Course basic information

Code	Course Name	Credit Hours		
		Lecture	Practice	Total
IS212	Database	2	2	3

Project title

(comfortable sweet home system)

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System Description

It is a control management system for home with a security for parents and children. It's an automation, electronic control system for mechanical and electrical equipment like lighting, fire system, power system and security. The control management system is about providing the check and balances to the system. The home would need to establish a specific system to control and plan the different operations it is going through. Some CMS are designed to prevent problems before suffering any adverse effects on performance.

Data Dictionaries

Comfy_cms_translations

Field Name	Data Type	Description	Example
id	Int		
locale	varchar		
Page_id	Int		
Layout_id	Int		
label	Int		
contant_cache	text (optional)		
is_published	Boolean	If you want to published it	True
updated_at	datetime		
created_at	datetime		

Comfy_cms_fragments

Field Name	Data Type	Description	Example
id	Int		
recordable_id	Int	Owner user id	

recordable_type	varchar		
identifier	varchar		
tag	varchar		
content	text		
boolean	Boolean		True
datetime	datetime		
created_at	datetime		
updated_at	datetime		

Comfy_cms_pages

Field Name	Data Type	Description	Example
id	Int		
site_id	Int		
layout_id	Int		
parent_id	Int		
target_page_id	Int		
label	varchar		
slog	varchar		
full_path	varchar		
content_cache	text		
position	Int		
children_count	Int		
is_published	Boolean	If you want to publish	True
created_at	datetime		
updated_at	datetime		

Comfy_cms_revisions

Field Name	Data Type	Description	Example
id	Int		
record_type	varchar		
record_id	Int		
data	text		
created_at	datetime		

Comfy_cms_layouts

Field Name	Data Type	Description	Example
id	Int		
parent_id	Int		
site_id	Int		
app_layout	varchar		
label	varchar		
identifier	varchar		
content	text		
css	text		
js	text		
position	int		
created_at	datetime		
updated_at	datetime		

Comfy_coms_sites

Field Name	Data Type	Description	Example
id	Int		
Label	varchar		
Identifier	varchar		
Hostname	varchar		
Path	varchar		
Locale	varchar		
created_at	datetime		
updated_at	datetime		

Comfy_cms_snippets

Field Name	Data Type	Description	Example
id	Int		
site_id	varchar		
label	varchar		
Identifier	varchar		
content	text		
Position	Int		
created_at	datetime		
updated_at	datetime		

Comfy_cms_categorizations

Field Name	Data Type	Description	Example
id	Int		
Category_id	Int		
Categorized_type	varchar		
Categorized_id	Int		

Comfy_cms_files

Field Name	Data Type	Description	Example
id	Int		
site_id	Int		
label	varchar		
Description	text		
Position	Int		
created_at	datetime		
updated_at	datetime		

Comfy_cms_categories

Field Name	Data Type	Description	Example
id	Int		
site_id	Int		
Categorized_type	varchar		
label	varchar		

Entity Relationship Diagram

This diagram explains the relationships between every field of a table in the database.
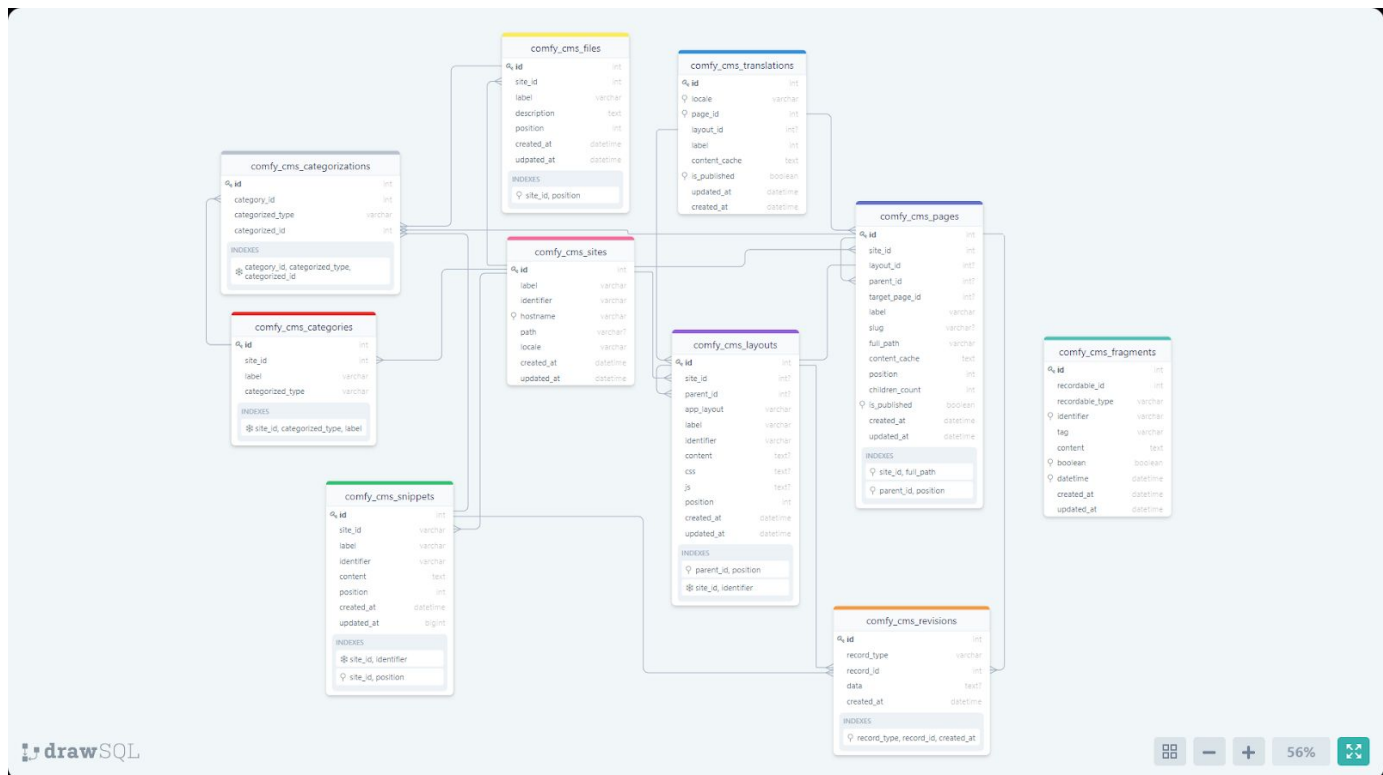
Select Statements using Different Functions

How many files do we have?

```
SELECT COUNT(*) FROM `comfy_cms_files`
```

What many pages do we have for a site?

```
SELECT SUM(`site_id`) FROM `comfy_cms_pages` WHERE `site_id`=<site_id>
```

Get last revision

```
SELECT LAST(*) FROM `comfy_cms_revisions` WHERE `record_id`=<record_id>
```

Select statements using Subquery

Select files of a categorized type

```
SELECT * FORM `comfy_cms_files` WHERE `site_id` IN (SELECT `categoried_id`
FROM `comfy_cms_categorizations` WHERE
`categorized_type`=<categorized_type>)
```

Select sites of category type

```
SELECT * FORM `comfy_cms_sites` WHERE `id` IN (SELECT `site_id` FROM
`comfy_cms_categories` WHERE `categorized_type`=<categorized_type>)
```

What are our unused layout?

```
SELECT * FROM `comfy_cms_layouts` WHERE `id` NOT IN (SELECT `layout_id`
FROM `comfy_cms_pages` GROUP BY `layout_id`)
```

Select statements using Count and Group functions

Select all unused files

```
SELECT * FROM `comfy_cms_files` WHERE `site_id` NOT IN (SELECT `id` FROM
`comfy_cms_sites` GROUP BY `id`)
```

How many revisions does a snippet record type have?

```
SELECT COUNT(*) FROM `comfy_cms_revisions` WHERE `record_type`=...
```

Select statements using Different Joins

What are the original categories of categorizations?

```
SELECT * FROM `comfy_cms_categorizations`, `comfy_cms_categories` INNER
JOIN `comfy_cms_cateogries` ON comfy_cms_categorizations.category_id =
comfy_cms_categories.id
```

What files belong to what sites?

```
SELECT * FROM `comfy_cms_files`, `comfy_cms_sites` LEFT JOIN
`comfy_cms_sites` ON comfy_cms_files.site_id = comfy_cms-sites.id
```

Insert Statements

Create a category

```
INSERT INTO `comfy_cms_categories` (`site_id`, `label`,
`categorized_type`) VALUES (...)
```

Create a categorization

```
INSERT INTO `comfy_cms_categorizations` (`category_id`,
`categorized_type`, `categorized_id`) VALUES (...)
```

Create a new revision

```
INSERT INTO `comfy_cms_revisions`  (`record_type`, `record_id`, `data`)
VALUES (...)
```

Upload a new file entity

```
INSERT INTO `comfy_cms_files` (`site_id`, `label`, `description`,
`position`) VALUES (...)
```

Create a new site

```
INSERT INTO `comfy_cms_sites` (`label`, `identifier`, `hostname`, `path`,
`locale`) VALUES (...)
```

Update Statements

Update category label

```
UPDATE `comfy_cms_categories` SET `label`=... WHERE `id`=...
```

Update site locale

```
UPDATE `comfy_cms_sites` SET `locale`=... WHERE `id`=...
```

Update page label

```
UPDATE `comfy_cms_pages` SET `label`=...  WHERE `id`=...
```

Upload new layout css

```
UPDATE `comfy_cms_layouts` SET `css`='...' WHERE `id`=...
```

Upload page children count

```
UPDATE `comfy_cms_pages` SET `children_count`= (SELECT COUNT(*) FROM
`comfy_cms_pages` WHERE `parent_id` = <id>) WHERE `id`=<id>
```

Delete Statements

Delete a translation

```
DELETE FROM `comfy_cms_translation` WHERE `id`=...
```

Delete all child pages

```
DELETE FROM `comfy_cms_pages` WHERE `parent_id`=...
```

Delete all layouts that are not used

```
DELETE FROM `comfy_cms_layouts` WHERE `id` NOT IN (SELECT `layout_id` FROM
`comfy_cms_pages` GROUP BY `layout_id`)
```

Delete all unattached files

```
DELETE FROM `comfy_cms_files` WHERE `site_id` NOT IN (SELECT `id` FROM
`comfy_cms_sites` GROUP BY `id`)
```

Delete revisions past a certain date

```
DELETE FROM `comfy_cms_revisions` WHERE `created_at` > ...
```

References

- What is a data dictionary? https://www.tutorialspoint.com/What-is-Data-Dictionary

- What is an entity relationship diagram?

  https://www.smartdraw.com/entity-relationship-diagram/

- SQL Reference from W3Schools

  https://www.w3schools.com/sql/sql_ref_keywords.asp

GitHub Repository Link

GitHub Repository