

# Mini Project in Database Systems

## First Stage

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## 1 Proposal

Ask Us is a hypothetical organisation who want to create a website where people can ask and answer questions to the general public on any topic. Our task is to analyse the data needs of such a website, to the ends of creating a database for them along with a website to interface with it.

Ask Us will need to store information on its users, as well as all the questions and answers. They would also like each question and answer to have its own comment thread, for people to contribute helpful information regarding answers as well as for short follow up questions.

Additionally, they would like questions to be organised by topic, where each question can be associated with multiple topics. Users should also be able to follow topics they are interested in, so they can see questions related to their interests.

## 2 Entity Relationship Diagram

### 2.1 Entities

We will have seven entities: user, post, comment, topic, question, Q&A post, and answer.

A user is any individual writing a post on Ask Us. The user entity will have five attributes: ID, name, email, password, and points. ID will be the primary key. Points is a metric of rating.

Topic is a way a user can categorize his question thus getting better targeted responses. A user can also follow a topic of interest. The topic entity will have three attributes: ID, name, and description. ID will be the primary key.

A post is anything a user writes. That can either a question, an answer, or a comment. The post entity will have four attributes: ID, body, date-time, and points. ID will be the primary key.

A comment what a user would write if was to comment on a post. The comment entity is special type of Post. Comment itself has no attributes.

A Q&A post is either a question or an answer that a user posts. The Q&A post entity has no attributes of its own.

A question is what a user would post if he wanted to receive a solution to his inquiry. The question entity has one attribute called title.

An answer is what a user would post if he wanted to give a solution to a inquiry. The answer entity has one attribute called accepted.

## 2.2 Relations

The user entity has a relation with the topic entity, called follows. In the follows relation, there can be many topics a user can follow but it is not mandatory for a user to follow any topic. In the same light, there can be topics followed by no one or by one or many users.

The user entity also has a relation with the post entity, called wrote. In the wrote relation, the user can write anywhere from many to no posts. A post can only be written by exactly one user.

The comment entity has two relations with the post entity. One relation is called belongs to. In the belongs to relation, a post can have no or one or many comments. In this relation, a comment can only be a comment on exactly one post. The other relation is called is a. In the is a relation, a particular comment is related to exactly one post. In this relation, a post does not necessarily have to be related to a comment, but if it is, it is related to exactly one comment.

The post entity also has a relation with the Q&A post entity, called is a. In this relation, a particular Q&A post is related to exactly one post. A post does not necessarily have to have a relation with a Q&A post, but if it does, it is related to exactly one Q&A post.

## 2.3 Diagram

Figure 1 shows the entity relationship diagram for the database we are to make for Ask Us.

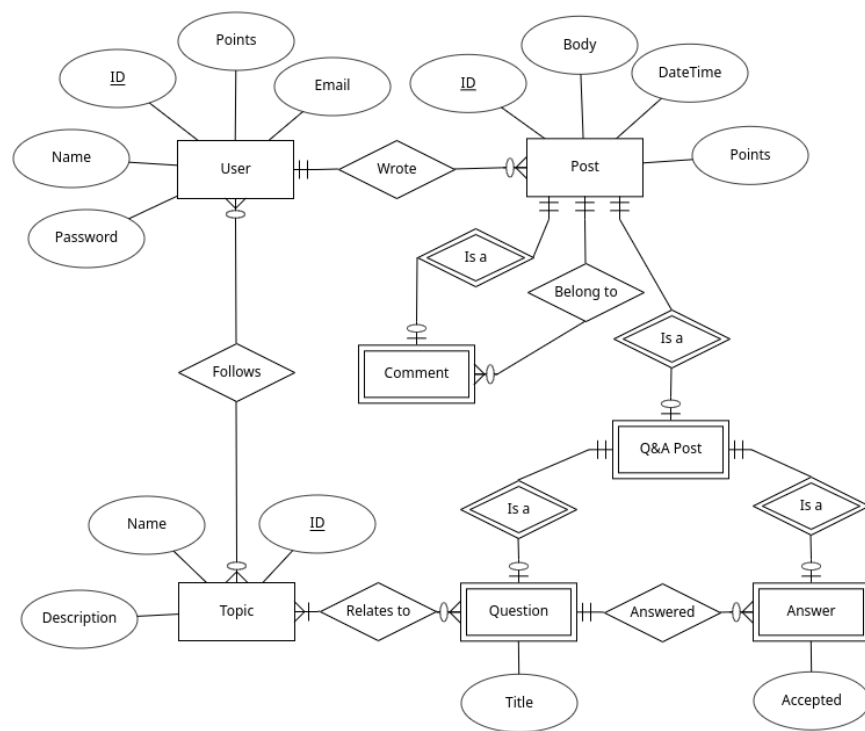


Figure 1: An ERD for the database for Ask Us