Database Management System Final Project
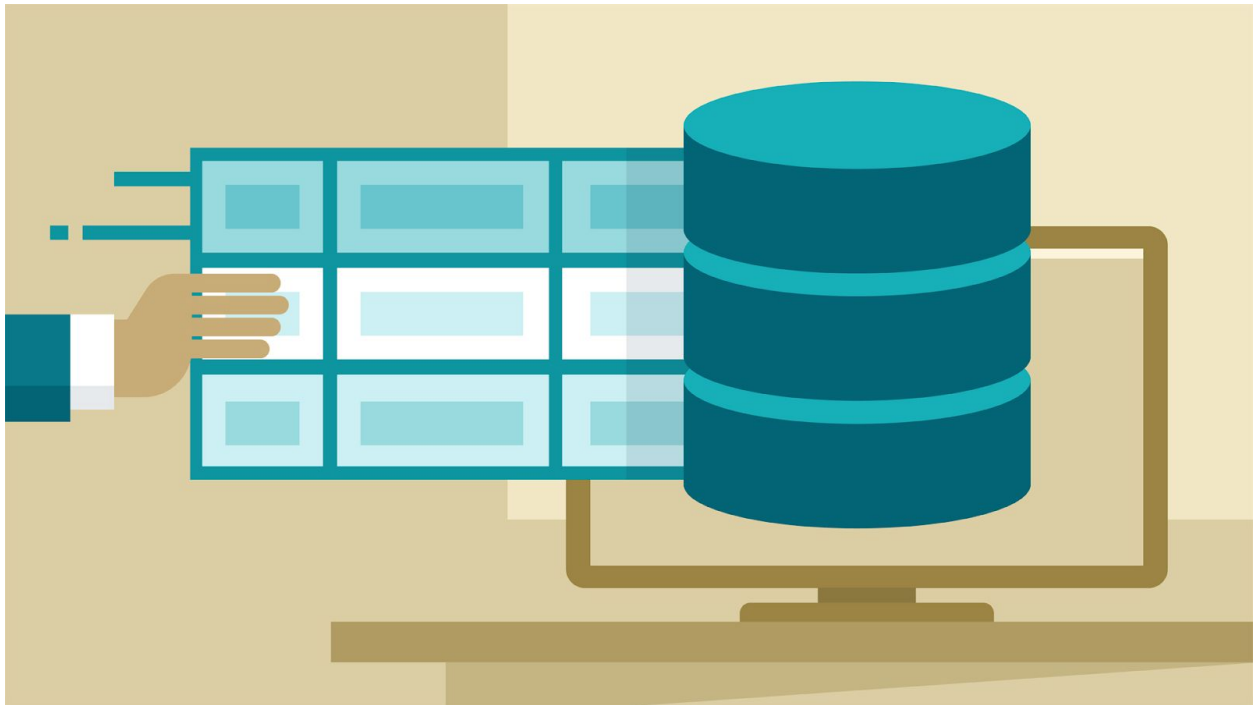
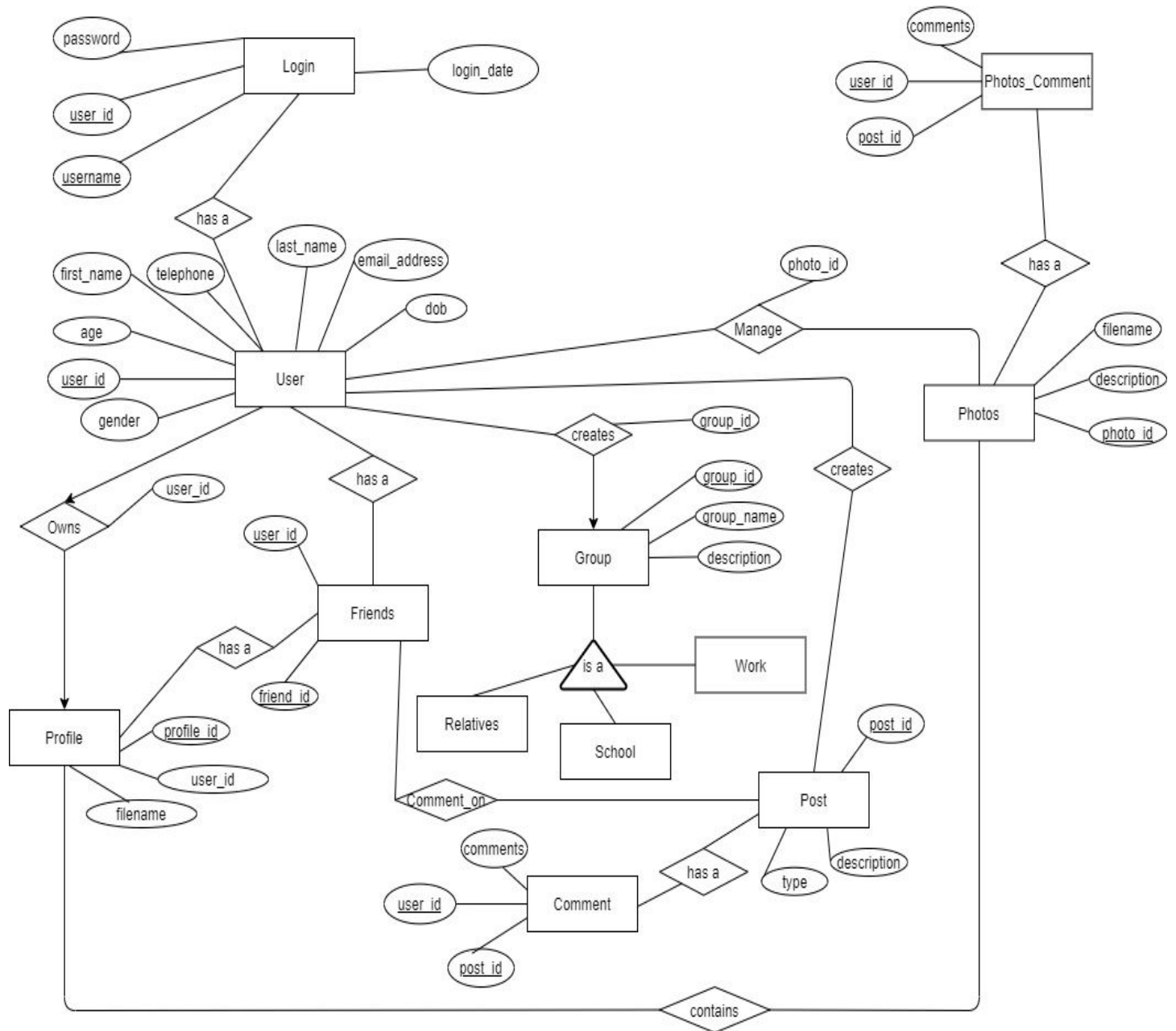Group Members:

Romaine Murray	620106495
Olevia Francis	620110318
Tiffany Hudson	620104293
Marc Grant	620096801

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Entity Relations Diagram(ERD)

Denormalized Tables

Login(<u>Username</u>,<u>User_id</u>,Password,login_date)

User(<u>User_id</u>, age, frist_name, last_name,email_address,dob, gender, telephone).

Profile(<u>Profile_id</u>,<u>User_id</u> ,filename)

Friends(<u>User_id</u>,<u>friend_id</u>)

Group(<u>Group_id</u>,group_name,description)

Group_members(<u>User_id</u>,<u>Group_id</u>, role)

Post(<u>Post_id</u>,<u>User_id</u>,description)

Photos(<u>Photo_id</u>,<u>User_id</u>,description,filename)

Photo_comment(<u>User_id</u>, post_id, comments)

Comment(<u>User_id</u>, post_id, comments)

Relational Tables

Login(<u>Username, User_id</u>,Password, login_date)

Friends(<u>User_id, friend_id</u>)

Profile(<u>Profile_id</u>, <u>User_id</u>, filename)

Group_members(<u>User_id, Group_id</u>, role)

Post(<u>Post_id</u>, <u>User_id,</u> description, type)

Photos(<u>Photo_id</u>, <u>User_id</u>, description,filename)

Photo_comment(<u>User_id,</u> post_id, comments)

Comment(<u>User_id,</u> post_id, comments)

Functional Dependencies

Login table

Username --->(Password, login_date)

User_id ---> (Password, login_date)

User Table

User_id---> (age, frist_name, last_name,email_address,dob, gender, telephone)

Profile Table

Profile_id--->(filename)

User_id--->(filename)

Group Table

Group_id→(group_name,description)

Group_member Table

User_id-->(role)

Group_id→(role)

Post Table

Post_id-->(description)

user_id→(description)

Photos

User_id→(description, filename)

Photo_id→(description, filename)

Photo_comment

User_id→(post_id,comments)

Comment

User_id→(post_id,comments)

Normalised Tables

First Normal Form(1NF)

Login(<u>Username, User_id</u>, Password,login_date)

User(<u>User_id</u>, age, frist_name, last_name,email_address,dob, gender, telephone).

Profile(<u>Profile_id</u>, <u>User_id</u> ,filename)

Friends(<u>User_id, friend_id</u>)

Group(<u>Group_id</u>, group_name, description)

Group_members(<u>User_id, Group_id</u>, role)

Post(<u>Post_id</u>, <u>User_id,</u> description)

Photos(<u>Photo_id</u>, <u>User_id</u>, description,filename)

Photos_comment(<u>User_id,</u> post_id, comments)

Comment(<u>User_id,</u> post_id, comments)

Second Normal Form(2NF)

Login(<u>Username, User_id</u>,Password,login_date)

User(<u>User_id</u>, age, frist_name, last_name,email_address,dob, gender, telephone).

Profile(<u>Profile_id</u>, <u>User_id</u> ,filename)

Friends(<u>User_id, friend_id</u>)

Group(<u>Group_id</u>, group_name, description)

Group_members(<u>User_id, Group_id</u>, role)

Post(<u>Post_id</u>, <u>User_id,</u> description)

Photos(Photo_id, User_id, description, filename)

Photos_comment(User_id, post_id, comments)

Comment(User_id, post_id, comments)

Third Normal Form (3NF)

Login(Username, User_id, Password, login_date)

User(User_id, age, frist_name, last_name,email_address,dob, gender, telephone).

Profile(Profile_id, User_id ,filename)

Friends(User_id, friend_id)

Group(Group_id, group_name,description)

Group_members(User_id, Group_id, role)

Post(Post_id, User_id,description)

Photos(Photo_id, User_id,description,filename)

Photos_comment(User_id, post_id, comments)

Comment(User_id, post_id, comments)

Data Dictionary

User

Field Name	Data Type	Field size for display	Description
user_id (primary)	int		Unique user ID of each user
first_name	varchar	30	First name of user
last _name	varchar	30	Last name of user
email_address	varchar	80	Email address of user
telephone	varchar	20	Telephone number of user
dob	date		Date of Birth of user
gender	varchar	20	Gender of user

Login

Field Name	Data Type	Field size for display	Links to	Description
user_id (primary)	int		User -> user_id	Unique user ID of each user
username (primary)	varchar	80		Unique alias for each user
password	varchar	255		Private input to authenticate individual users
login_date	date			Date on which the user logins into their profile

Profile

Field Name	Data Type	Field size for display	Links to	Description
user_id (primary)	int		user-> user_id	Unique user ID of each user
profile_id (primary)	int			Unique profile ID of each photo
filename	varchar	255		User profile picture

Friends

Field Name	Data Type	Links to	Description
user_id (primary)	int	User -> user_id	Unique user ID of each user
friend_id (primary)	int	user-> user_id	Unique friend ID of each friend

Group

Field Name	Data Type	Field size for display	Description
group_id (primary)	int		Unique group ID of each group
group_name	varchar	255	Unique group name of each group
description	text		Description of group

Group Members

Field Name	Data Type	Field size for display	Links to	Description
user_id (primary)	int		User -> user_id	Unique user ID of each user
group_id (primary)	int		group-> group_id	Unique group ID of each group

Post

Field Name	Data Type	Links to	Description
user_id (primary)	int	User -> user_id	Unique user ID of each user
post_id (primary)	int	post-> post_id	Unique post ID of each post made by user
description	text		Description of post

Photos

Field Name	Data Type	Field size for display	Links to	Description
user_id (primary)	int		User -> user_id	Unique user ID of each user
photo_id (primary)	int			Unique photo ID of each post made by user
caption	text			Description of photo
filename	varchar	255		Photo posted by user

Comments

Field Name	Data Type	Links to	Description
user_id (primary)	int	User -> user_id	Unique user ID of each user
post_id	int	post-> photo_id	Unique post ID of each post
comment	text		Comment posted by user

Photos comment

Field Name	Data Type	Links to	Description
user_id (primary)	int	User -> user_id	Unique user ID of each use
photo_id	int	photos-> photo_id	Unique photo ID of each photo
comment	text		Comment posted by user