

National Spatial Data Infrastructure Research Program

Development of open source processing technology for Application of spatial information SW

GeoCMS Installation Manual



GeoCMS Manual	Project classification	Land Spatial Information Research Project
	Project name	GeoCMS

1.1. Business overview

Internationally, the importance of utilizing spatial information is increasing, but the spatial information infrastructure including open source software based on domestic is weak, and the level of practical application of related technology is still low, so it relies on foreign software.

Accordingly, we developed an open source based system for generating and managing new and user-space-based new media space information contents on the web and mobile, gained import substitution effect of foreign-based software, improved technology self-reliance, The goal is to do.

1.2. Business background and necessity

In recent years, services such as Instagram, Vine, and YouTube have emerged as a result of increasing demand for services for various new media space information collected through mobile terminals and for linking with external systems. However, this is a simple media management / service technology, Technology for combined service with information service is very limited.

To solve this problem, it is necessary to provide services for efficient management and service of new media space information that is diversified according to the development of mobile and computing technologies such as Google Glass and panoramic space image. In the case of developing / distributing system in open source form, It is possible to manage users' participation in new media space information in private.

1.3. Business Goals

The ultimate goal is to implement and provide open source spatial information content management system (GeoCMS), which will be utilized by public and private operators and put into practical use.



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- New media space information contents authoring and publishing technology development
- 2) New media space information analysis and service engine technology development
- 3) User-Participated Web / Mobile based Geospatial Content Management System (GeoCMS) technology development
- 4) Development of technology for linking and utilizing public and commercial space information systems

1.4. Benefit

1.4.1. Technical expectation effect

- Overcome the dependency of specific foreign SWs and reduce SW acquisition and maintenance costs
- Enhance technology self-reliance with development of open source software for spatial information led by domestic technology, and successfully commercialize R & D results
- Quickly develop and validate high-level SWs to quickly implement products

1.4.2. Economic / Industrial Expected Effects

- Cost substitution and cheap introduction / utilization cost of public information system in the public sector
- Strengthen domestic SW industry ecosystem based on open source SW technology for spatial information

To foster the spatial information software industry, to nurture specialized personnel for spatial information software development and to create jobs



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2. Development Contents

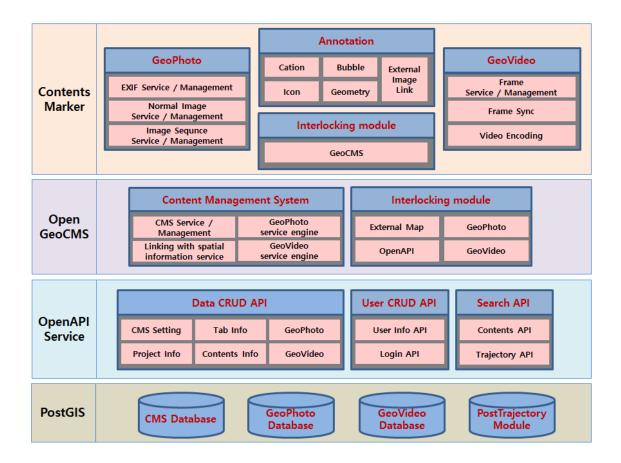
2.1. GeoCMS Operating Environment

Software Information		
operating system	server	Apache Tomcat 6.0
operating system	Client	Chrome 44+
Uniqueness		
(Product	External map engines (such as GoogleMaps) and Open APIs (such as	
activation	Google Geocoding) should be available. DB:PostgreSQL 9.6	
requirements)		
Hardware Information		
Other environment	2.4GHz, 4G RAM, Winows 10	



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2.2. System structure



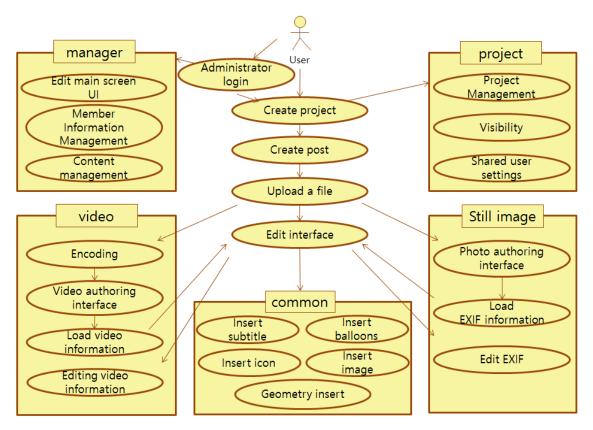
System structure diagram

The GeoCMS platform is divided into authoring function, interworking function, and web service function.



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2.3. Use case

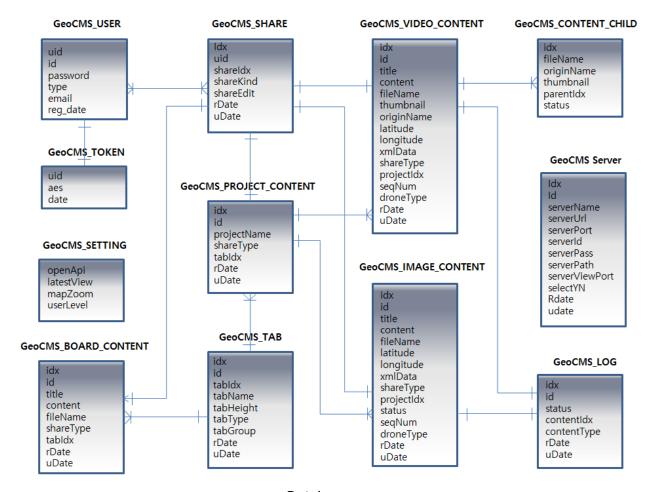


Use case



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2.4. Database



Database

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2.5. XML Schema

 When the photo and video content information is stored in XML and shared, it is composed of the following schema

```
<?xml version="1.0" encoding="UTF-8"?>
<GeoCMS>
 - <obj>
       <id>q</id>
       <top>300</top>
       <left>235</left>
       <xstr>235_391</xstr>
       <ystr>294_420</ystr>
       linecolor>#ff0</linecolor>
       <backgroundcolor>#FF0000</backgroundcolor>
       <type>rect</type>
   </obj>
 - <obj>
       <id>b</id>
       <top>250</top>
       <left>232</left>
       <href>false</href>
       <underline>false</underline>
       <italic>false</italic>
       <bol><bold>true</bold>
       <fontsize>H1</fontsize>
       <fontcolor>#ffffff</fontcolor>
       <backgroundcolor>#0000ff</backgroundcolor>
       <text>방지턱 입니다.</text>
   </obj>
 - <obj>
       <id>i</id>
       <top>268</top>
       <left>390</left>
       <width>79px</width>
       <height>68px</height>
       <src>/GeoPhoto/images/geoImg/icon/black/d130.png</src>
   </obj>
</GeoCMS>
```

XML Schema



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Туре	Tag Name	Description
All	GeoCMS	Top-level Tag name
All	obj	Authored Annotation Information Tag
All	id	Annotation ID Tag
All	top	Top Position coordinate value
All	left	Left position coordinate value
lcon	width	Width value of icon
lcon	height	Height value of icon
lcon	src	Src (externally accessible URL) path of the
		icon
Caption, Bubble	href	External reference link URL path
Caption, Bubble	underline	Underline Attribute value of Text
Caption, Bubble	italic	Italic Attribute value of Text
Caption, Bubble	bold	Bold Attribute value of Text
Caption, Bubble	fontsize	Text size attribute value of Text
Caption, Bubble	fontcolor	Color attribute value of Text
All	backgroundcolor	Annotation background color value
Caption, Bubble	text	User string value
Geometry	xstr	Geometry X Point value
Geometry	ystr	Geometry Y Point value
Geometry	linecolor	Line color attribute value of the geometry

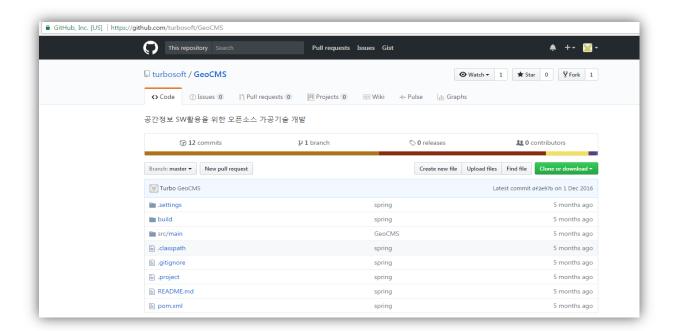


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Geometry	type	Type property value of geometry (point, circle,
		rect)

2.6. How to use GeoCMS

2.6.1. Download source files from GitHub



GeoCMS

https://github.com/turbosoft/GeoCMS

GeoCMS_Gateway

https://github.com/turbosoft/GeoCMS_Gateway

GeoPhoto

https://github.com/turbosoft/GeoPhoto

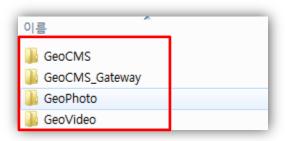
GeoVideo

https://github.com/turbosoft/GeoVideo



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- Uncompress the webapps folder in Tomcat 6.0 and change the folder names to GeoCMS, GeoPhoto, GeoVideo, and GeoCMS_Gateway respectively.



2.6.2. Email and server settings

- GeoCMS/src/main/webapp/WEB-INF/classes/properties/geocms.properties
- GeoPhoto/src/main/webapp/WEB-INF/classes/properties/geocms.properties
- Assign administrator email and password to send confirmation e-mail when registering membership, ID and password in file.

```
1 email.address=your gmail
2 email.pass=your gmail Pass
```

 Administrator email can only be used with Gmail. After logging in, access the following link to turn on Allow less secure apps to use. (Required to use Gmail SMTP.)

https://www.google.com/settings/security/lesssecureapps





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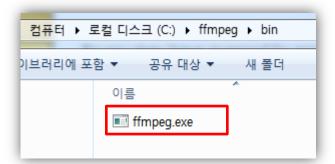
2.6.3. Tomcat configuration

- tomcat/conf/web.xml
- Set geoCMSmain.jsp file in welcome-file.

- server.xml
- Set the context to match the path.

2.6.4. When running GeoVideo

• Download the ffmpeg.exe file from https://ffmpeg.zeranoe.com/builds/ and change the file path.





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 Download the exiftool.exe file from https://sourceforge.net/projects/exiftool and change the file path.

-GeoCMS_Gateway

```
package kr.co.turbosoft.util;

public class FFmpegSetting {
    private String ffmpeg_dir_and_file_name = "C:\\ffmpeg\\bin\\ffmpeg";
    private String exiftool_file_name = "C:\\ffmpeg\\exiftool";
```

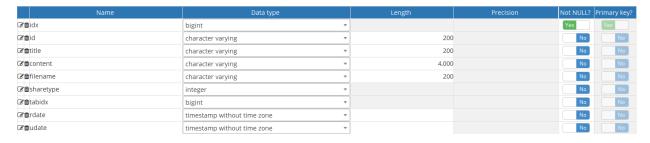
GeoCMS

```
package kr.co.turbosoft.geocms.util;

public class FFmpegSetting {
    private String ffmpeg_dir_and_file_name = "C:\\ffmpeg\\bin\\ffmpeg";
```

2.6.5. 테이블 생성

- Create a table using the GeoCMS_DB script.txt file in the GeoCMS folder.
 (PostgreSQL must be installed.)
- geocms_board_content (board table)



geocms_content_child (Video subtables)

Name	Data type	Length	Precision	Not NULL?	Primary key?
♂ midx	bigint			Yes	Yes
☑ filename	character varying •	200		Yes	No
学童 originname	character varying •	200		Yes	No
企 在thumbnail	character varying •	200		No	No
ு marentidx	bigint			Yes	No
☑ matatus	character varying •	20		No	No



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• geocms_image_content (image table)

Name	Data type	Length	Precision	Not NULL?	Primary key?
♂ midx	bigint ▼			Yes	Yes
子 前id	character varying *	200		No	No
♂m title	character varying *	200		No	No
☑ mcontent	character varying •	200		No	No
♂ matilename	character varying *	200		No	No
☑ atitude	numeric •	25	20	No	No
♂ malongitude	numeric	25	20	No	No
♂m xmldata	text ▼			No	No
☑ m sharetype	integer •			Yes	No
☑ projectidx	bigint ▼			No	No
☑ atatus	character varying •	20		No	No
♂ maseqnum	bigint			No	No
♂n dronetype	character varying 🔻	1		No	No
♂ mardate	timestamp without time zone			No	No
♂t udate	timestamp without time zone			No	No

• geocms_log (log write table)

	Name	Data type	Length	Precision	Not NULL?	Primary key?
♂ midx		bigint	,		Yes	Yes
♂ mid		character varying	20	0	Yes	No
௴ matatus		character varying	20	0	Yes	No
♂ mcontentidx		text			No	No
☑ acontenttype		character varying	10)	No	No
☑ mdate		timestamp without time zone	,		No	No
௴ mudate		timestamp without time zone	,		No	No

• geocms_project_content (project table)

Name	Data type		Length	Precision	Not NULL?	Primary key?
学 面idx	bigint	~			Yes	Yes
♂ mid	character varying	₩	200		Yes	No
☑ mprojectname	text	*			Yes	No
♂ masharetype	integer	*			Yes	No
♂m tabidx	bigint	~			No	No
☑ mardate	timestamp without time zone	*			Yes	No
☑ mudate	timestamp without time zone	▼			Yes	No



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geocms_server(server table)

Name	Data type	Length	Precision	Not NULL?	Primary key
♂m idx	bigint	¥		Yes	Yes
♂ mid	character varying	▼ 200		No	No
☑ maservername	character varying	₹ 200		No	No
செற்serveruri	character varying	▼ 500		No	No
☑ iserverport	bigint	¥		No	No
☑ maserverid	character varying	₹ 200		No	No
☑ mage serverpass	character varying	₹ 200		No	No
ச ் mserverpath	character varying	▼ 200		No	No
☑ aserverviewport	bigint	¥		No	No
☑ aselectyn	character varying	▼ 1		No	No
♂m rdate	timestamp without time zone	¥		No	No
♂ mudate	timestamp without time zone	¥		No	No

geocms_setting (setting table)

Name	Data type	Length	Precision	Not NULL?	Primary key?
ெற்றpenapi	integer			No	No
∄ latestview	integer			No	No
♂ mmapzoom	bigint			No	No
☑ to userlevel	character varying	100		No	No
♂m latitude	numeric	25	20	No	No
☑ filongitude	numeric	25	20	No	No

• geocms_share (share table)

Name	Data type	Length	Precision	Not NULL?	Primary key?
♂ midx	bigint ▼			Yes	Yes
♂ muid	bigint ▼			Yes	No
ச ி shareidx	bigint ▼			Yes	No
♂ a sharekind	character varying *	20		Yes	No
☑ mashareedit	character •	1		No	No
♂ mardate	timestamp without time zone			Yes	No
☑ m udate	timestamp without time zone			No	No

geocms_tab (tab table)

Name	Data type		Length	Precision	Not NULL?	Primary key?
♂ midx	bigint	*			Yes	Yes
♂ mid	character varying	•	200		No	No
♂m tabidx	bigint	•			Yes	No
☑ t abname	character varying	*	200		No	No
☑ m tabheight	bigint	•			No	No
☑ m tabtype	character varying	•	10		No	No
♂ mtabgroup	character varying	•	10		No	No
♂ mardate	timestamp without time zone	•			No	No
☑ m udate	timestamp without time zone	▼			No	No



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• geocms_user (user table)

Name	Data type		Length	Precision	Not NULL?	Primary key?
♂ muid	bigint	¥			Yes	Yes
♂ mid	character varying	▼	20		Yes	Yes
♂ massword	character varying	▼	30		No	No
☑ type	character varying	▼	30		No	No
♂ memail	character varying	▼	50		No	No
♂ mreg_date	timestamp without time zone	▼			No	No

• geocms_video_content (video table)

Name	Data type	Length	Precision	Not NULL?	Primary key?
♂ midx	bigint ▼			Yes	Yes
♂m id	character varying •	200		No	No
♂m title	character varying •	200		No	No
♂ macontent	character varying •	200		No	No
♂ filename	character varying •	200		No	No
♂ mathumbnail	character varying •	200		No	No
♂ moriginname	character varying •	200		No	No
♂m latitude	numeric •	25	20	No	No
♂ malongitude	numeric •	25	20	No	No
♂m xmldata	text ▼			No	No
♂ masharetype	integer •			Yes	No
♂ mprojectidx	bigint ▼			No	No
♂ maseqnum	bigint ▼			No	No
♂ madronetype	character varying *	1		No	No
♂ mardate	timestamp without time zone			No	No
♂ mudate	timestamp without time zone			No	No
♂m gpsdata	text ▼			No	No

• token (token table)

	Name	Data type	Length	Precision	Not NULL?	Primary key?
♂ muid		bigint ▼			Yes	Yes
☑ ti aes		character varying v	128		No	No
☑ m date		timestamp without time zone			No	No



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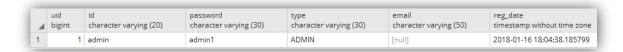
2.6.6. GeoCMS DB Connection Settings

- Change the URL, username, and password in the src / main / webapp / WEB-INF / spring / config / config.properties file of GeoCMS_Gateway to suit your environment.

```
jdbc.driver=org.postgresql.Driver
jdbc.url=jdbc:postgresql://localhost:5432/postgres
jdbc.username=postgres
jdbc.password=postgres
```

2.7. Using the service

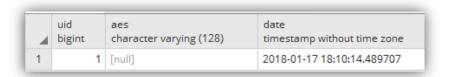
- 2.7.1. Setting Table Defaults Before Using the Server
- When creating an administrator account, add uid, id, pass, type (ADMIN) to the geocms_user table. (type: admin, delete, modify, write, default is MODIFY)



Query: insert into geocms_user (id, password, type, email, reg_date)
values ('admin', 'admin1', 'ADMIN', null, now());

Add the above uid and data to the token table.

The aes key is automatically set and saved at login. (aes: random key for token management)



Query: insert into token (uid, date) values (1, now());



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2.7.2 Edit main logo and bottom UI



- Modify the main logo Save the name of the logo image to be changed in the GeoCMS / src / main / webapp / images / geoImg / main_images folder as logo.jpg. (Image size is 152 * 57)
- Modify the bottom UI
 - Save the image to be placed in the bottom of GeoCMS / src / main / webapp / imagese / geoImg / main_images folder and modify the contents of GeoCMS / src / main / webapp / WEB-INF / jsp / footer.jsp. (Image size is 100 * 38)
 - Change the foot_logt02.git of the tag to the image name to be displayed first, and change the foot_logo01.git of the second tag to the image name to be displayed second
 - When changing the address and phone number, edit the contents of the <div> tag and save it.

