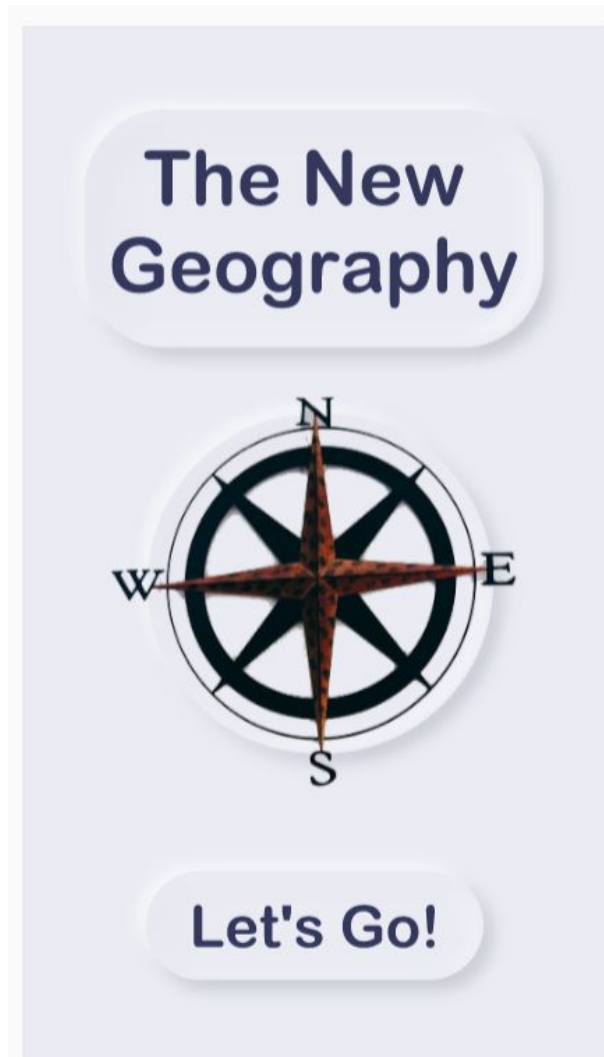


# The New Geography App

Name: Aarav Varshney  
Professor: Debayan Gupta  
The New Geography of the Information Age - CS-2378-1

Date: 17th August, 2020



## App Overview

The New Geography app aims to make users aware of the various restrictions put on the internet, in this case, Maps. This project is made under the theme of Control in The New Geography course, offered by Professor Debayan Gupta, Ashoka University.

The app has sections such as 'China', 'South Korea', 'Others' and, 'Bonus'. The sections represent various restrictions that have been put on Google Maps, where they do not allow certain places to be seen/accessible on the Maps.

In 'China', there are two options, you can choose to know about the problem(restriction), which leads you to the map of China, where Tiananmen Square is already loaded on the maps. Now, you'll see a red marker on the location, but if you long press on the map, you can enable the

satellite view and observe that the location in fact isn't there. The reason as to why this happens

is because the Chinese Government mandates everyone to use its own geodetic datum GCJ-02 instead of the standard WGS-84.

In the solution, a conversion between the two datums has been implemented from the leaked code, multiple sources have been used to uncover the final code and then used to find the exact point on Google Maps. See [github](#) for code.

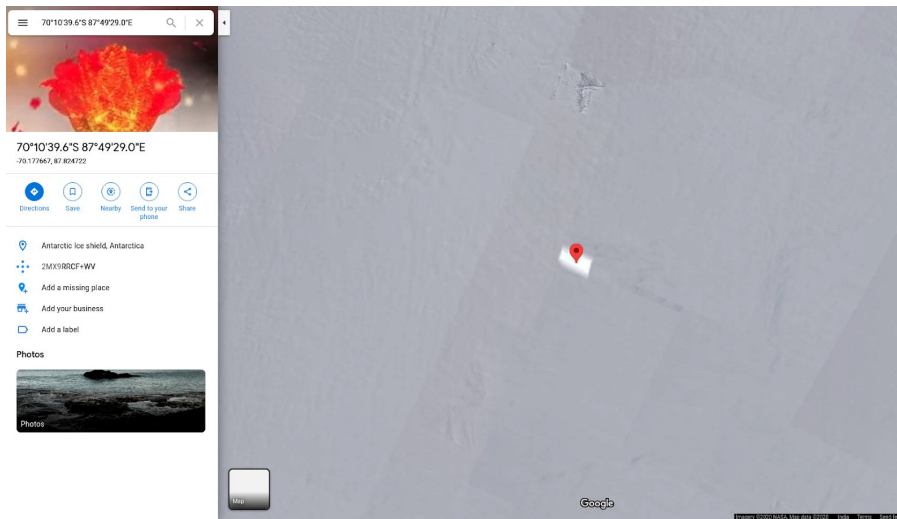
## South Korea

In South Korea, the government has restricted Google from mapping its country as they couldn't strike a deal where the government had requested Google to show some restricted locations in low resolution. And now, as you can see in 'What's the problem' section, the map for the country is static and doesn't offer navigation capabilities.

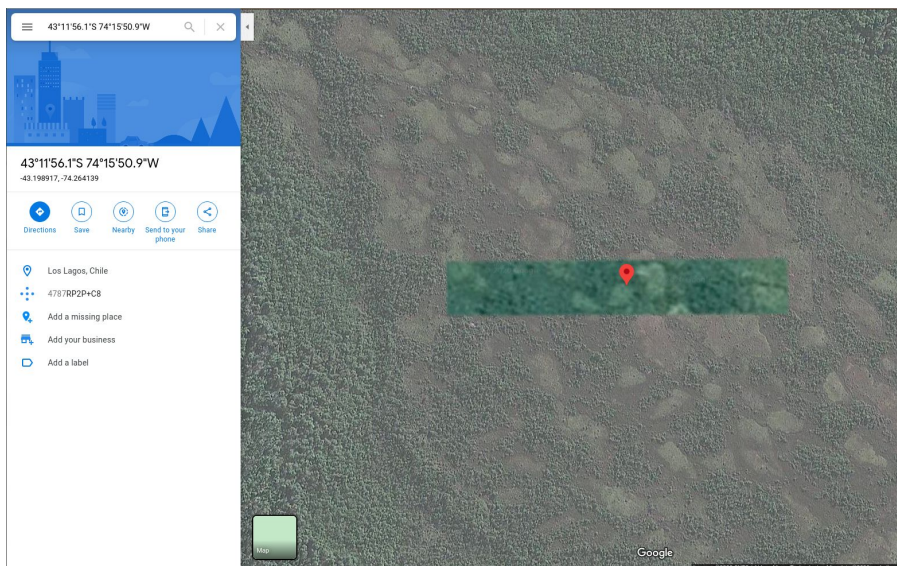
A few of the other reasons for the restrictions are due to the Spatial Data Industry Promotion Act and the Promotion of Military Bases and Installations Act, which bar the export of map data outside the country. And having North Korea as a neighbor certainly doesn't help either.

One solution to this is to opt for indigenously developed apps such as Naver and Kakao. The laws though have in fact given local companies to keep Google and Apple out of the market.

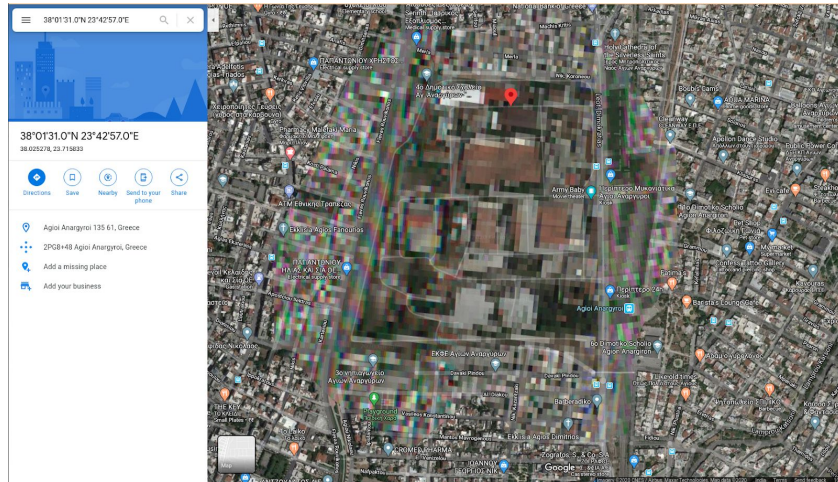
## Others:



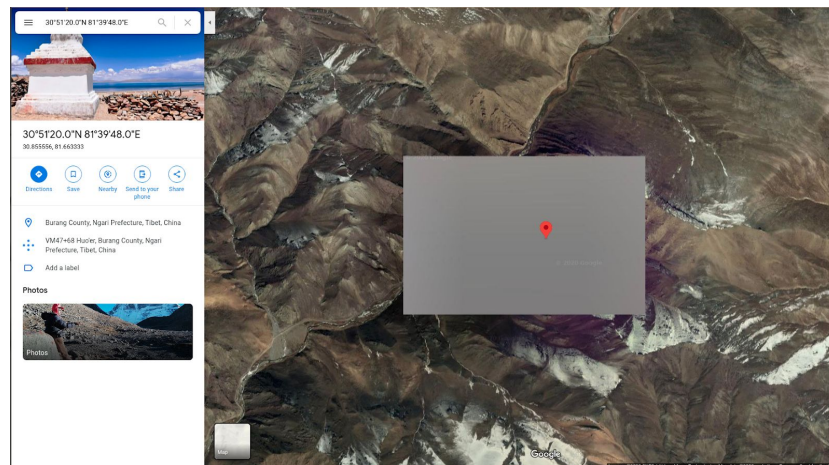
Blurred area in Antarctica



Low resolution area in Tantauco National Park, Chile



The Ayioi Anargyroi Military Base, Athens appears pixelated on Google Maps.



Large obscuring pixelation in Tibet, China



### Blurring of 2207 Seymour Avenue on Google Street View

There are several types of restrictions put on google maps other than the first two, which are more on the country level. These restrictions are limited to particular regions and sites.

The different kind of restrictions are:

1. Large obscuring pixelation of the whole site
2. Reduced resolution on most of the images.
3. Blurred in Google Maps
4. Pixelation of military sites.
5. The blurring of particular locations on the Google Street View
6. The blurring of entire islands(Amchitka Island)

As a solution, well there are none other than physically visiting these places but this is exactly where we see the downside of these restrictions! The Barbara Streisand effect where an attempt to hide, remove, or censor information has the unintended consequence of further publicizing that information, often via the Internet. So this is..exactly that. If you go on the Wikipedia page for restricted locations on google maps, you'll find an entire compilation within each continent!



So there's a thought that had the sites not been restricted, maybe these sites wouldn't have gotten so much attention.

## Bonus

As we have seen with so many restrictions, the restrictions are often bypassed and cause unnecessary convenience. While restrictions are never good, countries do have a point when they restrict certain sensitive locations which could be but not limited to confidential research centers, military bases or buker houses. But the way they have been going about it just brings more attention to these places.

So instead of blocking out an entire area, or pixelating sites, or even distort the maps for the whole country they could look into algorithms such as the one mentioned below:

- An algorithm which unlike other obfuscation algorithms so far is much harder to reverse.
- The algorithm is based on what Professor talked about in the class, we pick the coordinates as vertices of a triangle and stretch the triangles by a randomly generated magnitude.
- This algorithm is better than permanently obfuscating certain locations which again causes Streisand effect.
- If a user navigates to or near a restricted location, from some distance they'll be navigated with slightly offset coordinates but as they get nearer to the site, the effects become much adverse.
- This way it might be possible to hide the location without the user suspecting a particular location as the offset would be very slow and gradual.

# Maps

Maps play an important part in geopolitics, countries constantly use maps to influence their power over other countries. This has a much larger impact on territorial occupation and trade.

- “Maps being sold in America are showing an alternate view of the world that legitimizes the Chinese regime's territorial claims in the South China Sea, and its land disputes elsewhere. This move is being pushed under Chinese law, and companies that have their maps and globes manufactured in China are being forced to use the regime's altered versions.”<sup>1</sup>
- “Nepal on Wednesday released its new political and administrative map, the first since the signing of the Treaty of Sugauli in 1816, including territories that have long been claimed by both Nepal and India, prompting analysts to describe it as a “cartographic war” between the two countries.”<sup>2</sup>
- “Pakistan on 4 August 2020, in a cannily crafted move, revealed a new political map of Pakistan subsuming new Indian territories within its domain. The timing and essence of the move was not lost on anyone, more particularly India, whose territories it has notionally subsumed into its boundaries. The timing of the move, coming on eve of first anniversary of India's annulment of Article 370 and 35A of its constitution, granting special status to Jammu and Kashmir (J&K), revealed Pakistan's devious agenda to not only keep the pot boiling in J & K but also reveal its roguish mindset to escalate tensions by claiming territories of India.”<sup>3</sup>

---

1

[https://www.theepochtimes.com/china-is-altering-maps-in-american-schools-to-legitimize-its-land-grabs\\_3246155.html](https://www.theepochtimes.com/china-is-altering-maps-in-american-schools-to-legitimize-its-land-grabs_3246155.html)

2

<https://kathmandupost.com/national/2020/05/21/with-release-of-new-map-nepal-and-india-enter-a-state-of-cartographic-war-experts-say>

3

<https://www.financialexpress.com/defence/pakistans-new-map-escalating-conflict-by-cartographic-assertion/2054121/>

## Links

1. Github: <https://github.com/aarav22/The-New-Geography>
2. Presentation: [https://docs.google.com/presentation/d/1RTJTDM3qjqoZs6p\\_dANfB\\_E0AODI\\_I9EEnoH7kHyZBA/edit?usp=sharing](https://docs.google.com/presentation/d/1RTJTDM3qjqoZs6p_dANfB_E0AODI_I9EEnoH7kHyZBA/edit?usp=sharing)
3. App video: <https://youtu.be/Y4c206qRBYo>
4. App link: <https://drive.google.com/file/d/1jjfwiF6AtWrEKszEA9g2bLId1QnG6SX1/view?usp=sharing>



## References

- [1] Kain, Erik. "Pokémon GO' Banned In China", Forbes. January, 2017.  
<https://www.forbes.com/sites/erikkain/2017/01/10/pokemon-go-isnt-coming-to-china-any-time-soon/#7864b8eb681e>
- [2] Chong, Zoey. "Pokemon Go is launching in China, but the Chinese don't care", CNET. January, 2018.  
<https://www.cnet.com/news/pokemon-go-is-launching-in-china-but-the-chinese-dont-care/#:~:text=Last%20year%2C%20Chinese%20authorities%20said,in%20China%2C%20such%20as%20M,aps> .
- [3] Fuentes, Emanuel. "Why GPS Coordinates Look Wrong on Maps of China", ServiceObjects. September, 2019  
<https://www.serviceobjects.com/blog/why-gps-coordinates-look-wrong-on-maps-of-china/>
- [4] China fines UK students for 'illegal map-making'. The China Post, January, 2009.  
<https://web.archive.org/web/20100616150006/http://www.chinapost.com.tw/china/national-news/2009/01/06/190764/China-fines.htm>
- [5] NASG. "Surveying and Mapping Law of the People's Republic of China" .  
<http://en.nasg.gov.cn/article/Lawsandregulations/201312/20131200005471.shtml>
- [6] Dingding, Xin. "Unlawful surveys to be dealt severely", China Daily. March, 2007.  
[http://www.chinadaily.com.cn/china/2007-03/07/content\\_821274.htm](http://www.chinadaily.com.cn/china/2007-03/07/content_821274.htm)
- [7] Weedon, Alan. "Why large swathes of countries are censored on Google Maps", ABC News. February, 2019.  
<https://www.abc.net.au/news/2019-02-21/why-large-parts-of-earth-are-censored-by-google-maps/10826024>
- [8] Wikipedia contributors. "List of satellite map images with missing or unclear data." Wikipedia, The Free Encyclopedia. Wikipedia, The Free Encyclopedia, 9 Aug. 2020. Web. 12 Aug. 2020.  
[https://en.wikipedia.org/wiki/List\\_of\\_satellite\\_map\\_images\\_with\\_missing\\_or\\_unclear\\_data](https://en.wikipedia.org/wiki/List_of_satellite_map_images_with_missing_or_unclear_data)

[9]Murphy, Samantha. "10 Places You're Not Allowed to See on Google Maps". Mashable. March, 2012. <https://mashable.com/2012/03/20/google-maps-censored/>