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IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF CALIFORNIA
SAN FRANCISCO DIVISION

INTERWOVEN, INC.,

No. C 10-4645 RS

Plaintiff,

CLAIMS CONSTRUCTION ORDER

v.

VERTICAL COMPUTER SYSTEMS, INC.,

Defendant.

I. INTRODUCTION

Plaintiff Interwoven, Inc., brings an action for declaratory judgment of invalidity, unenforceability, and non-infringement of two patents belonging to Defendant Vertical Computer Systems, Inc. The patents at issue are United States Patent Nos. 6,826,744 (the '744 Patent) and 7,716,629 (the '629 Patent); both concern an innovative method for interfacing program units through the use of "arbitrary objects." The '629 patent was issued to Vertical from a continuation of the '744 patent application.

Pursuant to *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979 (Fed. Cir. 1995) (en banc), *aff'd*, 517 U.S. 370 (1996), and the Patent Local Rules, the parties have presented ten terms found in the claims of the patents for construction by the Court. Upon consideration of the parties' briefing, oral argument, and the various materials submitted subsequent to the hearing, the disputed terms are construed as set out below.

1 II. FACTUAL BACKGROUND

2 The technology in this dispute involves a system for generating software applications in an
3 “arbitrary object framework.” Specifically, it presents a method for separating the form, content and
4 functionality of computer applications so that each component may be independently modified. The
5 invention purports to simplify the work of computer programmers by providing a more efficient
6 way of creating and modifying software through the use of “arbitrary objects.”

7 Typically, software developers rely on standard object-oriented programming to create
8 complex computer programs such as websites. Utilizing such traditional programming, developers
9 construct each piece of the program separately. These pieces are referred to as “objects.”¹ Once all
10 the objects are complete, a master developer can fit them together to formulate a complete program.
11 Over the years, many tools have been created to streamline this process so that developers can more
12 easily work together to build software through the sharing and connecting of objects. For example,
13 programmers can now develop reusable formatting templates and distribute them over the internet.
14 Other programmers may then adopt these templates for use in their own websites.

15 The patents-in-suit purport to invent a new method for connecting objects and streamlining
16 software development. To distinguish the objects used in these two patents from the “classic
17 objects” in other software tools, Aubrey McAuley, the named inventor of both patents, coined the
18 term “arbitrary object.” Vertical asserts that McAuley, acting as a lexicographer, did not ascribe any
19 significance to the word “arbitrary”; he simply wished to differentiate the objects in his invention
20 from the “classic objects” of traditional programming tools.

21 For purposes of clarification, the specification describes the differences between classic and
22 arbitrary objects: When using classic objects, a serial approach is required to integrate the form,
23 function, and content of complex software applications. Figure 1 demonstrates one embodiment of
24 such an approach. In Figure 1 a complex program is generated through the integration of either
25 newly-made or reusable classic objects. First, content is created or chosen. Then form is developed
26 for the presentation of the content. Finally, function is generated using code. The specification

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28 ¹ Technical dictionaries define “object” as a “variable comprising both routines and data that is treated as a discrete entity.” (Pl’s. Ex. F).

1 notes that while different industries may perform these steps in a different order than presented in
2 Figure 1, the concept is the same and, most importantly, when using classic objects, the different
3 software components—the form, content, and function—are always somewhat interdependent.
4 Consequently, if a programmer wants to change the content of a website composed of classic
5 objects, the form is necessarily affected. The programmer would be required to generate the entire
6 website anew in order to retain the original form while manipulating the existing content.

7 The patents-in-suit allegedly serve to make this process more efficient by creating a new way
8 of interfacing program units. They allow developers, for example, to alter the content or form of a
9 website easily without affecting the function, or any other component; developers, therefore, do not
10 need to rewrite a program simply to implement a minor alteration. The invention so simplifies the
11 process by separating the form, functionality, and content of a program into discrete components
12 and facilitating the interface between objects. Such separation is achieved through the use of
13 arbitrary objects. The purported invention is a method which creates these arbitrary objects,
14 manages the arbitrary objects in an object library, and deploys the arbitrary objects into a design
15 framework for use in a computer program.

16 As an illustration of the patents, the specification considers the web site of a large
17 newspaper. Traditionally, if a marketing department wished to alter the appearance of a header on
18 one page of the site, depending on the browser used, a programmer may need to manipulate
19 thousands of pages of the website to make the desired change without affecting the rest of the
20 website. With the development of arbitrary objects, this process is much easier: the programmer can
21 simply retrieve the arbitrary object which controls the appearance of the header and manipulate it
22 accordingly, without affecting the remaining form, content, or function of the website. Vertical
23 concedes that prior art solutions have succeeded in separating content from form or content from
24 functionality. It asserts, however, that none have purported to separate all three, thereby, allowing
25 programmers to make independent changes to any part of a complex program without generating
26 unwanted upstream revisions.

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1 Both the '744 patent and the '629 patent assert this new method of object interfacing. The
2 '629 patent is merely a continuation of the '744 patent. Aside from a few typographical changes in
3 the '629 patent, its specification is essentially identical to that of the '744 patent. The parties have
4 jointly presented ten terms found in the claims of the patents for construction by the Court. Despite
5 this presentation, Vertical insists that only the term “arbitrary objects” requires interpretation; the
6 remaining terms should be read according to their plain and ordinary meaning. In the alternative,
7 Vertical provides simple constructions for each of these terms which closely align with the
8 respective ordinary meanings.

9 III. LEGAL STANDARD

10 Claim construction is a question of law to be determined by the Court. *Markman*, 52 F.3d at
11 979 (Fed. Cir. 1995) (en banc), *aff'd*, 517 U.S. 370 (1996). “Ultimately, the interpretation to be
12 given a term can only be determined and confirmed with a full understanding of what the inventors
13 actually invented and intended to envelop with the claim.” *Phillips v. AWH Corp.*, 415 F.3d 1303,
14 1316 (Fed. Cir. 2005) (quoting *Renishaw PLC v. Marposs Societa' per Azioni*, 158 F.3d 1243, 1250
15 (Fed. Cir.1998)). Accordingly, a claim should be construed in a manner that “most naturally aligns
16 with the patent’s description of the invention.” *Id.*

17 The first step in claim construction is to look to the language of the claims themselves. “It is
18 a ‘bedrock principle’ of patent law that ‘the claims of a patent define the invention to which the
19 patentee is entitled the right to exclude.’” *Phillips*, 415 F.3d at 1312 (quoting *Innova/Pure Water,*
20 *Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1115 (Fed. Cir. 2004)). A disputed claim
21 term should be construed in a manner consistent with its “ordinary and customary meaning,” which
22 is “the meaning that the term would have to a person of ordinary skill in the art in question at the
23 time of the invention, i.e., as of the effective filing date of the patent application.” *Phillips*, 415
24 F.3d at 1312-13. The ordinary and customary meaning of a claim term may be determined solely by
25 viewing the term within the context of the claim’s overall language. *See id.* at 1314 (“[T]he use of a
26 term within the claim provides a firm basis for construing the term.”). Additionally, the use of the
27 term in other claims may provide guidance regarding its proper construction. *Id.* (“Other claims of
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1 the patent in question, both asserted and unasserted, can also be valuable sources of enlightenment
2 as to the meaning of a claim term.”).

3 A claim also should be construed in a manner that is consistent with the patent’s
4 specification. *See Markman*, 52 F.3d at 979 (“Claims must be read in view of the specification, of
5 which they are a part.”). Typically the specification is the best guide for construing the claims. *See*
6 *Phillips*, 415 F.3d at 1315 (“The specification is . . . the primary basis for construing the claims.”);
7 *see also Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996) (“[T]he
8 specification is always highly relevant to the claim construction analysis. Usually, it is dispositive;
9 it is the single best guide to the meaning of a disputed term.”). Although in limited circumstances
10 the specification may be used to narrow the meaning of a claim term that otherwise would appear to
11 be susceptible to a broader reading, *see SciMed Life Sys., Inc. v. Advanced Card. Sys., Inc.*, 242 F.3d
12 1337, 1341 (Fed.Cir. 2001); *Phillips*, 415 F.3d at 1316, precedent forbids a construction of claim
13 terms that imposes limitations not found in the claims or supported by an unambiguous restriction in
14 the specification or prosecution history. *Laitram Corp. v. NEC Corp.*, 163 F.3d 1342, 1347 (Fed.
15 Cir. 1998) (“[A] court may not import limitations from the written description into the claims.”);
16 *Comark Commc’ns., Inc. v. Harris Corp.*, 156 F.3d 1182, 1186 (Fed. Cir. 1998) (“[W]hile . . .
17 claims are to be interpreted in light of the specification, it does not follow that limitations from the
18 specification may be read into the claims.”); *SRI Int’l v. Matsushita Elec. Corp.*, 775 F.2d 1107,
19 1121, (Fed. Cir. 1985) (en banc) (“It is the *claims* that measure the invention.”) (emphasis in
20 original).

21 A final source of intrinsic evidence is the prosecution record and any statements made by the
22 patentee to the United States Patent and Trademark Office (“PTO”) regarding the scope of the
23 invention. *See Markman*, 52 F.3d at 980 (“Like the specification, the prosecution history provides
24 evidence of how the PTO and the inventor understood the patent.”); *Phillips*, 415 F.3d at 1317. For
25 example, statements that distinguish a claim from the prior art may narrow the scope of a disputed
26 term. *See, e.g., Omega Eng’g, Inc. v. Raytek Corp.*, 334 F.3d 1314, 1323 (Fed. Cir. 2003) (“The
27 doctrine of prosecution disclaimer . . . preclud[es] patentees from recapturing through claim
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1 interpretation specific meanings disclaimed during prosecution”). Because the prosecution history
2 reflects an ongoing negotiation between the patentee and the USPTO, however, it often is difficult
3 to determine with exact precision the scope or meaning of particular statements. *Phillips*, 415 F.3d
4 at 1317. Thus, the prosecution history usually is accorded less weight than the claims and the
5 specification. *Id.*

6 The court also may consider extrinsic evidence, such as dictionaries or technical treatises,
7 especially if such sources are “helpful in determining ‘the true meaning of language used in the
8 patent claims.’” *Phillips*, 415 F.3d at 1318 (quoting *Markman*, 52 F.3d at 980). Ultimately, while
9 extrinsic evidence may aid the claim construction analysis, it cannot be used to contradict the plain
10 and ordinary meaning of a claim term as defined within the intrinsic record. *Phillips*, 415 F.3d at
11 1322-23.

12 IV. DISCUSSION

13 A. “Object Type,” “Object Library,” “Design Framework,” & “Container Page”

14 Vertical maintains that the Court should construe each of these four phrases according to
15 their plain and ordinary meaning. At oral argument, Interwoven agreed to apply the plain and
16 ordinary meaning to the terms, “object library,” “design framework,” and “container page.”
17 Consequently, these three terms will not be construed further.

18 The parties, however, still dispute the term “object type.” Vertical proposes that this term
19 should also be defined according to its plain and ordinary meaning, or, in the alternative, minimally
20 as, “[a] particular type of object.” Interwoven suggests that a more appropriate construction is: “A
21 quality associated with an arbitrary object used to generate either the content, the form, or the
22 functionality of said computer application or web site.” It insists that the phrase “object type,” when
23 examined in conjunction with the claims and specification, convey that the patentee intended to
24 limit the term with the phrase “arbitrary object.”

25 As stated above, courts apply a “heavy presumption” that claim language carries its plain
26 and ordinary meaning. *See Omega Eng’g, Inc.*, 334 F.3d at 1322-23 (Fed. Cir. 2003). This
27 presumption is only rebutted “if the patentee unequivocally impart[s] a novel meaning to those
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1 terms or expressly relinquish[e] claim scope during prosecution.” *Id.* (finding no express
2 disclaimer or independent lexicography warranting the limiting of the claim language). To impose a
3 negative limitation on the plain meaning of a term, there must be an “express intent to confer on the
4 claim language the novel meaning imparted by this negative limitation.” *Id.* Such intent must be
5 demonstrated in a “clear and unambiguous” manner. *See Innova*, 381 F.3d at 1123 (refusing to
6 impose a negative limitation because the claim did not present a “clear[] and unmistak[able]”
7 disavowal).

8 To demonstrate “express intent,” Interwoven cites to claims 1 and 26 in the ’744 patent
9 which describe the patent as a method which creates “arbitrary objects with corresponding arbitrary
10 names of various object types.” Vertical responds that despite this language, there is no expression
11 of “manifest exclusion or restriction” in the record. (Def’s. Brief Supporting its Claim Construction
12 at 23). In fact, Vertical insists that the intrinsic record supports that the patentee intended “object
13 type” to be interpreted according to its plain and ordinary meaning. In a response to the Patent
14 Office, the patentee used the phrase “object type” in reference to prior art which did not contain
15 arbitrary objects. From this, Vertical concludes that the patentee intended also to use the phrase
16 “object type” in claims 1 and 26 in a way which encompassed both arbitrary and classic objects.
17 Vertical’s argument is tenuous at best; just because the patentee discusses objects in prior art in a
18 broad sense does not necessarily demonstrate that the patentee also intended to use the phrase
19 “object type” within the patent in such a broad manner. Despite Vertical’s unconvincing argument,
20 however, its assertion that “object type” should be given its plain meaning is compelling;
21 Interwoven is unable to point to a “clear and unambiguous” expression to limit the definition of
22 “object type.”

23 Furthermore, Vertical explains that the parties have stipulated to forego the construction of
24 the term “object.” This term, standing alone, must therefore be given its ordinary definition: “a
25 programming unit.” Vertical argues that, consequently, the phrase “object type” should also be
26 construed according to its plain meaning. There is no reason for “object type” to be limited to a
27 quality associated only with arbitrary objects if the parties have already agreed to the definition of
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1 “object.” (Def’s. Brief Supporting its Claim Construction at 23) (“[W]here the patentee, without any
2 confusion, added well recognized words, such as ‘type’ and ‘library’ to the word, ‘object,’ the
3 resulting phrases are equally unambiguous.”). This term must therefore also be interpreted
4 according to its plain and ordinary meaning.

5 B. “Form,” “Functionality,” & “Content”

6 Vertical maintains that the patentee intended for the terms: form, functionality, and content,
7 to retain their plain and ordinary meaning within the patent, with no further construction warranted.
8 If construction is necessary, Vertical proposes definitions for all three terms which purport to
9 approximate their respective dictionary definitions: Vertical presents “form” as “formatting
10 including, but not limited to, graphic designs, user interfaces, graphical representations.” It
11 construes “functionality” as “software code.” Lastly, it interprets “content” as “data, including, but
12 not limited to, information, photographs, illustrations, articles.” Interwoven disputes all three of
13 these definitions, asserting that intrinsic evidence requires that content, form, and functionality be
14 construed as expressly distinct and separate from one another. Interwoven argues that each term’s
15 definition must include a negative limitation which distinguishes it from the other two terms. In this
16 regard, Interwoven proposes that “form” be construed as “structured format or appearance of the
17 computer application or website which is not content or functionality.” “Functionality” must be
18 interpreted as “software code that implements logical functionality within the computer application
19 or web site, which is not form or content.” Finally, “content,” according to Interwoven, should be
20 construed as “data, including information, photographs, illustrations, and articles, that appears in the
21 computer application or on the web site, which is not form or functionality.” Interwoven insists that
22 such qualifying language is necessary because “[t]he specification and prosecution history contain
23 numerous instances where Vertical describes these three types as separate from each other.” (Pl’s.
24 Resp. Claim Construction Brief at 6).²

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26 ² Prior to the claim construction hearing, Interwoven filed a limited motion to strike portions of
27 Vertical’s claim construction brief. In this motion, Interwoven asserts that Vertical improperly
28 altered its proposed constructions for the terms “form” and “content” between the parties’ filing of
their Joint Claim Construction Statement and Vertical’s submission of its Opening Brief. Interwoven
argues that the fact Vertical adopted these two new constructions without any prior notice or effort
to engage in a meet and confer, violates the spirit and purpose of Patent Local Rule 4-2(c).

1 a. The Specification

2 In the specification, there is indeed language which emphasizes that the fundamental
3 characteristic of the invention is the separation of content, form, and function. Both the '744 and
4 '629 patents assert that the “method of the present invention separates content, form and function of
5 the computer application so that each may be accessed or modified separately.” '744 patent at col.2
6 1.11-14, '629 patent col.2 1.20-24. The patents further claim “an important technical advantage in
7 that content, form, and function are separated.” '744 patent col.2 1.19-21, '629 patent col.2 1.27-28.
8 Interwoven does not, however, point to any statement within the specification which “clearly and
9 unmistakably” disavows the ordinary definition of form, content, or function. *See Innova*, 381 F.3d
10 at 1220 (refusing to limit construction when counsel had “difficulty pointing to a statement in the
11 written description that clearly and unmistakably shows the applicant's intent to limit the scope of
12 the claims”). Rather, the language Interwoven refers to in support of its limiting constructions
13 simply describes what the patents can do and what new technology they create. In other words,
14 these references merely indicate that the inventions are *capable* of separating form, function, and
15 content, not that such separation is *essential*. In fact, the specification contains language suggesting
16 the possibility of overlap between form, functionality, and content in some instances. For example,
17 in describing the processes necessary to create complex software, the patents explain that “[f]orm
18 includes informative content.” Furthermore, throughout the patent, reference is made to arbitrary
19 objects which could combine content and form, form and functionality, or content and functionality.
20 The specification, therefore, signifies that the patents create a new technology which *could* separate
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22 Furthermore, Interwoven contends that the modification of these two terms affects the construction
23 of five other terms submitted to the Court for construction. Interwoven, consequently, maintains
24 that the Court should strike seven of Vertical's proposed constructions and require Vertical to file a
25 revised brief which complies with the Patent Local Rules. Vertical opposes the motion, claiming
26 that it repeatedly attempted to meet and confer with Interwoven. Furthermore, Vertical asserts that
27 it has not violated any Patent Local Rules because it did not modify any of its proposed
28 constructions: in both the Joint Statement and its Opening Brief, Vertical argued that neither form
nor content need be construed and should be interpreted according to its plain and ordinary
meanings. The only alterations that Vertical made were to the proposed alternative constructions of
these terms. Vertical contends that the Patent Local Rules are “designed to require parties to
crystallize their theories of the case early in litigation and adhere to those theories.” *Nova
Measuring Instruments Ltd. v. Nanometrics, Inc.*, 417 F. Supp 2d 1121, 1123 (N.D. Cal. 2006). The
minor changes to Vertical's alternative constructions do not contravene this purpose.

1 form, function, and content into three distinct components, or could merely separate out one from
2 the other two components. The point of the invention, therefore, is not that all three components are
3 *always* distinct, but rather that the user of the arbitrary objects can choose to separate out either
4 form, function, or content individually.

5 Interwoven’s reliance on Figure 2 is no more persuasive. This figure presents an example of
6 the hierarchical model possible with the invention. Within this model, “content, design, and
7 functionality are separate entities independent of each other.” ’744 patent col.3 1.34-37, ’629 patent
8 col.3 1.37-42. Figure 2, however, is just one embodiment of the patent and should not limit the
9 definition of claim terms. *See Innova*, 381 F.3d at 1220 (“[A] construction [based on an
10 embodiment] is not encouraged or presumed”). Even when a patentee includes only one
11 embodiment within the written description, the claims are not to be construed as limited to this
12 embodiment. *See Lieber-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 906-09 (Fed. Cir. 2004)
13 (refusing to limit construction according to a single embodiment absent “words or expressions of
14 manifest exclusion or restriction”). *But see SciMed Life Sys. Inc. v. Advances Cardiovascular Sys.,*
15 *Inc.*, 242 F.3d 1337 (Fed. Cir. 2001) (limiting terms based on a single embodiment because the
16 specification made “clear that the invention does not include” a particular feature). Here, there is
17 more than one embodiment included within the written description. While Figure 2 does separate
18 content, design, and functionality, other suggested embodiments only discuss the separation of
19 content and function or form and function. Per these embodiments, the innovation of the patents is
20 the ability to separate form from function from content, but such separation is not required in every
21 instance.

22 b. The Prosecution History

23 Interwoven next points to passages in the prosecution history where, it asserts, the patentee
24 expressly disavowed the plain and ordinary meaning of form, functionality, and content.
25 Interwoven contends, by emphasizing that the fundamental feature of the invention is its ability to
26 separate content, form, and function for purposes of independent modification, and by
27 distinguishing prior art by reference to this fundamental feature, the patentee essentially adopted
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1 more narrow definitions for these terms. Interwoven, thereby, concludes that the doctrine of
2 prosecution disclaimer precludes Vertical from recapturing, through claim interpretation, the
3 broader definition for these terms.

4 The doctrine of prosecution disclaimer restricts the interpretation of claims in order to
5 exclude any interpretations that have been expressly disavowed by the patentee during prosecution.
6 *Omega Eng'g, Inc.*, 334 F.3d at 1324 (adopting the doctrine as a “fundamental precept” in claim
7 construction). Importantly, the doctrine should not be applied “where the alleged avowal of claim
8 scope is ambiguous . . . [and fails] to show reasonable clarity and deliberateness.” *Id.* at 1324-25
9 (citing *N. Telecom Ltd. v. Samsung Elec. Co.*, 215 F.3d 1281, 1293-95 (Fed. Cir. 2000)). When a
10 patentee disclaims prior art within a patent prosecution, such a disclaimer is, therefore, only
11 controlling for purposes of claim construction if its scope is clear and precise. *Pall Corp. v. PTI*
12 *Techs, Inc.*, 259 F.3d 1383, 1393-94 (Fed. Cir. 2001) (determining that the scope of disclaimer over
13 prior art was too ambiguous to affect claim construction), *vacated on other grounds*, 535 U.S. 1109
14 (2002). Here, the patentee indeed makes numerous references to the separation of form,
15 functionality, and content within the patent prosecution. In doing so, the patentee distinguishes its
16 patent from prior art: During the prosecution for the '744 patent, Vertical asserted that its
17 technology was different from that of the Johnson patent because “the Johnson catalog class
18 includes both form and content.” (Pl’s. Resp. Claim Construction Brief at 7). Vertical further
19 argued that “[o]ne such advantage [of its invention] is that when content, form, and functionality are
20 genuinely separated in the generation of a software application, changes in one do not affect the
21 other.” (Pl’s. Resp. Claim Construction Brief at 8).

22 The prosecution history of the '629 patent contains similar language. In describing the
23 claimed patent, Vertical explains that “the arbitrary objects are used in generating content, defining
24 form, and executing functionality.” (Pl’s. Resp. Claim Construction Brief at 8). Vertical also
25 instructs that the Leshem prior art is distinct from its invention because “Leshem fails to teach or
26 suggest arbitrary objects comprising separate content, form, and function objects that can be
27 independently modified or changed.” (Pl’s. Resp. Claim Construction Brief at 9).

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1 As evidenced throughout the prosecution history, Interwoven is correct in asserting that
2 Vertical repeatedly underscores the invention’s ability to separate form, content, and functionality.
3 Nowhere in the prosecution history, however, does Vertical suggest that such separation is
4 necessary for purposes of its patents. There is no indication that form, content, and functionality
5 *must* be distinct, rather, the components *may* be distinct. What distinguishes this patent from prior
6 art is not the absolute separation of form, content, and functionality, but the user’s ability to separate
7 out either one, two, or all three of these components; prior art only permitted a user to separate out
8 one or two at a time. This reading of the prosecution history is consistent with the remainder of the
9 intrinsic record. The patent language emphasizes that the significance of the invention is the
10 flexibility of being able to separate out the three components, not the necessity of so doing under
11 every circumstance.

12 Interwoven’s inference derived from the specification and prosecution history, that
13 Vertical’s patent requires the complete separation of form, content, and functionality is unfounded
14 and cannot overcome the plain meaning of these terms. *N. Telecom Ltd* , 215 F.3d at 1295
15 (“[I]nference cannot overcome an ordinary meaning of a claim term.”); *see Johnson Worldwide*
16 *Assocs., Inc. v. Zebco Corp.*, 175 F.3d 985, 990-91 (Fed. Cir. 1999). Accordingly, form, content,
17 and functionality will each be defined by its ordinary meaning as understood by a person skilled in
18 the art.

19 C. “Arbitrary Object(s)”

20 Vertical contends that “arbitrary objects” is the only term which requires construction,
21 proposing the definition: “An object that can be created independently by individual preference and
22 that can be optionally accessed solely by name, the object being an entity that can have form,
23 content or functionality or any combination of form, content, or functionality.” Interwoven contests
24 this construction, insisting that the proper definition of “arbitrary objects” is: “Discrete entity
25 accessed by its corresponding arbitrary name created by the user based on individual preference,
26 used to generate the form, the functionality, and the content of said computer application or web
27 site, that are interchangeable and reference in a consistent manner within the arbitrary object
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1 framework.” Both parties insist that its proposed construction best captures the intent of the
2 patentee and the consistent usage of the term “arbitrary objects” within the specification. There are
3 three fundamental disagreements embedded in the parties’ conflicting constructions: (1) whether an
4 arbitrary object must be interchangeable; (2) whether an arbitrary object must be discrete in that it
5 wholly separates form, function, or content, or whether a combination of these components within
6 an object is permissible; and (3) whether an arbitrary object need be accessed by its corresponding
7 arbitrary name.

8 1. Interchangeability

9 Interwoven argues that the intrinsic record requires arbitrary objects to be interchangeable
10 and be referenced in a consistent matter. In support, it asserts that the patent language provides that
11 a fundamental characteristic of “arbitrary objects” is that they are “interchangeable,” “can be
12 swapped for another object,” and “can be easily replaced with another arbitrary object.” ’744 patent
13 col.6 1.13-14, col.4 1.2-6, col 4 1.40-41. Furthermore, Interwoven contends that within the written
14 description, Vertical expressly provided that “[t]he arbitrary object framework allows arbitrary
15 objects to be referenced in a consistent manner regardless of type.” ’744 patent col.3 1.47-48.
16 Interwoven finds further evidence within the prosecution history of the ’629 patent in which
17 Vertical distinguishes its invention from prior art by maintaining that arbitrary objects “of any type
18 can be readily replaced with another arbitrary object of another type, *i.e.*, arbitrary objects are
19 interchangeable.” (Pl’s. Ex. 3 at 14). Specifically, with regards to the Leshem prior art, the patentee
20 stated that in Leshem “HTML codes (‘form’ object) is [sic] not interchangeable with a Java program
21 . . . without making changes in each object.” (*Id.* at 15). Interwoven contends that this language
22 necessarily requires the arbitrary objects in Vertical’s patent to be interchangeable; otherwise, there
23 is no way to distinguish Leshem’s prior art from the patents-in-suit.

24 Vertical opposes Interwoven’s construction and insists that the patent language does not
25 mandate that arbitrary objects be interchangeable; this feature is simply permitted. As a basis for its
26 interpretation, Vertical first argues that the patentee did not use expressions of manifest exclusion in
27 stating that arbitrary objects “can be replaced.” As further support, Vertical cites to claim 22 in the
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1 '744 patent. Claim 22 depends from claim 1 and provides, “[t]he method of claim 1, further
2 comprising swapping an arbitrary object of another type.” ’744 patent col.8 1.6-8. Vertical
3 maintains that, due to the doctrine of claim differentiation, the reference to “swapping” in dependent
4 claim 22 necessarily means that the patentee did not intend to include a swapping feature in the
5 independent claim 1. In other words, if the arbitrary objects discussed in claim 1 were always
6 interchangeable, claim 22 would have no meaning.³ “Thus, Interwoven’s proposed definition would
7 obviate claim 22 and render the inventor’s inclusion of it in the patent entirely meaningless.”
8 (Def’s. Brief Supporting its Claim Construction at 11).

9 The doctrine of claim differentiation presumes that every claim within a patent has a
10 different scope. *See Sunrace Roots Enter. Co.*, 336 F.3d at 1302-03 (quoting *Comark Comm’ns.,*
11 *Inc.*, 156 F.3d at 1187); *see also Amgen Inc. v. Hoechst Marion Roussel, Inc.*, 314 F.3d 1313, 1326
12 (Fed. Cir. 2003) (“Our court has made clear that when a patent claim ‘does not contain a certain
13 limitation and another claim does, that limitation cannot be read into the former claim in
14 determining either validity or infringement.’ . . . There is a rebuttable presumption that different
15 claims are of different scope.”). “That presumption is especially strong when the limitation in
16 dispute is the only meaningful difference between an independent and dependent claim, and one
17 party is urging that the limitation in the dependent claim should be read into the independent claim.”
18 *Sunrace Roots Enter. Co.*, 336 F.3d at 1302-03 (citing *Ecolab Inc. v. Paraclypse, Inc.*, 285 F.3d
19 1362, 1375 (Fed. Cir. 2002)). Vertical asserts that here, the presumption is “especially strong”
20 because Interwoven is attempting to insert a limitation of swapping into claim 1, and into all
21 references to “arbitrary objects,” despite the fact that this feature is the only difference between
22 dependent claim 22 and independent claim 1.

23 Interwoven responds that the doctrine of claim differentiation is inapplicable because
24 “Vertical mistakenly argues that ‘object swapping capability’ appears in claim 22, ignoring the
25 actual wording of the claim.” (Def’s. Brief Supporting its Claim Construction at 20). Interwoven
26 emphasizes that there is a crucial difference between the *characteristic* of “swapping capability” and
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28 ³ The “swapping” language also appears in claims 44 and 26 of the ’744 patent.

1 the *action* of “swapping.” Consequently, including the characteristic of “interchangeability” in the
2 definition of “arbitrary object” does not cause claim 1 to intrude on the verb “swapping” in claim
3 22.

4 The ’629 patent claim language supports Interwoven’s position: Independent claim 21
5 describes arbitrary objects as “further being interchangeable with other arbitrary objects.” Yet,
6 claim 29, which depends off claim 21, asserts “executable instructions for swapping an arbitrary
7 object of one type with an arbitrary object of another type.” If, as Vertical contends, the action of
8 “swapping” is synonymous with the characteristic of being “interchangeable,” claim 29 would be
9 superfluous.

10 Furthermore, Vertical’s assertion that the permissive expressions such as “can be swapped,”
11 and “can be easily replaced” means that the patentee did not mandate that arbitrary objects be
12 interchangeable, is inaccurate. Just because terms such as “can” and “may” appear, does not
13 automatically negate an imposed limitation. Rather the patentee’s assertion that arbitrary objects
14 “can be easily replaced,” means that they must have this attribute; the patentee excluded all objects
15 that cannot be replaced from the definition. Arbitrary objects, therefore, must be interchangeable as
16 per Interwoven’s proposed construction.

17 2. Discrete Entities

18 The parties next debate whether the patent defines arbitrary objects as discrete entities.
19 Interwoven contends that according to the claim language, such discreteness is a fundamental
20 attribute of arbitrary objects. As an example, Interwoven refers to claim 1 of the ’744 patent which
21 describes an arbitrary object framework as something that “separates a content of said computer
22 application, a form of said computer application, and a functionality of said computer application.”
23 Interwoven, thereby, reasons that because content, form, and functionality are distinct, arbitrary
24 objects of each type—content, form, and functionality types—must also be distinct in that they are
25 accessed or modified separately. Furthermore, Interwoven states that Vertical has expressly
26 disavowed any claim scope which would permit an object which combined form, content, and
27 functionality.

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1 Vertical does not respond directly to Interwoven’s assertion that arbitrary objects must be
2 discrete, instead objecting specifically to Interwoven’s listing of form, functionality, and content in
3 the conjunctive: “[d]iscrete entity . . . used to generate the form, the functionality, *and* the content.”
4 Vertical insists that these components must be listed in the disjunctive as per its proposed
5 construction: “An entity that can have form content or functionality *or* any combination of form,
6 content and functionality.” In essence, Vertical is arguing that it is a fundamental aspect of arbitrary
7 objects that they be able to include only form or content or functionality or, in the alternative, a
8 combination of two or three of these components. Vertical further contends that because the
9 fundamental feature of its invention is the ability to separate these components into disjunctive
10 pieces; this characteristic should therefore be included in the definition of arbitrary objects.

11 With regards to the listing of form, function, and content in the disjunctive or conjunctive,
12 both parties agree that the fundamental characteristic of the invention is its ability to separate these
13 components into different arbitrary objects. Consequently, Vertical’s adoption of the disjunctive is
14 the more appropriate construction. Additionally, Vertical’s inclusion of the phrase “or any
15 combination of form, content, and functionality” is also proper; as discussed above, although form,
16 content, and functionality may be separated into three distinct entities, they may also be combined
17 within a specific arbitrary object. Finally, with respect to whether the word “discrete” must be
18 included in the definition, neither party’s arguments carry much weight. Vertical barely addresses
19 the term and Interwoven relies on the rejected contention, that form, content, and functionality must
20 always be wholly separate. Because Interwoven is the party proposing the use of “discrete,” and has
21 not met its burden of explaining to the court why the adjective’s inclusion is necessary, the Court
22 will not include it.

23 3. Accessibility of Arbitrary Objects Via Their Corresponding Arbitrary Names

24 The parties lastly dispute whether arbitrary objects must be accessed by their corresponding
25 names. Vertical maintains that an arbitrary object is simply a program unit that *may* be retrieved by
26 its arbitrary name; it can also be retrieved using another method such as passing parameters. For its
27 construction, therefore, Vertical proposes language indicating that arbitrary objects “can be
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1 optionally accessed solely by name.” Interwoven rejects this description, asserting that both the
2 claim language and prosecution history expressly limit arbitrary objects to program pieces that *must*
3 be accessed by their corresponding arbitrary names. In support, Interwoven quotes portions of the
4 specification which teach that “[a] critical distinction between the present invention and previous
5 object oriented development systems is the need to know how a function can be called and what to
6 expect it to return, rather than just knowing the function’s name.” ’744 patent col.5 1.62-67.
7 Interwoven also argues that in order to distinguish its invention from prior art, Vertical maintained
8 that “an object oriented system [in Leshem] would require that a system administrator know how a
9 function can be called and what to expect it to return. In clear contrast, it is sufficient with
10 Applicant’s arbitrary objects to just know a function’s name.” (Pl’s. Ex. 4 at 8).

11 Vertical agrees that an important characteristic of its arbitrary objects is that they *may* be
12 retrieved by name, but protests the proposition that they can only be so accessed. Rather, Vertical
13 insists that what distinguishes its invention from prior art is that there is an additional way to
14 retrieve an arbitrary object. While in prior object-oriented systems, a programmer was required to
15 pass parameters to invoke a certain object, with the new invention, a programmer can choose either
16 to retrieve the object by name or pass parameters as per the traditional model.

17 The intrinsic record supports Vertical’s interpretation. Building on prior inventions, these
18 patents purport to create a new method for programmers to retrieve arbitrary objects. With this
19 innovation, programmers may access an arbitrary object even if they do not know the exact
20 parameters of the object; it is in this instance that an arbitrary name would be used. If they do know
21 the proper parameters, however, programmers can decide to use either the arbitrary name or pass
22 parameters as they did in the traditional model. Nothing in the patent language mandates the
23 restriction of arbitrary objects to program pieces only invoked by their corresponding names.

24 For the reasons explained above, the construction of “arbitrary object” will require a
25 combination of both parties’ proposals: an arbitrary object is “an object that can be created
26 independently by individual preference, are interchangeable, and that may be, but need not be,
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1 accessed solely by name, the object being an entity that can have form, content, or functionality or
2 any combination of form, content and functionality.”

3 D. “Arbitrary Object Framework”

4 Vertical argues that “arbitrary object framework” does not require construction: because the
5 phrase does not appear in the body of the patent claims, it does not limit the claims. If the phrase
6 must be construed, Vertical, in the alternative, suggests: “A hierarchical system that can separate
7 content, form, and functionality to generate a product, and facilitates creation of arbitrary objects,
8 and deployment of arbitrary objects.” Interwoven opposes Vertical’s assertions, contending that the
9 patents-in-suit fail to provide sufficient information to construe the term at all. It therefore submits
10 that the term is indefinite and, consequently, all claims which include “arbitrary object framework”
11 are invalid as a matter of law. Interwoven further maintains, that to the extent the phrase can be
12 defined, it should be construed as “[a] hierarchical structure of arbitrary objects, within which the
13 arbitrary objects by various object types are created by the user based on individual preference
14 managed in an object library, and deployed into a design framework to generate a computer
15 application or deployed into a container page to create a web site.”

16 As a threshold matter, the Court must determine whether the phrase “arbitrary object
17 framework” requires construction despite the fact that it only appears in the claim preamble.
18 Generally language in a preamble is limiting and thus subject to construction only if “it recites
19 essential structure or steps, or if it is necessary to give ‘life, meaning, and vitality’ to the claim.”
20 *Intirtool, Ltd. v. Texas Corp.*, 369 F.3d 1289, 1295 (Fed. Cir. 2004). Preamble language which
21 simply describes the purpose or intended use of the invention cannot serve to limit the scope of a
22 claim. *See Bicon, Inc. v. The Straumann Co.*, 441 F.3d 945, 952-53 (Fed. Cir. 2006). Additionally,
23 if the body of a claim “describes a structurally complete invention such that deletion of the preamble
24 phrase does not affect the structure or steps of the claimed invention,” it is likely unnecessary to
25 construe the preamble terms. *Intirtool, Ltd.*, 369 F.3d at 1295. Here, Vertical asserts that the term
26 “arbitrary object framework” is not an essential component of the claim. It maintains that nothing in
27 the patent language indicates reliance on the preamble to define the claimed invention. As
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1 Interwoven demonstrates, however, there is substantial evidence throughout the intrinsic record to
2 support the construction of “arbitrary object framework” as an essential term. This type of
3 framework is presented as the central component for creating, managing, and deploying arbitrary
4 objects. Furthermore, the patent titles include the phrase: “System and Method for Generating
5 Websites in an Arbitrary Object Framework.” The term “arbitrary object framework” is an essential
6 element that may narrow the scope of the claims.

7 Since “arbitrary object framework” serves a limiting purpose, it must be construed.
8 Interwoven, however, insists that the phrase is indefinite and cannot be interpreted. In support, it
9 argues that: (1) the definition of “arbitrary object framework” is functional and highly dependent on
10 context; and (2) the phrase cannot be given a reasonable meaning by a person of ordinary skill in the
11 art. Interwoven concludes that the claims which include this phrase are therefore invalid as a matter
12 of law.

13 “An issued patent is entitled to a statutory presumption of validity.” *See Datamize, LLC v.*
14 *Plumtree Software, Inc.*, 417 F.3d 1342, 1347 (Fed. Cir. 2005) (citing 35 U.S.C. § 282 (2000)). In
15 order to rebut this presumption, the party seeking invalidity must demonstrate “by clear and
16 convincing evidence that one of ordinary skill in the relevant art could not discern the boundaries of
17 the claim.” *Wellman, Inc. v. Eastman Chem. Co.*, 642 F.3d 1355, 1366 (Fed. Cir. 2011); *see also*
18 *Microsoft Corp. v. i4i Ltd. P’ship.*, 131 S. Ct. 2238, 2242 (2011) (emphasizing that a patent must be
19 presumed valid and that there is a heavy burden in rebutting such a presumption); *Halliburton*
20 *Energy Servs., Inc. v. M-I LLC*, 514 F.3d 1244, 1249 (Fed. Cir. 2008) (imposing an “exacting
21 standard” on the party asserting an invalidity argument). In evaluating the invalidity evidence
22 presented, courts must strive to “protect the inventive contribution of patentees, even when the
23 drafting of their patents has been less than ideal.” *Wellman, Inc.*, 642 F.3d at 1366 (quoting *Exxon*
24 *Research & Eng’g Co. v. United States*, 265 F.3d 1371, 1375 (Fed. Cir. 2001)). It follows, claims
25 are not indefinite simply because they present a “formidable” task of claim construction.
26 *Halliburton Energy Servs., Inc.*, 514 F.3d at 1249.

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1 Interwoven first asserts that “arbitrary object framework” is indefinite because it is
2 functionally defined. Recognizing that functional definitions are not *per se* improper, Interwoven
3 argues that functional language must be strictly scrutinized for the purposes of invalidity analysis.
4 In this case, Interwoven maintains that while “the patents contain multiple instances of the term
5 ‘arbitrary object framework’ . . . [they] never explain what it is or how it serves the purposes or
6 functions described.” (Pl’s. Resp. Claim Construction Brief at 13). As an example, Interwoven
7 refers to the patent language stating that an arbitrary object framework “allows arbitrary objects to
8 be referenced” and “allows local arbitrary objects to . . . override global parent arbitrary objects.”
9 ’744 patent col.3 1.47-52, col.4 1.26-31, col.6 1.16-10. According to Interwoven, at no point does
10 the patentee explain how the framework accomplishes such referencing or overriding.
11 Consequently, the claims are too vague adequately to delineate the scope of the invention and must
12 be deemed invalid.

13 As an alternative basis for invalidity, Interwoven suggests a second problem of definiteness.
14 It maintains that the patentee failed as a lexicographer because, looking at all of the evidence, a
15 person of ordinary skill in the art could not develop a reasonable meaning for “arbitrary object
16 framework.” In fact, Interwoven contends, even Vertical struggles to define the term, relying on
17 vague phrases about what the framework can do, without explaining how it can achieve these
18 functions.

19 Vertical responds with three arguments. First, it insists that because Interwoven was able to
20 provide a definition for “arbitrary object,” it is inapposite to insist that it cannot subsequently define
21 “arbitrary object framework.” Interwoven need only consult a technical dictionary for guidance:
22 “Framework” is defined as “a reusable basic design structure which assists in building applications.”
23 (Def’s. Ex. G). Second, Vertical maintains that, contrary to Interwoven’s assertions, the patent
24 clearly describes an “arbitrary object framework” as “a special type of framework [used] to generate
25 or build software application . . . in a hierarchical manner.” (Def’s. Brief Supporting its Claim
26 Construction at 6). For further support, Vertical refers to Figure 2 which provides an example of
27 such a hierarchical model where form, content, and functionality are linked through such a
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1 framework in order to produce a website. Lastly, Vertical stresses that, despite the functional nature
2 of the “arbitrary object framework” definition, the patents clearly describe how the framework
3 accomplishes the functions of separating, generating, managing, and deploying. With regards to
4 separating, Vertical asserts that the specification teaches first that the framework can separate form,
5 content, and functionality. Then the specification explains that the framework creates and uses
6 arbitrary objects. Together, these statements demonstrate that the “**creation and use of arbitrary**
7 **objects is how** the inventions of the patents-in-suit accomplish the task of separation.” (Def’s. Brief
8 Supporting its Claim Construction at 7) (emphasis in original). Prior art frameworks could not
9 separate form from content from functionality because they did not use arbitrary objects.

10 Vertical also addresses the framework’s function of “generating” arbitrary objects. It
11 emphasizes that the critical question in determining indefiniteness is whether a person skilled in the
12 art could, upon reading the disclosure, know how to construct and use the contested object. Here, it
13 is common knowledge within computer programming that the “generation of an object includes
14 using particular statements in a program than an object framework reads and upon which it acts.”
15 (Def’s. Brief Supporting its Claim Construction at 8). Combining the language of the patent and the
16 common technical knowledge described above, Vertical insists that a person skilled in the art would
17 know *how* the framework functions to generate arbitrary objects.

18 With respect to “managing” and “deploying,” Vertical refers to the ’744 patent which
19 provides that arbitrary objects are “managed in a consistent manner using revision, tracking, roll
20 back, and sign off . . . [then] objects can be deployed.” ’744 patent col.3 1.53-58. Vertical insists
21 that this description teaches a person of ordinary skill how to manage and deploy arbitrary objects:
22 after setting up an arbitrary object framework with a set of rules and procedures, the developer
23 would ensure that the framework could both manage arbitrary objects through the use of techniques
24 such as revision or roll back and deploy these objects into another computer application.

25 As Vertical demonstrates, the term “arbitrary object framework” is not indefinite despite its
26 functional definition. Using the directions within the specification which explain how an arbitrary
27 object framework functions to separate, generate, manage, and deploy arbitrary objects, a person
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1 skilled in the art would be able to comprehend the scope of the patent. *See, e.g., Exxon Research &*
2 *Eng'g Co.*, 265 F.3d at 1375 (stating that a claim is definite as long as a person skilled in the art can
3 “understand the bounds of the claim when read in light of the specification”). Interwoven has
4 therefore not met its burden of showing, by clear and convincing evidence that the statutory
5 presumption of validity must be ignored. *See Wellman, Inc.v. Eastman Chem. Co.*, 642 F.3d at
6 1366.

7 Notably, however, for purposes of construction, Interwoven presents a more detailed and
8 exact alternative definition for “arbitrary object framework.” Its proposal is taken directly from the
9 specification language. The Court will apply the presumption of validity and interpret the term
10 “arbitrary object framework” according to Interwoven’s construction.

11 E. “That Separates a Content of Said Computer Application, a Form of Said Computer
12 Application, and a Functionality of Said Computer Application”

13 Vertical offers two reasons for why this phrase need not be construed: (1) it appears in the
14 preamble and, therefore, does not act as a separate limitation on the claims; and (2) it is neither
15 ambiguous nor vague. If the Court accepts neither of these rationales, Vertical proposes that the
16 phrase be defined as “[t]he ability to independently modify Content, Form, and Function Objects.”
17 Interwoven insists that construction is necessary, asserting that, despite the fact that the term appears
18 only in the preamble, it recites the essence of the invention and is repeatedly used throughout the
19 prosecution history for both patents.

20 As stated above, language in the preamble must be construed for limiting purposes only if
21 “it recites essential structure or steps, or if it is necessary to give ‘life, meaning, and vitality’ to the
22 claim.” *Intirtool, Ltd.*, 369 F.3d at 1295 (Fed. Cir. 2004). Terms within the preamble are more
23 likely to be considered essential if the patentee relies on them in order to distinguish prior art during
24 prosecution. *See, e.g., Halliburton Energy Svcs.*, 514 F.3d at 1246 (construing “fragile gel” even
25 though it appeared only in the preamble because plaintiff used the term to distinguish its invention
26 during prosecution). Here, Vertical refers to the separation of content, form, and functionality

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1 throughout its written description and continuously emphasizes the invention’s ability to separate
2 these components during prosecution. The language must be construed for limiting purposes.

3 As an alternative basis to avoid construction, Vertical asserts that the phrase is neither
4 ambiguous nor vague. In support, Vertical maintains that the phrase simply includes the terms
5 “content,” “form,” and “functionality” and adds the word “separates.” It insists that the addition of
6 the word “separates” does nothing to create ambiguity. Vertical, however, oversimplifies the issue.
7 The very acts of combining the terms, form, functionality and content, and adding the word
8 “separates,” produce ambiguity. Without further clarification it is unclear what exactly this
9 separation entails. The entire phrase must be construed.

10 As mentioned above, Vertical suggests a simple construction. Interwoven, on the other
11 hand, proposes: “In which the content, form, and functionality of said computer application are kept
12 apart and distinct from each other, so that each may be accessed or modified independently.”
13 Because the Court has determined that within the invention content, form, and functionality, *may*,
14 not *must*, be completely separated, Interwoven’s proposal is inappropriate. Vertical’s construction,
15 however, is not wholly accurate either. While it captures the fact that separation entails the “ability
16 independently to modify” various objects, it omits any reference to the ability to access these
17 objects. As per the specification language, this is an important component of separation: “The
18 method of the present invention separates content, form, and function of the computer application so
19 that each may be accessed or modified independently.” ’744 patent col.2 1.9-14, col.2 1.17-22.
20 Accordingly the Court will modify Vertical’s definition and formulate the construction: “The ability
21 independently to modify and access Content, Form, and Function Objects.”

22 V. CONCLUSION

23 The disputed terms of the patents-in-suit are hereby construed as set forth above. Where the
24 order has identified terms that may require further construction, such matters shall be presented, if it
25 becomes necessary, in the context of any dispositive motions or at the time of formulating jury
26 instructions.

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IT IS SO ORDERED.

Dated: 12/30/11



RICHARD SEEBORG
UNITED STATES DISTRICT JUDGE