Team 034: Final Project Report

1. Please list out changes in directions of your project if the final project is different from your original proposal (based on your stage 1 proposal submission).

Two big differences between our original proposal and final implementation is that the final implementation is missing the user anonymous function and the poll function. In our original proposal, we planned to let users have the choice of making themselves anonymous when logging in or posting comments. However, due to the time limit, we have not figured out how to implement this function. As a result, on the website, every user's personal information, including their passwords, are visible to each other. Also for the poll function, this has not been implemented, but we will continue to explore it deeply, and also to make the UI look better and more clear.

2. Discuss what you think your application achieved or failed to achieve regarding its usefulness.

   Achieved: The final application achieved almost everything described in the original proposal, including that users can create their own account, setting their password, deleting their account, searching other accounts, writing comments.

   Failed: Besides the anonymous and poll function mentioned above, our application also lacks one of the advanced query.

3. Discuss if you changed the schema or source of the data for your application

   We use the exactly the same schema and data as specified in the project proposal. But it indeed has some flaws, like we did not add constraints on the foreign keys in the comment table. Basically the comments table contain 2 foreigners keys referencing the users and news table. If we don't add constraints on these 2 foreign keys, the database would not be able to delete data from users or news because it doesn't know how to handle the relevant comments. We should have optimized this.

4. Discuss what you change to your ER diagram and/or your table implementations. What are some differences between the original design and the final design? Why? What do you think is a more suitable design?

   We did not change our ER diagram. In our original design, we had five entities: Users, Statistics, Category, Comments, and News. We created our application based on the relationships specified in the database design part, and we did not find any relationships wrong or prevent the application running, so we think it is a suitable design.

5. Discuss what functionalities you added or removed. Why?

Due to the time limit, we haven’t implemented the anonymous and poll functionalities for the forum, but we plan to continue to implement it in the future. Also, compared with the original proposal, we add two new functionalities in the form of stored procedure and trigger. The two newly added functionalities are useful, the stored procedure can show an honor rank for all the users in the forum. The trigger can make users’ self-introduction more interesting when they don’t provide one instead of leaving it blank.

6. Explain how you think your advanced database programs complement your application.

The advanced database programs consist of 2 parts, the stored procedure and the trigger. The stored procedure uses cursor, loop and condition structure to label each user an honor rank, “Master”, “Senior”, or “Freshman”, based on the total upvotes they get in their comments. There’s also a frontend trigger for this stored procedure, when users click the button the program will show the 100 people with the most upvotes, including their userID, userName, totalVotes and their honor titles. As for the trigger, it automatically updates new users’ introduction to “Hello World” if they don’t provide one, instead of just leaving it blank, this job is done by many similar forums.

7. Each team member should describe one technical challenge that the team encountered. This should be sufficiently detailed such that another future team

could use this as helpful advice if they were to start a similar project or where to maintain your project.

Chenxu Liu: When we were working on stage 3, it took much time crawling news data from the news website, besides, some data we crawled was repeated, so it took additional time to filter those data. We suggest having this part of work done early.

Enxu Han: Some of the code was written in terminal, and it was hard to debug. We spent a lot of time correcting tiny errors such as missing a comma, etc.

Minjun Gao: It is important to watch the gcp video on Canvas thoroughly before working on your own. Do exactly what Professor Alawini did in the video and do not skip steps. Also, do not forget to turn it off when not using it.

Suwen Wang: I suggest looking for data before confirming your idea. Our group decided to do this online news forum in stage1, but later found it is hard to find news data when we are in stage3. It took a lot of time looking for existing data on the internet, and we almost gave up this idea and tried to work on a new one. Fortunately, we found the data we wanted. Therefore, it is better to make sure there is no data issue when you are in stage1 to avoid extra work later.

8. Are there other things that changed comparing the final application with the original proposal?

Compared with the original proposal, we remove two functionalities which are users can select as anonymous and conduct a poll based on some news, due to time limit, but we'll definitely continue to implement it. Also, we've added two functionalities, an honor rank for users based on their total votes, and a trigger to update new users' introduction if they don't provide one. We also plan to further optimize our program, like using CSS to add more fancy stuff to make the frontend look more beautiful, and we'll also add one attribute to represent the access of users (for now it's really messy because one user can see other users' password).

9. Describe future work that you think, other than the interface, that the application can improve on

There are many places in the application that we can improve. Besides the layout of the interface looks messy, there are some bugs. For example, there is a key in the Comments table called UserID, which is a reference to the key UserID in the Users table. When designing the logical database, we did not tell the Comments table how to deal with a comment if the user who posts it is deleted from the database. For example, a user who posted this comment at some point, and then deletes itself from the database. The Comment table is supposed to remove all the comments related to this user, so we will continue to improve the Comments table to make it capable of dealing with this case.

10. Describe the final division of labor and how well you managed teamwork.

    The work is divided to each person evenly and every team member could complete their part on time.

    Chenxu Liu: Backend & maintain the pace of the whole project.

    Minjun Gao: Backend, presentation & maintain git repo.

    Suwen Wang: Frontend, presentation & maintain GCP.

    Enxu Han: Frontend & presentation.