

“Is My Laptop A Viable Tool To Invade Your Privacy?”—Such and Other Critical Legal Issues Generated By Google Earth

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Abstract. One of the latest technologies to create a controversy is Google Earth, Google’s Satellite Imaging technology. It is a useful educational, entertainment and navigational tool, but countries like Australia, China, India, etc have expressed concern about privacy and surveillance issues especially in the context of increased terrorism and state secrets being exposed to the general populace. Developed countries like the USA, UK and other European countries have not until now shown any interest in stringent action against Google as the current level of technology does not cause great concern as to what it does and where that technology is going. The option open to aggrieved nations are either to approach the US Government to ask its regulators to crack down or approach the United Nations on the basis of the Principles Relating to Remote Sensing adopted in 1986, which states that space imagery “shall not be conducted in such a manner detrimental to the legitimate rights and interests of the sensed [satellite scanned] state”. A number of legal issues could arise regarding at what point geospatial information becomes personal information. In this light, this paper would analyze how far a technology of the calibre of Google Earth can affect the lives and liberties of an ordinary citizen. Though cases like *Alan Boring v. Google*, *Smith v. Abandoned Ship*, *Kiryat Yam v. Google* have been filed, they have not been very definitive in the arena. So the author will look at the principles of Tort law like Trespass (*Hinman v. Pacific Air Transport*), Nuisance (*Brandes v. Mitterling*), Strict Products Liability for inaccuracies in the program (*Brocklesby v. United States*) and Intellectual Property Rights (*Skyline Software Systems, Inc. v. Keyhole, Inc.*) to analyze probable issues and suggest plausible solutions to this conundrum within the existing international legal framework. In doing so, the doctrinal method shall be used and the author will study the various case laws, documents and state reactions to formulate the answers to the issues raised in this paper.

1 Introduction

“You have zero Privacy. Get over it.”

--Scott McNealy, CEO, Sun Microsystems Inc¹

In the surge of innovative internet technologies, one of the latest to create a huge controversy has been the Google’s Satellite Imaging technology, Google Earth. Google bought Keyhole in October 2004 and launched Google Earth in June 2005.² This innovative approach to the way the world visualized locating places and embodies a true blending of the Internet and the outer space utilities. Google Inc. provided the world with a double-edged sword—a powerful tool which can be used any way by the user. When Google launched its global location tool Google Earth in June of 2005, the world was able to view full-colour satellite photos of thousands of distant areas from around the globe. It brought the whole planet to the fingertips. One has only to download the free software and type in any street address, the longitude and latitude of any area, or even terms such as ‘Pyramids’ or ‘Taj Mahal’, and within seconds the location comes into focus. One can even zoom in close enough to make out individual cars in a driveway.

There is a range of companies providing this particular Internet service, but the most popular of them is undeniably *Google Earth* which creates Photographs by using imagery collected by Satellites as well as Aircrafts. In the beginning, it covered only the USA and a part of the UK. Since then, there has been in a major expansion mode, hoping to cover many more cities in the future. Google images are not displayed in real time and they are

¹ The comment was in response to a question at a product launch. Deborah Radcliff, A Cry for Privacy, Computer World, May 17, 1999 <http://www.computerworld.com/home/print.nsf/all/990517privacy> (Accessed last on 6th May, 2009).

² Press Release, Google Press Center, Google Acquires Keyhole Corp. 27th October 2004. Available at <http://www.google.com/pressrel/keyhole.html> (Accessed last on 6th May, 2009)

collected generally within the last 3 years. Another major player albeit not that popular is the *Microsoft Live Local* which combines road and aerial images with a unique bird's eye view; thus, creating 3D view maps for select areas. There is however possibilities of the inclusion of real time traffic from 2006, which has not yet been implemented but the future trend is certainly in favour of more real time images. There is also the United States based *Yahoo! Maps* which provides free Imagery of 48 states at high resolution and Medium Level Resolution for the Rest of the world. Interestingly this service does not have a zoom feature. It uses data less than 2 yrs old. A particularly obscure and now extinct name in this field would have to be that of A9.com which was a subsidiary of Amazon.com and was used for boosting local advertising market. It collected its imagery data via Mounted cams on trucks & GPS. It used to provide street level images of twelve cities. However A9.com discontinued its services due to the stiff competition from Google.³

A number of legal issues arise regarding at what point geospatial information becomes personal information. In this light, this paper would analyze how far a technology of the calibre of Google Earth can affect the lives and liberties of an ordinary citizen. Though cases like *Alan Boring v. Google*, *Smith v. Abandoned Ship, Kiryat Yam v. Google* have been filed, they have not been very definitive in the arena. The significance of free geo-spatial data is paramount with the authorities running a state for the very security of the state is dependent on what information and how much of it is let out to be distributed in the hands of the common man. Especially in this terrorism ridden time, the implications of free access to sensitive information made public have donned grimmer colours.⁴ In looking at these scenarios, the author will be looking at the realm of public international law and law of torts to find solutions to the legal conundrum.

2.0 Growing Concerns over Usage—the Good v. the Possibility of Evil

Google has always pitched Google Earth as a useful teaching and navigational tool that also offers users the sheer amusement of taking a vacation while sitting right in front of their computer monitors. It does so by offering users the option of flying over high-resolution three dimensional images of various places from the Big Ben in London, the Eiffel Tower in Paris to the pyramids in Egypt. Added to that is the option offered to viewers to get into a bird's-eye view of their own backyards and those of anyone else they might be interested in;⁵ not to mention that several law enforcement agencies especially in the United States of America have found an assortment of ways to utilize the service, both for law enforcement and for public service.⁶ There have been multiple cases of tax authorities using Google Earth to crack down on homeowners who have built additions to their property without paying taxes on the new construction.⁷ They can do this by comparing the satellite imagery to existing records and to see what additions have been made illegally. Authorities have been using such information to get defaulters to pay tax penalties.

A more public service-oriented utilization of Google Earth by law enforcement is one undertaken by the *Ohio State Highway Patrol*. For the past two years, the unit has been using Google Earth data showing the locations of fatal accidents—including those identified as being alcohol-related—to facilitate the locations with the highest frequency of drunken driving arrests. Using that data, it is possible to get an idea of perilous roads or intersections, including those where people are more likely to be driving drunk.⁸

Such and other multifarious benefits have not stopped the naysayers from taking an opposing stand. As a starting point, let us see what can be argued against the public utility and law enforcement argument. It can be easily asserted that the images from the mapping service are not timely enough for police to use on a daily basis especially for law enforcement activity. This is because the satellite photography in Google Earth is not live. It is

³ See generally Atiqur Rahman, *Google Mania*(February 19, 2009). SSRN. Available at <http://ssrn.com/abstract=1346312> (Accessed last on 26th May, 2009)

⁴ See Danielle Belopotosky, 'Google satellite imaging software raises terrorism concerns.' *National Journal's Technology Daily*. August 25, 2005. Available at <http://www.govexec.com/dailyfed/0805/082405td2.htm> (Accessed last on 24th February, 2009)

⁵ See generally *Google Maps give fresh Perspective*. BBC News. 17th April 2005. Available at <http://news.bbc.co.uk/2/hi/technology/4448807.stm> (Accessed last on 6th May, 2009)

⁶ See also Laura Smith-Spark. *Google Earth turns spotlight on Darfur*. BBC News. 11th April 2007. Available at <http://news.bbc.co.uk/2/hi/africa/6543185.stm> and *Google Earth's voice for refugees*. BBC News. Wednesday, 23rd May 2008. Available at (Accessed last on 6th May, 2009)

⁷ Jimmy Lee Shreeve. *Science & Technology: I spy with my little laptop*. *The Independent*(London). 21st December 2005. Sourced from LexisNexis.

⁸ Daniel Terdiman. *How law enforcement uses Google Earth*. CNET News. 14th September 2007. Available at http://news.cnet.com/How-law-enforcement-uses-Google-Earth/2100-1025_3-6208034.html?tag=mncol (Accessed last on 18th May, 2009)

not even recent. In most cases, it varies widely from as recent as a few months old to a few years old with the maximum known time gap of three years.⁹

Then there is also the “National Security” angle where governments from around the world have volubly expressed their concerns regarding the easy availability of high-resolution satellite images which could compromise their national security. South Korea is one of the countries which weighed in against Google Earth after officials noticed the service provided images of its presidential Blue House and military bases. Because South Korea was technically still at war with North Korea, they were fearful that the images would give its communist neighbour the advantage. Kim Man-Soo, the presidential spokesperson, said Google Earth “sparked security concerns”, adding that “as [Google’s] satellite photos are beyond our control, we are in discussion with US authorities”.¹⁰ Another Korean government official, however, said: “It all depends on the resolution of the pictures. Just because there is a picture of a naval port does not mean the whole security system is on alert, but if the resolution is greater than six meters, security could be an issue.”¹¹

The Australian Nuclear Science and Technology Organization (ANSTO) also felt the need to ask Google to consider censoring what it sees as sensitive information. Dr Ron Cameron, the ANSTO’s chief of operations stated that they had “... approached Google to find out how the technology is changing and what sort of information might be available in future”.¹²

Google has always defended its provision of geo-spatial services by stating that such images were always available through Government agencies like Weather Office, Canada and Oceanic Administration of USA.¹³ The obvious criticism to this would be that in such cases there would be no universal access to such imagery. But the flip-side of this is that even if such images were banned or blocked, terrorists who have large amount of funding could always buy out such information from such need-based service providers.

Not long after going live, Google Earth was dubbed a terror threat as can be used as a powerful instrument by terrorists by two members of the Dutch parliament. In a letter dated 12 August, 2005 Dutch legislators Frans Weekers of VVD party and Aleid Wolfson of Labour, asked: “Should the Dutch government consider taking measures [against Google Earth] and if not, why not?”¹⁴

Now the pertinent question that would necessarily arise at this juncture would be what recourse would these nations have? The first option would be to request the US Government regulators to crack down on Google. But, according to Roy Williamson, a research professor at George Washington University’s Space Policy Institute, this isn’t likely to meet with much success. To quote him: “From a legal standpoint, they haven’t got a leg to stand on”.¹⁵ There is admittedly no law on the books about this issue and so the government is not likely to limit the availability of these images. In this regard Andrew McLaughlin, of Google, said his company has recently been in discussions with a few countries over their concerns, including India and South Korea, but said none of the talks had led to requests for images to be removed.¹⁶

Another option would be for the countries to take their grievances to the United Nations. The Principles Relating to Remote Sensing adopted in 1986 broadly states that data-gathering activities such as satellite photography “shall not be conducted in such a manner detrimental to the legitimate rights and interests of the sensed [satellite scanned] state”. But the question is would it work? Ram Jakhu, a professor of space law at McGill University in Montreal, thinks so. “The UN is under obligation to make sure these images are not being distributed in a manner other countries consider harmful,” he says. Jakhu further states that it would be in the interest of all countries for these complaints to be addressed.¹⁷

“High quality satellite data has been commercially available for many years,” says Michelle Petrovich, a spokesperson for the US Department of Homeland Security. “We’ve always taken that into consideration in coming up with security measures.”¹⁸

⁹ Ibid.

¹⁰ Jimmy Lee Shreeve. Science & Technology: I spy with my little laptop. The Independent(London). 21st December 2005. Sourced from LexisNexis.

¹¹ South Korea concerned over Google’s Earth. Indian Express. 1st September 2005. Available at <http://www.expressindia.com/news/fullstory.php?newsid=53794> (Accessed last on 24th May, 2009)

¹² Google Earth poses no risk, Government says. The Sydney Morning Herald. August 8, 2005. available at <http://www.smh.com.au/articles/2005/08/08/1123353256404.html> (Accessed last on 26th May, 2009)

¹³ Jimmy Lee Shreeve. Science & Technology: I spy with my little laptop. The Independent(London). 21st December 2005. Sourced from LexisNexis.

¹⁴ Ibid.

¹⁵ Katie Hafner and Saritha Rai. Google Offers a Bird’s-Eye View, And Some Governments Tremble. The New York Times. 20th December 2005. Sourced through LexisNexis.

¹⁶ Jimmy Lee Shreeve. Science & Technology: I spy with my little laptop. The Independent(London). 21st December 2005. Sourced from LexisNexis.

¹⁷ Elizabeth Svoboda. Google’s open skies raise cries. Christian Science Monitor. 1st December 2005. Sourced through LexisNexis.

¹⁸ Ibid.

An e-mail circulating on the Internet, purporting to be from a US marine who served in Iraq, however, suggests that al-Qaida is using Google Earth as an intelligence tool in its fight against the US military. Under the heading 'Bad guy weapons', the marine says: "Bad guy technology: Simple yet effective. Most communication is by cell and satellite phones, and also by e-mail on laptops. They [the Zarqawi al-Qaida group and others] use hand-held GPS units for navigation and Google Earth for overhead views of our positions. Their weapons are good, if not fancy, and prevalent." The authenticity of this e-mail remains in debate. But Bret Taylor, a product manager at Google, stresses that the company is more than willing to negotiate with foreign officials who have concerns about Google Earth being used as a terrorist tool. "We take security issues very seriously and are willing to talk with representatives from individual countries," he says, and is also at pains to point out that, besides being an educational and recreational tool, Google Earth provides an important public service: "During Hurricane Katrina, we released detailed images of the affected areas, and rescuers were able to save lives as a result."¹⁹

As some law enforcement official commented, "At the moment it only shows buildings and we're about protecting what's in the buildings."²⁰ It would be useful to ponder this as the current level of information disseminated is not something that really concerns us as individuals or national security concerns, but it might be prudent to find out where the technology was going. Why is the current level of technology not bothering? And what till what stage in the development of technology would Governments choose not to react and keep the market unregulated?

In this paper, I will discuss these questions with particular mention of Google Earth and Google Street View. Google is chosen as a case study because of the company's familiar market domination, its global reach and its seemingly 'benevolent' and 'democratic' corporate mission²¹ to "to organize the world's information and make it universally accessible and useful"²². By researching the use of surveillance in Google's web searching tools and in its online applications²³, I hope to develop a critical perspective that is neither blindly utopian nor darkly dystopian in its approach to surveillance.

Much geospatial information may appear, on its face, to be wholly harmless from a privacy perspective. Individual pieces of such information may not allow for the identification of individuals. However, when that same data is combined with other information, it may become possible to identify individuals. Such information might include aggregate data like traffic, census data, crime rates, etc.²⁴ This raises a number of complex questions regarding the point at which geospatial information becomes personal information for the purpose of privacy legislation.²⁵

3.0 Major responses of Governments to the Threat Posed by Google Earth

As the initial shock over the availability of such 'sensitive data' in the hands of the common populace wore off, five main responses emerged from nations around the world to the 'Google threat':- negotiations with Google, banning Google products, developing similar products, evasive measures and pure indifference. We shall deal with them one by one.

A relatively safe and effective option that governments have taken is negotiation with the search giant, Google itself. An example closer to home would be the one carried out by the Indian government and Google officials in 2007 whereby the former asked for blurring of several areas which it considered sensitive. President A.P.J. Kalam in a meeting of police officials reportedly expressed his growing concern that "developing countries, which are already in danger of terrorist attacks having been singularly chosen" for providing high resolution images of their strategic sites.²⁶

The talks about blurring some locations viewable by means of Google Earth came out of a conference between science and technology ministers from the Indian government and officials representing Google Inc. The

¹⁹ Jimmy Lee Shreeve. *Science & Technology: I spy with my little laptop*. The Independent (London). 21st December 2005. Sourced from LexisNexis.

²⁰ Ibid.

²¹ The informal motto of Google is "Don't Be Evil". See investor Relations—Google Code of Conduct. Available at <http://investor.google.com/conduct.html> (Accessed last on 28th May, 2009)

²² Alexander Mahan. *From Panopticism to Pleasure: Surveillance, Search and Consumerism in Google's Information Empire*. Contemporary Cultural Processes, Goldsmiths College, University of London, 2007. available at http://www.digital-hearth.com/download/alexmahana_diss_final.pdf (Accessed last on 20th May, 2009)

²³ David Lyons. *The Electronic Eye: The Rise of Surveillance Society*. Cambridge: Blackwell, 1994.

²⁴ Lisa Madelon Campbell and Daniel Caron. *The Unique Challenges to Privacy Rights Posed by the Internet and Other Emerging Technologies*, Internet Law Conference The Second Wave: New Developments, Challenges and Strategies. March 27-28, 2008. Available at http://www.priv.gc.ca/speech/2008/sp-d_080327_lc_e.cfm (Accessed last on 19th May, 2009)

²⁵ Big Brother must learn when to turn a blind eye. *The Age* (Melbourne, Australia). September 25, 2008. 1st edition. Sourced through LexisNexis.

²⁶ Google Faces Terror Claim. *Hobart Mercury* (Australia). 17th October 2005. Sourced through LexisNexis.

Indian government has said that detailed plans of buildings and accurate maps could prove a windfall to extremists in locating targets and making easy plans. India's fears were first aired in 2005—soon after the service launched.²⁷

In response, Google representatives made a statement:

“Google has been talking and will continue to talk to the Indian government about any security concerns it may have regarding Google Earth. We are pleased to have initiated dialogue with the Indian government, the discussions have been substantive and constructive, but no agreements have been made... We have committed to continue the dialogue.”²⁸

In “exceptional” circumstances Google said it would also blur images making up the virtual Earth. Sites masked in this way mostly include nuclear power plants, official buildings and the offices of security services.²⁹

The governments of South Korea and Thailand and lawmakers in the Netherlands have expressed similar concerns. South Korean newspapers said Google Earth provided images of its presidential Blue House and military bases in the country, which officially is on a war footing with North Korea. The North's main nuclear facility at Yongbyon is among sites displayed on the online mapping service.³⁰

The actual turning point for Google Earth and its link to terrorists can be traced to the Basra incident in early 2007 when it was reported that terrorists attacking British bases in Basra were using Google Earth imagery. Photo print-outs of buildings inside the base, and other vulnerable areas were among documents seized from the insurgents. Written on the back of one set of photographs taken of the Shatt al Arab Hotel, headquarters for the 1,000 men of the Staffordshire Regiment battle group, officers found the camp's precise longitude and latitude. The Daily Telegraph reported that Google then took the rare step of replacing the images of military positions there with others taken before the war. Google announced only that it had opened channels of communication with the military in Iraq but would not go into details of those conversations.³¹ After the Basra incident,³² Google Earth seemingly became more open to dealing directly with foreign governments to assuage their security concerns. It agreed to blot out British bases in Iraq and other sensitive UK installations such as the eavesdropping base at Cheltenham and the Trident nuclear submarine pens in Faslane, Scotland.³³

In 2007, the Chinese government created an online geographical information security management and coordination group to regularly browse online map sites, including Google Earth. When problems are discovered, they are raised either with Google's China headquarters or through diplomatic channels. “Google has been very cooperative in the course of communications,” a Chinese spokesman stated.³⁴

A popular strategy adopted by the developing nations like India and China has been to **develop a product similar to Google Earth**. Several countries have opted to create their own version of Google Earth. Digital Thailand, first announced early in 2006, was developed using NASA's Whirlwind engine. In May 2008, the Indian Space Research Organization (ISRO) announced plans to provide imagery of earth in a variety of spectral bands and a resolution better than one meter in its own mapping service tentatively named ‘BHUVAN’ beginning late in 2008. “Our images will be on our website six months from now,” ISRO Chairman G. Madhavan Nair told

27 Rama Chima. Indian government in talks to blur Google Earth, BBC News. Available at <http://news.bbc.co.uk/go/pr/fr/-/2/hi/technology/6331033.stm> (Accessed last on 20th May, 2009)

28 Ibid

29 Google Earth prompts Indian fears. BBC News. 5 February 2007. Available at <http://news.bbc.co.uk/2/hi/technology/6331033.stm> (Accessed last on 6th May, 2009). See generally Miguel Helft. California Lawmaker Wants Online Map Images Blurred. The New York Times. 3rd March, 2009. But see Elinor Mills, Google's Street-Level Maps Raising Privacy Concerns, USA Today, June 1, 2007. Available at http://www.usatoday.com/tech/news/internetprivacy/2007-06-01-google-maps-privacy_N.htm. (Bankston has argued that Google should have taken measures to obscure the identities of those captured by Google cameras prior to debuting its street-level mapping software, especially given the potential for someone to be photographed, even through their home windows, “in an embarrassing state of undress.”)

30 Google Faces Terror Claim. Hobart Mercury (Australia). 17th October 2005. Sourced through LexisNexis.

31 Thomas Harding. Terrorists' use Google maps to hit UK troops. The Telegraph. 13th Jan 2007. Available at <http://www.telegraph.co.uk/news/worldnews/1539401/Terrorists-use-Google-maps-to-hit-UK-troops.html> (Accessed last on 8th May, 2009)

32 See also Tony Hung. ‘Terrorists Using Google Earth to Pinpoint Attacks.’ Blog Herald. January 15, 2007. Available at <http://www.blogherald.com/2007/01/15/terrorists-using-google-earth-to-pinpoint-attacks> (Accessed last on 6th May, 2009)

33 Google Blots out Iraq Bases on Internet. 20 January 2007. As quoted in The Google Controversy-2 Years later. Open Source Center Report. 30th July 2008. Available at www.fas.org/irp/dni/osc/google.pdf (Accessed last on 6th March, 2009)

34 China Takes Measures To Counter Google Earth's Leakage of Secrets About Its Terrain. Zhongguo Tongxun She. 29 May 2008. As quoted in The Google Controversy-2 Years later. Open Source Center Report. 30th July 2008. Available at www.fas.org/irp/dni/osc/google.pdf >

reporters. Pointing out that certain locations with high security risks were prohibited by law from being imaged, he added, "We are figuring that out. The remaining places, of course, would be on the net."³⁵

The Indian space organization will use images taken at least a year ago by its seven remote-sensing satellites in orbit around the earth, including Cartosat-1 and Cartosat-2. These satellites shoot images, as minute as a car on the street, to build a three-dimensional map of the world. Minutiae such as roads and soil patterns on the maps would be offered only for the Indian region, however. Bhuvan, which uses high-resolution images, will comply with India's remote sensing data policy, which does not allow online mapping services to show susceptible locations such as military and nuclear installations. High-resolution images are those that show locations of 1 sq. m or less on earth. Distinct from Google Earth, the Bhuvan application will not be downloadable and will not allow users to host content in the near future.³⁶ The state-run news agency reported that China, too, is developing its own version of Google Earth. The article mentioned three possible names China Earth, Google China, or Image China and stated that it will make its debut in 2009. Other countries have embraced the Google technology. A Chinese article noted that "... the major powers...all possess better satellite reconnaissance capabilities and [therefore] have no need for Google Earth's services.

However, to countries that do not have any reconnaissance satellites, Google Earth has provided them with a new channel for securing intelligence information, which enables them to more easily find out about certain aspects of large military facilities of other countries, such as their airports and seaports."³⁷

Another method has been to take evasive measures. This is a more risky method as the particular nation has to know from beforehand as to what exactly is the method by which the geo-spatial image data is being collected. By knowing these methods, the threats posed by Google Earth can be minimized thereby reducing the chances of a crumbling national security across states. The importance of anti-reconnaissance methods cannot be more emphasized at this juncture. Properly camouflaging of high-security areas especially keeping such areas out of the sight of satellites would be a sensible option.³⁸ Keeping them underground or making mountain installations as has been adopted by Norway would be a clever way to deal with the possible threats.³⁹

A more stringent approach is to ban Google Earth and similar products. This has been undertaken most notably in China in 2008 when it started a crackdown on the illegal mapping sites. Chinese officials also mentioned that the crackdown will extend to foreign companies and individuals who were engaged in publishing online maps as they would have to obtain permission from the Central Government to continue. The campaign was also intended to target websites that make mistakes such as labelling Taiwan a "country", wrongly drawing national boundaries, or omitting islands such as the South China Islands, Diaoyu Islands and Chiwei Island, Min said.⁴⁰ Even a hotline was created for the public to lodge complaints.⁴¹ Google Earth was banned in Sudan reportedly due to the U.S. export restrictions and economic sanctions regulations. Knowledge of the restrictions spread after Google Earth added a data layer on the humanitarian crisis in the Darfur region.⁴² In Bahrain in early 2006, Google Earth was banned for three days from being accessed by means of an order from the Ministry of Information to all Internet Service Providers in the country. This was allegedly done after Google Earth was displaying the inequities in wealth in the nation and did not concern itself with privacy issues at all.⁴³

In India, there has been a strong movement towards the banning of Google Earth and the initiative in this regard seems to have been taken by the public rather than the government. This can be evidenced by the fact that an advocate Amit Karkhanis filed a petition before the Bombay High Court to ban Google Earth amid suggestions that the online satellite imaging service has been used by terrorists to plan and carry out the terror attacks that killed more than 170 people in Mumbai in 2008. There are indications that the gunmen who stormed Mumbai on November 26, and the people trained them, were technically literate. The group appears to have used complex

³⁵ ISRO aims to rival Google Earth. European Association of Remote Sensing Companies(EARSC). 23rd May 2008. Available at www.fas.org/irp/dni/osc/google.pdf (Accessed last on 6th March, 2009)

³⁶ K. Raghu. Bhuvan: Isro's answer to Google Earth. Live-mint.com—the Wall Street Journal. Available at <http://www.livemint.com/2009/03/03225016/Bhuvan-Isro8217s-answer-to.html> (Accessed last on 6th March, 2009)

³⁷ Yuan Lin, "Google Earth; Is Traveling Around the World Online Leading to a Divulging of Secrets?" September 2006. As mentioned in The Google Controversy-2 Years later. Open Source Center Report. 30th July 2008. Available at www.fas.org/irp/dni/osc/google.pdf (Accessed last on 6th March, 2009)

³⁸ China: PLA Training Emphasizes Countermeasures Against Imagery Reconnaissance. Open Source Center Analysis. 31st July 2007. available at <http://www.fas.org/irp/dni/osc/china-imagery.pdf> (Accessed last on 6th March, 2009)

³⁹ Aftenposten article "'Seeking To Hide Norwegian Installations,'" 06 April 2006. as mentioned in The Google Controversy-2 Years later. Open Source Center Report. 30th July 2008. Available at www.fas.org/irp/dni/osc/google.pdf (Accessed last on 6th March, 2009)

⁴⁰ http://news.xinhuanet.com/english/2008-03/25/content_7858467.htm

⁴¹ Crackdown on illegal mapping websites. China Daily. 27th March 2008. Available at http://www.chinadaily.com.cn/cndy/2008-03/27/content_6568286.htm (Accessed last on 27th March, 2009)

⁴² Bogdan Popa. Google Earth Banned in Sudan. Softpedia. 23rd April 2007. Available at <http://news.softpedia.com/news/Google-Earth-Banned-In-Sudan-52766.shtml> (Accessed last on 25th March, 2009)

⁴³ The Google Controversy-2 Years later. Open Source Center Report. 30th July 2008. Available at www.fas.org/irp/dni/osc/google.pdf (Accessed last on 6th March, 2009)

GPS systems to navigate their way to Mumbai by sea. They communicated by satellite phone, used mobile phones with several different SIM cards, and may have monitored events as the siege unfolded via handheld Blackberry web browsers. The petition also urged the court to direct Google to blur images of sensitive areas in the country until the case is decided.⁴⁴ The legal petition also follows unconfirmed reports that Faheem Ahmed Ansari, a suspected militant who was arrested in the northern state of Uttar Pradesh in February, said he was shown maps of Indian locations on Google Earth by members of Lashkar-e-Taiber, the Pakistan-based terrorist faction that Indian officials are convinced was behind the Mumbai attacks.⁴⁵

The most interesting response of nations has been of **indifference**. In truth, Google offers little cause to agonize over. The majority of the images it displays on Google Earth come directly from government sources such as the US Department of the Interior and the US Geological Survey's Land-set, which have long standing open data policies. Others come from open access commercial sources such as Digital Globe and MDA Federal Inc.⁴⁶ Google holds no proprietary right to any of the photos it displays, and many were part of the public domain long before Google Earth came on the scene. More than 3,000 satellites currently orbit the planet collecting photographic and other data. It can mostly be accessed by an interested researcher or buyer.⁴⁷ What Google earth is essentially doing is to make such data available for all and free of cost, i.e., democratization of geo-spatial data. While the information itself is open source, the technology used to disseminate such information is not open source in itself.⁴⁸

How far countries would be likely to pursue their disputes with Google depends on the level of the professed security risks according to Professor Jakhu. If a nation's concerns are negligible, it would in all probability be indisposed to voice its concerns and endanger existing diplomatic ties but if a threat looms large enough, foreign officials may be willing to take some extreme steps. As Jakhu states:

"It's like any dispute at a personal level... If my neighbours' pigeons got into my yard, I wouldn't start a big fight about that, because I wouldn't want to damage our relationship. But if they put a snake in my children's room, that's a much more serious matter and would warrant a bigger response."⁴⁹

4.0 Possible Legal Issues for Individuals and some suggested Legal Solutions

Since the responses will not resolve every issue and dispute, the potential for litigation involving satellite and aerial images remains a distinct possibility. Plaintiffs could seek both equitable and legal remedies. How would a court consider a homeowner's complaint seeking injunctive relief to compel Google Earth to remove detailed aerial images of a homeowner's property? If a person's image was also depicted in the photograph, could that individual compel the website to remove or blur the image? What if a criminal uses online mapping services to conduct surveillance and ultimately commits a crime? Could Google Earth or another similar provider of online satellite images be liable under a tort action? If government agency posts or utilizes online satellite imagery, can the public entity or its officers and agents face liability? The potential civil liability for users, providers and disseminators of online satellite and aerial images remains an open legal question since the availability of online remote sensory data remains in its infancy stage.

Till date, there have been a couple of reported cases involving Google Earth but all of them have been decided in the favour of the search giant. The first of these was *Alan Boring v. Google* which was filed by a Pennsylvania couple in April 2008 against the search giant claiming that its Street View was a major invasion of their privacy because Street View cameras captured images of their house beyond signs marked "private road." The couple claimed in their five-count lawsuit that finding their home clearly visible on Google's Street View caused them "mental suffering" and diluted their home value.⁵⁰ They sought more than \$25,000 in damages and asked that the images of their home be taken off the site. However, the U.S. District Court for Western Pennsylvania wasn't impressed by the suit and dismissed it saying the Borings "failed to state a claim under any count."⁵¹

⁴⁴ Rhys Blakely. Google Earth accused of aiding terrorists. Times Online. 9th December 2008. Available at http://technology.timesonline.co.uk/tol/news/tech_and_web/the_web/article5311241.ece (Accessed last on 26th April, 2009)

⁴⁵ Ibid.

⁴⁶ Jimmy Lee Shreeve. I spy with my little laptop. The Independent (London). 21st December 2005. Sourced from LexisNexis.

⁴⁷ Ibid.

⁴⁸ See Alexander Mahan. From Panopticism to Pleasure: Surveillance, Search and Consumerism in Google's Information Empire. Contemporary Cultural Processes, Goldsmiths College, University of London, 2007. available at http://www.digital-hearth.com/download/alexmahan_diss_final.pdf (Accessed last on 20th May, 2009)

⁴⁹ Elizabeth Svoboda. Google's open skies raise cries. Christian Science Monitor. 1st December 2005. Sourced through LexisNexis.

⁵⁰ Steven Musil. Google wins Street View privacy suit. CNET News. 18th February 2008. Available at http://news.cnet.com/8301-1023_3-10166532-93.html (Accessed last on 26th April, 2009)

⁵¹ Ibid.

Another case which has been recently filed is that of *Smith v. Abandoned Ship* where a Los Angeles Musician, inspired by a popular movie drama, researched and found out the alleged location of buried treasure. The petitioner contended that he wants to unearth the ship which he thinks was laden with gold when it veered away from an 1822 hurricane and sank into mud about 160 miles southwest of Houston. But he would get to dig only if U.S. District Judge David Hittner finds that the site is in navigable waters. Otherwise, anything underneath it belongs to the family who claims to own the land and is in court opposing any excavation. The main legal issue in contention is whether the spot Smith wants to dig is on land belonging to the estate of the late Marie O'Connor Sorenson, or whether it is considered navigable waters. The main and possibly only evidence of any treasure on the spot alleged by Nathan are printouts of Google Earth screenshots which shows the outline of the vessel away from the creek where it was alleged to have run aground in a common folklore. The spot he found looks something like a shoe print. Smith had contacted several experts about his find and drove to Texas to check it out, eventually with a metal detector. He testified that the metal detector gave signals of gold and silver existing in that area and put the estimate of the treasure to be at 3 billion dollars.⁵² Now the importance of evidentiary materials provided by Google Earth would possibly be decided in this case—as to whether it could be admitted at all and whether if only on the basis of the Google earth images, Nathan Smith could be allowed to go ahead with the excavation in the case which is still in trial.

4.1 Tort Law

One possible cause of action against providers and users of online satellite and aerial images is a common law **trespass** claim. “The elements for the tort of trespass are a physical intrusion upon the property of another without the proper permission from the person legally entitled to possession of that property.”⁵³ A court, in a possible cause of action against Microsoft, Google etc. one of their third-party image providers would most likely look by analogy to this line of cases under a trespass action. However, a plaintiff homeowner who wants to prevent neighbours and other virtual onlookers from viewing the homeowner’s garden that is visible from above would likely be fruitless in arguing under a common law trespass claim.

The capture of images via satellite does not unreasonably interfere with the possession, use and enjoyment of a homeowner’s property. Cases involving airport noise are helpful. In *Hinman v. Pacific Air Transport*⁵⁴ the Ninth Circuit Bench decided that individual owns only that amount of the air space above his land that he uses or would be likely to use but beyond that limit, the space would belong to the world. This right is not fixed. It varies with our varying needs and is coextensive with them. To quote the Court’s observation:

“When it is said that man owns, or may own, to the heavens, that merely means that no one can acquire a right to the space above him that will limit him in whatever use he can make of it as a part of his enjoyment of the land. To this extent his title to the air is paramount. No other person can acquire any title or exclusive right to any space above him.”⁵⁵

An interesting analogy that has been drawn by the Supreme Court of USA has been between airspace and a public highway. In writing the opinion for the Court in *United States of America v. Causby*⁵⁶, Justice William O. Douglas limited the rights of persons over public airspace by observing:

“We have said that the airspace is a public highway. Yet it is obvious that if the landowner is to have full enjoyment of the land, he must have exclusive control of the immediate reaches of the enveloping atmosphere. Otherwise buildings could not be erected, trees could not be planted, and even fences could not be run . . . The landowner owns at least as much of the space above the ground as he can occupy or use in connection with the land. In sum, legal precedent appears settled that capturing and viewing satellite and aerial images of a person’s private property does not rise to the level of trespass.”⁵⁷

Another tort which can be claimed by individual homeowners and which is quite close to the tort of trespass is that of **nuisance** and has considerable potential in respect to remote sensing. While a trespass action requires deprivation of the owner’s use, enjoyment, and possession of the owner’s property or chattel, nuisance is defined as a condition, activity, or situation (such as a loud noise or foul odour) that interferes with the use or

⁵² Mary Flood. Fortune hunter believes he has Googled gold. Houston Chronicle. 30th December 2008. Available at <http://www.chron.com/disp/story.mpl/chronicle/6186388.html> (Accessed last on 26th April, 2009)

⁵³ *Hoery v. United States*, 64 P.3d 214, 217 (Colo. 2003).

⁵⁴ *Hinman v. Pacific Air Transport*, 84 F.2d 755 (9th Cir.1936)

⁵⁵ *Ibid* at 758

⁵⁶ *United States v. Causby*, 328 U.S. 256 (1946)

⁵⁷ *Ibid* at 264

enjoyment of property; esp., a non-transitory condition or persistent activity that either injures the physical condition of adjacent land or interferes with its use or with the enjoyment of easements on the land or of public highways.⁵⁸

However, satellite imagery would rise to the level of a nuisance because the satellites remain in orbit. Satellites do not cause the noise, light, air pollution, or vibrations caused by large commercial or military airplanes. Therefore, it is likely that a homeowner would fail in a nuisance action where the images are in most cases bought from commercial satellites. A homeowner who brings an action where low-flying airplanes capture images that become available on the Internet might have a stronger claim than satellite-based images. If the airplanes that capture the images cause persistent and constant noise, light, air pollution, or vibration, then the homeowner might have a possible nuisance claim. Since Google Earth, Microsoft and others do not directly employ the aviators but rather obtain the images from third party vendors (such as Digital-Globe⁵⁹) a homeowner would need to list all possible defendants in the complaint. While most courts would likely dismiss a nuisance action, if the airplanes that photograph the images cause persistent and constant noise, light, air pollution, and vibration, a potential nuisance action may exist.⁶⁰

Taking a persons' picture while he or she is walking on the road or is out in the front garden by cameras mounted on cars and then displaying them on the internet for any member of the public to use and see could have potential for causing privacy issues.⁶¹ For example, if a person on Google Street View is shown wearing a particular brand of clothes and Google uses the image to carry a little tag of the nearest store to the user selling that brand of clothes, then the individual so photographed becomes a source of potential commercial exploitation without even his/her realizing so. This is especially relevant since a sizeable chunk of Google's revenue comes from its internet based advertising service called AdWords.⁶² When it comes to the question of the taking of a person's photograph without consent and within the privacy of the person's home appears to constitute an invasion of that person's privacy for which recovery may be had if the intrusion caused the subject to suffer emotional distress.⁶³ The traditional elements of liability for an invasion of privacy civil action are a public disclosure of facts which are private, secluded, or secret and facts which are offensive and objectionable to a reasonable person of ordinary sensibilities under the circumstances.

Although photographs from online satellite and aerial imagery websites usually depict landmarks and commercial locations, some images that are displayed identify certain types of vehicles. While photographs taken on a public street posted online would not likely constitute an invasion of privacy, taking unauthorized photographs of a private residence would in most cases satisfy the needs for constituting invasion of privacy in most countries.

One might be able to conjure up a hypothetical fact prototype where a plaintiff could effectively bring an action for invasion of privacy. Presuming a satellite or aircraft captures the image of a person sunbathing in the nude in their enclosed and secluded backyard and so it is indisputable that a person who sunbathes in his/her enclosed backyard might legitimately claim a reasonable expectation of privacy from onlookers. Next, imagine if that captured image is placed online and a co-worker prints and disseminates the images to the unsuspecting sunbather's colleagues. Thereafter consider the possibility that the sunbather suffers physical and emotional distress from the resulting harassment from co-workers, neighbours and relatives. This supposed situation might satisfy the vital rudiments for an invasion of privacy claim and endure a motion to dismiss. Furthermore, if the co-worker acts with actual malice, or even by conduct showing a reckless or wanton disregard of one's rights, the court may award punitive damages.⁶⁴

Whether or not the distribution of aerial and satellite photographs on the Internet violates the right to privacy remains undecided. Some courts might allow certain cases involving invasion of privacy claims to go to trial where issues of material facts subsist, particularly in those cases involving images of persons on private property where the plaintiff suffers emotional and physical injury. Here it would be pertinent to look at a case

⁵⁸ Black's Law Dictionary 1096 (8th ed., 2004) as quoted in Brian Craig, *Online Satellite And Aerial Images: Issues And Analysis*, 83 North Dakota L. Rev. 547, 555 (2007)

⁵⁹ William J. Broad, North Korea's Nuclear Intentions, Out There for All to See, N.Y. Times, Oct. 8, 2006, at 45 as mentioned in Brian Craig, *Online Satellite And Aerial Images: Issues And Analysis*, 83 North Dakota L. Rev. 547, 555 (2007)

⁶⁰ Brian Craig, *Online Satellite And Aerial Images: Issues And Analysis*, 83 North Dakota L. Rev. 547, 556 (2007)

⁶¹ Josh Blackman, Omniveillance, Google, Privacy in Public, And the Right to Your Digital Identity: A Tort for Recording and Disseminating an Individual's Image over the Internet. 49 Santa Clara L. Rev. 313, 316 (2009)

⁶² See generally Abbey Klaassen. An Ad-Space Odyssey. Advertising Age. 9th October 2006. Sourced through LexisNexis.

⁶³ Clay Calvert and Justin Brown, Video Voyeurism, Privacy, and the Internet: Exposing Peeping Toms In Cyberspace, 18 Cardozo Arts & Ent. L.J. 469, 500 (2000). See also Jamuna D. Kelley. A Computer With A View. 74 Brook L. Rev. 187 (2008)

⁶⁴ See *Pion v. Bean*, 833 A.2d 1248, 1259 (2003). See also Andrew Lavoie. The Online Zoom Lens: Why Internet Street-Level Mapping Technologies Demand Reconsideration Of The Modern-Day Tort Notion Of "Public Privacy". 43 Georgia Law Review 575, 577(2009)

involving the famous Hollywood celebrity Barbara Streisand in *Barbara Streisand v. Adelman*⁶⁵ where the movie star asked the court to move against the defendant for posting unauthorized aerial photographs of her Malibu home in a non-profit based coastal records system. Regarding the claim for invasion of privacy for public disclosure of private facts, “the court held that nothing recognized by the law as private is disclosed in this exterior photo.”⁶⁶ This case however involved a public figure who in many respect had put herself and many aspects of her personal life in the public sphere whereas an individual who chooses not to put himself / herself in the limelight in the least might lead to an entirely different conclusion.

A distinction between real-time and delayed images can be made under an ‘intrusion theory’.⁶⁷ Google Earth’s images are not displayed in actual time. Rather, Google states that “images are photographs taken by satellites and aircraft sometime in the last three years. The images in Google Earth are updated on a rolling basis.”⁶⁸ Images from Windows Live Local are often several months old, but one Microsoft employee admitted in a news article that Microsoft would not rule out the idea of showing live aerial images sometime in the future. With expanding technology and consumer demand, real time high resolution images in the future are a distinct possibility.⁶⁹

5.0 Conclusion

In conclusion it might be said that the current state of technology is not enough to really generate any major issues with regard to concern for national security of countries. But how the technology advances and if it advances to that degree that images allowed to be accessed by any member of the public can be zoomed to the level where one can see the insides of a house or the license plates of cars, then the security of a state could in actuality be threatened. Therefore the course of actions that states could realistically take at this point of time would be to keep a close watch on the research and development on the area of dissemination of geo-spatial information to the general public as also to monitor the companies providing such service so as to facilitate a better dialogue in the future. But even with the current level of technology as we have seen with some concrete examples like Basra or Mumbai, terrorists have been using the freely available Google Earth to coordinate and plan their attacks. The benefits which might be available to the public like the pure pleasure of flying over well known monuments are being diluted by the negatives of the provision of such services to a certain extent. Possibly if the zooming facilities of the services provided can be reduced then this problem can be kept in check. But overall it might be kept in mind that Google Earth works the same way that an ordinary map would, so terrorists using a map would not persuade us to stop manufacturing maps altogether. With individuals however there are two aspects of concern—the individual privacy which is a moral right of every human being and the commercialization of a person’s body or property like cars without his permission. Since the Law of Torts is the omnipresent branch of law which steps in whenever there is a deficit in any particular sphere, we have already looked at the remedies which can be provided under it.

Lawmakers need to take a closer look at this ever-growing and alarming prospect of invasion of privacy if they want to protect the sanctity of a person’s home and hearth. For now, Google Earth remains a popular service.

⁶⁵ *Streisand v. Adelman*, Case No. SC 077 257 (Cal. Super. Ct. Dec. 31 2003) as mentioned in Brian Craig, *Online Satellite And Aerial Images: Issues And Analysis*, 83 North Dakota L. Rev. 547, 558 (2007)

⁶⁶ *Ibid.*

⁶⁷ Brian Craig, *Online Satellite And Aerial Images: Issues And Analysis*, 83 North Dakota L. Rev. 547, 557 (2007)

⁶⁸ Common Questions about Google Earth. Available at http://bbs.keyhole.com/ubb/ubbthreads.php?ubb=showthreaded&Number=68845&site_id=1#import (Accessed last on 22nd April, 2009)

⁶⁹ See Josh Blackman, *Omniveillance, Google, Privacy in Public, And the Right to Your Digital Identity: A Tort for Recording and Disseminating an Individual’s Image over the Internet*. 49 Santa Clara L. Rev. 313, 316 (2009)