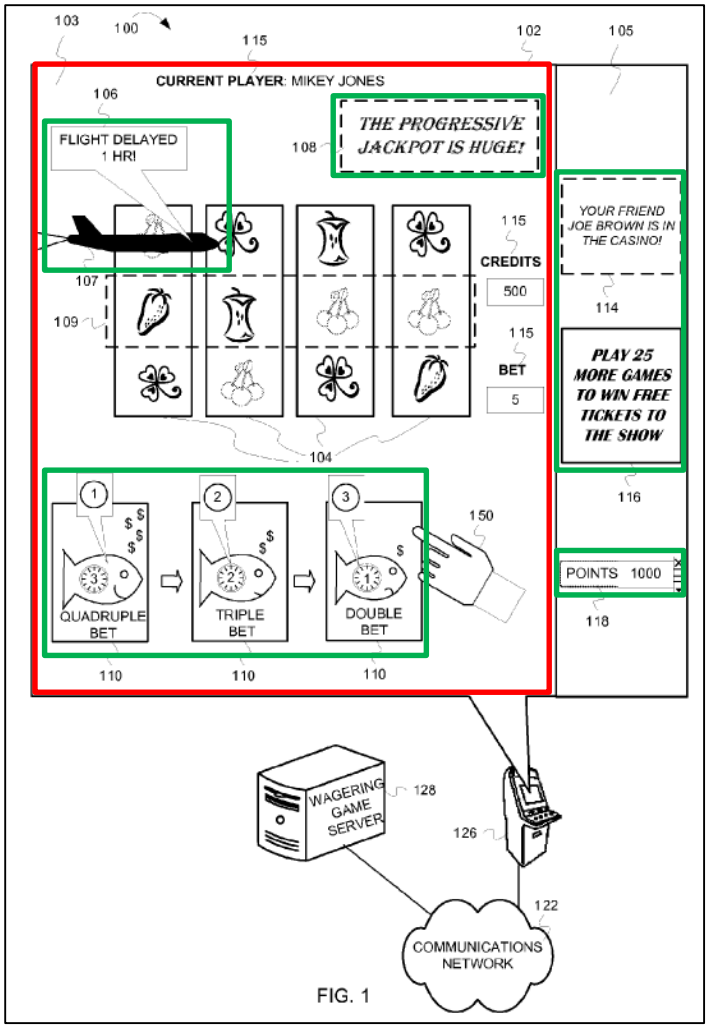



FIG. 1

Gagner uses predetermined rules, control information, and priority information to determine when secondary content appears, where it appears in the display area, how intrusive it is relative to primary content, and how conflicts between presentation requests are resolved. EX1004, [0039], [0058]-[0060]. A server including a presentation coordinator, primary and secondary content units, and a user account manager may select personalized secondary content to display based on a current player's account information, preferences, schedule, location, and comparison of other user-related data to wager-game-related information. EX1004,

[0046]-[0053], [0068]-[0070], [0078], [0090], Fig. 2. Users may access games and secondary content via client terminals, including both dedicated gaming machines and non-dedicated devices, such as mobile phones, personal digital assistants ("PDAs"), and personal computers ("PCs"). EX1004, [0062]-[0063]. For example, in a baseball game, the server may correlate a player's preferences with an upcoming game schedule, generate an interactive notification regarding a betting opportunity, and send instructions to the wagering device to assemble and display the notification close to the wagering content without interfering with outcome-significant symbols or gameplay elements requiring player interaction. EX1004, [0070]-[0071], [0088].

**B. Liu (EX1005)**

Liu was filed June 14, 2007, and published December 18, 2008, and is therefore prior art under pre-AIA §§102(a), (e). EX1003, ¶¶161-166.

Liu discloses a system in which "location information provided by location server 160 is used by game server 150 to determine whether the user of mobile terminal 100 should be allowed to participate in the online gambling activities hosted by game server." EX1005, [0024], Abstract, Fig. 1 (below).

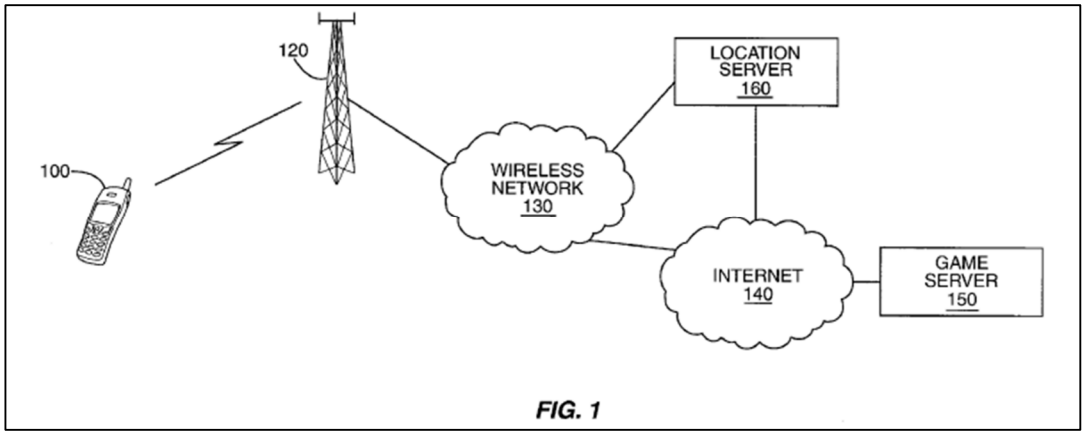


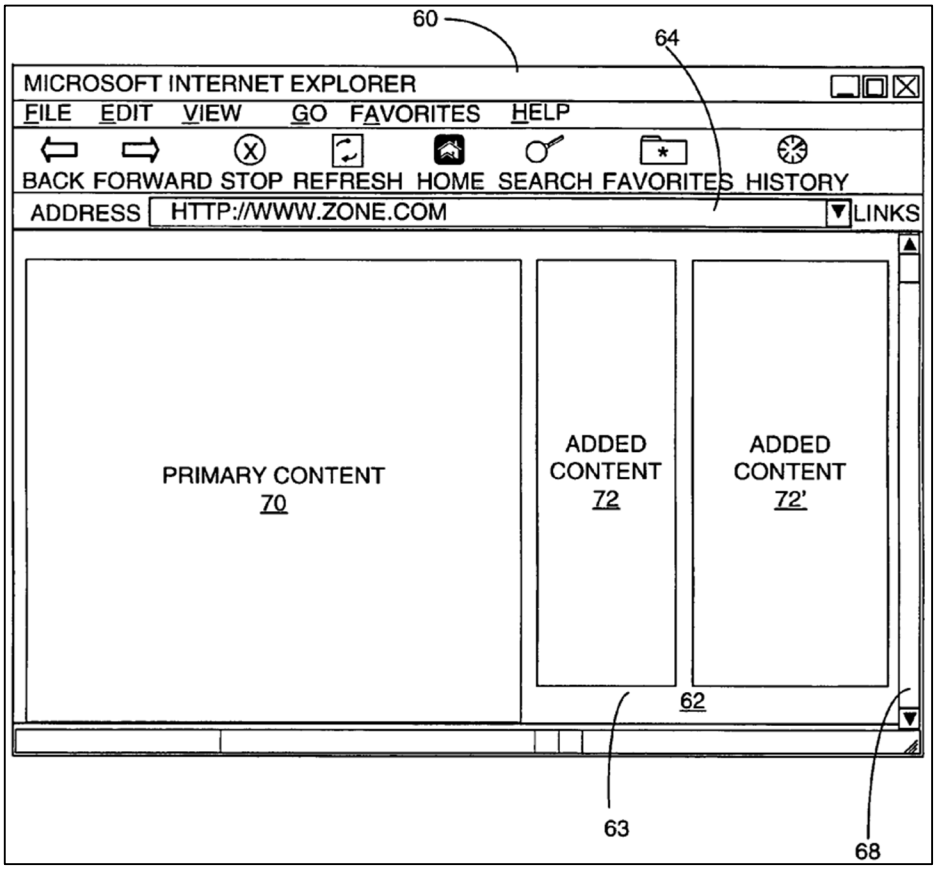

FIG. 1

Liu's location server uses GPS, Assisted-GPS, cell-ID, triangulation methods (such as TDOA and E-OTD), or a combination of "two or more techniques" to determine the latitude and longitude or street address of mobile terminals. EX1005, [0020]-[0023]. Once located, Liu's game server "compares these coordinates to jurisdictional boundaries" to determine "whether the requested activity is permitted in that jurisdiction" and to grant or deny access accordingly. EX1005, [0027]-[0029], [0039]-[0040], [0057], Fig. 3. If access is denied, compliance information is provided to the mobile terminal explaining the failure (technical or jurisdictional) or directing the user to permitted activity (different game or location). EX1005, [0046]-[0051], Figs. 5-7. Liu also teaches periodically rechecking location and terminating the gambling activity if the mobile terminal has "strayed from the approved area[.]" EX1005, [0041], [0044]-[0045].

### C. Mitchell (EX1010)

Mitchell was filed October 17, 2000, and issued January 3, 2006, and is therefore prior art under pre-AIA §§102(a)-(b), (e). EX1003, ¶¶167-172.

Mitchell teaches iteratively measuring pixel space available for rendering content on a browser and displaying additional content without scrolling in more than one direction. EX1010, 3:19-41, 3:59-63, 12:12-22, 13:20-29, 14:43-56, 15:11-17, Fig. 2D (below).

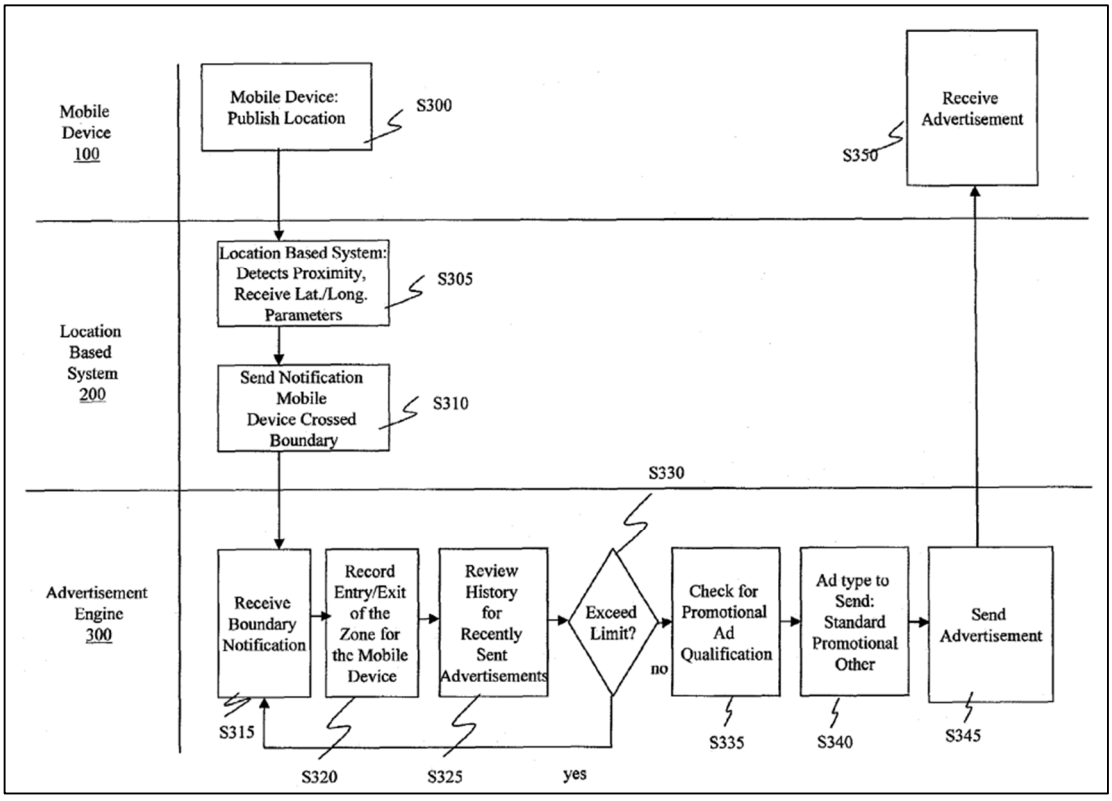


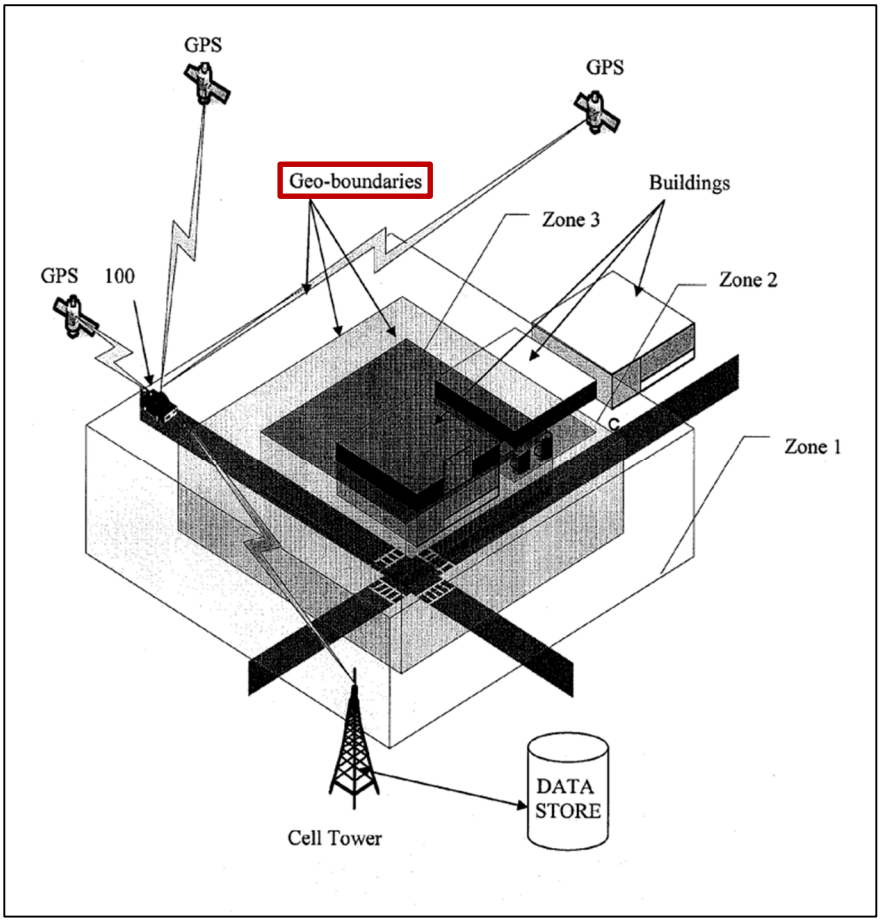

The server parses a request header to identify browser type/version, assigns priority and size of to-be-displayed content, and sends instructions for the display to the client. EX1010, 10:4-42, 10:56-11:6, Fig. 6 (below); *see also id.*, Figs. 1 & 4. The client uses the instructions to obtain the display's pixel dimensions and load/resize/update the displayed content as the user interacts with the device. EX1010, 11:41-46, 12:12-22, 13:20-29.

### D. Northway (EX1006)

Northway was filed May 15, 2008, and published November 19, 2009, and is therefore prior art under pre-AIA §102(e). EX1003, ¶¶173-176.

Northway teaches defining zones using buildings or landmarks ("**geo-boundaries**"), determining a mobile device's location using, for example, GPS, and delivering advertisements when the device is at, crosses, or approaches a geographic boundary. EX1006, [0005], [0007]-[0009], [0014]-[0018], [0037]-[0040], [0044]-[0049], Figs. 3-4 (below).






### E. Haney (EX1012)

Haney was filed April 4, 2005, and published October 5, 2006, and is therefore prior art under pre-AIA §§102(a)-(b), (e). EX1003, ¶¶177-179.

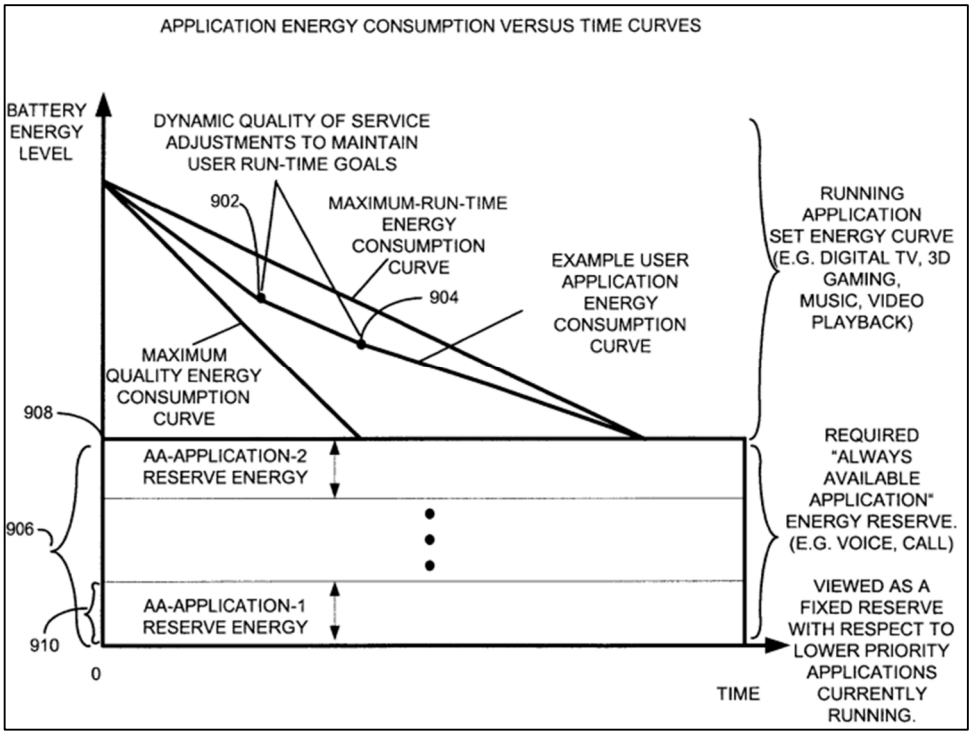
Haney teaches GPS-equipped mobile phones and PDAs running a client application that reads position data from the device's own GPS receiver and wirelessly transmits that data to a server over the cellular network and the Internet, where it is stored and redistributed to other authorized devices. EX1012, Abstract, [0007]-[0011], [0059], [0179]-[0185], Figs. 2, 13A-13B. Position reporting may occur on demand or automatically—"periodically send[ing] their GPS position data"

at configurable intervals or whenever the device's position changes from its last report by a programmable amount. EX1012, [0066], [0133], [0180]. Haney states that its approach requires no new handset or cellular infrastructure and instead uses existing platforms and routine software. EX1012, [0010].

**F. Aleksic (EX1007)**

Aleksic was filed August 31, 2006, and published March 6, 2008, and is therefore prior art under pre-AIA §§102(a), (e). EX1003, ¶¶180-184.

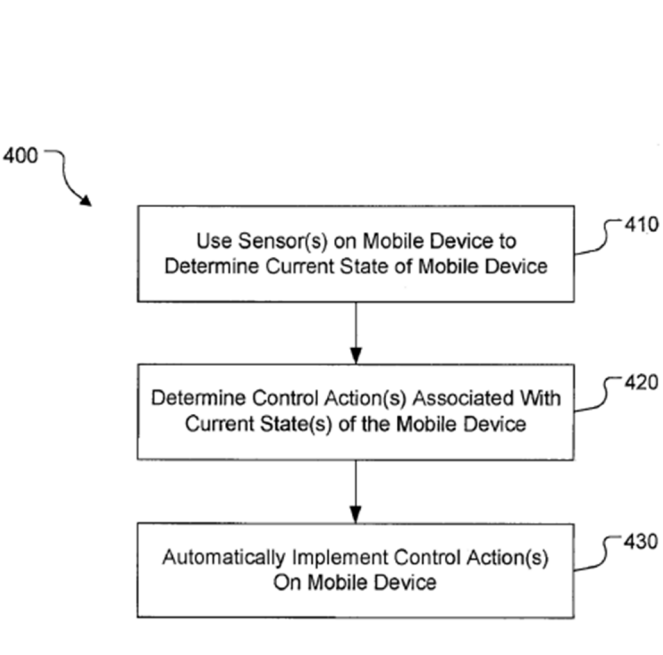
Aleksic teaches a controller that provides power management for ongoing operations of portable devices (*e.g.*, cell phones) communicating within a network by prioritizing higher-priority features and dynamically ending or reducing the quality of lower-priority features to meet power usage requirements and prolong battery life. EX1007, [0001]-[0004], [0014], [0022], [0033]-[0034], [0038], [0041], Fig. 9 (below), Figs. 1-2.




### G. Louch (EX1008)

Louch was filed February 19, 2008, and published August 20, 2009, and is therefore prior art under pre-AIA §102(e). EX1003, ¶¶185-189.

Louch teaches automatically adjusting the graphical user interface ("GUI") or audio behavior of a mobile device based on trigger conditions detected by sensors indicating motion, proximity, environmental/ambient conditions, and interaction patterns. EX1008, [0010]-[0014], [0016], [0021]-[0023], [0033], [0057], Figs. 4 (below left) & 5 (below right); *see also id.*, Figs. 2-3. A processor executes instructions stored in memory to implement a state machine that uses sensor inputs to determine device state, map those states to control actions, and automatically implement those actions. EX1008, [0013]-[0014], [0048]-[0050].




Mapping States to Control Actions

| State of the Mobile Device | Control Action to the Speakerphone |
|---|---|
| The Mobile Device Orienting Towards/Away from a Voice Source | Deactivating / Activating Speakerphone |
| The Mobile Device in Proximity / within a Distance to a Voice Source | Deactivating / Activating Speakerphone |
| The Mobile Device being Gripped/Released by a User | Deactivating / Activating Speakerphone |
| The Mobile Device being Disconnected/Connected to Hardware Device(s) | Deactivating / Activating Speakerphone |
| The Mobile Device at an Angle more Horizontal/ Perpendicular with the Ground | Deactivating / Activating Speakerphone |
| The Mobile Device Receiving Higher/Lower Volume from a Voice Source | Deactivating / Activating Speakerphone |
| The Mobile Device Receiving Input / Not Receiving From User Interface | Deactivating / Activating Speakerphone |

FIG. 5

### H. Felt (EX1009)

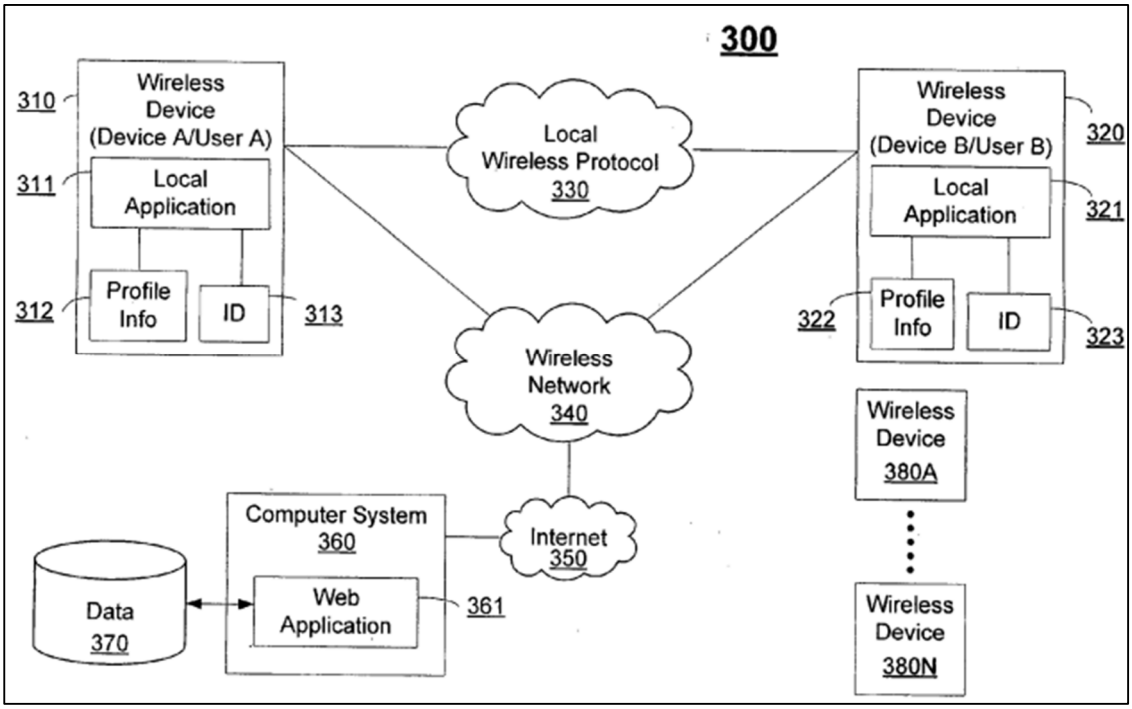
Felt was filed February 21, 2002, and published September 26, 2002, and is therefore prior art under pre-AIA §§102(a)-(b), (e). EX1003, ¶¶190-195.

Felt discloses secure transfer of messages between devices and servers using encryption envelopes containing a decryption key, a digital signature, and a digest of message contents. EX1009, [0014], [0107]-[0108], [0119]-[0121], Figs. 6 & 10. The digital signature includes a temporal validity timestamp that enables recipients (or intermediaries) to authenticate the sender within a predefined time window, as enforced by policy, and to detect alterations of the message contents. EX1009, [0016], [0019], [0114], [0123], [0223], [0301]-[0304].

## I. Mgrdechian (EX1011)

Mgrdechian was filed February 10, 2005, and published August 11, 2005, and is therefore prior art under pre-AIA §§102(a)-(b), (e). EX1003, ¶¶196–199.

Mgrdechian teaches a wireless communication system where mobile devices discover nearby local devices via Bluetooth, 802.11, Zigbee, directional electromagnetic or ultrasonic beams, etc., receive IDs from nearby devices, transmit IDs to a remote computer system, and retrieve associated profiles of connected nearby devices. EX1011, [0012], [0026], [0033], [0072], [0092], [0109], Fig. 3A (below). Once connected, a user may select a unique recipient to send information either directly without connecting through a remote server or indirectly through the remote server. EX1011, [0006], [0028]-[0031], [0071]-[0075], [0077]-[0079], [0080]-[0081]; *compare id.*, Fig. 1 *with id.*, Fig. 3.




## IX. Grounds of Unpatentability

### A. Ground 1 (Gagner-Liu-Mitchell)

#### 1. Motivation to Combine

The ’284 Patent relates to receiving and displaying data (*e.g.*, wagering content) on a mobile device based on the type of mobile device or its location, including comparing the size of an identified display area to low-priority data and reformatting that data to fit. EX1001, Abstract, 19:32-48, 23:37-38, 48:13-15, claim 1. Gagner, Liu, and Mitchell are analogous art because each addresses networked client-server systems for controlling and displaying content on user devices. EX1003, ¶200. Gagner discloses selectively presenting primary and secondary content on dedicated and non-dedicated wagering devices, including mobile phones, PDAs, and PCs accessing a game through game servers, after comparing user-related

data (including location) to wager-game-related information. EX1004, [0037]-[0038], [0061]-[0063], [0068]-[0070]. Liu discloses non-dedicated devices such as smartphones, PDAs, and laptops accessing online gambling via an Internet-connected game server, which grants/denies access to wager-based games based on the location of a mobile device. EX1005, [0016]-[0018], [0027]-[0029], [0039]-[0040]. Mitchell discloses a client-server system for selectively displaying primary and additional content, including advertisements, within limited display space on client devices, such as PDAs and cellular phones. EX1010, Abstract, 1:13-61, 3:19-41, 5:41-50, 8:40-53, Figs. 2A-2E.

A POSITA would have been motivated to combine Liu's location-based access control with Gagner's mobile wagering system so wagering occurs only in legally permitted areas to comply with jurisdictional requirements. EX1003, ¶201. Gagner already uses a player's GPS location to selectively display secondary content but does not explicitly disclose using location to authorize mobile wagering. EX1004, [0082], [0090], [0097]. A known regulatory problem at the time was that mobile devices accessing gambling games over the Internet may move into or out of permitted jurisdictions mid-game. EX1005, [0002]-[0004]. Liu solves that problem using mobile-terminal location checks to allow continued access to online gambling. EX1005, [0004]-[0006], [0024]. Contemporaneous mobile-wagering regulatory requirements reinforced that motivation: Nevada authorized "mobile gaming" only

through communications devices "operated solely in public areas of a licensed gaming establishment" (EX1024, 1-2), the Gaming Commission's technical standards required mobile gaming systems to "restrict the gaming operation of the mobile communications device to public areas" (EX1025, 1; EX1026, 14), and its policies required systems "capable of immediately detecting if a mobile device has entered a non-gaming area" and suspension of gaming transactions upon entry into such an area (EX1027, 4). EX1003, ¶¶208-212. Thus, combining Liu's location-based access-control process with Gagner's system would have addressed this known problem to allow the combined system to continue delivering gaming and secondary content while preventing wagering outside approved areas. EX1005, [0024]-[0027], [0038]-[0040], [0046]-[0051]; EX1003, ¶202.

A POSITA also would have been motivated to combine Mitchell's pixel-based size-comparison and reformatting techniques with Gagner and Liu to determine whether low-priority secondary content fits within the identified display area and, if necessary, reformat that content to fit. EX1003, ¶¶213-214. Gagner displays secondary content around or over primary content based on server-provided information, including size, location, priority, and overlay information. EX1004, [0052]-[0053], [0060], [0088]. But Gagner and Liu do not expressly describe how to achieve this such that a POSITA would have turned to Mitchell to supply implementation details, including detecting the size of available display area,

defining content-module sizes in pixels, comparing remaining display area to the size of the next priority content module, and iteratively displaying additional content only when it will fit. EX1010, 12:12-22, 13:20-29, 13:32-35, 13:50-59, Fig. 6. Mitchell further teaches modifying a content module to fit remaining display area, including changing dimensions, scaling, changing text font size, rotating, or otherwise manipulating content. EX1010, 14:43-56, Fig. 7. A POSITA would have found it obvious to use Mitchell's display-fit and reformatting techniques to implement Gagner's secondary-content framework in the combined system. EX1003, ¶¶213-214.

A POSITA would have had a reasonable expectation of success in combining Gagner, Liu, and Mitchell given the references' compatible client-server architectures and complementary teachings. EX1003, ¶¶203-207, 215. First, Gagner and Liu use compatible mobile-wagering architectures in which servers communicate with remote mobile devices over a network/Internet, and Gagner already discloses devices having a "location unit" with GPS functionality and the capability to communicate location information to a game server. EX1004, [0061]-[0063], [0090], [0097]; EX1005, [0016]-[0018]. Second, Liu provides detailed disclosure of its game server that obtains location information of mobile devices using known techniques, compares that location to jurisdictional boundaries/reference points, denies or grants gambling access pursuant to

regulations, repeats location checks, and provides compliance information when access is denied. EX1005, [0020]-[0035], [0038]-[0051]. Third, Mitchell provides detailed client- and server-side guidance for determining available display area, sending compatible display instructions, assigning priorities and pixel sizes to content modules, comparing remaining display area to content-module size, downloading/displaying content that fits, and modifying content to fit available space. EX1010, 10:4-42, 10:56-11:6, 12:12-22, 13:18-59, Figs. 5-7. A POSITA would have found it straightforward to combine Liu's access-control logic and Mitchell's display-fit/reformatting logic with Gagner's server-side wagering architecture and mobile device. EX1003, ¶¶203-207, 215. The result ("**Gagner-Liu-Mitchell system**") would have predictably produced Gagner's mobile wagering system enhanced with Liu's jurisdictional verification and access-control functionality and Mitchell's pixel-based comparison and reformatting functionality, advantageously enabling wagering operators to deliver Gagner's secondary content and wagering opportunities, restrict wagering to approved locations, and display low-priority data in an identified area after comparing and, when needed, reformatting it to fit. EX1003, ¶¶203-207, 215.

### 2. Independent Claim 1

#### *i. 1[a]: A mobile phone comprising:*

Gagner discloses **wagering game terminals**, which "can be included in **wagering game machines** or other **devices**, such as cell phones, notebook computers," or "numerous mobile terminals[.]" EX1004, [0046], [0052]-[0053], [0057], [0062]-[0063], [0073], [0089], [0094]; EX1003, ¶¶216-222. Gagner's terminals/machines/devices communicate with a **wagering game server** to transmit player input, process control information, and display a primary wagering game and associated secondary content like advertisements. *Id*.

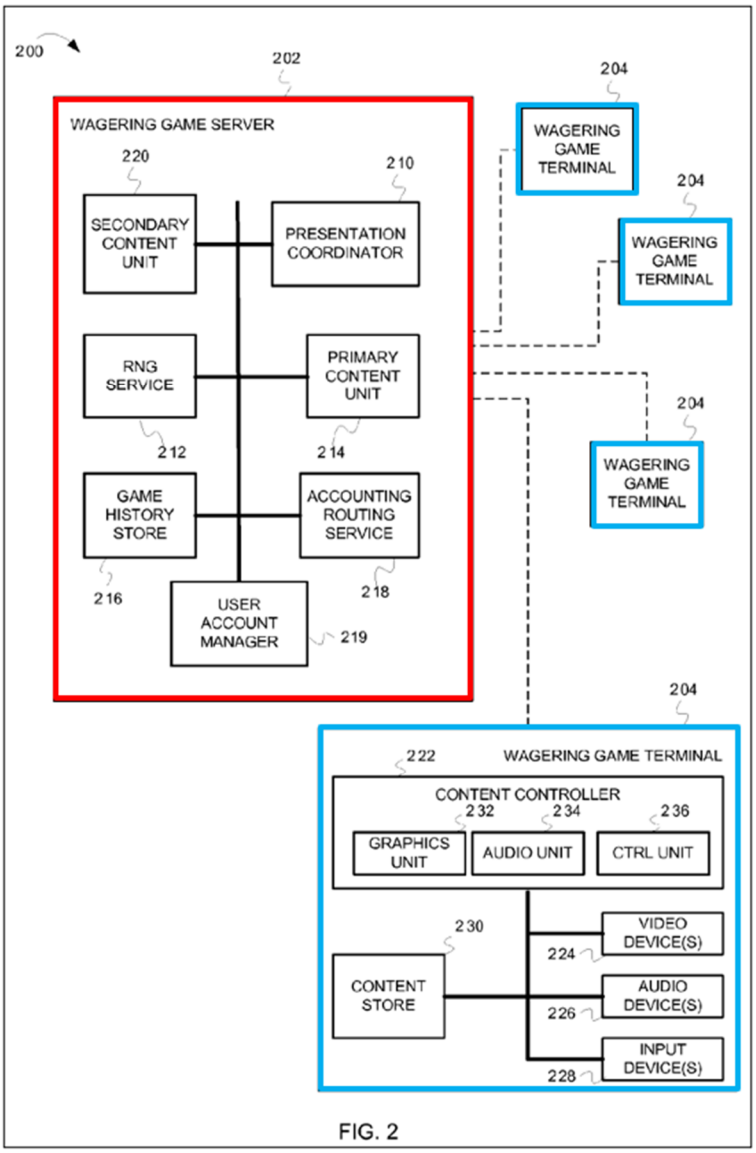


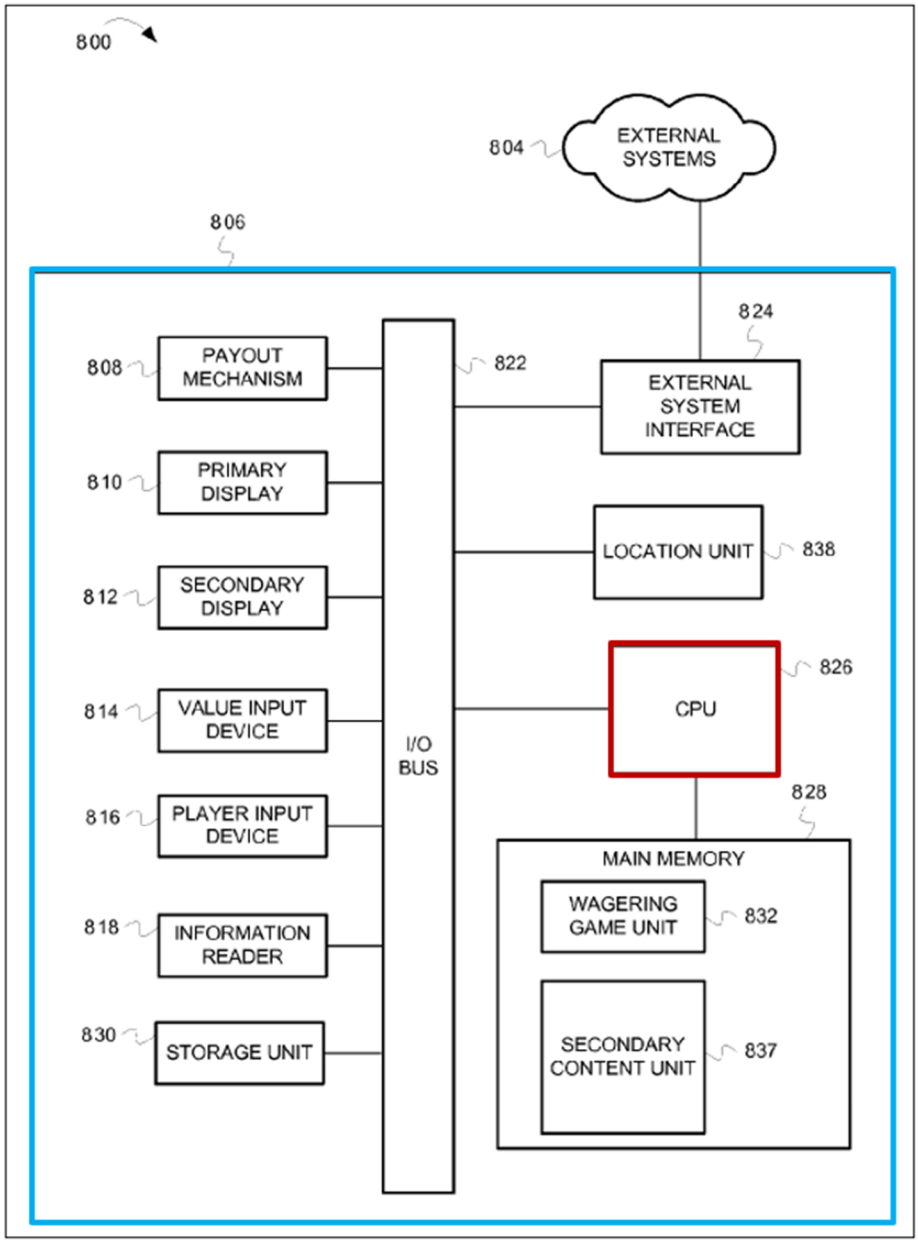
FIG. 2

EX1004, Fig. 2.

### *ii. 1[b]: at least one computer processor configured to execute a mobile application that causes the at least one computer processor to:*

Gagner's "**wagering game device**" includes a "**central processing unit (CPU)**" that "can include any suitable processor." EX1004, [0094]-[0096]. "A player logs in to a wagering game device or wagering game website … through a browser interface" or "other application" on the device (*e.g.*, mobile phone,

computer, etc.) to "play the wagering games." EX1004, [0065], [0085]; EX1003, ¶¶223-235.




EX1004, Fig. 8.

***iii. 1[c]: display a user interface on a touch screen of the mobile phone;***

Gagner's wagering device "includes a **player interface** or **display**" with one or more "sections" configured to present "primary content" (*e.g.*, "wagering games") and "secondary content" (*e.g.*, "advertisements" for additional "wagering games, sports bets, casino events … etc."). EX1004, [0018], [0068], [0070], [0087]. Gagner's **display** includes "touch screen capabilities," allowing the user to interact with primary and secondary content that is "sensitive to touch or external input, such as by pressing a **finger**" or "**touching**." EX1004, [0037]-[0040], [0042], [0068], [0071], [0091]; EX1003, ¶¶236-240.

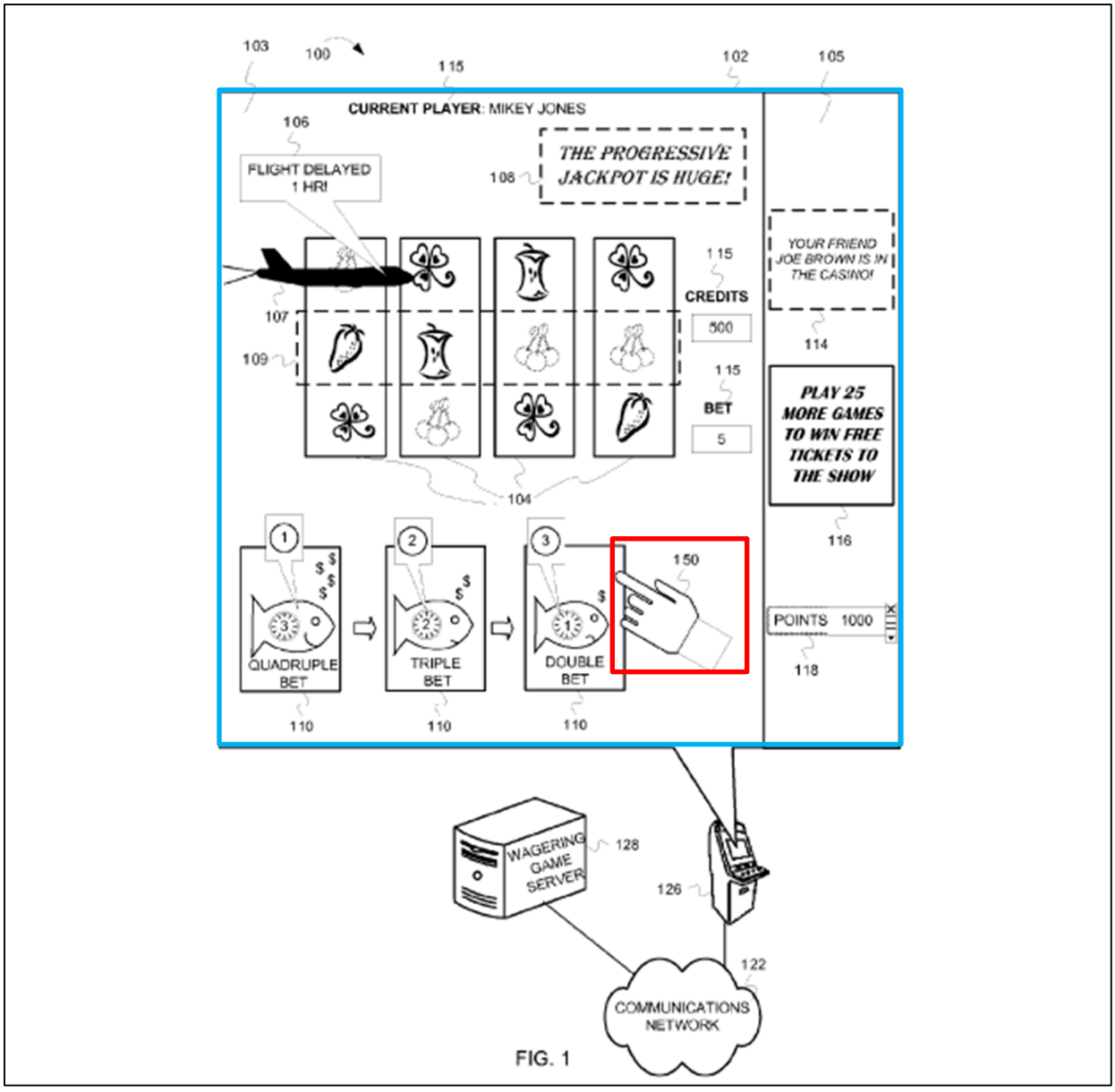



FIG. 1

EX1004, Fig. 1.

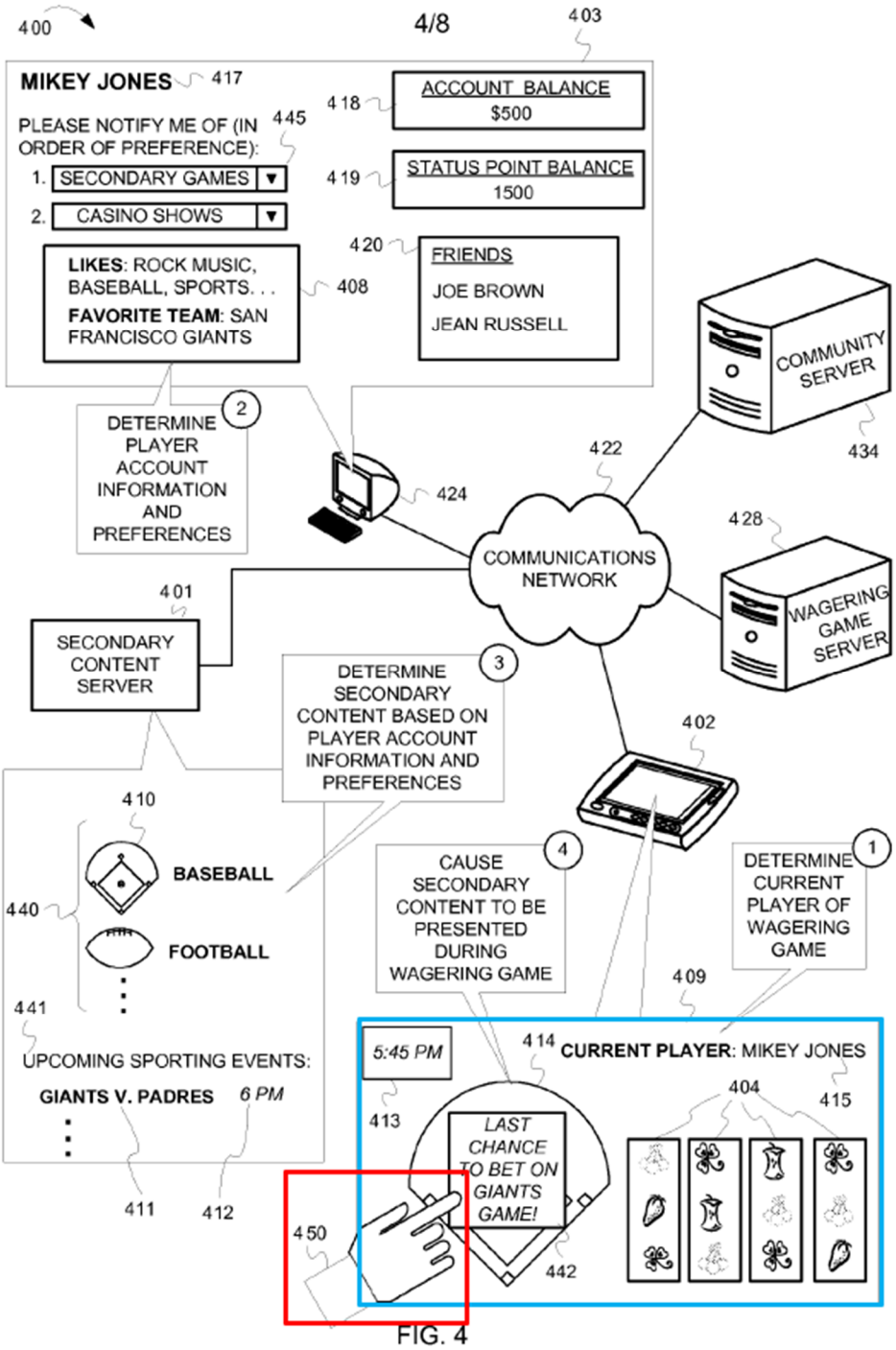



FIG. 4

EX1004, Fig. 4.

***iv. 1[d]: send location data to one or more server computers, wherein the location data includes GPS data and Internet Protocol (IP) data;***

Gagner's "**wagering game server**" includes both a "**primary content unit**," which offers "a plurality of primary wagering game[s]," and a "**secondary content unit**," which offers "secondary wagering games, [] advertisements, alerts, messages, and other secondary content notifications." EX1004, [0048]. Gagner's **wagering terminal/device** presents the wagering games and secondary content provided by the server. *Id.*, [0061].

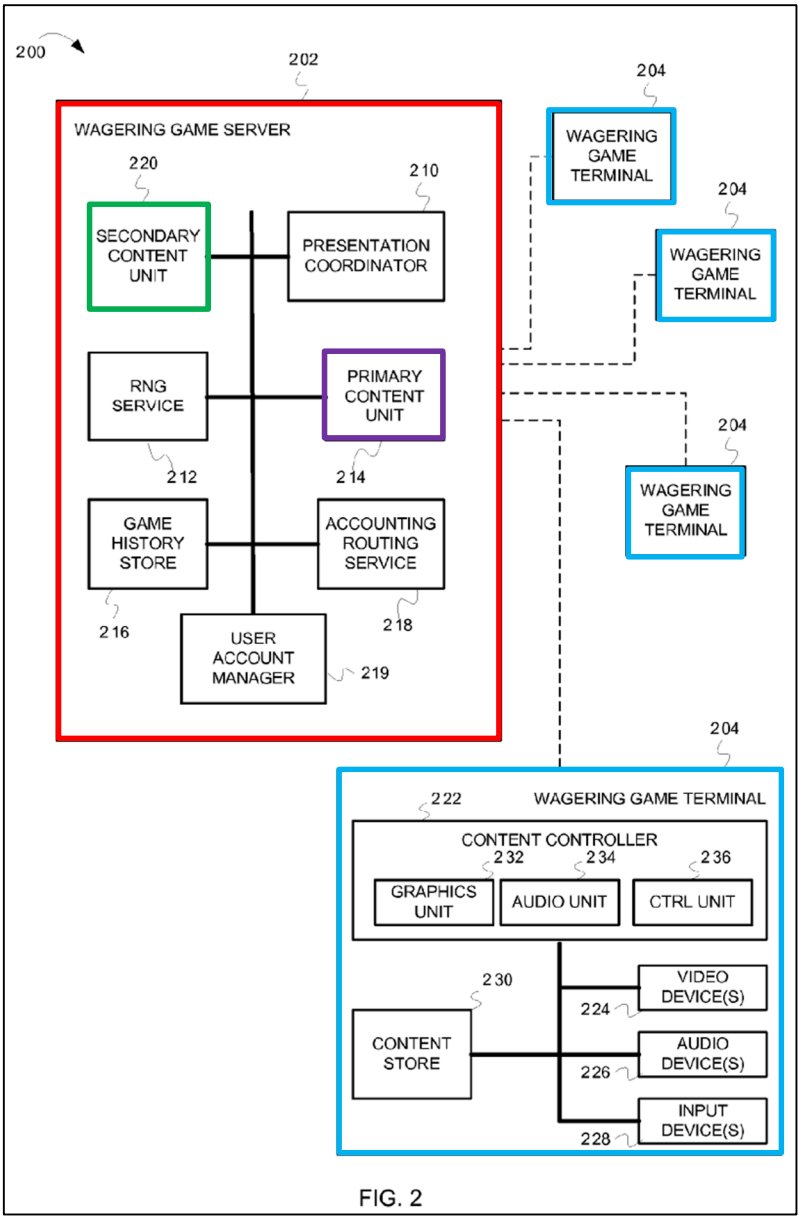



FIG. 2

EX1004, Fig. 2.

Gagner also discloses that "secondary content" can be provided by separate "secondary content servers," such as an "ad server." EX1004, [0057], [0065].[13] This

[13] Gagner discloses that any of its "components," including the "servers," can "perform[] the operations described herein," such that the functionality performed

"secondary content server evaluates criteria [] such as a player's location … to determine or generate the secondary content." EX1004, [0090]. For example, "[i]f the player is close to a specific event, the secondary content notification may be tailored to advertise that specific event." EX1004, [0082].

Gagner discloses that its wagering devices include a "location unit" with a "GPS receiver" that "determine[s] the wagering game device's location using GPS satellites." EX1004, [0097]. Gagner further discloses that the device's "location unit" creates "player information" that "indicates the wagering game device's location/movements in a casino," and such "player[] location (e.g., in a casino, on a wide area network, on the Internet, etc.)" is used by the secondary content server "to determine or generate the secondary content." EX1004, [0090], [0097]. A POSITA would have understood from Gagner's disclosure that the device sends its "GPS data" to the secondary content server to receive tailored secondary content. EX1003, ¶¶241-246.

Alternatively, sending device-determined GPS location data to the server would have been obvious. EX1003, ¶¶247-252. A POSITA would have been motivated to do so to enable the server to select content based on the player's current location, as Gagner teaches. EX1003, ¶247. A POSITA would have had a reasonable

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by secondary content servers can be performed by the gaming server. EX1004, [0066]; EX1003, ¶245.

expectation of success because Gagner's secondary content server already "reads" information (*e.g.*, "session metadata" and player information) provided by the device (EX1004, [0068]), and modifying the device-provided information to include location data would have been a routine software change. EX1003, ¶247.

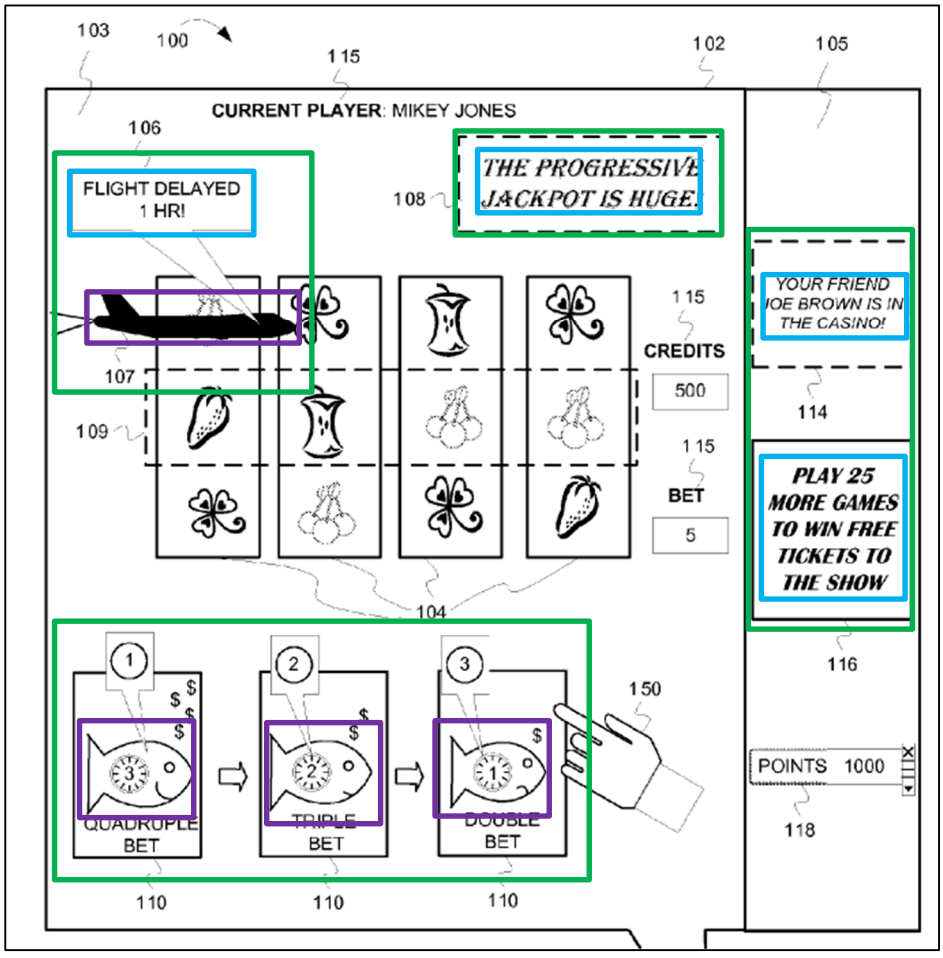
Gagner also discloses providing games via a "wagering game website" accessed through a "browser" on the device, wherein the "ad server [] and other secondary content servers … cause secondary content to be displayed within a web browser[.]" EX1004, [0065], [0085]. A POSITA would have understood that browsers used HTTP to communicate with servers, and that HTTP communications necessarily include Internet Protocol ("IP") data with every request. EX1013, 1; EX1003, ¶248. Indeed, PO's own infringement chart applies the same understanding, alleging that "Internet Protocol (IP) data [] is included in any HTTP communication." EX1028, 6-7;[14] EX1003, ¶248.

Thus, a POSITA would have understood that Gagner's browser/application HTTP communications with the server "on the Internet" contain IP data, including a source IP address associated with the device's Internet connection that indicates whether the player is on the casino network. EX1004, [0090]; EX1003, ¶¶248-252.

[14] Petitioner denies PO's claim charts show infringement; however, the claims must be interpreted the same way for infringement and invalidity. *W.L. Gore & Assocs., Inc. v. Garlock, Inc.*, 842 F.2d 1275, 1279 (Fed. Cir. 1988).

***v. 1[e]: receive low priority data from the one or more server computers, wherein the low priority data includes an image, text, or video data, and***

Gagner's wagering device receives low-priority data (*e.g.*, "**secondary content**") via a "secondary content unit" on the game server or "secondary content server." EX1004, [0048], [0065]. "Secondary content" includes "secondary wagering games [], advertisements, alerts, messages, and other secondary content notifications," and may include at least "**graphics**" and "**text messages**." EX1004, [0038], [0040]-[0043]; EX1003, ¶254.




EX1004, Fig. 1.

Gagner assigns a "priority" to each secondary content item based on the "importance, or urgency, of the secondary content." EX1004, [0039]. "If the secondary content is less important than the primary content," it is displayed "in a minimally intrusive manner[.]" *Id.* "Secondary content" is therefore low-priority data because Gagner assigns it a lower priority than other higher-priority wagering content (*e.g.*, "primary content"). EX1004, [0059]-[0060], [0088]; EX1003, ¶¶253-258.

Gagner also discloses that secondary content includes advertisements, which PO provided as an example of "low priority data" during prosecution. EX1002, 275-76; EX1004, [0007], [0016], [0038], [0082]; EX1003, ¶256. PO's infringement chart applies the same understanding, alleging that sending "low priority data (e.g. advertisements, etc.)" satisfies this limitation. EX1028, 7.[15]

***vi. 1[f]: wherein the low priority data is based at least on a type of the mobile phone or the location data;***

Gagner's "secondary content server" selects low-priority secondary content based on the "player's location." EX1004, [0082], [0090]; EX1003, ¶259. The server "evaluates criteria [] such as a player's location … to determine or generate the secondary content." EX1004, [0090]. For example, "[i]f the player is close to a

[15] *See supra* n.14.

specific event, the secondary content notification may be tailored to advertise that specific event." EX1004, [0082].

Gagner also discloses selecting secondary content based on device type or capabilities, such as selecting "interactive" content when a device has "touch screen capabilities," or choosing secondary content "without an audio component" if the device has no speakers. EX1004, [0091]-[0092]; EX1003, ¶260.

***vii. 1[g]: identify an area of the user interface to display the low priority data based on information from the one or more server computers that indicates a location to display the low priority data on the user interface such that the low priority data does not interfere with high priority data displayed on the user interface;***

Gagner's secondary content server generates "control information," which specifies "locations in the player interface" to display secondary content, such as in a dedicated "secondary content section … separated from the primary content section." EX1004, [0040], [0058]; EX1003, ¶¶261-269. The wagering device uses this control information to identify an area of the interface to display the secondary content. EX1004, [0058], [0088].

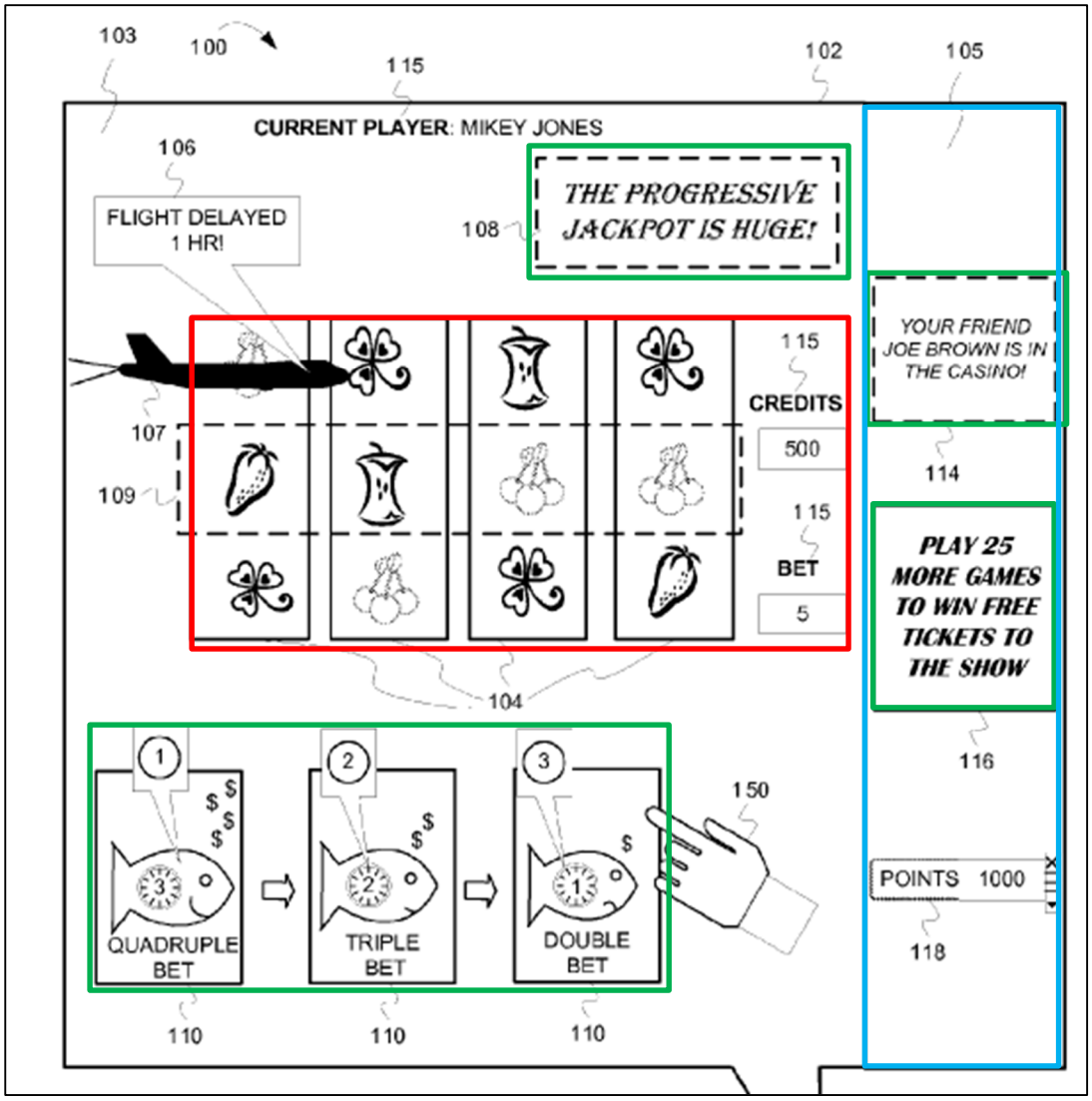
Gagner's wagering devices also use server-provided control and priority information to ensure that secondary content does not "interfere" with higher priority gaming content:

> The wagering game devices utilizes control information to present the secondary content notification as close as possible in location to wagering game content, but ***not interfering*** with

> the presentation of outcome significant wagering game content. In other words, the wagering game device presents the secondary content notification ***without interfering*** with the presentation of elements of the wagering game content that display the outcome of the wagering game.

EX1004, [0088].

As illustrated below, Gagner discloses displaying low-priority **secondary content** in areas that do not interfere with high-priority **gaming content**, including in a dedicated **secondary content section**.




EX1004, Fig. 1.

***viii. 1[h]: compare a size of the identified area to a size of the low priority data;***

Gagner's server-provided control information specifies "locations in the player interface" to present secondary content, and Gagner's "priority information" provides information "regarding the size, position, duration, etc. of the secondary content notification[,]" which the wagering device uses to display secondary content

in a non-interfering manner. EX1004, [0058], [0060], [0071], [0088]; §§1[e]-[g]. However, Gagner does not expressly disclose "comparing" the size of the secondary content to the size of the identified display area. EX1003, ¶¶270-272.

Mitchell discloses optimizing the display of both "primary content" (*e.g.*, main page content) and "additional content" (*e.g.*, advertisements) on a single screen without scrolling. EX1010, 3:19-65. Mitchell provides the client with "content modules" for display, along with associated "priorities and sizes," wherein the content size is "preferably defined in pixels." EX1010, 13:22, 13:27-29. After displaying the highest priority (primary) content, Mitchell discloses "determin[ing] a remaining display area"— *e.g.*, the screen area available for displaying secondary content—and "compar[ing] that remaining area with the size of the next priority content module." EX1010, 13:32-35; EX1003, ¶273.

A POSITA would have been motivated to combine Mitchell's pixel-based comparison with Gagner's wagering system to determine whether Gagner's low-priority secondary content fits within the server-suggested, non-interfering display area, and to modify Gagner's secondary content to "fit [] the remaining display area." EX1010, 14:15-18; EX1003, ¶274; §IX.A.1. A POSITA would have had a reasonable expectation of success because Mitchell discloses well-known browser coding techniques, such as using JavaScript to parse "cascading style sheets" and well-known "attributes of a markup language document," which would have

involved routine software modification of Gagner's browser-based wagering application. EX1010, 13:65-14:5; EX1003, ¶274.

***ix. 1[i]-1[j]: in response to the comparison, reformat the low priority data to fit the identified area, wherein the reformatting comprises at least one of: converting a format of the low priority data, resizing the low priority data, compressing the low priority data, decompressing the low priority data, or converting a color of the low priority data;***

Mitchell teaches that, when there is not enough display area for low-priority content, the module may be "modified in an attempt to fit the module to the remaining display area." EX1010, 14:43-56, Fig. 7.[16] Mitchell's modifications include "changing one or more dimensions of the content module, scaling the content module, changing text font size, … [and] converting content to audio or other manipulation of the content module." EX1010, 14:43-53. Changing dimensions and/or scaling content, as disclosed by Mitchell, results in "resizing" the content, and Mitchell expressly discloses "converting" content format. EX1003, ¶¶275-283.

A POSITA would have applied Mitchell's reformatting processes to Gagner's low-priority secondary content after Mitchell's comparison shows the content does

[16] Mitchell explains that its content modification teaching "can be incorporated into any of [its] embodiments to fit the content into the display area or otherwise provide the content … subject to the display area restraints." EX1010, 14:59-63.

not fit the identified area, thus reformatting low-priority data to fit in the combined system. EX1003, ¶283; §1[h]; §IX.A.1.

***x. 1[k]: display the low priority data at the identified area of the user interface;***

Gagner's secondary content server sends secondary content and control and priority information to the wagering device. §§1[e]-[g]. "The wagering game device [] then utilizes [the] content, control information, and priority information, to generate the secondary content notification 414 and present it in the display." EX1004, [0071], [0085]-[0088]; EX1003, ¶284.

***xi. 1[l]: send, to the one or more server computers, a signal that a user interacted with the low priority data displayed at the identified area of the user interface;***

Gagner discloses that players "interact" with its secondary content notifications, including advertisements for other games. EX1004, [0071], [0042]. For example, Gagner discloses generating an "interactive, secondary content notification" about a baseball wagering opportunity. EX1004, [0070]-[0071]. "The player can interact with the secondary content notification [], such as by touching [it]." *Id.* Gagner also discloses that the wagering device "is capable of transmitting player input to the server," and that its server(s) "host wagering games and receive player input from the terminal." EX1004, [0049], [0052]. Accordingly, a POSITA would have understood that when a user interacts with Gagner's wagering notifications, the wagering device sends the player-input signal to the server to

initiate the player-selected wagering opportunity. EX1004, [0049], [0052], [0071]; EX1003, ¶¶285-289.

Liu also discloses this same client-server interaction. Specifically, Liu teaches analogous web-based mobile wagering systems wherein a "game server [] receives a request for access to an online gambling activity from, e.g., [a] mobile terminal," and the user's request to "actually place a wager" initiates a server-provided verification process. EX1005, [0025]-[0027]. Liu repeats that verification "at intervals to determine whether mobile terminal 100 remains within an approved area." EX1005, [0057]. A POSITA would have been motivated to combine Liu's client request for server-provided wagering games in response to user interaction with low-priority wagering opportunities with Gagner's system so the gaming server first ensures "the requested activity is permitted in [the user's] jurisdiction" before sending secondary content based on the user's location, thus accounting for location changes throughout the game. EX1005, [0027]; EX1003, ¶¶288-289; §IX.A.1.

***xii. 1[m]: after receiving the signal, display a player prevention alert and prevent the user of the mobile phone from placing a wager via the mobile application based on a determination that the mobile phone is not in a gaming area;***

As discussed for §1[l], the server(s) of the combined system receives a signal (*e.g.*, a request to access gaming content) in response to user-interaction with low-priority content (*e.g.*, an ad for a new wagering opportunity). Liu's servers geolocate the wagering device and deny/prevent access if it is outside an approved jurisdiction

for the new wagering game. EX1005, [0024]-[0035], [0038]-[0040], [0045]-[0051], Fig. 7. Specifically, Liu's server(s) "determine[] the location of [the] mobile terminal," and "selectively initiate[] the requested gambling activity" based on the determined location. EX1005, [0026]-[0027]. "Once the game server [] has determined the jurisdiction from which the mobile terminal [] has connected, the game server [] determines whether the requested activity is permitted in that jurisdiction." EX1005, [0027].

If the user is not in an "approved area" (*e.g.*, a jurisdiction where wagering is allowed), Liu denies access and sends an "appropriate message to the mobile terminal":

> … game server 150 may be configured to provide compliance information to mobile terminal 100. In other words, rather than simply denying access to the gambling activity without explanation, ***game server may instruct the user of mobile terminal 100 as to the reasons for denial***, and/or how to gain access to the restricted activity.

EX1005, [0045]-[0046]; EX1003, ¶291. Liu's "messages" are a "player prevention alert" because they explain the basis of the denial to the user. EX1003, ¶291.

In the combined system, Gagner's wagering device first receives the user input signal selecting the secondary wagering opportunity and sends, to the server, a signal that the user interacted with the low-priority data (§1[l]), and after the signal

is received, displays Liu's prevention alerts accordingly. EX1004, [0071], [0097] (determining "device's location/movements in a casino" that may be a gaming area); EX1003, ¶295.

A POSITA would have been motivated to combine Liu's server-based geolocation authentication and notification processes with Gagner's system to limit wagering to approved areas and increase engagement by instructing users "how to gain access to [] restricted activity." EX1005, [0046]; EX1003, ¶¶290-296; §IX.A.1. A POSITA would have had a reasonable expectation of success because Gagner discloses interfaces for displaying "very important, high priority notification[s]," including "alerts" and "messages," which a POSITA could configure to display Liu's messages with routine coding. EX1004, [0081], [0039], [0048]; EX1003, ¶¶290-296.

***xiii. 1[n]: receive input from the user, the input indicating an interaction with the touch screen of the mobile phone or a button of the mobile phone;***

Gagner discloses that players can interact with secondary content notifications by "touching" them or "by pressing a button." EX1004, [0071], [0075]; §1[l]; EX1003, ¶¶297-299.

***xiv. 1[o]: based on the input, remove the player prevention alert;***

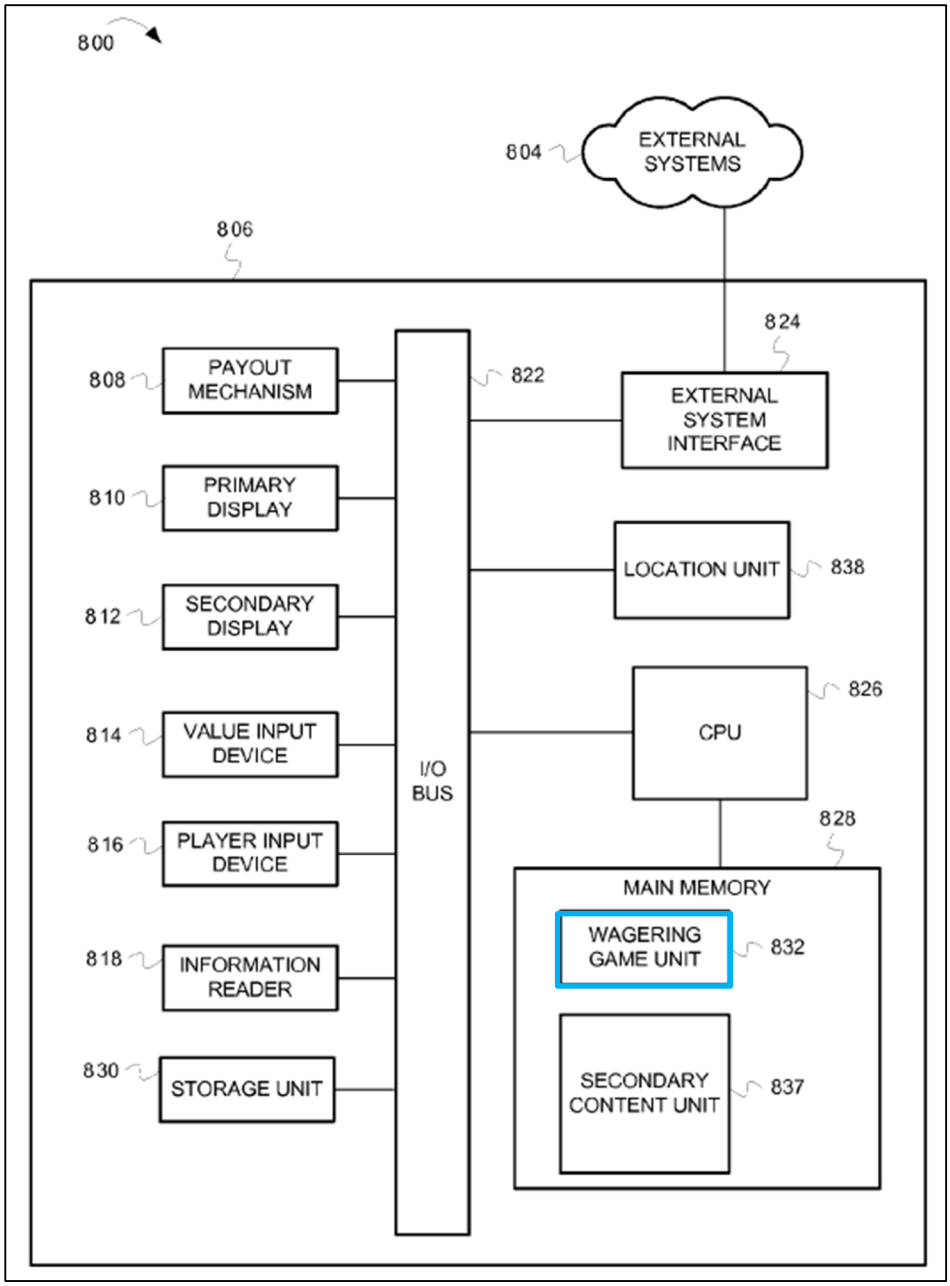
Gagner discloses displaying some notifications (*e.g.*, "alerts") "continuously … until closed or minimized by the player." EX1004, [0043]. The "touch" or "button

click" inputs addressed in §1[n] allow the player to "interact with the secondary content notification," including to close it. EX1004, [0043], [0071]; EX1003, ¶¶300-302.

***xv. 1[p]-1[q]: determine that the user is enabled to place the wager via the mobile application; and based on a determination that the user is enabled to place the wager via the mobile application, allow the user to place the wager via the mobile application.***

Gagner requires a player to "log[] in to a wagering game device or wagering game website using credentials that can be authenticated by a wagering game server" before wagering content is presented. EX1004, [0085], [0068]; EX1003, ¶304. Liu "authenticate[s] the user of mobile terminal 100, using a username and password," before granting access to its gambling applications, and further conditions wagering on location—"[i]f the location information indicates that mobile terminal 100 is located in an approved area, then mobile terminal 100 is allowed to access gambling applications." EX1005, [0056]-[0057], [0027], [0039]-[0040]. Liu repeats that verification "at intervals to determine whether mobile terminal 100 remains within an approved area." EX1005, [0057].

Moreover, Gagner's device includes a "**wagering game unit**" that "present[s] wagering games" and "determine[s] game outcomes," and Gagner discloses that user "account transactions and account rules may be managed … locally (e.g., by the wagering game machines [])." EX1004, [0064].




EX1004, Fig. 8. In the combined system, the browser-based mobile application executing via Gagner's wagering game unit applies authentication rules locally and/or receives and acts on the server's authorization response to determine that the user is enabled to place a wager and allow the user to place the wager. EX1004, [0070]-[0071], [0100] ("any component of the wagering game device [] can

include … instructions for performing the operations described herein[]"); EX1005, [0043]; EX1003, ¶¶303-309; §IX.A.1.

### 3. Claim 4

#### *i. 4[a]: The mobile phone of claim 1, wherein the low priority data includes a display time and wherein the at least one computer processor is further configured to:*

Gagner's secondary content server generates control/priority information, including a notification's "size, position, duration, etc.," that the device uses to present the notification on the display for a given amount of time. EX1004, [0071], [0088]; EX1003, ¶310. The wagering system may wait to present secondary content at opportune times or according to a predetermined schedule, such as between games. EX1004, [0039], [0078]; EX1003, ¶311. Gagner's duration information and display schedule are each "display times" because they provide timing information for display of secondary content. EX1003, ¶311.

#### *ii. 4[b]-4[c]: determine the low priority data has been displayed at the identified area of the touch screen for the display time; and in response to a determination that the low priority data has been displayed at the identified area of the touch screen for the display time, display second low priority data at the identified area.*

Gagner's device uses server-provided control/priority information to present secondary notifications on the display for a specified duration, which would involve determining when that duration has elapsed. EX1004, [0071], [0088]; EX1003, ¶312. Gagner teaches that secondary notifications may be presented for a

predetermined time and then disappear, turn off, reduce volume, or otherwise stop. EX1004, [0043], [0088]; EX1003, ¶312.

Gagner also teaches presenting multiple secondary notifications such that when one notification disappears or turns off after its duration, the system presents another notification at the identified area of the display based on control/priority information. EX1004, [0040]-[0043], [0059]-[0060], [0088]; EX1003, ¶¶313, 316. Gagner selectively displays different content at "opportune times" such as "in-between game play." EX1004, [0039].

Gagner's wager-multiplier example illustrates this limitation. The displayed secondary notification changes from "quadruple" to "triple" to "double" offers as time progresses. EX1004, [0042]. Each successive notification is low-priority data displayed after the preceding notification's display time has lapsed. EX1003, ¶¶314-316. Gagner also permits the user to "determine priority information for presenting the secondary content" by specifying an "order of preference" for displaying secondary notifications. EX1004, [0072], Fig. 4.

**4. Claim 11**

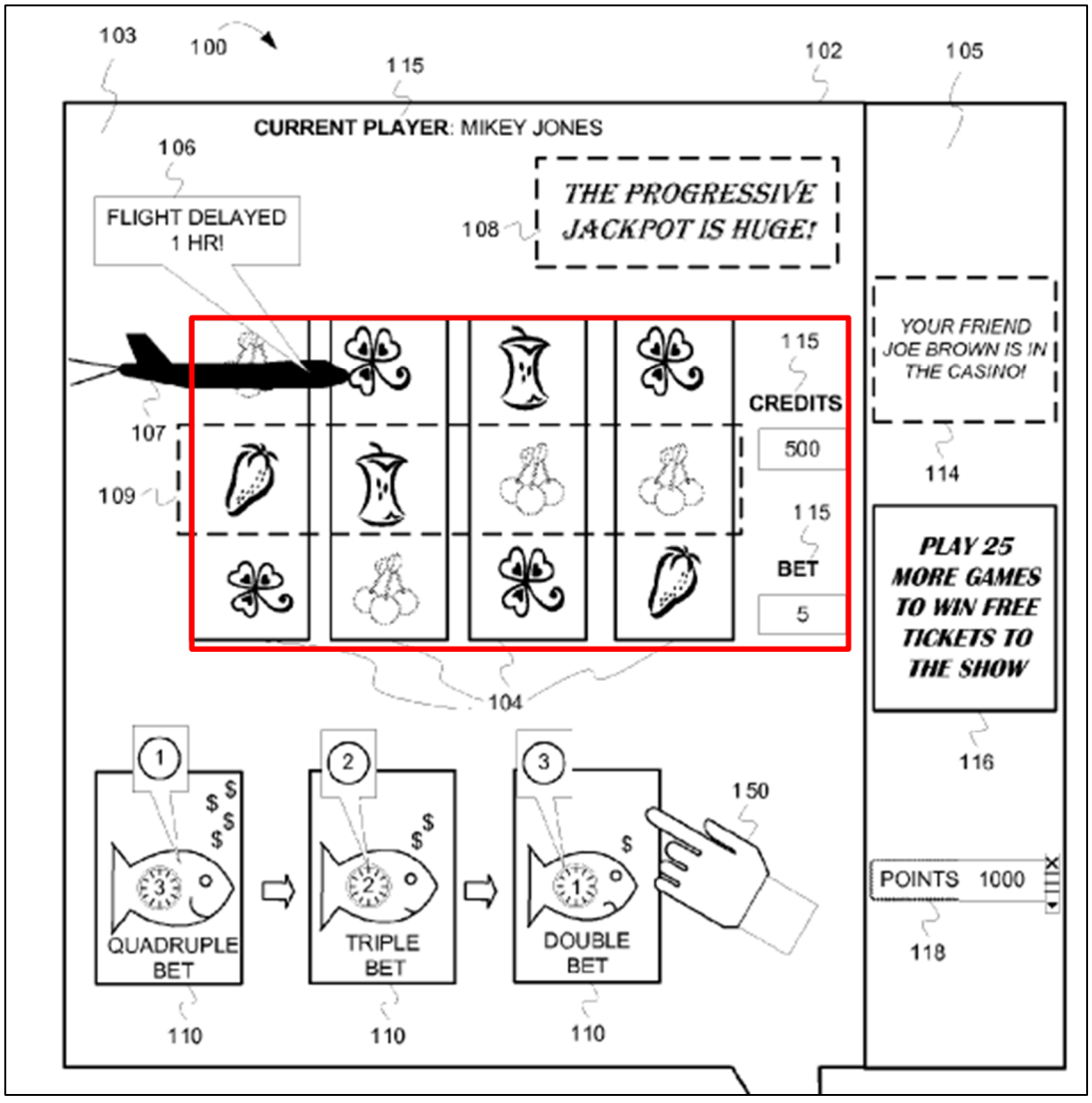
***i. 11[a]-[b]: The mobile phone of claim 1, wherein the at least one computer processor is further configured to: determine the low priority data received from the one or more server computers is approved for display, wherein to determine the low priority data received from the one or more server computers is approved for display, the at least one computer processor is configured to:***

Gagner's secondary content server determines whether available devices have screen space, processing power, memory, and audio/visual capabilities to present secondary content and sends its analysis as control/priority information to the wagering device. EX1004, [0071], [0088], [0091]-[0092]; EX1003, ¶¶317-320. Mitchell determines whether sufficient display area is available to display additional content with primary content and, when sufficient area exists, provides instructions for displaying the additional content. EX1010, 12:12-22, 12:60-13:17. Conversely, "[i]f the remaining display area is insufficient to accommodate the next priority content module (i.e., the content module with the next lower priority), then this embodiment clears the remaining display area[.]" EX1010, 13:35-40. In the combined system, low-priority secondary content satisfying Mitchell's display-area, layer-positioning, and border-spacing checks is approved for display on Gagner's device. EX1003, ¶¶317-320.

***ii. 11[c]: identify a first border of an image of the mobile application;***

Mitchell teaches placing added or secondary content 72 relative to primary content, such as Gagner's primary gaming content. EX1004, [0037]-[0043], Fig. 1;

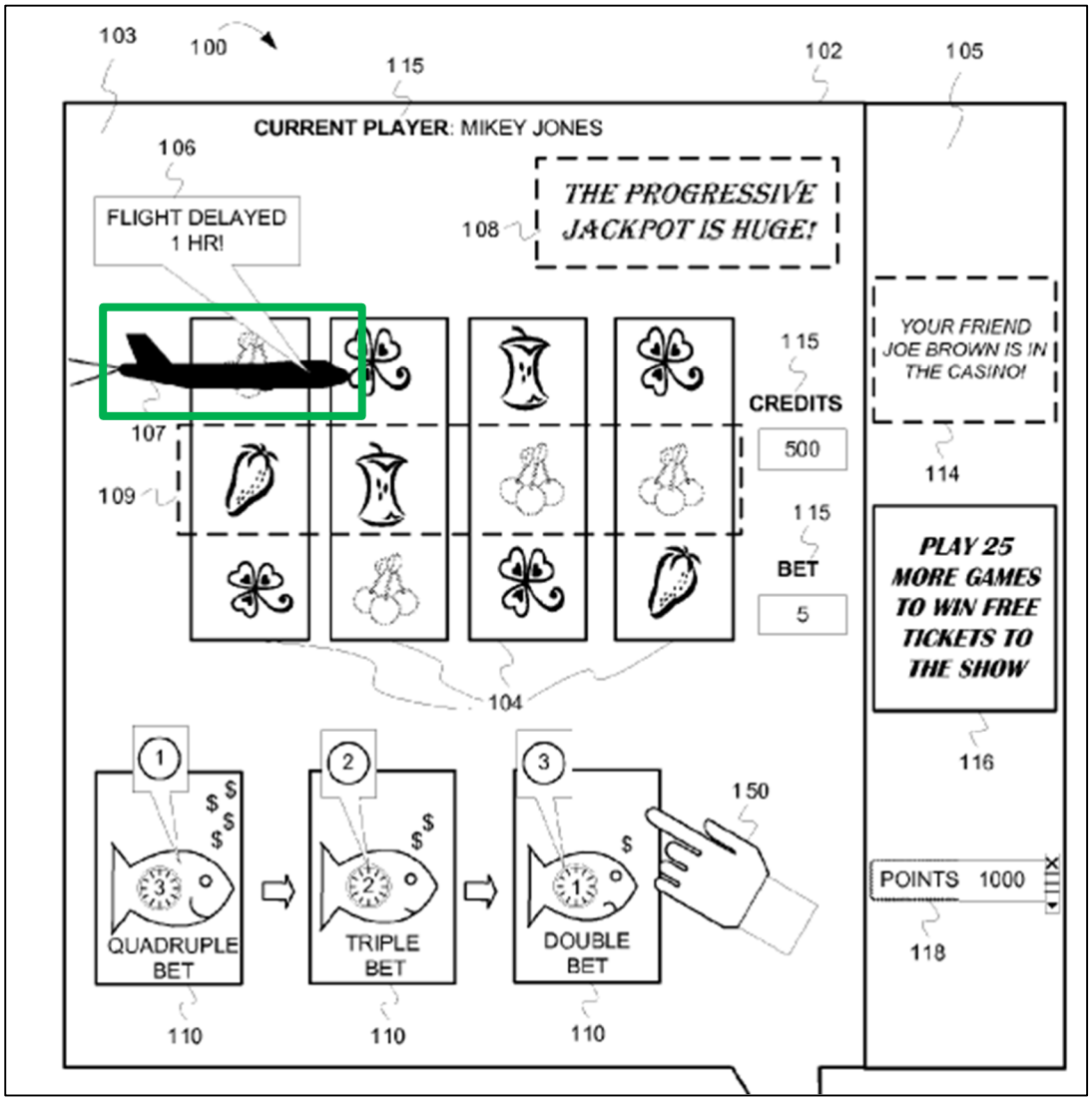
EX1010, Figs. 2A-2D, 8:40-9:13; EX1003, ¶322. Mitchell further teaches parsing content modules for positions, widths, heights, and other display "location coordinates" of a "primary content module." EX1010, Figs. 7 & 9, 13:60-14:5, 16:28-36. In the combined system, Mitchell teaches parsing Gagner's primary gaming content for this information, thus identifying a "**border**" (*e.g.*, location coordinates, height and width) of Gagner's primary content. EX1003, ¶¶321-323.




EX1004, Fig. 1.

***iii. 11[d]: identify a second border of an image in the low priority data;***

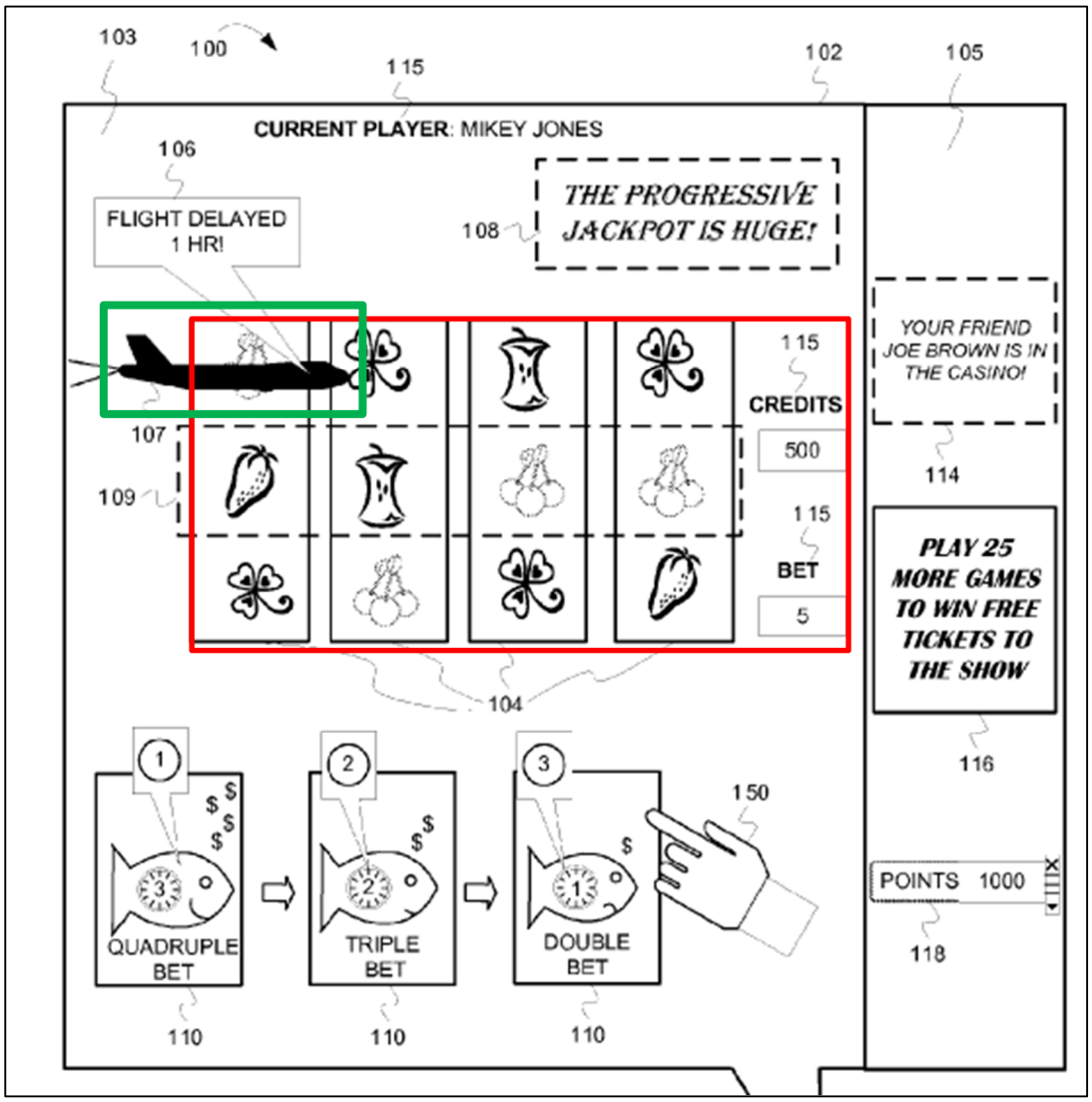
Mitchell identifies the sizes—preferably in pixels—of content modules, including "added content," and parses them for positions, widths, heights, and other layout information. EX1010, 8:40-53, 13:18-29, 13:60-14:5, Figs. 6 & 7. In the combined system, those sizes, positions, widths, and heights identify the **border** of Gagner's low-priority secondary-content image. EX1003, ¶¶324-327.




EX1004, Fig. 1.

***iv. 11[e]: overlay the image in the low priority data on top of the image of the mobile application; and***

Gagner discloses using priority data to determine "overlay ordering for different content occupying the same space," wherein the device "partially overlaps the **secondary content notification** onto the **primary content**, such as on the borders of the primary content…." EX1004, [0039]-[0040], [0060], [0088]; EX1003, ¶¶328-330.



EX1004, Fig. 1.

Mitchell also teaches using layers when displaying content, including that layering allows portions of content to overlap or appear in sequence and that browser-compatible instructions can display a layer that includes additional content. EX1010, 2:16-39, 12:60-13:17. A POSITA would have used Mitchell's layering technique to implement Gagner's overlay orders for low-priority secondary content in the combined system. EX1004, [0060]; EX1003, ¶331.

***v. 11[f]: while the images are overlain, determine the first border and the second border are separated by a predetermined number of pixels.***

Mitchell teaches detecting display-area dimensions in pixels, assigning content-module sizes preferably in pixels, and displaying content modules using positions, widths, heights, and display-location coordinates. EX1010, 12:12-22, 13:20-29, 13:60-14:5, 16:28-36, Figs. 6-7, 9. Gagner teaches presenting secondary content "based on predetermined rules or logic" that controls its "size" and "position" "in the player interface." EX1004, [0039], [0058], [0088]. A POSITA would have found it obvious to implement Gagner's predetermined size/position parameters using Mitchell's pixel-based layering such that pixel coordinates/dimensions of the low-priority secondary-content image overlain on the primary wagering-content image determine the predetermined pixel separation between their borders. EX1003, ¶¶332-335.

**5. Claim 13**

***i. The mobile phone of claim 1, wherein to compare the size of the identified area to the size of the low priority data, the at least one computer processor is further configured to compare an amount of pixels of the identified area to an amount of pixels of the low priority data.***

Mitchell discloses a pixel-based size comparison between an identified "display area" (*e.g.*, area remaining after displaying primary content) and low-priority secondary content in a mobile browser environment, wherein the content size is "preferably defined in pixels." EX1010, 4:22-28, 13:18-59; EX1003, ¶¶336-343; §1[h].

**6. Claim 14**

***i. The mobile phone of claim 1, wherein the location data further includes cellular phone data.***

Gagner discloses that its wagering terminal/device "can be included in … cell phones," and therefore the information provided by Gagner's "location unit" is "cellular phone data" because it originates from a cellular phone. EX1004, [0057].

Location information disclosed by Liu also includes "Enhanced-Observed Time Difference (E-OTD) technology, which utilizes measurements taken at the mobile terminal 100 of signals sent from several base stations." EX1005, [0021]; EX1003, ¶345. E-OTD information, which is reported by the mobile device to the server, also constitutes "cellular phone data," because it is measured by the phone based on cellular signal characteristics. EX1003, ¶¶344-346. A POSITA would have

been motivated to combine Liu's E-OTD technology with Gagner's GPS location because E-OTD was a known cellular positioning technique that could complement GPS technology to improve the availability and reliability of location determinations across varying operating conditions. EX1003, ¶346.

**7. Claim 15**

***i. The mobile phone of claim 1, wherein the received low priority data is further based on at least one of a current balance of money associated with the mobile gaming application, a last outcome of a game in the mobile gaming application played by the user, total winnings of the user, transaction data of the user, an average deposit amount of the user, a bet made by the user, an average bet amount of the user, a bet limit of the user, a loss limit of the user, or a deposit limit of the user.***

Gagner's secondary content server selects secondary content based at least on player information, including wagering "account balance," and notifications may be modified based on "spin" or game "outcomes." EX1004, [0042], [0069]-[0070], [0086]-[0088]; EX1003, ¶347.

**8. Claim 16**

***i. The mobile phone of claim 1, wherein to display the low priority data, the at least one computer processor is further configured to: display an indication that a priority of the low priority data is greater than a priority of second low priority data.***

Gagner's wagering devices indicate that one low-priority data (*e.g.*, secondary notification) has greater priority than another by displaying higher-priority notifications "in a larger display area [or] superimposed over other content," while

displaying lower-priority notifications "in a minimally intrusive manner (e.g., near the bottom of the primary content …)," or in a "designated secondary content display section" like a "sidebar." EX1004, [0039], [0043], [0059]-[0060]; EX1003, ¶¶348-350; §§1[g], 1[o]. The device may also play "audio" to "indicate that an important advertisement … is about to appear." EX1004, [0079].

**9. Claim 17**

***i. The mobile phone of claim 1, wherein to display the low priority data, the at least one computer processor is further configured to compare at least one of a current time or a current date to at least one of a start time or a start date included in the low priority data.***

Gagner's "secondary content server generates or determines control and priority information regarding the [] duration [] of the secondary content notification," and transmits it to the gaming device. EX1004, [0088], [0071]. The device then "utilizes content, control information and priority information to generate the secondary content notification and to present the secondary content notification." *Id.*; §§4[a]-[c]. A POSITA would have understood that displaying a secondary content notification for a predetermined "duration," as taught by Gagner, involves the device's processor comparing the current time against a notification start time included in the control information to determine when the "duration" has lapsed and cease displaying the notification. EX1003, ¶351.

Alternatively, in Gagner's baseball example, the secondary content server checks the current time, compares it to the scheduled play time for the player's

favorite team, and generates an interactive notification about an opportunity to bet. EX1004, [0070]-[0071]; EX1003, ¶352. Gagner also discloses a "secondary content module" on the wagering device that "can determine, control and/or present secondary content during a wagering game" and execute the secondary content server's "operations," including performing time comparison for Gagner's baseball example. EX1004, [0099]-[0100]. In this implementation, the device processor compares the current time to the scheduled play time of the secondary content to determine whether to display it. EX1003, ¶352.

**10. Claim 18**

***i. The mobile phone of claim 1, wherein the player prevention alert comprises a warning that a location of the mobile phone cannot be determined.***

Liu explains that access may be denied if the location request fails or the user has not authorized location requests, and the game server may send compliance information explaining the denial. EX1005, [0037]-[0038], [0046]-[0049]. Specifically, GPS location may be unavailable in a parking garage, so the device displays compliance information explaining GPS failure and helps the user obtain GPS location. EX1005, [0048]-[0049]. EX1003, ¶353; §1[m].

## B. Ground 2 (Gagner-Liu-Mitchell-Northway)

### 1. Motivation to Combine

A POSITA would have been motivated to combine Northway with the Gagner-Liu-Mitchell system. EX1003, ¶354. Northway is analogous art because it also discloses using a mobile device's geographic location to deliver content. EX1006, Abstract, [0001], [0016]. Like Liu, Northway uses GPS, A-GPS, triangulation, and signal-strength information to determine device location. EX1006, [0018], [0037]-[0038]; EX1005, [0020]-[0023]. Like Gagner, Northway uses that location to deliver advertisements or messages to the device. EX1006, [0007]-[0009], [0044]-[0046]; EX1004, [0082], [0090]. The '284 Patent likewise concerns location-based content delivery, including displaying promotions when a player reaches the edge of a gaming area. EX1001, Abstract, 23:37-38, 79:48-53.

A POSITA would have been motivated to combine Northway's geo-boundary with the Gagner-Liu-Mitchell system to address the specific scenario of the mobile device reaching/crossing an edge of an approved gaming area. EX1003, ¶355. Liu determines whether a device is within an authorized gambling jurisdiction (EX1005, [0027]-[0035], [0040]), and Gagner presents secondary content based on device location (EX1004, [0082], [0090]), but neither expressly uses boundary-edge status to trigger content. Northway supplies that functionality by defining zones using multiple geo-boundaries, detecting boundary crossings, and sending location-based

messages or advertisements. EX1006, [0007]-[0009], [0044]-[0048], Fig. 4. A POSITA would have found it obvious to apply Northway's geo-boundary logic to the edge of Liu's permitted wagering area and trigger Gagner's location-based content delivery. EX1003, ¶356.

Northway discloses an improvement over single-radius proximity systems that could not determine entry from exit of a location and may repeatedly send the same advertisement when a user moved in and out of an area. EX1006, [0005]-[0006]. Northway's multiple-boundary system more precisely tracks movement across zones using associated references (*e.g.*, landmarks, buildings) to determine movement direction from a targeted location, and provides follow-up promotions when a user does not cross an expected boundary within a time period or enters another zone, thereby avoiding repetitive advertisements. EX1006, [0017]-[0018], [0023]-[0030], [0041]-[0042], [0048]-[0053]. These benefits would have motivated a POSITA to make the combination and predictably improved Gagner's location-based content delivery at the edge of the approved gaming areas taught by Liu. EX1003, ¶357.

A POSITA would have had a reasonable expectation of success. EX1003, ¶358. All references use compatible client-server architectures to deliver content over wireless networks. EX1004, [0061]-[0063]; EX1005, [0016]-[0018]; EX1010, 5:30-55; EX1006, [0019]-[0020]; §IX.A.1. Moreover, Gagner presents secondary

content on wagering devices based on location, Liu authorizes mobile wagering based on location, and Northway delivers messages/advertisements to mobile devices based on geo-boundaries. EX1004, [0061]-[0063], [0082], [0090]; EX1005, [0016]-[0018], [0024]-[0027]; EX1006, [0018]-[0021], [0037]-[0046]. The combination would merely apply Northway's known geo-boundary detection and advertisement-triggering logic to the boundaries of Liu's approved gaming area and use Gagner's existing secondary content framework to present the resulting low-priority content, reformatting using Mitchell's techniques to fit the display when necessary. EX1003, ¶358. The predictable result would be a mobile wagering system that detects a device at the edge of an approved gaming area and presents location-based non-interfering secondary content (*e.g.*, advertisements/notifications) based on that edge status. *Id*.

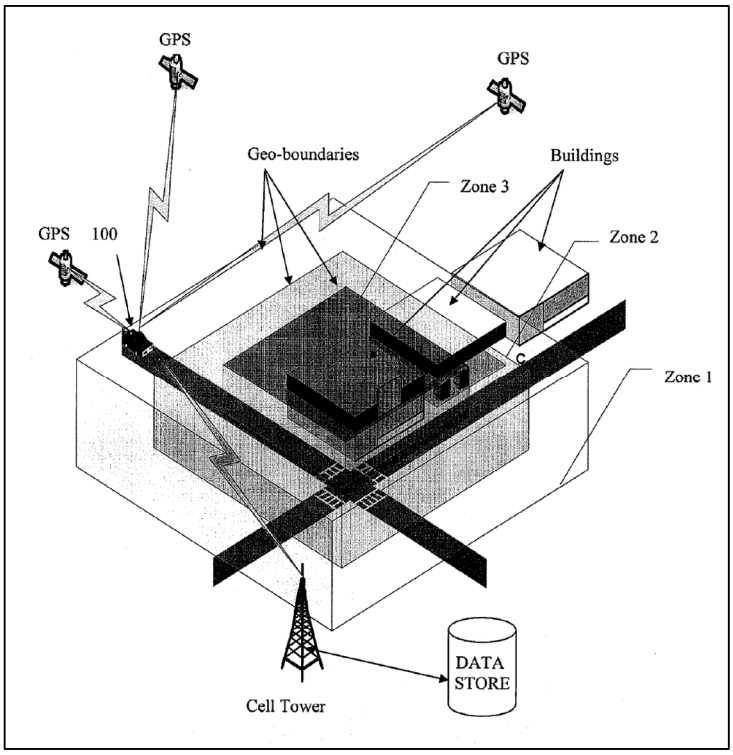
**2. Claim 2**

***i. The mobile phone of claim 1, wherein the location data indicates the mobile phone is at an edge of an area where gambling is allowed, and wherein the low priority data is based on the mobile phone being at the edge of the area where gambling is allowed.***

As demonstrated in Ground 1, the Gagner-Liu-Mitchell system authorizes mobile wagering by comparing a mobile terminal's GPS location to jurisdictional boundaries and displaying advertising content or messages based on the location. EX1005, [0027]-[0035], [0040]; EX1004, [0082], [0090]; §§1[f], 1[m]; EX1003, ¶359. Northway teaches defining those jurisdictions as "zones," detecting when the

device reaches/crosses a boundary, and sending a corresponding message/advertisement. EX1006, [0007]-[0009], [0018], [0037]-[0038].

Northway's Figure 4 illustrates geo-boundaries defined between "zones," which can be used to "detect when a user has entered or exited a store, building or other environment":




EX1006, Fig. 4, [0022]; EX1003, ¶361.

Northway's Figure 3 illustrates the boundary-trigger: the mobile device **sends its location** to the location-based system, which **compares the location to predefined zone boundaries** and **sends a notification to an advertisement engine**, which **receives the boundary notification** and **sends the advertisement** to the **mobile device**. EX1006, [0044]-[0046].

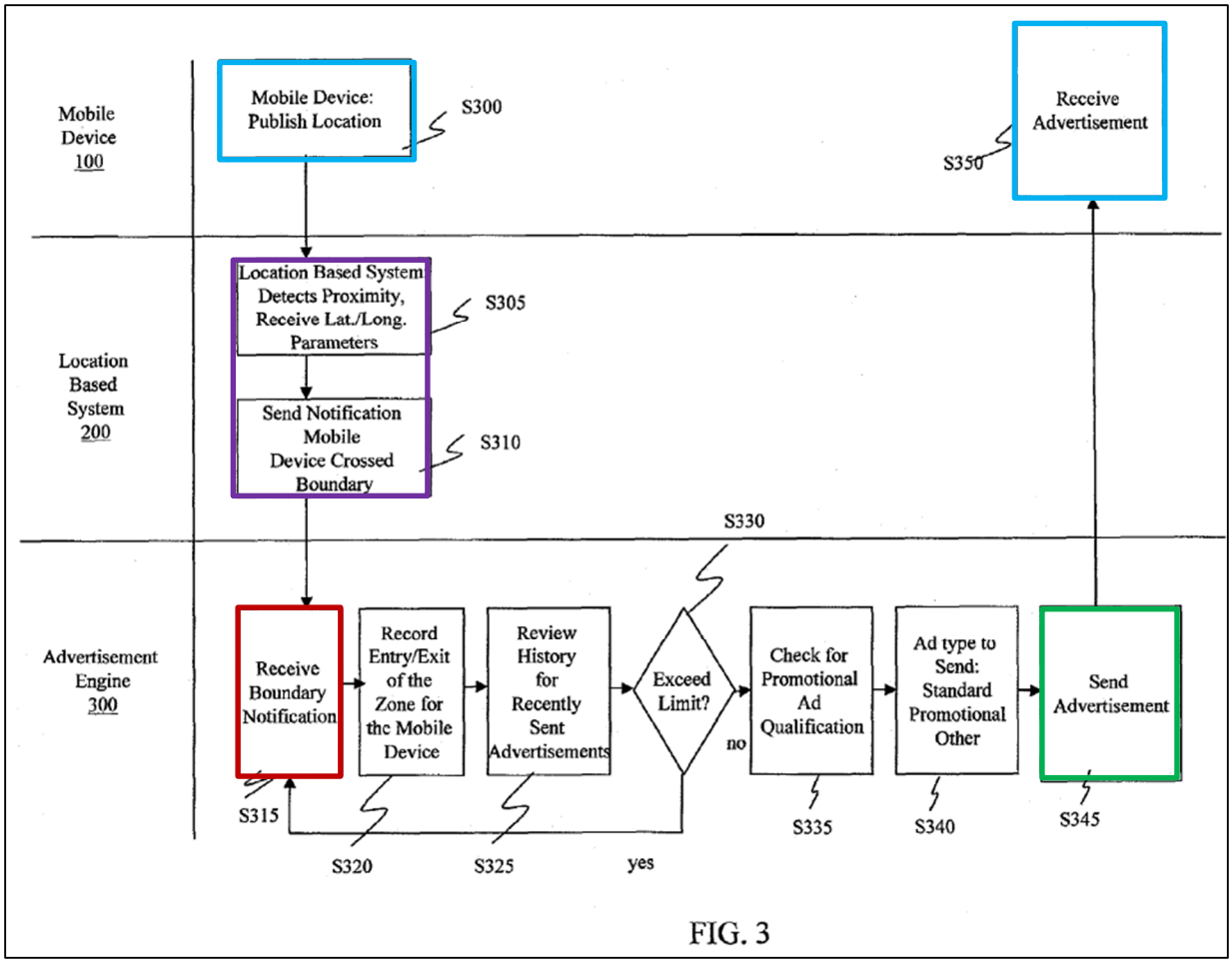



FIG. 3

EX1006, Fig. 3, [0048]-[0053]; EX1003, ¶360.

A POSITA would have been motivated to use Northway's geo-boundary-defined "zones" in the combined system so the edge of an authorized gambling area is implemented as a geo-boundary and the device's location data indicates whether it is at that boundary edge. EX1005, [0027]-[0035]; EX1006, [0007]-[0009], [0044]-[0048]; EX1003, ¶362; §IX.B.1. When the "edge" condition is detected, the combined system sends a message to the mobile device based on whether the device

has failed to exit a prior zone or crossed a boundary. EX1006, [0008], [0023]-[0030], [0041]-[0046], [0048]-[0054], EX1003, ¶¶363-364.

### C. Ground 3 (Gagner-Liu-Mitchell-Haney)

#### 1. Motivation to Combine

A POSITA would have been motivated to combine Haney with the Gagner-Liu-Mitchell system. EX1003, ¶365. Haney is analogous art because it is directed to GPS-equipped mobile phones running a client application that obtains the phone's own position data and exchanges that data with a server over the cellular network and the Internet. EX1012, Abstract, [0007]-[0011], [0179]-[0185]. Gagner, Liu, and Mitchell likewise use client-server architectures in which mobile devices communicate with servers over wireless networks. EX1004, [0061]-[0063]; EX1005, [0016]-[0018]; EX1010, 5:30-55; §IX.A.1. The '284 Patent's technical field also involves mobile devices using "positioning technologies to determine their own location," including "GPS receivers" configured to transmit GPS signals to a central server. EX1001, Abstract, 13:33-34, 14:1-5, 27:28–33.

A POSITA would have been motivated to combine Haney's device-side position reporting with the Gagner-Liu-Mitchell system so the servers authorizing wagering receive current location data throughout a gaming session. EX1003, ¶366. Gagner's device determines its own location and movements using GPS or RFID, and Liu conditions continued wagering on whether the device remains within an

approved area. EX1004, [0097]; EX1005, [0041], [0044]. Liu teaches the gaming server repeatedly checks the device's location with the location server. EX1005, [0041]-[0045], Fig. 6; EX1003, ¶¶367-369. To the extent Liu is insufficient, Haney supplies that step, teaching devices that "periodically send their GPS position data" at configurable intervals or whenever position changes by a programmable amount. EX1012, [0066], [0133]. Contemporaneous mobile-gaming requirements reinforce this motivation, requiring authorization information "transmitted by the mobile communications device to the mobile gaming system" on "a regular basis" and systems capable of "immediately detecting if a mobile device has entered a non-gaming area." EX1025, 1; EX1027, 4; EX1003, ¶370.

A POSITA would have had a reasonable expectation of success. EX1003, ¶371. Gagner's device already includes a GPS-based location unit and an external system interface with 802.11, Bluetooth, and Ethernet transceivers for exchanging information with servers. EX1004, [0096]-[0097]. And Haney's approach requires no "new cell phone," "PDA technology," or "development of new cellular communication infrastructure," relying instead on existing platforms and routine software. EX1012, [0010]. The predictable result would be a mobile wagering system in which the mobile phone repeatedly sends its GPS location data to the servers that authorize wagering. EX1003, ¶371.

**2. Claim 3**

***i. 3[a]-3[b]: The mobile phone of claim 1, wherein, to prevent the user from placing the wager via the mobile application, the at least one computer processor is further configured to: repeatedly send location data to the one or more server computers;***

Gagner discloses dynamically customizing display of secondary content based on the "wagering game device's location/movements," and Liu's game server "periodically requests an updated location for mobile terminal 100" to determine whether the user remains within approved areas. EX1004, [0097]; EX1005, [0041], [0044]-[0045], Fig. 6. Liu thus teaches obtaining location information from the device. EX1003, ¶¶372-375.

To the extent that Liu is insufficient, Haney discloses user tracking systems, wherein mobile phones are configured to "retrieve GPS position data directly or indirectly from a GPS receiver in the phone" and "wirelessly send the GPS position data to the [] server either periodically or on demand from the server[.]" EX1012, [0180]. A POSITA would have been motivated to include Haney's teachings to repeatedly/periodically send GPS data to a gaming server to satisfy Liu's requirement to periodically determine whether the user remains in approved wagering areas. EX1003, ¶¶376-377, 385; §IX.C.1.

***ii. 3[c]: detect a disruption in a connection to the one or more server computers; and***

Liu discloses that location requests may "fail for technical reasons," such as "poor signal conditions" or an "obstructed" GPS receiver. EX1005, [0048]-[0049], [0037]. Rejected/failed location requests are "disruptions" in a connection to the server(s) used to verify the mobile terminal's location because mobile terminals use wireless signals to communicate with the server(s), and communications are disrupted when those connections "fail." EX1003, ¶378. Liu confirms this understanding by terminating the gambling activity when the server cannot confirm that the terminal remains within an approved area. EX1005, [0041], [0044]-[0045]. However, Liu does not explicitly disclose that the mobile phone itself detects such disruptions.

Haney discloses GPS-equipped mobile devices that share location information with central servers and other network nodes when "in an area where the device can receive a GPS signal and send the phone's coordinates out on the cellular network[]." EX1012, [0007]-[0014], [0179]-[0185]. Haney's device may monitor its "requests" for "position update[s]" over the wireless network and initiate "a timeout" when the expected "position update" is not received, signifying communication disruptions or out-of-coverage conditions. EX1012, [0074]. A POSITA would have understood that failing to receive expected wireless network communications is a "disruption," and found it obvious to implement Haney's client-

side connection monitoring into Liu's system such that the device itself detects failed location requests to Liu's servers and terminates/prevents unauthorized wagering without further server instructions, which may be unavailable during connection disruptions. EX1003, ¶¶379-380, 385.

***iii. 3[d]-3[f]: in response to the disruption: prevent the user from placing the wager via the mobile application; and display second low priority data on the touch screen of the mobile phone.***

Liu denies access to the "gambling activity" when a location request "fails," such as due to "poor signal conditions." EX1005, [0046], [0049]. However, "rather than simply denying access to the gambling activity without explanation," Liu discloses that the "game server may instruct the user of [the] mobile terminal 100 as to the reasons for denial." EX1005, [0038]-[0040], [0045]-[0051]; EX1003, ¶381; §1[m].

Liu teaches displaying this information via a "message" or "web page pushed to the mobile terminal." EX1005, [0047]. Similarly, Gagner teaches displaying web-based secondary content (*e.g.*, low-priority data) on the device, including messages, notifications, advertisements, and other ancillary information to the game. EX1004, [0038], [0040]-[0043]; EX1003, ¶383. In the combined system, Liu denies access to wagering activity after detecting a connection disruption, while Gagner's device displays Liu's denial message as secondary content and prevents wagering. EX1003, ¶¶384-385.

## D. Ground 4 (Gagner-Liu-Mitchell-Aleksic)

### 1. Motivation to Combine

A POSITA would have been motivated to combine Aleksic with the Gagner-Liu-Mitchell system. EX1003, ¶386. Aleksic is analogous art because it addresses power management for battery-powered portable devices, such as wireless phones, that execute software applications and display multimedia content. EX1007, Abstract, [0001]-[0004], [0026]-[0030]. Gagner, Liu, and Mitchell likewise use mobile devices that execute software, communicate over networks, and display content. EX1004, [0061]-[0063]; EX1005, [0016]-[0018]; EX1010, 5:30-55; §IX.A.1. The ’284 Patent also concerns mobile devices that display content while managing device operation and battery-related behavior. EX1001, 19:32-48, 48:18-49:7.

A POSITA would have been motivated to combine Aleksic’s power-management with the Gagner-Liu-Mitchell system to preserve battery life while the mobile device presents wagering and secondary content. EX1004, [0038], [0052]-[0053], [0063]. Gagner discloses selectively displaying content based on location and priority information but does not teach adjusting device operations as battery capacity decreases. Aleksic supplies these functions by disclosing a controller that monitors remaining battery capacity and power-consumption rates, predicts application runtime, and adjusts quality of service or disables applications to meet

runtime or reserve-power goals. EX1007, Abstract, [0022], [0025], [0032]-[0039], [0041]-[0049]. Aleksic further identifies dimming displays and reducing power consumption as known low-battery actions. EX1007, [0002]. A POSITA would have found it obvious to apply Aleksic's power-management techniques to Gagner's device so lower-priority secondary content would not unnecessarily consume battery needed for higher-priority wagering functions. EX1003, ¶¶387-388.

A POSITA would have had a reasonable expectation of success in the combination because it would have required only conventional software and device-configuration changes to mobile devices already executing applications and displaying multimedia content. EX1004, [0052]-[0053], [0063], [0094]-[0100]; EX1005, [0016]-[0018]; EX1010, 5:30-55, 13:65-14:5; EX1007, [0029]-[0031], [0035]-[0039]; §IX.A.1. The combination would merely implement Aleksic's battery monitoring, quality-of-service settings, power profiles, threshold-based operations, and application-priority control in Gagner's device. EX1004, [0063]; EX1007, [0035]-[0042], [0048]-[0050]. The predictable result would be a mobile wagering system that monitors battery capacity and conserves power by adjusting the display/download of low-priority content while preserving higher-priority wagering functions. EX1007, [0025], [0033]-[0039], [0041]-[0049]; EX1003, ¶¶389-390.

### 2. Claim 5

#### *i. 5[a]-5[b]: The mobile phone of claim 1, wherein the at least one computer processor is further configured to: receive second low priority data;*

As demonstrated in Ground 1, the combined system receives numerous "secondary content" items, which are displayed at various times, positions, and sizes, and are displayed for various durations based on control and priority data with "rules" or "logic" controlling how the content is presented. §§4[b]-[c], 16; EX1003, ¶¶391-394.

#### *ii. 5[c]-5[d]: determine that displaying the second low priority data will reduce battery consumption at the mobile phone; and display the second low priority data based on a determination that the second low priority data will reduce battery consumption at the mobile phone.*

While Gagner's wagering devices provide local "power management" functionality (EX1004, [0064]), Gagner does not expressly determine that displaying certain secondary content will reduce battery consumption. Aleksic teaches a "runtime predictor module" that "predicts [] the runtime length of the application … and selects a suitable quality of service" based on remaining battery, power consumption, and other metrics. EX1007, [0037], [0042]-[0043]; EX1003, ¶395. Based on the "quality of service level," Aleksic "dynamically controls functional processing capability features of the device to provide power for a higher priority feature at the expense of a lower priority [] feature." EX1007, [0022],

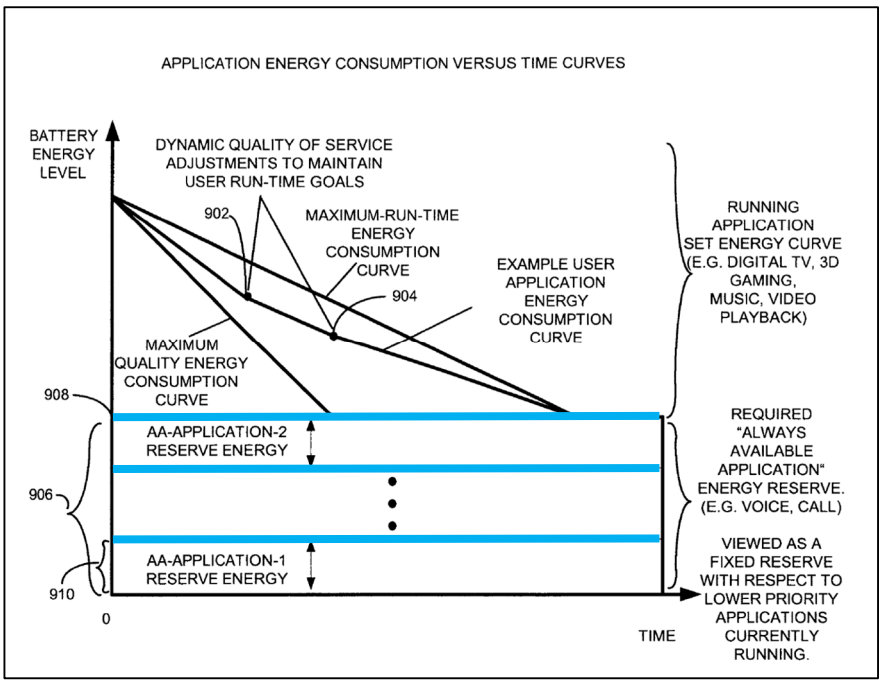
[0035]-[0039], [0041]-[0042]; EX1003, ¶¶396-398. Aleksic thus evaluates the relative power cost of candidate content and features—for example, reducing video quality, shortening audio play time, or substituting a lower-power presentation—and selects the option that conserves power. EX1007, [0038], [0041], [0049], Fig. 10; EX1003, ¶401. Applying that evaluation to Gagner's queue of secondary content items, the combined system determines that displaying a second, lower-power content item (*e.g.*, a static image rather than video or audio content) will reduce battery consumption relative to the alternatives, and displays that item on that basis. EX1004, [0040]-[0043], [0059]-[0060]; EX1003, ¶¶399-401.

A POSITA would have been motivated to apply Aleksic's portable device controller and runtime predictor module in Gagner's wagering content display system to display prioritized secondary content that reduces battery consumption, thus facilitating Gagner's "power management" functionality and extending battery life/play time of Gagner's wagering device. EX1003, ¶¶395-402; §IX.D.1.

### 3. Claim 6

#### *i. 6[a]-6[b]: The mobile phone of claim 1, wherein the at least one computer processor is further configured to: determine a battery level at the mobile phone is below a predefined threshold; and*

Aleksic discloses monitoring mobile device battery level and predefined "**thresholds**" for enabling or limiting device functionality. EX1007, [0036]-[0039], [0041]; EX1003, ¶¶403-405.




EX1007, Fig. 9.

***ii. 6[c]-6[e]: in response to the determination the battery level is below the predefined threshold, alter a manner of operation of the mobile phone to conserve the battery level, wherein to alter the manner of operation of the mobile phone to conserve the battery level, the at least one computer processor is configured to: dim a brightness level of the touch screen of the mobile phone; reduce a volume level of a speaker of the mobile phone; or shorten a video length of the low priority data.***

Aleksic teaches selecting a revised power profile, reducing quality of service, or entering a lower-power mode to preserve power for higher-priority functions when a battery threshold condition is met. EX1007, [0041]-[0049], [0022]-[0025], [0033]-[0034]; EX1003, ¶¶406-409. For example, Aleksic "dim[s]" the display when entering a low-battery condition. EX1007, [0002]. For reducing volume,

Aleksic identifies digital-audio play time or volume level as a device-function setting that can be adjusted as battery power decreases. EX1007, [0049], Fig. 10.

**4. Claim 7**

***i. The mobile phone of claim 1, wherein the at least one computer processor is further configured to: determine not to download second low priority data from the one or more server computers based on a determination that a battery level at the mobile phone is below a predefined threshold.***

As discussed in Ground 1, Gagner's content server generates "control information," which allows Gagner's wagering device to "assemble" secondary content notifications by "obtaining" content stored on the server and "download[ing]" by the terminal to display. EX1004, [0054], [0088]; §1[g]. Gagner also discloses assembling and displaying content based on "rules" or "logic." EX1004, [0039].

Aleksic discloses dynamically adjusting service levels based on battery capacity, including by limiting server communications and holding back lower-priority messages, like emails. EX1007, [0033], [0041], Fig. 9; §§6[a]-6[e]. A POSITA would have been motivated to combine Aleksic with Gagner's "logic" for displaying secondary content to limit downloading of additional secondary content when assembling notifications based on battery thresholds, preserving battery and increasing wagering on Gagner's device. EX1003, ¶¶410-412.

## E. Ground 5 (Gagner-Liu-Mitchell-Louch)

### 1. Motivation to Combine

A POSITA would have been motivated to combine Louch with the Gagner-Liu-Mitchell system. EX1003, ¶413. Louch is analogous art because it is directed to mobile devices that use sensors and processor-executed instructions to automatically adjust device features such as audio output and display characteristics based on detected conditions. EX1008, Abstract, [0003]-[0004], [0010]-[0013]. Like Gagner and Liu, Louch discloses mobile devices with touch-sensitive displays, graphical user interfaces, microphones, speakers, and processors that execute software to control device operation. EX1008, Figs. 2-3, [0018]-[0020], [0038]-[0039]; §IX.A.1. The ’284 Patent likewise concerns mobile devices with sensors, processors, touch screens, and adjustable display and audio characteristics. EX1001, Fig. 2, 19:32-48, 20:4-7; 20:14-16.

A POSITA would have been motivated to combine Louch’s sensor-based controls with the Gagner-Liu-Mitchell system to automate device adjustments and enhance user experience through automated adjustments and increased battery life during mobile wagering. EX1003, ¶414. As demonstrated in Ground 1, Gagner and Liu disclose mobile wagering (§1[a]), and Gagner’s device further provides volume control of audio content (EX1004, [0058]), but neither expressly teaches automatically adjusting display brightness based on ambient light or speaker volume

based on detected noise or user proximity. Louch supplies these functions by disclosing a system that uses sensors to detect device and environmental conditions and automatically adjust device features "based on the current state of the mobile device." EX1008, Abstract, [0004].

Louch teaches that "an ambient light sensor 270 can [] be used to determine the current state of the device" and that "the ambient light sensor 270 can be utilized to facilitate adjusting the brightness of the display 202[.]" EX1008, [0021], [0023]. Louch also teaches that "the microphone 122 can be used as a volume sensor which can detect the user's voice volume" and that "the sensitivity of the microphone 122 and/or the volume of the loudspeaker 124 can be adjusted in correspondence with the proximity change, thus guaranteeing optimal voice quality." EX1008, [0022], [0052]. Louch further teaches that the device state includes detecting whether a user is near the device using multiple methods, including proximity sensors, voice detection via the microphone, and image capture via a camera. EX1008, [0021]-[0022], [0032], [0051]. These features would have predictably reduced manual adjustments and facilitated hands-free use of the Gagner-Liu-Mitchell mobile wagering device. EX1003, ¶415.

A POSITA would have had a reasonable expectation of success. EX1003, ¶416. First, all references use compatible client-server architectures with processors executing software instructions. EX1004, [0061]-[0063]; EX1005, [0016]-[0018];

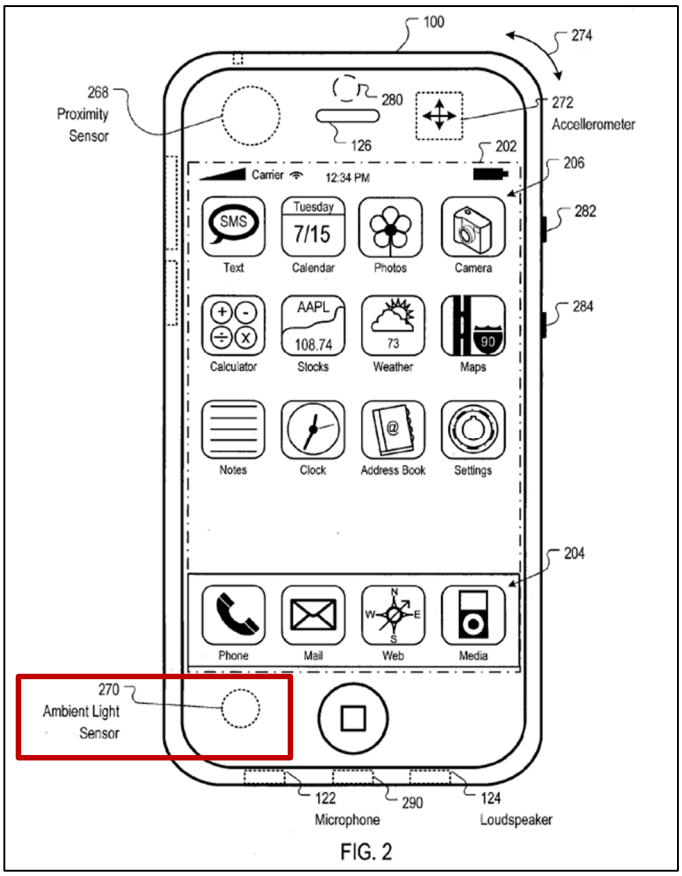
EX1010, 5:30-55; EX1008, [0043]; §IX.A.1. Second, Gagner's wagering devices already include displays, speakers, and microphones. EX1004, [0052]-[0053], Fig. 8. Third, Louch provides detailed guidance on implementing sensor-based automatic adjustments for display brightness and speaker volume. EX1008, [0021]-[0023], [0052], Fig. 5. Thus, the combination would merely implement Louch's known sensor-based brightness and volume controls through conventional software on Gagner's device, which is a software-based modification well within the capabilities of a POSITA. EX1003, ¶416. The predictable result would be a mobile wagering system that automatically adjusts display brightness based on ambient light and speaker volume based on detected ambient noise and/or user proximity. EX1003, ¶416.

**2. Claim 8**

***i. The mobile phone of claim 1, wherein the at least one computer processor is further configured to: detect, via a light sensor of the mobile phone, that a level of ambient light is above a predefined threshold; and alter a brightness level of the touch screen of the mobile phone.***

Louch teaches determining a "state" of a mobile device, such as a mobile phone, and taking "control action" by the device's processor to adjust the state of the mobile device. EX1008, [0010], [0012]-[0013]; EX1003, ¶417. Louch teaches "an **ambient light sensor 270** can also be used to determine the current state of the device," and "the ambient light sensor 270 can be utilized to facilitate adjusting the

brightness of the display 202[.]" EX1008, [0021], [0023]. Louch's screen-brightness adjustment can be performed automatically when the sensor value crosses a predefined threshold. EX1008, Fig. 4, [0012]-[0017], [0023], [0049]; EX1003, ¶¶418-419.




EX1008, Fig. 2.

A POSITA would have been motivated to combine Louch's ambient-light brightness control with Gagner's wagering device to improve content visibility, consistent with Gagner's goal of making important content "very noticeable" "for maximum notoriety." EX1004, [0039]-[0040]; EX1003, ¶¶420-421; §IX.E.1.

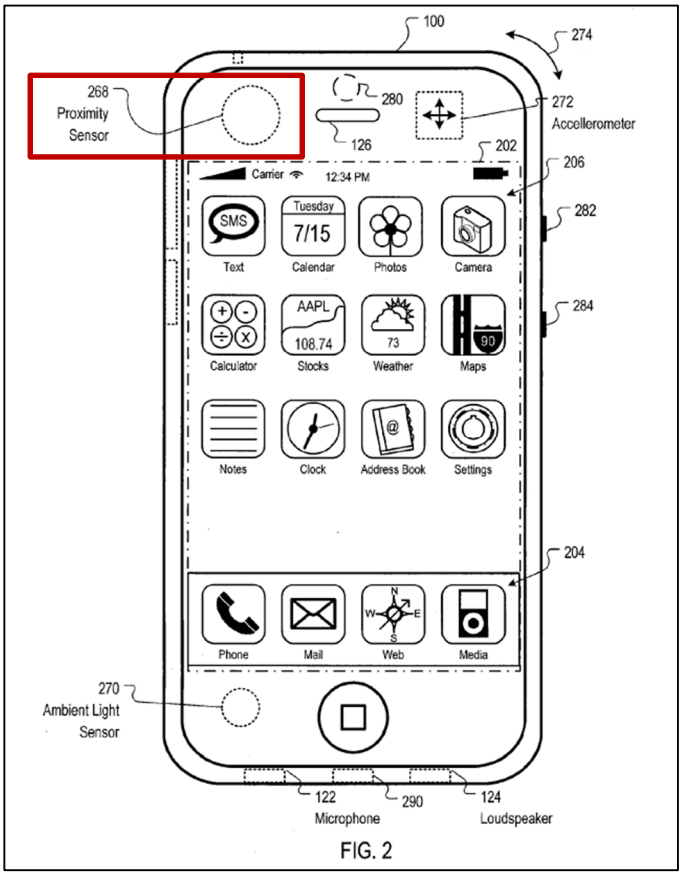
### 3. Claim 9

#### *i. 9[a]: The mobile phone of claim 1, wherein the low priority data includes audio and the at least one computer processor is further configured to:*

Gagner teaches that "the secondary content [low-priority data] comprises … audio information." EX1004, [0008], [0040], [0052], [0053]; EX1003, ¶422.

#### *ii. 9[b]: determine that the user is near the mobile phone;*

Louch discloses a "**proximity sensor**" embedded in a mobile phone that detects a device "state," such as whether the device is next to an object like the user or the user's head or ear. EX1008, [0016], [0021]; EX1003, ¶423.




EX1008, Fig. 2.

***iii. 9[c]: detect, via a microphone of the mobile phone, that a level of ambient noise is above a predefined threshold based on a determination that the user is near the mobile phone; and***

Louch also teaches a mobile phone with a **microphone** and **speaker system**. EX1008, [0010], [0018], [0033]; EX1003, ¶¶424-425.

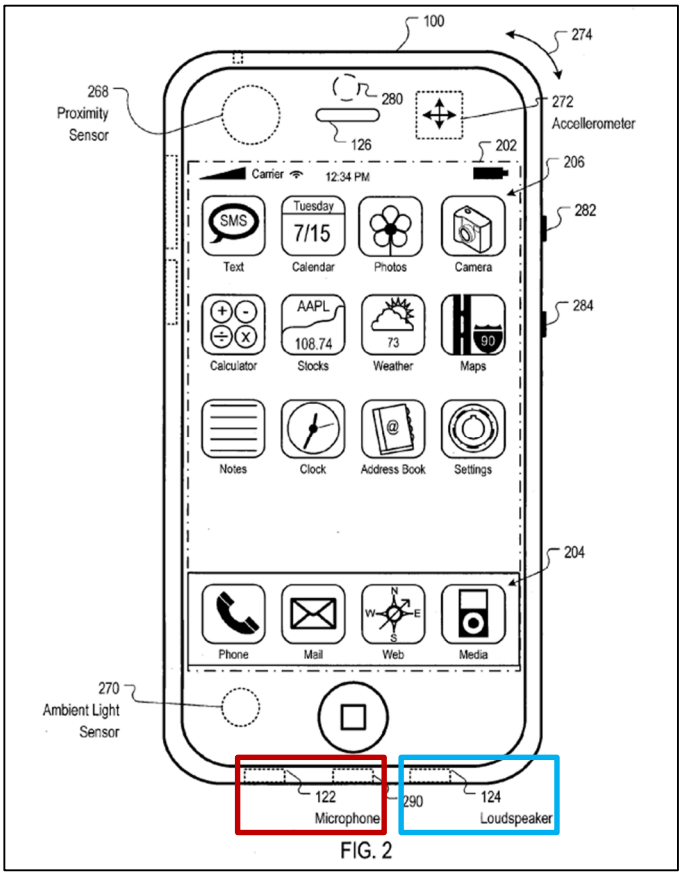


FIG. 2

EX1008, Fig. 2.

The microphone is used to detect the level of noise, and "audio management instructions … facilitate functions [to] manag[e] audio subsystem, including the loudspeaker 124, and the microphone 122." EX1008, Fig. 3, [0044], [0051], [0058]; EX1003, ¶426. Specifically, Louch discloses that "the volume of the loudspeaker []

can be adjusted in correspondence with the proximity change, [to] guarantee[] optimal voice quality." EX1008, [0052].

Louch teaches that the mobile device can "learn[]" particular patterns of the device state or the user's interactions with the device. EX1008, [0057]; EX1003, ¶427. For example, the device can learn "a signature of proximity" and compare that to detected volume levels to adjust the mobile device according to a pattern of adjustments that the user has made in the past. EX1008, [0057]-[0059].

***iv. 9[d]: increase a volume level of a speaker of the mobile phone;***

Gagner teaches that control information can specify the volume of content presented by the wagering device, and that content can be dynamically controlled according to rules or logic. EX1004, [0058]. Louch teaches automatically adjusting the speaker volume or activating speakerphone based on certain conditions, including adjusting loudspeaker volume in correspondence with detected conditions to "guarantee[] optimal voice quality." EX1008, [0013]-[0014], [0031]-[0033], [0044], [0052]. A POSITA would have been motivated to apply Louch's teachings to automatically increase volume settings based on user-proximity and ambient noise into Gagner's secondary content display rules to increase user interactivity with displayed secondary content. EX1003, ¶¶428-429; §IX.E.1.

***v. 9[e]: wherein to determine that the user is near the mobile phone, the at least one computer processor is further configured to: identify a user voice in audio detected by the microphone of the mobile phone; identify the user in an image captured by a camera at the mobile phone; or identify a signal from a second mobile phone by an antenna of the mobile phone.***

Louch's "microphone 122 can be used as a volume sensor which can detect … that the user is speaking directly into the microphone 122 while holding the mobile device 100 to their ear, resulting in the speakerphone system being deactivated." EX1008, [0022], [0051] ("the current state can be … the mobile device 100 being orienting towards or away from a user; the mobile device 100 being in proximity or within a distance to a user; … volume levels received at the microphone 122; … and other events that tend to denote a change of position, orientation, or state of the mobile device 100.").

Louch further teaches "[t]he camera can capture still images and/or video. In some implementations, the images captured by the camera can be used to measure proximity to a user or if the mobile device 100 is held by the user and the speakerphone system and graphical user interface can be activated or adjusted accordingly." EX1008, [0032]; EX1003, ¶¶430-433.

## F. Ground 6 (Gagner-Liu-Mitchell-Felt)

### 1. Motivation to Combine

A POSITA would have been motivated to combine Felt with the Gagner-Liu-Mitchell system. EX1003, ¶434. Felt is analogous art because it is directed to

securing messages transmitted between servers and client devices using digital signatures and encryption to verify authenticity, integrity, and temporal validity. EX1009, Abstract, [0049], [0094]-[0095], Fig. 6. All references use compatible client-server architectures to transmit messages over networks, including the Internet. EX1009, [0004]-[0009], [0015]-[0016], [0094]-[0095]; §IX.A.1. The '284 Patent likewise concerns authenticating and verifying messages sent from servers to mobile wagering devices over networks. EX1001, 17:66-18:45.

A POSITA would have been motivated to combine Felt's digital signature and timestamp verification with the Gagner-Liu-Mitchell system to secure messages exchanged between the client devices and servers. EX1003, ¶435. While Liu teaches a "security module" for "encryption and/or authentication of messages sent between mobile terminal 100 and game server 150" (EX1005, [0054]-[0055]), and Gagner teaches authenticating user credentials and performing "security checks" before allowing mobile devices to receive content from servers over the Internet (EX1004, [0061], [0068], [0085], [0090]), neither expressly teaches receiving low-priority data with a digital signature and timestamp, authenticating that signature, or determining that the timestamp falls within a predefined time window. Felt supplies these functions by including timestamps "as an authenticated attribute in the checksum calculation" so "tampering with the time stamp value will be detected when a signature is verified." EX1009, [0114], [0223]. A POSITA would have found it

obvious to apply Felt's security techniques to Gagner's server-provided secondary content using Liu's existing message-security framework. EX1003, ¶436.

Felt discloses techniques against tampering and replay attacks, which was a known security concern for Internet-transmitted content. *Id*. Felt recognized that digital signatures enable "[m]utually authenticated and tamper-proof communication," which is "essential for most applications that transport data over the Internet[.]" EX1009, [0113]. Felt's server may reject timestamps "too old or too far in the future[]" to "protect[] against replay attacks." EX1009, [0114]. Felt also discloses using configurable "Signature Timestamp Windows" with SIGNATURE_AHEAD and SIGNATURE_BEHIND offsets defining acceptable future and past timestamps, rejecting signatures outside that window. EX1009, [0255]-[0259], [0301]-[0304]. Gagner's secondary content presents a particular need for those techniques because its value depends on when it is displayed: Gagner's wager-multiplier notification offers a "quadruple" bet that degrades to "triple" and then "double" as time passes, and its betting notifications are tied to scheduled event times. EX1004, [0042], [0070]-[0071]. A POSITA would have recognized that time-limited wagering offers delivered over the Internet would be verified as authentic and current before display, because a stale or altered offer would expose the operator to honoring terms it never authorized. EX1003, ¶437.

These protections would have predictably improved the authenticity, integrity, and temporal validity of Gagner's Internet-delivered secondary content. EX1003, ¶437.

A POSITA would have had a reasonable expectation of success. EX1003, ¶438. First, all references use compatible client-server architectures transmitting data over networks. EX1004, [0061]-[0063]; EX1005, [0016]-[0018]; EX1010, 5:30-55; EX1009, [0004]-[0009]; §IX.A.1. Second, Gagner and Liu already contemplate security checks and message authentication. EX1004, [0063]; EX1005, [0054]. Third, Felt provides detailed guidance on implementing digital signatures with timestamps, signature verification, and configurable time windows for accepting or rejecting signed messages. EX1009, [0113]-[0123], [0301]-[0304], Figs. 10-13. Thus, the combination requires only software-based modifications that are well within the capabilities of a POSITA. EX1003, ¶438. The predictable result would be a mobile wagering system that receives digitally signed content with timestamps, authenticates the digital signature, and verifies that the timestamp is within a predefined window. *Id*.

### 2. Claim 10

#### *i. 10[a]: The mobile phone of claim 1, wherein the low priority data includes a digital signature from the one or more server computers and a timestamp, and the at least one computer processor is further configured to:*

As discussed in Ground 1, Gagner teaches receiving low-priority secondary content from one or more servers after authenticating log-in credentials. §§1[e],

1[p]-[q]. Liu further specifies that a "security module" in the mobile device "provides for encryption and/or authentication of messages sent between mobile terminal 100 and game server 150." EX1005, [0054].

Felt discloses securing server-transmitted messages with a digital signature and timestamp. Felt's "transaction server" communicates with other servers or client devices and "sends and receives messages to other parties[.]" EX1009, [0094]. To secure these messages, Felt teaches generating a "message digest" from the message, combining it "with the private key of the sender" to create a digital signature, and sending the "digital signature … together with the message … to the receiving party." EX1009, [0120]-[0121], Figs. 9-11.

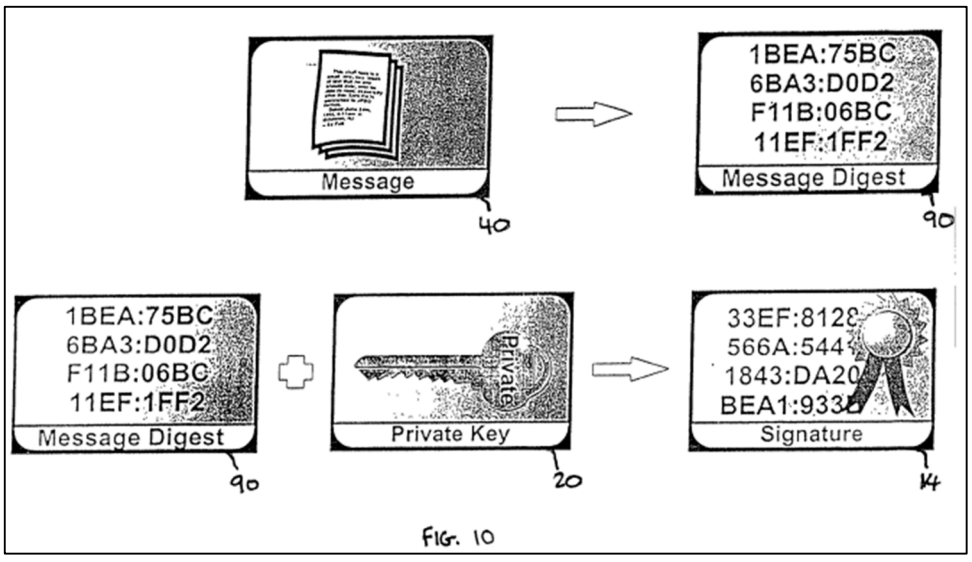


FIG. 10

EX1009, Fig. 10.

Felt attaches "[a] time stamp, based on the message signer's local clock," to the digital signature "as an authenticated attribute in the checksum calculation," so

timestamp tampering "will be detected when a signature is verified." EX1009, [0114], [0222]-[0223]. Indeed, "[w]henever a signature is generated, a timestamp from the local system's clock is attached." EX1009, [0236]. A POSITA would have known to use digital signatures as a widespread method of authentication in network communications (EX1039; EX1052; EX1065) and been motivated to apply Felt's message-security to Gagner's secondary content such that the content is secured by a digital signature from the server with a verifiable timestamp. EX1003, ¶¶439-448; §IX.F.1. Moreover, Felt's disclosed security techniques could be applied to enhance communications between any devices in Gagner's or Liu's networks. EX1009, [0033]; EX1003, ¶¶439-448.

***ii. 10[b]: authenticate the digital signature from the one or more server computers; and***

Felt teaches authenticating the server's digital signature at the receiving client. A "server process can be configured to automatically sign message buffers" with a digital signature before sending to a device, and "[d]igital signatures are verified whenever a signed message buffer" is received by the device, which authenticates the server's digital signature by comparing message digests. EX1009, [0253], [0273], [0122]-[0123]; EX1003, ¶449.

***iii. 10[c]: determine that the timestamp is within a predefined time from a current time.***

Felt teaches that the recipient may determine that a timestamp is "too old or too far in the future[]" and choose to reject it. EX1009, [0114], [0223]. Felt provides specific instructions for creating a "Signature Timestamp Window[]" with "offsets" defining predetermined time limits that the digital signature timestamp must fall within. EX1009, [0301]-[0304], [0255]-[0259]; EX1003, ¶450.

## G. Ground 7 (Gagner-Liu-Mitchell-Mgrdechian)

### 1. Motivation to Combine

A POSITA would have been motivated to combine Mgrdechian with the Gagner-Liu-Mitchell system. EX1003, ¶451. Mgrdechian is analogous art because it is directed to mobile devices that use local wireless protocols (*e.g.*, Bluetooth) to discover nearby devices, select a target, and transmit information to it. EX1011, Abstract, [0010]-[0012], [0026], [0072]. Like Gagner and Liu, Mgrdechian's mobile devices connect to servers over wireless networks, retrieve user-related information (*e.g.*, profile information), and enable communication between users based on that information. EX1011, [0071]-[0075]; §IX.A.1. The '284 Patent likewise includes mobile phones that detect nearby devices using Bluetooth or NFC, target those devices, and transmit content to them. EX1001, Claim 12.

A POSITA would have been motivated to combine Mgrdechian's local device discovery and targeted transmission with the Gagner-Liu-Mitchell system to enable

mobile wagering devices to detect nearby users and share promotional or wagering-related content directly between devices. EX1003, ¶452. Gagner teaches that secondary content can notify a player that "a friend has entered the casino" and that users may have "friends" lists in their user accounts. EX1004, [0043], [0082]. While Gagner's devices include "Bluetooth transceiver[s]" for device-to-device communication (EX1004, [0061], [0096]), Gagner does not expressly teach using a local wireless protocol to detect a second mobile phone, target that phone via a user interface, and transmit content directly to the targeted device.

Mgrdechian discloses that it "would clearly be advantageous to develop a system whereby a user could access information about a specific person in their general location" and "initiate communications with this person by sending them a message[.]" EX1011, [0010]; EX1003, ¶453. To address this need, Mgrdechian teaches that an initiating device broadcasts "a wireless inquiry to neighboring devices . . . requesting that they provide their unique identification numbers" using "any Bluetooth or any 802.11 standard" or equivalent local wireless protocol. EX1011, [0026], [0072]. Once device IDs are received, "User A can scroll through them to uniquely select the person with whom they are attempting to communicate[,]" and the initiating device can then "transmit[] information [] directly to the target device[.]" EX1011, [0030], [0077], [0081], Figs. 4-5. Mgrdechian specifically teaches that this technique is advantageous for

"entertainment or other gaming applications operating on mobile devices when one player decides to initiate or play a game with another." EX1011, [0045]. A POSITA would have found it obvious to use Mgrdechian's local device discovery and targeting techniques in Gagner's mobile wagering system to yield the predictable result of allowing wagering device users to detect friends or other players in their vicinity and share the same server-provided low-priority data—such as promotional offers, game invitations, or betting opportunities—directly with targeted recipients. EX1004, [0043], [0082]; EX1011, [0045], [0077]-[0079]; EX1003, ¶454.

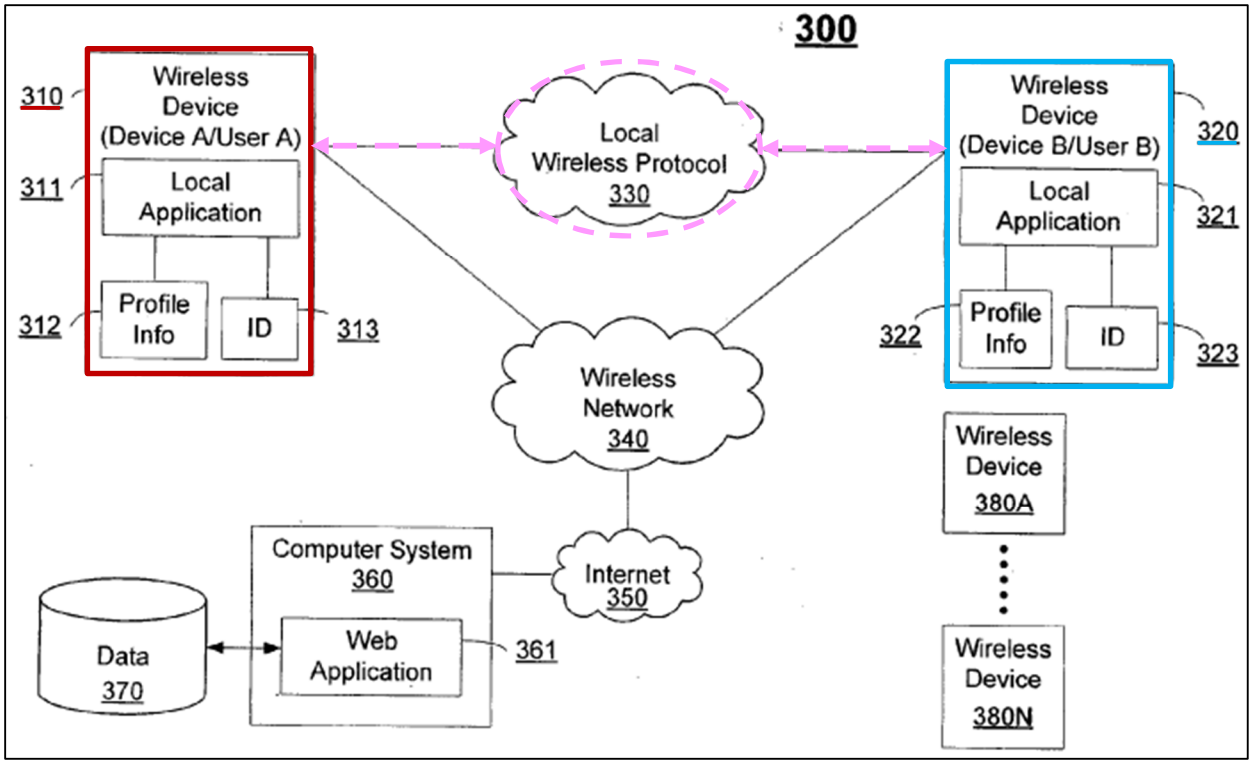
A POSITA would have had a reasonable expectation of success. EX1003, ¶455. First, all references operate on compatible client-server architectures that execute software applications and communicate over wireless networks. EX1004, [0061]-[0063]; EX1005, [0016]-[0018]; EX1010, 5:30-55; EX1011, [0071]-[0075]; §IX.A.1. Second, Gagner already teaches devices with Bluetooth transceivers for wireless communication. EX1004, [0061], [0096]. Third, Mgrdechian provides detailed guidance on implementing local device discovery using Bluetooth and equivalent protocols, device ID transmission, profile retrieval, and targeted messaging. EX1011, [0026], [0071]-[0079], [0091]-[0092], Figs. 4-8. Thus, the combination requires only software-based modifications well within the capabilities of a POSITA. EX1003, ¶455. The predictable result would be a mobile wagering system that detects nearby mobile devices using Bluetooth, retrieves profile

information identifying their users, permits selection of a recipient, and transmits promotional content or wagering-related information to targeted devices. EX1003, ¶455.

### 2. Claim 12

#### *i. 12[a]-12[b]: The mobile phone of claim 1, wherein the at least one computer processor is further configured to: detect a second mobile phone based on a signal from the second mobile phone, wherein the signal includes Bluetooth data or near field communication (NFC) data;*

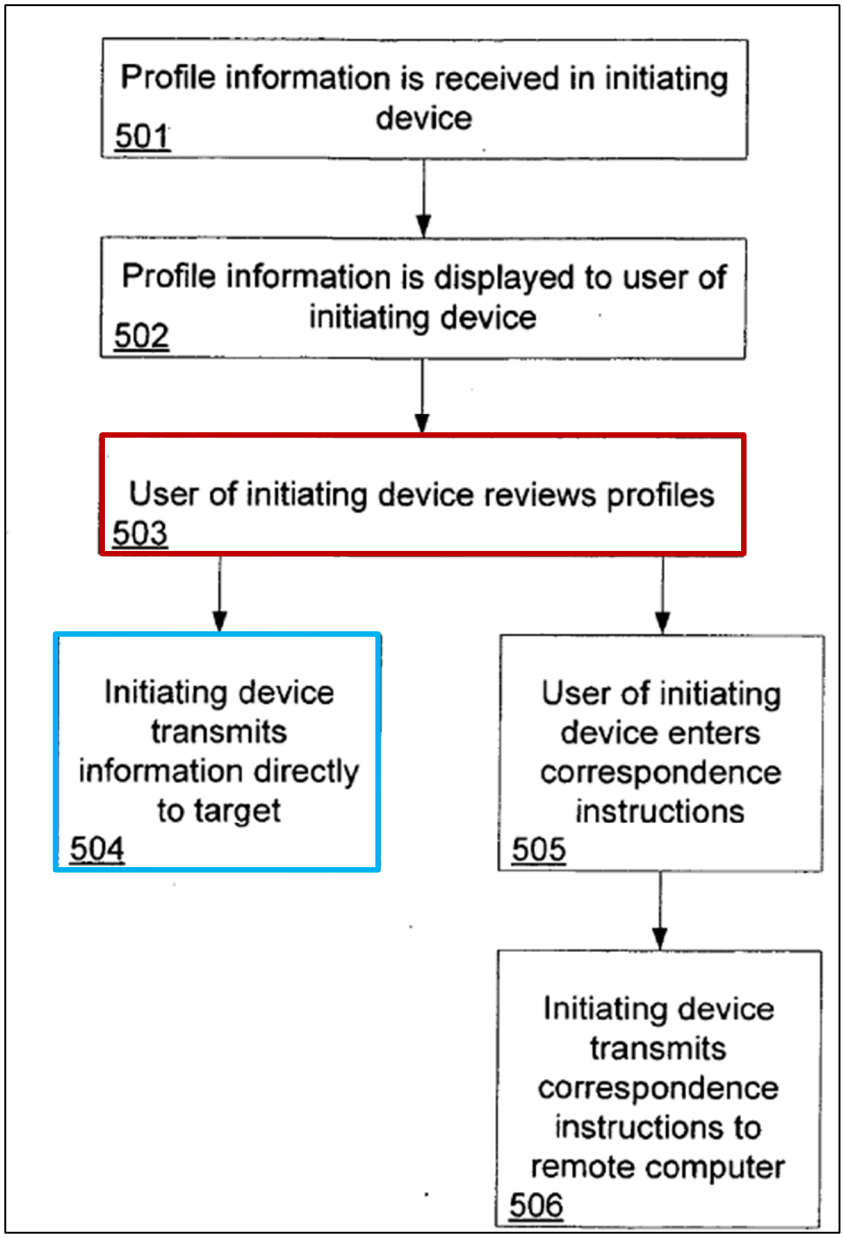
Mgrdechian discloses wireless devices (*e.g.*, cell phones, PDAs) that may "act as both Sender and Recipient" to directly communicate with each other within range. EX1011, [0039], [0104]. For example, **Device A** may "detect[] the presence of other wireless devices[,]" such as **Device B**, using a "**local wireless protocol**" including "Bluetooth." EX1011, [0072]; EX1003, ¶458. A POSITA would have understood that for Device A to detect Device B via Bluetooth, Device B necessarily transmits a "reply" signal including Bluetooth data. EX1011, [0090]-[0091]; EX1003, ¶¶459, 456-457.




EX1011, Fig. 3A.

***ii. 12[c]-12[d]: target the detected second mobile phone via a targeting interface; and transmit the low priority data to the targeted second mobile phone.***

Mgrdechian teaches displaying "a list of profiles" on a "graphical user interface" of the initiating device for the user to review and "select a target user based on the picture" (*e.g.*, **Step 503**), which results in targeting the mobile device associated with the selected user. EX1011, [0081], [0096], [0106], Figs. 5, 8, 11. Once the device is targeted, the initiating device may transmit "a saved message or a custom message" "directly to the target device using the local wireless protocol" (*e.g.*, **Step 504**). EX1011, [0077]-[0079], [0081], [0096], [0106]; EX1003, ¶¶460-461, 464.




EX1011, Fig. 5.

Mgrdechian's transmitted messages may include "pre-recorded audio, video, text, or other messages" or the initiating user's "own user profile." EX1011, [0077]-[0079]. Since Mgrdechian's messages and Gagner's low-priority secondary content both contain image, text, and/or video data (§1[e]), a POSITA would have found it

obvious and straightforward to apply Mgrdechian's peer-to-peer transmission techniques for social networking messages to Gagner's server-provided low-priority secondary content. EX1003, ¶¶462-463; §IX.G.1. The combination would predictably allow Gagner's wagering device to detect a nearby second device, present the user with a targeting interface showing available devices, and transmit promotional content or wagering opportunities to the selected target. *Id*.

## X. Secondary Considerations

Petitioner is aware of no evidence of secondary considerations that would rebut a finding of obviousness and reserves the right to rebut any purported evidence raised by PO. EX1003, ¶29.

## XI. Conclusion

Petitioner respectfully requests that the Board institute IPR of claims 1-18 of the '284 Patent and canceled those claims as unpatentable.

September 17, 2026

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## CERTIFICATE OF SERVICE

In accordance with 37 C.F.R. §§42.6(e) and 42.105, the undersigned certifies that on September 17, 2026, a complete and entire copy of the **PETITION FOR *INTER PARTES* REVIEW OF U.S. PATENT NO. 12,406,284** ("Petition") including exhibits were served via Federal Express, postage prepaid, to the Patent Owner at the correspondence address of record for the subject patent and counsel of record for Patent Owner as included below:

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September 17, 2026

**CERTIFICATION UNDER 37 C.F.R. § 42.24(d)**

Pursuant to 37 C.F.R. §42.24(d), the undersigned hereby certifies that the word count under §42.24(a)(1) for the foregoing Petition for *Inter Partes* Review totals 13,997 words, within the 14,000-word limit allowed under §42.24(a)(1)(i).

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