HERON
MAPPING CLIENT

Web Mapping Made Easy

Just van den Broecke - Bolsena - June 11, 2012

www.justobjects.nl/jo/assets/presentation/bolsena-2012-heron
Hero (or Heron) of Alexandria (Greek: Ἡρων ὁ Ἀλεξανδρεύς) (c. 10–70 AD) was an ancient Greek mathematician and engineer[1][2][3] who was active in his native city of Alexandria, Roman Egypt. He is considered the greatest experimenter of antiquity[1] and his work is representative of the Hellenistic scientific tradition.[4]

Hero published a well recognized description of a steam-powered device called an aeolipile (hence sometimes called a "Hero engine"). Among his most famous inventions was a windwheel, constituting the earliest instance of wind harnessing on land.[5][6] He is said to have been a follower of the Atomists. Some of his ideas were derived from the works of Ctesibius.

Much of Hero's original writings and designs have been lost, but some of his works were preserved in Arab manuscripts.
Heron's formula

From Wikipedia, the free encyclopedia
(Redirected from Heron's Formula)

This article is about calculating the area of a triangle. For calculating a square root, see Heron's method.

In geometry, Heron's (or Hero's) formula, named after Heron of Alexandria, states that the area $T$ of a triangle whose sides have lengths $a$, $b$, and $c$ is

$$T = \sqrt{s(s-a)(s-b)(s-c)}$$

where $s$ is the semiperimeter of the triangle:

$$s = \frac{a + b + c}{2}.$$

Heron's formula can also be written as:

$$T = \sqrt{\frac{(a + b + c)(-a + b + c)(a - b + c)(a + b - c)}{16}}$$

$$T = \sqrt{\frac{2(a^2b^2 + a^2c^2 + b^2c^2) - (a^4 + b^4 + c^4)}{16}}$$

$$T = \frac{1}{4} \sqrt{(a^2 + b^2 + c^2)^2 - 2(a^4 + b^4 + c^4)}.$$

Heron's formula is distinguished from other formulas for the area of a triangle, such as half the base times the height or half the modulus of a cross product of two sides, by requiring no arbitrary choice of side as base or vertex as origin.
WEB MAPPING CLIENTS

OpenLayers

MapQuery

GeoExt

tile5

Polymaps

OpenScales

Flamingo

dinsdag 19 juni 2012
do we need yet another web mapping client?
HERON - MOTIVATION

- Make web mapping (really) easy
- Leverage the power of existing Web Mapping Libs
- Reusability for recurring apps like Viewers
- Viewer Templates: e.g. service previews
- Not an Island: provide for a complete web app
HERON - CONCEPTS

- Declarative Programming
- Component Based
- Complete Webapp
- Build on GeoExt (+ExtJS+OpenLayers)

the configuration is the app
the app is the configuration
Heron.layout = {
    xtype: 'window',
    title: "Hello Heron",
    height: 280, width: 450,

    items: [
        {
            xtype: "gx_mappanel",
            layers: [new OpenLayers.Layer.WMS("World Map",
                "http://tilecache.osgeo.org/wms-c/Basic.py?",
                {layers: 'basic', format: 'image/png' })],
            zoom: 1
        }
    ]
};

http://lib.heron-mc.org/heron/0.61/examples/minimal
HELLO HERON

http://lib.heron-mc.org/heron/latest/examples/minimal
ARCHITECTURE

Heron Apps

Heron

GeoExt

ExtJS  Open Layers

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HERON APPS

- Configuration (JS Objects)
  - layout
  - (widget) components (ExtJS, GeoExt or Heron)
  - (widgets) components’ properties
- Your Custom Components (Optional)

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DEVELOPMENT

*Sponsors: Dutch Kadaster, RVOB*

*Initially developed by Just Objects and Geodan (ESDIN)*

*Main contributors from OpenGeoGroep.nl*
  
  *Milo van der Linden, Just van den Broecke*

*Google Code project (GPLv3)*
  
  * [http://code.google.com/p/geoext-viewer - project](http://code.google.com/p/geoext-viewer - project)*
  
  * [http://groups.google.com/group/geoext-viewer-devel - mailing list](http://groups.google.com/group/geoext-viewer-devel - mailing list)*
the configuration is the app
the app is the configuration
Heron.layout = {
  /** Top Panel: fills entire browser window. */
  xtype: 'panel',
  id: 'hr-container-main',
  layout: 'border',
  items: [
    /** North container: fixed banner plus Menu. */
    xtype: 'panel',
    id: 'hr-container-north',
    region: 'north',
    layout: 'border',
    width: '100%',
    height: 93,
    bodyBorder: false,
    border: false,
    items: [
      /** North htmlPanel */
      xtype: 'hr_htmlpanel',
      id: 'hr-logo-panel',
      region: 'center',
      bodyBorder: false,
      border: false,
      autoLoad: {
        url: '/content/north-logo.html'
      },
      height: 64
    ],
    /** Menu panel */
    xtype: 'hr_menupanel',
    id: 'hr-menu-panel',
    region: 'south',
    bodyBorder: false,
    border: false,
    height: 29,
    /* Menu options, see widgets/MenuPanel */
    hrOpts: {
      pageRoot: 'content/'
    }
  ]
}
Inspire.options.map = {
    settings: {
        allOverlays: true,
        projection: 'EPSG:4258',
        units: 'dd',
        resolutions: [0.017929030859375, 0.0089645154296875001, 0.0044822577148437501, ...]
        maxExtent: '2.7984656, 50.6264231, 7.3882975, 53.9511147',
        center: Inspire.options.locations.LOWER,
        xy_precision: 6,
        zoom: 4,
        theme: null
    },
    layers: [
        new OpenLayers.Layer.WMS("Topo Raster",
            Inspire.options.urls.GS2_KADASTER_WMS,
            {layers: "top_raster", format: "image/jpeg", transparent: false, version: '1.3.0'},
            {singleTile: true, isBaseLayer: false, visibility: false, noLegend: true, yx: ['EPSG:4258']}
        ),
    ],
    Inspire.options.layerTree.tree = [
        {text: 'Base Layers', iconCls: "pictogramBackgroundTopography", children: [
            {nodeType: 'gx_layer', layer: 'Topo Raster', text: 'Topo Raster'},
            {nodeType: 'gx_layer', layer: 'OpenStreetMapNL', text: 'OpenStreetMap (NL)'}
        ]},
        {text: 'Addresses (AD)', iconCls: "pictogramAD", children: [
            {nodeType: 'gx_layer', layer: 'AD.Address', text: 'Addresses'}
        ]},
        {text: 'Administrative Units (AU)', iconCls: "pictogramAU", children: [
            {nodeType: 'gx_layer', layer: 'AU.AdministrativeUnit.Order1', text: 'AdministrativeUnit1 (country)'},
            {nodeType: 'gx_layer', layer: 'AU.AdministrativeUnit.Order2', text: 'AdministrativeUnit2'}
        ]},
    ]
}
Web Mapping Made Easy

The Heron Mapping Client (MC) facilitates the creation of browser-based web mapping applications with the GeoExt JavaScript toolkit.

GeoExt is a powerful toolkit that combines the web mapping library OpenLayers with the user interface savvy of Ext JS to help build powerful desktop style GIS apps on the web with JavaScript. The Heron MC leverages these frameworks by providing high-level components and a convention to quickly assemble applications merely through configuration (“look ma no programming”).

Using Heron

See Heron in action.

```
Heron.layout = {
  xtype: 'window',
  title: "Hello Heron",
  height: 288, width: 450,

  items: [
    {
      xtype: "gx_mappanel",
      layers: [new OpenLayers.Layer.WMS("Global Imagery",
                                          "http://maps.opengeo.org/geowebcache/service/wms",
                                          {layers: "bluemarble"})],
      zoom: 1
    }
  ]
};
```

Run it!

This is a minimal Heron application. You can see that this app is completely defined through a configuration object starting with Heron.layout. Learn more about using Heron in your application by reading the documentation.

Heron is Free Source

Heron is available under the GNU GPL v3 license.
About

The Heron Mapping Client or Heron MC provides an extensible browser-based mapping client. The main goal of this project is to make it easy to create web mapping applications like viewers for maps and editors for geodata. Note: the project-name "geoext-viewer" is still here since the project started under that name. The official website for the Heron MC project is http://heron-mc.org. This Google Code site is related to all of the Heron MC project development.

See an introductory presentation of Heron MC at http://www.justobjects.nl/jo/assets/presentation/bolsena-2011-heron

Features

- Browser-based mapping client
- Standards compliant, supporting Open Geospatial Consortium (OGC) standards
- Renders maps from Web Map Services (WMS), Web Feature Services (WFS), Google/Bing/Yahoo Maps
- Easy to use
- No browser plugins required
- Built on proven Javascript frameworks: GeoExt, OpenLayers and ExtJS.
- Works with most modern browsers
- Advanced map components

PDOK (Dutch national SDI)http://nieuwsinkaart.nl/pdok
Kadaster GEORZ Lab en Research http://kademo.nl
INSPIRE Data with FOSS http://inspire.kademo.nl
HERON -LINKS

http://heron-mc.org

http://lib.heron-mc.org - hosted libs