

CS 441 Team 23 Final Project Report

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1. The directions of our project have not changed at all.
2. In terms of successful implementations, we managed to carry out most of our goals mentioned in the proposal. We provided useful data on individual Pokemon and facilitated basic database operations. We also gave users ideas on the overall idea of restraining types individual Pokemon possesses. However, it is a pity that we have not yet finished adding graphs to Pokemons, which might be a little problem for users to identify Pokemon.
3. We made minor changes in the schema and data. We figured out that there are some redundant attributes that might not be compatible with our current stage of developing. In terms of redundant attributes, since we are using real world Pokemon data, there are some attributes that are a little bit different from what we first designed. The changes in schema and data does not interfere with the functionality of the program or the realness of the application; the change is made primarily to optimize data structures when it comes to indexing or carrying out other operations.
4. In terms of table implementations, we have also been through some minor changes. First of all, we changed our implementation of Pokemon types. However, we later figured out that a Pokemon can at most have two types, we therefore simplified the process by deleting Pokemon Type variable and set up First and Second Type ID, which can be referenced in other tables. Regarding the data of Pokemon Restraint, we originally wished to set up multiple tables to represent Type name, Type restraint and a table of restraining types. This process will greatly increase the time and cost when joining tables. Therefore, we put together a table to represent a restraining graph in which two type ids can have an index of restraint, which greatly optimized the performance of queries.
5. For removal of functionalities, we have removed pictures of Pokemon. For basic functionalities, we have added basic searches of Pokemon and User. We also provided filtering of Pokemon based on Types. In addition, we have also facilitated some advanced searches to get idealized information about Pokemon.
6. It is to be noted that apart from providing basic information about Pokemon is quite insufficient for new users. The advanced queries can give users a basic idea what a specific Pokemon can be used against and how efficient it is to compared to similar Pokemon.
7. Yifan: When I set up the GCP and local environment, I encountered lots of problems setting GCP locally. It seems I have to use deploy the app on front-end rather than the whole thing.
Aruhan: I ran into lots of errors trying to fix the transactions and advanced queries. Sometimes I keep on getting SQL syntax errors because there are too many lines and the logic is pretty hard too. Keep in mind that you should use workbench regularly to keep track of syntax errors.
Jinyu: One of the hardest challenges I ran into might be fixing the triggers. Usually creating triggers alone is not hard but it is extremely nasty when you are unsure whether other parts of the program is functioning as well. It is pretty useful to make sure everything is working before you move to the next step and make frequent commits. This way you don't have to debug the whole script in order to fix some issues.

Jialin: Linking the front-end to the back-end is almost killing me. I watched the tutorial video again and again while checking all sorts of resources online. My advice is to think before you do anything. Keep in mind about the basic structures of your whole project and you will avoid lots of problems.

8. Apart from missing implementation of pictures of Pokemon, there aren't really difference to the original proposal.
9. It would be perfect that we set up some implementations about carrying more advanced searches and calculations on Pokemon data. Currently all the searches are quite informational. However, it would be best if we provide some suggestions on team formation and Pokemon analysis based on existing database.
10. We have divided our workload based on our time availability and familiarity on certain topics for each stage. In the final development stage, Yifan and Aruhan are working on refining the implementation and transaction of regular and advanced queries. Jialin and Jinyu are focusing on triggers and adjusting code from front-end to back-end. For most of our developing time, we take shifts and work in turns according to our availability of schedule. It is true that we might have encountered some minor problems in delivering works to our teammates, however, overall we make a good team.