

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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GOOGLE LLC,  
Petitioner

v.

SOFTVIEW LLC,  
Patent Owner

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Patent No. 7,844,889

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**PETITION FOR *INTER PARTES* REVIEW  
OF U.S. PATENT NO. 7,844,889**

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| EX1001 | U.S. Patent No. 7,844,889 to Rohrabauh et al. (“the ’889 patent”)                                                                                                                     |
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| EX1015 | U.S. Patent No. 7,461,353 to Rohrabauh et al. (“the ’353 patent”)                                                                                                                     |
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| EX1017 | Final Written Decision, <i>Kyocera Corporation v. SoftView LLC</i> , IPR2013-00007, Paper 51 (P.T.A.B. March 27, 2014), <i>aff'd</i> , 592 F. App'x 947 (Fed. Cir. 2015)                                                 |
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| EX1024 | Board Decision, <i>Apple Inc. v. SoftView LLC</i> , Appeal 2021-005530, Reexamination Control No. 95/000,634 (Apr. 6, 2022)                                                                                              |
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| EX1035 | World Wide Web Consortium (W3C) Working Draft, <i>Level 1 Document Object Model Specification</i> , W3C (July 20, 1998)                   |
| EX1036 | Lisa Rein, <i>Structuring Graphical Data</i> , XML.com (June 22, 1998)                                                                    |
| EX1037 | Definition of Cascading Style Sheets (CSS) from W3C Proposed Recommendation, <i>Cascading Style Sheets, Level 2</i> , W3C (Mar. 24, 1998) |
| EX1038 | Markman Order, <i>SoftView LLC v. Apple Inc. et al.</i> , No. 1:10-cv-00389 (D. Del. Sept. 4, 2013)                                       |
| EX1039 | Transcript of Oral Hearing, <i>Kyocera Corp. v. Softview, Inc.</i> , No. IPR2013-00004 & IPR2013-00007, Paper 52 (P.T.A.B. Mar. 18, 2014) |
| EX1040 | W3C, <i>11 Tables</i> , W3C (Wayback Machine Capture on Aug. 16, 2000)                                                                    |
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| EX1043 | W3C, <i>HTML 3.2 Reference Specification publication history</i> , W3C (Jan. 14, 1997)                                                    |
| EX1044 | RESERVED                                                                                                                                  |
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| EX1046 | W3C Recommendation, <i>Extensible Markup Language (XML) 1.0</i> , W3C (dated Feb. 10, 1998; Wayback Machine Capture dated Feb. 13, 1998)  |

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| EX1047 | Right of Appeal Notice, <i>Apple Inc. v. SoftView LLC</i> , Reexamination Control No. 95/000,634 (Dec. 16, 2025)                                                                                                                                                                                                                               |
| EX1048 | Right of Appeal Notice, <i>Motorola Mobility LLC. v. SoftView LLC</i> , Reexamination Control No. 95/002,132 (Dec. 16, 2025)                                                                                                                                                                                                                   |
| EX1049 | Amended Joint Claim Construction Chart, <i>SoftView LLC v. Apple Inc.</i> , No. 1:10-cv-00389-LPS (D. Del. Oct. 22, 2012), ECF No. 496.                                                                                                                                                                                                        |
| EX1050 | <i>Marc Andreessen</i> , BRITANNICA, <a href="https://www.britannica.com/biography/Marc-Andreessen">https://www.britannica.com/biography/Marc-Andreessen</a> (last visited Jan. 27, 2026)                                                                                                                                                      |
| EX1051 | <i>History of the Mozilla Project</i> , MOZILLA, <a href="https://www.mozilla.org/en-US/about/history/">https://www.mozilla.org/en-US/about/history/</a> (last visited Jan. 27, 2026)                                                                                                                                                          |
| EX1052 | <i>OpenGL Programming Guide</i> , Second Edition, Addison-Wesley, 1997 (available at <a href="https://laplace.physics.ubc.ca/People/ajpenner/GPGPU/redbook.pdf">https://laplace.physics.ubc.ca/People/ajpenner/GPGPU/redbook.pdf</a> )                                                                                                         |
| EX1053 | Adobe, <i>PostScript Language Reference</i> , 3d ed. (Feb. 1999) (available at <a href="https://www.adobe.com/jp/print/postscript/pdfs/PLRM.pdf">https://www.adobe.com/jp/print/postscript/pdfs/PLRM.pdf</a> )                                                                                                                                 |
| EX1054 | OpenGL 1.1 Specification (Version 1.1 - 4 March 1997) (available at <a href="https://registry.khronos.org/OpenGL/specs/gl/glspec11.pdf">https://registry.khronos.org/OpenGL/specs/gl/glspec11.pdf</a> )                                                                                                                                        |
| EX1055 | Sun Microsystems, Inc., <i>PersonalJava Technology 2</i> , (1999) (available at <a href="https://www.oracle.com/technetwork/java/pjava-ds-150025.pdf">https://www.oracle.com/technetwork/java/pjava-ds-150025.pdf</a> )                                                                                                                        |
| EX1056 | A. Guttman & Michael Stonebraker, <i>R-Trees: A Dynamic Index Structure for Spatial Searching</i> (EECS Dep't, Univ. of Cal., Berkeley, Tech. Rep. No. UCB/ERL M83/64, 1983) (available at <a href="https://www2.eecs.berkeley.edu/Pubs/TechRpts/1983/ERL-m-83-64.pdf">https://www2.eecs.berkeley.edu/Pubs/TechRpts/1983/ERL-m-83-64.pdf</a> ) |
| EX1057 | Defs.' Prelim. Cl. Constr. & Extrinsic Evid. Pursuant to Loc. Pat. R. 4-2, <i>SoftView LLC v. Samsung Elecs. Co.</i> , No. 2:25-cv-00246-JRG (E.D. Tex. Feb. 11, 2026)                                                                                                                                                                         |

## I. INTRODUCTION

Google LLC (“Petitioner”) respectfully requests *Inter Partes* Review of claims 1-115 (“the challenged claims”) of U.S. Patent No. 7,844,889 (“the ’889 patent”) (EX1001) assigned to SoftView LLC (“Patent Owner”). The ’889 patent never should have issued—its claims are all patentably indistinct from claims that have already been adjudicated by the USPTO to be invalid. Yet Patent Owner has begun to assert the ’889 patent and other patents containing patentably indistinct claims against Petitioner’s product (but not Petitioner), seeking to create protracted and complicated litigation. This Petition should thus be instituted to correct the Examiner’s error in allowing the ’889 patent.

## II. MANDATORY NOTICES

Real Parties-in-Interest: Pursuant to 37 C.F.R. § 42.8(b)(1), Petitioner identifies Google LLC<sup>1</sup>, Samsung Electronics Company, Ltd. and Samsung Electronics America, Inc. as the real parties-in-interest.

Related Matters: The ’889 patent is asserted in *SoftView, LLC v. Samsung Electronics Co., Ltd. et al.*, No. 2-25-cv-00246 (E.D. Tex.).

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<sup>1</sup> Google LLC is a subsidiary of XXVI Holdings Inc., which is a subsidiary of Alphabet Inc. XXVI Holdings Inc. and Alphabet Inc. are not real parties-in-interest to this proceeding.

The '889 patent originates from U.S. Patent Application No. 11/735,482, filed on April 15, 2007, which is a continuation of application No. 09/878,097, filed on June 8, 2001, now Pat. No. 7,210,099 ("the '099 patent"), which is a continuation-in-part of application No. 09/828,511, filed on April 7, 2001. Application No. 09/878,097 also claims priority to provisional application No. 60/217,345, filed on July 11, 2000, and provisional application No. 60/211,019, filed on June 12, 2000. (EX1001, Cover.) The '889 patent is also a divisional of the following: application No. 09/878,097, filed on June 8, 2001, now the '099 patent; application No. 11/045,757, filed on January 28, 2005, now Patent No. 7,461,353 ("the '353 patent"); and application No. 11/045,649, filed on January 28, 2005, now Pat. No. 7,584,423. (EX1001, Cover.)

The related U.S. Patent Nos. 10,083,154 ("154 patent"), 9,519,729 ("the '729 patent"), 8,533,628 ("the '628 patent"), and the '353 patent are all also at issue in *SoftView, LLC v. Samsung Electronics Co., Ltd. et al.*, No. 2-25-cv-00246 (E.D. Tex.).

The '099 patent is a parent of U.S. Patent No. 7,831,926 ("the '926 patent"). (EX1011, Cover.) All 88 issued claims of the '926 patent have been canceled in post-grant proceedings. (EX1011, 41-48; EX1014.) Claims 30, 31, 40, 41, 43, 52, 55, 59, 72, and 75 of the '926 patent were canceled in IPR2013-00004, which was joined by IPR2013-00257. (EX1011, 41-42.) Claims 1-28, 32-39, 42, 44-51, and

69 of the '926 patent were canceled in *Ex Parte* Reexamination No. 90/009,995. (EX1011, 43-45.) Claims 29, 53, 54, 56-58, 60-68, 70, 71, 73, 74, and 76-88 of the '926 patent were canceled in *Inter Partes* Reexamination No. 95/000,635. (EX1011, 46-48.) *Inter Partes* Reexamination No. 95/002,126 was terminated after the previous proceedings had canceled all the claims. (EX1014.)

The '353 patent was subject to IPR2013-00007 (joined by IPR2013-00256), where claims 1, 33, 36, 43, 48, 51, 52, 58, 59, 66, 118, 138, 139, 149, 183, 252, 283, and 317 were found unpatentable. (EX1015, 51.) The '353 patent was subject to *Ex Parte* Reexamination No. 90/009,994, where claims 5, 23-27, 60, 61, 122, 137, 140, 141, 147, 156, 174-177, 238-242, 248, 259, and 274-277 were amended and claims 320-322 were added. (EX1015, 53.) The '353 patent is currently subject to *Inter Partes* Reexamination Nos. 95/000,634 and 95/002,132, during which the Federal Circuit clarified 37 C.F.R. § 42.73(d)(3)(i) “applies to new claims or amended claims, but not to previously issued claims.” (*SoftView LLC v. Apple Inc.*, 108 F.4th 1366, 1369 (Fed. Cir. 2024); EX1019-EX1021; EX1023-EX1025; EX1047; EX1048.)

The '353 and the '926 patents have previously been involved in district court litigations. On May 10, 2010, SoftView filed a complaint for patent infringement of the '353 patent against Apple and AT&T. *SoftView LLC v. Apple Inc. et al.*, No. 1:10-cv-00389-LPS, Dkt. No. 1 (D. Del. filed May 10, 2010). In December 2010,

SoftView filed an amended complaint to add the '926 patent, which had issued on November 9, 2010 (EX1011, 1). *SoftView LLC v. Apple Inc. et al.*, No. 1:10-cv-00389-LPS, Dkt. No. 27 (D. Del. filed Dec. 03, 2010). On September 30, 2011, SoftView filed an amended complaint to add more defendants. *SoftView LLC v. Apple Inc. et al.*, No. 1:10-cv-00389-LPS, Dkt. No. 108 (D. Del. filed Sep. 30, 2011). On July 26, 2012, the litigation was split into the following 9 cases:

- *SoftView LLC v. Apple Inc. et al.*, No. 1:10-cv-00389-LPS (D. Del.)
- *SoftView LLC v. HTC Corp. et al.*, No. 1:12-cv-00984-LPS (D. Del.)
- *SoftView LLC v. Huawei Technologies Co. Ltd. et al.*, No. 1:12-cv-00985-LPS (D. Del.)
- *SoftView LLC v. LG Electronics Inc. et al.*, No. 1:12-cv-00986-LPS (D. Del.)
- *SoftView LLC v. Samsung Electronics Co. Ltd. et al.*, No. 1:12-cv-00987-LPS (D. Del.)
- *SoftView LLC v. Dell Inc. et al.*, No. 1:12-cv-00988-LPS (D. Del.)
- *SoftView LLC v. Kyocera Corp. et al.*, No. 1:12-cv-00989-LPS (D. Del.)
- *SoftView LLC v. Motorola Mobility LLC et al.*, No. 1:12-cv-00990-LPS (D. Del.)

- *SoftView LLC v. Sony Ericsson Mobile Communications (USA) Inc. et al.*, No. 1:12-cv-00991-LPS (D. Del.)

*SoftView LLC v. Apple Inc. et al.*, No. 1:10-cv-00389-LPS, Dkt. No. 440 (D. Del. filed Jul. 26, 2012). On September 4, 2013, the cases were stayed pending the Board's review of the '926 and '353 patents. *SoftView LLC v. Apple Inc. et al.*, No. 1:10-cv-00389-LPS, Dkt. No. 1105 (D. Del. filed Sep. 4, 2013). On October 29, 2015, after the Board found unpatentable various claims of the '926 and '353 patents, all the cases were dismissed; SoftView agreed to dismissal of the unpatentable claims with prejudice, and the remaining claims were dismissed without prejudice. *SoftView LLC v. Apple Inc. et al.*, No. 1:10-cv-00389-LPS, Dkt. No. 1128 (D. Del. filed Oct. 29, 2015).

Petitioner is simultaneously filing IPR petitions challenging the '729, '154, and '628 patents.

Counsel and Service Information: Lead counsel is Naveen Modi (Reg. No. 46,224). Backup counsel are Daniel Zeilberger (Reg. No. 65,349) and Maksim Mints (Reg. No. 78,507). Service information is Paul Hastings LLP, 2050 M Street NW, Washington, D.C. 20036, Tel.: 202.551.1700, Fax: 202.551.1705, email: PH-Google-SoftView-IPR@paulhastings.com. Petitioner consents to electronic service.

**III. PAYMENT OF FEES UNDER 37 C.F.R. §§ 42.15 AND 42.103**

The PTO is authorized to charge any fees due during this proceeding to Deposit Account No. 50-262.

**IV. GROUNDS FOR STANDING**

Petitioner certifies under 37 C.F.R. § 42.104(a) that the '889 patent is available for review and Petitioner is not barred or estopped from requesting review on the grounds identified herein.

**V. PRECISE RELIEF REQUESTED AND GROUNDS RAISED**

Petitioner respectfully requests review of claims 1-115 of the '889 patent and cancellation of these claims as unpatentable. The challenged claims should be found unpatentable on the following ground:

**Ground 1:** Claims 1-115 are unpatentable under pre-AIA 35 U.S.C. § 103 as being obvious in view of Zaurus (EX1004), Pad\_1 (EX1005) and Pad\_2 (EX1007) (collectively “Pad”), and SVG (EX1008).

The earliest possible priority date of the '889 patent is June 12, 2000 (EX1001, 1-2), and SoftView's contentions against Samsung assert that the '889 patent is entitled to a priority date of April 7, 2001 (EX1010, 5).<sup>2</sup> Regardless of which of the two dates is applied, the above references are prior art, and indeed the Board has

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<sup>2</sup> Petitioner does not concede the '889 patent is entitled to either of these dates.

previously credited that Zaurus, Pad, and SVG qualify as prior art to (i) the '926 patent that is a child of the '099 patent to which the '889 patent claims priority and (ii) the '353 patent that is a divisional of the '889 patent. (Section II; EX1013, 2-3; EX1017, 2-3.) For example, Zaurus was published in 1997, and thus qualifies as prior art under at least § 102(b). (EX1004, 3.) Pad\_1 was published on October 2, 1996, and thus qualifies as prior art under at least § 102(b). (EX1005, 84.) Pad\_2 was published in April 1997 and thus qualifies as prior art under at least § 102(b). (EX1007, 1.) SVG was published on October 29, 1998, or at least by November 3, 1998, and thus qualifies as prior art under at least § 102(b). (EX1008, 1, 16.)

## **VI. LEVEL OF ORDINARY SKILL**

A person of ordinary skill in the art at the time of the alleged invention of the '889 patent ("POSITA") would have had an undergraduate degree in electrical engineering, computer engineering, computer science or a related field along with two years of work experience in the field of web development, graphics rendering, and/or mobile applications. (EX1002, ¶¶13-14.)<sup>3</sup> More education can substitute for practical experience and vice versa. (*Id.*)

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<sup>3</sup> Petitioner submits the declaration of Dr. Benjamin Goldberg, an expert in the field of the '889 patent. (EX1002, ¶¶2-6; EX1006.)

## **VII. OVERVIEW OF THE '889 PATENT**

The '889 patent is directed to improving the readability of web pages on small screen devices by converting HTML and Cascading Style Sheets (CSS) into a resolution-independent, scalable representation that can be zoomed and panned while preserving the page's original layout and functionality. (EX1001, Abs., 1:53-2:49.) The '889 patent relies on conventional browsers such as Mozilla for pre-rendering such as parsing, grouping objects, making bounding boxes, and defining page layout. (EX1001, FIG. 5 (150-154), 17:21-31; *see also id.* at 15:38-17:20.) The '889 patent utilizes the SVF (Simple Vector Format) considered by the W3C (World Wide Web Consortium) to translate content into a scalable vector representation. (EX1001, 4:26-47, 5:52-6:15, 6:34-49, 8:39-62, 12:6-12; EX1002, ¶¶15-19.)

## **VIII. RELATED PATENTS**

### **A. The '926 patent**

The '926 patent is a continuation of the '099 patent to which the '889 patent claims priority. (Section II.) In IPR2013-00004 challenging the '926 patent, the Board held claims 30, 31, 40, 41, 43, 52, 55, 59, 72, and 75 unpatentable over two grounds: Zaurus, Pad, and SVF; and Zaurus, Tsutsumitake, Hara, and SVG. (EX1013, 2-3.) The Board issued its decision on March 27, 2014 (EX1013), and the

certificate cancelling the claims issued on January 15, 2016 (EX1011, 41) after the Federal Circuit affirmed the Board's decision.

In *Ex Parte* Reexamination No. 90/009,995, the Office canceled Claims 1-28, 32-39, 42, 44-51, and 69 after raising rejections based on the Pad++ browser and SVF. (EX1033, 3, 22, 45.) In *Inter Partes* Reexamination No. 95/000,635, the Office canceled Claims 29, 53, 54, 56-58, 60-68, 70, 71, 73, 74, and 76-88 after raising rejections based on the Pad++ browser. (EX1034, 3, 9.) Accordingly, the PTO canceled all 88 issued claims of the '926 patent. (EX1011, 41-48; EX1014.)

#### **B. The '353 patent**

The '353 patent is a divisional of the '889 patent. (Section II.) In IPR2013-00007 challenging the '353 patent, the Board held claims 1, 33, 36, 43, 48, 51, 52, 58, 59, 66, 118, 138, 139, 149, 183, 252, 283, and 317 unpatentable over four grounds: (1) Zaurus and Pad; (2) Zaurus, Pad, and SVG; (3) Zaurus, Tsutsumitake, and Hara; and (4) Zaurus, Tsutsumitake, Hara, and SVG. (EX1017, 2-3.) The Board issued its decision on March 27, 2014 (EX1017), and the certificate cancelling the claims issued on January 12, 2016 (EX1015, 51) after the Federal Circuit affirmed the Board's decision.

In *Ex Parte* Reexamination No. 90/009,994, the Office raised rejections based on the Pad++ browser and SVF, after which SoftView amended and added claims. (EX1015, 53.) During *Inter Partes* Reexamination Nos. 95/000,634 and 95/002,132,

the Federal Circuit affirmed the Board’s finding that the claims amended and added during *Ex Parte* Reexamination No. 90/009,994 were patentably indistinct from the claims canceled during IPR2013-00007. (EX1019, 4-5; 15-16.)

**IX. THE CHALLENGED CLAIMS SHOULD BE CANCELED BECAUSE THEY ARE PATENTABLY INDISTINCT FROM UNPATENTABLE CLAIMS**

Issue preclusion bars re-litigation of patentability issues for claims that are patentably indistinct from those previously held unpatentable. *See, e.g., Google LLC v. Hammond Dev. Int’l, Inc.*, 54 F.4th 1377, 1381 (Fed. Cir. 2022). As the Federal Circuit recently explained in a similar posture, “[t]o conclude otherwise would allow a patentee to assert a claim substantially similar to a claim previously found unpatentable by the PTAB.” *Apple Inc. v. Smart Mobile Techs. LLC*, No. 2024-1352, at 9 (Fed. Cir. Jan. 21, 2026) (nonprecedential). Yet that is precisely what SoftView has done with the ’889 patent.

The claims of the ’889 patent are patentably indistinct from the unpatentable claims of the ’353 and ’926 patents, as reflected in the table below. The Office has already canceled all 88 claims of the ’926 patent across multiple proceedings. (EX1011, 41-48; EX1014.) As for the ’353 patent, the Office canceled 20 claims in an IPR (EX1015, 51), amended claims in an EPR (EX1015, 53), and intends to cancel many other claims in *Inter Partes* Reexaminations (EX1047; EX1048). And another petitioner specifically asserted the Zaurus, Pad, and SVG references against

claims of the '926 and '353 patents, which the Board found unpatentable in 2014, the Federal Circuit affirmed in 2015, and the USPTO canceled in January 2016. (EX1013; EX1017; EX1015, 51; EX1011, 41.)

In this proceeding, Petitioner applies those same Zaurus, Pad, and SVG references to the challenged claims and shows, consistent with the prior cancellations, that the challenged claims, which are not patentably distinct, are likewise unpatentable. The table below shows how the challenged claims are disclosed and/or suggested by previously canceled claims of the related '353 and '926 patents. (*See also* EX1002, ¶20, Appendices A-E (Dr. Goldberg describing this same correspondence).)<sup>4</sup>

| '889 Patent                                 | '353 Patent<br>(EX1002,<br>Appendix B)           | '926 Patent<br>(EX1002,<br>Appendices C-E)                                                                                              |
|---------------------------------------------|--------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| [1.pre], [42.pre]-[42.d], [74],<br>[77.pre] | [1.a], [36.a],<br>[252.pre], [317.a]-<br>[317.d] | (IPR2013-00004) <sup>5</sup><br>[30.pre]-[30.e],<br>[52.pre]-[52.d]<br>(90/009,995)<br>[1.pre]-[1.e]<br>(95/000,635)<br>[79.pre]-[79.e] |

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<sup>4</sup> The table below is exemplary and is not intended to be exhaustive.

<sup>5</sup> For the '926 patent, Petitioner identifies the proceeding in which the limitation at issue was addressed.

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|                                                                    |                              |                                                                                                                                                    |
|--------------------------------------------------------------------|------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| [1.a], [42.d.1], [77.a], [108.a]                                   | [1.c], [317.e],<br>[317.f]   | (IPR2013-00004)<br>[30.f], [30.g], [41],<br>[30.j]<br>(90/009,995)<br>[1.f], [1.g], [6.a], [13]<br>(95/000,635)<br>[79.g], [79.h], [58.a],<br>[65] |
| [1.b], [42.d.2], [77.b], [108.b]                                   | [1.b], [36.c], [58.b]        | (IPR2013-00004)<br>[52.f], [52.i], [75.a]<br>(90/009,995)<br>[21.b], [25.a]-[25.c]<br>(95/000,635)<br>[79.i.2]                                     |
| [1.c], [77.c], [108.c]                                             | [1.c], [36.c]                | (IPR2013-00004)<br>[30.h]<br>(90/009,995)<br>[1.h]<br>(95/000,635)<br>[79.h]                                                                       |
| [1.d], [42.d.3], [77.d], [108.d.1]                                 | [149.c], [149.d],<br>[149.e] | (IPR2013-00004)<br>[52.g], [52.h], [52.i]<br>(90/009,995)<br>[1.i], [1.i.1], [1.i.2.a]<br>(95/000,635)<br>[79.i], [79.i.1],<br>[79.i.2]            |
| [1.d.1], [31], [42.d.3.i], [77.d.1],<br>[104]                      | [118.c]                      | (IPR2013-00004)<br>[75.a]-[75.c]<br>(90/009,995)<br>[25.a]-[25.c]<br>(95/000,635)<br>[63]                                                          |
| [1.d.2], [42.d.3.ii], [77.d.2],<br>[108.d.1]-[108.d.2], [108.e.2], | [36.e]                       | (IPR2013-00004)<br>[52.i], [55]<br>(90/009,995)<br>[1.i.2.a], [4]<br>(95/000,635)<br>[79.i.2], [82]                                                |

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|                                                  |                                           |                                                                                                                             |
|--------------------------------------------------|-------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| [1.e], [42.e], [77.e], [108.e.1]                 | [317.i]                                   | (IPR2013-00004)<br>[30.j], [52.j]<br>(90/009,995)<br>[1.i.2.b]<br>(95/000,635)<br>[79.i.2.a]                                |
| [2], [43], [78]                                  | [36.e]                                    | (IPR2013-00004)<br>[43.c]<br>(90/009,995)<br>[5]<br>(95/000,635)<br>[57]                                                    |
| [3], [71]                                        | [52], [317.j],<br>[317.k]                 | (IPR2013-00004)<br>[30.c], [31]<br>(90/009,995)<br>[1.c]<br>(95/000,635)<br>[79.c]                                          |
| [4.a]-[4.b.2], [45.a]-[45.b.2],<br>[79.a]-[79.d] | [317.i], [36.c]                           | (IPR2013-00004)<br>[30.g]-[30.j]<br>(90/009,995)<br>[6.a]-[6.d]<br>(95/000,635)<br>[58.a]-[58.d]                            |
| [5.a]-[5.d], [46.a]-[46.d], [80.a]-<br>[80.d]    | [138.b], [138.c],<br>[138.e.1], [138.e.3] | (IPR2013-00004)<br>[72.b], [72.c],<br>[72.e.1], [72.e.3]<br>(90/009,995)<br>[21.b], [22.a]-[22.c.3]<br>(95/000,635)<br>[73] |
| [6], [47], [81]                                  | [1.c], [33]                               | (IPR2013-00004)<br>[30.h]<br>(90/009,995)<br>[1.h]<br>(95/000,635)<br>[79.h]                                                |
| [7.a]-[7.c], [48.a]-[48.c], [82.a]-<br>[82.c]    | [66], [36.d]                              | (IPR2013-00004)<br>[30.f], [30.i]                                                                                           |

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|-------------------------------------------------|----------------------------|-------------------------------------------------------------------------------------------------------|
|                                                 |                            | (90/009,995)<br>[24.a]-[24.c]<br>(95/000,635)<br>[29], [74]                                           |
| [8.b]-[8.c]                                     | [1.d], [36.e],<br>[58.e.1] | (IPR2013-00004)<br>[30.i], [43.c]<br>(90/009,995)<br>[23.a]-[23.b.4]<br>(95/000,635)<br>[70.a]-[70.e] |
| [9.a]-[9.c]                                     | [36.e], [317.h]            | (IPR2013-00004)<br>[52.i]<br>(90/009,995)<br>[23.a]-[23.b.4]<br>(95/000,635)<br>[70.a]-[70.e]         |
| [10.a]-[10.c]                                   | [66], [36.e]               | (IPR2013-00004)<br>[52.i]<br>(90/009,995)<br>[24.a]-[24.c]<br>(95/000,635)<br>[74], [29]              |
| [11], [49], [83]                                | [36.e], [1.d]              | (IPR2013-00004)<br>[43.c]<br>(90/009,995)<br>[7]<br>(95/000,635)<br>[71.a]-[71.c]                     |
| [12.a]-[12.c], [50.a]-[50.c], [84.a]-<br>[84.c] | [36.e], [317.h]            | (IPR2013-00004)<br>[55], [52.i]<br>(90/009,995)<br>[4], [5]<br>(95/000,635)<br>[56], [57]             |
| [13], [51], [86], [114.a]-[114.b]               | [36.e], [317.h]            | (IPR2013-00004)<br>[52.i]<br>(90/009,995)<br>[9]<br>(95/000,635)                                      |

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|---------------------------------------------|---------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
|                                             |                                       | [61]                                                                                                                                      |
| [14], [52], [87], [114.c], [115]            | [36.e]                                | (IPR2013-00004)<br>[43.c]<br>(90/009,995)<br>[10]<br>(95/000,635)<br>[62]                                                                 |
| [15]-[16], [53]-[54], [88]-[89]             | [48], [317.k]                         | (IPR2013-00004)<br>[40]<br>(90/009,995)<br>[12]<br>(95/000,635)<br>[64]                                                                   |
| [17]-[18], [55]-[56], [90]-[91]             | [51], [52]                            | (IPR2013-00004)<br>[41]<br>(90/009,995)<br>[13]<br>(95/000,635)<br>[65]                                                                   |
| [19]-[21], [57]-[59], [92]-[94], [68]       | [36.e], [317.k]                       | (IPR2013-00004)<br>[52.i], [55]<br>(90/009,995)<br>[14]<br>(95/000,635)<br>[66], [67]                                                     |
| [22.a]-[22.c], [60.a]-[60.c], [95.a]-[95.c] | [58.c], [36.e]                        | (IPR2013-00004)<br>[43.b], [43.c]<br>(90/009,995)<br>[15.b], [15.c]<br>(95/000,635)<br>[71.a]-[71.c]                                      |
| [23.a]-[23.c], [61.a]-[61.c], [96.a]-[96.c] | [58.b], [58.c],<br>[58.e.1], [58.e.3] | (IPR2013-00004)<br>[72.b], [72.c],<br>[72.e.1], [72.e.3]<br>(90/009,995)<br>[16.b], [16.d], [18.d]<br>(95/000,635)<br>[70.a]-[70.e], [73] |
| [24], [62], [97]                            | [59]                                  | (IPR2013-00004)                                                                                                                           |

|                                                                                                    |                               |                                                                                                  |
|----------------------------------------------------------------------------------------------------|-------------------------------|--------------------------------------------------------------------------------------------------|
|                                                                                                    |                               | [72.c]<br>(90/009,995)<br>[18.c]<br>(95/000,635)<br>[73]                                         |
| [25], [63], [98]                                                                                   | [58.e.2]                      | (IPR2013-00004)<br>[72.e.2]<br>(90/009,995)<br>[17]<br>(95/000,635)<br>[71.a]-[71.c]             |
| [26.a]-[26.e], [64.a]-[64.e], [99.a]-[99.e]                                                        | [36.e], [59],<br>[317.h]      | (IPR2013-00004)<br>[52.i]<br>(90/009,995)<br>[23.a]-[23.b.4]<br>(95/000,635)<br>[70.a]-[70.e]    |
| [27], [65], [100]                                                                                  | [58.d], [58.e.2]              | (IPR2013-00004)<br>[72.d]<br>(90/009,995)<br>[27]<br>(95/000,635)<br>[71.a]-[71.c]               |
| [28.a]-[28.b], [66.a]-[66.b],<br>[101.a]-[101.b], [29.a]-[29.c],<br>[67.a]-[67.c], [102.a]-[102.c] | [33], [36.c], [36.e],<br>[66] | (IPR2013-00004)<br>[30.f], [30.h]<br>(90/009,995)<br>[19], [24.a]-[24.c]<br>(95/000,635)<br>[74] |
| [32], [70], [106]                                                                                  | [51]                          | (IPR2013-00004)<br>[41]<br>(90/009,995)<br>[13]<br>(95/000,635)<br>[65]                          |
| [33]                                                                                               | [252.e]                       | (IPR2013-00004)<br>[52.i], [43.b]-[43.c]<br>(90/009,995)<br>[28]                                 |

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|                                |                   |                                                                                                                         |
|--------------------------------|-------------------|-------------------------------------------------------------------------------------------------------------------------|
|                                |                   | (95/000,635)<br>[71.a]-[71.c]                                                                                           |
| [34]                           | [33], [43]        | (IPR2013-00004)<br>[30.h]<br>(90/009,995)<br>[1.h]<br>(95/000,635)<br>[79.h]                                            |
| [35.a]-[35.c]                  | [43], [58.e.2]    | (IPR2013-00004)<br>[72.e.2]<br>(90/009,995)<br>[26.a]-[26.d]<br>(95/000,635)<br>[63]                                    |
| [36.a]-[36.b]                  | [1.c]             | (IPR2013-00004)<br>[30.h]<br>(90/009,995)<br>[27]<br>(95/000,635)<br>[71.a]-[71.c]                                      |
| [37]                           | [66]              | (IPR2013-00004)<br>[30.f]<br>(90/009,995)<br>[1.f]<br>(95/000,635)<br>[29]                                              |
| [38], [73]                     | [58.b]            | (IPR2013-00004)<br>[52.i]<br>(90/009,995)<br>[21.b]<br>(95/000,635)<br>[79.i.2]                                         |
| [39.a]-[39.c], [109.a]-[109.c] | [1.d], [51], [59] | (IPR2013-00004)<br>[41], [30.i]<br>(90/009,995)<br>[13], [18.c], [23.a]<br>(95/000,635)<br>[65], [70.a]-[70.e],<br>[73] |

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|                   |           |                                                                                    |
|-------------------|-----------|------------------------------------------------------------------------------------|
| [40], [75], [107] | [36.e]    | (IPR2013-00004)<br>[52.i]<br>(90/009,995)<br>[19]<br>(95/000,635)<br>[74]          |
| [41], [76]        | [36.e]    | (IPR2013-00004)<br>[43.c]<br>(90/009,995)<br>[7]<br>(95/000,635)<br>[70.a]-[70.e]  |
| [44], [74]        | [36.pre]  | (IPR2013-00004)<br>[30.pre]<br>(90/009,995)<br>[2]<br>(95/000,635)<br>[53]         |
| [69], [105]       | [58.c]    | (IPR2013-00004)<br>[72.c]<br>(90/009,995)<br>[22.a]<br>(95/000,635)<br>[68.a]      |
| [72]              | [36.a]    | (IPR2013-00004)<br>[52.d]<br>(90/009,995)<br>[1.e]<br>(95/000,635)<br>[79.e]       |
| [85]              | [252.e]   | (IPR2013-00004)<br>[52.i]<br>(90/009,995)<br>[1.i.2.a]<br>(95/000,635)<br>[79.i.2] |
| [103]             | [252.pre] | (IPR2013-00004)<br>[52.d]<br>(90/009,995)                                          |

|                 |                      |                                                                                                                      |
|-----------------|----------------------|----------------------------------------------------------------------------------------------------------------------|
|                 |                      | [20]<br>(95/000,635)<br>[76]                                                                                         |
| [110.a]-[110.d] | [58.c], [59], [36.e] | (IPR2013-00004)<br>[72.c], [52.i]<br>(90/009,995)<br>[16.b], [18.c], [1.i.2.a]<br>(95/000,635)<br>[73], [79.i.2]     |
| [111.a]-[111.c] | [1.d], [59], [36.e]  | (IPR2013-00004)<br>[43.c], [52.i]<br>(90/009,995)<br>[18.c], [7], [24.a]-<br>[24.c]<br>(95/000,635)<br>[70.a]-[70.e] |
| [112]           | [36.e], [59]         | (IPR2013-00004)<br>[52.i]<br>(90/009,995)<br>[24.a]-[24.c]<br>(95/000,635)<br>[74]                                   |
| [113.a]-[113.c] | [36.d], [58.c], [59] | (IPR2013-00004)<br>[52.h], [72.c]<br>(90/009,995)<br>[18.c], [1.i.1]<br>(95/000,635)<br>[70.a]-[70.e]                |

## X. CLAIM CONSTRUCTION

For IPR proceedings, the Board applies the claim construction standard set forth in *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (*en banc*). See 83 Fed. Reg. 51,340-59 (Oct. 11, 2018). Under *Phillips*, claim terms are typically given their ordinary and customary meanings, as would have been understood by a

POSITA, at the time of the invention, having taken into consideration the language of the claims, the specification, and the prosecution history of record. *Phillips*, 415 F.3d at 1313; *see also id.* at 1312-16.

In *SoftView LLC v. Apple Inc. et al.*, No. 1:10-cv-00389-LPS, Dkt. No. 108 (D. Del. filed Sep. 30, 2011), the court and parties construed various terms of the '353 and '926 patents. (EX1023; EX1038; EX1049.) Likewise, during IPR2013-00004 and IPR2013-00007, the Board further construed certain terms of the '353 and '926 patents. (EX1013, 7-14; EX1017, 8-13.) In the parallel litigation, Samsung offered constructions “in a manner consistent with how they were construed” in the previous litigation. (EX1057, 2.) SoftView offered constructions that either correspond to Samsung’s or assert that no construction is necessary. (EX1009.)

Petitioner construes “storage means” as a means-plus-function limitation subject to 35 U.S.C. § 112, ¶ 6. Function: “storing a plurality of instructions.” Corresponding structure includes “a floppy disk, optical disk, CD-ROM, magneto-optical disk, ROM, RAM, EPROM, EEPROM, magnetic or optical card, or flash memory.” (*See* EX1001, 4:5-24.) The claims likewise identify “flash memory” as an embodiment of the “storage means.” (*Id.*, 29:10-11 (claim 72).) In district court litigations involving the divisional '353 patent and related '926 patent, the construction of “storage means” identified “carrier wave” as part of the corresponding structure based on express definitional language in the respective

specifications. (EX1011, 4:26-33; EX1015, 4:34-41; EX1038, 22-23; EX1057, 13-14.) The '889 patent does not include that definitional “carrier wave” language, and Petitioner therefore identifies the corresponding structure for “storage means” without including “carrier wave.” (*Compare* EX1001, 4:5-24 *with* EX1011, 4:26-33 *and* EX1015, 4:16-41.)

In any event, the Board only construes the claims when necessary to resolve the underlying controversy. *Toyota Motor Corp. v. Cellport Sys., Inc.*, IPR2015-00633, Paper No. 11 at 16 (P.T.A.B. Aug. 14, 2015) (citing *Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999)). The analysis below is consistent with the prior constructions and those offered by Samsung and SoftView in the parallel litigation. Given the close correlation between the prior art references and the challenged claims of the '889 patent, besides the “storage means” term above, the Board need not construe any terms of the challenged claims to resolve the underlying controversy, as any reasonable construction reads on the prior art. (EX1002, ¶¶24-28.)

## **XI. DETAILED EXPLANATION OF GROUNDS**

### **A. Ground 1: Zaurus, Pad, and SVG Render Claims 1-115 Obvious**

The Board has previously found (and been affirmed by the Federal Circuit) that there is motivation to combine and a reasonable expectation of success for a Zaurus-Pad-SVG combination. (EX1017, 2-3.)

**1. Zaurus (EX1004)**

Zaurus discloses a handheld device with an Internet/HTML browser that supports stylus/touch input and switching between reduced and magnified displays. (EX1004, 10-16, 20-21, 40, 46-47; EX1002, ¶21.)

**2. Pad (EX1005 and EX1007)**

Pad++ (“Pad”) discloses an HTML browser with zoom/pan capabilities, including fit-to-width zoom behavior and visible-object determination (e.g., R-tree). (EX1007, 86-96, 108, 141; EX1005, 30, 63.) Pad is designed for small-screen systems including handheld computers/PDAs. (EX1007, 139-141; EX1005, 81-82; EX1002, ¶22.)

**3. SVG (EX1008)**

SVG discloses standards-based vector graphics designed for devices including small mobile devices and requiring zoom/pan “with true scalability.” (EX1008, 1, 12-14; EX1002, ¶23.)

**4. Motivation to Combine**

A POSITA would have been motivated to combine Zaurus, Pad, and SVG to improve small-screen navigation using known zoomable browsing and scalable graphics techniques. (EX1035; EX1037; EX1043; EX1046; EX1002, ¶30.) Zaurus already supports browsing with pen/touch input and switching between a “reduced view” and “magnified view,” showing that small-screen viewing modes and zoom-

related interaction were known and implemented on the handheld platform. (EX1004, 46-47; EX1002, ¶31.) Pad teaches a more flexible solution, including continuous zoom and pan that “allows users to zoom in and out of pages, enabling control of how much context is viewed at any time,” and Pad targets “small screens, such as handheld computers (i.e. PDA’s),” making it a natural enhancement to Zaurus’s magnify/reduce approach. (EX1017, 18-24; EX1013, 18-23; EX1007, 86-96, 136-142; EX1002, ¶¶31-32; *see also* EX1050, 1-2; EX1051, 1.) SVG further teaches a standard for zooming and panning with true scalability across devices including small mobile devices, providing an incentive to incorporate scalable vector graphics so zoomed content remains readable and functional as the user navigates at different scales. (EX1008, 1, 14; EX1002, ¶33.) Thus, the Zaurus-Pad-SVG combination would have predictably improved handheld browsing by pairing Zaurus’s handheld HTML browser with Pad’s zoomable navigation techniques and SVG’s scalable graphics standard. (EX1017, 23-24; EX1002, ¶33.)

## **5. Reasonable Expectation of Success**

A POSITA would have had a reasonable expectation of success in combining these references, and the Board rejected arguments that technical difficulties would prevent porting Pad to Zaurus. (EX1017, 18-19; EX1013, 18-19; EX1002, ¶34.) Zaurus already demonstrates the relevant handheld hardware/UI capability (stylus/touch input and switching between reduced and magnified display states),

supporting that integrating enhanced zooming behavior would have been a predictable adaptation to an existing handheld browsing platform. (EX1004, 15-16, 20-21, 46-47; EX1002, ¶35.) Pad discloses zoom and layout related mechanisms designed for interactive navigation (including smooth animated zooming) and identifies handheld computers/PDAs as a target environment, reinforcing that a POSITA would have expected Pad's techniques to function on PDA devices such as Zaurus. (EX1005, 22-23, 54-56, 71; EX1013, 18; EX1017, 18; EX1002, ¶¶35-36.) SVG likewise is directed to scalable zooming/panning techniques suitable for small/mobile devices and defines a vector-based model whose scaling behavior is predictable. (EX1008, 1, 13-15; EX1002, ¶¶35-36.) Together, the references describe compatible browser/graphics techniques suitable for small-screen devices, and a POSITA would have expected the Zaurus-Pad-SVG combination to function as intended. (EX1035; EX1037; EX1043; EX1046; EX1002, ¶¶34-36.)

**6. Claims 1, 31, 42, 77, 104, 108<sup>6</sup>**

**i) [1.pre], [108.pre]**

Zaurus performs handheld web-browsing operations (e.g., connecting to the Internet and following links by touch), and Pad and SVG supply the operations executed by the claimed “method.” (EX1004, 10, 40; EX1005, 60; EX1002, ¶37.)

**ii) [42.pre], [42.a], [42.b], [42.c]**

Zaurus is a compact, portable (“hand-held”) device for browsing the Internet and includes a 32-bit RISC CPU (“processor”), wireless data connectivity via PHS/digital cellular adapters (“communications device...wirelessly linked...”), and an integrated 320×240 LCD (“display”). (EX1004, 7, 10, 18; EX1002, ¶¶38-41.)

**iii) [42.d], [77.pre]**

Zaurus discloses main-body memory including flash memory (“storage means” / “tangible non-transitory machine-readable medium”) suitable for storing executable “instructions,” including the built-in Internet “browser” operable by an “operating system.” (EX1004, 18, 40.) Zaurus discloses a general-purpose PDA

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<sup>6</sup> In view of the large number of claims in the ’889 patent, and their overlapping subject matter, Petitioner addresses certain claims collectively. Moreover, Petitioner refers to limitations by their identifiers, with the claim language available in Appendix A.

(“hand-held device having a display”) software environment (multiple built-in applications and “MORE software”) with an Internet browser (“rendering engine”), which a POSITA would have understood to be provided by an “operating system” stored in the device’s memory and executed by the “processor.” (EX1004, 15, 18.) In the combined device, Pad also provides a “browser” with a “rendering engine” by teaching that when “html data is fetched, it is parsed and the HTML item is created which contains a method for rendering the page,” including URL fetching and rendering behavior. (EX1005, 60; EX1002, ¶¶42-43.)

iv) [1.a], [42.d.1], [77.a], [108.a]

In the Zaurus-Pad-SVG combination, in response to a Web page request, the hand-held device retrieves Web content for that page in an original format that defines the page’s original layout (and where recited, its “functionality and design”), and the retrieved content includes text, hyperlinks, and images. The retrieved HTML is obtained in its desktop-designed encoding and structure, including references to images and links that define the desktop page layout, functionality, and design. (EX1004, 40-42, 46; EX1005, 60, 63, 75; EX1007, 91; EX1008, 1, 7-8, 10, 14; EX1043; EX1002, ¶44.)

Zaurus discloses the request-triggered retrieval: a user can connect to the Internet and open home pages / open another page by specifying a URL. (EX1004, 10, 39, 46.) Zaurus further teaches that its browser “incorporates HTML 3.2

specifications” (“markup language”). (EX1004, 40.) Zaurus also shows that the retrieved content’s HTML “specifications” define layout (e.g., “Pages composed of frames”). (EX1004, 40; EX1043; EX1002, ¶45.) Zaurus also discloses “text data,” link behavior via “underlined characters,” images (e.g., GIF/JPEG), and it includes a setting indicating “image data is displayed” versus “only text data is displayed.” (EX1004, 40, 42; EX1002, ¶46.)

Pad discloses the same pipeline at the browser/rendering engine level: “HTML items” can “automatically fetch a file from a URL” and also fetch in-line images, and when the html data is fetched, “it is parsed and the HTML item is created.” (EX1005, 60.) Pad further teaches that the HTML item specifies the page width and the “page will be re-laid out according to the new width,” and that the HTML browser can lay out sub-documents in columns, further confirming layout derived from the original-format content. (EX1005, 63, EX1007, 91.) Pad also discloses HTML “anchors” created as separate items (“hotwords” in the HTML browser), supporting that retrieved content includes multiple hyperlinks and associated navigation behavior, which corresponds to the recited “functionality” where included. (EX1005, 60, 63; EX1007, 91; EX1002, ¶47.)

**v) [1.b], [42.d.2], [77.b], [108.b]**

In the Zaurus-Pad-SVG combination, the hand-held device processes the retrieved markup/HTML Web content with a browser rendering engine to generate

page layout information corresponding to the Web page's original page layout as interpreted by the rendering engine, including a page width where recited. (EX1004, 40; EX1005, 60, 63; EX1007, 91; EX1002, ¶48.)

Zaurus teaches device-side rendering engine processing of markup/HTML content by disclosing an "Internet browser" that "incorporates HTML 3.2 specifications," and processes the retrieved HTML on the device; it contemplates that "a single page is divided into a certain number of boundaries" and supports layout features, reflecting the browser's interpretation of the original-format markup to generate the displayed layout. (EX1004, 40.) Zaurus's disclosure of processing "HTML 3.2" satisfies [108.b]'s "HTML-based Web content," and HTML is also "markup language-based Web content" for [1.b]/[42.d.2]/[77.b]. (EX1004, 40, 48; EX1002, ¶49.)

Pad teaches the rendering engine processing and layout information generation by teaching that when "html data is fetched, it is parsed and the HTML item is created which contains a method for rendering the page" confirming conversion of the retrieved markup/HTML into a layout representation used for rendering. (EX1005, 60.) Pad also supports layout geometry (e.g., item extents via "bbox"). (EX1005, 17, 22, 60; EX1007, 41; EX1002, ¶50.)

For the "width" limitation in [1.b]/[42.d.2]/[77.b], Pad teaches page-width layout information by stating that the HTML item "specifies the width ... of the html

page” and that “[t]he page will be re-laid out according to the new width,” showing the rendering engine determines and uses a page-width parameter in generating layout. (EX1005, 63; EX1007, 91; EX1002, ¶51.)

**vi) [1.c], [77.c], [108.c]**

In the Zaurus-Pad-SVG combination, Zaurus suggests multi-scale viewing by disclosing that pages may be displayed in different magnifications (e.g., “reduced display” versus “magnified display”), demonstrating multiple zoom levels. (EX1004, 40, 46.) SVG supplies the vector-based scalable graphics model used to represent page objects so the resulting “scalable page layout information” is scalable in the construed sense across zoom levels. (EX1008, 11, 14; EX1002, ¶52.)

Pad’s HTML processing creates an internal object-based representation from the fetched HTML (“html data is fetched, it is parsed and the HTML item is created”), and Pad generates/uses geometric layout information such as bounding boxes (“bbox” returns item extents). (EX1005, 60, 17.) Pad also teaches that the HTML item “specifies the width ... of the html page” and that “[t]he page will be re-laid out according to the new width,” showing the renderer employs layout parameters (including width-driven layout results) to produce a reusable layout representation. (EX1005, 63.) Because that representation includes object geometry (such as positions/sizes/bounding boxes) that can be re-rendered under different zoom values, it is graphic content that (1) is capable of being rendered at multiple

zoom levels and (2) includes one or more vectors represented by (X2, Y2) relative to origin points (X1, Y1) that define page-layout locations of objects (“scalable page layout information”). (EX1002, ¶53; *see also* EX1017, 15 (“there appears to be little dispute that [Pad’s inventor] Bederson discloses vectorized content”).)

Pad further discloses the “scalable” nature of that layout representation by defining magnification as “the multiplication of the current view ... with the object’s size (from the -place ... option),” and defines the view to include “zoom” where “zoom specifies the magnification.” This teaches that the stored object size/placement information (derived from the initial page layout) is capable of being rendered at multiple zoom levels by changing the zoom/magnification value. (EX1005, 29-30; EX1002, ¶54.)

For [108.c], Pad discloses a numeric zoom parameter where “zoom specifies the magnification,” and magnification is defined as multiplication of the current view with the object’s stored size and placement information. (EX1005, 29-30.) Applying different zoom and magnification values to the underlying layout geometry (for example, object sizes, positions, and bounding boxes) yields “scaled page layout information and/or data derived therefrom” for each selected scale factor, which Pad then uses to render correspondingly scaled output at multiple zoom levels. Pad confirms this scaled rendering by stating that “Text and images are scaled,” which discloses generation of “scaled Web page content” at different zoom

levels, and thus “at multiple scale factors.” (EX1005, 35; EX1004, 46.) SVG is consistent with this approach by describing zoom-level scaling behavior, which suggests that applying scale factors to layout/geometry produces uniformly scaled renderings. (EX1008, 11, 14; EX1002, ¶55.)

**vii) [1.d], [42.d.3], [77.d], [108.d.1]**

In the Zaurus-Pad-SVG combination, the hand-held device uses scalable or scaled page layout information and/or data derived therefrom to render different views of the Web page on the device display, including enabling browsing at multiple zoom levels. (EX1004, 12, 40, 46; EX1005, 29, 30, 32, 35; EX1007, 91; EX1008, 14; EX1002, ¶56.)

Zaurus provides the display and user-facing “views” of Web pages by disclosing a “Screen (display portion)” and supporting multiple on-screen viewing modes such as switching “between reduced display and magnified display,” which corresponds to user selection among different zoom levels/views on the display. (EX1004, 12, 40, 46; EX1002, ¶57.)

Pad teaches generating views from scalable/scaled layout data by defining the view to include “zoom” where “zoom specifies the magnification,” and defining magnification as “the multiplication of the current view ... with the object’s size (from the -place ... option),” so the displayed view is computed from underlying object/layout size and placement data, scaled by a zoom/magnification value.

(EX1005, 29, 30.) Pad also provides view-manipulation commands such as the “moveto” view-change command to change what portion of the surface is visible, further evidencing generation of different views from the same underlying content representation. (EX1005, 30; EX1007, 91; EX1002, ¶58.) SVG suggests that scalable layout data is used to generate views across zoom levels by requiring “true scalability” such that “all objects and attributes (including ... text ...) should grow/shrink uniformly with the zoom level,” which entails employing scalable geometry/attributes to render the view at the selected scale factor. (EX1008, 14; EX1002, ¶59.)

**(1) [1.d.1], [31], [42.d.3.i], [77.d.1], [104]**

In the Zaurus-Pad-SVG combination, the device can generate a view where the entire width of the web page fits within the display. Zaurus provides a “Switch between reduced display and magnified display,” which supports generating an overview view in which more of the page, including the page width, is visible across the screen. (EX1004, 46-47; EX1002, ¶60.)

Pad defines the view in “xview yview zoom” form where “zoom specifies the magnification,” allowing selection of a zoom level that makes a page or object fit within the window. (EX1005, 30.) Pad also explains that clicking on text causes Pad “to pan and zoom until that text fills the screen horizontally,” demonstrating that Pad can compute and apply a zoom that fits content to the screen width. (EX1007,

54, 108.) Pad further ties “width” to the HTML page itself, stating that the HTML item specifies the width of the HTML page and that the page will be re-laid out according to the new width. (EX1005, 22, 63; EX1007, 54; EX1002, ¶61.) Pad can compute an image item’s bounding box (“x1 y1 x2 y2”), then adjust the view so the item (or its bounding box) “fills the specified amount of screen” via a center command or set the view magnification using a move command for “magnification of zoom.” (EX1005, 17, 22, 30, 32; EX1002, ¶62.)

SVG supports “zoom and pan” and “transformations” that allow content to be scaled to fit any “viewport” or device resolution, and zoom/pan support are consistent with selecting a view where content is scaled to fit across the display. (EX1008, 11, 14.) A POSITA would have been motivated to implement a fit “width” view in the Zaurus browser using Pad’s view selection logic (including use of a page width and zoom/magnification) to improve readability on the handheld device, avoiding horizontal scrolling. (EX1002, ¶63.)

**(2) [1.d.2], [42.d.3.ii], [77.d.2], [108.d.2], [108.e.2]**

In the Zaurus-Pad-SVG combination, the device responds to user inputs by changing the view scale (zoom) and re-rendering the same underlying page representation to produce “views of the Web page,” so the user can iteratively zoom in on a selected portion while the page’s layout relationships, interactive behavior,

and visual design remain preserved across the different zoom levels. (EX1004, 12, 15-16, 46; EX1007, 6, 13, 54, 87-93; EX1005, 30; EX1008, 14; EX1002, ¶64.)

Zaurus provides the user-input-driven view generation on a hand-held display by disclosing a “Screen (display portion)” and touch-based interaction, including switching “between reduced display and magnified display.” (EX1004, 12, 15-16, 46.) Pad teaches iterative zooming behavior, stating that “clicking and holding on the middle mouse button performs a smooth animated zoom in,” and that “this process can be repeated indefinitely.” (EX1007, 4, 6.) Pad further teaches zooming in on a portion of content by allowing the user to click specific items (e.g., text or images) so that they fill the screen. (EX1007, 54; EX1002, ¶65.)

Pad ties zoom to a view change rather than changing the underlying page structure: the view includes a numeric “zoom” where “zoom specifies the magnification,” so the rendering system can compute different displayed views by applying different zoom values to the same underlying layout produced from the interpreted markup and remains coherent as the user changes the view/zoom. (EX1005, 30; EX1007, 91.) This supports [108.d.2]’s “as interpreted by the rendering engine,” because the “interpreted” layout is the engine’s parsed/laid-out page representation and zoom alters how that representation is viewed. (EX1002, ¶66.)

SVG’s “true scalability” requirement states that “all objects and attributes ... should grow/shrink uniformly with the zoom level,” suggesting that scalable rendering preserves the page’s design/layout relationships at different zoom levels. (EX1008, 14; EX1002, ¶67.) In the combination, Zaurus’s touch-driven mobile browsing with Pad’s interactive/iterative zooming and scalable rendering behavior (suggested by SVG’s “true scalability”) would generate successive zoomed views in response to user inputs while preserving the interpreted layout relationships and the page’s interactive behavior. (EX1004, 46; EX1007, 6, 13; EX1008, 14; EX1002, ¶68.)

**viii) [1.e], [42.e], [77.e], [108.e.1]**

In the Zaurus-Pad-SVG combination, preserving the page’s functionality includes preserving link navigation defined by the markup/HTML; “hyperlink functionality” remains operative in the generated/zoomed views. (EX1004, 10, 40, 46; EX1005, 47, 60-64; EX1007, 89, 91; EX1008, 14; EX1002, ¶69.)

Zaurus teaches that hyperlink functionality is part of the functionality defined by the retrieved markup/HTML content by explaining that “A separate page which is linked is displayed by touching the underlined characters,” which enables using a hyperlink to navigate to a linked page. (EX1004, 10, 40, 46; EX1002, ¶70.)

Pad teaches that hyperlinks are represented as interactive objects and that their link behavior is preserved during interaction: for HTML items, Pad specifies that

(by default) events go through the HTML object to its anchors (“-divisible” true), meaning user interaction is delivered to the anchor objects rather than being blocked at the HTML object. (EX1005, 61-64.) Pad also teaches that HTML anchors are special items (“htmlanchor”) automatically grouped with the HTML object, and that anchors expose the URL addressed by the anchor, confirming that the link target remains associated with the rendered anchor object. (EX1005, 63-64; EX1002, ¶71.)

Pad further confirms that link interaction remains available in a zoomed view: “Here is a zoomed in view of the document. Hotwords are shown in blue ...” and “When you follow a link, the relevant document is loaded ...,” demonstrating operable hyperlink navigation while zoomed. (EX1007, 89, 91; EX1002, ¶72.)

SVG further suggests hyperlink preservation in scalable graphics by requiring support for “Links” and stating that it should be possible to assign a link to any graphic object, and by requiring that objects/attributes grow/shrink uniformly with zoom; consistent with link targets remaining attached to their corresponding rendered objects across zoom levels. (EX1008, 14; EX1002, ¶73.) In the combination, as the hand-held device renders and scales Web content across different views/zoom levels, the link behavior defined by the markup remains active. (EX1004, 10; EX1005, 60-64; EX1007, 89, 91; EX1008, 14; EX1002, ¶74.)

**7. Claims 2, 43, 78**

In the Zaurus-Pad-SVG combination, zoom/pan views are re-rendered in real time by maintaining an interactive frame rate during view changes (“re-rendering / zooming ... views ... in real-time”). (EX1004, 15, 46; EX1007, 4, 142; EX1005, 11; EX1008, 1, 5, 6; EX1002, ¶¶75-79.)

**8. Claims 3, 71**

In the Zaurus-Pad-SVG combination, Zaurus’s touch-sensitive display can receive user inputs that control Web page display (including zoom/pan view changes taught by Pad). (EX1004, 12, 15, 46; EX1007, 4, 71, 141; EX1008, 1, 14; EX1002, ¶¶80-84.)

**9. Claims 4, 45, 79**

**i) [4.a], [45.a], [79.a], [4.b], [45.b], [79.b]**

In the Zaurus-Pad-SVG combination, hyperlinks in the rendered Web page remain selectable (e.g., touching/clicking a linked word triggers loading/display of the linked content). (EX1004, 10, 15, 40; EX1007, 60, 89, 108; EX1005, 60; EX1008, 14; EX1002, ¶¶85-89.)

**ii) [4.b.1], [45.b.1], [79.c]**

In the Zaurus-Pad-SVG combination, this newly loaded/created HTML item provides “additional page layout information” (claim 45) because it is a new rendered page object with its own layout/structure produced by the parsing/rendering step. (EX1004, 10; EX1005, 60; EX1007, 91.) As for the “additional scalable page

layout information” recited in claims 4 and 79, Pad’s object model is scalable: “pathName scale ... multiplies the size of items by a scale amount.” Thus, the linked-page HTML item’s layout representation is scalable. (EX1005, 36; EX1008, 14; EX1002, ¶¶90-93.)

**iii) [4.b.2], [45.b.2], [79.d]**

In the Zaurus-Pad-SVG combination, once the linked document is retrieved and processed into an additional (scalable) layout representation, the device uses that additional layout information to render/display the linked page. (EX1004, 10; EX1007, 91, 93; EX1002, ¶¶94-96.)

**10. Claims 5, 46, and 80**

**i) [5.a], [46.a], [80.a], [5.b], [46.b], [80.b]**

In the Zaurus-Pad-SVG combination, Zaurus suggests that the markup being processed is HTML, stating the browser “incorporates HTML 3.2 specifications,” supports “Pages composed of frames,” and includes “text data” and image data (e.g., GIF/JPEG). (EX1004, 40, 42; EX1002, ¶97.)

Pad teaches that, after Web content is obtained, the rendering engine parses and processes markup-language code to construct a representation: “HTML items ... automatically fetch a file from a URL ... [and] When the html data is fetched, it is parsed and the HTML item is created which contains a method for rendering the page.” (EX1005, 60; EX1007, 91; EX1002, ¶¶98-99.) Pad further teaches that

“Every object has a -place which specifies the anchor point of that object,” evidencing that objects resulting from the layout have location data (coordinates/anchor points) derived from the layout process (“defines a layout location”). (EX1005, 50; EX1002, ¶99.) Pad also identifies the relevant object types created/used by the rendering engine: “Text Items ... displays a string of characters” and “Image Items ... appear on the display as color images.” (EX1005, 75, 64; EX1002, ¶100.)

**ii) [5.c], [46.c], [80.c]**

In the Zaurus-Pad-SVG combination, the device defines a reference point (datum) for each object that corresponds to its position in the layout. Pad discloses that for every item (object), the system defines an “anchor” (“object datum”) which “tells how to position the object relative to the positioning point.” (EX1005, 47.) Pad also calculates a “bounding box” for every object. (EX1005, 17.) Pad maps coordinates to these boxes: “A frame is a bounding box, and all coordinates are specified within the unit square where the unit square is mapped to the frame.” (EX1005, 34.) A POSITA would have understood that this anchor/coordinate definition corresponds to the “layout location” determined during the parsing of the “original page layout” (e.g., the position defined by the HTML stream). (EX1002, ¶101.)

SVG discloses defining “local user coordinates” for objects and using “Transformations” (e.g., translation matrices) to define the object’s position. (EX1008, 11.) SVG further discloses utility methods to “query an object’s bounds” (“layout location”). (EX1008, 15; EX1002, ¶102.)

A POSITA would have been motivated to use Pad’s anchor and bounding box model in the Zaurus browser to manage the scalable vector objects in view of SVG. For each text or image object parsed from the HTML, the engine defines an “anchor” (“object datum”) that corresponds to its calculated X/Y position (“layout location”) on the page. (EX1005, 47, 65; EX1002, ¶103.)

**iii) [5.d], [46.d], [80.d]**

In the Zaurus-Pad-SVG combination, once the original page layout is determined, each text/image object is assigned an anchor/positioning point (and associated derived bounds) that corresponds to the object’s layout location. (EX1005, 47, 50; EX1005, 17, 32, 34; EX1008, 4, 11, 15; EX1002, ¶¶104-107.)

**11. Claims 6, 47, and 81**

In the Zaurus-Pad-SVG combination, at least one retrieved image file in an “original format,” such as GIF or JPEG (each a particular way that image information is encoded), is translated (converted) from that encoded file format into an internal Pad “image” object representation that is capable of being rendered at multiple zoom levels. (EX1004, 40; EX1005, 17, 36, 64.) Zaurus teaches that the

browser can display images “not only in GIF format, but also ... JPEG format.” (EX1004, 40.) A POSITA would have understood GIF and JPEG identify encoded image file formats, which Pad reads and converts for display. (EX1002, ¶108.)

Pad teaches importing raster images and converting them into Pad “image” objects: “allocimage” reads image files (including GIF, and optionally JPEG) and creates an image token used to create an “image item,” and Pad explains that “Items of type image appear on the display as color images.” (EX1005, 17, 64.) Pad further teaches that image items are zoomable/scalable via view magnification and scaling (e.g., “Magnification is defined as the multiplication of the current view ... with the object’s size,” and “scale...multipl[ies] the size of the item”). (EX1005, 29, 35, 36, 50.) Thus, once the encoded image file is translated (converted) into a Pad image item, the image is present in a “scalable format” because the image item is rendered within Pad’s scalable coordinate and zoom system and is capable of being rendered at multiple zoom levels by changing the view magnification and or scaling the item’s size. (EX1002, ¶109.)

Pad confirms the effect of this conversion because images become zoomable or scalable objects in the interface (users can zoom in to see images “in greater detail”), consistent with the image being capable of being rendered at multiple zoom levels after translation from its original file format. (EX1007, 80.) SVG further confirms that images are intended to participate in scalable/zoomable rendering,

stating that “images and text should scale along with the sizes of the shapes,” consistent with translating image content into a scalable rendering model. (EX1008, 11; EX1002, ¶110.)

**12. Claims 7, 48, 82**

**i) [7.a], [48.a], [82.a], [7.b], [48.b], [82.b]**

In the Zaurus-Pad-SVG combination, the rendering engine associates per-text-object formatting attributes such as font/typefont and color with the text objects created from the markup/HTML. (EX1005, 8, 75, 78; EX1007, 89; EX1008, 10, 13; EX1002, ¶¶111-113.)

**ii) [7.c], [48.c], [82.c]**

In the Zaurus-Pad-SVG combination, the rendering engine uses the previously associated per-text-object attributes (e.g., font/typefont and color) when drawing text items on the display. (EX1005, 75, 78; EX1007, 89; EX1008, 8, 10, 13; EX1002, ¶¶114-116.)

**13. Claim 8**

**i) [8.a]**

In the Zaurus-Pad-SVG combination, a zoom operation is effected by (1) determining which page objects are included in the zoomed view (i.e., which objects are visible in the new view) and then (2) rendering those objects on the display, including iterating for each object in that included set. (EX1004, 46; EX1007, 141; EX1005, 59; EX1008, 14; EX1002, ¶¶117-119.)

**ii) [8.b]**

In the Zaurus-Pad-SVG combination, the rendering engine determines a scaled datum for each object by applying the zoom's scale factor to that object's page-layout information (its stored placement/size/coordinates), thereby computing the object's scaled placement for the zoomed view. (EX1005, 29, 30, 35 ("Text and images are scaled"), 36 ("scaleAmount"), 50, 60 ("html data is fetched"); EX1008, 11, 14; EX1002, ¶¶120-122.)

**iii) [8.c]**

In the Zaurus-Pad-SVG combination, after the scaled datum is determined for an object (e.g., scaled placement coordinates under the current zoom), the rendering engine scales the object's associated content (text, images, shapes). (EX1005, 25, 26, 29, 36; EX1008, 11, 14; EX1002, ¶¶123-126.)

**14. Claim 9**

**i) [9.a]**

In the Zaurus-Pad-SVG combination, the rendering system implements a combined zoom-and-pan by applying a single view change that updates both (i) the magnification/scale factor (zoom) and (ii) the view's center/position coordinates (pan). (EX1004, 46; EX1005, 30, 46; EX1004, 46; EX1008, 14; EX1002, ¶¶127-129.)

**ii) [9.b]**

In the Zaurus-Pad-SVG combination, a pan changes the view position by translating the view center from its current coordinates to new coordinates. (EX1005, 30, 38; EX1008, 11; EX1002, ¶¶130-132.) Accordingly, whether expressed as (a) new xview, yview center coordinates in Pad or (b) translation terms in an SVG transform matrix, the combined system determines a translation offset corresponding to the pan operation. (EX1005, 30; EX1008, 11; EX1002, ¶133.)

**iii) [9.c]**

In the Zaurus-Pad-SVG combination, after content is scaled for the zoom level, the rendering engine applies the pan translation so that the scaled content is positioned correctly in the display window, thereby producing the final view on the display. (EX1005, 29, 30, 32; EX1008, 11; EX1002, ¶¶134-137.)

**15. Claim 10**

**i) [10.a], [10.b]**

In the Zaurus-Pad-SVG combination, rendering scaled content for a text object uses presentation attributes associated with that text object (including typeface/font, size, and color) when drawing the text in the zoomed view. (EX1005, 75, 77, 78, 37, 50; EX1008, 13; EX1002, ¶¶138-140.)

**ii) [10.c]**

In the Zaurus-Pad-SVG combination, the rendering engine uses a scalable font for the selected typeface and applies the text-color attribute when drawing the text

object; the text is rendered at a screen location determined from the text object's scaled datum under the current view transform; and the applied font scale depends on the zoom scale factor and/or the specified font size. (EX1005, 12, 29, 30, 77, 78; EX1004, 18; EX1008, 14; EX1002, ¶141.) Zaurus discloses the device includes an operating system environment used to run applications such as the browser. (EX1004, 18; EX1002, ¶142.) Pad teaches scalable Type 1 font rendering (outline-based when not reusing cached bitmaps) and color application via “-pen color,” and it ties rendered size/placement to the “xview yview zoom” view transform and magnification. (EX1005, 12, 26, 29, 30, 37, 78; EX1002, ¶¶143-145.) SVG likewise teaches uniform text scaling with zoom. (EX1008, 14; EX1002, ¶145.)

## **16. Claims 11, 49, 83**

In the Zaurus-Pad-SVG combination, the device displays Web content at different effective “resolutions” (i.e., at different zoom/magnification levels) by scaling the layout representation using multiple scale factors and, for each scale factor, determining the corresponding on-screen layout locations used to render the content. (EX1007, 4, 54; EX1008, 1, 14; EX1002, ¶¶146-150; *see also* Section XI.A.13 (scaling content/rendering), 14 (scale factor/offset via Pad view).)

**17. Claims 12, 50, 84**

**i) [12.a], [50.a], [84.a], [12.b], [84.b], [50.b], [84.c]**

In the Zaurus-Pad-SVG combination, the hand-held device enables a user to select (i) an on-screen area (or (ii) an on-screen object) to zoom into, and in response re-renders so the selected content fits across the display width. (EX1004, 12, 15; EX1007, 54; EX1005, 22; EX1002, ¶¶151-153.) A POSITA would have applied Pad's object/area-based click-to-zoom (fit-to-width) behavior to Zaurus's touch-screen inputs so a user can tap/select a region or object on the display and the device re-renders the view to fit the selected content across the display width. (EX1004, 15; EX1007, 54; EX1005, 22; EX1002, ¶154.)

**ii) [12.c], [50.c]**

In the Zaurus-Pad-SVG combination, the device responds to the selection by zooming the view, which causes the rendering engine to redraw the content in the selected area at a larger scale. (EX1005, 22, 29; EX1004, 46-47; EX1007, 54; EX1008, 14; EX1002, ¶¶155-157.) A POSITA would have understood that in the combined device, tapping an area on the screen triggers the rendering engine to calculate a new zoom factor that fits the selected area to the display and re-renders the content at that enlarged scale. (EX1002, ¶158.)

**18. Claims 13, 51, 86, 114**

**i) [13], [51], [86], [114.a], [114.b]**

In the Zaurus-Pad-SVG combination, Zaurus supplies user-driven navigation inputs on a hand-held display, while Pad and SVG supply the panning/view-update mechanics (including re-rendering newly exposed portions). (EX1004, 43; EX1005, 11, 30; EX1007, 71; EX1008, 14.) The user can pan the currently displayed view of a Web page in response to user input, including panning from a current view to a new view that displays a different portion of the page not shown in the current view. (EX1002, ¶159-161.)

**19. Claims 14, 52, 87, 114, 115**

**i) [14], [52], [87], [114.c], [115]**

In the Zaurus-Pad-SVG combination, Pad's fast-pan re-rendering and adaptive render scheduling (applied in the hand-held browsing context of Zaurus and consistent with SVG's performance expectations) enable the view to be panned in real-time and enable generation of scaled content in real-time as the user pans to new views. (EX1005, 11; EX1007, 142; EX1004, 43; EX1008, 6; EX1002, ¶162-164.) For claim 115, Pad targets a specific frame rate, stating it maintains the "desired frame rate" and the "default is 20 frames/second." (EX1005, 11; EX1002, ¶165.) A POSITA would have understood that 20 frames per second requires generating each

frame of scaled content in 0.05 seconds. (EX1002, ¶165; *see also* EX1003, 344-346.)

## **20. Claims 15, 53, 88**

In the Zaurus-Pad-SVG combination, Pad states that the “HTML browser will lay out sub-documents in two columns next to the parent document,” and then instructs the user: “Simply zoom in on the sub-document to read it.” (EX1007, 91, 93; EX1002, ¶166.) Pad states: “When you click on a piece of text, Pad++ zooms in so that that text fills the screen horizontally.” (EX1007, 54.) Consistent with this fit-to-width behavior, Pad’s center command changes the view so “the largest dimension of its bounding box fills the specified amount of screen,” which a POSITA would have understood, when applied to a selected column (e.g., the sub-document column or its bounding box), re-renders the view so that column spans the display width. (EX1005, 22; EX1002, ¶167.)

Zaurus discloses “Touch[ing] the screen with a pen.” (EX1004, 15.) A POSITA would have been motivated to combine Pad’s column-based HTML layout and click-to-zoom fit-to-width behavior with Zaurus’s touch interface to facilitate reading multi-column Web layouts on a small display. (EX1007, 91, 54; EX1004, 15; EX1002, ¶168.)

**21. Claims 16, 54, 89**

In the Zaurus-Pad-SVG combination, Zaurus discloses touch-based interaction on its screen to “Touch the screen with a pen” and further explains “Easy key touch ... Can be operated by a light touch,” which a POSITA would have understood as a tap gesture on a touch-sensitive display. (EX1004, 15; EX1002, ¶169.) Pad’s column-zoom interaction is triggered by a user “click” on displayed content: “When you click on a piece of text, Pad++ zooms in...”). In the combination, that same user selection is performed on a touchscreen via a tap on the displayed column (or text within the column). (EX1007, 54; EX1004, 15; EX1002, ¶170.)

**22. Claims 17, 55, 90**

In the Zaurus-Pad-SVG combination, the user taps an on-screen image with the Zaurus pen input. (EX1004, 15, 40.) Pad supports directing a user action to the specific object under interaction, so the tap is associated with the selected image item. (EX1005, 18, 64.) In response to that input, Pad changes the view parameters and re-renders at the new view. (EX1005, 17, 22, 30, 32; EX1002, ¶¶171-172.) Pad demonstrates user-driven zooming on images, stating that after viewing “pictures,” “you could zoom in further to see the images in greater detail.” (EX1007, 80; *see also* EX1008, 11, 14; EX1002, ¶173.)

**23. Claims 18, 56, 91**

In the Zaurus-Pad-SVG combination, the “tapping” input is satisfied for the same reasons as Section XI.A.8 (touch display) and Section XI.A.22 (zoom-on-image interaction), with Pad’s click selection implemented as a tap on Zaurus’s touch screen. (See Sections XI.A.8, 22; EX1004, 15; EX1005, 47, 64; EX1007, 54, 80; EX1002, ¶¶174-177.)

**24. Claims 19, 57, 92**

In the Zaurus-Pad-SVG combination, Pad teaches user-input zooming on a selected block of text and re-rendering to fit the selected text across the screen: “When you click on a piece of text, Pad++ zooms in so that that text fills the screen horizontally.” (EX1007, 54.) A POSITA would have understood that a “piece of text” in a Web context corresponds to a “paragraph” (e.g., an HTML <p> tag rendered as a text object). (EX1042, 1-3; EX1043, 2, 10; EX1002, ¶178.)

Pad further suggests the fit-to-width re-rendering mechanism by teaching center, which changes the view so “the largest dimension of its bounding box fills the specified amount of screen,” meaning that when applied to the selected text object corresponding to the paragraph, the view is regenerated so that paragraph content is enlarged to fit across the display. (EX1005, 22.) Pad’s also supports treating rendered text as discrete text objects (“text items”) created during HTML

parsing, providing the selectable paragraph text object on which the zoom/re-render operates. (EX1005, 60, 75; EX1002, ¶179.)

Zaurus supplies the handheld/touch input context for the “associated user input” on a mobile display, teaching interaction by “touching the screen with a pen,” which a POSITA would implement as the selection input to trigger Pad’s text-zoom behavior on a paragraph of HTML-rendered text. (EX1004, 15; EX1002, ¶180.)

## **25. Claims 20, 58, 93**

In the Zaurus-Pad-SVG combination, the user input used to select the paragraph for the paragraph-zoom operation is a tap on the touch-sensitive display. (EX1004, 15; EX1002, ¶¶181-182.) Pad teaches the corresponding selection gesture for triggering the zoom on a block of text: “When you click on a piece of text, Pad++ zooms in ...,” and in the Zaurus touch-display, a POSITA would implement that selection input as a tap on the paragraph text. (EX1007, 54; EX1002, ¶183.)

## **26. Claims 21, 59, 94**

In the Zaurus-Pad-SVG combination, when the user zooms on a paragraph and the view is re-rendered to fit that paragraph across the display (as in claim 19), the paragraph’s text is reformatted (e.g., reflowed/rewrapped) as part of the re-render. (EX1005, 22, 63; EX1002, ¶184.) A POSITA would have understood that HTML paragraphs are designed to be “reformatted” (reflowed/wrapped) based on their width. (EX1043, 2, 10.) Pad further describes “Semantic zooming” in which

objects can appear differently at different sizes, consistent with re-render-time changes in how text content is presented as the view scale changes. (EX1007, 85; EX1002, ¶185.)

**27. Claims 22, 60, 95**

**i) [22.a], [60.a], [95.a], [22.b], [60.b], [95.b]**

In the Zaurus-Pad-SVG combination, Pad maintains an internal hierarchical item structure including that “Group members are rendered sequentially in the display list,” and prints the internal tree structure. (EX1005, 6, 32, 34, 59; *see also* EX1052, 195-196; EX1001, 19:10-22.) Pad renders by traversing that item structure, including during view changes where it “re-render[s] the new portion” based on the stored objects. (EX1005, 11, 59.) Generating that structure uses scalable layout information because items are created/placed using coordinates and size/position parameters (e.g., create uses “coordinates,” and “-place” sets “position and item size”). (EX1005, 24; 50.) SVG’s “implicit layering” (objects drawn bottom-to-top in input order) further discloses the same display-list/scene-graph rendering paradigm motivating this architecture in the combination. (EX1008, 9; EX1002, ¶186.)

**ii) [22.c], [60.c], [95.c]**

In the Zaurus-Pad-SVG combination, the rendering engine handles the internal list/tree of graphical objects and their attributes by traversing it to render the

page content to the screen. Pad ties rendering to use of the display list: “Group members are rendered sequentially in the display list,” and operations such as raising/lowering a group act on all group members within that display-list structure. (EX1005, 59.) Pad further explains that it supports view changes such as fast panning by “re-rendering the new portion” of the scene based on the underlying object data, which would be done by re-traversing the display list/scene graph to generate the updated view. (EX1005, 11.) Consistent with standard graphics principles, a POSITA would have understood that the purpose of a display list/scene graph is to enable rendering by generating views of the content by traversing the stored drawing objects/commands. (EX1052, 195-196; EX1002, ¶187.)

**28. Claims 23, 61, 96**

**i) [23.a], [61.a], [96.a], [23.b], [61.b], [96.b]**

In the Zaurus-Pad-SVG combination, Zaurus’s HTML-capable browser provides the handheld web-browsing context. (EX1004, 40.) Pad teaches generating page layout information from fetched HTML by parsing it into an HTML item used for rendering, and it supports coordinate-based placement/bounds for the resulting items (e.g., “-place” anchor point and “bbox” coordinates). (EX1005, 17, 50, 60, 63; EX1002, ¶¶188-189.) Pad explains that parsed HTML yields multiple discrete items: “HTML anchors are created as separate items.” (EX1005, 60.) Pad also defines “Text Items” (a text item displays “a string of characters”) and “Image

Items” (items of type image appear as “color images”). (EX1005, 64, 75; EX1002, ¶190.) Pad discloses that “Every object has a -place” which specifies the anchor point, and “The place specifies the object’s position and size,” which provides coordinate location information for each object. (EX1005, 50.) Pad also teaches that “bbox” returns an item’s bounding box “in the form ‘x1 y1 x2 y2’,” which identifies the object’s location and extent in coordinates on the page layout. (EX1005, 17.) SVG further suggests coordinate-based layout by specifying “Coordinate systems” and positioning concepts, consistent with representing page objects using coordinates. (EX1008, 11; EX1002, ¶191.)

A POSITA would have been motivated to combine Zaurus’s HTML browser context with Pad’s parsed, object-based rendering and coordinate-based item placement to obtain the claimed “page layout information” for “a plurality of objects” (text and images) each having “a coordinate location,” consistent with SVG’s coordinate system expectations. (EX1002, ¶192.)

**ii) [23.c], [61.c], [96.c]**

In the Zaurus-Pad-SVG combination, the rendering engine maintains, for each rendered item (such as a text item or image item), an object identifier and the object’s stored layout parameters (position, size, bounds) that can be retrieved for that specific object. Pad discloses that when an item is created, the system assigns it an identifier because the create command “returns the id for the new item.” (EX1005,

24.) Pad further shows that the system tracks item-specific data associated to that item because it refers to “item: The id of the item being configured,” and its “itemconfigure” command “modifies item-specific options for the items given by tagOrId.” (EX1005, 16, 32.) In combination, the object (identified by id or tagOrId) is linked to its position/size attributes and bounds coordinates within the rendering engine’s object model. (EX1005, 16, 17, 24, 32, 46, 50, 59; EX1002, ¶193.)

**29. Claims 24, 62, 97**

In the Zaurus-Pad-SVG combination, the renderer supports generating for a bounding region that encloses the content drawn for that item. Pad’s “bbox” command returns an item’s bounding box as “x1 y1 x2 y2” and specifies that “the drawn areas” of the named items are within the region bounded by those coordinates. (EX1005, 17.) Pad provides bounding box generation for text content through “gettextbbox,” which returns the text’s bounding coordinates (“x1 y1 x2 y2”) and states the text lies within that bounded region. (EX1005, 30.) For each item (text, image, or other object), Pad computes a bounding box for the item via the “-bb” option, which evaluates a script “to compute the bounding box of this item” and returns lower-left and upper-right corners. (EX1005, 65, 74-75.) Pad further suggests that the system uses these per-object bounding boxes as the occupied region on the page layout because the damage command can redraw “just the bounding box

of each of the objects specified,” reflecting that each object has a bounding box the renderer relies on for updates. (EX1005, 24; EX1002, ¶194.)

### **30. Claims 25, 63, 98**

In the Zaurus-Pad-SVG combination, the rendering engine can “for each of the plurality of objects” map the object’s “coordinate location ... to a corresponding object datum coordinate on a virtual display area employing a resolution-independent coordinate system” by storing each object’s anchor position in Pad++ “pad” coordinates on the Pad++ surface (and converting between window and pad coordinates as needed). (EX1002, ¶195.)

Pad explains “all of the data is placed directly on the Pad++ surface, and you navigate through the data by panning and zooming,” in a “zoomable coordinate system” where objects have an “absolute physical location.” (EX1007, 73.) Pad explains that this “surface” coordinate space is distinct from the visible device window: for “bbox,” if “the item is the Pad++ surface ... then bbox will refer to the bounding box of the portion of the surface that is currently visible (based on the view and window size).” (EX1005, 17; EX1002, ¶196.)

Pad defines a per-object datum (an anchor coordinate) via “-place,” stating: “Every object has a -place which specifies the anchor point of that object ... The place specifies the object’s position and size.” (EX1005, 50-51.) Pad also provides a coordinate mapping operation between the device/window and the surface: “padxy

... Given a window x-coordinate ... and y-coordinate ... returns the pad x-coordinate and y-coordinate that is displayed at that location.” (EX1005, 33; EX1002, ¶197.)

Pad supports resolution-independent coordinate handling by interpreting coordinates relative to coordinate frames rather than fixed pixel positions: “pushcoordframe ... When any coordinate frames are on the stack, all coordinates are interpreted relative to the frame ... all coordinates are specified within the unit square where the unit square is mapped to the frame.” (EX1005, 34.) Pad further notes that size “may also be specified as a percentage of the view,” which implies resolution-independent specification tied to view geometry rather than a pixel grid. (EX1005, 48.) SVG reinforces that scalable web content uses resolution-independent coordinates, requiring support for “local user coordinates” and “real number values ... for all appropriate attributes and coordinates.” (EX1008, 11-12; EX1002, ¶198.)

**31. Claims 26, 64, 99**

**i) [26.a], [64.a], [99.a], [26.b], [64.b], [99.b]**

In the Zaurus-Pad-SVG combination, Pad states that “clicking and holding on the middle mouse button performs an smooth animated zoom in.” (EX1007, 4.) Pad also explains that “at any time you can use the mouse to pan and zoom to another part of the presentation.” (EX1007, 71.) As an example, Pad notes “Clicking on the ‘there lived a king’ line performs an animated pan/zoom.” (EX1007, 113; EX1002,

¶199.) As discussed for Claims 8 and 9, Pad implements user-driven zoom and pan through view parameters defined as “xview yview zoom,” where “zoom specifies the magnification” (“scale factor”) and the view center (xview, yview) defines the pan position (“offset”). (See Sections XI.A.13, 14; EX1005, 30, 32; EX1002, ¶200.)

**ii) [26.c], [64.c], [99.c]**

In the Zaurus-Pad-SVG combination, the “virtual display bounding box” corresponds to the bounding box of the visible portion of the Pad surface for the selected view/window size, as discussed for Claim 24. (See Section XI.A.29; EX1005, 17; EX1002, ¶201.)

**iii) [26.d], [64.d], [99.d]**

In the Zaurus-Pad-SVG combination, as discussed for Claim 8, Pad identifies objects at least partly within the visible region (e.g., via overlapping/visible-object determination, including its R-tree mechanism). (See Section XI.A.13; EX1005, 27; EX1007, 141; EX1002, ¶202.)

**iv) [26.e], [64.e], [99.e]**

In the Zaurus-Pad-SVG combination, rendering the view corresponding to the selected zoom level and pan position follows from Pad’s view-change and re-rendering mechanics discussed for Claims 8, 9, and 14, where updated view parameters (zoom and center coordinates) are applied to the underlying layout

representation to render the portion of objects falling within the visible region. (*See* Sections XI.A.14, 15, 19; EX1005, 11, 30-32; EX1007, 108; EX1002, ¶¶203-204.)

### **32. Claims 27, 65, 100**

In the Zaurus-Pad-SVG combination, Pad explains that “objects have an absolute physical location” and that “all of the data is placed directly on the Pad++ surface,” and the user “navigate[s] through the data by panning and zooming.” (EX1007, 73.) Pad defines the view relative to that surface in “xview yview zoom” form, where “(xview,yview) specifies the point at the center of the window, and zoom specifies the magnification,” so panning and zooming adjust the view over the same underlying coordinate space. (EX1005, 30.) Pad further confirms that object coordinates are expressed in a stable coordinate space by returning coordinates in either the item’s “local coordinate system (i.e., as they were originally specified)” or in the “global coordinate system,” where coordinates “are transformed by that item’s translation and scale parameters.” (EX1005, 23.) As additional confirmation, Pad’s “bbox” supports returning geometry “independent of the current view...as if the view were ‘0 0 1.’” (EX1005, 23; EX1002, ¶205.)

### **33. Claims 28, 66, 101**

#### **i) [28.a], [66.a], [101.a]**

In the Zaurus-Pad-SVG combination, Pad provides “text” and “textfile” item types that each display a text string, and each such item stores that string as the item’s

content. Pad states that a text item “displays a string of characters on the screen,” and that for text items, “String specifies the characters to be displayed in the text item,” which corresponds to “text objects” with “associated text content.” (EX1005, 75, 78.) A POSITA would have understood that rendering a document or page using multiple such text items yields “a plurality of text objects” each linked to its respective string content. (EX1002, ¶206.)

**ii) [28.b], [66.b], [101.b]**

As discussed for limitation [10.c], Pad renders text using scalable Type 1 fonts and scales text rendering as a function of zoom/magnification and/or font height, consistent with SVG’s “true scalability.” (EX1005, 12, 30, 62, 75, 78; EX1008, 1, 7-8, 10, 14; EX1002, ¶¶207-208; Section XI.A.15.ii.)

**34. Claims 29, 67, 102**

**i) [29.a], [67.a], [102.a]**

The Zaurus-Pad-SVG combination discloses and/or suggests this limitation for the same reasons as discussed for limitation [28.a]. (EX1002, ¶209; Section XI.A.33.i.)

**ii) [29.b], [67.b], [102.b]**

In the Zaurus-Pad-SVG combination, Pad provides a per-item “-font” option “available only for HTML, portal, text and textfile item types,” which “Specifies the font to be used for rendering text for this item.” (EX1005, 62, 78, 81.) Pad also

supports user-selectable zoom: “clicking and holding on the middle mouse button performs an smooth animated zoom in” (EX1007, 4), and Pad defines the view in “xview yview zoom” form where “zoom specifies the magnification.” (EX1005, 30). Pad determines font size for rendering with “setfontheight,” where “[h]eight is specified in the current pad units.” (EX1005, 30, 37, 81.) Pad also provides “getmag,” which returns the current “magnification” for a specific render and defines magnification in terms of the current view combined with the object’s size parameters. (EX1005, 28-29; EX1002, ¶210.)

**iii) [29.c], [67.c], [102.c]**

In the Zaurus-Pad-SVG combination, Pad explains that it employs a caching mechanism when drawing text in Type 1 fonts that “remembers what size, font and bitmap it used when it last drew a particular character,” and when the character is drawn again at the same size and font, Pad “reuses the last bitmap image for that character” rather than regenerating it from the outline. (EX1005, 12; EX1002, ¶211.)

**35. Claims 30, 68**

In the Zaurus-Pad-SVG combination, Pad provides a “-width” option for HTML pages, explaining that it “Specifies the width (in the current units) of the html page,” and that “[t]he page will be re-laid out according to the new width, and the

length of the page may change dependent on the new width” so the page fits within the target display width when rendered. (EX1005, 63; EX1002, ¶212.)

**36. Claims 32, 70<sup>7</sup>, 106<sup>8</sup>**

In the Zaurus-Pad-SVG combination, Pad discloses “image” items (i.e., objects that render image content) by providing that “Items of type image appear on the display as color images,” created via a “create image” command and configured with an “-image” option that specifies the “imagetoken” the item will render. (EX1005, 64-65.) Pad further discloses that images are scaled in the displayed view by explaining that, when using Pad’s coordinate frames and zoomable placement, “Text and images are scaled” such that “the height of the image is scaled to the height of the coordinate frame ... (using the -place or -z itemconfigure options).” (EX1005, 35.) Pad likewise states that after viewing “pictures,” the user can “zoom in further to see the images in greater detail.” (EX1007, 80; EX1002, ¶213.)

**37. Claim 33**

In the Zaurus-Pad-SVG combination, Pad discloses that “objects have an absolute physical location,” and that “all of the data is placed directly on the Pad++ surface,” while the user “navigate[s] through the data by panning and zooming.”

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<sup>7</sup> In view of claims 32 and 106, “from” appears to be a stray extra word.

<sup>8</sup> In view of claims 32 and 70, the word “in” appears to be omitted.

(EX1007, 73.) Pad also represents the current view as “xview yview zoom,” where “zoom specifies the magnification,” a POSITA would have understood that changing “zoom” changes only the view transform applied during rendering, leaving the maintained layout instance unchanged across zoom levels. (EX1005, 30.) Pad further provides a view-independent form of object geometry by explaining that when “-sticky is specified, then the bounding box returned is independent of the current view (i.e., it returns the bounding box as if the view was ‘0 0 1’),” reflecting retention of at least one instance of layout information that does not change with zoom. (EX1005, 17.) Pad further suggests view-independent object coordinates as a “local coordinate system” as originally specified or in the “global coordinate system” after applying the item’s translation and scale parameters. (EX1005, 23; EX1002, ¶214.)

### **38. Claim 34**

In the Zaurus-Pad-SVG combination, SVG is a “Scalable Vector Graphics” model, and it describes applying transformations uniformly to “shapes, images and text,” including “true scalability” where “linewidths, images and text should scale along with the sizes of the shapes.” (EX1008, 1, 5, 11.) In particular, the layout information includes vectors in the form of (X, Y) translation offsets (e.g., SVG transform translation terms) from a page/frame reference point to each object’s anchor/reference point, satisfying the requirement that the scalable vector-based

page layout information “includes one or more vectors.” (EX1008, 11; EX1005, 50.) Pad likewise represents page objects on a surface in a coordinate space and “Text and images are scaled” using view magnification and scaling transformations (e.g., “zoom specifies the magnification” and the “scale” command multiplies item size by a scale amount). (EX1005, 30, 35, 36; EX1007, 73; EX1002, ¶215.)

**39. Claim 35**

**i) [35.a]**

In the Zaurus-Pad-SVG combination, SVG requires geometric transformations expressed as matrices and ties those transformations to a coordinate system with numeric coordinate values: “Arbitrarily nested 2x3 matrix transformations should be available,” and “2x3 matrices are sufficient to achieve any types of translation, scaling, rotation and skewing.” (EX1008, 11.) SVG also specifies “local user coordinates” and real-number values for “attributes and coordinates,” reflecting that graphics content is represented using 2D coordinate values that are transformed by the matrix operations. (EX1008, 11.) A POSITA would have understood that applying a 2x3 transform matrix to 2D user coordinates effects scaling by transforming the (X, Y) coordinate pairs of multiple points that define objects. (EX1002, ¶216.)

ii) [35.b]

In the Zaurus-Pad-SVG combination, SVG's vector-based layout information includes coordinate-defined geometry and applies the same coordinate framework to shapes, text, and images. SVG supports "local user coordinates" and arbitrarily nested "2x3 matrix transformations" (including translation), and a POSITA would have understood that the translation terms provide an (X, Y) offset vector from a page/frame reference point ("primary datum") to an object's reference point ("object datum") (i.e., a vector represented by (X2, Y2) relative to an origin point (X1, Y1), and thus a mathematical expression representing a length and a direction in a two-dimensional space), thereby defining page-layout locations for text and image objects within the two-dimensional coordinate system. (EX1008, 11.) Pad likewise defines per-object anchor points ("-place") and object bounds, providing the corresponding object datums and coordinate locations to which those (X, Y) offset vectors apply in the combined system. (EX1005, 50; EX1005, 17; EX1002, ¶¶217-218; *see also* EX1008, 7; EX1053, 578-579.)

SVG's "path data" likewise specifies datum points (e.g., start, end, and control points) and the corresponding vectors between those points (i.e., vectors represented by (X2, Y2) relative to an origin point (X1, Y1) that encode the length and direction from a first datum point to a second datum point in the two-dimensional coordinate system) ("datum points and corresponding vectors"). (EX1002, ¶218.) SVG further

discloses that the transformations “should also be available for text and image objects,” placing text and image objects into the same point-based 2D coordinate system. (EX1008, 6, 11; EX1002, ¶218.)

Pad suggests that “objects have an absolute physical location” on the surface while the user navigates by “panning and zooming.” (EX1007, 73.) Pad represents text and image items as objects placed at X/Y locations on the surface and then scales those objects via view magnification and scaling operations. (EX1005, 30, 36.) Pad also assigns each object an anchor point through “-place,” where “The place specifies the object’s position and size,” consistent with page-layout locations for text and image objects. (EX1005, 50.) Pad includes both “image” items and “text” items, which are consistent with mapping text and image objects to 2D page-layout locations. (EX1005, 65, 78.) A POSITA would view SVG’s vector point data and Pad’s object placement as complementary in the combined page layout representation. (EX1002, ¶219.)

**iii) [35.c]**

In the Zaurus-Pad-SVG combination, SVG’s matrix-transform requirement supports uniform scaling, which a POSITA would have understood as multiplying both X and Y coordinates by the scale factor. (EX1008, 11.) Pad likewise scales items by multiplying size by a scale amount, consistent with coordinate scaling. (EX1005, 36; *see also* EX1053, 668; EX1054, 39-40; EX1002, ¶¶220-221.)

**40. Claim 36**

**i) [36.a]**

In the Zaurus-Pad-SVG combination, Pad places objects on the Pad surface and the user navigates that surface by panning and zooming, with the content residing on a “virtual display area” independent of what portion is currently visible. (EX1007, 73.) Pad further confirms that this surface uses a resolution-independent coordinate system because it allows the coordinate “units” for “all coordinates used by Pad” to be specified as physical units such as “points,” “mm,” or “inches,” rather than being tied to device pixels. (EX1005, 13.) Pad also discloses “pushcoordframe” that provide “all coordinates are specified within the unit square” mapped to the frame, which defines a coordinate system independent of display pixel resolution. (EX1005, 34.) A POSITA would have understood that this understanding is suggested by Adobe’s PostScript, which explains that coordinates are expressed in “user space,” may be integers or real numbers, and that the “resolution of coordinates in user space is not related in any way to the resolution of pixels in device space.” (EX1053, 197-198; EX1002, ¶222.)

**ii) [36.b]**

In the Zaurus-Pad-SVG combination, Pad distinguishes “window” coordinates from Pad coordinates by providing “padxy,” which “Convert[s] a window point (x, y) to pad coordinates,” demonstrating that the window provides a

device/display coordinate system and that coordinates are converted between the two spaces using the current view transformation. (EX1005, 33.) Pad also specifies the Pad widget width “in pixels.” (EX1005, 13; EX1002, ¶223.)

Pad defines the view as “xview yview zoom,” where “(xview,yview) specifies the point at the center of the window” and “zoom specifies the magnification,” and “moveto” changes the view to place the specified center point on screen “with a magnification of zoom.” (EX1005, 30, 32.) A POSITA would have understood that rendering applies this view transformation to map Pad surface points into window pixel coordinates, and that “padxy” reflects the inverse of that same mathematical transformation. (EX1002, ¶.) Adobe’s PostScript also explains that the interpreter “automatically transforms user space coordinates into device space,” and further notes that “Pixel boundaries always fall on integer coordinates in device space,” confirming a pixel-based device coordinate system distinct from a resolution-independent user space. (EX1053, 197, 516; EX1002, ¶224.)

#### **41. Claim 37**

In the Zaurus-Pad-SVG combination, claim 37 is satisfied because SVG expressly supports CSS styling (including inheritance/cascading) for embedded SVG fragments within an XML/HTML web page, including CSS control of text/font and other presentation attributes. (EX1008, 4, 10-11, 13; EX1002, ¶¶225-226.)

**42. Claims 38, 73**

In the Zaurus-Pad-SVG combination, Zaurus discloses that the markup language-based Web content is HTML-based Web content, explaining that the device's "Internet browser ... incorporates HTML 3.2 specifications." (EX1004, 40.) Zaurus further discloses that this HTML-based content is processed by the Internet browser ("rendering engine") for display, including handling "character fonts and sizes" and "images." (EX1004, 41.) Pad states: "When the html data is fetched, it is parsed and the HTML item is created which contains a method for rendering the page," and further explains that "[t]he page will be re-laid out according to the new width." (EX1005, 60, 63; EX1002, ¶227.)

**43. Claims 39, 109**

**i) [39.a]**

In the Zaurus-Pad-SVG combination, Zaurus discloses Web pages including multiple images by stating its Internet browser can display images in GIF and JPEG formats, and that multiple animated GIFs can be displayed on a single page. (EX1004, 40.) Pad likewise discloses HTML content with "in-line images" fetched and rendered as part of HTML items. (EX1005, 60-61; EX1002, ¶228.)

**ii) [39.b], [109.a]**

In the Zaurus-Pad-SVG combination, Pad treats each rendered image as an "image" item, stating that "[i]tems of type image appear on the display as color

images,” and that the “-image” option “specifies the image that this item will render,” meaning each image is represented as its own renderable object. (EX1005, 64-65.) Pad generates bounding boxes for each object via the “bbox” command, which “Returns ... the bounding box for all the items named,” that defines each item’s extents that bound the item’s “drawn areas.” (EX1005, 17, 36.) Pad further explains a “coordinate frame” is itself “a bounding box,” reinforcing bounding-box-based layout information for content objects. (EX1005, 34-35.) Thus, for a Web page having a plurality of images, Pad represents each image as its own “image” item, and Pad’s “bbox” returns the bounding box for the specified item, so each image item has a corresponding bounding box included in the generated page layout information. (EX1005, 17, 36, 64-65; EX1002, ¶229.)

**iii) [39.c], [109.b]**

In the Zaurus-Pad-SVG combination, Pad discloses scaling an item’s bounding box via its “scale” command, which “Scale[s] ... by multiplying the size of the item with scaleAmount,” and Pad’s “bbox” reports the item’s extents (“x1 y1 x2 y2”) that bound the item’s “drawn areas.” (EX1005, 17, 36.) Pad also defines the view as including “zoom” where “zoom specifies the magnification,” tying the scaled bounding box to view zoom level. (EX1005, 30.) Relatedly, Pad explains that “Text and images are scaled” relative to a bounding-box coordinate frame,

confirming that when an image item is scaled, the bounding region that encloses its drawn areas correspondingly scales. (EX1005, 35; EX1002, ¶230.)

**iv) [39.d], [109.c]**

In the Zaurus-Pad-SVG combination, Zaurus discloses that the displayed Web images are GIF/JPEG bitmaps. (EX1004, 40.) Pad's images are bitmap-based: "allocimage" reads "gif" files and (with libraries) "jpeg," and it describes internal pixel storage costs (for example "5 bytes per pixel"). (EX1005, 17.) Pad further explains that a "coordinate frame" is a "bounding box," and that within a coordinate frame "Text and images are scaled" such that "the height of the image is scaled to the height of the coordinate frame ... (using the -place or -z itemconfigure options)," meaning once the image item's bounding region is set (including after scaling/zoom), the bitmap content is scaled/rendered to fit within that "scaled bounding region." (EX1005, 34-36; EX1002, ¶231.) Pad then renders that bitmap content through (1) image items whose "-image" option "specifies the image that this item will render," and (2) the "drawimage" command, which "draws the image specified by imagetoken." (EX1005, 65, 25; EX1002, ¶232.)

**44. Claims 40, 75, 107**

In the Zaurus-Pad-SVG combination, Pad defines the view as "xview yview zoom," where "zoom specifies the magnification," tying rendering to a numeric "zoom level." (EX1005, 30.) Pad further defines "magnification" as "the

multiplication of the current view ... with the object's size," showing the rendered size of an object is "approximately proportional to the zoom level." (EX1005, 29-30; EX1002, ¶233.) As explained above for scalable-font rendering and bitmap generation keyed to size/font, Pad's Type 1 outline-based rendering necessarily produces higher-resolution text bitmaps at higher zoom/magnification (and lower-resolution text at lower zoom), such that text resolution increases approximately proportionally with zoom level. (See Section XI.A.15; EX1005, 11-12, 29-30, 77; EX1002, ¶234.) SVG confirms this proportional zoom behavior by requiring "true scalability" where text grows/shrinks uniformly with zoom. (EX1008, 1, 7-8, 14; EX1002, ¶235.)

#### **45. Claims 41, 76**

In the Zaurus-Pad-SVG combination, Pad effects layout for a given zoom-level view by applying the view's scale factor (zoom) to stored layout information. (See Sections XI.A.13, 14; EX1005, 32, 36.) Pad's layout geometry, including bounding boxes returned by "bbox," is view-dependent because "the bounding box will be different when the view is different." (EX1005, 17.) Pad further discloses scaling by multiplication, because "scale" operates by "multiplying the size of the item with scaleAmount," consistent with "scaling page layout information using a scale factor associated with the zoom level." (EX1005, 36; EX1002, ¶236.)

**46. Claims 44, 74**

In the Zaurus-Pad-SVG combination, Zaurus discloses a mobile handheld with cellular connectivity to access the Internet, including data communication “with base stations.” (EX1004, 7-8 (adapters), 10 (portable), 16-17, 24 (modem).) Pad is compatible with “a small home computer” and is “especially attractive for systems which have small screens, such as handheld computers (i.e. PDA’s).” (EX1007, 139, 141.) SVG supports “small mobile devices.” (EX1008, 1, 4.) A POSITA would have found it obvious to implement the combined system on a “mobile phone” (i.e., a hand-held device with cellular-network connectivity), given Zaurus’s cellular-network adapters and the mobile targets of Pad and SVG. (EX1002, ¶237.)

**47. Claims 69, 105**

In the Zaurus-Pad-SVG combination, Zaurus’s browser settings provide that either “image data is displayed” or “only text data is displayed.” (EX1004, 42.) Zaurus further suggests graphic layout objects by explaining its Internet browser can display images in formats such as GIF and JPEG. (EX1004, 40; EX1002, ¶238.) Pad then teaches that generated views scale both text and images/graphics. (EX1005, 64, 75.) Pad defines the view as “xview yview zoom” where “zoom specifies the magnification,” and defines magnification as multiplying the current view by the object’s size. (EX1005, 29, 30.) Pad confirms this applies to both object types, stating “Text and images are scaled.” (EX1005, 35.) SVG suggests the same

scaling behavior for graphics and text under zoom with “true scalability,” where objects including text scale uniformly with zoom. (EX1008, 1, 7-8, 11, 14; EX1002, ¶239.)

**48. Claim 72**

In the Zaurus-Pad-SVG combination, Zaurus discloses flash memory in its specifications, listing “Main body memory ... flash memory” (e.g., 4MB or 8MB depending on model). (EX1004, 18.) Zaurus further references using “main body flash” (and card flash) for storage (e.g., cache placement), confirming flash as a storage medium in the device. (EX1004, 43; EX1002, ¶240.)

**49. Claim 85**

In the Zaurus-Pad-SVG combination, Pad enables iterative zooming, stating “this process can be repeated indefinitely” and “at any time you can use the mouse to pan and zoom.” (EX1007, 6, 71.) Pad also discloses zooming out/overview during navigation (e.g., “zoom out to see an overview,” “Zoom out again,” or click a “hotword” for the “appropriate document”), confirming iterative zoom in both directions. (EX1007, 10, 82, 108.) The regenerated views correspond to updated scale factor/offset view parameters. (*See* Sections XI.A.13, 14; EX1002, ¶241.)

**50. Claim 103**

In the Zaurus-Pad-SVG combination, claim 103 is satisfied because Pad discusses connecting Pad++ to Java and writing zooming applications in Java.

(EX1007, 140.) HTML 3.2 also supports applets, enabling Java-based content within HTML documents. (EX1043, 2, 26.) A POSITA would have found it obvious to implement at least a portion of the instructions using Java-based instructions. (EX1055; EX1002, ¶242.)

**51. Claim 110**

**i) [110.a], [110.b]**

In the Zaurus-Pad-SVG combination, Pad processes HTML content by parsing it: “When the html data is fetched, it is parsed and the HTML item is created,” and it also discloses HTML anchors are created as separate items. (EX1005, 60.) Pad also defines “Text Items” that display strings, consistent with treating text as objects. (EX1005, 75; EX1002, ¶243.)

**ii) [110.c]**

In the Zaurus-Pad-SVG combination, Pad provides bounding boxes for items via “bbox,” and provides text-bounding functionality (e.g., “gettextbbox”). (EX1005, 17, 29.) Because Pad represents text as text items (“A text item displays a string of characters”), a POSITA would have understood “bbox” provides a bounding box for each text object when queried per item. (EX1005, 17, 75; EX1002, ¶244.)

iii) [110.d]

In the Zaurus-Pad-SVG combination, Pad employs this layout information to preserve the layout, explaining the HTML item “specifies the width ... of the html page” and “[t]he page will be re-laid out according to the new width.” (EX1005, 63.) By using the bounding boxes and placement coordinates, the combined device would maintain the relative positions of the text objects as defined by the HTML. (EX1002, ¶245.)

Pad’s HTML item specifies the width of the html page and states the page “will be re-laid out according to the new width,” showing the rendering engine uses layout information (including extents/bounds) to lay out content while preserving the page’s relative arrangement as interpreted by the renderer. (EX1005, 63.) Once laid out, Pad maintains per-object layout geometry. (EX1005, 17, 50.) Pad then preserves that layout across zoom-level views by scaling the layout geometry using the view’s scale factor. (EX1005, 29-30, 50.) Because the zoom-level view is generated by scaling the stored object layout geometry, the relative arrangement of the text objects is preserved as the view is regenerated at different zoom levels. (EX1007, 73; *see also* EX1008, 8 (SVG emphasizes control of text sizing/positioning); EX1002, ¶246.)

**52. Claim 111**

**i) [111.a], [111.b]**

In the Zaurus-Pad-SVG combination, Pad's per-item bounding boxes scale with the current view's zoom parameter. (*See* Sections XI.A.14 (view parameters), XI.A.29 ("bbox"); EX1002, ¶247.)

**ii) [111.c]**

In the Zaurus-Pad-SVG combination, Pad explains "all coordinates are interpreted relative to the frame," and a "frame is a bounding box," with coordinates specified within the unit square mapped to that bounding box. (EX1005, 34.) Pad explains text items have size that can be changed with the "scale" command or the "-place" option, and that "Text and images are scaled." (EX1005, 29, 35, 36, 75; EX1002, ¶248; *see also* EX1008, 1, 7-8, 14.)

**53. Claim 112**

As discussed for limitation [10.c], Pad uses scalable Type 1 fonts whose rendered size varies with zoom/scale (and/or font height). (EX1005, 62; Section XI.A.15.ii.) When the text object's bounding box is scaled for the zoom-level view, the text rendering is correspondingly scaled to fit within that scaled bounding box. (*See* Sections XI.A.10, 14, 28, 29; EX1002, ¶249.)

A POSITA would have understood that when claim 111's bounding box for a text object is scaled, Pad's coordinate-frame and placement scaling correspondingly

scales the text rendering so the text fits within the scaled bounding-box frame.  
(EX1005, 12, 34-35, 62, 75; EX1002, ¶250.)

#### **54. Claim 113**

In the Zaurus-Pad-SVG combination, Pad discloses text and image objects as distinct renderable item types (“text” items and “image” items). (EX1005, 64, 75.) Pad provides per-item bounding information via “bbox,” and supports region-based selection of items via “overlapping,” which returns items overlapping a specified rectangular region. (EX1005, 17, 27.) Pad “uses an R-Tree internally to quickly determine which objects are visible in a given view.” (EX1007, 141.) Accordingly, a POSITA would have understood that the renderer employs bounding boxes (and derived data) to determine which text and image objects fall within the current view and therefore should be rendered. (EX1056, 5; EX1002, ¶251; *see supra* Sections XI.A.13, 29, 31.)

## **XII. DISCRETIONARY DENIAL IS NOT APPROPRIATE**

In view of the Office’s interim process regarding discretionary denial, Petitioner will substantively address this issue during discretionary denial briefing.

### **XIII. CONCLUSION**

Petitioner requests institution for claims 1-115 of the '889 patent based on the grounds in this petition.

Respectfully submitted,

Dated: March 5, 2026

By: /Naveen Modi/  
Naveen Modi (Reg. No. 46,224)  
Counsel for Petitioner

**CERTIFICATE OF COMPLIANCE**

Pursuant to 37 C.F.R. § 42.24(d), the undersigned certifies that the foregoing Petition for *Inter Partes* Review of U.S. Patent No. 7,844,889 contains, as measured by the word-processing system used to prepare this paper, 13,999 words. This word count does not include the items excluded by 37 C.F.R. § 42.24 as not counting towards the word limit.

Respectfully submitted,

Dated: March 5, 2026

By: /Naveen Modi/  
Naveen Modi (Reg. No. 46,224)  
Counsel for Petitioner

**CERTIFICATE OF SERVICE**

I hereby certify that on March 5, 2026, I caused a true and correct copy of the foregoing Petition for *Inter Partes* Review of U.S. Patent No. 7,844,889 and supporting exhibits to be served via express mail on the Patent Owner at the following correspondence address of record as listed on Patent Center:

LAW OFFICE OF R. ALAN BURNETT  
4108 131ST AVE. SE  
BELLEVUE, WA 98006

By: /Naveen Modi/  
Naveen Modi (Reg. No. 46,224)

## APPENDIX A (CLAIM LISTING)

|         |                                                                                                                                                                                                                                                                                                                                                                    |
|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| [1.pre] | A method comprising:                                                                                                                                                                                                                                                                                                                                               |
| [1.a]   | in response to a request to access a Web page made via a wireless hand-held device including a display, retrieving markup language-based Web content associated with the Web page having an original format defining an original page layout of content on the Web page, the content including text content, a plurality of hyperlinks, and a plurality of images; |
| [1.b]   | processing, via the wireless hand-held device, the markup language-based Web content with a rendering engine to generate page layout information corresponding to the original page layout of content on the Web page as interpreted by the rendering engine including a width of the Web page;                                                                    |
| [1.c]   | employing the page layout information to generate scalable page layout information; and                                                                                                                                                                                                                                                                            |
| [1.d]   | employing scalable page layout information and/or data derived therefrom to generate views of the Web page on the display, including,                                                                                                                                                                                                                              |
| [1.d.1] | a view under which the width of the Web page is fully displayed; and                                                                                                                                                                                                                                                                                               |
| [1.d.2] | views of the Web page generated in response to associated user inputs to enable a user to iteratively zoom in on a portion of the Web page while preserving the original page layout, functionality, and design of the content on the Web page defined by the markup language-based Web content,                                                                   |
| [1.e]   | wherein preservation of the functionality defined by the markup language-based content includes preservation of hyperlink functionality.                                                                                                                                                                                                                           |
| [2]     | The method of claim 1, wherein re-rendering views of the Web page is performed in real-time.                                                                                                                                                                                                                                                                       |
| [3]     | The method of claim 1, wherein the display of the wireless hand-held device comprises a touch-sensitive display configured to receive user inputs to control display of the Web page.                                                                                                                                                                              |
| [4.a]   | The method of claim 1, further comprising:                                                                                                                                                                                                                                                                                                                         |
| [4.b]   | enabling the user to select a hyperlink; and, in response thereto,                                                                                                                                                                                                                                                                                                 |
| [4.b.1] | retrieving and processing markup language-based Web content associated with the hyperlink to produce additional scalable page layout information; and                                                                                                                                                                                                              |

|         |                                                                                                                                                                                                                                                                                                                                                                                                                                   |
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| [4.b.2] | employing the additional scalable page layout information and/or data derived therefrom to generate a view of the Web content associated with the hyperlink.                                                                                                                                                                                                                                                                      |
| [5.a]   | The method of claim 1, further comprising:                                                                                                                                                                                                                                                                                                                                                                                        |
| [5.b]   | parsing and processing markup language code with the rendering engine to determine the original page layout of display content within the Web page as interpreted by the rendering engine, wherein the original page layout defines a layout location for a plurality of objects, including text objects associated with the text content and image objects associated with the plurality of images included in the Web page; and |
| [5.c]   | for each object, defining an object datum corresponding to the layout location for the object on the original page layout; and                                                                                                                                                                                                                                                                                                    |
| [5.d]   | associating the object and its object datum.                                                                                                                                                                                                                                                                                                                                                                                      |
| [6]     | The method of claim 5, further comprising translating at least one image object from an original format into a scalable format.                                                                                                                                                                                                                                                                                                   |
| [7.a]   | The method of claim 5, further comprising:                                                                                                                                                                                                                                                                                                                                                                                        |
| [7.b]   | associating attribute information including a color and typefont for each text object; and                                                                                                                                                                                                                                                                                                                                        |
| [7.c]   | employing the attribute information to render text content corresponding to text objects shown in views of the Web page.                                                                                                                                                                                                                                                                                                          |
| [8.a]   | The method of claim 5, further comprising effecting a zoom operation by, for each of a plurality of objects to be included in a zoomed view of the Web page to be rendered on the display,                                                                                                                                                                                                                                        |
| [8.b]   | scaling page layout information associated with the object using a scale factor corresponding to a zoom level associated with the zoom operation to determine a scaled datum; and                                                                                                                                                                                                                                                 |
| [8.c]   | scaling content associated with the object using the scale factor and rendering the scaled content at a location corresponding to the scaled datum.                                                                                                                                                                                                                                                                               |
| [9.a]   | The method of claim 8, further comprising effecting a zoom operation combined with a pan operation by,                                                                                                                                                                                                                                                                                                                            |
| [9.b]   | determining an offset corresponding to the pan operation; and                                                                                                                                                                                                                                                                                                                                                                     |
| [9.c]   | employing the offset to at least a portion of the content that has been scaled and rendered to produce a view of the web page on the display.                                                                                                                                                                                                                                                                                     |
| [10.a]  | The method of claim 8, wherein rendering scaled content associated with a text object comprises:                                                                                                                                                                                                                                                                                                                                  |

|        |                                                                                                                                                                                                                                                                                                                                                                                                                      |
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| [10.b] | employing presentation attributes for the text object, the presentation attributes including a font typeface, size and color;                                                                                                                                                                                                                                                                                        |
| [10.c] | employing a scalable font associated with the font typeface to render text associated with the text object in a color associated with the color attribute, wherein the text is rendered by the operating system relative to a location associated with the scaled datum for the text object, and wherein the scale applied to the scalable font is a function of at least one of the scale factor and the font size. |
| [11]   | The method of claim 1, further comprising enabling the Web content to be displayed at different resolutions by scaling scalable page layout information to determine corresponding layout locations for the Web content on at least a portion of a scaled Web page for each of a plurality of scale factors.                                                                                                         |
| [12.a] | The method of claim 1, further comprising:                                                                                                                                                                                                                                                                                                                                                                           |
| [12.b] | enabling a user of the wireless hand-held device to select an area of the display to zoom in on via the display; and                                                                                                                                                                                                                                                                                                 |
| [12.c] | in response thereto, re-rendering the display such that content in the area that is selected is enlarged.                                                                                                                                                                                                                                                                                                            |
| [13]   | The method of claim 1, further comprising enabling a user to pan views of the Web page in response to a corresponding user input.                                                                                                                                                                                                                                                                                    |
| [14]   | The method of claim 13, further comprising enabling the views of the Web page to be panned in real-time.                                                                                                                                                                                                                                                                                                             |
| [15]   | The method of claim 1, further comprising enabling a user to zoom on a column of the Web content via an associated user input, wherein in response to the user input, the display is re-rendered such that content corresponding to the selected column is displayed across the display.                                                                                                                             |
| [16]   | The method of claim 15, wherein the user input comprises tapping the column.                                                                                                                                                                                                                                                                                                                                         |
| [17]   | The method of claim 1, further comprising enabling a user to zoom on an image via an associated user input, wherein in response to the user input, the view is re-rendered such that the image is displayed to fit across a width of the display.                                                                                                                                                                    |
| [18]   | The method of claim 17, wherein the user input comprises tapping the image.                                                                                                                                                                                                                                                                                                                                          |

|        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| [19]   | The method of claim 1, further comprising enabling a user to zoom on a paragraph of the Web content via an associated user input, wherein in response to the user input, the view is re-rendered such that content corresponding to the selected paragraph is displayed to fit across the display.                                                                                                                                                                                                                                                                                                |
| [20]   | The method of claim 19, wherein the user input comprises tapping the paragraph.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| [21]   | The method of claim 19, wherein the content of the paragraph is reformatted when the view is re-rendered.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| [22.a] | The method of claim 1, further comprising:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| [22.b] | generating a display list derived, at least in part, via use of the scalable page layout information; and                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| [22.c] | employing the display list to generate views of the Web page.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| [23.a] | The method of claim 1, further comprising:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| [23.b] | parsing and processing, with the rendering engine, markup language code corresponding to the received Web content to determine page layout information corresponding to an original page layout of the content on the Web page as interpreted by the rendering engine, the content including a plurality of objects comprising text objects associated with the text content and image objects associated with the plurality of images, wherein for each object the layout information includes object layout information identifying a coordinate location of the object on the page layout; and |
| [23.c] | associating each object and its object layout information.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| [24]   | The method of claim 23 further comprising: generating page layout information including an object bounding box for each object.                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| [25]   | The method of claim 23, further comprising: for each of the plurality of objects, mapping the coordinate location associated with the object layout information for the object to a corresponding object datum coordinate on a virtual display area employing a resolution-independent coordinate system.                                                                                                                                                                                                                                                                                         |
| [26.a] | The method of claim 25, further comprising:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| [26.b] | determining a first scale factor and offset in response to one or more corresponding user inputs defining a user-selectable zoom level and pan position corresponding to a view of the Web content desired by a user;                                                                                                                                                                                                                                                                                                                                                                             |

|        |                                                                                                                                                                                                    |
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| [26.c] | determining a virtual display bounding box for the virtual display area associated with the first scale factor and offset;                                                                         |
| [26.d] | identifying objects having at least a portion falling within the virtual display bounding box; and                                                                                                 |
| [26.e] | rendering a view of the Web page corresponding to the zoom level and pan position on the display including the at least a portion of the objects falling within the virtual display bounding box.  |
| [27]   | The method of claim 25, wherein the virtual display area is associated with a fixed reference frame.                                                                                               |
| [28.a] | The method of claim 1, wherein the content includes a plurality of text objects having associated text content, the method further comprising:                                                     |
| [28.b] | for at least a portion of the plurality of text objects, scaling a scalable font to render the text content associated with the text object.                                                       |
| [29.a] | The method of claim 1, wherein the content includes a plurality of text objects having associated text content, the method further comprising:                                                     |
| [29.b] | for at least a portion of the plurality of text objects, determining an applicable font size based on an applicable scale factor associated with a zoom level; and                                 |
| [29.c] | selecting a corresponding bitmapped font and employing the bitmapped font to render the text content associated with the text object.                                                              |
| [30]   | The method of claim 1, further comprising reformatting a text object so as to fit the text object on the display when it is rendered.                                                              |
| [31]   | The method of claim 1, further comprising: generating a view under which the width of the Web page is fit across the display.                                                                      |
| [32]   | The method of claim 1, wherein in a view at least one image is scaled.                                                                                                                             |
| [33]   | The method of claim 1, further comprising maintaining at least one instance of the page layout information in a manner that is independent of zoom levels used to view the web page.               |
| [34]   | The method of claim 1, wherein the scalable page layout information comprises scalable vector-based page layout information.                                                                       |
| [35.a] | The method of claim 34, wherein scaling operations are effected by applying a mathematical transformation to a plurality of points in a two-dimensional coordinate system comprising X and Y axes, |

|        |                                                                                                                                                                                                                                                                       |
|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| [35.b] | including points comprising datum points having corresponding vectors included in the scalable vector-based page layout information defining page layout locations of corresponding text and image objects mapped to the two-dimensional coordinate system,           |
| [35.c] | wherein the mathematical transformation comprises, $X'=XSF$ ; $Y'=YSF$ ; wherein X, Y is the location of a point prior to transformation, X', Y' is the location of the point after transformation, and SF is the scale factor.                                       |
| [36.a] | The method of claim 35, wherein the mathematical transformation is applied to points in a first coordinate system comprising a resolution independent coordinate system associated with a virtual display area onto which page layout information is mapped           |
| [36.b] | to a second coordinate system comprising a device coordinate system corresponding to a pixel resolution of the display, wherein points are mapped from the first coordinate system to the second coordinate system using the mathematical transformation.             |
| [37]   | The method of claim 1, wherein the markup language-based Web content includes cascading style sheet content defining layout and presentation attributes for the Web page.                                                                                             |
| [38]   | The method of claim 1, wherein the markup language-based Web content comprises HTML-based Web content that is processed by the rendering engine to generate page layout information corresponding to the original page layout as interpreted by the rendering engine. |
| [39.a] | The method of claim 1, wherein the Web page content includes a plurality of images, the method further comprising:                                                                                                                                                    |
| [39.b] | generating page layout information including a bounding box for each of the plurality of images;                                                                                                                                                                      |
| [39.c] | scaling the bounding box associated with an image to produce a scaled bounding box; and                                                                                                                                                                               |
| [39.d] | rendering bitmap content associated with the image to fit within the scaled bounding box.                                                                                                                                                                             |
| [40]   | The method of claim 1, wherein text content in a view is rendered to have a resolution that is approximately proportional to the zoom level of the view, such that as the zoom level increases the resolution of text content increases approximately proportionally. |

|             |                                                                                                                                                                                                                                                                                                                                                                      |
|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| [41]        | The method of claim 1, wherein the layout of content for views associated with a zoom level is effected by scaling page layout information using a scale factor associated with the zoom level.                                                                                                                                                                      |
| [42.pre]    | An apparatus comprising a hand-held mobile device, including:                                                                                                                                                                                                                                                                                                        |
| [42.a]      | a processor,                                                                                                                                                                                                                                                                                                                                                         |
| [42.b]      | a communications device operatively coupled to the processor, to enable the apparatus to be wirelessly linked to a network to access Web content;                                                                                                                                                                                                                    |
| [42.c]      | a display; and                                                                                                                                                                                                                                                                                                                                                       |
| [42.d]      | storage means, operatively coupled to the processor, in which a plurality of instructions, including instructions corresponding to a browser having a rendering engine and instructions corresponding to an operating system, are stored that when executed by the processor enable the apparatus to perform operations including,                                   |
| [42.d.1]    | in response to a request to access a Web page made via a user of the apparatus, retrieving markup language-based Web content associated with the Web page having an original format defining an original page layout, functionality and design of content on the Web page, the content including text content, a plurality of hyperlinks, and a plurality of images; |
| [42.d.2]    | processing the markup language-based Web content with the rendering engine to generate page layout information corresponding to the original page layout as interpreted by the rendering engine including a width of the Web page; and                                                                                                                               |
| [42.d.3]    | employing scaled page layout information and/or data derived therefrom to generate views of the Web page on a display, including,                                                                                                                                                                                                                                    |
| [42.d.3.i]  | a view under which the width of the Web page is fit across the display; and                                                                                                                                                                                                                                                                                          |
| [42.d.3.ii] | views of the Web page generated in response to associated user inputs to enable a user to iteratively zoom in on a portion of the Web page while preserving the original page layout, functionality, and design of the content on the Web page defined by the markup language-based Web content,                                                                     |
| [42.e]      | wherein preservation of the functionality defined by the markup language-based content includes preservation of hyperlink functionality.                                                                                                                                                                                                                             |
| [43]        | The apparatus of claim 42, wherein zooming views of the Web content is enabled to be performed in real-time.                                                                                                                                                                                                                                                         |

|          |                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| [44]     | The apparatus of claim 42, wherein the hand-held mobile device comprises a mobile phone.                                                                                                                                                                                                                                                                                                                                          |
| [45.a]   | The apparatus of claim 42, wherein execution of the instructions performs further operations comprising:                                                                                                                                                                                                                                                                                                                          |
| [45.b]   | enabling the user to select a hyperlink; and, in response thereto,                                                                                                                                                                                                                                                                                                                                                                |
| [45.b.1] | retrieving and processing the markup language-based Web content associated with the hyperlink to produce additional page layout information; and                                                                                                                                                                                                                                                                                  |
| [45.b.2] | employing the additional page layout information and/or data derived therefrom to generate a view of the Web content associated with the hyperlink.                                                                                                                                                                                                                                                                               |
| [46.a]   | The apparatus of claim 42, wherein execution of the instructions performs further operations comprising:                                                                                                                                                                                                                                                                                                                          |
| [46.b]   | parsing and processing markup language code with the rendering engine to determine the original page layout of display content within the Web page as interpreted by the rendering engine, wherein the original page layout defines a layout location for a plurality of objects, including text objects associated with the text content and image objects associated with the plurality of images included in the Web page; and |
| [46.c]   | for each object, defining an object datum corresponding to the layout location for the object on the original page layout; and                                                                                                                                                                                                                                                                                                    |
| [46.d]   | associating the object and its object datum.                                                                                                                                                                                                                                                                                                                                                                                      |
| [47]     | The apparatus of claim 46, wherein execution of the instructions performs further operations comprising translating at least one image object from an original format into a scalable format.                                                                                                                                                                                                                                     |
| [48.a]   | The apparatus of claim 46, wherein execution of the instructions performs further operations comprising:                                                                                                                                                                                                                                                                                                                          |
| [48.b]   | associating attribute information including a color and typefont for each text object; and                                                                                                                                                                                                                                                                                                                                        |
| [48.c]   | employing the attribute information to render text content corresponding to text objects shown in views of the Web page.                                                                                                                                                                                                                                                                                                          |
| [49]     | The apparatus of claim 42, wherein execution of the instructions performs further operations comprising enabling the Web content to be displayed at different resolutions by scaling the page layout information to determine corresponding layout locations for the Web content on at least a portion of a scaled Web page for each of a plurality of scale factors.                                                             |

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| [50.a] | The apparatus of claim 42, wherein execution of the instructions performs further operations comprising:                                                                                                                                                                                                                                                  |
| [50.b] | enabling a user of the apparatus to select an area of a view to zoom in on via the apparatus; and                                                                                                                                                                                                                                                         |
| [50.c] | in response thereto, regenerating the view such that content in the area that is selected is enlarged.                                                                                                                                                                                                                                                    |
| [51]   | The apparatus of claim 42, wherein execution of the instructions performs further operations comprising enabling a user to pan a view of the Web content in response to a corresponding user input.                                                                                                                                                       |
| [52]   | The apparatus of claim 51, wherein execution of the instructions performs further operations comprising enabling the view of the Web content to be panned in real-time.                                                                                                                                                                                   |
| [53]   | The apparatus of claim 42, wherein execution of the instructions performs further operations comprising enabling a user to zoom on a column of the Web content via an associated user input, wherein in response to the user input, the view is re-rendered such that content corresponding to the selected column is displayed across the display.       |
| [54]   | The apparatus of claim 53, wherein the user input comprises tapping the column.                                                                                                                                                                                                                                                                           |
| [55]   | The apparatus of claim 42, wherein execution of the instructions performs further operations comprising enabling a user to zoom on an image via an associated user input, wherein in response to the user input, the display is re-rendered such that the image is displayed to fit across a width of the display.                                        |
| [56]   | The apparatus of claim 55, wherein the user input comprises tapping the image.                                                                                                                                                                                                                                                                            |
| [57]   | The apparatus of claim 42, wherein execution of the instructions performs further operations comprising enabling a user to zoom on a paragraph of the Web content via an associated user input, wherein in response to the user input, the view is re-rendered such that content corresponding to the selected paragraph is displayed across the display. |
| [58]   | The apparatus of claim 57, wherein the user input comprises tapping the paragraph.                                                                                                                                                                                                                                                                        |
| [59]   | The apparatus of claim 57, wherein the content of the paragraph is reformatted when the view is re-rendered.                                                                                                                                                                                                                                              |
| [60.a] | The apparatus of claim 42, wherein execution of the instructions performs further operations comprising:                                                                                                                                                                                                                                                  |

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| [60.b] | generating a display list derived, at least in part, via use of the scalable page layout information; and                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| [60.c] | employing the display list to generate views of the Web page.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| [61.a] | The apparatus of claim 42, wherein execution of the instructions performs further operations comprising:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| [61.b] | parsing and processing, with the rendering engine, markup language code corresponding to the received Web content to determine page layout information corresponding to an original page layout of the content on the Web page as interpreted by the rendering engine, the content including a plurality of objects comprising text objects associated with the text content and image objects associated with the plurality of images, wherein for each object the layout information includes object layout information identifying a coordinate location of the object on the page layout; and |
| [61.c] | associating each object and its object layout information.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| [62]   | The apparatus of claim 61 wherein execution of the instructions performs further operations comprising: generating page layout information including an object bounding box for each object, the object bounding box representing a portion of the page layout occupied by the object's associated content.                                                                                                                                                                                                                                                                                       |
| [63]   | The apparatus of claim 61, wherein execution of the instructions performs further operations comprising: for each of the plurality of objects, mapping the coordinate location associated with the object layout information for the object to a corresponding object datum coordinate on a virtual display area employing a resolution-independent coordinate system.                                                                                                                                                                                                                            |
| [64.a] | The apparatus of claim 63, wherein execution of the instructions performs further operations comprising:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| [64.b] | determining a first scale factor and offset in response to one or more corresponding user inputs defining a user-selectable zoom level and pan position corresponding to a view of the Web content desired by a user;                                                                                                                                                                                                                                                                                                                                                                             |
| [64.c] | determining a virtual display bounding box for the virtual display area associated with the first scale factor and offset;                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| [64.d] | identifying objects having at least a portion falling within the virtual display bounding box; and                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |

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| [64.e] | rendering a view of the Web page corresponding to the zoom level and pan position on the display including the at least a portion of the objects falling within the virtual display bounding box.     |
| [65]   | The apparatus of claim 63, wherein the virtual display area is associated with a fixed reference frame.                                                                                               |
| [66.a] | The apparatus of claim 42, wherein the content includes a plurality of text objects having associated text content, and wherein execution of the instructions performs further operations comprising: |
| [66.b] | for at least a portion of the plurality of text objects, scaling a scalable font to render the text content associated with the text object.                                                          |
| [67.a] | The apparatus of claim 42, wherein the content includes a plurality of text objects having associated text content, and wherein execution of the instructions performs further operations comprising: |
| [67.b] | for at least a portion of the plurality of text objects, determining an applicable font size based on an applicable scale factor associated with a zoom level; and                                    |
| [67.c] | selecting a corresponding bitmapped font and employing the bitmapped font to render the text content associated with the text object.                                                                 |
| [68]   | The apparatus of claim 42, wherein execution of the instructions performs further operations comprising reformatting a text object so as to fit the text object on the display when it is rendered.   |
| [69]   | The apparatus of claim 42, wherein the Web page includes text content and graphic layout objects, and views are generated through use of scaled text content and graphic layout objects.              |
| [70]   | The apparatus of claim 42, wherein in a generated view at least one image from is scaled.                                                                                                             |
| [71]   | The apparatus of claim 42, wherein the display comprises a touch-sensitive display configured to receive user inputs to control display of the Web page.                                              |
| [72]   | The apparatus of claim 42, wherein the storage means comprises a flash memory.                                                                                                                        |

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| [73]     | The apparatus of claim 42, wherein the markup language-based Web content comprises HTML-based Web content that is processed by the rendering engine to generate page layout information corresponding to the original page layout as interpreted by the rendering engine.                                                                                                                                                                                    |
| [74]     | The apparatus of claim 42, wherein the network comprises a mobile service provider network and the hand-held mobile device comprises a mobile phone.                                                                                                                                                                                                                                                                                                         |
| [75]     | The apparatus of claim 42, wherein text content in a view is rendered to have a resolution that is approximately proportional to the zoom level of the view, such that as the zoom level increases the resolution of text content increases approximately proportionally.                                                                                                                                                                                    |
| [76]     | The apparatus of claim 42, wherein the layout of content for views associated with a zoom level is effected by scaling page layout information using a scale factor associated with the zoom level.                                                                                                                                                                                                                                                          |
| [77.pre] | A tangible non-transitory machine-readable medium having stored thereon a plurality of instructions comprising a browser including a rendering engine configured to be executed by a wireless hand-held device having a display and an operating system and configured to access Web content via a network, wherein execution of the instructions in conjunction with execution of the operating system enables the device to perform operations comprising: |
| [77.a]   | in response to a request to access a Web page made via a user of the device, retrieving markup language-based Web content associated with the Web page having an original format defining an original page layout, functionality and design of content on the Web page, the content including text content, a plurality of hyperlinks, and a plurality of images;                                                                                            |
| [77.b]   | processing the markup language-based Web content with the rendering engine to generate page layout information corresponding to the original page layout as interpreted by the rendering engine including a width of the Web page;                                                                                                                                                                                                                           |
| [77.c]   | employing the page layout information to generate scalable page layout information; and                                                                                                                                                                                                                                                                                                                                                                      |
| [77.d]   | employing the scalable page layout information and/or data derived therefrom to generate views of the Web page on the display, including,                                                                                                                                                                                                                                                                                                                    |

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| [77.d.1] | a view under which the width of the Web page is fully displayed;<br>and                                                                                                                                                                                                                                                                                                                                                           |
| [77.d.2] | views of the Web page generated in response to associated user inputs to enable a user to iteratively zoom in on a portion of the Web page while preserving the original page layout, functionality, and design of the content on the Web page defined by the markup language-based Web content,                                                                                                                                  |
| [77.e]   | wherein preservation of the functionality defined by the markup language-based content includes preservation of hyperlink functionality.                                                                                                                                                                                                                                                                                          |
| [78]     | The machine-readable medium of claim 77, wherein zooming the views of the Web content is enabled to be performed in real-time.                                                                                                                                                                                                                                                                                                    |
| [79.a]   | The machine-readable medium of claim 77, wherein execution of the instructions performs further operations comprising:                                                                                                                                                                                                                                                                                                            |
| [79.b]   | enabling a user to select a hyperlink; and, in response thereto,                                                                                                                                                                                                                                                                                                                                                                  |
| [79.c]   | retrieving and processing the markup language-based Web content associated with the hyperlink to produce additional scalable page layout information; and                                                                                                                                                                                                                                                                         |
| [79.d]   | employing the additional scalable-page layout information and/or data derived therefrom to generate a view of the Web content associated with the hyperlink.                                                                                                                                                                                                                                                                      |
| [80.a]   | The machine-readable medium of claim 77, wherein execution of the instructions performs further operations comprising:                                                                                                                                                                                                                                                                                                            |
| [80.b]   | parsing and processing markup language code with the rendering engine to determine the original page layout of display content within the Web page as interpreted by the rendering engine, wherein the original page layout defines a layout location for a plurality of objects, including text objects associated with the text content and image objects associated with the plurality of images included in the Web page; and |
| [80.c]   | for each object, defining an object datum corresponding to the layout location for the object on the original page layout; and                                                                                                                                                                                                                                                                                                    |
| [80.d]   | associating the object and its object datum.                                                                                                                                                                                                                                                                                                                                                                                      |
| [81]     | The machine-readable medium of claim 80, wherein execution of the instructions performs further operations comprising translating at least one image object from an original format into a scalable format.                                                                                                                                                                                                                       |
| [82.a]   | The machine-readable medium of claim 80, wherein execution of the instructions performs further operations comprising:                                                                                                                                                                                                                                                                                                            |

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| [82.b] | associating attribute information including a color and typefont for each text object; and                                                                                                                                                                                                                                                                                                   |
| [82.c] | employing the attribute information to render text content corresponding to text objects shown in views of the Web page.                                                                                                                                                                                                                                                                     |
| [83]   | The machine-readable medium of claim 77, wherein execution of the instructions performs further operations comprising enabling the Web content to be displayed at different resolutions by scaling the scalable page layout information to determine corresponding layout locations for the Web content on at least a portion of a scaled Web page for each of a plurality of scale factors. |
| [84.a] | The machine-readable medium of claim 77, wherein execution of the instructions performs further operations comprising:                                                                                                                                                                                                                                                                       |
| [84.b] | enabling a user of the wireless hand-held device to select an object on the display to zoom in on via the display; and                                                                                                                                                                                                                                                                       |
| [84.c] | in response thereto, re-rendering the display such that content associated with the object is rendered to fit across a width of the display.                                                                                                                                                                                                                                                 |
| [85]   | The machine-readable medium of claim 77, wherein execution of the instructions performs further operations comprising scaling the scalable page layout information and/or data derived therefrom to regenerate views of the Web content in response to associated user inputs to enable the user to iteratively zoom in and out a display of the Web page.                                   |
| [86]   | The machine-readable medium of claim 77, wherein execution of the instructions performs further operations comprising enabling a user to pan a view of the Web page in response to a corresponding user input.                                                                                                                                                                               |
| [87]   | The machine-readable medium of claim 86, wherein execution of the instructions performs further operations comprising enabling the view of the Web page to be panned in real-time.                                                                                                                                                                                                           |
| [88]   | The machine-readable medium of claim 77, wherein execution of the instructions performs further operations comprising enabling a user to zoom on a column of the Web content via an associated user input, wherein in response to the user input, the view is re-rendered such that content corresponding to the selected column is displayed across the display.                            |
| [89]   | The machine-readable medium of claim 88, wherein the user input comprises tapping the column.                                                                                                                                                                                                                                                                                                |

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| [90]   | The machine-readable medium of claim 77, wherein execution of the instructions performs further operations comprising enabling a user to zoom on an image, wherein in response to the user input, the view is re-rendered such that the image is displayed to fit across at least one of a width and height of the display.                                                                                                                                                                                                                                                                       |
| [91]   | The machine-readable medium of claim 90, wherein the user input comprises tapping the image.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| [92]   | The machine-readable medium of claim 77, wherein execution of the instructions performs further operations comprising enabling a user to zoom on a paragraph of the Web content via an associated user input, wherein in response to the user input, the view is re-rendered such that content corresponding to the selected paragraph is displayed across the display.                                                                                                                                                                                                                           |
| [93]   | The machine-readable medium of claim 92, wherein the user input comprises tapping the paragraph.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| [94]   | The machine-readable medium of claim 92, wherein the content of the paragraph is reformatted when the view is re-rendered.                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| [95.a] | The machine-readable medium of claim 77, wherein execution of the instructions performs further operations comprising:                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| [95.b] | generating a display list; and                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| [95.c] | employing the display list to generate views of the Web page.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| [96.a] | The machine-readable medium of claim 77, wherein execution of the instructions performs further operations comprising:                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| [96.b] | parsing and processing, with the rendering engine, markup language code corresponding to the received Web content to determine page layout information corresponding to an original page layout of the content on the Web page as interpreted by the rendering engine, the content including a plurality of objects comprising text objects associated with the text content and image objects associated with the plurality of images, wherein for each object the layout information includes object layout information identifying a coordinate location of the object on the page layout; and |
| [96.c] | associating each object and its object layout information.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

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| [97]    | The machine-readable medium of claim 96 wherein execution of the instructions performs further operations comprising:<br>generating page layout information including an object bounding box for each object, the object bounding box representing a portion of the page layout occupied by the object's associated content.                                                         |
| [98]    | The machine-readable medium of claim 96, wherein execution of the instructions performs further operations comprising: for each of the plurality of objects, mapping the coordinate location associated with the object layout information for the object to a corresponding object datum coordinate on a virtual display area employing a resolution-independent coordinate system. |
| [99.a]  | The machine-readable medium of claim 98, wherein execution of the instructions performs further operations comprising:                                                                                                                                                                                                                                                               |
| [99.b]  | determining a first scale factor and offset in response to one or more corresponding user inputs defining a user-selectable zoom level and pan position corresponding to a view of the Web content desired by a user;                                                                                                                                                                |
| [99.c]  | determining a virtual display bounding box for the virtual display area associated with the first scale factor and offset;                                                                                                                                                                                                                                                           |
| [99.d]  | identifying objects having at least a portion falling within the virtual display bounding box; and                                                                                                                                                                                                                                                                                   |
| [99.e]  | applying an applicable scale factor to the object's content to render a view corresponding to the zoom level and pan position on the display.                                                                                                                                                                                                                                        |
| [100]   | The machine-readable medium of claim 98, wherein the virtual display area is associated with a fixed reference frame.                                                                                                                                                                                                                                                                |
| [101.a] | The machine-readable medium of claim 77, wherein the content includes a plurality of text objects having associated text content, and wherein execution of the instructions performs further operations comprising:                                                                                                                                                                  |
| [101.b] | for at least a portion of the plurality of text objects, scaling a scalable font to render the text content associated with the text object.                                                                                                                                                                                                                                         |
| [102.a] | The machine-readable medium of claim 77, wherein the content includes a plurality of text objects having associated text content, and wherein execution of the instructions performs further operations comprising:                                                                                                                                                                  |

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| [102.b]   | for at least a portion of the plurality of text objects, determining an applicable font size based on an applicable scale factor associated with a zoom level; and                                                                                                                                                                                           |
| [102.c]   | selecting a corresponding bitmapped font and employing the bitmapped font to render the text content associated with the text object.                                                                                                                                                                                                                        |
| [103]     | The machine-readable medium of claim 77, wherein at least a portion of the instructions comprise Java-based instructions configured to be executed on a Java virtual machine.                                                                                                                                                                                |
| [104]     | The machine-readable medium of claim 77, wherein execution of the instructions performs further operations comprising:<br>generating a view under which the width of the Web page is fit across the display.                                                                                                                                                 |
| [105]     | The machine-readable medium of claim 77, wherein the Web page includes text content and graphic layout objects, and in generated views the text content and graphic layout objects are scaled.                                                                                                                                                               |
| [106]     | The machine-readable medium of claim 77, wherein at least one view at least one image is scaled.                                                                                                                                                                                                                                                             |
| [107]     | The machine-readable medium of claim 77, wherein text content in a view is rendered to have a resolution that is approximately proportional to the zoom level of the view, such that as the zoom level increases the resolution of text content increases approximately proportionally.                                                                      |
| [108.pre] | A method comprising:                                                                                                                                                                                                                                                                                                                                         |
| [108.a]   | in response to a request to access a Web page made via a mobile hand-held device, retrieving HTML-based Web content associated with the Web page having an original format defining an original page layout, functionality, and design of content on the Web page, the content including text content, a plurality of hyperlinks, and a plurality of images; |
| [108.b]   | processing the HTML-based Web content with a rendering engine to generate page layout information corresponding to the original page layout as interpreted by the rendering engine;                                                                                                                                                                          |
| [108.c]   | employing scaled page layout information and/or data derived therefrom to generate scaled Web page content at multiple scale factors; and                                                                                                                                                                                                                    |
| [108.d.1] | employing the scaled Web page content to enable a user to browse the Web page at multiple zoom levels on the mobile hand-held device                                                                                                                                                                                                                         |

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| [108.d.2] | while preserving the original page layout, functionality, and design of the content on the Web page defined by the HTML-based Web content as interpreted by the rendering engine, |
| [108.e.1] | wherein preservation of the functionality includes preservation of hyperlink functionality, and                                                                                   |
| [108.e.2] | wherein the user is enabled to iteratively zoom in on a portion of the Web page.                                                                                                  |
| [109.a]   | The method of claim 108, wherein the page layout information that is generated includes a bounding box for each of the plurality of images, and                                   |
| [109.b]   | wherein scaled Web page content including one or more images is generated by scaling bounding boxes corresponding to the one or more images to produce scaled bounding boxes and, |
| [109.c]   | for each of the one or more images, scaling content associated with the image to produce a scaled image that fits within its corresponding scaled bounding box.                   |
| [110.a]   | The method of claim 108, further comprising:                                                                                                                                      |
| [110.b]   | processing the HTML-based Web content with the rendering engine to parse the text content into a plurality of text objects;                                                       |
| [110.c]   | generating page layout information including a bounding box for each of the plurality of text objects; and                                                                        |
| [110.d]   | employing page layout information associated with the bounding boxes to effect preservation of the original page layout of the text content.                                      |
| [111.a]   | The method of claim 110, further comprising:                                                                                                                                      |
| [111.b]   | scaling bounding boxes for text objects corresponding to text content in a view; and                                                                                              |
| [111.c]   | employing the scaled bounding boxes to lay out corresponding text content within the scaled bounding boxes.                                                                       |
| [112]     | The method of claim 111, further comprising: employing a scalable font to scale text content for a text object to fit within a scaled bounding box.                               |
| [113.a]   | The method of claim 111, further comprising:                                                                                                                                      |
| [113.b]   | in conjunction with rendering a view of the Web page content,                                                                                                                     |
| [113.c]   | employing the bounding boxes and/or data derived therefrom to determine image and text objects to be rendered.                                                                    |
| [114.a]   | The method of claim 108, further comprising:                                                                                                                                      |

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| [114.b] | in response to a user input to pan a current view of the Web page to a new view displaying a portion of the Web page that is entirely not shown in the current view, |
| [114.c] | generating scaled Web page content in real-time.                                                                                                                     |
| [115]   | The method of claim 114, wherein the scaled Web page content is generated in a fraction of a second.                                                                 |