

Summary

Mobile Chart/Graph provides a function that allow \outputting the data in forms of line, column, pie, scatter and bar.

Mobile Chart/Graph can use Java Script to implement vector graphic by using CANVAS element provided by HTML5. By doing so, you can express chart/graph on the mobile environment where Flash and other plugs hardly usable.

- Flow chart



This component has been developed and tested on the browsers available in the mobile devices.

Since the browser support is different depending the device (PC or mobile device), development and application should be carefully carried out.

The test devices include Galaxy S2, Galaxy S, Galaxy Tab 1, IPad2, iPhone 4.

The test mobile browsers include Android basic browser, Firefox, Safari and Opera Mobile.

The results are as follows.

Android

For the Android web browser, Firefox(6.xx), opera mobile, in android OS 2.3(gingerbread), he execution of HTML5, CSS3 and components is supported stably.

However, in Android 2.1, 2.2, the previous version of Android OS 2.3 (gingerbread), the support for HTML5 and CSS3 is not sufficient to implement the component UI properly.

Opera Mobile was excluded from the support as it caused some problems with handling colors and events.

For testing, Galaxy, Galaxy S2 and Galaxy Tab 1 were used..

iOS

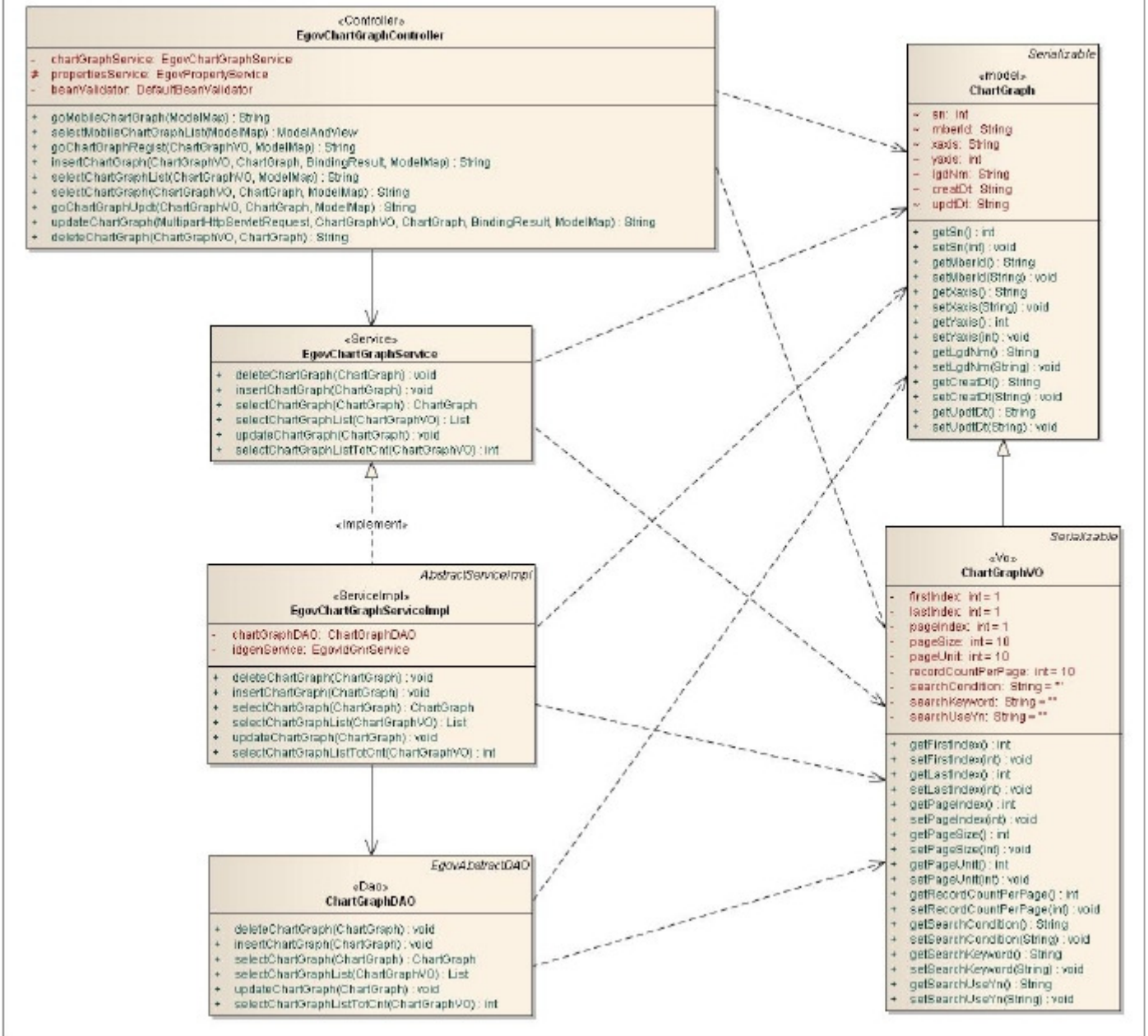
iOS is one of the three supported browsers and both version (iOS 4.2, 4.3) supported HTML5 and CSS3 relatively well.

iPhone4 and iPad2 were used for testing.

Description

Mobile Chart/Graph is largely composed of the data management function (chart/graph data list inquiry, detail inquiry, registration, modification and deletion) and the chart/graph inquiry function that uses data store in the server to output 5 types of charts/graphs.(Refer to the relevant fuctnions)

Class diagram



Related sources

Types	Source names	Notes
C ontroller	egovframework.mbl.com.mcg.web.EgovChartGraphC ontroller.java	Mobile Chart/Graph C ontroller C lass
Service	egovframework.mbl.com.mcg.service.EgovC hartGraphService.java	Mobile Chart/Graph Service C lass
ServiceImpl	egovframework.mbl.com.mcg.service.impl.EgovC hartGraphServiceImpl.java	Mobile Chart/Graph ServiceImpl C lass
Model	egovframework.mbl.com.mcg.service.C hartGraph.java	Mobile Chart/Graph Model C lass
VO	egovframework.mbl.com.mcg.service.C hartGraphVO.java	Mobile Chart/Graph Contents VO C lass
DAO	egovframework.mbl.com.mcg.service.impl.C hartGraphDAO.java	Mobile Chart/Graph Dao C lass
JSP	/WEB-INF/jsp/egovframework/mbl/com/mcg/EgovChartGraphList.jsp	Chart/Graph Data List Inquiry Page
JSP	/WEB-INF/jsp/egovframework/mbl/com/mcg/EgovChartGraphRegist.jsp	Chart/Graph Data Registration Page
JSP	/WEB-INF/jsp/egovframework/mbl/com/mcg/EgovChartGraphUpdt.jsp	Chart/Graph Data Modification Page
JSP	/WEB-INF/jsp/egovframework/mbl/com/mcg/EgovChartGraphDetail.jsp	Chart/Graph Data Detail Inquiry Page
JSP	/WEB-INF/jsp/egovframework/mbl/com/mcg/EgovMobileChartGraph.jsp	Mobile Chart/Graph Inquiry Page
QUERY XML	resources/egovframework/sqlmap/mbl/com/mcg/EgovC hartGraph_SQL_XXX.xml	Mobile Chart/Graph QUERY XML
Validator Rule XML	resources/egovframework/validator/validator-rules.xml	XML that defines Validator Rule
Validator XML	resources/egovframework/validator/mbl/com/mcg/EgovC hartGraph.xml	Mobile Chart/Graph Validator XML
Message properties	resources/egovframework/message/message-common_ko_KR.properties	Mobile Chart/Graph Message properties
Idgen XML	resources/egovframework/spring/com/context-idgen.xml	Mobile Chart/Graph Id Generation Idgen XML

ID Generation

- In order to use ID Generation Service, add MCG_ID (Chart/Graph Data ID) to COMTECOPSEQ, the Sequence storing table.

Related tables

Table names	Table names (English)	Notes
Chart/Graph Data	C OMTNC HARTGRAPH	Manage Chart/Graph Data

Login/membership management/permission management

Mobile Chart/Graph requires the administrator authentication in Mobile Chart/Graph Data list inquiry, detail inquiry registration, modification and deletion.

For authentication, you can connect with login, membership management and permission management components. If you use Spring Security for authentication, make changes as in the followings..

src/main/java/resources/egovframework/spring/com/context-common.xml

```

<!--Service class that can check the authenticated user's LoginVO, permissions and authentication-->
<bean id="egovUserDetailsHelper" class="egovframework.com.cmm.util.EgovUserDetailsHelper">
  <property name="egovUserDetailsService">
    <ref bean="egovUserDetailsService" />
  </property>
</bean>

<!-- Bean that will use Security-based authentication-->
<bean id="egovUserDetailsService" class="egovframework.com.sec.ram.service.impl.EgovUserDetailsServiceImpl"/>

```

web.xml

```

<!-- 2. Spring Security Setup-->
<filter>
  <filter-name>springSecurityFilterChain</filter-name>
  <filter-class>org.springframework.web.filter.DelegatingFilterProxy</filter-class>
</filter>
<filter-mapping>
  <filter-name>springSecurityFilterChain</filter-name>
  <url-pattern>/*</url-pattern>
</filter-mapping>

<listener>
  <listener-class>org.springframework.security.ui.session.HttpSessionEventPublisher</listener-class>
</listener>
<!-- security end -->

<!-- 4. Filter setup for Spring Security logout setup-->
<filter>
  <filter-name>EgovSpringSecurityLogoutFilter</filter-name>
  <filter-class>egovframework.com.sec.security.filter.EgovSpringSecurityLogoutFilter</filter-class>
</filter>
<filter-mapping>
  <filter-name>EgovSpringSecurityLogoutFilter</filter-name>
  <url-pattern>/uat/uia/actionLogout.do</url-pattern>
</filter-mapping>

<!-- 4. Filter setup for Spring Security login setup-->
<filter>
  <filter-name>EgovSpringSecurityLoginFilter</filter-name>
  <filter-class>egovframework.com.sec.security.filter.EgovSpringSecurityLoginFilter</filter-class>
</filter>
<filter-mapping>
  <filter-name>EgovSpringSecurityLoginFilter</filter-name>
  <url-pattern>*.do</url-pattern>
</filter-mapping>

```

As in the above, add Spring Security filter to web.xml.

For details on login, membership management, permission management, refer to the followings.

- Login : [general login](#)
- Membership management: [user management](#)
- Permission management: [permission management](#)

The following pages need the user/administrator permissions.

Permission	Page path	Description
administrator	/mbl/com/mpa/selectChartGraphList.mdo	Mobile Chart/Graph Data list inquiry screen
administrator	/mbl/com/mpa/selectChartGraph.mdo	Mobile Chart/Graph Data detail inquiry
administrator	/mbl/com/mpa/goChartGraphRegist.mdo	Mobile Chart/Graph Data registration screen
administrator	/mbl/com/mpa/insertChartGraph.mdo	Mobile Chart/Graph Data registration
administrator	/mbl/com/mpa/goChartGraphUpdt.mdo	Mobile Chart/Graph Data modification
administrator	/mbl/com/mpa/updateChartGraph.mdo	Mobile Chart/Graph Data modification
administrator	/mbl/com/mpa/deleteChartGraph.mdo	Mobile Chart/Graph Data deletion

Settings and Notes

* The currently distributed mobile common component adopts HTML5 and CSS3 and this means that it doesn't support the standards for mobile web site validity check of MobileOK and W3C. For details on correct validity check, please contact the competent professional institute.

* Security verification is under progress on the currently distributed mobile component. We plan to complete security verification as soon as possible to release a new security-patched version.

Related functions

Mobile Chart/Graph is largely composed of Mobile Chart/Graph inquiry for general users and Chart/Graph Data list inquiry, Chart/Graph Data detail inquiry Chart/Graph Data registration, Chart/Graph Data modification, Chart/Graph Data deletion for administrators.

Mobile Chart/Graph inquiry

Business rules

You can retrieve 5 types of charts/graphs based on Chart/Graph Data stored in the server.

Related codes

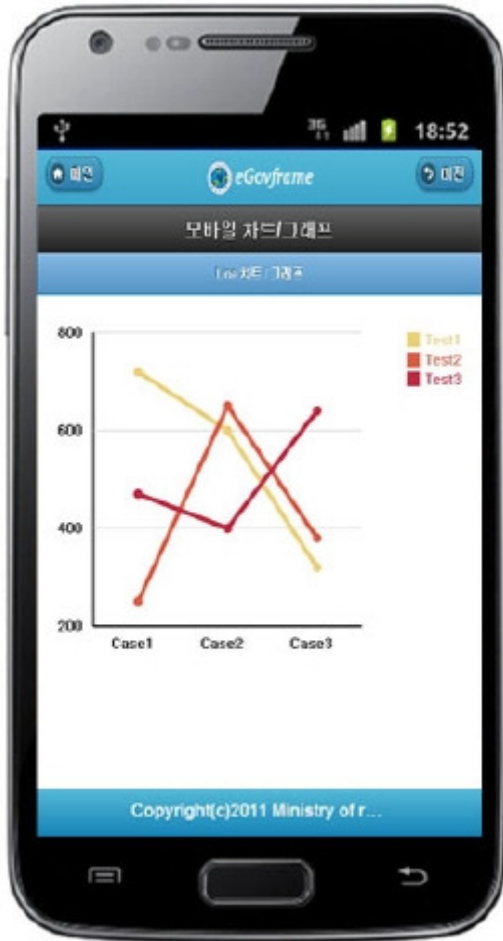
N/A

Screen and execution manual

Action	URL	Controller method	QueryID
Char/graphs inquiry	/mbl/com/mcg/selectMobileChartGraphList.md	selectMobileChartGraphList	ChartGraphDAO.selectChartGraphList"



Line Chart/Graph inquiry screen



Column Chart/Graph inquiry screen



Pie Chart/Graph inquiry screen

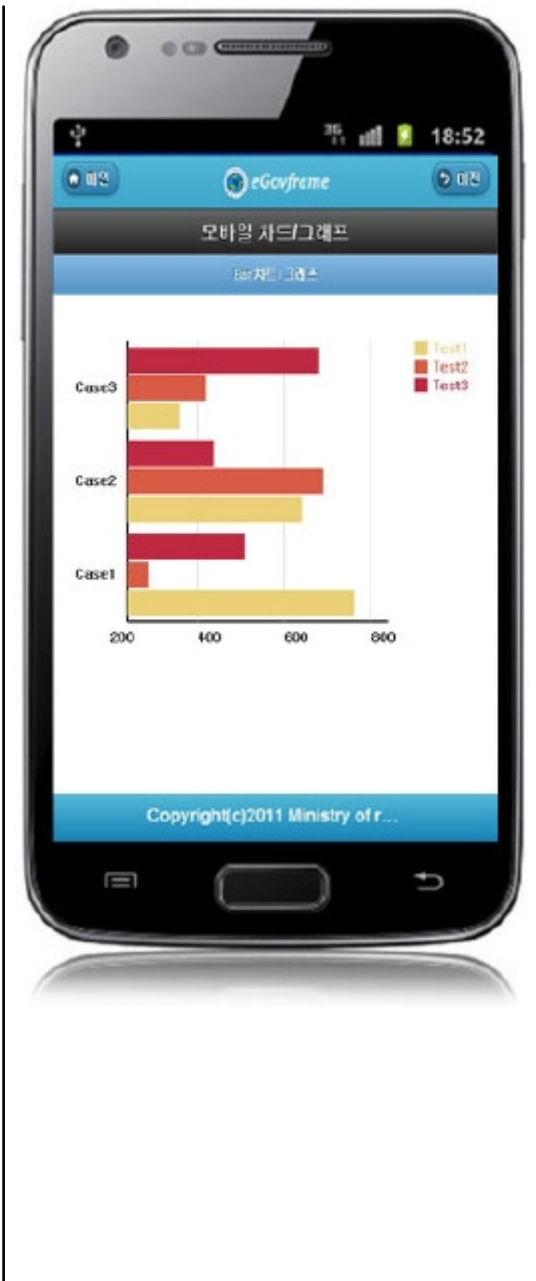


Scatter Chart/Graph inquiry screen



Bar Chart/Graph inquiry screen





Chart/Graph setup

src/main/webapp/js/egovframework/mbl/mcg/mcg.js

```
// Basing setting
varmaxChartGraph = 5;
varchartGraphColor = [ "#ECD078",
                        "#D95B43",
                        "#C02942",
                        "#542437",
                        "#53777A" ];

vardefaultWidth = 500;

// Line Chart/Graph
varscale_rect = [50*ratio, 50*ratio, 300*ratio, 300*ratio];
vary_value_interval = 200;
varline_width = 5*ratio;
var radius = 5*ratio;

// Column Chart/Graph
varscale_rect = [50*ratio, 50*ratio, 300*ratio, 300*ratio];
vary_value_interval = 200;
varx_margin = 5*ratio;
varx_bar_interval = 2*ratio;

// Pie Chart/Graph
varcenter_x = 200*ratio;
varcenter_y = 200*ratio;
var radius = 150*ratio;
varlastend = Math.PI*(3.0/2.0);
varline_color = "#FFF";
varline_width = 2*ratio;

// Maximum colors of chart
// chart colors (5 in total)

// basic size(width)

// Location (X AND Y COORDINATES) and size(Width, Height)
// Y AXIS scale line interval
// line thickness
// radius of point

// location (X AND Y COORDINATES) and size(Width, Height)
// Y AXIS scale line interval
// Margin between X axis scales
// X axis bar interval

// X coordinates of center point
// Y coordinates of center point
// Radius
// Designate Pie start location
// Separator line color
// Separator line thickness
```

```

// Scatter Chart/Graph
varscale_rect = [50*ratio, 50*ratio, 300*ratio, 300*ratio]; // Location (X AND Y COORDINATES) and size(Width, Height)
varx_value_interval = 1; // X axis scale line interval
vary_value_interval = 200; // Y axis scale line interval
var radius = 5*ratio; // Radius of point

// Bar Chart/Graph
varscale_rect = [50*ratio, 50*ratio, 300*ratio, 300*ratio]; // Location (X AND Y COORDINATES) and size(Width, Height)
varx_value_interval = 200; // X axis scale line interval
vary_margin = 5*ratio; // Y axis scale margin
vary_bar_interval = 2*ratio; // Y axis bar interval

// scale lines
varmain_line_color = "#000"; // Main scale line color
varassist_line_color = "#CCC"; // Secondary scale line color
varmain_line_width = 2*ratio; // Main scale line thickness
varassist_line_width = 1*ratio; // Secondary scale line thickness
varfont_size = 15*ratio + "px"; // Font size
varfont_name = "sans-serif"; // Font name
varfont_style = "bold"; // Font style
varx_line_margin = 10; // X axis scale margin
vary_line_margin = 40*ratio; // Y axis scale margin
varx_label_position = 0.2; // Adjust X axis scale location (0-1: scales are relocated depending on the values)

// legends
varstart_x = 400*ratio; // X coordinates of start location
varstart_y = 50; // Y coordinates of start location
var interval = 20; // Legend interval
varmark_size = 15*ratio; // Mark size
varmark_interval = 5*ratio; // Interval between mark and legend
varfont_size = 15*ratio + "px"; // Font size
varfont_name = "sans-serif"; // Font name
varfont_style = "bold"; // Font style

```

*.The ratio variables are for Chart/Graph size changes based on the actual device screen sizes.

You can change Chart/Graph settings by modifying the variables in the Java script files.

Chart/Graph Data list inquiry

Business rules

You can use the list inquiry as the inquiry condition. By clicking the Register button, you can move to the Chart/Graph registration screen to register new data.

Related codes

N/A

Screen and execution manual

Action	URL	Controller method	QueryID
Inquiry	/mbl/com/mcg/selectChartGraphList.mdo	selectChartGraphList	"C hartGraphDAO.selectChartGraphList"
	/mbl/com/mcg/selectChartGraphList.mdo	selectChartGraphListTotCnt	"C hartGraphDAO.selectChartGraphListTotCnt"
Register	/mbl/com/mcg/goChartGraphRegist.mdo	goChartGraphRegist	
Click list	/mbl/com/mcg/selectChartGraph.mdo	selectChartGraph	"C hartGraphDAO.selectChartGraph"

10 Chart/Graph Data lists are retrieved per page and paging is carried out on 10 page basis. The search conditions include legend names, X axis values and Y axis values.

To change the search range per page, change pageUnit and pageSize in context-properties.xml.
(This setting affects the entire common service function.)



Inquiry: In order to Chart/Graph Data, select the search condition at the top, enter a key word and click Inquiry button.
 Register: To register Chart/Graph Data, use the Register button at the top to move Chart/Graph Data registration screen.
 Click the list: moves Chart/Graph Data detail inquiry screen.

Chart/Graph Data detail inquiry

Business rules

By clicking a list on Chart/Graph Data list inquiry screen, you can move to this screen. It shows detailed information on Chart/Graph Data.

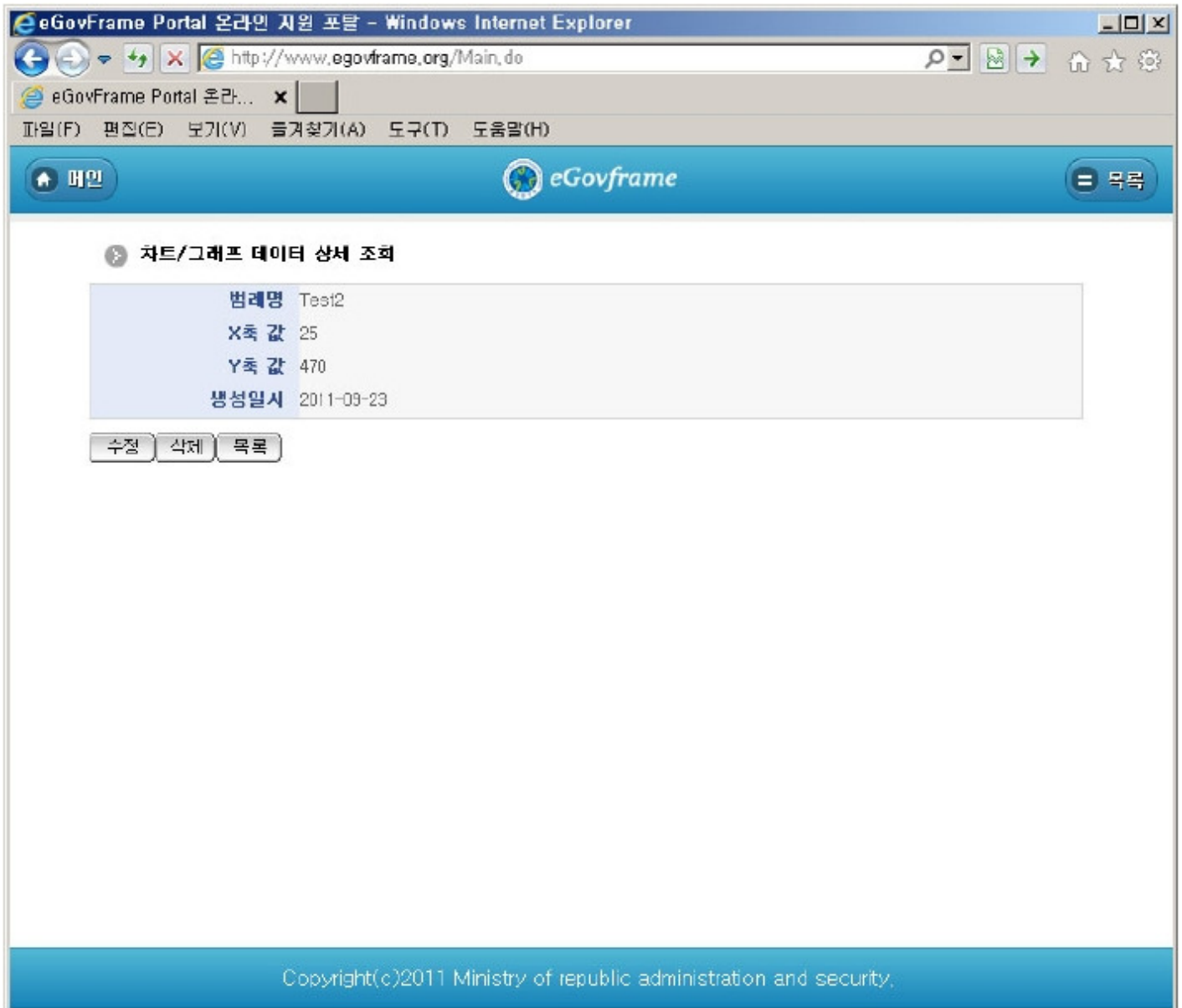
Related codes

N/A

Screen and execution manual

Action	URL	Controller method	QueryID
Update	/mbl/com/mcg/goChartGraphUpdt.mdo	goChartGraphUpdt	
Delete	/mbl/com/mcg/deleteChartGraph.mdo	deleteChartGraph	"C hartGraphDAO.deleteChartGraph"
List	/mbl/com/mcg/selectChartGraphList.mdo	selectChartGraphList	"C hartGraphDAO.selectChartGraphList"

On the Chart/Graph Data detail inquiry screen, you can carry out Chart/Graph Data modification, Chart/Graph Data deletion and Chart/Graph Data list inquiry.



Update: click the Update button to move to the Chart/Graph Data modification where you can modify Chart/Graph Data.
 Delete: click the Delete button to delete data after viewing the message to determine whether to delete.
 List: moves to Chart/Graph Data list inquiry screen.

Chart/Graph Data Registration

Business rules

- The red * means the required items..
- When stored, MCG_ID column uses "egovframework.rte.fdl.idgnr.impl.EgovTableIdGnrService".

```

-----
Primary Key => MCG_ID : serial number automatically generated.
-----
<bean name="egovChartGraphIdGnrService"
  class="egovframework.rte.fdl.idgnr.impl.EgovTableIdGnrService"
  destroy-method="destroy">
  <property name="dataSource" ref="dataSource" />
  <property name="blockSize" value="10"/>
  <property name="table" value="COMTECOPSEQ"/>
  <property name="tableName" value="MCG_ID"/>
</bean>
  
```

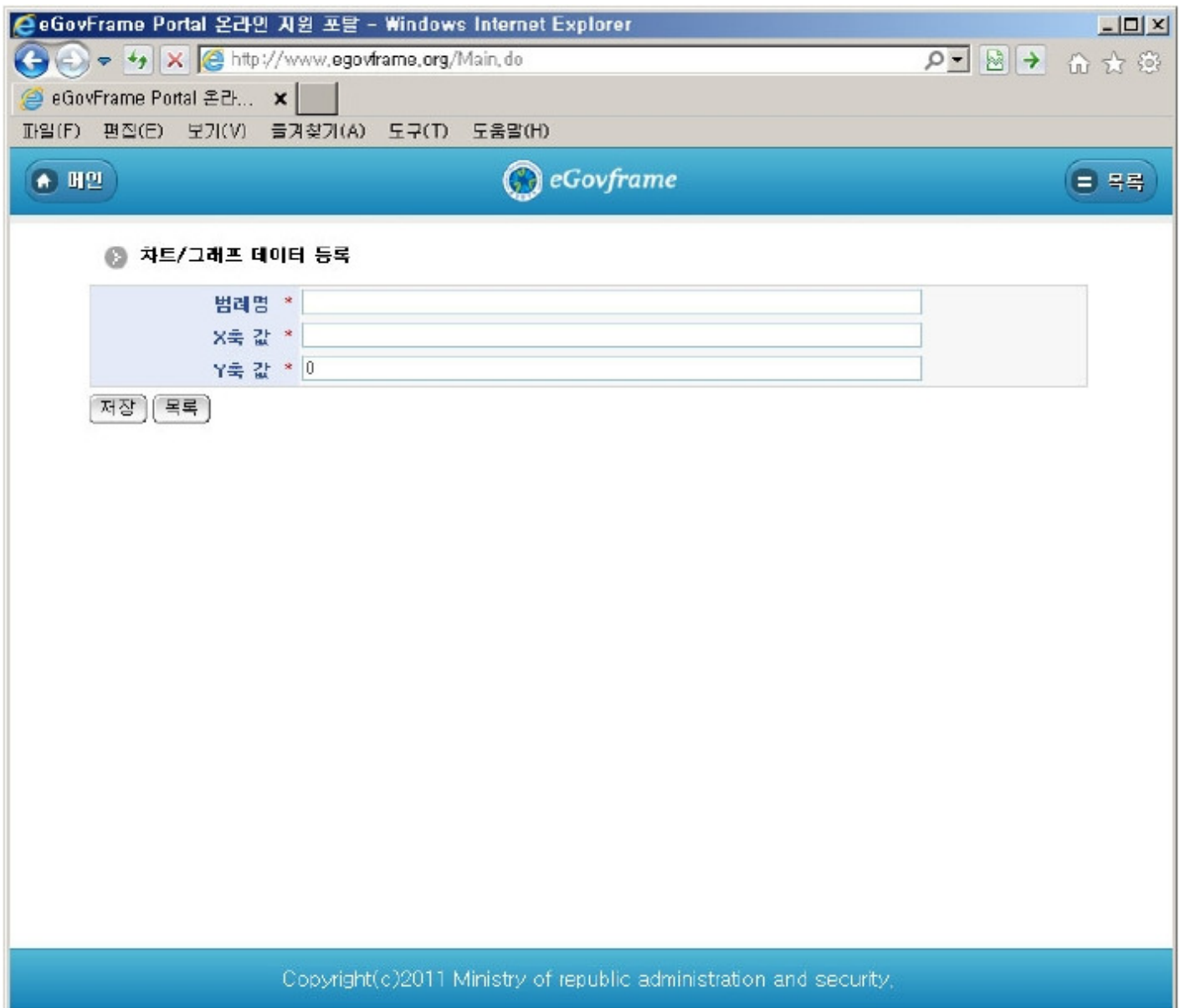
Related code

N/A

Screen and execution manual

Action	URL	Controller method	QueryID
Register	/mbl/com/mcg/insertChartGraph.mdo	insertChartGraph	"C hartGraphDAO.insertChartGraph"
List	/mbl/com/mcg/selectMobileChartGraphList.mdo	selectMobileChartGraphList	"C hartGraphDAO.selectChartGraphList"

Store the basic information on Chart/Graph Data.



Register: store the entered Chart/Graph Data.

List: moves to Chart/Graph Data list inquiry screen.

Chart/Graph Data Modification

Business rules

- The red * means the required items.

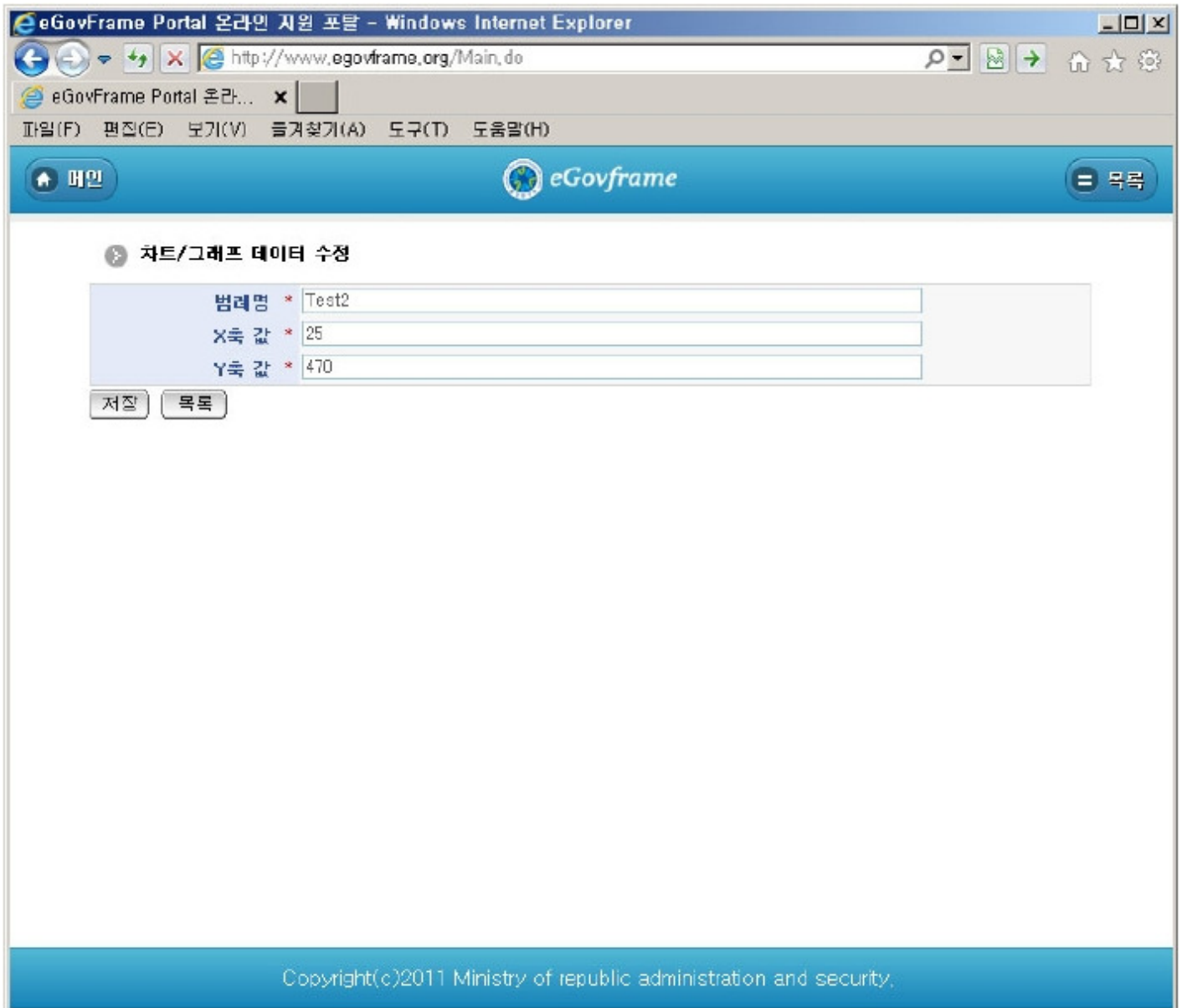
Related codes

N/A

Screen and execution manual

Action	URL	Controller method	QueryID
Update	/mbl/com/mcg/updateChartGraph.mdo	updateChartGraph	"C hartGraphDAO.updateChartGraph"
List	/mbl/com/mcg/selectChartGraphList.mdo	selectChartGraphList	"C hartGraphDAO.selectChartGraphList"

Store the entered Chart/Graph Data.



Update: store the modified Chart/Graph Data.
List: moves to Chart/Graph Data list inquiry screen.

References

- Refer to the execution environment: [ID Generation Service](#)
- Distribution and test: [Mobile Common Component System](#) and [distribution package plan](#)
- Related database structure and schema: [Related database structure and schema](#)

Except where otherwise noted, content on this wiki is licensed under the following license:CC Attribution-Noncommercial-Share Alike 3.0 Unported [http://creativecommons.org/licenses/by-nc-sa/3.0/]