



1 Worksheet Details

Submission Type: Individual assignment

Due date: 17th of April 2020 @ 17:00 Beijing Time (No Late Submissions)

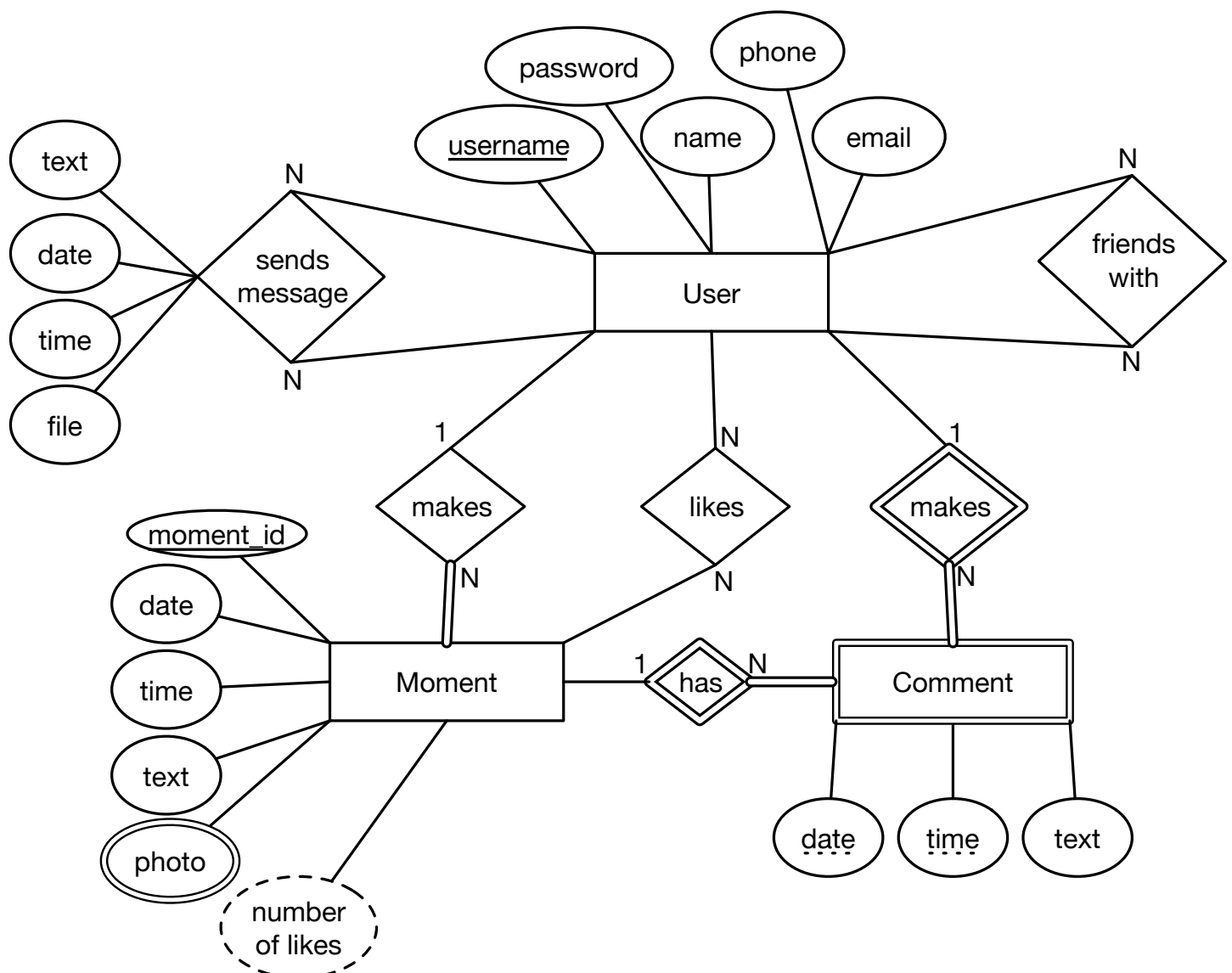
Worksheet Weight: The same as 1 Quiz

Submission Requirements: A PDF document containing the following:

1. Your UCD student number.
2. Your name.
3. The changes to logical schema produced during each step of the process
4. The final logical schema.

This worksheet is based on the techniques learned in the Logical Design lecture. You will be given an image showing an entity relationship diagram and asked to convert this into a logical schema.

2 Problem Diagram: Instant Messaging Service



Solution

1. Mapping Regular Entities

users(username, password, name, phone, email)
moments(moment_id, date, time, moment_text)* *If username is included as part of the key that is fine (Students may not have seen the updated worksheet)

2. Mapping Weak Entities

comments(moment_id, username, time, date, comment_text)* *Here, either having username as part of the key or not part of the key are both acceptable answers .

3. Mapping 1-1 Relationships

No 1-1 relationships.

4. Mapping 1-N Relationships

moments(moment_id, date, time, moment_text, username)
comments(moment_id, username, time, date, comment_text)* *If the schema was already completed accounting for the 1-n relationship, they do not need to repeat it

5. Mapping N-N Relationships

friends(username_a, username_b)
likes(username, moment_id)
messages(sender_username, receiver_username, date, time, message_text, file)

6. Mapping Multivalued Attributes

photos(moment_id, photo)

7. Mapping N-ary Relationships

No N-ary Relationships.

8. Mapping Supertypes/Subtypes

No super or sub types.

Final Logical Schema

users(username, password, name, phone, email)
moments(moment_id, date, time, moment_text, username)
comments(moment_id, username, time, date, comment_text)
friends(username_a, username_b)
likes(username, moment_id)
messages(sender_username, receiver_username, date, time, message_text, file)
photos(moment_id, photo)