University of British Columbia, Vancouver
Department of Computer Science

CPSC 304 Project Cover Page

Milestone #: 1

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Group Number: 27

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By typing our names and student numbers in the above table, we certify that the work in the attached assignment was performed solely by those whose names and student IDs are included above.

In addition, we indicate that we are fully aware of the rules and the consequences of plagiarism, as set forth by the Department of Computer Science and the University of British Columbia.

2. Project Description:

a. What is the domain of the application:

The domain of this application involves social media and online contents, featuring both community-based communication and commercial activities, as this application primarily focuses on allowing users to engage in community-based interactions and content creation. The application allows users to join communities, engage in community activities and earn point credits, purchase merchandise with points, create posts, and interact with posts via likes and comments.

b. What aspects of the domain are modeled by the database:

The database aims to provide data persistence for for the following key aspects of the social media domain:

1. **User/Account Management**

   Account information such as username, userid, email, favorites, accumulated points, and password are all stored so that users will be able to check their own profile and their favorited posts, and also use their accumulated points to exchange for merchandise. Passwords will be used for account security.

2. **Community Management**

   Community information like community name, description, guidelines and members are also stored to facilitate the creation and management of user communities. Storing this information also allows users to search for different communities and view them to decide which one to join.

3. **Content Creation and Interaction**

   The data associated with posts and comments are also modeled in the database. Information of an individual post, like post id, post content as well as the creation dates and time are recorded; comments under a post will also be stored in the form of comment id, content and creation date/time. This supports ordering posts and comments in time order, and also allows

users to search for specific posts or comments with their post/comment id. Finally, both posts and comments keep a record of their creator, which allows users to delete or edit their original posts and comments.

4. **Point Credits and Merchandise Exchange**

   Users can earn points by participating in activities (which have rewards specified); with the points in their accounts, users could exchange for merchandise offered by sponsorship companies. Each merchandise item is stored as a collection of id, name, description and price (in points). The purchase operation would be stored as an individual table, including trade date and buyer address.

3. Database Specifications:

a. **What functionality will the database provide:**

Post creation: The database will allow users to create media or text-based posts; posts could fall under at most one topic.

Post Interaction: The database will allow users to interact with posts via likes, comments, or favoriting the posts to save them for convenient viewing later.

Join: The database will allow users to join groups/communities and discuss topics that interest them.

Community Interaction: The database will allow communities to hold activities/discussions, focused on specific topics, and get sponsors. Activities would reward the users who participated with points. Sponsors will also be able to sell merchandise that users can exchange for with points.

Merchandise Exchange: users could exchange for goods offered by sponsors by using their points they gained from using the application.

Viewing History: The database will allow users to search for their posts and their comments. This allows the users to view, edit, and delete old posts and comments.

4. Description of Application Platform:

a. We will be using the department-provided RDBMS Oracle along with JavaScript to create our application.

b. Frontend: HTML, CSS, JavaScript, React and Bootstrap.
Backend: Node.js, Express.js
Database: Oracle Database
Testing: RTL, Jest

5. ERD: