Bilkent University

Department of Computer Engineering

Database Systems Project

Project: Collaborative Hypertext Dictionary

Weblink: https://github.com/gunduzhuseyn/CS353Bilkent

Project Proposal

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Contents

Introduction

This is the proposal for the application called Servo, which is an online dictionary where people can define various topics. The contents of this report include the description of the project, its requirements and limitations. Also by using an E/R diagram we included a conceptual design of the the database system that we are going to implement and deploy for this project.

Description

Servo project provides its users an online social platform where they can easily create, define and rate topics, and engage with other users at the same time. This project will enable our users to share their ideas in a unique way by encouraging them to come up with creative and funny descriptions, for any given topic. Users who are logged in the system (will be simply referred as users from this point on), will be able to open up a new topic, give it a name, assign categories, and provide the initial entry for that topic. They will also be able to create an entry on any previous topics that are created by other users. Additionally, they will be able to extend their own entries by adding more content. However, they are not allowed to delete any entry or topic. Users will also be able to rate other users' entries giving 1 or -1 points. As a result, the entries, whenever viewed, will be ranked from highest to lowest. This will enable users to easily see the best entries, and encourage them to come up with better ones on their own. They will also be able to mark entries or topics as their favorite, so they can easily view them

from their home page. Moreover, users will be able to follow other users, to have access to their profiles easily. From their own profile, they will be able to access to the list of people they are following. Clicking on one of the names, will take users to the profile that belongs to the name, where they can see the entries and topics that person contributes to.

Also users will be able to text each other privately, and view all their previous messages. In order to prevent spammers and illegal content, users will be able to block the other users, and also report the posts they think should not be on the webpage.

Users can also search for a topic by providing relative keywords.

Admins of the webpage, will be able to delete a user, review the reports, and delete entries and topics.

The main purpose of this project is to design, implement and deploy a database system, in order to learn and understand creating and managing database systems. All the entities, their relations, and business logic should be represented carefully in the database. The database will handle all the query operations, data storage and updates.

Requirements:

Functional:

- Users should be able to:
    - Create new topics.
    - Add entries to any existing topic.

    - Expand their own entries.
    - Rate any existing entry giving 1 or -1 points.
    - Make any entry their favorite.
    - Make any topic their favorite.
    - Report a topic.
    - Report an entry.
    - Report other users.
    - Follow other users.
    - Message other users.
    - Block other users.
    - Search topics.
    - Search other users.
    - View all of their favorite entries at a single place, sorted in a chronological order.
    - View all of their favorite topics at a single place, sorted in a chronological order.
    - View the list of people users are following.
    - Users should be able to unfollow the users which they are following.
    - Users should be able to view the profiles of other users.
- Admins should be users, with extra privileges. They should be able to:
    - Create new categories.
    - Delete existing topics.
    - Delete existing entries.
    - Ban any user, except other admins.

    - View reports.
- All entries within a topic should be sorted from highest to lowest user ratings.
- All entries and topics should have the name of the user, who created them, written with them.

Non-Functional

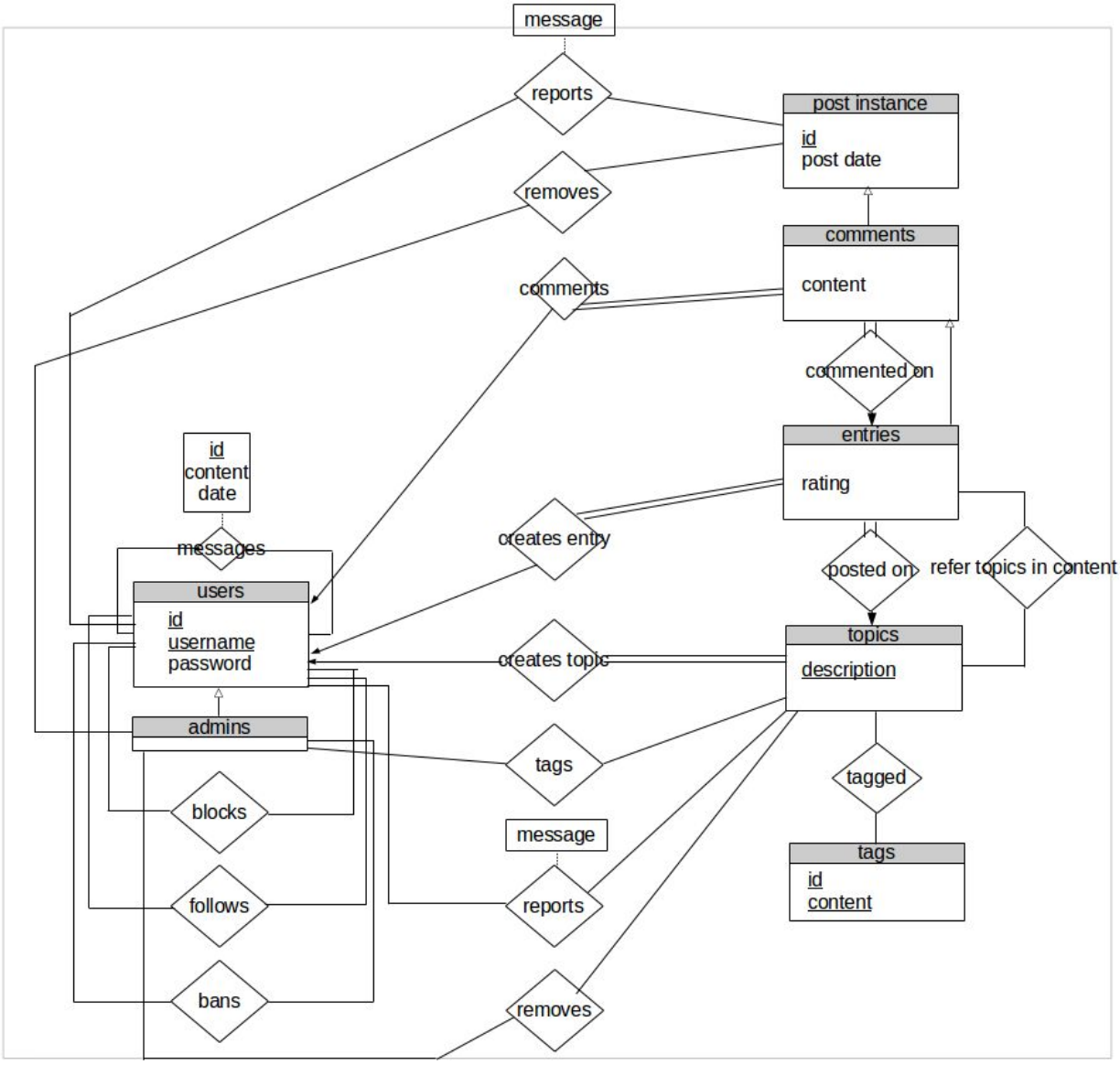
- Portability: The website should work on all modern browsers, including mobile browsers. It should auto-adjust its contents in order to adapt to the browser on which it is being viewed.
- Response Time: All the queries to the database should take less than a second.
- Security: Database should have a secure design and hashes should be used to authenticate users' login procedure.
- Scalability: The website should scale up to large amount of users with ease. Database should be able to handle multiple connections without failing.
- Uptime: The website should be accessible 97% of the time and all maintenance should be carried out with minimal downtime.
- Elegance: The website should be elegant and user friendly. There shouldn't be any unnecessary complications.

Limitations

- It is not allowed to discuss certain topics as there are legal regulations forbidding them.
- For ethical issues, a person who is not signed in cannot message to registered users.
- For ethical issues, a person who is not signed in cannot comment on posts.
- Usage of images and videos is not supported
- Users will not be able to delete any content.

- Users will not be able to change their previous entries.
- Users will not be able to see the people who are following them.

E/R Diagram



Conclusion

In this project we are making a collaborative hypertext dictionary in which users will be able to create entries of different topics and other people will be able to make more entries in those topics, starting this way discussions. People will be free to choose their own topics, like or dislike other topics and entries, follow users and also message other users. Users can search for topics or other users. In this analysis report we have presented an E/R model of the database showing the connections among the entities. Also requirements and limitations are explained in detail.