Filed on behalf of: Google Inc.

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UNITED STATES PATENT AND TRADEMARK OFFICE
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BEFORE THE PATENT TRIAL AND APPEAL BOARD
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Google Inc.
Petitioner,
v.
Network-1 Technologies, Inc.,
Patent Owner.

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Case IPR2015-00345
U.S. Patent 8,205,237

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PETITIONER'S RESPONSE TO PATENT OWNER'S
IDENTIFICATION OF ALLEGEDLY IMPROPER REPLY ARGUMENTS

The Board authorized this Paper in a conference call on February 24, 2016.

As explained below, the five allegedly new arguments are proper because "[t]he very nature of a reply is to respond to the opposition [and] [t]he need for relying on evidence not previously discussed in the Petition may not exist until a certain argument has been raised in the Patent Owner Response." *Nintendo of Am. Inc. v. Motion Games, LLC*, IPR2014-00164, Paper 51 at 24 (May 15, 2015).

Argument 1: The Petition contended that Iwamura discloses the Boyer-Moore algorithm as <u>one example</u> of sublinear search. Paper 1 at 11 (citing Ex. 1004 at ¶ 72 ("It is my opinion that Iwamura further teaches how this search can be sublinear. <u>For example</u>, Iwamura discloses that different 'search algorithms may be applied to perform melody searches,' . . . such as the 'Boyer-Moore algorithm.'")). Dr. Moulin explained at deposition that he mistakenly pointed to the Boyer-Moore algorithm because it is sublinear with respect to the size of a query rather than the size of a database. Ex. 2006, 61:18-62:9. However, Dr. Moulin reaffirmed his opinion that Iwamura discloses sublinear search (Ex. 2006, 70:13-20), and repeatedly attempted to explain the bases for this opinion (*e.g.*, Ex. 2006 at 130:4-9). Rather than substantively respond regarding Iwamura's disclosure of sublinear search, Patent Owner protested that "[a]ny attempt by Petitioner or its Declarant to rely on some disclosure in Iwamura for the claimed sub-linear search elements beyond the referenced Boyer-Moore algorithm . . . should be rejected as . . .

prejudicing the Patent Holder." Paper 17 at 17.

Finally, while portions of Patent Owner's filing constitute unauthorized surreply (*see* Paper 24 at 2), having now presented its rebuttal, Patent Owner cannot credibly claim prejudice. Because "the IPR statute [does not] expressly limit the Board's authority . . . to the grounds alleged in the IPR petition," the Board should consider Petitioner's argument. *In re Cuozzo Speed Techs.,* 793 F.3d 1268, 1273.

Argument 2: The Petition raised the arguments that Iwamura discloses an "approximate nearest neighbor search" because (1) its "peak notes" search finds near matches; and (2) it skips "'unimportant portion[s]' of the melody." Paper 1 at 12. Patent Owner argued that the construction of "approximate nearest neighbor" was "correct, but incomplete," and should exclude searches that "always find the closest match." Paper 17 at 8. Petitioner's Reply responds that, even under Patent Owner's new interpretation, Iwamura discloses an "approximate nearest neighbor search" because (1) its "'peak notes' search does not necessarily even consider the closest match, let alone identify it"; and (2) "the closest matching melody may fall within a skipped section." Paper 20 at 13-15.

Argument 3: The Petition raised the argument that "Iwamura teaches a <u>non-exhaustive search that uses 'peak notes'</u> . . . 'Peak notes are approximately <u>20% of the total number of notes in a typical melody</u>. That means search speed using peak notes is <u>20% of a brute force search</u>.'" Paper 1 at 9-10, 15. Though the Petition did

not use the phrase "melody segment," the clear import is that Iwamura's search is non-exhaustive because it considers only the subset of melody segments at peak notes. Patent Owner subsequently reinterpreted the Board's construction of "non-exhaustive search"—which excludes searches that consider "all possible matches"—asserting that the "possible matches" in Iwamura were complete songs, rather than the melody segments actually compared to a query melody segment. Paper 17 at 30 ("the disclosed algorithm searches all records [i.e., songs] in the library and is therefore an exhaustive search"). The Reply merely rebuts the assertion that complete songs are the "possible matches" in Iwamura, and clarifies that "melody segments" within songs are the possible matches. Paper 20 at 16-18.

Arguments 4-5: The Petition raised the argument that Ghias discloses an "approximate nearest neighbor search" because it "locates a neighbor by determining 'a ranked list of approximately matching melodies." Paper 1 at 42, 45. Patent Owner then argued that the Board's construction of "approximate nearest neighbor" was "correct, but incomplete," and should be read to exclude searches that "always find the closest match." Paper 17 at 8. Petitioner's Reply responds that Ghias discloses an "approximate nearest neighbor search" because (1) "Ghias' subsequent searches do not always consider, let alone identify, the closest match (Paper 20 at 21); and (2) Ghias "cannot always 'identify' the closest of a group of close matches [i.e., the ranked list]" (Paper 20 at 22).

Respectfully Submitted,

Date: March 4, 2016

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