DEPARTMENT OF COMPUTER SCIENCE

Course Name: Database Management System- II
Course Code: CPS 562 02

FINAL PROJECT
ON
"Demo Facebook Database"

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➢ Introduction:

This is a demo of a Facebook database . It is designed to provide ease of use of user profiles, pages, groups, likes, reactions etc. This database handles all the requirements for the users. The intuitive user interface allows you to start to work easily. In order to provide security to the system only administrator can insert values to the database. Administrator is assigned with a username and password.

To maintain a stable database which provides high level of security and data protection MySQL workbench 8.0 is used for storing information that is entered in the graphical user interface. **Records in the table are live data from the facebook.**

1. Tables   **Number of Records**

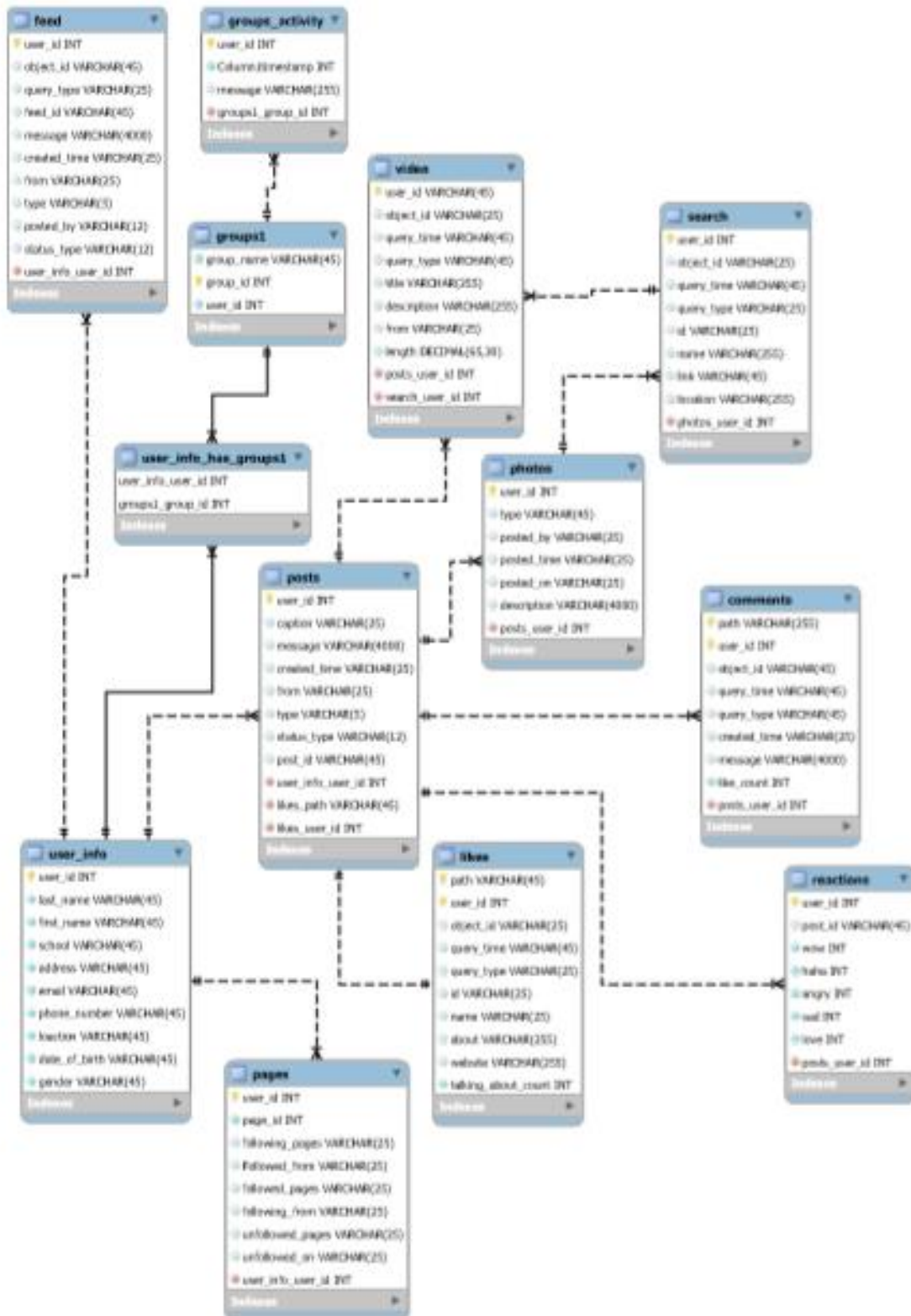|	
1. User_info	**5**
2. Feed	**522**
3. Posts	**259**
4. Comments	**1424**
5. Groups1	**41**
6. Groups_activity	**20**
7. Pages	**17**
8. Photos	**259**
9. Reactions	**18**
10. Search	**302**
11. Video	**53**
12. Likes	**16**

2.Entity-Relationship Model

ER model is a data model for describing the data or information aspects of a domain or its requirements, in a way that lends itself to being implemented in a database such as relational database. The components of ER models are entities and the relationship that exists between them.

Among the three levels of ER model we have developed physical data model. Physical data model is developed to be instantiated as a database. Each physical model should contain enough detail to produce a database. Physical data model can be technology independent since we are implementing database management system in a different technology. Entities are nouns and relationship demonstrate how entities are connected to one another.

Entities and relationship can have attributes which of different types as follows derived attributes, multi-valued attribute, composite attribute. Every entity must have a uniquely defined attribute which is the entity's primary key. Entities are related as one-to-many or many-to-many cardinalities.

3. Entity-Relationship Diagram

4.Database Schema

Database schema is a formal language supported by the database management system. Database

schema consists of integrity constraints imposed on a database, it ensures compatibility between

parts of the schema.

5.Database Instance

A database state at a specific time defined through the defined through the currently existing

content, relationship and their attributes.

Comments :

	path	user_id	object_id	query_time	query_type	created_time	message	like_cou
▶	706600893425574/2...	872	2908492875915187_1...	2020-04-29 19...	Facebook:/<p...	2020-04-29...	Candice Gast Da...	0
	706600893425574/2...	201	2908492875915187_1...	2020-04-29 19...	Facebook:/<p...	2020-04-29...	I had unlimited li...	0
	706600893425574/2...	639	2908492875915187_1...	2020-04-29 19...	Facebook:/<p...	2020-04-29...	Maria Luz Rosado	0
	706600893425574/2...	841	2908492875915187_1...	2020-04-29 19...	Facebook:/<p...	2020-04-29...	可以趕快更新...	0
	706600893425574/2...	550	2908492875915187_1...	2020-04-29 19...	Facebook:/<p...	2020-04-29...	Aburrida ya de c...	0
	706600893425574/2...	661	2908492875915187_1...	2020-04-29 19...	Facebook:/<p...	NULL	NULL	0
	706600893425574/2...	258	2908492875915187_1...	2020-04-29 19...	Facebook:/<p...	2020-04-29...	Why level 5646 ...	0
	706600893425574/2...	776	2908492875915187_1...	2020-04-29 19...	Facebook:/<p...	NULL	NULL	0
	706600893425574/2...	853	2908492875915187_1...	2020-04-29 19...	Facebook:/<p...	2020-04-29...	Stay home 🏠 k....	0
	706600893425574/2...	852	2908492875915187_1...	2020-04-29 19...	Facebook:/<p...	2020-04-29...	S.O.S NIVEL 50...	0
	706600893425574/2...	296	2908492875915187_1...	2020-04-29 19...	Facebook:/<p...	2020-04-29...	These three day...	0
	706600893425574/2...	463	2908492875915187_1...	2020-04-29 19...	Facebook:/<p...	NULL	NULL	0
	706600893425574/2...	154	2908492875915187 1...	2020-04-29 19...	Facebook:/<p...	2020-04-29...	I ius beat a har...	0

QUERIES:

#1Retrieve the data of users and their posts

select * from fbdb.user_info a join fbdb.posts b on a.user_id = b.user_id;

first_name	school	address	email	phone	loaction	date_of_	gen	us	caption	message	created_time	from	type	status_type	post_id
shasidhar	university of c...	irving	shasid...	985...	miamis...	03/04...	m...	4	Faceboo...	ICYMI on Marketpla...	2020-03-13T...	{"ha...	video	added video	1650396
sg	sg	sfg	sfgs	sfg	sdfg	sfg	sfg	6	Faceboo...	Walking on water is ...	NULL	NULL	video	added video	1650396
hemanth	wright state u...	bevercrek	heman...	985...	wright...	05/22...	m...	5	Faceboo...	Are those bee suits ...	NULL	NULL	video	added video	1650396
gopi	univeristy of ohio	firwood apt	gopina...	954...	cincinati	09/18...	m...	2	Faceboo...	Campfires are a gre...	NULL	NULL	video	added video	1650396
arvind	university of b...	flyer pointe	eswar...	987...	columbus	01/12...	m...	3	Faceboo...	Wading through pre...	NULL	NULL	photo	added video	1650396

#2retrieve the groups, the members are in, and the group details

select * from fbdb.user_info a join fbdb.groups1 b on a.user_id = b.user_id;

user_id	last_name	first_name	school	address	email	phone	loaction	date_of_	gen	group_name	group_id
1	arepalli	rana	university of d...	wilmingon apt	ranaar...	937...	dayton	01/10...	m...	FBPager	1588111566
2	kampati	gopi	univeristy of ohio	firwood apt	gopina...	954...	cincinati	09/18...	m...	PUBG Mobile	1558843858
3	adari	arvind	university of b...	flyer pointe	eswar...	987...	columbus	01/12...	m...	Opentalk	1534003445
4	narala	shasidhar	university of c...	irving	shasid...	985...	miamis...	03/04...	m...	Epic Games	1528381895
5	dasari	hemanth	wright state u...	bevercrek	heman...	985...	wright...	05/22...	m...	Coffee Meets Bagel	1522861612
6	gs	sg	sg	sfg	sfgs	sfg	sdfg	sfg	sfg	KK Friends	1522860987

#3activity of a member in the group and his activities

select * from fbdb.user_info a join fbdb.groups_activity b on a.user_id = b.user_id where a.user_id = 5;

user_id	last_name	first_name	school	address	email	phone	loaction	date_of_	gen	user_id	Column1timestamp	message
5	dasari	hemanth	wright state u...	bevercrek	heman...	985...	wright...	05/22...	m...	5	1475440937	You became a member of BECAUSE U LOVE ME(.

#4retrieve the search made by a particular user and the details of search name , location and link

select a.last_name, a.first_name, b.name as search_item, b.link, b.location from fbdb.user_info a join fbdb.search b on a.user_id = b.user_id where a.user_id = 5;

last_name	first_name	search_item	link	location
dasari	hemanth	UCSF	https://www.facebook.com/150461148299523	{"city": "San Francisco"

#5retrieve the length of the video posted by the user whose first name is rana

select a.first_name, b.length, b.title, b.description from fbdb.user_info a join fbdb.video b on a.user_id = b.user_id where a.first_name = "rana";

first_name	length	title	description
rana	21.226000000000000000000000000000	Minecraft with RTX on Windows 10 beta	Want to see how the sun falls on a Medieval vill…

#6retrieve the reactions of top 5 users posts and their reactions

select * from fbdb.reactions limit 5;

user_id	post_id	wow	haha	angry	sad	love
1	165039663531531_2865409290161208	1	0	0	0	0
2	165039663531531_2863479320354205	0	1	0	0	0
3	165039663531531_2845950915440379	0	1	0	0	0
4	165039663531531_2852391604796310	0	1	0	0	0
5	165039663531531_2850393461662791	0	0	1	0	0

#7retrieve the comments in the ascending order

select * from fbdb.comments order by user_id;

path	user_id	object_id	query_time	query_type	created_time	message	like_count
706600893425574/2…	53	2908492875915187_2…	2020-04-29 19…	Facebook:/<p…	2020-04-27…	Thankyou soooo…	2
706600893425574/2…	54	2908492875915187_1…	2020-04-29 19…	Facebook:/<p…	2020-04-27…	Thank you cand…	7
706600893425574/2…	55	2908492875915187_2…	2020-04-29 19…	Facebook:/<p…	2020-04-27…	Thank you so m…	4
706600893425574/2…	56	2908492875915187_2…	2020-04-29 19…	Facebook:/<p…	2020-04-27…	That's great ☝❤	4
706600893425574/2…	57	2908492875915187_2…	2020-04-29 19…	Facebook:/<p…	2020-04-27…	THANK YOU ♡…	2
706600893425574/2…	58	2908492875915187_2…	2020-04-29 19…	Facebook:/<p…	2020-04-27…	Thank you I don…	0
706600893425574/2…	59	2908492875915187_2…	2020-04-29 19…	Facebook:/<p…	2020-04-27…	Hooray ☺ than…	3
706600893425574/2…	60	2908492875915187_2…	2020-04-29 19…	Facebook:/<p…	2020-04-27…	Finished Level 6…	20
706600893425574/2…	61	2908492875915187_2…	2020-04-29 19…	Facebook:/<p…	2020-04-27…	No levels open …..	4
706600893425574/2…	62	2908492875915187_2…	2020-04-29 19…	Facebook:/<p…	2020-04-27…	Was playing fro…	0
706600893425574/2…	63	2908492875915187_6…	2020-04-29 19…	Facebook:/<p…	2020-04-27…	I do not have u…	0
706600893425574/2…	64	2908492875915187_2…	2020-04-29 19…	Facebook:/<p…	2020-04-27…	I'm already frust…	41
706600893425574/2…	65	2908492875915187 2…	2020-04-29 19…	Facebook:/<p…	2020-04-27…	Without sugar d…	4

#8retrieve the feed of users of top 100

select * from fbdb.feed limit 100;

user_id	object_id	query_type	feed_id	message	created_time	from	type	posted_by	status_type
2	165039663531531_...	Facebook:/<...	165039663531531...	Campfires are a great p...	NULL	{"name": "Minecraft"	photo	Minecraft	added_photos
3	minecraft	Facebook:/<...	NULL	NULL	NULL	{"name": "Minecraft"	photo	Minecraft	added_photos
4	165039663531531_...	Facebook:/<...	165039663531531...	Campfires are a great p...	NULL	{"name": "Minecraft"	photo	Minecraft	added_photos
5	165039663531531_...	Facebook:/<...	165039663531531...	Wading through presents	NULL	{"name": "Minecraft"	photo	Minecraft	added_photos
6	165039663531531_...	Facebook:/<...	165039663531531...	ICYMI on Marketplace: ...	2020-03-13T18:0...	{"name": "Minecraft"	photo	Minecraft	added_photos
7	165039663531531_...	Facebook:/<...	165039663531531...	Are those bee suits as ...	NULL	{"name": "Minecraft"	video	Minecraft	added_photos
8	165039663531531_...	Facebook:/<...	165039663531531...	Walking on water is a c...	NULL	{"name": "Minecraft"	video	Minecraft	added_photos
9	165039663531531_...	Facebook:/<...	165039663531531...	Take baths in lava	NULL	{"name": "Minecraft"	video	Minecraft	added_photos
10	165039663531531_...	Facebook:/<...	165039663531531...	Ding dong! Who's there...	NULL	{"name": "Minecraft"	video	Minecraft	added_photos
11	165039663531531_...	Facebook:/<...	165039663531531...	ICYMI on Marketplace: ...	NULL	{"name": "Minecraft"	video	Minecraft	added_photos
12	165039663531531_...	Facebook:/<...	165039663531531...	You were excited. We ...	NULL	{"name": "Minecraft"	video	Minecraft	added_photos
13	165039663531531_...	Facebook:/<...	165039663531531...	Golden chestplates are ...	2020-03-02T18:0...	{"name": "Minecraft"	video	Minecraft	added_photos
14	165039663531531 ...	Facebook:/<...	165039663531531...	ICYMI on Marketplace: ...	2020-02-28T16:0...	{"name": "Minecraft"	photo	Minecraft	added_photos

#9retrieve the groups and groups recent activity

select * from fbdb.groups1 a join fbdb.groups_activity b on a.user_id = b.user_id;

group_name	group_id	user_id	user_id	Column1timestamp	message
FBPager	1588111566	1	1	1587315353	You became a member of Call of DutyÂ®:MODE...
PUBG Mobile	1558843858	2	2	1476259634	You became a member of Internship in Delhi/NC...
Opentalk	1534003445	3	3	1476259631	You became a member of KSR HOSTEL.
Epic Games	1528381895	4	4	1475459303	You became a member of ALL IS LOVE...XOXO(...
Coffee Meets Bagel	1522861612	5	5	1475440937	You became a member of BECAUSE U LOVE ME(...
KK Friends	1522860987	6	6	1475387508	You became a member of Internships.
Tinder	1522857456	7	7	1469543306	You became a member of Delhi Telugu Associati...
happn	1522841589	8	8	1469344816	You became a member of Code Geek.
SportsUnity	1508428611	9	9	1465816814	You became a member of UGC NTA-NET for Co...
InMessage	1495348643	10	10	1457781529	You became a member of Find friends,,life part...
NBA LIVE Mobile	1494905030	11	11	1457780534	You became a member of Find your life partner.
Minion Rush	1477645335	12	12	1454263371	You became a member of KALI LINUX.
Spotify	1470844938	13	13	1443348319	You became a member of THE SAPPHIRE STOR...

#10 retrieve the liked posts by people and how many people are talking about count

select a.user_id, a.talking_about_count, a.id, a.about, a.website from fbdb.likes a;

user_id	talking_about_count	id	about	website
33	7052	1081685151938442	Stella is back and she needs your help to defeat...	http://to.king.com/7b0s
40	1249	148336855246835	Welcome to the official Bubble Witch Saga fan p...	http://www.bubblewitchsaga.com
34	1765	155941611411426	Welcome to the official Candy Crush Jelly Saga ...	http://www.candycrushjellysaga.com
31	0	198917691702	Host of the nationally syndicated radio show 'O...	NULL
42	7048	205254879607280	Meow and welcome to the official Pet Rescue S...	http://petrescuesaga.com/
36	867	283983265088835	Can you help save Witch Country from the male...	http://about.king.com/games/bubble-witch-sag...
37	0	405162889610751	Hi! We're King. A leading interactive entertainm...	NULL
38	9104	416898068399728	Welcome to the Farm Heroes Saga official fan p...	http://about.king.com/games
32	18440	47360808996	America's #1 network delivered directly to your ...	http://www.cbs.com
41	756	475887905808784	Hi there! Welcome to the official Papa Pear Sag...	http://www.papapearsaga.com/
39	387	521665287854690	Welcome to the Pepper Panic Saga official fan p...	http://www.pepperpanicsaga.com/
28	852	53885071782	Visit my instagram https://www.instagram.com/...	NULL
29	15016	669947926411298	Welcome to the official Candy Crush Soda Saga...	http://candycrushsodasaga.com

Remarks:

All the data in the fields are real data from the facebook. All the content is scraped from the facebook website. Tools used to scrape facebook website are facepager, excel, csv files, json files.