## UNITED STATES PATENT AND TRADEMARK OFFICE BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE INC.,

Petitioner,

v.

COREPHOTONICS, LTD.

Patent Owner

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IPR2018-01133 U.S. Patent No. 9,538,152

DECLARATION OF OLIVER COSSAIRT, PH.D. UNDER 37 C.F.R. § 1.68 IN SUPPORT OF PETITIONER'S REPLY



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		2.	Patent Owner incorrectly limits Border's image registration to a "simple homography registration."	
	В.	Patent Owner misrepresents Petition's use of Parulski in the combination, and disregards Parulski's augmentation/combination teachings for generating an enhanced primary image8		
		1.	Border is not silent on establishing primary/non-primary image relationship	
		2.	Petition relies on Parulski's image augmentation/combination teachings for obtaining an output image using primary/non-primary images	
	C.	A POSITA would have understood why and how to combine Border with Parulski's generating an enhanced primary image by modifying a primary image using a secondary image		
		1.	The "addition" of Parulski's "primary/non-primary image designation step" to Border as alleged by Patent Owner is unnecessary because Border establishes the primary/non-primary relationship.	
		2.	Any modifications to Border to accommodate Parulski's teachings would have been within the skill of a POSITA13	
IV.	BOR	BORDER AND PARULSKI RENDER CLAIMS 1 AND 3 OBVIOUS1		
	A.	The combination of Border and Parulski renders obvious [1.10]: "wherein if $FOV_2 < FOV_{ZF} < FOV_I$ then the point of view of the output image is that of the first camera."		



## Declaration of Oliver Cossairt, Ph.D. in Support of Petitioner's Reply in IPR2018-01133

1. Patent Owner's importation of extraneous requirements claim language "the point of view of the output image is the first camera" should be rejected.	that of	
2. Border teaches this limitation.	16	
3. The combination of Border and Parulski teaches this lin		
B. The combination of Border and Parulski renders obvious [1.11 processor further configured to register the overlap area of the second image as non-primary image to the first image as priminge to obtain the output image."	e nary	
1. Patent Owner's importation of extraneous requirements claim language "register the overlap area to obtain the output image" should be rejected	he	
2. Border teaches the partial claim limitation "configured a register the overlap area to obtain the output image."		
3. The combination of Border and Parulski teaches this lin		
BORDER AND PARULSKI RENDER CLAIMS 2 AND 4 OBVIOUS2		
configured to provide an output image from a point of view of	Border teaches that if $FOV_2 \ge FOV_{ZF}$ , then the processor is further configured to provide an output image from a point of view of the second camera.	
$FOV_2 = FOV_{ZF}$ and $FOV_2 > FOV_{ZF}$ , the combination of Border	To the extent that the condition " $FOV_2 \ge FOV_{ZF}$ " requires that both $FOV_2 = FOV_{ZF}$ and $FOV_2 > FOV_{ZF}$ , the combination of Border and Parulski renders each of claims 2 and 4 obvious	
DECLARATION3		



#### I. Introduction

- 1. I am Oliver Cossairt who previously submitted a declaration as APPL-1004 in this proceeding. The terms of my engagement, my background, qualifications and prior testimony, and the legal standards and claim constructions I am applying are set forth in my previous CV and declaration. *See* APPL-1004; APPL-1005. I offer this declaration in reply to the Response the Patent Owner filed in this proceeding. In forming my opinion, I have considered the materials noted in my previous declaration, as well as the following additional materials:
- Additional Excerpt from Richard Szeliski, Computer Vision:
   Algorithms and Applications, 2011 ("Szeliski II"), APPL-1012; and
  - (2) Dr. Kosmach's declaration, Ex. 2005.
  - (3) Paper No. 15 Patent Owner's Corrected Response to Petition.

### II. Claim Construction

- A. No construction is necessary for the term "point of view."
- 2. Patent Owner "believes that the term 'point of view' requires no construction," but proposes that "[s]hould the Board conclude that it is necessary to construe 'point of view,' that term should be construed as 'camera angle.'"

  Response, 13. Because Patent Owner fails to explain why construing the term "point of view" is necessary and believes that the term 'point of view' requires no construction, no construction is necessary for the term "point of view."



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understood that prior art's description of "viewpoint" is consistent with the plain and ordinary meaning of "point of view." APPL-1004, ¶¶114, 148. Patent Owner does not explain any difference between "camera angle" and "viewpoint," or how such difference affects the claim analysis. Further, Patent Owner and its expert Dr. Kosmach use "point of view" and "viewpoint" interchangeably in the Response and the expert's declaration. See, e.g., Response, 23-24 (citing Kosmach Decl., ¶36) (explaining "[a]n example of the differences that can occur with a change in camera point of view" using Fig. 4.24 of Jacobson with images labeled as "Distant central viewpoint" and "Closer oblique viewpoint" respectively). Accordingly, to the extent "point of view" is construed to mean "camera angle," my analysis in my previous declaration and this declaration remains unchanged.

### III. The combination of Border with Parulski

- 4. Patent Owner alleges that the Petition "fails to explain why or how a POSITA would combine Border with Parulski's teaching of modifying a primary image with a non-primary image." Response, 31-33. The allegation seeks to manufacture incompatibility based on mischaracterizations of the Border and Parulski teachings of Petition's reliance on Parulski for the combination.
  - A. Patent Owner mischaracterizes Border's image stitching and image registration
  - 5. Patent Owner asserts that Border cannot be combined with Parulski



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