COGNIZANT TECHNOLOGY SOLUTIONS

Database Design for

Smart Blogger

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Database Design document

1. Introduction

The database design document aims to provide a high level overview of solutions considered to handle the data requirements for the app. This document includes a fully attributed data model with detailed explanations of attributes for each entity. The logical data model contains all the needed logical choices needed to generate a design in a Data Definition Language, which can then be used to create a database.

2. Database design

The database design specifies how the data of the software is going to be stored.

2.1 Tables schemas

This is an exhaustive set of tables in the database and the relationships between them. These tables are conceived keeping in mind all the data requirements of a blog application.

i) Utbl_user

This table stores the records of the user.

PRIMARY KEY : user_id

FOREIGN KEYS : NA

Attribute	Description	Types	Examples of Values
user_id	Unique id of associate	Varchar	1MS10IS016
lname	Last name of associate	Varchar	Dhar
fname	First name of associate	Varchar	Ankush
profile_pic	Profile picture	BLOB	Any Image or Icon
created_at	Time of profile creation	Time	13-12-13
designation	Designation of	Varchar	Program Manager

	associate		
email_id	Email id of associate	Varchar	ankush819@gmail.com
last_login	Time of last login	Time	13:21:800

ii) Utbl_post

This table keeps a track of all the posts made by the users. A post can have a title i.e. the subject of the post, content or/and an image. If a user makes any modifications to his/her previous posts the update_time and status (say modified) is recorded accordingly.

The table also keeps a record of the number of times a post have been viewed and liked. user_id acts as a foreign key here referencing to a user from the table utbl_user who has made the post.

PRIMARY KEY : post_id

FOREIGN KEYS : user_id

Attribute	Description	Types	Examples on Values
post_id	Unique id of a post	Integer	Between 1 and 999999
title	Title of the post	Varchar	Learning ASP
content	Article's main body	Varchar	Body of the post
picture	Optional picture with a post	BLOB	Any image (Optional)
status	Status of the post	Varchar	The beginner's guide
create_time	Time at which post was created	Time	13:09:00
update_time	Time at which post was updated (if applicable)	Time	18:57:00
user_id	Id of the user writing the article	Varchar	1MS10IS016
likes	Number of likes got by the article	Integer	Between 1 and 9999
views	Number of people who have viewed the post till now	Integer	Between 1 and 9999

iii) Utbl_tag

The various tags added by users or generated automatically by the system for the posts are stored in this table. Frequency is used to keep a track of most trending topics.

PRIMARY KEY : tag_id

FOREIGN KEYS : NA

Attribute	Description	Type	Examples of Values
tag_id	Unique id of a Tag	Integer	Between 1 and 99999
tag_name	Name of the Tag	Varchar	AJAX, ASP
frequency	Number of times this tag is used	Integer	Between 1 and 99999

iv) Utbl_comment

When a user comments on a post, its content gets stored in this table with the user id of the user (user_id referencing to the PK of the table utbl_user) and the post id of the post (post_id : referencing to the PK of the table utbl_post) on which the comment is made. Other users are allowed to like a user's comment and the number of likes a comment gets is recorded here.

PRIMARY KEY : comment_id

FOREIGN KEYS : user_id, post_id

Attribute	Description	Type	Examples of Values
comment_id	Unique id of comment	Integer	Between 1 and 99999
create_time	Time at which the comment was written	Time	2013-02-09 13:09:00
content	Body of the comment	Varchar	Body of comment
user_id	Id of the user making the comment	Varchar	1MS10IS016
post_id	Id of the post on which the comment was made	Integer	Between 1 and 99999
likes	Number of likes gained by the comment	Integer	Between 1 and 9999

v) Utbl_badge

For gamification badges have been used. Every badge has a name and an icon associated with it. Points specify the threshold value that a user has to reach to attain a badge.

PRIMARY KEY : badge_id

FOREIGN KEYS : NA

Attribute	Description	Type	Example of Value
badge_id	Unique id of badge	Integer	Between 1 and 99999
badge_name	Name of the badge	Varchar	ASP GURU
points	Points needed to get the badge	Integer	100
icon	Badge icon	BLOB	Any png/gif image

vi) Utbl_posttag

A post (post_id : referencing to the PK of the table utbl_post) can have various tags (tag_id : referencing to the PK of the table utlb_tag) associated with it which is stored in this table. It also records (by_user) whether a tag for a given post have been generated by the system automatically (value: 0) or have been added by a user (value: 1).

PRIMARY KEY : pt_id

FOREIGN KEYS : post_id, tag_id

Attribute	Description	Type	Example of Value
pt_id	Unique id in the table	Integer	Between 1 and 99999
post_id	Unique Id of a post	Integer	Between 1 and 99999
tag_id	Unique id of a tag	Integer	Between 1 and 99999
by_user	Differentiates between the tags given by the user with the tags generated by the system	Integer	1/0

vii) Utbl_plikes

This table keeps a record of which user (user_id : referencing to the PK of the table utbl_user) likes which post (post_id : referencing to the PK of the table utbl_post).

PRIMARY KEY : pl_id

FOREIGN KEYS : post_id, user_id

Attribute	Description	Type	Example of Value
pl_id	Unique id for the table	Integer	Between 1 and 99999
post_id	Unique id of a post	Integer	Between 1 and 99999
user_id	Unique id of a user	Varchar	1MS10IS016

viii) Utbl_userbadge

This table keeps a record of the points that a user have earned and accordingly the badges (badge_id : referencing to the PK of the table utbl_badge) attained by the user (user_id : referencing to the PK of the table utbl_user). A user can earn points by making posts, clicking on like, making comments, adding posts to favorites, adding tags etc.

PRIMARY KEY : ub_id

FOREIGN KEYS : badge_id, user_id

Attribute	Description	Type	Example of Value
ub_id	Unique id for the table	Integer	Between 1 and 99999
badge_id	Unique id of a badge	Integer	Between 1 and 99999
user_id	Unique id of a user	Varchar	1MS10IS016
points	Points accumulated by the user	Integer	100

ix) Utbl_clikes

This table keeps a record of which user (user_id : referencing to the PK of the table utbl_user) likes which comment (comment_id : referencing to the PK of the table utbl_comment).

PRIMARY KEY : cl_id

FOREIGN KEYS : comment_id, user_id

Attribute	Description	Type	Example of Value
cl_id	Unique id for the table	Integer	Between 1 and 99999
Comment_id	Unique id of comment	Integer	Between 1 and 99999
User_id	Unique Id of a user	Varchar	1MS10IS016

x) Utbl_favorite

When a user (user_id : referencing to the PK of the table utbl_user) adds a post (post_id : referencing to the PK of the table utbl_post) to his favorite list this table gets updated keeping a record of the favorite posts of a user.

PRIMARY KEY : fav_id

FOREIGN KEYS : user_id, post_id

Attribute	Description	Type	Example of value
fav_id	Unique id for the table	Integer	Between 1 and 99999
user_id	Unique id of a user	Varchar	1MS10IS016
post_id	Unique id of a post	Integer	Between 1 and 99999

xi) Utbl_usertags

This table is used to personalize a user's home page. Based on a user's search this table is updated and accordingly the related posts are shown to the user on his/her home page. A user (user_id : referencing to the PK of the table utbl_user) is allowed to add/remove tags (tag_id : referencing to the PK of the table utbl_tag).

PRIMARY KEY : ut_id

FOREIGN KEYS : user_id, tag_id

Attribute	Description	Type	Example of Value
ut_id	Unique id of a table	Integer	Between 1 and 99999
user_id	Unique id of a user	Varchar	1MS10IS016
tag_id	Unique id of a tag	Integer	Between 1 and 99999

xii) Utbl_suggestpost

When a user suggests a post to some other user this table gets updated and records the user id of the user suggesting the post (user_id1 : referencing to the PK of the table utbl_user) and the user id of the user to whom the post has been suggested (user_id2 : referencing to the PK of the table utbl_user) along with the post id of the post being suggested (post_id : referencing to the PK of the table utbl_post).

PRIMARY KEY : sp_id

FOREIGN KEYS : user_id (1 & 2) , post_id

Attribute	Description	Type	Example of value
sp_id	Unique id for the table	Integer	Between 1 and 99999
user_id1	Id of the user making the suggestion	Varchar	1MS10IS016
user_id2	Id of the user for whom the post is being suggested	Varchar	1MS10IS018
post_id	Unique id of the suggested post	Integer	Between 1 and 99999

2.2 E-R Diagram

ENTITIES : USER, BADGE, TAG, POST, COMMENT

RELATIONSHIPS : USER *likes a* POST (1:n)
USER *favorites a* POST (1:n)
USER *suggests a* POST to another USER
USER *has a* BADGE (m : n)
USER *has* TAGS (m : n)
POST *has* TAGS (m : n)
USER *makes* COMMENTS (1 : n)
POST *has* COMMENTS (1 : n)