

The opinion in support of the decision being entered today
is *not* binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte STEVE GLENNER, CURTIS G. WONG, and
STEVEN M. DRUCKER

Appeal 2007-1089
Application 10/348,277
Technology Center 2100

Decided: June 28, 2007

Before LEE E. BARRETT, MAHSHID D. SAADAT, and
ST. JOHN COURTENAY III, *Administrative Patent Judges*.

COURTENAY, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants appeal under 35 U.S.C. § 134 from the Examiner's Final Rejection of claims 1-5 and 7-40. We AFFIRM. In addition, we have *sua sponte* set forth new grounds of rejection under 35 U.S.C. §101 for claims 1-5, 7-18, 20-33, and 35 pursuant to our authority under 37 C.F.R. § 41.50(b).

THE INVENTION

The disclosed invention generally relates to browsing of media. More particularly, the disclosed invention performs visual selection and annotation of media objects using intrinsic and extrinsic metadata (Specification 1).

Claims 1-5 and 7-40 are before us on appeal. Claim 6 has been cancelled. Claims 1, 23, 31, 33, and 35 are independent claims. Claims 1, 23, 31, and 33 are illustrative:

1. A media generation system comprising:
 - a component that receives a plurality of media objects;
 - a component that annotates the plurality of media objects with at least a subset of metadata;
 - a component that generates at least one new media object *via* combining a subset of the media objects based at least in part upon the metadata associated therewith; and
 - a component that embeds a first media object into a second media object.
23. A method of editing media to generate new media comprising:
 - receiving a plurality of media objects, at least a portion of which are annotated with metadata;
 - identifying the metadata;
 - combining a subset of the media objects to generate a new media object, the combining being based at least in part upon the identified metadata; and
 - embedding a first media object into a second media object.

31. A method of mixing media to generate new media comprising:
- selecting one or more portions of a visual object based at least upon metadata thereof;
 - selecting one or more portions of an audio object based at least upon metadata thereof;
 - adding the selected visual object portions and the selected audio object portions to a bin component;
 - embedding the selected audio object portions into the selected visual object portions; and
 - generating a new media object via combining the selected audio and visual object portions.

33. A data packet adapted to be transmitted between two or more computer processes facilitating editing of media to create new media, the data packet comprising:
- information associated with annotating and correlating any number of selected media objects, the correlating of the selected media objects being based, at least in part, upon metadata associated therewith; and
 - information associated with embedding a first media object into a second media object.

THE REFERENCES

Yao et al., "The Development of A Video Metadata Authoring and Browsing System in XML", Australian Computer Society, Inc., Darlinghurst, Australia, ACM International Conference Proceeding Series, Vol. 9, 2000, pp. 39-46.

Singer

US 5,889,843

Mar. 30, 1999

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Fielder	US 6,226,608 B1	May 1, 2001
Morioka	US 2001/0021015 A1	Sep. 13, 2001
McGrath	US 2002/0122659 A1	Sep. 5, 2002
Anderson	US 2002/0152476 A1	Oct. 17, 2002
Lehmann	US 2002/0169782 A1	Nov. 14, 2002
Perks	US 2003/0005169 A1	Jan. 2, 2003
Kesselman	US 2003/0233366 A1	Dec. 18, 2003
Abe	US 6,714,216 B2	Mar. 30, 2004
Reshef	US 2005/0114705 A1	May 26, 2005

THE REJECTIONS

- A. Claims 1, 2, 4, 5, 7-9, 15, 16, 20, 23-27, 29, 30, 33-40 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Yao in view of Fielder.
- B. Claim 3 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Yao in view of Fielder, and further in view of Reshef.
- C. Claims 10 and 11 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Yao in view of Fielder, and further in view of Abe.
- D. Claims 12 and 13 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Yao in view of Fielder, and further in view of Lehmann.

- E. Claim 14 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Yao in view of Fielder, and further in view of Lehmann and Morioka.
- F. Claims 17 and 18 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Yao in view of Fielder, and further in view of Singer.
- G. Claim 19 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Yao in view of Fielder, and further in view of Perks.
- H. Claims 21 and 22 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Yao in view of Fielder, and further in view of Kesselman.
- I. Claim 28 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Yao in view of Fielder, and further in view of Abe.
- J. Claim 31 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Anderson in view of Fielder.
- K. Claim 32 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Anderson in view of Fielder, and further in view of McGrath.

ISSUES

The principal issue before us is whether Appellants have shown the Examiner erred in rejecting claims 1-5 and 7-40 based on obviousness. More particularly, we decide the following issues we have determined are dispositive in deciding this appeal:

- Issue 1. Whether the combination of Yao and Fielder teaches or suggests receiving and annotating a plurality of media objects, generating a new media object, and embedding a first media object into a second media object.
- Issue 2. Whether a person of ordinary skill in the art at the time of the invention would have been motivated to modify Yao with the teachings of Fielder.
- Issue 3. Whether the combination of Anderson and Fielder teaches or suggests selecting one or more portions of a visual object and an audio object, adding the selected portions to a bin component, embedding the selected audio portions into the selected visual portions, and generating a new media object via the combined portions.
- Issue 4. Whether a person of ordinary skill in the art at the time of the invention would have been motivated to modify Anderson with the teachings of Fielder.

FINDINGS OF FACT

At the outset, we note that the Examiner's factual findings are not in dispute except with respect to the specific claim limitations argued by Appellants in the Briefs. Only those arguments actually made by Appellants have been considered in this decision. For Issues 1 and 3, we make the following findings of fact with respect to the scope and content of the prior art and the differences between the claimed invention and the prior art:

- Issue 1. We find the combination of Yao and Fielder teaches and/or suggests receiving and annotating a plurality of media objects, generating a new media object, and embedding a first media object into a second media object (*See Analysis infra*).
- Issue 3. We find the combination of Anderson and Fielder teaches and/or suggests selecting one or more portions of a visual object and an audio object, adding the selected portions to a bin component, embedding the selected audio portions into the selected visual portions, and generating a new media object via the combined portions (*See Analysis infra*).

For Issues 2 and 4, we make the following underlying factual determinations regarding the ultimate issue of obviousness as a matter of law:¹

- Issue 2. We find a person of ordinary skill in the art at the time of the invention would have reasonably been motivated to

¹ With respect to the Examiner's obviousness rejections, we note that the ultimate issue of obviousness is a matter of law that turns on four underlying factual determinations: (1) the scope and content of the prior art, (2) the level of ordinary skill in the art, (3) the differences between the claimed invention and the prior art, and (4) objective indicia of nonobviousness. *See Graham v. John Deere Co.*, 383 U.S. 1, 17-18, 148 USPQ 459, 467 (1966), as reaffirmed by *KSR Int'l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1734, 82 USPQ2d 1385, 1391 (2007).

modify Yao with the teachings of Fielder (*See Analysis infra*).

Issue 4. We find a person of ordinary skill in the art at the time of the invention would have reasonably been motivated to modify Anderson with the teachings of Fielder (*See Analysis infra*).

STATEMENT OF LAW

In rejecting claims under 35 U.S.C. § 103, it is incumbent upon the Examiner to establish a factual basis to support the legal conclusion of obviousness. *See In re Fine*, 837 F.2d 1071, 1073, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). In so doing, the Examiner must make the factual determinations set forth in *Graham v. John Deere Co.*, 383 U.S. at 17, 148 USPQ at 467 (1966). In addition to the findings under *Graham*, there must also be “some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *See In re Kahn*, 441 F.3d 977, 988, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006) (cited with approval in *KSR*, 127 S. Ct. at 1741, 82 USPQ2d at 1396). “[H]owever, the analysis need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ.” *KSR*, 127 S. Ct. at 1741, 82 USPQ2d at 1396.

ANALYSIS

Rather than repeat the arguments of Appellants or the Examiner, we make reference to the Briefs and the Answer for the respective details thereof.

Issue 1 (elements)

We decide the question of whether the combination of Yao and Fielder teaches or suggests receiving and annotating a plurality of media objects, generating a new media object, and embedding a first media object into a second media object.

Appellants argue that Yao does not teach or suggest receiving and annotating a plurality of media objects, generating a new media object, and embedding a first media object into a second media object. Appellants further argue that Fielder fails to remedy the deficiencies of Yao (Br. 6-9).

The Examiner disagrees. The Examiner finds that Yao teaches a component that receives a plurality of media objects. The Examiner notes that Yao's system segments a video into multiple shots, thus these video segments (i.e., plurality of media objects) would have been "received" before subsequent annotation (*see* Yao, p. 39, § 1.1., ¶ 2) (Answer 19-20).

The Examiner finds that Yao teaches a component that annotates the plurality of media objects with at least a subset of metadata. The Examiner notes that Yao's video segments are annotated with metadata (*see* Yao, p. 39, § 1, ¶ 6, p. 41, § 3, ¶¶ 1, 2, p. 41, § 3.1, ¶ 5, p. 42, § 3.2, ¶ 1) (Answer 20).

The Examiner further finds that Yao teaches a component that generates at least one new media object via combining a subset of the media

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objects based at least in part upon the metadata associated therewith. The Examiner notes that Yao's segmented frames are combined to form a shot, shots are combined to form scenes, and scenes are combined to form videos based on metadata including activity of objects, depicted events, actions of objects and sequences (*see* Yao, p. 40, § 2, ¶¶ 3, 4). The Examiner further points out that Yao's shots, scenes and videos are new media objects that are created from subsets of media objects based on the metadata of those objects (Answer 20).

The Examiner acknowledges that Yao does not teach a component that embeds a first media object into a second media object, even though the Examiner finds Yao teaches a first media object as an audio object (*see* Yao, p. 40, § 2, ¶1), and a second media object as a video segment (*see* Yao, p. 39, § 1.1, ¶ 2) (Answer 20). The Examiner points to Fielder as teaching embedding an audio object (i.e., a first media object) into a video object (i.e., a second media object) (*see* Fielder, col. 14, ll. 43-47). (Answer 20).

Analysis of Issue 1

We begin our analysis by construing the recited "media objects" by applying the broadest reasonable interpretation consistent with the Specification. *See In re Hyatt*, 211 F.3d 1367, 1372, 54 USPQ2d 1664, 1667 (Fed. Cir. 2000) ("during examination proceedings, claims are given their broadest reasonable interpretation consistent with the specification."). When we look to the Specification for *context*, we find Appellants broadly disclose "media objects," as follows:

In addition, the term "*media object*" as employed in this application is intended to refer to *pictures, photographs, music,*

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sounds, text, e-mail, movies, video, messages, documents, slides, movie or video stills, streaming video and/or audio, and/or any combination thereof and/or any cliplet thereof, and in any suitable format or file type for carrying out the subject invention [emphasis added].
(Specification 7, ¶ 3).

Thus, we find the scope of the recited *media objects* encompasses an extremely broad range of multimedia information, such as the audio and annotated video media taught by Yao (*see* Yao, p. 40, § 2, ¶ 1, p. 41, § 3). Given the sweeping breadth of Appellants' supporting Specification, we find the weight of the evidence supports the Examiner's position. We further find that Fielder explicitly teaches "audio information that is assembled with or *embedded* into video frames" (*see* Fielder, col. 14, ll. 45-46, emphasis added). Thus, we agree with the Examiner that Fielder teaches a component that embeds a first media object into a second media object. Based upon the weight and persuasiveness of the arguments and evidence provided by the Examiner of unpatentability, we adopt the Examiner's findings of fact and note that Appellants have argued many limitations found only within the Specification. We note that patentability is based upon the claims. "It is the claims that measure the invention." *SRI Int'l v. Matsushita Elec. Corp.*, 775 F.2d 1107, 1121, 227 USPQ 577, 585 (Fed. Cir. 1985) (en banc). Therefore, we agree with the Examiner that the combination of Yao and Fielder teaches and/or suggests each *claim limitation* argued by Appellants.

Issue 2 (motivation)

We decide the question of whether a person of ordinary skill in the art at the time of the invention would have been motivated to modify Yao with the teachings of Fielder.

Appellants argue that one of ordinary skill in the art would not have been motivated to combine the annotation system of Yao with the coding system of Fielder because Fielder is not directed to an annotation system. Appellants point out the focus of Fielder is on encoding video/audio information such that audio information is aligned with frames of video information (Br. 8, Reply Br. 4, ¶ 2).

The Examiner disagrees. The Examiner points out that Yao teaches a video file that includes audio and Fielder teaches embedding audio into video. Therefore, the Examiner concludes that the modification of “embedding” (as taught by Fielder) would have been an obvious improvement to one of ordinary skill in the art having knowledge of both Yao and Fielder at the time of the invention. (Answer 21).

Analysis of Issue 2

We begin by noting the U.S. Supreme Court has recently stated:

When a work is available in one field, design incentives and other market forces can prompt variations of it, either in the same field or in another. If a person of ordinary skill in the art can implement a predictable variation, and would see the benefit of doing so, §103 likely bars its patentability. Moreover, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond that

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person's skill. *KSR International Co. v. Teleflex Inc.*, 127 S. Ct. at 1731, 82 USPQ2d at 1389.

This reasoning is applicable here. As the Examiner has pointed out, Yao and Fielder each teach the use of audio and video in combination, and Fielder explicitly teaches embedding audio into video frames (*see* Fielder, col. 14, ll. 43-47; *see also* Answer 20). Therefore, we conclude that modifying Yao with the teachings of Fielder would have been a predictable variation of prior-art elements according to their established functions. Given the ubiquitous nature of audio-visual media (as taught by both Yao and Fielder), we find common sense dictates that such modification would have been well within the level of knowledge possessed by a person having ordinary skill in the art.²

Issue 3 (elements)

We decide the question of whether the combination of Anderson and Fielder teaches or suggests selecting one or more portions of a visual object and an audio object, adding the selected portions to a bin component, embedding the selected audio portions into the selected visual portions, and generating a new media object via the combined portions.

² *See KSR*, 127 S. Ct. at 1732, 82 USPQ2d at 1390 (“When there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill in the art has good reason to pursue the known options within his or her technical grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense.”).

Appellants argue that Anderson does not teach or suggest selecting one or more portions of a visual object and an audio object, adding the selected portions to a bin component, embedding the selected audio portions into the selected visual portions, and generating a new media object via the combined portions. Appellants further argue that Fielder fails to remedy the deficiencies of Anderson (Br. 12-14, Reply Br. 8-11).

The Examiner disagrees. The Examiner finds that Anderson teaches selecting one or more portions of a visual object based at least upon metadata thereof, and selecting one or more portions of an audio object based at least upon metadata thereof. The Examiner notes that Anderson teaches video and audio segments are selected based on the locations [i.e., metadata] they were generated from (*see* Anderson, p.1, ¶¶ 5, 6) (Answer 24).

The Examiner finds that Anderson teaches adding the selected visual object portions and the selected audio object portions to a bin component. The Examiner notes that Anderson teaches the audio and video portions are combined, modulated, and transmitted so the portions would have to be added [i.e., combined] to a component in order for these functions to occur (*see* Anderson, p.1, ¶ 6) (Answer 25).

The Examiner further finds that Anderson teaches generating a new media object via combining the selected audio and visual object (i.e., video) portions. The Examiner notes that Anderson teaches a combined signal is generated when the audio and video portions are combined (*see* Anderson, p.1, ¶ 6) (Answer 25).

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The Examiner acknowledges that Anderson does not teach *embedding* the selected audio object portions into the selected visual object portions (Answer 25). The Examiner points to Fielder as teaching embedding selected audio object portions into selected visual object portions (i.e., a video frame) (*see* Fielder, col. 14, ll. 43-47). (Answer 25).

Analysis of Issue 3

After carefully reviewing the evidence before us, we find the scope of the recited *visual and audio objects* (and associated “portions”) encompasses an extremely broad range of multimedia information, such as the audio and video signals taught by Anderson (*see* Anderson, p. 1, ¶ 5-6). Given the breadth of the argued limitations, we agree with the Examiner that the combination of Anderson and Fielder teaches and/or suggests each claim limitation argued by Appellants. We adopt the Examiner’s findings of fact and again note that Appellants have argued many limitations found only within the Specification. We have found *supra* that Fielder explicitly teaches “audio information that is assembled with or *embedded* into video frames” (*see* Fielder, col. 14, ll. 45-46, emphasis added). Thus, we agree with the Examiner that Fielder teaches embedding the selected audio object portions into the selected visual [i.e., video] object portions. Given the sweeping breadth of Appellants’ supporting Specification, we find the weight of the evidence supports the Examiner’s position.

Issue 4 (motivation)

We decide the question of whether a person of ordinary skill in the art at the time of the invention would have been motivated to modify Anderson with the teachings of Fielder

Appellants argue that a person of ordinary skill in the art would not have been motivated to combine Anderson and Fielder in the manner suggested by the Examiner because the coding system of Fielder is not directed to an audio/video *programming* system [as taught by Anderson]. Appellants conclude that the Examiner has impermissibly relied upon hindsight in formulating the rejection (Br. 13-14, Reply Br. 10-11).

The Examiner disagrees. The Examiner argues that an artisan would have found it obvious to modify the method taught by Anderson to include embedding audio with video as taught by Fielder because Anderson teaches combining audio and video and Fielder teaches a method of embedding audio into a video file (Answer 26).

Analysis of Issue 4

We note that the U.S. Supreme Court recently reaffirmed that “[a] factfinder should be aware, of course, of the distortion caused by hindsight bias and must be cautious of argument reliant upon *ex post* reasoning.” *KSR Int’l Co. v. Teleflex Inc.*, 127 S. Ct. at 1742, 82 USPQ2d at 1397. *See also Graham v. John Deere Co.*, 383 U.S. at 36, 148 USPQ at 474. Nevertheless, in *KSR* the Supreme Court also qualified the issue of hindsight by stating that “[r]igid preventative rules that deny factfinders recourse to common

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sense, however, are neither necessary under our case law nor consistent with it.” *KSR Int’l Co. v. Teleflex Inc.*, 127 S. Ct. at 1743, 82 USPQ2d at 1397.

Here, we conclude that a person of ordinary skill in the art having common sense at the time of the invention would have reasonably considered *embedding* audio with video in the synchronized manner taught by Fielder. We note that Fielder’s approach is directed to eliminating audio aliasing artifacts that may become audible when digital audio/video information is edited on video frame boundaries (*see* Fielder, col. 1, ll. 62-64, col. 2, ll. 46-66, col. 4, ll. 11-28). We note that Anderson teaches using audio and video in combination for transmission to personal audio/video devices in an auto racetrack setting (*see* Anderson, p. 1, ¶¶ 5-6, 13). While we acknowledge that Anderson does not explicitly teach video editing, we note that Anderson nevertheless teaches the use of personal audio/video devices at a broad range of sporting events (such as hockey, basketball, and football games) where we find the use of video editing (such as instant replay) is at least suggested (*see* Anderson, p. 2, ¶ 22). Given the ubiquitous nature of audio-visual media (as taught by both Anderson and Fielder), we find the weight of the evidence and recourse to common sense support the Examiner’s position.

MAPPING OF ISSUES TO SPECIFIC CLAIMS

- A. We note that the patentability of claims 1, 2, 4, 5, 7-9, 15, 16, 20, 23-27, 29, 30, 33-40 (argued as a group)³ turns upon our findings of fact and conclusion of law with respect to Issues 1 and 2. Because we have found the weight of the evidence supports the Examiner's position on Issues 1 and 2, we will sustain the Examiner's rejection of these claims as being unpatentable over Yao in view of Fielder.
- B. We note that Appellants have not presented any substantive arguments directed separately to the patentability of dependent claim 3 (*see* Br. 9). A statement which merely points out what a claim recites will not be considered an argument for separate patentability of the claim. *See* 37 C.F.R. § 41.37(c)(1)(vii)(2004). In the absence of a separate argument with respect to the dependent claims, those claims stand or fall with the representative independent claim. *See In re Young*, 927 F.2d 588, 590, 18 USPQ2d 1089, 1091 (Fed. Cir. 1991). Therefore, we will sustain the Examiner's rejection of claim 3 as being unpatentable over Yao in view of Fielder and further in view of Reshef for the same reasons discussed *supra* with

³ Since Appellants' arguments with respect to this rejection have treated these claims as a single group which stand or fall together, we have considered independent claim 1 as the representative claim for rejection (A). *See* 37 C.F.R. § 41.37(c)(1)(vii)(2004).

respect to independent claim 1 as being unpatentable over Yao in view of Fielder (*see* Issues 1 and 2).

- C. We note that Appellants have not presented any substantive arguments directed separately to the patentability of dependent claims 10 and 11 (*see* Br. 9). Therefore, we will sustain the Examiner's rejection of these claims as being unpatentable over Yao in view of Fielder, and further in view of Abe for the same reasons discussed *supra* with respect to independent claim 1 as being unpatentable over Yao in view of Fielder (*see* Issues 1 and 2).
- D. We note that Appellants have not presented any substantive arguments directed separately to the patentability of dependent claims 12 and 13 (*see* Br. 10). Therefore, we will sustain the Examiner's rejection of these claims as being unpatentable over Yao in view of Fielder, and further in view of Lehmann for the same reasons discussed *supra* with respect to independent claim 1 as being unpatentable over Yao in view of Fielder (*see* Issues 1 and 2).
- E. We note that Appellants have not presented any substantive arguments directed separately to the patentability of dependent claim 14 (*see* Br. 10). Therefore, we will sustain the Examiner's rejection of this claim as being unpatentable over Yao in view of Fielder, and further in view of Lehmann and Morioka for the same reasons discussed *supra* with respect to

independent claim 1 as being unpatentable over Yao in view of Fielder (*see* Issues 1 and 2).

- F. We note that Appellants have not presented any substantive arguments directed separately to the patentability of dependent claims 17 and 18 (*see* Br. 10). Therefore, we will sustain the Examiner's rejection of these claims as being unpatentable over Yao in view of Fielder, and further in view of Singer for the same reasons discussed *supra* with respect to independent claim 1 as being unpatentable over Yao in view of Fielder (*see* Issues 1 and 2).
- G. We note that Appellants have not presented any substantive arguments directed separately to the patentability of dependent claim 19 (*see* Br. 11). Therefore, we will sustain the Examiner's rejection of this claim as being unpatentable over Yao in view of Fielder, and further in view of Perks for the same reasons discussed *supra* with respect to independent claim 1 as being unpatentable over Yao in view of Fielder (*see* Issues 1 and 2).
- H. We note that Appellants have not presented any substantive arguments directed separately to the patentability of dependent claims 21 and 22 (*see* Br. 11). Therefore, we will sustain the Examiner's rejection of this claims as being unpatentable over Yao in view of Fielder, and further in view of Kesselman for the same reasons discussed *supra* with respect to independent

claim 1 as being unpatentable over Yao in view of Fielder (*see* Issues 1 and 2).

- I. We note that Appellants have not presented any substantive arguments directed separately to the patentability of dependent claim 28 (*see* Br. 11). Therefore, we will sustain the Examiner's rejection of this claim as being unpatentable over Yao in view of Fielder, and further in view of Abe for the same reasons discussed *supra* with respect to independent claim 1 as being unpatentable over Yao in view of Fielder (*see* Issues 1 and 2).
- J. We note that the patentability of independent claim 31 turns upon our findings of fact and conclusion of law with respect to Issues 3 and 4. Because we have found the weight of the evidence supports the Examiner's position on Issues 3 and 4, we will sustain the Examiner's rejection of this claim as being unpatentable over Anderson in view of Fielder.
- K. We note that Appellants have not presented any substantive arguments directed separately to the patentability of dependent claim 32 (*see* Br. 14). Therefore, we will sustain the Examiner's rejection of this claim as being unpatentable over Anderson in view of Fielder, and further in view of McGrath for the same reasons discussed *supra* with respect to independent claim 31 as being unpatentable over Anderson in view of Fielder (*see* Issues 3 and 4).

CONCLUSION

Appellants have failed to establish that the Examiner erred in rejecting claims 1-5 and 7-40 as being unpatentable under 35 U.S.C. § 103(a). Therefore, the rejections of claims 1-5 and 7-40 are affirmed.

NEW GROUND OF REJECTION

A. *New Ground Of Rejection Under 35 U.S.C. § 101*

(1)

Introduction

We use our authority under 37 C.F.R. § 41.50(b) to enter a new ground of rejection of claims 1-5, 7-18, 20-33, and 35. The basis for each is set forth in detail below.

(2)

Rejection of claims 1-5, 7-18, 20-33, and 35 under 35 U.S.C. § 101

Claims 1-5, 7-18, 20-33, and 35 are rejected under 35 U.S.C. § 101 because the claimed invention is directed to non-statutory subject matter. Independent claims 1, 31, and 33 reproduced *supra* are representative.

(a)

Additional Claim Construction

For purposes of this decision, under a broadest reasonable interpretation, Appellants' claims 1-5, 7-18, 20-33, and 35 do not require computer-implementation. Indeed, when we look to the Specification for *context*, Appellants broadly disclose:

As used in this application, the terms “*component*” and “*system*” are intended to refer to a computer-related entity, *either* hardware, a combination of hardware and software, *software*, or software in execution. For example, a component may be, *but is not limited to being*, a process running on a processor, a processor, *an object*, an executable, a thread of execution, *a program*, and a computer. By way of illustration, both an application running on a server and the server can be a component. One or more components may reside within a process and/or thread of execution and a component may be localized on one computer and/or distributed between two or more computers [emphasis added].

In addition, the term “*media object*” as employed in this application is intended to refer to *pictures, photographs, music, sounds, text, e-mail, movies, video, messages, documents, slides, movie or video stills, streaming video and/or audio*, and/or any combination thereof and/or any cliplet thereof, and in any suitable format or file type for carrying out the subject invention [emphasis added].
(Specification 7, ¶¶ 2, 3).

Therefore, we find the scope of the instant claimed *system* and associated *components* broadly encompasses software, and/or data structures per se. We further find the scope of the instant claimed *media objects* broadly encompasses nonfunctional descriptive material (i.e., *pictures, photographs, music, sounds, text, e-mail, movies, video, messages, documents, slides, movie or video stills, streaming video and/or audio* and/or any combination thereof) (*id.*).

We note that descriptive material can be characterized as either *functional descriptive material* or *nonfunctional descriptive material*. Functional descriptive material consists of data structures and computer programs which impart functionality when employed as a computer component. In contrast, nonfunctional descriptive material includes but is

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not limited to music, literary works and a compilation or mere arrangement of data. Both types of descriptive material are nonstatutory when claimed as descriptive material per se. *See In re Warmerdam*, 33 F.3d 1354, 1361-62, 31 USPQ2d 1754, 1760 (Fed. Cir. 1994) (claim to a data structure per se held nonstatutory). Furthermore, we find that instant independent claim 33 is directed to a data structure per se (i.e., “a data packet” merely comprising two “information” elements).

We consider whether Appellants’ claims 1-5, 7-18, 20-33, and 35, which cover a method (claims 23-32), a system (claims 1-5, 7-18, 20-22, and 35), and a “data packet” (claim 33), involving no transformation performed by a *machine* and no process involving the other three statutory categories (machine, manufacture, or composition of matter),⁴ are patentable subject matter under 35 U.S.C. § 101. So construed, Appellants’ claims are unpatentable under section 101 because (i) they do not qualify as a “process” under section 101, as that term has been interpreted by case law, (ii) they seek to patent an abstract idea, and (iii) the “useful, concrete, and tangible result” test does not apply here, but the claims nevertheless do not meet that test.

⁴ “A machine is a concrete thing, consisting of parts, or of certain devices and combination of devices.” *Burr v. Duryee*, 68 U.S. 531, 570 (1863). The term “manufacture” refers to “the production of articles for use from raw or prepared materials by giving to these materials new forms, qualities, properties, or combinations, whether by hand-labor or by machinery.” *Diamond v. Chakrabarty*, 447 U.S. 303, 308, 206 USPQ 193, 196-97 (1980) (quoting *American Fruit Growers, Inc. v. Brogdex Co.*, 283 U.S. 1, 11, 8 USPQ 131, 133 (1931)). A “composition of matter” by its own terms requires matter. *Chakrabarty*, 447 U.S. at 308, 206 USPQ at 196-97.

Appellants' method claim 23 differs from traditional process claims in several respects. For example, the claim does not recite any particular way of implementing the steps, *nor does it require any machine or apparatus to perform the steps*. In addition, the method claim does not recite any electrical, chemical, or mechanical acts or results, which are typical in traditional process claims. Finally, the claim does not call for any *physical transformation* of an article to a different state or thing. While claim 23 does perform a *transformation of data* by “combining a subset of the media objects to generate a new media object,” *it does not require any machine or apparatus to perform the steps*. The question of whether any of these distinctions takes claim 23 outside the realm of patent-eligible subject matter has never been squarely addressed by the Federal Circuit. Appellants' claims are not the type of method that the Supreme Court or Federal Circuit has ever found patentable under section 101.

(b)

*Reading the Supreme Court's and Federal Circuit's Precedents Together,
A Section 101 “Process” Has Always Transformed Subject Matter,
Whether Tangible or Intangible, Or Has Been a Process
That Involved The Other Three Statutory Categories*

(i)

“Process” Definition Principles

The scope of patentable subject matter under section 101 is broad, but not infinitely broad. “Congress included in patentable subject matter *only* those things that qualify as ‘any ... process, machine, manufacture, or

composition of matter, or any ... improvement thereof....” *In re Warmerdam*, 33 F.3d at 1358, 31 USPQ2d at 1757 (quoting 35 U.S.C. § 101) (emphasis added). Thus, “[d]espite the oft-quoted statement in the legislative history of the 1952 Patent Act that Congress intended that statutory subject matter ‘include anything under the sun that is made by man,’ [citation omitted], Congress did not so mandate.” *Id.*

In the case where a claim is for a process, as opposed to a product, “[t]he line between a patentable ‘process’ and an unpatentable ‘principle’ is not always clear. Both are ‘conception[s] of the mind, seen only by [their] effects when being executed or performed.’” *Parker v. Flook*, 437 U.S. 584, 589, 198 USPQ 193, 198 (1978) (quoting *Tilghman v. Proctor*, 102 U.S. 707, 728 (1880)). “The holding that the discovery of [*Benson*’s] method could not be patented as a ‘process’ forecloses a purely literal reading of § 101.” *Flook*, 437 U.S. at 589, 198 USPQ at 197. “[W]hen a claim containing [an abstract idea] implements or applies that [idea] in a structure or process which, when considered as a whole, is performing a function which the patent laws were designed to protect (*e.g.*, transforming or reducing an article to a different state or thing), then the claim satisfies the requirements of § 101.” *Diamond v. Diehr*, 450 U.S. 175, 192, 209 USPQ 1, 10 (1981); *see also Gottschalk v. Benson*, 409 U.S. 63, 70, 175 USPQ 673, 676 (1972) (“Transformation and reduction of an article ‘to a different state or thing’ is the clue to the patentability of a process claim that does not include particular machines.”).⁵

⁵ The principal exception to this rule, as explained *infra*, is when the machine-implemented method merely manipulates abstractions. *See*

The Supreme Court, however, presumably concerned about barring patents for future, unforeseeable technologies, declined to rule on whether its precedent foreclosed any other possible avenues for a method claim to qualify as a section 101 process: “It is argued that a process patent must either be tied to a particular machine or apparatus or must operate to change articles or materials to a ‘different state or thing.’ We do not hold that no process patent could ever qualify if it did not meet the requirements of our prior precedents.” *Benson*, 409 U.S. at 71, 175 USPQ at 676. Rather than rule on this question in *Benson* and *Flook*, the Supreme Court decided those cases based on the abstract idea exception to patentability. *Benson*, 409 U.S. at 71-72, 175 USPQ at 676-77; *Flook*, 437 U.S. at 594-95, 198 USPQ at 199-200.

Since *Diehr*, the Federal Circuit has reviewed several computer technology cases, and in acknowledgment of the innovations occurring in this technological field, identified a third category of method claims that qualify as a “process.” Extrapolating from the Supreme Court’s “transformation and reduction of an article” test, the Federal Circuit has held that transformation of intangible subject matter (*i.e.*, data or signals) may also qualify as a § 101 process. *See, e.g., State St. Bank & Trust Co. v.*

Benson, 409 U.S. at 71-72, 175 USPQ at 676-77. In addition, merely attaching a machine to an otherwise ineligible method may not be sufficient and would depend on how the machine actually implemented the recited steps. For example, if a nonstatutory claim were amended so that a recited step of registering a customer was performed by entering data into a computer rather than using a sign-up sheet, it is hard to imagine how that alone would satisfy the requirements of § 101 and convert an otherwise ineligible claim into an eligible one.

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Signature Fin. Group, Inc., 149 F.3d 1368, 1373, 47 USPQ2d 1596, 1601 (Fed. Cir. 1998). Responding to the argument that process claims must recite a “physical transformation,” the Federal Circuit in *AT&T* ruled that “physical transformation” “is not an invariable requirement, but merely one example of how a mathematical algorithm may bring about a useful application.” *AT&T Corp. v. Excel Communications, Inc.*, 172 F.3d 1352, 1358, 50 USPQ2d 1447, 1452 (Fed. Cir. 1999). Quoting the Supreme Court’s language, “e.g., transforming or reducing an article to a different state or thing” from *Diehr*, the *AT&T* court noted the usage of “e.g.” “denotes an example, not an exclusive requirement.” *Id.* at 1359, 50 USPQ2d at 1452. *AT&T* went on to cite the transformation of intangible data signals in the method claim of *Arrhythmia Research Technology Inc. v. Corazonix Corp.*, 958 F.2d 1053, 1059, 22 USPQ2d 1033, 1038 (Fed. Cir. 1992), as an example that qualifies as a § 101 “process” in addition to the Supreme Court’s test. *See id.* at 1359, 50 USPQ2d at 1452.

Accordingly, the Federal Circuit has consistently used its own “data transformation” test in assessing the eligibility of various machine-implemented claims. In *Alappat*, the court held that “data, transformed by a machine” “to produce a smooth waveform display” “constituted a practical application of an abstract idea.” *State Street*, 149 F.3d at 1373, 47 USPQ2d at 1601. Specifically, the court in *Alappat* stated that the claimed invention as a whole was directed to a machine for “converting discrete waveform data samples into anti-aliased pixel illumination intensity data to be displayed on a display means.” 33 F.3d 1526, 1544, 31 USPQ2d 1545, 1557 (Fed. Cir. 1994) (en banc). In *Arrhythmia*, the court held “the transformation of

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electrocardiograph signals” “by a machine” “constituted a practical application of an abstract idea.” *State Street*, 149 F.3d at 1373, 47 USPQ2d at 1601. Specifically, the court in *Arrhythmia* stated “the number obtained is not a mathematical abstraction; it is a measure in microvolts of a specified heart activity, an indicator of the risk of ventricular tachycardia.” 958 F.2d at 1062, 22 USPQ2d at 1039. Likewise, in *State Street*, the court held that “the transformation of data” “by a machine” “into a final share price, constitutes a practical application of a mathematical algorithm” because “a final share price [is] momentarily fixed for recording and reporting purposes and even accepted and relied upon by regulatory authorities and in subsequent trades.” 149 F.3d at 1373, 47 USPQ2d at 1601. Thus, while *Diehr* involved the transformation of a tangible object – curing synthetic rubber – the Federal Circuit also regards the transformation of intangible subject matter *by a machine* to similarly be eligible, *so long as data or signals represent some real world activity*.

We note the Federal Circuit has never held or indicated that a process involving no transformation can qualify as a “process” under § 101. In fact, confronted with such claims, it has rejected them consistently. *See In re Schrader*, 22 F.3d 290, 294-295, 30 USPQ2d 1455, 1458 (Fed. Cir. 1994); *In re Grams*, 888 F.2d 835, 837, 12 USPQ2d 1824, 1826 (Fed. Cir. 1989) (rejecting claims to method of evaluating a system that incorporated a mathematical algorithm, where the only physical step was a data gathering step that was not tied to the algorithm); *In re Maucorps*, 609 F.2d 481, 484, 203 USPQ 812, 815 (CCPA 1979); *In re Meyer*, 688 F.2d 789, 796, 215 USPQ 193, 198 (CCPA 1982); *see also In re Alappat*, 33 F.3d at 1543, 31

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USPQ2d at 1556 (“*Maucorps* dealt with a business methodology for deciding how salesmen should best handle respective customers and *Meyer* involved a ‘system’ for aiding a neurologist in diagnosing patients. Clearly, neither of the alleged ‘inventions’ in those cases falls within any § 101 category.”).⁶

In *Schrader*, the court affirmed the 101 rejection of a method of competitively bidding on a plurality of related items, relying in part on the *Freeman-Walter-Abele* (“FWA”) test. However, consistent with *Arrhythmia*, *Alappat*, *State Street*, and *AT&T*, the court also inquired into whether *Schrader*’s method claim performed any kind of transformation. *Schrader*, 22 F.3d at 294, 30 USPQ2d at 1458 (“we do not find in the claim any kind of data transformation.”). The court then distinguished *Schrader*’s claim from the statutorily eligible claims in *Arrhythmia*, *In re Abele*, 684 F.2d 902, 214 USPQ 682 (CCPA 1982), and *In re Taner*, 681 F.2d 787, 214 USPQ 678 (CCPA 1982), pointing out that in these cases, “[t]hese claims all involved the transformation or conversion of subject matter representative of or constituting *physical activity or objects*. *Id.* (emphasis in original). *Schrader* expressly concludes that “a process claim [in] compliance with Section 101 requires some kind of transformation or reduction of subject

⁶ *But see State Street*, 149 F.3d at 1376 n.14, 47 USPQ2d at 1603 n.14 (observing that “[*Maucorp* and *Meyer*] were subject to the *Benson* era *Freeman-Walter-Abele* test – in other words, analysis as it existed before *Diehr* and *Alappat*,” without addressing the fact that it was the *Alappat* decision itself that made the observation that these inventions were “clearly” nonstatutory).

matter.”⁷ *Id.* at 295, 30 USPQ2d at 1459. In sum, the Federal Circuit has never ruled that methods without any transformation are eligible, and appears in *Schrader* to have rejected that proposition.

We believe that “process” should not be broadened so as to include any and every method that may be deemed useful. The Supreme Court’s and Federal Circuit’s articulated eligibility tests keep the interpretation of “process” *in pari materia* with the other three categories of inventions – manufacture, machine, and composition of matter. In other words, interpreting “process” as either transforming subject matter or implemented by one of the other three categories of inventions is rationally consistent

⁷ Although the FWA test is no longer considered particularly probative in the context of computer-implemented process inventions in view of *Diehr* (*see, e.g., State Street*, 149 F.3d at 1374, 47 USPQ2d at 1601), the erosion of FWA provides no support for the position that a non-machine implemented process, not involving any transformation, might be patentable. The answer to that question is still provided by *Schrader*, and that answer, so far, is negative. While *AT&T* indicated that *Schrader* is “unhelpful” because it did not reach the question whether a “useful, concrete, and tangible result” occurred, the reason that case did not need to reach that question was because it found that *Schrader*’s method claims were unpatentable for lack of any transformation. In addition, *Schrader*’s claims did not require machine-implementation, unlike *AT&T*’s claims. *See AT&T*, 172 F.3d at 1358, 50 USPQ2d at 1452 (“*AT&T*’s claimed process” uses “switching and recording mechanisms to create a signal useful for billing purposes.”). Moreover, it is axiomatic that dicta in one Federal Circuit panel decision cannot overrule the holding of an earlier panel decision. *George E. Warren Corp. v. United States*, 341 F.3d 1348, 1351 (Fed. Cir. 2003) (“We cannot simply overrule [a prior panel] decision, even if we were persuaded . . . that it is appropriate; to overrule a precedent, the court must rule en banc” (citing *Newell Cos. v. Kenney Mfg. Co.*, 864 F.2d 757, 765, 9 USPQ2d 1417, 1423 (Fed.Cir.1988))).

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with and proportional to the types of inventions patented under the other categories.⁸ *See Tilghman v. Proctor*, 102 U.S. 707, 722 (1880) (“where the result or effect is produced by chemical action, by the operation or application of some element or power of nature, or of one substance to another, such modes, methods, or operations are called processes.”); *see also AT&T*, 172 F.3d at 1356, 50 USPQ2d at 1450 (“any step-by-step process, be it electronic, chemical, or mechanical, involves an ‘algorithm’ in the broad sense of the term.”). Accordingly, we do not believe that the boundaries of “process” should be so expansive as to accommodate all “useful” methods.

(ii)

“Process” Definition and Appellants’ Claims

To reiterate, we believe that “process” should not be broadened so as to include any method that may be deemed useful, such as Appellants’ method and system claims that *do not require a machine* to perform a transformation (e.g., *combining a subset of the media objects to generate a new media object*). Following *Schrader*, Appellants’ claims are unpatentable under § 101. The claims are similar to those rejected in *Schrader*, while distinguishable from *Arrhythmia*, *Alappat*, *State Street*, and *AT&T*. The claims do not transform any *physical* article to a different state or thing. The recited step of “combining a subset of the media objects to generate a new media object” (*see claim 23*), while perhaps “useful” in one

⁸ We do not propose in this decision a comprehensive rule for defining patentable subject matter in all circumstances. Rather, this decision illustrates that Appellants’ claims fall outside the currently existing tests for eligibility and sees no reason to expand the existing tests to cover Appellants’ claims.

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sense, is simply not the product of any transformation as understood in the case law (i.e., transformation or conversion of subject matter representative of or constituting *physical activity or objects* or transformation of data or signals *by a machine*). Further, the claims do not recite a process that employs the other statutory categories. Accordingly, the claims fail to meet any of the conditions set forth in the case law of either the Supreme Court or Federal Circuit.

(c)
Appellants' Claims Run Afoul of the "Abstract Idea" Exception

(i)
"Abstract Idea" Exception Principles

The Supreme Court has held that “[e]xcluded from such patent protection are laws of nature, natural phenomena, and abstract ideas.” *Diehr*, 450 U.S. at 185, 209 USPQ at 7. “An idea of itself is not patentable.” *Diehr*, 450 U.S. at 185, 209 USPQ at 7 (quoting *Rubber-Tip Pencil Co. v. Howard*, 20 Wall. 498, 507, 22 L.Ed. 410 (1874); *Benson*, 409 U.S. at 67, 175 USPQ at 675 (“[M]ental processes, and abstract intellectual concepts are not patentable.”); *see also id.* at 71, 175 USPQ at 676 (“It is conceded that one may not patent an idea.”). In contrast, “[i]t is now commonplace that an *application* of a law of nature or mathematical formula [or abstract idea] to a known structure or process may well be deserving of patent protection.” *Diehr*, 450 U.S. at 187, 209 USPQ at 8 (emphasis in original).

Clever claim drafting cannot circumvent these principles. That is, even when a claim appears to apply an idea or concept as part of a seemingly patentable process, one must ensure that it does not in reality seek patent protection for that idea in the abstract. *Diehr*, 450 U.S. at 191, 209 USPQ at 10. Similarly, one cannot patent a process that comprises “every substantial practical application” of an abstract idea, because such a patent “in practical effect would be a patent on the [abstract idea] itself.” *Benson*, 409 U.S. at 71-72, 175 USPQ at 676.⁹ Such limitations on process patents are important because without them, “a competent draftsman [could] evade the recognized limitations on the type of subject matter eligible for patent protection.” *Diehr*, 450 U.S. at 192, 209 USPQ at 10.

(ii)

“Abstract Idea” Exception and Appellants’ Claims

Because Appellants’ claim 23 is completely untethered from any sort of structure or physical step, it is directed to a disembodied concept. In other words, the claim is nothing but a disembodied abstract idea until it is instantiated in some physical way so as to be limited to a practical application of the idea. For example, claim 23 does not specify whether the entity performing the steps of receiving, identifying, combining, and

⁹ The observation in *State Street* that “[w]hether the patent’s claims are too broad to be patentable is not to be judged under § 101, but rather under §§ 102, 103, and 112” did not, nor could it, overrule the Supreme Court’s pre-emption doctrine. *See State Street*, 149 F.3d at 1377, 47 USPQ2d at 1604. Rather, pre-emption was not at issue in *State Street* since the claim in that case was particularly confined to a machine implementation, and did not suffer from the same defect as Appellants’ claim.

embedding is *a computer, a human, or something else*. Accordingly, the claim is so broad that it is directed to the *abstract idea itself*, rather than a *practical implementation* of the concept. In addition, the claims are “so abstract and sweeping” that they would “wholly pre-empt” all applications (whether performed by a machine or a human) that are directed to the steps of receiving, identifying, combining, and embedding media objects and associated metadata. *See Benson*, 409 U.S. at 68-72, 175 USPQ at 675-677; *see also Alappat*, 33 F.3d at 1544, 31 USPQ2d at 1558 (quoting *Benson*).

Indeed, we note that the claimed “media objects” are broadly defined in Appellants’ Specification as referring to, *inter alia*, “pictures” as well as “photographs” (Specification 7, ¶ 3). Thus, we find the sweeping breadth of independent claim 23 would, for example, preempt human artists from creating derivative works by editing media objects (e.g., picture(s)) by receiving a plurality of media objects (pictures), identifying the metadata (e.g., the name of the work or artist) to generate a new media object (i.e., a derivative work) by combining a subset of media objects (pictures) to generate a new media object (derivative work) such that a first media object (picture) is embedded into a second media object (picture).¹⁰

¹⁰ *See* Title 17 U.S.C. § 101 (“A ‘derivative work’ is a work based upon one or more preexisting works, such as a translation, musical arrangement, dramatization, fictionalization, motion picture version, sound recording, art reproduction, abridgment, condensation, or any other form in which a work may be recast, transformed, or adapted. A work consisting of editorial revisions, annotations, elaborations, or other modifications which, as a whole, represent an original work of authorship, is a ‘derivative work.’”).

(iii)

“Abstract Idea” Exception and Process Claims Without Means or Structure

It is true that process claims are not necessarily required to recite the means or structure for performing the claimed steps. *See, e.g., AT&T*, 172 F.3d at 1359, 50 USPQ2d at 1452. But process claims that *do not require any machine implementation*, and are thus intrinsically more abstract than product claims or method claims reciting structure, will often need to recite some sort of transformation act (i.e., transformation or conversion of subject matter representative of or constituting *physical activity or objects*) in order to clearly show that the method claim is for some specific application of the idea and represents something more than just a concept. *See, e.g., id.* at 1358, 50 USPQ2d at 1452 (noting that “AT&T’s claimed process” uses “switching and recording mechanisms to create a signal useful for billing purposes.”). Here, Appellants’ claim lacks the “particularly claimed combination of elements” recited in *Alappat’s* claim, the transformation of data by a machine recited in *State Street’s* claim, the transformation of electrical signals in *Arrhythmia’s* method claim, or the transformation of data useful for billing purposes in *AT&T’s* method claim, and therefore lacks those characteristics that separate a practical application of an idea from just the idea itself.

(d)

*The Federal Circuit’s “Useful, Concrete, and Tangible Result” Test
Has Never Been Applied to This Type of Claim;
Nor Would Appellants’ Claims Satisfy That Test If Applied*

(i)

*Appellants’ Claims Do Not Require a Machine; And
State Street’s “Useful, Concrete, and Tangible Result” Test
Is Limited to Machines and Machine-Implemented
Methods That Transform Data*

As discussed above, the development of the Federal Circuit’s data transformation test was in response to a series of cases concerning the eligibility of machines and machine-implemented methods employing a mathematical algorithm. In assessing the eligibility of these specific types of claims, the court adopted a rule requiring such claims to produce a “useful, concrete and tangible result.” *State Street*, 149 F.3d at 1373, 47 USPQ2d at 1600-1601. Based on inferences drawn from the apparent sweep of the useful, concrete, and tangible result test in combination with *State Street*’s repudiation of any business method exception to patentability, applicants have been filing claims for “processes” that are not traditional industrial processes, which contain no physical limitations and do not require any transformation or conversion of subject matter representative of or constituting *physical activity or objects* nor transformation of data or signals *by a machine*. But this new brand of claims is beyond the purview of the Federal Circuit’s holdings. The cases applying the useful, concrete, and tangible result test have all been confined to machine implementation of mathematical algorithms. Thus, the Federal Circuit has never stated that this is the general test for patent eligibility. In other words, any claim that might

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arguably yield a “useful, concrete, and tangible result” is not necessarily statutory subject matter.

Specifically, the “useful, concrete, and tangible result” test first appeared in *Alappat*, which states: “This [claimed invention] is not a disembodied mathematical concept which may be characterized as an ‘abstract idea,’ but rather a specific machine to produce a useful, concrete, and tangible result.” *Alappat*, 33 F.3d at 1544, 31 USPQ2d at 1557. The court in *Alappat* thus devised a standard to partition patentable inventions using mathematical algorithms from claims for disembodied mathematical concepts. *State Street* also involved claims to a machine employing a mathematical algorithm, but in this instance for managing a mutual fund investment portfolio. Finding the claim to be valid under § 101, *State Street* held that “transformation of data ... by a machine through a series of mathematical calculations into a final share price, constitutes a practical application of a mathematical algorithm, formula, or calculation, because it produces ‘a useful, concrete and tangible result.’” *State Street*, 149 F.3d at 1373, 47 USPQ2d at 1601. Likewise, *AT&T* also ties this test to applications of mathematical algorithms: “Because the claimed process applies the Boolean principle to produce a useful, concrete, and tangible result without pre-empting other uses of the mathematical principle, on its face the claimed process comfortably falls within the scope of § 101.” *AT&T*, 172 F.3d at 1358, 50 USPQ2d at 1452; *see also id.* at 1361, 50 USPQ2d at 1453 (concluding that “the focus is understood to be not on whether there is a mathematical algorithm at work, but on whether the

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algorithm-containing invention, as a whole, produces a tangible, useful result.”).

However, the Federal Circuit has *never* suggested that its “useful, concrete, and tangible result” test was applicable outside the context of data transformation using a mathematical algorithm. Rather, the Federal Circuit has consistently and specifically linked this test to inventions that perform “a series of mathematical calculations” to transform data. Indeed, the Federal Circuit recently noted that the test was specifically devised to handle eligibility issues for claims encompassing mathematical algorithms, thereby suggesting that it is *not* a general test for eligibility. *See NTP, Inc. v. Research In Motion, Ltd.*, 418 F.3d 1282, 1324, 75 USPQ2d 1763, 1795 (Fed. Cir. 2005) (“The *requirement* that a process transform data and produce a ‘tangible result’ was a standard devised to prevent patenting of mathematical abstractions” (citing *AT&T*, 172 F.3d at 1359, 50 USPQ2d at 1452) (emphasis added)). Furthermore, the “useful, concrete, and tangible result” test fails to resolve the tension between *State Street* and *Schrader*.

In *LabCorp* the dissent suggested that, if applied as a general criterion, the “useful, concrete, and tangible result” test would conflict with prior Supreme Court decisions. *Lab. Corp. of Am. Holdings v. Metabolite Labs., Inc.*, 126 S. Ct. 2921, 2928, 79 USPQ2d 1065, 1070 (2006) (Breyer, J., dissent from dismissal as improvidently granted) (observing that the Federal Circuit’s statement that “a process is patentable if it produces a ‘useful, concrete, and tangible result’ . . . , if taken literally, . . . would cover instances where this Court has held the contrary”). Accordingly, the best reading of the precedent may limit that test to machines and machine-

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implemented methods using mathematical algorithms to transform data, rather than embracing it as a general test for eligibility.

Accordingly, our understanding of the precedents at present is: Any computer program claimed as *a machine implementing the program* (*Alappat, State Street*) or as *a method of a machine implementing the program* (*AT&T*), is patentable if it *transforms data* and achieves *a useful, concrete and tangible result* (*State Street, AT&T*). Exceptions occur when the invention in actuality pre-empts an abstract idea, as in a mathematical algorithm (*Benson*, 409 U.S. at 71-72, 175 USPQ at 676-677). Because Appellants' claims 1-5, 7-18, 20-33, and 35 do not require *a machine implementing a mathematical formula to transform data*, the "useful, concrete, and tangible result" test is irrelevant to considering the eligibility of Appellants' claims.

(ii)

Appellants' Claims Do Not Produce a Useful, Concrete, and Tangible Result

Even if we accept as a given, that Appellants have established the "utility" of the invention, "utility" does not automatically establish that the result is also tangible and concrete.

We note that the receiving, identifying, combining, and embedding steps of claim 23 are performed on components that are software and/or data structures per se which are merely abstractions represented as data. Therefore, even if the results of the receiving, identifying, combining, and embedding steps were relevant to establishing a tangible result for the claim

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as a whole, these steps operate on abstractions and simply can not produce a tangible result.

As discussed *supra*, our review of the claims finds they produce a mere rearrangement or recombination of data (media objects). To reiterate, Appellants' Specification states: "[f]or example, a component may be, *but is not limited to being*, a process running on a processor, a processor, *an object*, an executable, a thread of execution, *a program*, and a computer. (Specification 7, ¶ 2, emphasis added). Therefore, we find Appellants' intent is to cover all alternatives, modifications, and equivalents included within the spirit and scope of the invention as defined by the claims. Since the language of claim 23 does not preclude humans from performing the steps of the method, then based on Appellants' statements, we must conclude that claim 23 is intended to include all possible ways of performing the steps of the method, as the result of the claimed process.

We see the question before us to be, whether receiving, identifying, combining, and embedding data (i.e., media objects and/or metadata) produces a useful, tangible, and concrete result? As discussed *supra*, the Federal Circuit regards the transformation of intangible subject matter *by a machine* to be such a useful, tangible, and concrete result, so long as data or signals represent some *real world activity*. However, we do not find data or signals in claim 23 which represent a real world activity of the type found in *Arrhythmia* (human cardiac activity), *Alappat* (a smoothed waveform display of inputted waveform data), or *State Street* (a final share price).

Therefore, we conclude that Appellants' claims 1-5, 7-18, 20-33, and 35, which produce a rearrangement or recombination of media data, fail to apply their abstract ideas to produce a useful *and* concrete *and* tangible result. Thus, claims 1-5, 7-18, 20-33, and 35 fall outside the scope of § 101.

(3)

Rejection of claims 1-5, 7-18, 20-33, and 35 under 35 U.S.C. § 101

Claims 1-5, 7-18, 20-33, and 35 are rejected under 35 U.S.C. § 101 because the claimed invention is directed to non-statutory subject matter.

For the same reasons discussed *supra* with respect to independent method claim 23, we conclude the systems of independent claims 1 and 35 cover (i.e., “preempt”) every substantial practical application of the abstract idea. We conclude that these claims are so broad that they are directed to the “abstract idea” itself, rather than a practical implementation of the concept. Thus, the claimed process falls outside the scope of § 101.

Additionally, for the same reasons discussed *supra* with respect to claim 23, we conclude the method of claim 31 does not apply its abstract idea to produce a useful, concrete, and tangible result. We further conclude that independent claim 33 is directed to a data structure, per se, that is not embodied in a computer-readable medium.

Similarly, dependent claims 24-30, and 32 merely require that anyone or anything *receive, identify, combine, embed, or generate* the claimed *media objects and/or metadata*. For the same reasons discussed *supra* with respect to independent claims 1, 23, and 31, we conclude the methods and systems of dependent claims 2-5, 7-18, 20-22, 24-30, and 32 fall outside the scope of § 101.

DECISION

The decision of the Examiner rejecting claims 1-5 and 7-40 under 35 U.S.C. § 103 is affirmed. We have entered a new ground of rejection against claims 1-5, 7-18, 20-33, and 35 under 37 C.F.R. § 41.50(b).

37 C.F.R. § 41.50(b) provides that, “[a] new ground of rejection pursuant to this paragraph shall not be considered final for judicial review.”

37 C.F.R. § 41.50(b) also provides that the Appellants, *WITHIN TWO MONTHS FROM THE DATE OF THE DECISION*, must exercise one of the following two options with respect to the new grounds of rejection to avoid termination of proceedings as to the rejected claims:

- (1) Submit an appropriate amendment of the claims so rejected or new evidence relating to the claims so rejected, or both, and have the matter reconsidered by the examiner, in which event the proceeding will be remanded to the examiner ...
- (2) Request that the proceeding be reheard under 37 C.F.R. § 41.52 by the Board upon the same record ...

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED
37 C.F.R. § 41.50(b).

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BARRETT, *Administrative Patent Judge*, concurring-in-part and dissenting-in-part.

I concur in the result of the obviousness decision, but dissent-in-part from the 35 U.S.C. § 101 decisions.

Legal background

The categories of subject matter eligible for patenting are "process, machine, manufacture, or composition of matter," 35 U.S.C. § 101, where a "process" . . . includes a new use of a known process, machine, manufacture, composition of matter, or material," 35 U.S.C. § 100(b). The Supreme Court has recognized "exclusions" only for "laws of nature, natural phenomena, and abstract ideas." An "exclusion" refers to subject matter that is not within § 101 by definition, as opposed to an "exception," which refers to subject matter that would fall within § 101 "but for" some exceptional condition, but the terms are often used interchangeably. The Federal Circuit has held that there are no separate exceptions (exclusions) for "mathematical algorithms" or "business methods." *State St. Bank & Trust Co. v. Signature Fin. Group, Inc.*, 149 F.3d 1368, 47 USPQ2d 1596 (Fed. Cir. 1998). The Board held in *Ex parte Lundgren*, 76 USPQ2d 1385 (BPAI 2005) (precedential) that there is no recognized "not within the technological arts" exclusion (in part, because there is no way to determine what is meant by "technological").

Some man-made subject matter fails to fall within any of the statutory categories. See *In re Warmerdam*, 33 F.3d 1354, 1361, 31 USPQ2d 1754, 1760 (Fed. Cir. 1994) (data structure of claim 6 is not in one of the categories of § 101); *In re Bonczyk*, 10 Fed. Appx. 908 (Fed. Cir. 2001) (non-precedential) ("fabricated energy structure" does not correspond to any

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statutory category of subject matter). "Signals" are considered an example of nonstatutory subject matter either because they are an abstract idea or because physical, but nontangible subject matter is not within any of the four categories of § 101; a case involving "signals" is on appeal to the Federal Circuit in *In re Nuijten*, No. 06-1301 (argued Feb. 2007).

The classes of "machine, manufacture, or composition of matter" refer to physical, tangible "things" made from matter, which the patent system was clearly intended to protect. One § 101 problem area is the "special case" of a general purpose "machine" (e.g., a conventional computer as opposed to new hardware) or a "general purpose machine"-implemented "process" that performs an abstract idea, e.g., a computer or computer process for performing a mathematical algorithm (which is the best known type of "abstract idea"). Technically, this subject matter falls within § 101 because of the presence of a generic "machine," where a machine-implemented method is a "process" under § 101 because it is a new use of a known machine under § 100(b). However, a claim is not directed to statutory subject matter just because it includes a machine. *See Gottschalk v. Benson*, 409 U.S. 63, 175 USPQ 673 (1972) (claim 8 to "method of converting signals from binary coded decimal form into binary" on a machine (evidenced by the "reentrant shift register") was not a "process" under 35 U.S.C. §§ 100(b) and 101). Claims to "machines" or machine-implemented "processes" involve transformation of data by a machine and are presently governed by the undefined "useful, concrete and tangible result" test in *State Street*, which specifically limited the holding to "transformation of data by a machine." However, there is a question of

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whether the "useful, concrete, and tangible result" test would conflict with prior Supreme Court decisions. *Lab. Corp. of Am. Holdings v. Metabolite Labs., Inc.*, 126 S. Ct. 2921, 2928, 79 USPQ2d 1065, 1070 (2006) (Breyer, J., dissent from dismissal as improvidently granted) (observing that the Federal Circuit's statement that "a process is patentable if it produces a 'useful, concrete, and tangible result' . . . , if taken literally, . . . would cover instances where this Court has held the contrary"). Although it is not known exactly what is meant by the elements of this test, it is clear that a machine or machine-implemented process that is nominally within § 101 may nevertheless be unpatentable under § 101. Claims to machines or machine-implemented processes, while important, are at least limited to machines and are less troubling than non-machine-implemented process claims which preempt any and every way to perform the method.

"Process" claims are directed to "acts" and are inherently more abstract than a "machine, manufacture, or composition of matter," which refer to "things." Importantly, not every process in the dictionary sense is a "process" under §§ 100(b) and 101, i.e., not every claim to a series of steps is a "process" under the statute. *See Parker v. Flook*, 437 U.S. 584, 588 n.9, 198 USPQ 193, 196 n.9 (1978) ("The statutory definition of 'process' is broad. . . . An argument can be made, however, that this Court has only recognized a process as within the statutory definition when it either was tied to a particular apparatus or operated to change materials to a 'different state or thing.'). The definition of a "process" under § 101 can be discerned from an old Supreme Court case: "Transformation and reduction of an article 'to a different state or thing' is the clue to the patentability of a process

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claim that does not include particular machines." *Cochrane v. Deener*, 94 U.S. 780, 788 (1877). The "subject matter" transformed does not need to be a physical, tangible object or article or substance, but can be physical, yet intangible, such an electrical signal or heat (e.g., transforming heat into motion). This is consistent with the Office's understanding that an "art" (called a "process" after 1952) historically referred to methods performed by new and known machines, methods of manufacture (making and treating machines, manufactures, and compositions of matter), and methods of controlling natural forces, not just any series of steps without regard to whether it produces some physical effect. Acts on nonphysical subject matter, although they may be argued to be a transformation, are not covered; e.g., transformation of ownership, rights, payments, duties, methods of government, methods of getting rich, etc., are not the type of acts considered to be a process under § 101.

A statutory "process" is not required to claim the structure for performing it. Indeed, it is possible for a statutory "process" to be performed manually providing the claim as a whole recites a statutory transformation; e.g., "mixing" two elements or compounds is clearly a statutory transformation that results in a chemical substance or mixture although no apparatus is claimed to perform the step and although the step could be performed manually. Thus, the fact that a method is not performed on a computer does not mean that it is not a statutory "process."

Another important concept is that a claim that is so broad that it reads on nonstatutory as well as statutory subject matter should be treated as unpatentable, just as a claim which is so broad that it reads on obvious and

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unobvious subject matter should be treated as unpatentable. The reason is that an applicant can always amend to limit the claims to the statutory or unobvious subject matter.

Analysis

Claim 33

Claim 33 recites:

33. A data packet adapted to be transmitted between two or more computer processes facilitating editing of media to create new media, the data packet comprising:

information associated with annotating and correlating any number of selected media objects, the correlating of the selected media objects being based, at least in part, upon metadata associated therewith; and

information associated with embedding a first media object into a second media object.

The data packet comprises information "adapted to be transmitted between two or more computer processes." The data packet is "information" which is not necessarily physical even though it has to be converted to a physical form, such as an electrical signal, to be transmitted. The data packet is not recited to be stored on a tangible medium which might be considered a manufacture under § 101. The data packet is analogous to a data structure *per se*, although no arrangement of the information is claimed, and it does not fall within any of the four categories of § 101. *See Warmerdam*, 33 F.3d at 1361, 31 USPQ2d at 1760 (data structure of claim 6 is not in one of the categories of § 101). Alternatively, even if the data packet impliedly has some physical existence, such an electrical signal,

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nontangible physical subject matter does not fall within any of the four categories of § 101, which issue is presently on appeal to the Federal Circuit in *In re Nuijten*, No. 06-1301 (argued February 2007). Accordingly, I agree that claim 33 is directed to nonstatutory subject matter under § 101.

Claims 23 and 31

Claim 23 recites:

23. A method of editing media to generate new media comprising:

receiving a plurality of media objects, at least a portion of which are annotated with metadata;

identifying the metadata;

combining a subset of the media objects to generate a new media object, the combining being based at least in part upon the identified metadata; and

embedding a first media object into a second media object.

Method claims always present the most trouble in § 101 analysis because method steps are inherently more abstract than "machines, manufactures, or compositions of matter." It is certain that not every series of steps is a "process" under § 101. In my opinion, the "transformation of physical subject matter" test is the test for a "process" under § 101, where the physical subject matter may be tangible (a physical object or material) or intangible (electrical signals or heat) as discussed in my concurring-in-part and dissenting-in-part opinion in *Lundgren*, 76 USPQ2d at 1398-1401.

Claims 23 and 31 do not expressly or impliedly require the steps to be performed by a machine. Accordingly, the "useful, concrete and tangible" test of *State Street* does not apply.

Claims 23 and 31 do not expressly or impliedly require the media objects or metadata to be physical entities such as electrical signals. The claims are broad enough to read on transformation of data alone, which does not meet the definition of a "process" because data is not physical subject matter. While a practical application of the claims would certainly require transformation of physical subject matter, such as electrical signals representing images and sound, the claims are not so limited. Claims that are broad enough to read on nonstatutory as well as statutory subject matter are unpatentable. Accordingly, I agree that claims 23 and 31 are directed to nonstatutory subject matter under § 101.

Claim 1

Claim 1 recites:

1. A media generation system comprising:
 - a component that receives a plurality of media objects;
 - a component that annotates the plurality of media objects with at least a subset of metadata;
 - a component that generates at least one new media object via combining a subset of the media objects based at least in part upon the metadata associated therewith; and
 - a component that embeds a first media object into a second media object.

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I interpret claim 1 to be in means-plus-function format, where the term "component" is equivalent to "means," because "component" does not define any structure to perform the function. Technically, a human being cannot constitute a "means." *Default Proof Credit Card Sys., Inc. v. Home Depot U.S.A., Inc.*, 412 F.3d 1291, 1300, 75 USPQ2d 1116, 1123 (Fed. Cir. 2005). Therefore, I interpret claim 1 to implicitly require that the functions are performed by a machine. The structure corresponding to the "components" ("means") is apparently a programmed general purpose computer. In view of the present state of § 101 law, it is difficult to state a reason why subject matter that is nominally within § 101 as a machine should be considered unpatentable unless it merely performs an abstract idea such as a mathematical algorithm. The claim as a whole does not appear to merely perform an abstract idea and appears to satisfy the "useful, concrete and tangible result" test of *State Street*. I would not reject claim 1.

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