INFS3202/7202 Practical 7

Creating a Database Driven Web Site

You must present this practical to your lab tutor during your scheduled lab sessions in week 10 that starts 7/05/2012. The prac could be done either in the lab, or at home.

You may choose to use PHP or JSP but it is recommended that you maintain consistency in the remaining practicals. It is also recommended that you choose the language that you are most comfortable with or would like to learn more about.

Preparation

You should be familiar with setting up databases from the previous practicals as well as the relevant materials from the lecture.

Task 1: Database Design - Image Tags. (2 marks)

This section will require you to build on last week's practical.

This task is designed to take the concept of placing tags on images or albums and store that information in a database rather than on the filesystem (as done in previous weeks). All code that was created to store tags on the filesystem could be removed.

Modify your images table from last week so that it looks like this:

images

Field	Type	Constraints	Notes
image_id	int	Primary Key, Auto Increment, Unique, Not Null	Unique ID for the Image
image_name	varchar	Not Null	Image Filename
image_path	varchar	Not Null	Image Path not Including Filename (Should be relative to site root)
entity_id	int	Foreign Key to **entity_id** in **entity** table	
timestamp	timestamp		Should insert timestamp on image submission

You also need add the following tables to your database. The **entity** table will allow you to set up a many-to-many relationship between the tags and the entity. By having the entity relationship the albums and images can make use of the same tags table. The **tags** table is created to store all tags used for image/album annotation. Once you receive a new tag, insert it into the **tags** table.

Hint, you need parse user's input (i.e., a string containing a set of tags) to get a set of individual tags.

album

Field	Type	Constraints	Notes
album_id	int	Primary Key, Auto Increment, Unique, Not Null	
entity_id	int	References entity_id in **entity** table	

entity

Field	Type	Constraints	Notes
entity_id	int	Not Null	
tag_id	int	References tag_id in **tags** table	

tags

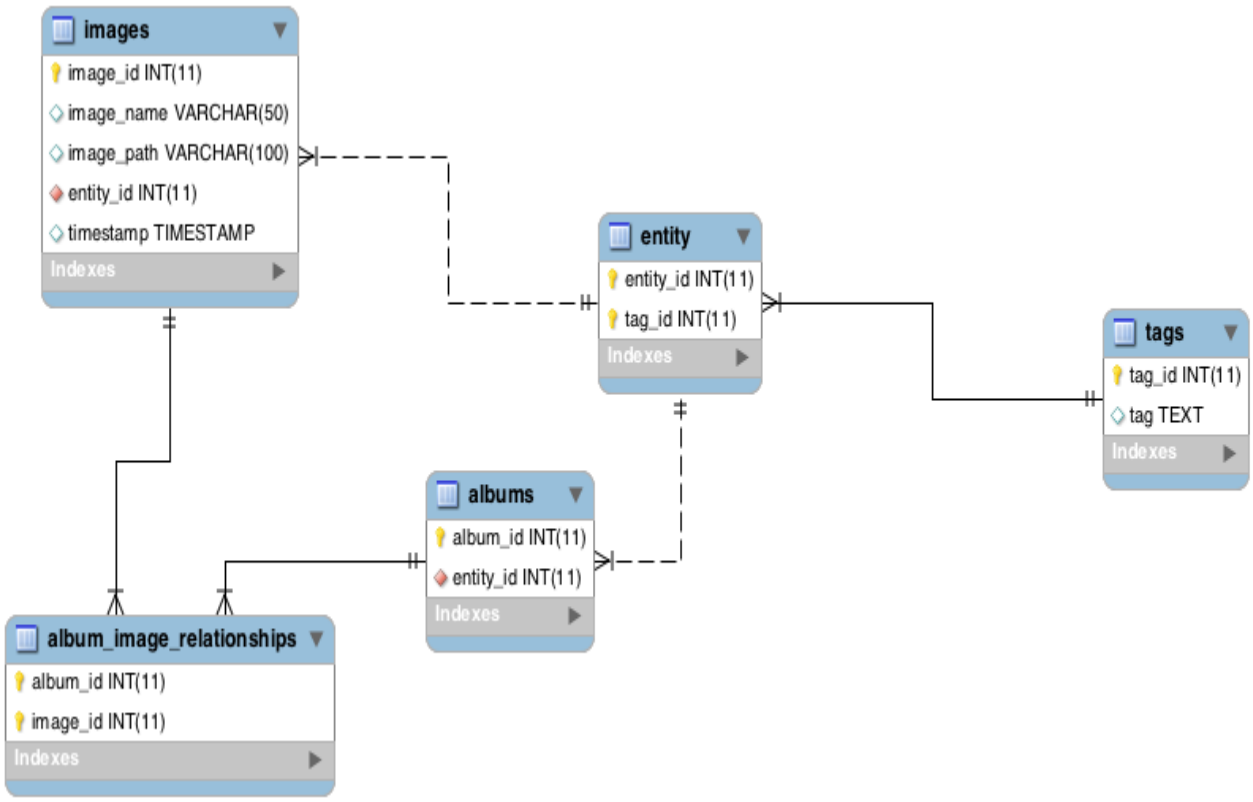
Field	Type	Constraints	Notes
tag_id	Int	Primary Key, Auto Increment, Unique, Not Null	Unique ID for the Tag
tag	text	Limit of 30 characters, Not Null	the text to appear in the tag

album_image_relationships

Field	Type	Constraints	Notes
album_id	int	References album_id in **albums** table. Not Null	
image_id	int	References image_id in **images** table. Not Null	

You can create the tables using whatever tools you like, but should be prepared to demonstrate the schema and answer basic questions on its design to examine your understanding.

When complete your database schema should look like this:



Task 2: Upgrading the annotation page for single images (2 marks)

In task 3 of prac 4, you were required to write image tags into a txt file. Now, you are required to store the new tags to the **tags** table, where each record presents one tag. You also need store the tag information of the annotated image into the table **images**. Appropriate records should be created in the **entities** table. The entities table contains an entity_id which should be unique to that image.

For example, by inserting following records into images and entity tables respectively, we create the annotation info for the image “1”. The associated tags to the image “1” are tag “2”, “5” and “30”.

image_id	image_name	image_path	entity_id	timestamp
1	xxx	xxxxx	1	xxxx

table: images

entity_id	tag_id
1	2
1	5
1	30

table: entity

Upgrade the annotation page by including this new feature. PHP is recommended in this task to keep the consistency.

Task 3: Upgrading the annotation page for selected album (2 marks)
In the task 2 of prac 5, you are required to write album tags into a txt file. Now, you are required to insert a record into the **albums** table containing the appropriate information. You will also need to create the appropriate record in the **entity** table.

As before, the entity table should contain an entity_id which should be unique to that entity, which in this case is an album.

For example, by inserting following records into albums, entity and album_image_relationships tables respectively, we create the annotation info for the the album “1”, which consists of three images whose image_ids are “12”, “100” and “211”. The associated tags to the album “1” are tag “10” and tag “15”.

album_id	entity_id
1	2

table: albums

entity_id	tag_id
2	10
2	15

table: entity

album_id	image_id
1	12
1	100
1	211

table: album_image_relationships

Upgrade the annotation page by including this new feature. JSP is recommended in this task to keep the consistency. If you choose PHP, you need reimplement the task 2 of prac 5 in PHP.