

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

GOOGLE LLC
Petitioner

v.

NavBlazer, LLC
Patent Owner

Case No. – Not Yet Assigned
U.S. Patent No. 9,885,782

DECLARATION OF DR. MICHAEL S. BRAASCH

I declare that all statements made herein on my own knowledge are true and that all statements made on information and belief are believed to be true, and further, that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code.

By: _____



Michael S. Braasch, Ph.D.

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1. I am making this declaration at the request of Google LLC (“Google”) in the matter of the *Inter Partes* Review of U.S. Patent No. 9,885,782 (“the ’782 Patent”).

2. I am being compensated for my work in this matter at my standard hourly rate of \$500 for consulting services. My compensation in no way depends on the outcome of this proceeding.

3. In preparing this Declaration, I considered all materials cited in the body of this Declaration, which includes but is not limited to the following:

- a. The ’782 Patent (Ex. 1001) and its file history (Ex. 1002);
- b. Petition for *Inter Partes* Review of the U.S. Patent No. 9,885,782 (“Petition”);
- c. U.S. Patent No. 5,808,566 to Behr, *et al.* (“Behr”) (Ex. 1004);
- d. U.S. Patent No. 5,504,482 to Schreder (“Schreder”) (Ex. 1005);
- e. U.S. Patent No. 6,028,537 to Suman (“Suman”) (Ex. 1007);
- f. U.S. Patent No. 5,396,429 to Hanchett (“Hanchett”) (Ex. 1008);
- g. U.S. Patent No. 5,844,505 to Van Ryzin (“Van Ryzin”) (Ex. 1009);
- h. U.S. Patent No. 6,161,002 to Migliaccio, *et al.* (“Migliaccio”) (Ex. 1010);
- i. Defendants’ Proposed Claim Constructions, dated October 2, 2020 (Ex. 1011);
- j. NavBlazer’s Proposed Claim Constructions, dated October 2, 2020 (Ex. 1012);
- k. French, Robert L., “Land Vehicle Navigation and Tracking,” *Global Positioning System: Theory and Applications Vol. II, Volume 164*

- Progress in Astronautics and Aeronautics (1996) (“*French*”) (Ex. 1014);
- l. Caskey, David L., “The Potential of Intelligent Vehicle Highway Systems for Enhanced Traveler Security,” 1993 International Carnahan Conference on Security Technology, Ottawa, Canada (October 13-15, 1993) (“*Caskey*”) (Ex. 1015);
 - m. Inman, V., *et al.*, TravTek Evaluation Yoked Driver Study, Publication No. FHWA-RD-94-139 (October 1995) (“*Inman*”) (Ex. 1016);
 - n. Blumentritt, C., *et al.*, TravTek System Architecture Evaluation, Publication No. FHWA-RD-94-141 (July 1995) (“*Blumentritt*”) (Ex. 1017);
 - o. Kaysi, Isam, *et al.*, “Integrated Approach to Vehicle Routing and Congestion Prediction for Real-Time Driver Guidance,” Transportation Research Record No. 1408: Intelligent Vehicle Highway Systems (1993) (“*Kaysi*”) (Ex. 1018);
 - p. Roozmond, Danko A., “Forecasting Travel Times Based on Actuated and Historic Data,” Transactions on the Built Environment vol. 30 (1997) (“*Roozmond*”) (Ex. 1019);
 - q. Garnto, Ira W., System Performance Test Report from the Independent Evaluation of the Atlanta Driver Advisory System (ADAS) (September 1997) (“*Garnto*”) (Ex. 1020);
 - r. Davies, Peter, *et al.*, “Standards for the Radio Data System—Traffic Message Channel,” SAE Technical Paper Series No. 891684, Future Transportation Technology Conference and Exposition, Vancouver, BC, Canada (August 7-10, 1989) (“*Davies*”) (Ex. 1021);
 - s. Zavoli, W., *et al.*, “Map Matching Augmented Dead Reckoning,” IEEE Vehicular Technology Conference (May 1986) (“*Zavoli*”) (Ex. 1023);

- t. Umeda, Yukihiro, *et al.*, “Development of the New Toyota Electro-Multivision,” SAE Technical Paper Series No. 920601, International Congress & Exposition, Detroit, Michigan (February 24-28, 1992) (“*Umeda*”) (Ex. 1024);
- u. Hirata, Toru, *et al.*, “The Development of a New Multi-AV System Incorporating an On-Board Navigation Function,” SAE Technical Paper Series No. 930455, International Congress and Exposition, Detroit, Michigan (March 1-5, 1993) (“*Hirata*”) (Ex. 1025);
- v. U.S. Patent No. 5,592,470 to Rudrapatna, *et al.* (“*Rudrapatna*”) (Ex. 1026);
- w. U.S. Patent No. 5,381,236 to Morgan (“*Morgan*”) (Ex. 1027);
- x. U.S. Patent No. 5,275,327 to Watkins, *et al.* (“*Watkins*”) (Ex. 1028);
- y. U.S. Patent No. 5,604,534 to Hedges, *et al.* (“*Hedges*”) (Ex. 1029);
- z. any other documents referenced in this Declaration.

I. PROFESSIONAL BACKGROUND

4. I am currently a Professor with tenure in the School of Electrical Engineering and Computer Science at Ohio University.

5. I received my Bachelor of Science and Master of Science degrees in Electrical Engineering from the Ohio University in 1988 and 1989 respectively. In 1992, I received a Ph.D. in Electrical Engineering also from Ohio University. During that time, my post-baccalaureate and doctoral work focused on navigation systems.

6. From 1989 to 1993, I was a research engineer in the Avionics Engineering Center at Ohio University. I became an adjunct assistant professor in

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