

# United States Court of Appeals for the Federal Circuit

04-1564

DATAMIZE, LLC,

Plaintiff-Appellant,

v.

PLUMTREE SOFTWARE, INC.,

Defendant-Appellee.

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Appealed from: United States District Court for the Northern District of California

Chief Judge Vaughn R. Walker

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DECIDED: August 5, 2005

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Before CLEVENGER, BRYSON, and PROST, Circuit Judges.

PROST, Circuit Judge.

Datamize, L.L.C. (“Datamize”) appeals from a decision of the United States District Court for the Northern District of California holding each claim of United States Patent No. 6,014,137 (“the ‘137 patent”) invalid as indefinite under 35 U.S.C. § 112, ¶ 2. See Datamize, L.L.C. v. Plumtree Software, Inc., No. 3:02-CV-05693 VRW (N.D. Cal. July 9, 2004). We affirm.

## BACKGROUND

### A. The ‘137 Patent and Related Prosecution History

The ‘137 patent, entitled “Electronic Kiosk Authoring System,” discloses a software program that allows a person to author user interfaces for electronic kiosks. “The authoring system enables the user interface for each individual kiosk to be customized quickly and easily within wide limits of variation, yet subject to constraints

adhering the resulting interface to good standards of aesthetics and user friendliness."

'137 patent, Abstract; see also *id.* at col. 3, ll. 28-32.

The authoring system gives the system author a limited range of pre-defined design choices for stylistic and functional elements appearing on the screens. *Id.* at col. 3, ll. 52-57. "[M]ajor aesthetic or functional design choices . . . as well as hierarchical methods of retrieving information may be built into the system [while] taking into account the considered opinions of aesthetic design specialists, database specialists, and academic studies on public access kiosk systems and user preferences and problems." *Id.* at col. 3, ll. 57-64.

Claim 1, the '137 patent's only independent claim, recites:

1. In an electronic kiosk system having a plurality of interactive electronic kiosks for displaying information provided by a plurality of information providers, a method for defining custom interface screens customized for individual kiosks of said plurality and operable to make different assortments of said information available for display at different kiosks of said plurality, said method comprising the steps of:

providing a master database of information from said plurality of information providers, said master database referencing substantially all information content from said providers to be displayed on any of said plurality of kiosks;

providing a plurality of pre-defined interface screen element types, each element type defining a form of element available for presentation on said custom interface screens, wherein each said element type permits limited variation in its on-screen characteristics in conformity with a desired uniform and aesthetically pleasing look and feel for said interface screens on all kiosks of said kiosk system,

each element type having a plurality of attributes associated therewith, wherein each said element type and its associated attributes are subject to pre-defined constraints providing element characteristics in conformance with said uniform and aesthetically pleasing look and feel for said interface screens, and

wherein said plurality of pre-defined element types includes at least one pre-defined window type, at least one pre-defined button type, and at least one pre-defined multimedia type;

selecting a plurality of elements to be included in a custom interface screen under construction, said plurality of elements being selected from said plurality of pre-defined elements types, said plurality of selected elements including at least one button type;

assigning values to the attributes associated with each of said selected elements consistent with said pre-defined constraints, whereby the aggregate layout of said plurality of selected elements on said interface screen under construction will be aesthetically pleasing and functionally operable for effective delivery of information to a kiosk user;

selecting from said master database an assortment of information content deriving from selected ones of said information providers to define kiosk information content for an individual kiosk of said kiosk system;

associating said kiosk information content with at least a portion of said selected elements for said interface screen under construction; and

linking said at least one selected button type element to an action facilitating the viewing of at least portions of said kiosk information content by a kiosk user.

'137 patent, col. 20, l. 37-col. 21, l. 23 (emphases added). At issue in this appeal is the definiteness of "aesthetically pleasing" as it is used in the context of claim 1 of the '137 patent.

The "aesthetically pleasing" claim language was not discussed by the inventor or the patent examiner during prosecution of the application that led to the '137 patent. The language was discussed, however, during prosecution of a continuation application to the '137 patent, which eventually issued as United States Patent No. 6,460,040 ("the '040 patent"). The patent examiner reviewing the application leading to the '040 patent rejected a claim as being indefinite for using the phrase "aesthetically pleasing." In response to this rejection, the inventor argued that the phrase is definite, but ultimately

deleted it, stating in part that it is “not intended to identify qualities separate and apart from the remainder of this claim element” and is “superfluous and unnecessary.”

## B. The District Court Proceedings

Datamize sued Plumtree Software, Inc. (“Plumtree”) for infringing the ’137 patent, and Plumtree responded by moving for summary judgment on the ground that the ’137 patent is invalid for indefiniteness under 35 U.S.C. § 112, ¶ 2. The district court granted Plumtree’s motion, concluding that the ’137 patent’s only independent claim is indefinite due to use of the phrase “aesthetically pleasing.”

The district court began its analysis of the definiteness of “aesthetically pleasing” by referring to dictionary definitions of the words “aesthetic” and “pleasing.” The court determined that the ordinary and customary meaning of the phrase is “having beauty that gives pleasure or enjoyment” or, in other words, “beautiful,” a meaning the court believed to be “quite subjective.” Next, the court turned “to determine whether the patent’s specification provides an explicit definition of the term that clarifies or differs from its ordinary dictionary meaning.” After reciting parts of the specification, the court concluded that the specification does not limit the subjectivity of the phrase “aesthetically pleasing.”

The district court then reviewed the prosecution history of the ’137 and ’040 patents. The court concluded that the prosecution history of the ’040 patent “does not provide a more objective means of ascertaining the meaning of ‘aesthetically pleasing.’ In fact, the prosecution history suggests that the language has little meaning at all.”

The district court went on to compare the current case with several district court and Federal Circuit opinions addressing indefiniteness. It concluded that three district

court cases deal with terms that are similar to “aesthetically pleasing” in that they are all terms “with very subjective ordinary meanings that are not sufficiently narrowed by the patents in question.” See Mossman v. Broderbund Software, Inc., No. 98-71244-DT, 1999 WL 696007 (E.D. Mich. May 18, 1999) (“readily follow”); STX, Inc. v. Brine, Inc., 37 F. Supp. 2d 740 (D. Md. 1999), aff'd, 211 F.3d 588 (Fed. Cir. 2000) (“improved handling and playing characteristics”); Semmler v. Am. Honda Motor Co., 990 F. Supp. 967 (S.D. Ohio 1997) (“considerable fuel savings”). On the other hand, the court rejected a comparison with two of our cases, since in those cases the terms were either “not controlled by individual subjective impressions” or “sufficiently well-defined by the patent to make the meaning of the entire term readily discernable.” See All Dental Prodx, L.L.C. v. Advantage Dental Prods., Inc., 309 F.3d 774 (Fed. Cir. 2002) (“original unidentified mass”); Bancorp Servs., L.L.C. v. Hartford Life Ins. Co., 359 F.3d 1367 (Fed. Cir. 2004) (“surrender value protected investment credits”).

The district court next rejected proposed constructions of “aesthetically pleasing” offered by Datamize, stating that “[t]he term ‘aesthetically pleasing’ must mean something different from predefined constraints or limitations” since “predefined constraints” are separate limitations in claim 1. Furthermore, the court stated that “aesthetically pleasing” must be given meaning and cannot be read out of the claim. The court also rejected the argument that “aesthetically pleasing” should be evaluated from the system author’s viewpoint and that anyone else’s perception is irrelevant, stating that “the court would be hard-pressed to construe a patent term so that it would turn on the subjective beliefs of those individuals who will use the authoring tool.”

Finally, the district court rejected expert testimony offered by Datamize for various reasons: expert testimony is disfavored and cannot vary or contradict claim language; the expert admitted that no objective measure of aesthetics is disclosed in the specification or any of various references; the expert relied upon an article published after the application for the '137 patent was filed; and the article relied upon admitted that no one knows how to measure aesthetic value and that some people doubt that it can be measured.

Concluding that the phrase "aesthetically pleasing" in claim 1 is "hopelessly indefinite," the district court granted Plumtree's motion for summary judgment of invalidity. Since claim 1 is the '137 patent's sole independent claim, the court's grant of summary judgment of indefiniteness as to claim 1 invalidated each claim in the '137 patent.

Datamize appeals the grant of summary judgment of invalidity for indefiniteness. We have jurisdiction under 28 U.S.C. § 1295(a)(1).

## DISCUSSION

### A. Standard of Review

We review a district court's grant of summary judgment de novo. High Concrete Structures, Inc. v. New Enter. Stone & Lime Co., 377 F.3d 1379, 1382 (Fed. Cir. 2004). "A determination of claim indefiniteness is a legal conclusion that is drawn from the court's performance of its duty as the construer of patent claims." Personalized Media Communications, L.L.C. v. Int'l Trade Comm'n, 161 F.3d 696, 705 (Fed. Cir. 1998). Thus, as with claim construction, we exercise de novo review over the conclusion that a claim is indefinite under 35 U.S.C. § 112, ¶ 2. Id.

## B. The Law of Indefiniteness

Every patent's specification must "conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention." 35 U.S.C. § 112, ¶ 2 (2000). Because the claims perform the fundamental function of delineating the scope of the invention, Chimie v. PPG Indus., Inc., 402 F.3d 1371, 1379 (Fed. Cir. 2005), the purpose of the definiteness requirement is to ensure that the claims delineate the scope of the invention using language that adequately notifies the public of the patentee's right to exclude, Honeywell Int'l, Inc. v. Int'l Trade Comm'n, 341 F.3d 1332, 1338 (Fed. Cir. 2003).

According to the Supreme Court, "[t]he statutory requirement of particularity and distinctness in claims is met only when [the claims] clearly distinguish what is claimed from what went before in the art and clearly circumscribe what is foreclosed from future enterprise." United Carbon Co. v. Binney & Smith Co., 317 U.S. 228, 236 (1942). The definiteness requirement, however, does not compel absolute clarity. Only claims "not amenable to construction" or "insolubly ambiguous" are indefinite. See Novo Indus. L.P. v. Micro Molds Corp., 350 F.3d 1348, 1353 (Fed. Cir. 2003); Honeywell Int'l, 341 F.3d at 1338; Exxon Research & Eng'g Co. v. United States, 265 F.3d 1371, 1375 (Fed. Cir. 2001). Thus, the definiteness of claim terms depends on whether those terms can be given any reasonable meaning. Furthermore, a difficult issue of claim construction does not ipso facto result in a holding of indefiniteness. Exxon Research & Eng'g, 265 F.3d at 1375. "If the meaning of the claim is discernible, even though the task may be formidable and the conclusion may be one over which reasonable persons will disagree, we have held the claim sufficiently clear to avoid invalidity on indefiniteness grounds."

Id. In this regard it is important to note that an issued patent is entitled to a statutory presumption of validity. See 35 U.S.C. § 282 (2000). “By finding claims indefinite only if reasonable efforts at claim construction prove futile, we accord respect to the statutory presumption of validity and we protect the inventive contribution of patentees, even when the drafting of their patents has been less than ideal.” Exxon Research & Eng’g, 265 F.3d at 1375 (citation omitted). In this way we also follow the requirement that clear and convincing evidence be shown to invalidate a patent. See Budde v. Harley-Davidson, Inc., 250 F.3d 1369, 1376 (Fed. Cir. 2001).

In the face of an allegation of indefiniteness, general principles of claim construction apply. See Oakley, Inc. v. Sunglass Hut Int’l, 316 F.3d 1331, 1340-41 (Fed. Cir. 2003) (noting that a determination of definiteness “requires a construction of the claims according to the familiar canons of claim construction”). Intrinsic evidence in the form of the patent specification and file history should guide a court toward an acceptable claim construction. Phillips v. AWH Corp., No. 03-1269, -1286, slip op. at 10 (Fed. Cir. July 12, 2005) (*en banc*). And while “we have emphasized the importance of intrinsic evidence in claim construction, we have also authorized district courts to rely on extrinsic evidence,” such as expert testimony. Id. at 18. In construing claims, “what matters is for the court to attach the appropriate weight to be assigned to those sources in light of the statutes and policies that inform patent law.” Id. at 31.

### C. Analysis

With these principles in mind, we proceed to the question at hand: whether the ’137 patent’s use of “aesthetically pleasing” meets the standards articulated in our case law concerning definiteness. We begin our analysis by noting our agreement with the

district court's understanding that the ordinary meaning of "aesthetically pleasing" includes "having beauty that gives pleasure or enjoyment" or, in other words, "beautiful." We also recognize that the district court's opinion presents a reasoned and detailed analysis of both the intrinsic evidence, including the specification of the '137 patent and the prosecution history of the '040 patent, and the extrinsic evidence in the form of Datamize's expert testimony. Datamize, however, argues that the district court erred by considering the phrase "aesthetically pleasing" divorced from the context of claim 1.

Datamize is right to point out that the phrase "aesthetically pleasing" should be considered in the context of claim 1. Claim construction involves reviewing the intrinsic evidence of record, including the claim language itself. See Chimie, 402 F.3d at 1377; Abbott Labs. v. Syntron Bioresearch, Inc., 334 F.3d 1343, 1351 (Fed. Cir. 2003) (explaining that usage of disputed claim terms in the context of the claims as a whole informs the proper construction of the terms).

"Aesthetically pleasing" is used three times in claim 1. The first use of "aesthetically pleasing" relates to the look and feel of custom interface screens on kiosks:

providing a plurality of pre-defined interface screen element types, each element type defining a form of element available for presentation on said custom interface screens, wherein each said element type permits limited variation in its on-screen characteristics in conformity with a desired uniform and aesthetically pleasing look and feel for said interface screens on all kiosks of said kiosk system,

'137 patent, col. 20, ll. 50-57 (emphasis added). The second use relies on the first use for antecedent basis and similarly relates to the look and feel of interface screens:

each element type having a plurality of attributes associated therewith, wherein each said element type and its associated attributes are subject to pre-defined constraints providing element characteristics in

conformance with said uniform and aesthetically pleasing look and feel for said interface screens,

Id. at col. 20, ll. 58-63 (emphasis added). The third use provides a slightly different context, relating to the aggregate layout of elements on the interface screen:

assigning values to the attributes associated with each of said selected elements consistent with said pre-defined constraints, whereby the aggregate layout of said plurality of selected elements on said interface screen under construction will be aesthetically pleasing and functionally operable for effective delivery of information to a kiosk user;

Id. at col. 21, ll. 6-12 (emphasis added). Thus, in the context of claim 1, “aesthetically pleasing” relates to the look and feel of custom interface screens on kiosks, and the aggregate layout of elements on an interface screen is apparently one example or aspect of the interface screens that may be “aesthetically pleasing.”

This context, while helpful in terms of identifying the components of the claimed invention that must be “aesthetically pleasing,” does not suggest or provide any meaningful definition for the phrase “aesthetically pleasing” itself. Merely understanding that “aesthetically pleasing” relates to the look and feel of interface screens, or more specifically to the aggregate layout of elements on interface screens, fails to provide one of ordinary skill in the art with any way to determine whether an interface screen is “aesthetically pleasing.”

Datamize, however, contends that when construed in the context of claim 1, the phrase “aesthetically pleasing” applies to the process of defining a “desired” result and not the actual result itself. Datamize believes a reasonable construction of “aesthetically pleasing” in the context of the claims involves the intent, purpose, wish, or goal of a person practicing the invention: that person simply must intend to create an “aesthetically pleasing” interface screen; whether that person actually succeeds is

irrelevant. In other words, Datamize suggests we adopt a construction of “aesthetically pleasing” that only depends on the subjective opinion of a person selecting features to be included on an interface screen. Indeed, Datamize argues that the district court erred by requiring an objective definition for the phrase “aesthetically pleasing.” Citing our decision in Orthokinetics, Inc. v. Safety Travel Chairs, Inc., 806 F.2d 1565, 1575-76 (Fed. Cir. 1986), Datamize maintains that a claim term need not be subject to a single, objective definition to be definite but rather may include a subjective element. According to Datamize, subjective terms are permissible so long as one of ordinary skill in the art would understand their scope. In this regard, Datamize, citing Seattle Box Co. v. Industrial Crate & Packing, Inc., 731 F.2d 818, 826 (Fed. Cir. 1984), implies that “aesthetically pleasing” includes “words of degree” that are not fatally imprecise. Datamize also contends that the existence of aesthetic constraints in a computer program, as opposed to purely functional constraints, would be circumstantial evidence of a person’s subjective “desire” to achieve an “aesthetically pleasing” look and feel for an interface screen. Related to these arguments, Datamize believes that the person practicing the invention is the “system creator,” defined by Datamize as the person who creates the authoring software. According to Datamize, the appropriate inquiry would focus on whether a system creator makes aesthetic choices to limit or constrain the possible on-screen characteristics of screen elements since these choices would reflect a subjective intent to create an “aesthetically pleasing” look and feel for an interface screen.

Datamize’s proposed construction of “aesthetically pleasing” in the context of claim 1 is not reasonable for several reasons. First and foremost, the plain meaning of

the claim language requires that the look and feel of interface screens actually be “aesthetically pleasing.” The first use of “aesthetically pleasing” in claim 1 clearly sets forth two requirements for the look and feel of interface screens: the look and feel must be (1) uniform and (2) “aesthetically pleasing.” That the uniform and “aesthetically pleasing” look and feel must also be “desired” does not alter that fact.

Furthermore, in Orthokinetics we did not conclude, as Datamize suggests, that the absence of an objective definition for a claim term does not render the phrase indefinite. In that case we concluded that the phrase “so dimensioned” in the following limitation is not indefinite: “wherein said front leg portion is so dimensioned as to be insertable through the space between the doorframe of an automobile and one of the seats thereof.” Orthokinetics, 806 F.2d at 1575. We noted that based on expert testimony it was undisputed that one of ordinary skill in the art would easily have been able to determine the appropriate dimensions that the claim language required. Id. at 1576. One desiring to build and use the invention, a travel chair, “must measure the space between the selected automobile’s doorframe and its seat and then dimension the front legs of the travel chair so they will fit in that particular space in that particular automobile.” Id. The fact that the claims were intended to cover the use of the invention with various types of automobiles made no difference; we concluded that the phrase “so dimensioned” is as accurate as the subject matter permits since automobiles are of various sizes. Id. Thus, in Orthokinetics we recognized that an objective definition encompassed by the claim term “so dimensioned” could be applied to innumerable specific automobiles.

In stark contrast to Orthokinetics, here Datamize has offered no objective definition identifying a standard for determining when an interface screen is “aesthetically pleasing.” In the absence of a workable objective standard, “aesthetically pleasing” does not just include a subjective element, it is completely dependent on a person’s subjective opinion. To the extent Datamize argues that such a construction of “aesthetically pleasing” does not render the phrase indefinite, we disagree. The scope of claim language cannot depend solely on the unrestrained, subjective opinion of a particular individual purportedly practicing the invention. See Application of Musgrave, 431 F.2d 882, 893 (C.C.P.A. 1970) (noting that “[a] step requiring the exercise of subjective judgment without restriction might be objectionable as rendering a claim indefinite”). Some objective standard must be provided in order to allow the public to determine the scope of the claimed invention. Even if the relevant perspective is that of the system creator, the identity of who makes aesthetic choices fails to provide any direction regarding the relevant question of how to determine whether that person succeeded in creating an “aesthetically pleasing” look and feel for interface screens. A purely subjective construction of “aesthetically pleasing” would not notify the public of the patentee’s right to exclude since the meaning of the claim language would depend on the unpredictable vagaries of any one person’s opinion of the aesthetics of interface screens. While beauty is in the eye of the beholder, a claim term, to be definite, requires an objective anchor. Thus, even if we adopted a completely subjective construction of “aesthetically pleasing,” this would still render the ’137 patent invalid.

Furthermore, “aesthetically pleasing” does not exactly compare to words of degree such as “substantially equal to,” see Seattle Box Co., 731 F.2d at 826, “about,”

see BJ Servs. Co. v. Halliburton Energy Servs., Inc., 338 F.3d 1368, 1372-73 (Fed. Cir. 2003), or “substantial absence,” see Exxon Research & Eng’g, 265 F.3d at 1380-81. The language, however, invokes a similar analysis. “When a word of degree is used the district court must determine whether the patent’s specification provides some standard for measuring that degree.” Seattle Box Co., 731 F.2d at 826. Similarly, when faced with a purely subjective phrase like “aesthetically pleasing,” a court must determine whether the patent’s specification supplies some standard for measuring the scope of the phrase. Thus, we next consult the written description. See id.; see also Chimie, 402 F.3d at 1377 (“When the claim language itself lacks sufficient clarity to ascertain the scope of the claims,’ we look to the written description for guidance.” (quoting Deering Precision Instruments, L.L.C. v. Vector Distribution Sys., Inc., 347 F.3d 1314, 1324 (Fed. Cir. 2003))).

The inventor describes various advantages of his invention in the “Summary of the Invention” section of the ’137 patent. Most relevant to the construction of “aesthetically pleasing,” the inventor states:

The authoring system enables the user interface for each individual kiosk to be customized quickly and easily within wide limits of variation, yet subject to constraints adhering the resting [sic, resulting, see ’137 patent, Abstract] interface to good standards of aesthetics and user friendliness. . . . It is a further advantage of the present authoring system that an individual using the authoring software to devise a kiosk interface screen (that individual is referred to herein as a “system author”) is only given a limited range of choices for stylistic and functional elements appearing in the screen displays. In this way major aesthetic or functional design choices such as button styles [sic] and sizes, window borders, color combinations, and type fonts as well as hierarchical methods of retrieving information may be built into the system taking into account the considered opinions of aesthetic design specialists, database specialists, and academic studies on public access kiosk systems and user preferences and problems.

'137 patent, col. 3, ll. 28-32; 52-64. Furthermore, in the "Detailed Description of Illustrative Embodiments" section of the '137 patent, the inventor, discussing a particular embodiment of the invention, states:

A closer look at the structure of the screen layout of FIG. 2A is in order. The buttons 21 have a fixed predefined size, which is chosen not only to make them aesthetically pleasing in appearance, but also easy to use on a touch screen by persons generally unpracticed with touch screen operation. The button placement in FIG. 2A is generally fixed along two adjacent edges. This is an aesthetic choice, but it is a choice that is forced by the authoring software to assure that once an aesthetically and functionally acceptable button size and layout has been chosen, it will be maintained throughout all further screen layouts for all kiosks without having to expend time and effort re-creating an acceptable button layout anew for each kiosk. Other aesthetic button layouts may also be used, but once a general button layout is devised, the software makes it available for use in all kiosk interface screens. Considering that many many [sic] screen layouts will generally have to be set up and then regularly revised, limiting the system author's freedom to devise new button patterns and button styles greatly enhances the ease with which new kiosks may be brought in operation and ensures that the button pattern will be aesthetically and operationally acceptable. . . . The authoring system of the present invention then allows each kiosk to be customized quickly and easily while maintaining a high degree of variability in the screen layouts without sacrificing aesthetic appearance.

'137 patent, col. 5, ll. 35-56.

In general, neither these statements nor any others in the written description set forth an objective way to determine whether an interface screen is "aesthetically pleasing." The description of the advantages of the invention indicates that there are "good standards of aesthetics," which of course implies that there are also standards of aesthetics that are "not good." The inventor does not attempt to explain what distinguishes the two, except to say that experts, specialists, and academics may have views that are influential in determining what aesthetic standards are good. Some statements indicate particular aspects of the screen that might affect whether the screen

is “aesthetically pleasing”: button styles, sizes, and placements, window borders, color combinations, and type fonts. There is no indication, however, other than by referring to “the considered opinions of aesthetic design specialists, database specialists, and academic studies on public access kiosk systems and user preferences and problems,” how to determine what button styles, sizes, and placements, for example, are “aesthetically pleasing.” Moreover, whatever the considered opinions of unnamed people and studies say is altogether unclear.

And while the description of an embodiment provides examples of aesthetic features of screen displays that can be controlled by the authoring system, it does not explain what selection of these features would be “aesthetically pleasing.” Major aesthetic choices apparently may include some aspect of button styles and sizes, window borders, color combinations, and type fonts. The written description, however, provides no guidance to a person making aesthetic choices such that their choices will result in an “aesthetically pleasing” look and feel of an interface screen. For example, the specification does not explain what factors a person should consider when selecting a feature to include in the authoring system. Left unanswered are questions like: which color combinations would be “aesthetically pleasing” and which would not? And more generally, how does one determine whether a color combination is “aesthetically pleasing”? Again, one skilled in the art reading the specification is left with the unhelpful direction to consult the subjective opinions of aesthetic design specialists, database specialists, and academic studies.

Simply put, the definition of “aesthetically pleasing” cannot depend on an undefined standard. See Amgen, 314 F.3d at 1342 (finding indefinite claim requiring

comparison to moving target since the patent failed to direct those of ordinary skill in the art to a standard by which the appropriate comparison could be made). Reference to undefined standards, regardless of whose views might influence the formation of those standards, fails to provide any direction to one skilled in the art attempting to determine the scope of the claimed invention. In short, the definition of “aesthetically pleasing” cannot depend on the undefined views of unnamed persons, even if they are experts, specialists, or academics. Thus, the written description does not provide any reasonable, definite construction of “aesthetically pleasing.”

We must also analyze the prosecution history to determine whether it provides any reasonable construction of “aesthetically pleasing.” Vitronics, 90 F.3d at 1582. Since the ’040 patent is a continuation of the ’137 patent, the ’040 patent’s prosecution history is relevant material that we should consider. See Microsoft Corp. v. Multi-Tech Sys., Inc., 357 F.3d 1340, 1349 (Fed. Cir. 2004) (recognizing that “the prosecution history of one patent is relevant to an understanding of the scope of a common term in a second patent stemming from the same parent application”).

The attorney prosecuting the ’040 patent responded to a rejection for indefiniteness of the phrase “aesthetically pleasing” by making the following statements:

In context “aesthetically pleasing look and feel” is that which is “desired,” “chosen,” or “predetermined” for uniform appearance. It does not call for the subjective application of some external standard of aesthetics.

The “aesthetically pleasing” language is not itself intended to imply judgment on the relative artistic merits of the “look and feel.”

[O]ne practicing the invention can create an “aesthetically pleasing look and feel” that is “desired” by that person and that is maintained as desired on screens of the system.

Whether the system creator's sense of aesthetics complies with some other standard of beauty or good taste is irrelevant to the claims.

[T]he "aesthetically pleasing" language is not intended to identify qualities separate and apart from the remainder of this claim element. Accordingly, the deleted language is superfluous and unnecessary to the claims.

These statements merely confirm the understanding derived from the context of the claims and the specification: that the phrase "aesthetically pleasing" fails to delineate the scope of the invention using language that adequately notifies the public of the patentee's right to exclude. By arguing that "aesthetically pleasing" does not depend on any standard of aesthetics other than a purely subjective standard held by any person who steps into the role of the system creator, the prosecuting attorney would eliminate any objective meaning for the phrase "aesthetically pleasing." As discussed, this would be improper.

We next consult the extrinsic evidence in the record. See Frank's Casing Crew & Rental Tools, Inc. v. PMR Techs., Ltd., 292 F.3d 1363, 1374 (Fed. Cir. 2002); Pall Corp. v. Micron Separations, Inc., 66 F.3d 1211, 1216 (Fed. Cir. 1995) ("In construing the claims we look to the language of the claims, the specification, and the prosecution history. Extrinsic evidence may also be considered, if needed to assist in determining the meaning or scope of technical terms in the claims." (internal citation omitted)).

Datamize points to its expert, Jeremy Rosenblatt, who testified in a declaration that persons of ordinary skill in the relevant art would recognize that "[t]he terms 'aesthetic' and 'aesthetically pleasing' in the patent serve to make it clear that the motivation of limiting selection is to allow the system creator to enforce his/her will regarding the 'look and feel' and aesthetic aspects rather than solely functionality." The expert also provided a list of what he denominated "generally accepted" parameters of

design that contribute to a display getting high marks from users for being “aesthetically pleasing.” The list included symmetry, consistency, predictability, simplicity, cleanliness, and non-crowdedness. The expert concluded that in his opinion “one of ordinary skill in the art of software development of kiosks and computer user interfaces would understand the claims and be able to determine whether their own work was or was not covered by the claims in question.”

The expert’s declaration attempts to identify parameters that one skilled in the art might reference when attempting to determine whether an interface screen is “aesthetically pleasing.” But the identification of parameters one might consider fails to explain how the parameters should be evaluated or weighed to reach the conclusion that an interface screen is “aesthetically pleasing.” And while indefiniteness does not depend on the difficulty experienced by a particular person in comparing the claims with the prior art or the claims with allegedly infringing products or acts, see SmithKline Beecham Corp. v. Apotex Corp., 403 F.3d 1331, 1340-41 (Fed. Cir. 2005), even the expert could not determine whether the look and feel of particular interface screens are “aesthetically pleasing” using the parameters he specified, instead testifying that whether an interface screen is “aesthetically pleasing” is a “multidimensional question” that is “not amenable to a single-word answer.” The inability of the expert to use the parameters he himself identified to determine whether an interface screen is “aesthetically pleasing” militates against the reasonableness of those parameters as delineating the metes and bounds of the invention.

Datamize also argues that one of ordinary skill in the art would understand the phrase “aesthetically pleasing” to distinguish aesthetic constraints from purely functional

constraints. To support this argument, Datamize first points to the Supreme Court's use of the phrase "aesthetically pleasing": "[t]o qualify for [design patent] protection, a design must present an aesthetically pleasing appearance that is not dictated by function alone, and must satisfy the other criteria of patentability." Bonito Boats, Inc. v. Thunder Craft Boats, Inc., 489 U.S. 141, 148 (1989) (emphasis added). According to Datamize, "[i]f the term 'aesthetically pleasing' is sufficiently definite for courts to apply in determining whether something qualifies for design patent protection, then it is also sufficiently definite for a trier of fact to apply in determining infringement." Datamize also points to Mr. Rosenblatt's declaration, which it believes shows that one of ordinary skill in the art would understand "aesthetically pleasing" to distinguish functionality from aesthetics. Datamize maintains that infringement could be shown by looking to constraints imposed by the system creator: aesthetic constraints, such as limitations in terms of size and placement of on-screen elements, would be objective evidence of the infringer's "desire" to achieve a "uniform and aesthetically pleasing look and feel."

We reject Datamize's attempt to rely on an understanding of the phrase "aesthetically pleasing" derived from design patent law. Use of the phrase "aesthetically pleasing" in design patent law relates to the threshold question of patentability. See Bonito Boats, 489 U.S. at 148. A design patent protects a particular ornamental, or "aesthetically pleasing" as opposed to functional, design. Id. (citing 35 U.S.C. § 171). In contrast, a utility patent protects "any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof," 35 U.S.C. § 101 (2000), the scope of which is defined by the patent's written claims, see Johnson & Johnston Assocs. v. R.E. Serv. Co., 285 F.3d 1046, 1052 (Fed. Cir. 2002) (en banc)

("[C]laims define the scope of patent protection."); see also 35 U.S.C. § 112, ¶ 2. In light of this basic difference between design patent law and utility patent law, it is clear that the understanding of “aesthetically pleasing” used in design patent law bears no reasonable relationship to utility patent law generally. Furthermore, Datamize has not pointed to any discussion in the '137 patent indicating that “aesthetically pleasing” means “aesthetic rather than functional” as opposed to its ordinary meaning of beautiful in the context of this patent in particular. Thus, while creative, Datamize’s argument fails.

We also reject Datamize’s more general argument, based on its expert’s declaration, that one of ordinary skill in the art would understand the phrase “aesthetically pleasing” to distinguish aesthetic constraints from purely functional constraints. Datamize’s argument, as well as its citation to its expert’s declaration, improperly ignores the plain meaning of the claim language. Furthermore, its proposed construction would improperly eliminate the word “pleasing” from the phrase “aesthetically pleasing.” See Ethicon Endo-Surgery, Inc. v. U.S. Surgical Corp., 93 F.3d 1572, 1582 (Fed. Cir. 1996); Allen Eng’g Corp. v. Bartell Indus., Inc., 299 F.3d 1336, 1349 (Fed. Cir. 2002). We would subvert the definiteness requirement if we allowed a word to be eliminated from a phrase when the phrase cannot be given a reasonable meaning except in the absence of that word. Furthermore, because the phrase “aesthetically pleasing” does not simply distinguish aesthetic constraints from purely functional constraints, Datamize’s argument, again based on its expert’s declaration, that infringement could be shown by determining whether aesthetic constraints are imposed by the system creator is irrelevant.

Finally, additional cases cited by Datamize at oral argument fail to persuade us that “aesthetically pleasing” can be given any reasonable meaning. Datamize points us to Koito Manufacturing Co. v. Turn-Key-Tech, L.L.C., 381 F.3d 1142 (Fed. Cir. 2004), and Combined Systems, Inc. v. Defense Technology Corp. of America, 350 F.3d 1207 (Fed. Cir. 2003). According to Datamize, these cases confirm that intent may properly form part of a phrase’s claim construction.

Datamize apparently references the second footnote of Koito Manufacturing, which states:

The jury instruction stated that the “predetermined general direction” means the “prevalent direction of flow determined before injection of the liquid plastic into the mold.” (Emphasis added). The instruction thus connotes an element of forethought and planning, which we note is a logically essential part of the patent. The mold designer must be aware of the flow direction that will result upon an injection of plastic so that he can assure himself that the next flow direction will be different. We have held that the construction of a patent term may require an actor to have knowledge of certain facts. See Combined Sys., Inc. v. Def. Tech. Corp. of Am., 350 F.3d 1207, 1211-14 (Fed. Cir. 2003) (construing “forming folds” to require “the deliberate and systematic creation of folds”). In the present case, Turn-Key chose to limit its claims with a scienter requirement and thus was correctly required to demonstrate foreknowledge of flow directions to prove infringement.

381 F.3d at 1150 n.2. This footnote identifies the unremarkable proposition that a patent applicant may use claim language that requires a person to have foreknowledge of certain facts when practicing the invention. Consistent with this proposition, claim 1 is not indefinite for using the term “desired,” which requires foreknowledge and even intent on the part of the person practicing the invention. Neither would claim 1 be indefinite if an “aesthetically pleasing” look and feel for an interface screen was objectively verifiable. For example, the “general direction” construed in Koito Manufacturing and the “folds” construed in Combined Systems can be objectively

verified and do not depend on a particular person's unfettered, subjective opinion. The '137 patent, however, fails to provide any objective way to determine whether the look and feel of an interface screen is "aesthetically pleasing." As explained above, claim 1 is indefinite for this reason.\*

## CONCLUSION

"Aesthetically pleasing," as it is used in the only independent claim of the '137 patent, fails to "particularly point[] out and distinctly claim[] the subject matter which the patentee regards as his invention." See 35 U.S.C. § 112, ¶ 2. We therefore affirm the district court's grant of summary judgment of invalidity of all claims of the '137 patent.

AFFIRMED

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\* In both its opening and reply briefs, Datamize states that in SuperGuide Corp. v. DirecTV Enterprises, Inc., 358 F.3d 870 (Fed. Cir. 2004), we affirmed the district court's construction of "desired format" and that that construction supports its construction of "desired uniform and aesthetically pleasing look and feel" in the context of claim 1. We disagree. In SuperGuide, the parties did not dispute the district court's construction of "desired format" and so we did not reinterpret the phrase, let alone affirm the district court's claim construction. Id. at 883. We also did not address the definiteness of the district court's claim construction. See id. Finally, unlike the present case, the phrase at issue in SuperGuide did not involve any modifiers between the word "desired" and the noun it modified, "format."