

Paper No. \_\_\_\_\_

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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APPLE INC.,  
Petitioner,

v.

UNILOC 2017 LLC,  
Patent Owner

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Case No. IPR2018-01028  
Patent No. 7,881,902

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**PETITIONER'S REPLY**

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**PETITIONER'S EXHIBIT LIST**

**January 17, 2019**

Ex.1001	U.S. Patent No. 7,653,508.
Ex.1002	Prosecution History of U.S. Patent No. 7,653,508.
Ex.1003	Declaration of Joe Paradiso, Ph.D., under 37 C.F.R. § 1.68
Ex.1004	Curriculum Vitae of Joe Paradiso
Ex.1005	U.S. Patent No. 7,463,997 to Fabio Pasolini et al. ("Pasolini")
Ex.1006	U.S. Patent No. 7,698,097 to Fabio Pasolini et al. ("Fabio")
Ex.1007	Reserved
Ex.1008	Reserved
Ex.1009	Reserved
Ex.1010	U.S. Patent No. 7,297,088 to Tsuji ("Tsuji")
Ex.1011	Excerpts from Robert L. Harris, INFORMATION GRAPHICS: A COMPREHENSIVE ILLUSTRATED REFERENCE (1996) ("Harris")

**I. Introduction**

The Petition and the record as a whole provide detailed reasons why claim 8 of the '902 patent would have been obvious to a person of ordinary skill in the art ("POSITA") in view of Pasolini (Ex.1005), Fabio (Ex.1006), and Tsuji (Ex.1010). None of Patent Owner's arguments adequately refute the evidence of record. Moreover, the evidence of record weighs in Petitioner's favor because Patent Owner's Response is merely attorney argument that offers no evidence or expert testimony in support. For these reasons and the reasons discussed below, the Board's findings in the Institution Decision should be maintained and claim 8 of the '902 patent should be found unpatentable.

**II. Fabio's validation interval teaches the claimed step cadence window.**

Patent Owner's Response heavily relies on a single argument—that Fabio's validation process is not a "step cadence window" because Fabio's process is "retrospective." *See* Response, p.7. This argument is relevant to claim 5, which recites "determining a dynamic step cadence window and using the dynamic step cadence window to identify the time frame within which to monitor for the next step," and claim 8, which recites "computing a rolling average of stepping periods of previously counted steps" and "setting the dynamic step cadence window based on the rolling average of stepping periods." *See* Ex.1001, 15:46-16:27; *see also* Petition, pp.29-32, 40-44.

Patent Owner specifically argues that Fabio's validation interval TV is "retrospective" because "it is used to validate only the immediately preceding step (shown in Fig. 6 as K-1) (shown in Fig. 6 as K)." Response, p.7. Patent Owner bases this flawed interpretation on a single sentence of Fabio, taken out of context, stating that "[m]ore precisely, the last step recognized is validated if the instant of recognition of the current step  $T_R(K)$  falls within a validation interval  $TV[.]$ " See Response, p.13 (*quoting* Ex.1006, 4:35-39). Patent Owner apparently believes that the term "last step recognized" means the step recognized in some previous step cycle<sup>1</sup>, not the current step cycle. Fabio, though, does not detect a step in one step cycle, and then validate and buffer/count that step in a subsequent cycle. Rather, Fabio teaches recognizing, validating, and either buffering or counting a step in a single step cycle. See, e.g., Ex.1006, Figs. 4,7.

More specifically, Fabio first teaches recognizing an acceleration signal as a step by verifying "whether the time plot of the acceleration signal  $A_z$  (i.e., the sequence of the samples acquired) has pre-determined characteristics." *Id.*, 4:12-15. Fabio then teaches that "[i]f ... the step-recognition test is passed," the system

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<sup>1</sup> For purposes of this paper, the term "step cycle" refers to Fabio's iterative process of recognizing (e.g., 225), validating (e.g., 230) and buffering/counting (235) a step upon acquisition of an acceleration sample. See Ex.1006, Figs. 4,7.

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