

Cell eMap Live Updates System - Claim

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The purpose of the 'Cell eMap Live Updates System' invention is intended to divide the earth map in cells based on Latitudes and Longitudes in 10°, 1° and down to 1km square cell maps. The Latitudes and Longitudes (LAT) in 10° Cell eMap is used for Spaces Programs, high speed flying objects for military or earth scanning methods. The Latitudes and Longitudes (LAT) in 1° Cell eMap is used for faster map scanning and locating a position on earth easier and faster. The highest resolution of Cell eMap is the 1km square cell and is used for mapping and navigating system in city or crowded areas. The 'Cell eMap Live Updates System' provides maps in cells with all the cell maps in numbering orders and the vehicles can explore along the city maps in geometry layout easier; the Cell eMap System would provide the local Traffic Control Offices updating the roads or traffic conditions to broadcast the live updates for local roads and traffic conditions right before the vehicles rolling on the cell maps. The Cell eMap Towers can be built with the LPS Towers which was mentioned in the 'LPS Navigation System' invention, to broadcast the cell maps for map navigating easier. This invention claim shows the overview figure of this invention which was submitted on 2022/11/07 with U.S. PCT/US22/79368 and International PCT/IB2022/000685 Patent Numbers, which can be used as the representing invention drawing to print on the patent frame and the following functions and features of this invention.

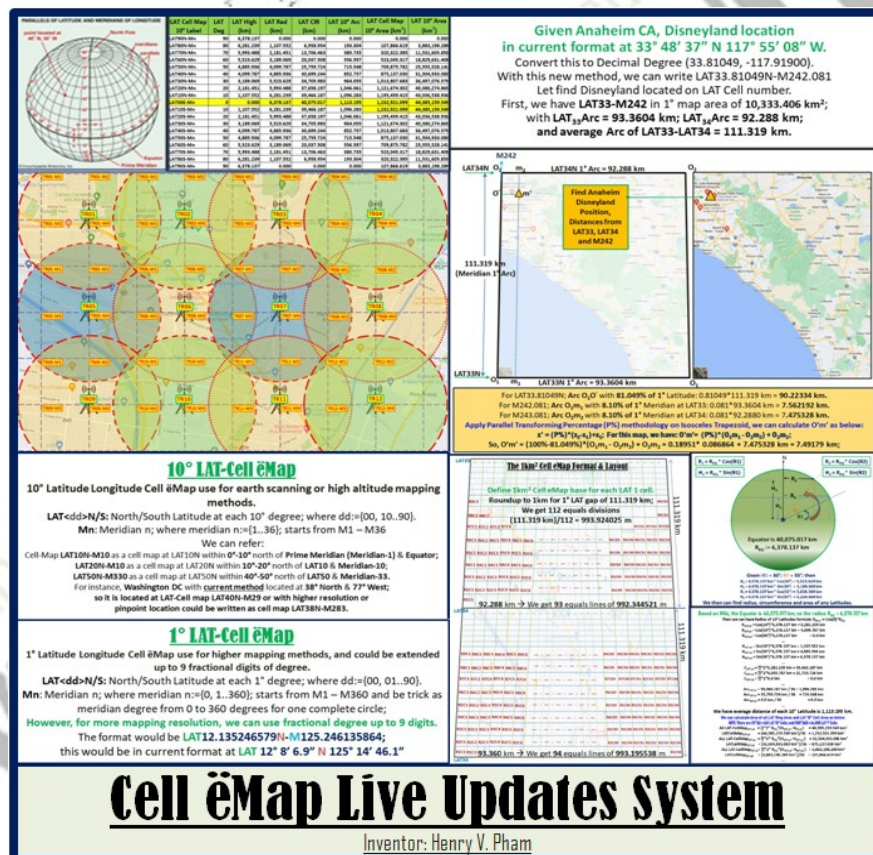


Figure-A: Cell eMap Live Updates System -- Overview

1. The main apparatus for the Cell eMap Live Updates System, comprising:

The Cell eMap Live Updates System would come with the Map Towers Network that broadcast cell maps, and all the cell maps are divided and assigned with numbering orders for mapping and navigating

Cell eMap Live Updates System - Claim

faster and easier with multi-language supported for Points of Interests translated into different languages in markup tags and broadcasting along with the map where the users' map devices can display with the preset display language. The local Traffic Control Offices would handle and update the roads and traffic conditions so the Map Towers can broadcast the live updates along the local roads. Wherein, the cell maps would be divided in 1km square cells within 1 degree Latitude and Longitude (LAT) Cell eMap, and the 1° degree LAT Cell eMaps would be divided within 10° degrees LAT Cell eMap. The cell maps would be assigned with numbering orders based on the Median Number and the Latitude Number starting from Primary Median and the Equator. The Cell eMaps would be defined as neighbor cell maps or connected cell maps and stored in the Database to support Neighbor-to-Neighbors Routing Technology which was mentioned in the 'G-ROUTING ALGORITHM METHODOLOGY' invention which was submitted on 2022/12/23 with U.S. PCT/US22/82347 and International PCT/IB2022/000800 Patent Numbers and originally intended for Cloud OS Neighbor-to-Neighbors Routing Technology.

2. The Earth map layout apparatus for the Cell eMap Live Updates System, comprising:

The entire Earth map would be divided in 10° Latitudes and Longitudes with total of 648 cell maps which can be used to install Location Transponder Poles for the 10° Latitudes and Longitudes Locations Marks for Space Programs, 1° Latitude and Longitude with total of 64,800 cell maps, and 1km square cell maps would be divided within the 1° LAT Cell eMap. Wherein, the Cell eMap layout and cell maps numbering would be divided starting from the Primary Median and the Equator; the 10° Cell eMap format would be 'LAT<DD>N-Mn' and 'LAT<DD>S-Mn' where 'DD' stands for every 10° LAT, 'N' stands for North, 'S' stands for South, and 'n' stands for median number 1-360 with the layout starting from the Equator, LAT00E-M0 stands for Latitude at 0° (Equator) and Meridian 0 at 0° degree. Similar to the 10° LAT Cell eMap layout, the 1° Cell eMap format would be 'LAT<dd>N-Mn' and 'LAT<dd>S-Mn' where 'dd' stands for every 1° LAT, 'N' stands for North, 'S' stands for South, and 'n' stands for median number 1-360. All the 1° degree Cell eMaps are approximately in Isosceles Trapezoid transformation shape except the ones right at the North or South poles; the 1km square Cell eMaps would be divided approximately or equal to 1km in length on each side of the 1° trapezoid map based on the sides of each cell map. This 1km square cell maps division rule would be for all cell maps, and the Neighbor Cell eMap is the cell map that has at least 1 road/way go through which would be used listed in the Cell eMap Database and used by the Neighbor-to-Neighbor routing technology for mapping and navigating systems.

3. The Cell eMap Towers Layout apparatus for the Cell eMap Live Updates System, comprising:

The Cell eMap Towers can be built with the Cell Towers and LPS Towers and would be layout along the roads and cities with signal coverage widely to broadcast cell maps for Map Navigation Systems on the smart devices or vehicles; the LPS Tower that was mentioned in the 'LPS Navigation System' invention which was submitted on 2022/11/07 with U.S. PCT/US22/79369 and International PCT/IB2022/000671 Patent Numbers. Wherein, the Cell eMaps are divided and assigned with numbering orders, and the vehicles do not require to have Internet Connection which is better for security purposes, to navigate when the vehicles are preloaded with high level city-map layout, and Cell eMap Towers would broadcast the cell maps around the towers in details with roads and traffic conditions before the vehicles rolling on the maps.

Cell eMap Live Updates System - Claim

4. The Cell eMap Position Format on earth apparatus of claim 1 & 2, further comprising:

The new Cell eMap Position format would be better and easier to remember compare to the existing Geographic Coordinate System that currently uses for GPS Position Format. Wherein, the existing GPS Position Format defined in dual $DDD^{\circ} MM' SS.S''$ X1 $DDD^{\circ} MM' SS.S''$ X2 reading as Degrees-Minutes-Seconds-Directions format which is too hard to remember; the new format that use Cell eMap would be LAT<dd.d>X-M<m.m> where 'dd.d' stands for location at LAT dd at 'X' direction, 'M' stands for Median and 'm.m' stands for location at median 'm'. A point of interest Cell eMap on earth with this new method for a given location Anaheim California USA, Disneyland located at $33^{\circ} 48' 37''$ N $117^{\circ} 55' 08''$ W. This format can be converted to decimal degree format as 33.81049° , -117.91900° ; then write this in new format as LAT33.81049N-M242.081. Note that the new format do not use negative degree or negative direction; so -117.91900° will be converted as $360^{\circ} - 117.91900^{\circ} = 242.081^{\circ}$.

5. The Cell eMap Position Location Calculations apparatus of claim 2 & 4, further comprising:

The Position Location Calculations would based on LAT Cell eMap number within the Isosceles Trapezoid transformation shape which would be easy to calculate by geometry calculations or by applying the Parallel Transforming Percentage method which have been used and mentioned in the Parallel Transforming Percentage Theorem which was submitted on 2023/10/23 with U.S. PCT/US23/77507 and International PCT/IB2023/000611 Patent Numbers. Wherein, the new format that use Cell eMap would be LAT<dd.d>X-M<m.m> where 'dd.d' stands for location at LAT dd at 'X' direction, 'M' stands for Median and 'm.m' stands for location at median 'm' and the fraction values are calculated based on coordinates of each cell map that based on the Primary Median and the Equator directions.

6. The Cell eMap Database apparatus of claim 1 & 2, further comprising:

The Cell eMap Database would contain the cell maps details for Points of Interests, the linked or shared roads of neighbor cell maps to support mapping and navigating faster and easier. Wherein, the 1° and 10° Cell eMaps would have the high level shared land details for country border connections; the 1km square cells would have the shared roads to defined Neighbor Cell eMaps which would be used by the Neighbor-to-Neighbors routing algorithm that mentioned in the 'G-ROUTING ALGORITHM METHODOLOGY' invention which would work well for Cell eMaps when the cell maps are well defined the linked or shared roads of the Cell eMaps.

7. The Cell eMap Navigating Algorithm apparatus of claim 1, 2 & 6, further comprising:

The Cell eMap Navigating Algorithm would be Neighbor-to-Neighbors Routing Algorithm which was mentioned in the 'G-ROUTING ALGORITHM METHODOLOGY' invention and in the claim above. Wherein, all the cell maps would be assigned with numbering orders, and the neighbor cell maps would have linked or shared roads; when the navigation system searches for a route from a destination to a target location, the algorithm would provide a list of the cell maps that the route would go through since all the cell maps have the linked or shared roads which would work as the requirements of the 'G-ROUTING ALGORITHM METHODOLOGY' invention with an example of the real map shown with neighbor cell maps on the info table.

8. The Physical Cell eMap Updating apparatus of claim 1 & 2, further comprising:

Cell eMap Live Updates System - Claim

The Physical Cell eMap can be updated to show new Points of Interests or new roads by airplanes, helicopters or Cybercopter Flyers in high altitude which operate by the local map authorized offices or by Satellite Mapping Scanning System. Wherein, we would have the World Maps Service system that can handle maps binding to replace a cell map with a new cell map image in 1km square cell with Points of Interests and road names in standard format to provide map details across the world. The World Maps Service system can be operated and managed by World Organization and authorize for each country to update the cell maps within their own country or can be the global maps service providers.

9. The 1° degree Anaheim City at California USA Cell eMap for comparison apparatus of claim 2, 4 & 5, further comprising:

The Cell eMap provides great and easy to lookup a city on the 1° Cell eMap compare to the existing mapping method. Wherein, the 1° Cell eMap would contain the cities and Points of Interests to provide the Mapping or Navigating systems such as Google Maps or Map Quest to lookup faster and easier since the mapping system only need to focus to lookup on that 1° Cell eMap and the neighbor cell maps. For instance, Disneyland at Anaheim CA is located at the Cell eMap within Latitude 33 and Latitude 34 and within Meridian 242 and Meridian 243 which would form a trapezoid shape with bases 93.360km and 92.288km and the side with 111.319 that would have total of $94 \times 112 = 10,528$ of 1km square cell maps which was shown in Figure-7 and Figure-8 of the original invention document, and the mapping system showing this cell map layout would be faster and easier to remember for the human.

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