Maplat

In the Geo Activity Contest of the MLIT Japan 2018 and 2021, won total 4 prizes including the grand prize

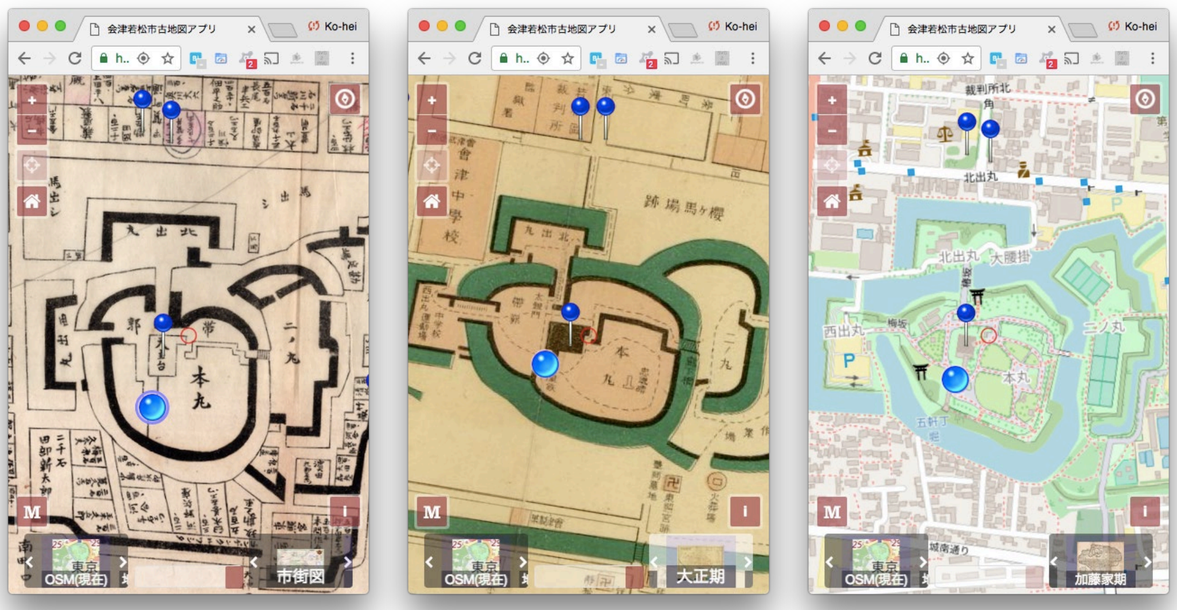
Participating in the GSI Map Partner Network

Solutions for mapping inaccurate maps to accurate maps

- It can switch between inaccurate maps, such as historical maps, and modern maps or overlay them in real time without distorting them or damaging their beauty.
- It can convert not only the center position but also the direction and scale exactly.
- It can convert the entire coordinate system with homeomorphic one to one conversion. (Japan patent, JP-6684776)
- Line elements such as roads can also be converted by the function of converting lines with different shapes into lines.
- Can be embedded into html as a div element and run with API control.
- Mobile friendly - iOS (Framework)/Android (aar) native library support
- PWA (Progressive Web Apps) Support - Weiwudi, a framework for offline caching of map tile images, is also available for existing Web GIS.
- Works with client-side JavaScript only, works within even a closed intranet environment.
- The data editor can also use past maps and aerial photos as base map to identify corresponding points, making it easy to locate historical maps.
- Both tools and editors are open source.

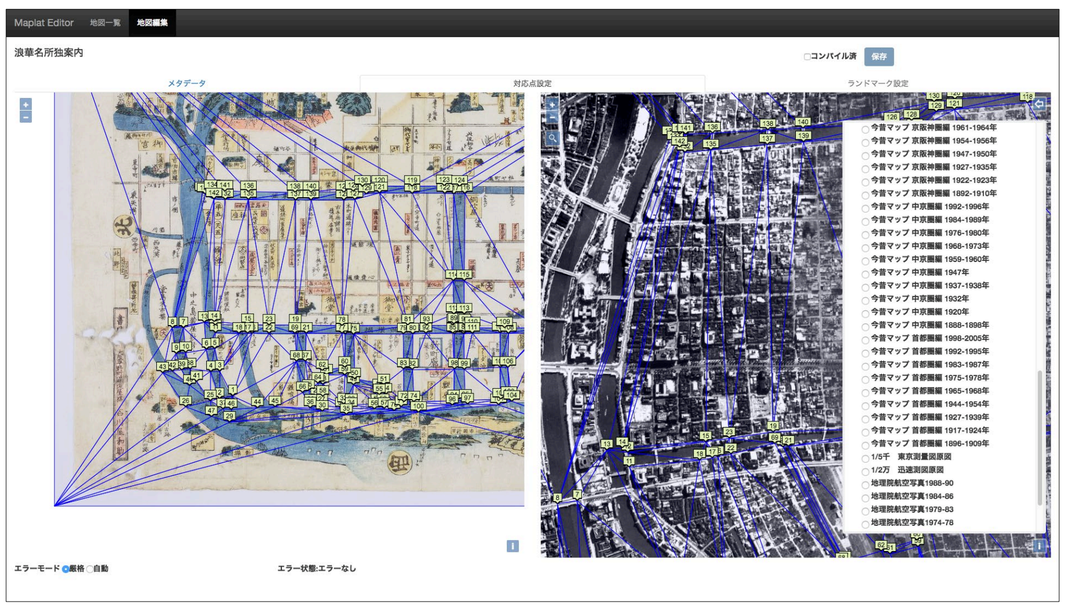
Maplat

https://github.com/code4nara/Maplat/wiki



MaplatEditor

https://github.com/code4nara/MaplatEditor/wiki

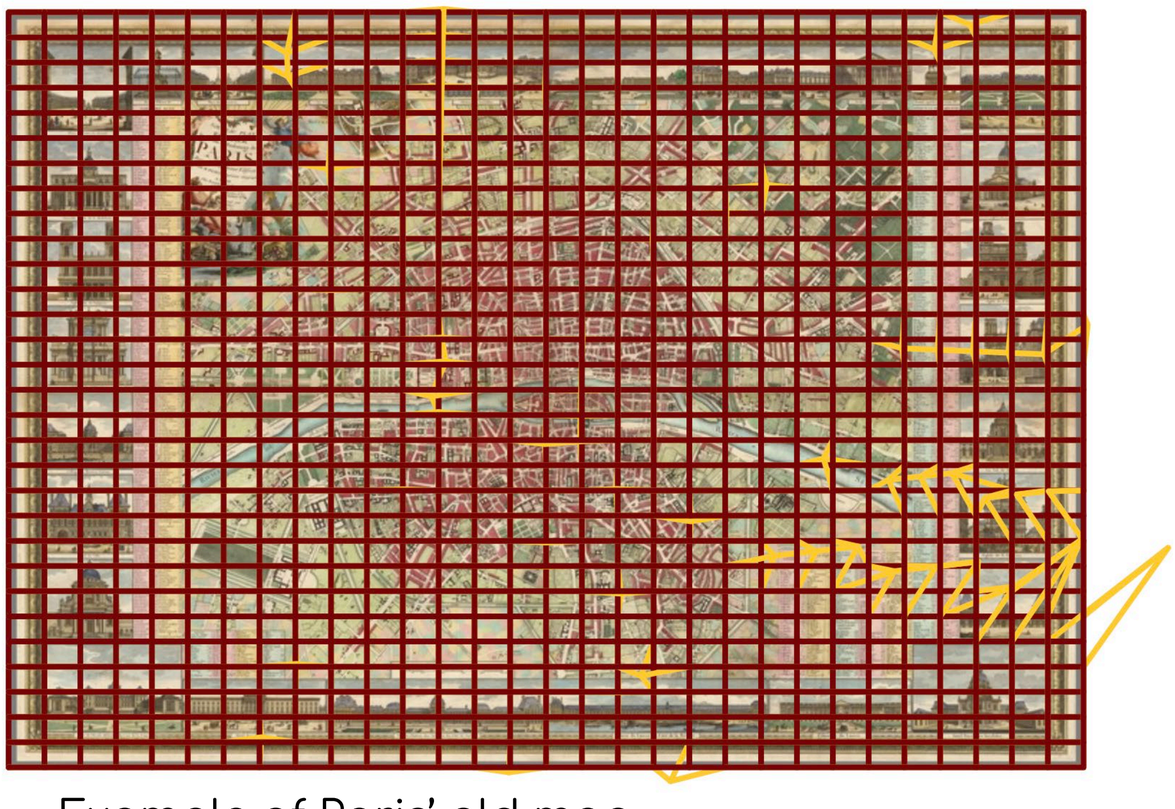


Feature Comparison with Similar Technologies (Stroly)

Features	Stroly	Maplat
Ease of publishing	✓ Can be published just after editing	✗ Manual deployment of configuration files is required
Communication function	✓ Users can communicate on the map each other	✗ Future planning
Homeomorphic conversion	✗	✓ Japan Patent technology
Scale/direction conversion	✗ Bugs that cannot convert scale	✓ Scale/direction are precisely converted
Convert Lines to Lines	✗	✓
Map overlay	✗ Toggle only, slow	✓ Always overlay, briskly
Off-line operation	✗	✓ PWA support
Network environment	✗ Work only on internet	✓ Can work on intranet/local
HTML embedding	✗ IFRAME embedding only	✓ DIV embedding, can be controlled with API
Share function	✗ Sharing map page only	✓ Sharing viewpoint is also possible
Mobile support	✗ Only Stroly Inc. can build mobile apps	✓ iOS/Android libraries are provided
Existing GIS support	✗ Cannot support GIS data	✓ Can both edit and display GIS data
Open source	✗	✓

Homeomorphic conversion (Comparison with Stroly)

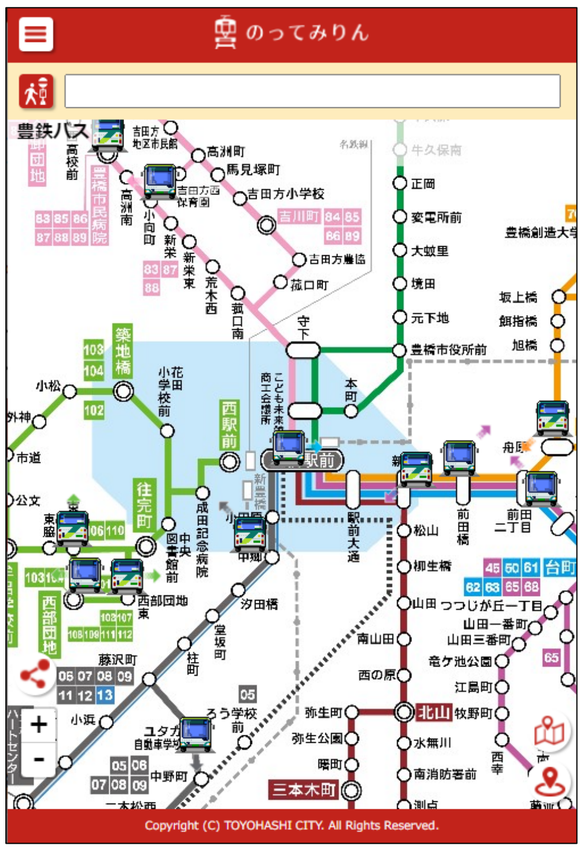
Comparison of errors when the coordinates on a historical map are converted into latitude/longitude and converted again into a historical map.
The accuracy is better as the shape returns to the grid shape. **Maplat**: red, Stroly: yellow.



Example of Paris' old map
Conversion error
Maplat: 0.000px (Less than rounding error)
Stroly: 11.094px

Maplat

Convert line to line (for use in bus location sites)



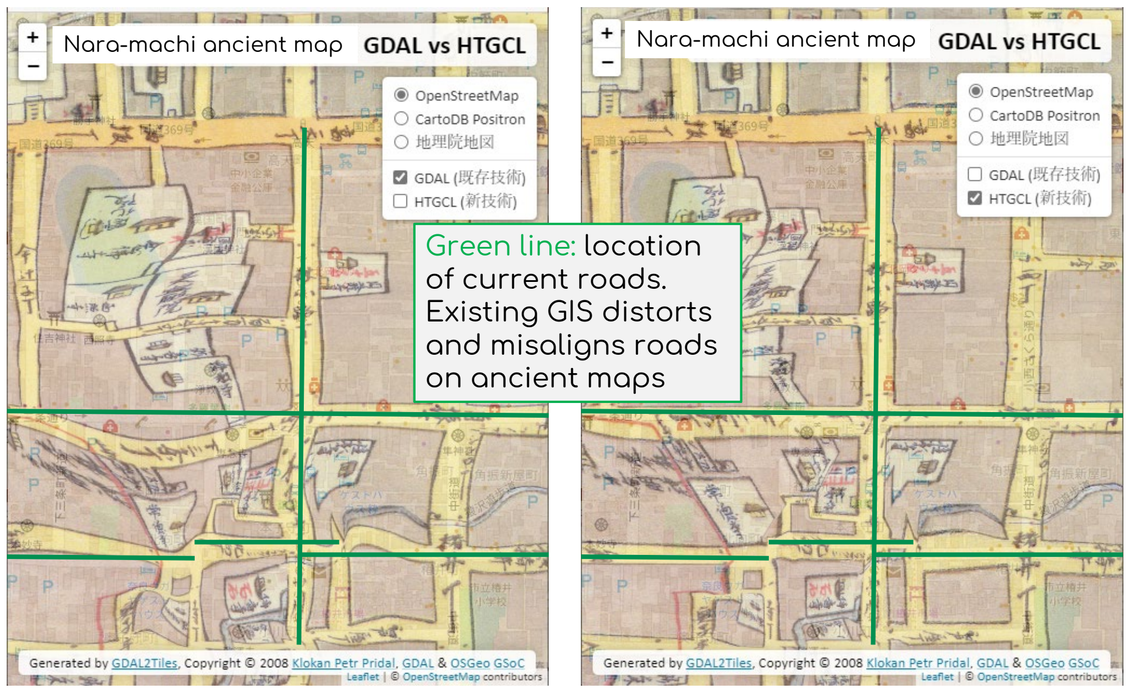
© Toyohashi city,
https://knot.temirin.jp/

- You can display bus's current location and can superimpose bus route data in latitude and longitude on a schematic route map.
- Through the API, the position of the pins (such as bus's current location) can be freely controlled by program.
- It has been adopted by Toyohashi City's bus location site "Nottemirin".

Generate GIS data convering line to line

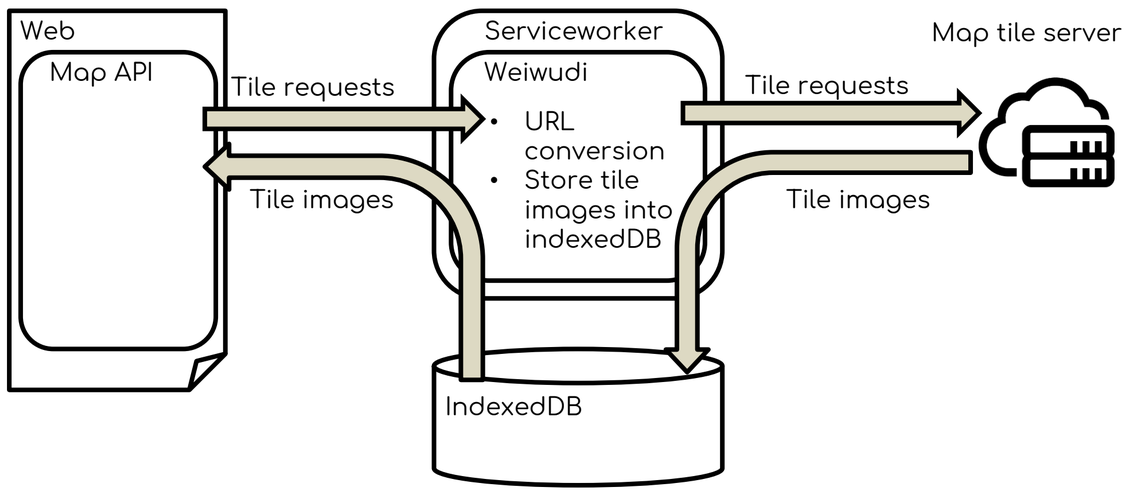
Existing GIS (GCP-based conversion)

HTGCL-based conversion



- The conversion of line to line using correspondence line (Historical Topographic Ground Control Line) is also useful in existing GIS, so WMTS tile data generation function is provided in MaplatEditor.

Weiwudi, a map tile cache framework for PWA



- The framework to support **Maplat** offline (PWA) can also be used to convert existing Web GIS sites to PWA, and is provided as an independent open source library called Weiwudi.

https://github.com/code4history/Weiwudi

Example of a site that uses **Maplat**

Higashinari:

© Higashinari-ward, OSAKA

- **Maplat** was adopted by the cultural asset utilization website of Higashinari Ward, OSAKA, and was released as the "Higashinari Town Walking Application".

https://higashinari-walk.fun/

Nara:

https://s.maplat.jp/r/naramap/

Tatebayashi:

https://s.maplat.jp/r/tatebayashimap/

Tamamura:

https://s.maplat.jp/r/tamamuramap/

Mito:

https://s.maplat.jp/r/mitomap/

Aizu-wakamatsu:

https://s.maplat.jp/r/aizumap/

Iwaki:

https://s.maplat.jp/r/iwakimap/

Chuo-ward, TOKYO:

https://s.maplat.jp/r/chuokumap/

We can also accept creation of similar sites for other regions.
Please contact kochizufan@code4history.dev Kohei Otsuka

Code for History