NEVER LOST AGAIN

BY MAIDA PINEDA

PHOTO KRIS LEBOUTILLIER

The Topography of Digital Mapping

It's a hot sweltering Tuesday afternoon in Haji Lane, a narrow street in Singapore known for its designer boutiques, shisha cafes, and quirky shops. A sprinkling of fashionistas breeze in and out of the shops in search of the next outfit they can't live without. The wide-eyed tourists are taking it all in: the mosque, the refreshing mint tea, and the plethora of Persian rugs for sale.

As life goes on in this cramped back lane, the Google Trike leisurely rolls by. Wait a minute – the Google *what*? The Google Street View Trike – a mechanical vehicle comprising three bicycle wheels, a mounted street view camera and a box much like an ice cream man's cooler for popsicles. But this is no ordinary cart.

The camera has several lenses aimed at different directions to simultaneously capture images of the street. These pictures are then stored on image-collecting hardware. The images are later processed and stitched together to create maps. Google then blurs the images of faces and license plates on the finalised maps to protect people's privacy. The whole process takes several months.

Launched in May 2007, Street View (a feature of Google Maps and Google Earth) provides 360-degree horizontal and 290-degree vertical panoramic views from a row of positions on the street. Street View has street-level imagery for cities, towns, and parks from more than 100 metropolitan areas around the world.

Trotting Out the Trike

Zerus Lin, a 27-year-old Singapore cyclist dressed in shorts, a bright-red Google shirt, and a Google helmet, operates this mapping contraption. A couple of tourists approach him, ask a few questions, and snap a souvenir photo. Shoppers pull out their cameras, asking Lin what it is. The accommodating cyclist gamely poses for photos. Two weeks into the job, he's thoroughly enjoying the stint with Google.

His task is no easy feat. The Street View Trike weighs over 130 kilograms, requiring much muscle power to make it move forward. But the former IT specialist, once stuck working in an office all day, prefers his new outdoor work environment. Google brought the Street View Trike to Singapore almost a year ago to take photos along public roads. Now, the Street View Trike will gather images of public areas not accessible to cars, as well as private areas where permission has been granted by owners. Lin has already covered the pedestrian-only areas of Holland Village, Chinatown and Haji Lane.

Google also teamed up with the Singapore Tourism Board to conduct an online poll where Singaporeans suggest areas they'd like the Trike to

PHOTO KRIS LEBOUTILLIER

The Google Street View Trike gathers images of public areas not accessible to cars

Google Street View is a great invention for armchair travellers

cover during its stay in the Lion City.

Google's senior mechanical engineer Dan Ratner dreamed up the Street View Trike during a trip to Barcelona, Spain. Ratner caught a taxi to his hotel. The cab driver dropped him off before his destination, saying he couldn't drive through the narrow alleys leading to the hotel.

It took Ratner 20 minutes to negotiate the narrow lanes to find his hotel. In the process, Ratner realised that the coolest places in Spain weren't vehicle friendly. The engineer figured if he had a street view map, he wouldn't be lost. The avid cyclist then went back to the Google office in California and designed a bike that could capture images of the narrow alleys that cars couldn't access.

He immediately built a prototype using parts from a local bike store, home improvement giant Home Depot and a lot of duct tape. After much innovation, the end result is the Street View Trike, the same one roaming the back lanes of Singapore with Zerus Lin.

Mapping Out History

Until the 1960s, cartographers made maps the traditional way. They drew the original map by hand, using land survey measurements. Cartographers produced printed copies depending on the number needed. The advent of computers, satellite imagery, and Global Positioning System (GPS) has revolutionised the way maps are

Geo-Volunteerism in the Philippines

The Philippines is an archipelago with 7100 islands. Its topography features a diverse landscape with many remote and unexplored regions. Maps for these places are in short supply, but thanks to Filipino internet users, that's changing.

Back in October 2008, Google introduced Map Maker in the Philippines. Google Map Maker is an interactive platform, which lets users draw, label, and accurately render map data. Most importantly, it allows users to create maps of uncharted areas, making them visible online to everyone. In the first six months alone, thousands of local users contributed hundreds of thousands of edits. The result is a detailed and far more accurate map of the Philippines, now available on Google Maps.

Filipinos from all walks of life have contributed to the map. Their edits include street-level data, landmark tags and business establishments. They are moderated and verified for accuracy by other users before being uploaded onto Google Maps.

A top contributor, with over 20,000 edits, is Leonel Jose Foronda, a 32-year-old physician. "It was frustrating that maps of my hometown Laoag City were non-existent as there is little information about our roads, sub-localities and our small political units, or 'barangays' as we call them."

When the doctor discovered Google Map Maker, the map of Laoag City was completely blank except for the main highway. His first edit was drawing a road called J.P. Rizal, then adding more details of city boundaries, buildings, and roads along the way. Foronda was hooked, squeezing in between one and four hours of mapmaking every day to his already demanding schedule as a doctor. His work as a mapmaker is purely voluntary, but his commitment runs deep. He says, "I feel

honoured that I am making something that could help travellers, businesses, and even tourism boards by placing them on the map."

PHOTOS HAROLD CUNNINGHAM/GETTY IMAGES

A Google Street View camera fastened on top of a car in Amsterdam

PHOTO GETTY IMAGES

With sites like Google Maps, gone are the days of getting lost or turning to a road atlas

created. Digital maps can now be produced faster, cheaper and more accurately.

Gone are the days of getting lost or turning to a road atlas. Instead, the public turns to sites like Google Maps, MapQuest, Yahoo Maps, or Microsoft's Bing Maps to find directions.

The world GPS market is forecasted to reach $75 billion by 2013. And while there aren't any consolidated figures on online digital map usage, Google Maps was reported to have 51.3 million unique visitors in the US alone, while MapQuest reportedly had 42.2 million unique users.

Travellers are the ones who benefit the most from the Street Trike, getting a glimpse of destinations they will visit. For example, armchair tourists can view the Sydney Opera House, Times Square in New York City, the Eiffel Tower in Paris, and Big Ben in London before actually visiting these famous landmarks. Drivers can also check practical details like the closest carpark. Joggers and cyclists can get an idea of their paths before heading out to their routes.

Back in Haji Lane in Singapore, it's the end of the workday for Zerus Lin, after several hours pedalling on the Trike. He's keen on taking the Street Trike to unusual destinations like Pulau Ubin, about ten minutes away from the mainland by bumboat. This island is popular among cyclists for its varied terrain and charming old-fashioned village setting.

In the meantime, Lin heads off to meet the Google Truck. Yes, the Google Truck, which picks up the Street View Trike every evening. Lin and the truck driver set a different meeting point after every mapping day. And finding a meeting point isn't a problem at all – they'll just Google it! ■