EXHIBIT N

UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK
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NETWORK-1 TECHNOLOGIES, INC.,   §
                                             §
          Plaintiff,   §
                                             §   Case No. 1:14-cv-02396-PGG
v.   §
                                             §   Case No. 1:14-cv-09558-PGG
GOOGLE LLC and YOUTUBE, LLC,   §
                                             §
                                             §
          Defendants.   §
---X

GOOGLE LLC AND YOUTUBE, LLC'S
SUPPLEMENTAL INVALIDITY CONTENTIONS

In accordance with Paragraph 6 of the Joint Proposed Case Management Plan (D.I. 137-1) and Local Patent Rule 7, Defendants Google LLC and YouTube, LLC (collectively, "Defendants") provide the following Supplemental Invalidity Contentions to Plaintiff Network-1 Technologies, Inc. ("Network-1"). The exclusion of any prior art reference, software, or system from this disclosure does not constitute an admission that such reference does not anticipate and/or render obvious one or more claims of the asserted patents. Additionally, to the extent that prior art software or systems embody or are related to the printed patents or publications recited in this disclosure, Defendants reserve the right to assert the individual printed patents or publications listed in this pleading, as well as any related prior art software or systems. Defendants reserve the right to supplement or amend this disclosure at any time, including but not limited to the right to supplement or amend this disclosure in response to further discovery, further analysis, further prior art searching, the assertion of additional claims by Network-1, Network-1's litigation positions, Network-1's proposed claim constructions, or the Court's claim construction ruling.

At this time, Defendants identify the following asserted grounds of invalidity of the

asserted patents:

U.S. Patent No. 8,010,988

All asserted claims of U.S. Patent No. 8,010,988 are invalid under at least:

- 35 U.S.C. § 101 (Unpatentable Subject Matter), because the asserted claims are directed to unpatentable abstract concepts, and the mere recitation of computer elements is insufficient to render the subject matter patentable.

- 35 U.S.C. §§ 102 and 103 (Anticipation and Obviousness), because at least the following references, software, systems, and combinations thereof, disclose all elements of the asserted claims:

  - U.S. Patent No. 5,874,686 to Ghias
  - U.S. Patent No. 5,933,811 to Angles
  - U.S. Patent No. 5,999,689 to Iggulden
  - U.S. Patent No. 6,098,106 to Philyaw
  - U.S. Patent No. 6,044,376 to Kurtzmann
  - U.S. Patent No. 6,188,010 to Iwamura
  - U.S. Patent No. 6,201,176 to Yourlo
  - U.S. Patent No. 6,285,995 to Abdel-Mottaleb
  - U.S. Patent No. 6,418,430 to DeFazio
  - U.S. Patent No. 6,469,749 to Dimitrova
  - U.S. Patent No. 6,502,105 to Yan
  - U.S. Patent No. 6,505,160 to Levy
  - U.S. Patent No. 6,512,919 to Ogasawara
  - U.S. Patent No. 6,597,405 to Iggulden
  - U.S. Patent No. 6,751,343 to Ferrell
  - U.S. Patent No. 6,912,571 to Serena
  - U.S. Patent No. 6,970,886 to Conwell
  - U.S. Patent No. 7,185,201 to Rhoads
  - U.S. Patent No. 7,251,476 to Kawamoto
  - U.S. Patent No. 7,333,957 to Levy
  - U.S. Patent No. 7,349,668 to Han
  - U.S. Patent No. 7,356,830 to Dimitrova
  - U.S. Patent No. 7,444,353 to Chen
  - U.S. Patent No. 7,712,125 to Herigstad
  - U.S. Patent No. 7,743,092 to Wood
  - U.S. Patent No. 7,870,088 to Chen
  - U.S. Patent Pub. No. 2003/0182113 to Huang
  - WO 99/04568 to Ferris
  - Japanese Unexamined Patent Application No. 2000-172693
  - Japanese Unexamined Patent Application No. 2000-172693
  - "Fixed-Radius Near Neighbors Search," Volker Turau (August 30, 1991)
  - "Manipulation of Music for Melody Making," Alexandra L. Uitenbogerd and Justin Zobel
  - "Deploying Video on the Web," Chuck Fuller (December 1999)

- o "ImaginOn To Showcase Instant Interactive Internet 'Television Station in a Box' At PC EXPO 2000!," Business Wire (June 22, 2000)
- o "Now Featuring . . . Movie Databases, Part II: The Software," Péter Jacsó and Judit Tiszai, Database (April/May 1995), pp. 29-39
- o "Smarter TV to Add $25B in Revenues: Holy Grail of Advertising Coming in the Form of Metadata," Broadcaster (August 2000)
- o "The Future of Internet Multimedia on Display at Streaming Media West '99," Business Wire (November 30, 1999)
- o "Efficient Similarity Search in Digital Libraries," Christian Böhm, et al., IEEE Advances in Digital Libraries (May 22-24, 2000)
- o "Approximate String Matching," Patrick Hall and Geoff Dowling, ACM Computing Surveys (December 1980)
- o "An Optimal Algorithm for Approximate Nearest Neighbor Searching in
- o Fixed Dimensions," Sunil Arya, et al., Journal of the ACM (1998).
- o "Using Extended Feature Objects for Partial Similarity Retrieval," Stefan
- o Berchtold, et al., The VLDB Journal (1997), pp. 333-348
- o "Image Indexing and Retrieval Based on Human Perceptual Color Clustering," Y. Gong, G. Proietti, C. Faloutsos, Proceedings of the 1998 IEEE Computer Society Conference on Computer Vision and Pattern Recognition (June 25, 1998)
- o "Increasing Retrieval Efficiency by Index Tree Adaptation," H.D. Tagare, Proceedings of the 1997 IEEE Workshop on Content-Based Access of Image and Video Libraries (June 20, 1997)
- o "Indexing Multispectral Images for Content-Based Retrieval," J.E. Barros, J.C. French, W.N. Martin, P.M. Kelly, and J.M. White, Proceedings of the 23rd AIPR Workshop: Image and Information Systems: Applications and Opportunities (SPIE 1995)
- o "An Image Database System with Fast Image Indexing Capability Based on Color Histograms," G. Yihong, Z. Hongjiang, C.H. Chuan, Proceedings of TENCON'94 – 1994 IEEE Region 10's 9th Annual International Conference on 'Frontiers of Computer Technology' (Aug. 22-26, 1994)
- o "Content-Based Image Retrieval in Medical Applications: A Novel Multistep Approach," T.M. Lehmann, B.B. Wein, J. Dahmen, J. Bredno, F. Vogelsang, M. Kohnen, Proceedings of 2000 SPIE Electronic Imaging Conference (December 23, 1999)
- o "Efficient User-Adaptable Similarity Search in Large Multimedia Databases," Thomas Seidl and Hans-Peter Kriegel, VLDB '97 Proceedings of the 23rd International Conference on Very Large Data Bases (August 25-29, 1997)
- o "A Multistep Approach for Shape Similarity Search in Image Databases," M. Ankerst, H.-P. Kriegel, T. Seidel, IEEE Transactions on Knowledge and Data Engineering, Vol. 10, No. 6 (Nov./Dec. 1998)
- o "Indexing Shapes in Image Databases Using the Centroid-Radii Model," Kian-Lee Tan, Beng Chin Ooi, Lay Foo Thiang, Data & Knowledge Engineering, Vol. 32, No. 3 (March 2000)

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