# "FULL SCOPE" ENABLEMENT

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# Enablement Requirement

- What gives rise to the enablement requirement?

- 35 U.S.C. § 112(a):

  The specification shall contain a written description of the invention, and of the manner and process of making and using it, in **such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains . . . to make and use the same**. . .

# Enablement Requirement

- Enablement is not precluded by the necessity for some experimentation such as routine screening. However, experimentation needed to practice the invention must not be **undue** experimentation. *In re Wands*, 858 F.2d 731, 737-38 (Fed. Cir. 1988).

# *In re Wands*, 858 F.2d 731 (Fed. Cir. 1988)

- Factors to be considered in determining whether a disclosure would require ***undue*** experimentation:
  - (1) the quantity of experimentation necessary,
  - (2) the amount of direction or guidance presented,
  - (3) the presence or absence of working examples,
  - (4) the nature of the invention,
  - (5) the state of the prior art,
  - (6) the relative skill of those in the art,
  - (7) the predictability or unpredictability of the art, and
  - (8) the breadth of the claims.

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    - (6) the relative skill of those in the art,
    - **(7) the predictability or unpredictability of the art, and**
    - **(8) the breadth of the claims.**

# Predictable Arts and Claim Scope

- Generally a sliding scale between the breadth of the claim and the necessary disclosure required.

- *Spectra-Physics, Inc. v. Coherent, Inc.*, 827 F.2d 1524, 1533 (Fed. Cir. 1987), "[i]f an invention pertains to an art where the results are predictable, . . . a broad claim can be enabled by disclosure of a single embodiment."

# "Full Scope" Enablement

- What exactly needs to be enabled?

- The Federal Circuit says the "full scope" of the claim must be enabled.

- The enablement requirement enforces the "*quid pro quo* of the patent bargain" by requiring a patentee to teach the public how "to practice the full scope of the claimed invention." *AK Steel Corp. v. Sollac*, 344 F.3d 1234, 1244 (Fed. Cir. 2003).

# "Full Scope" Enablement

- Often used in conjunction with claimed ranges.

- Although a patent's specification need not describe how to make and use every possible variant of the claimed invention, *when a range is claimed*, there must be reasonable enablement of the *scope of the range*. *AK Steel Corp. v. Sollac*, 344 F.3d 1234, 1244 (Fed. Cir. 2003).

# How to Determine FS Enablement

- The inquiry usually proceeds by:
  - Identifying one or more products or processes that fall within the scope of the claim, and
  - Determining if that product or process is enabled by the specification.
- If not, the claim is invalid as non-enabled.
- No surprise, the product or process is usually the defendant's technology

# *Sitrick v. Dreamworks,*
## 516 F.3d 993 (Fed. Cir. 2008)
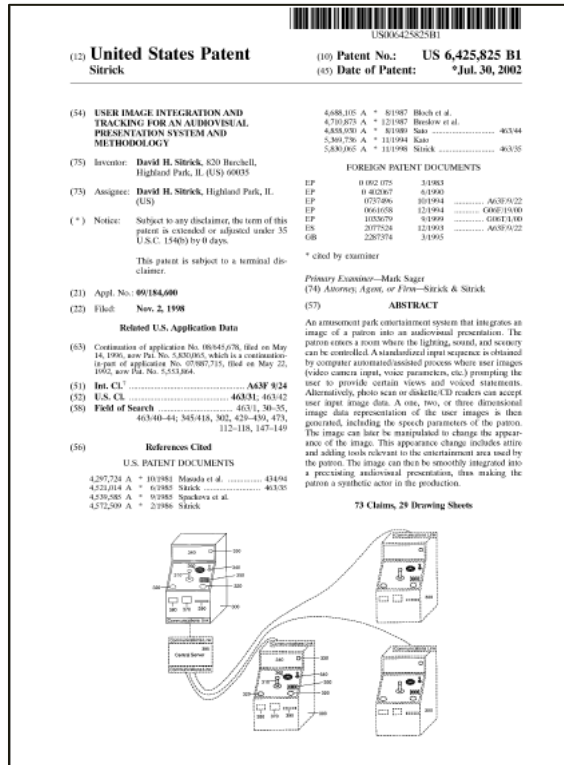


- Two patents were directed to a technique for integrating a user's audio/video signal into a video game for animation.
- The District Court construed the claim to cover both video games and movies.

apparatus for providing an integrated video output wherein the user image appears integrated into the respective background images in place of the respective recognizable video presentation for the selected character function responsive to the mapping of the selected predetermined character function to the user image signal.

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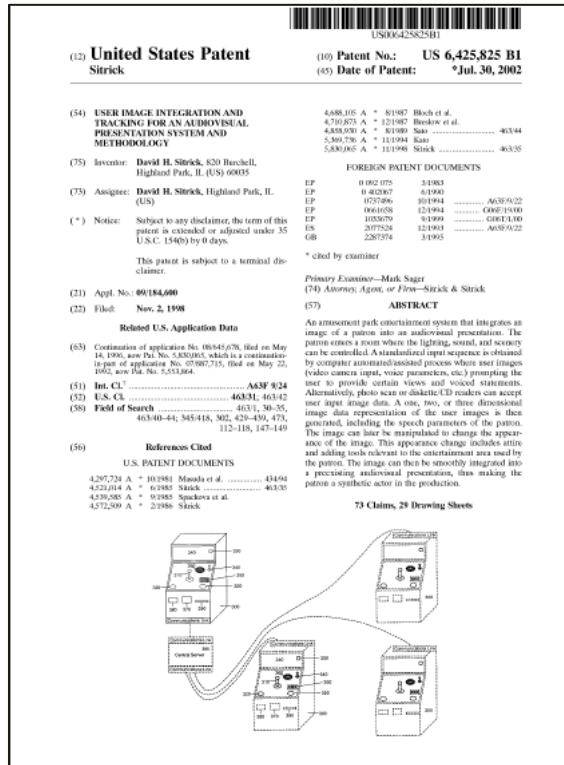


- There was lots of disclosure about how to "integrate" and "substitute" user-provided images into a video game stream
- Expert testimony concluded that movies were fundamentally different than video games and the disclosure was inadequate

*Preexisting movies do not employ discrete address and control signals, or any other means for requesting separate image segments to be assembled into the character or the overall image that appear within each frame of the presentation.*

# *Sitrick v. Dreamworks,*
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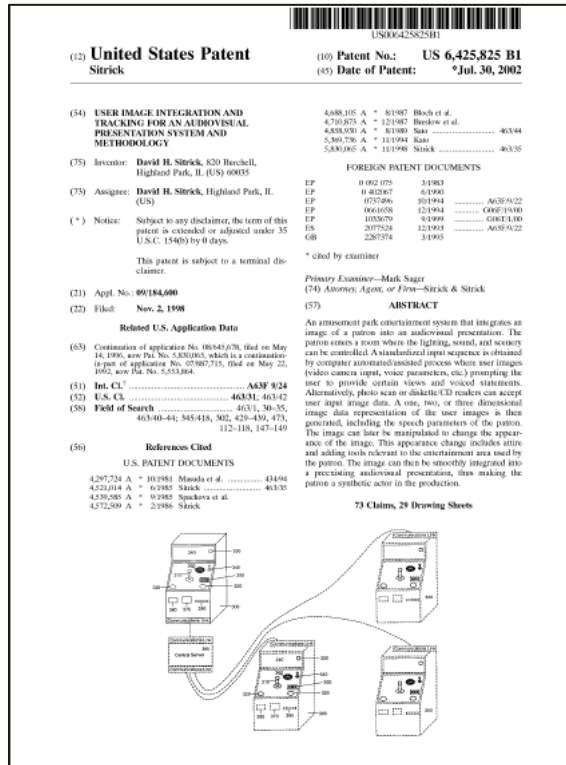


- "Defendants showed with clear and convincing evidence that one skilled in the art could not take the disclosure in the specification with respect to substitution or integration of user images in video games and substitute a user image for a pre-existing character image in movies without undue experimentation."
*Sitrick,* 516 F.3d at 1000.

- The claims were invalid as non-enabled.

# *McRO v. Bandai Namco,*
## No. 2019-1557 (Fed. Cir. May 20, 2020)



- Second time this case went to the Federal Circuit

- Earlier, the patent was invalidated on 101 grounds

- *McRO v. Bandai Namco*, 837 F.3d 1299 (Fed. Cir. 2016)

- Reversed and remanded

# *McRO v. Bandai Namco,*
## No. 2019-1557 (Fed. Cir. May 20, 2020)
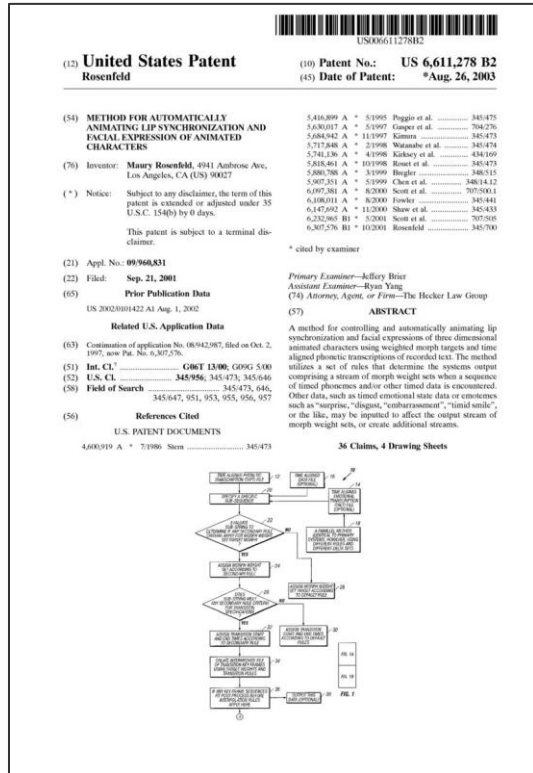


- This time, District Court concluded the claims:
  - Were not infringed, and
  - Were invalid as non-enabled
- Non-infringement upheld but non-enabled reversed

*McRO v. Bandai Namco*,
No. 2019-1557 (Fed. Cir. May 20, 2020)

- The '278 Patent covers a method for automatically animating lip synchronization and facial expression of animated characters.

- The parties agreed that ***infringement*** hinges on the construction of the term "vector".

- The District Court adopted Defendant's construction for "vector" which led to ***noninfringement***.

# Claim 1 Is Representative
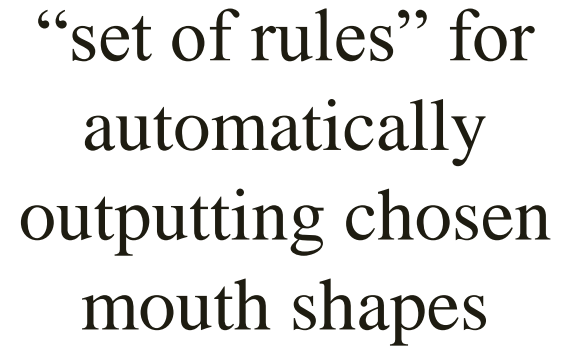
1. A method for automatically animating lip synchronization and facial expression of three-dimensional characters comprising:

obtaining a first set of rules that defines a morph weight set stream as a function of phoneme sequence and times associated with said phoneme sequence;

obtaining a plurality of sub-sequences of timed phonemes corresponding to a desired audio sequence for said three-dimensional characters;

generating an output morph weight set stream by applying said first set of rules to each sub-sequence of said plurality of sub-sequences of timed phonemes; and

applying said output morph weight set stream to an input sequence of animated characters to generate an output sequence of animated characters with lip and facial expression synchronized to said audio sequence.

"set of rules" for automatically outputting chosen mouth shapes

## *McRO v. Bandai Namco*, No. 2019-1557 (Fed. Cir. May 20, 2020)

- The specification discloses several (at least six) examples of "rule sets" that may be used to define a morph weight set.

- The District Court concluded that there were two other animation techniques ("bones animation" and the "BALDI system") that were not enabled by the specification.

- Defendants used the "bones animation" technique.

COJK

## *McRO v. Bandai Namco*, No. 2019-1557 (Fed. Cir. May 20, 2020)

- The District Court concluded that because neither "bones animation" or "BALDI" were enabled, the claims were not full-scope enabled.

- The Federal Circuit disagreed.

## *McRO v. Bandai Namco,*
No. 2019-1557 (Fed. Cir. May 20, 2020)

- First, the Federal Circuit reviewed the District Court's construction of the term "vector", concluded it was correct, and affirmed the holding of non-infringement.

- However, the Federal Circuit then analyzed whether the holding of non-enablement could be upheld since there was no embodiment analyzed that fell *within* the scope of the claims.

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# *McRO v. Bandai Namco*,
## No. 2019-1557 (Fed. Cir. May 20, 2020)

- "All the enablement cases on which the district court relied, and on which the Developers rely in this court, involved specific identification of products or processes that were or may be within the scope of the claims and were allegedly not enabled." *McRo* at 16.

- Since the only embodiments relied upon in the full-scope enablement analysis (the Defendants' technologies) fell outside the scope of the claims, they could not be used to invalidate those claims. *Id*.

*McRO v. Bandai Namco,*
No. 2019-1557 (Fed. Cir. May 20, 2020)

- Take aways:

  ➢ **Pick a fight**. To rely on defendant's own technology in support of a full-scale enablement challenge, you may need to concede infringement.

  ➢ "**Vector**". Why did a construction of that term decide infringement if it did not appear in any claim?

# What About "After-Arising" Technology?

- Technology that is developed ***well after*** the filing of the patent application can still infringe issued claims. See *Hughes Aircraft Co. v. United States*, 717 F.2d 1351 (Fed. Cir. 1983)(finding infringement by after-arising satellite technology).

- Can a patent that enables the full scope of a claim when filed still cover after arising technology?

# Is this possible?

- If a patent must enable the "full scope" of the claims as of the filing date, how can it later encompass "after-arising technology"?

- Can a claim that is enabled **when issued** become non-enabled **later** if an after-arising technology falls within the scope of the claim?

# For example . . .

- What if a claim recites:

  *a location detection circuit configured to determine a geographical location of a mobile device*

- Assume the specification satisfactorily discloses every then-known technique for determining geographical location.

# For example . . .

- Ten years after the patent issues, a brand new technique is developed to determine the geographical location of mobile devices.

- Assume it is undisputed that the new technique would require undue experimentation given the disclosure of the patent.

- Does the claim **become** non-enabled merely because a new technology was developed?

# "After-Arising" Technology

- The notion of "after-arising technology" is a function of the Doctrine of Equivalents. See *Ring & Pinion Serv. Inc. v. ARB Corp.*, 743 F.3d 831, 835 (Fed. Cir. 2014).

- "After-arising" technology (as that term is used) cannot, apparently by definition, fall within the *literal* scope of an issued claim. See *Schering Corp. v. Amgen, Inc.*, 222 F.3d 1347 (Fed. Cir. 2000).

- If it doesn't fall within the literal scope of the claim, then doesn't *McRO* suggest it can't be non-enabling?

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## "After-Arising" Technology

- Must currently unknown technology be enabled by the specification as filed?

- "The law does not expect an applicant to disclose knowledge invented or developed after the filing date. Such disclosure would be impossible." *Chiron Corp. v. Genentech, Inc.*, 363 F. 3d 1247 (Fed. Cir. 2004).

- *Does this mean that currently unknown technology need not be enabled?*

# "After-Arising" Technology

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- "The law does not expect an applicant to disclose knowledge invented or developed after the filing date. Such disclosure would be impossible." *Chiron Corp. v. Genentech, Inc.*, 363 F. 3d 1247 (Fed. Cir. 2004).

- *Is the answer different depending on whether the after-arising technology falls within the claim's literal scope?*

# "After-Arising" Technology

- Take aways:
  - ➢ **Equivalents**: Try not to give them up through prosecution.
  - ➢ **Breadth**: Don't draft your claims too broad or you may either (a) have to give up equivalents through prosecution, (b) end up with an overbroad claim that is non-enabled, or (c) both.

# "After-Arising" Technology

- For more reading, see Joshua D. Sarnoff, *Correcting Misunderstandings of Literal Infringement Scope Regarding After-Arising Technologies Protected By the Doctrine of Equivalents*, forthcoming in the *Akron Law Review*, (2020).

- https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3549932

# Questions?