Database Redesign for STEM Academy

Progress Report

by JEM

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Abstract

STEM Academy requires a database system to collect survey data for assessment, in order to determine their impacts on the respective participants. This will allow easy access to information that can be used to apply for funding for continued growth of the program. This paper contains our journey from the start of Fall 2017 till the end of this term. We will be talking about how we set goals, and how we overcame the problems we faced during this term.

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1 PURPOSE

STEM Academy requires a database system to collect survey data for assessment, in order to determine their impacts on the respective participants. This will allow easy access to information that can be used to apply for funding for continued growth of the program. Our team will review the coding from the previous project, and make necessary changes to improve the database system and hopefully meet all of the requirements. The purpose of this document is to show a step by step procedure of what we worked on the whole term.

2 PREVIOUS PROBLEMS

The current system does not allow our clients to add additional names to the database while it is running.For instance if students are added to the camp after the camp has started, the clients cannot add names directly to the database but instead have to go through replacing the whole CSV files. They need a database which allows them to add names manually without going through changing CSV files. The current database system also does not allow our client to overwrite the surveys which are already been taken, this means making one mistake would have to start over with the whole survey. This would also lead to duplications of surveys and build a lot of junk files. The last problem of the database is that it does not allow students to make any changes, after they have chosen some answer. Also the clients want the new database to create reports and graphs to look at their statistics.

3 GOALS

Our goal is to provide a system that:
-Allows our clients to add surveys without going through adding and replacing CSV files.
-Allows students to change their answers.
-Allows our Clients to make changes in the survey if the students adds wrong information.
-Allow the database to create graphs and reports.

4 CURRENT STAGE OF THE PROJECT

In this term we tested different solutions like the Current system, Surveymonkey and Qualtrics. We tried to compare and test three systems and found that Qualtrics was the best solution for our clients.
- We could not use the current system as it had several problems which even after getting fixed would be hard for our clients to use. Our clients being non-technical staff needed something that they could fix even after we were gone.
-We also tested Survey Monkey. After researching we found out that this is one of the cheapest survey solutions, but our clients would still have to pay 25 dollars per month for using the basic version of SurveyMonkey. Currently our clients are paying 20 dollars for a system they do not use, so this was not a optimum solution for them.
-Lastly, we tested Qualtric Survey System and it gave us all the things we required at no cost. This is because OSU has

a contract with the Qualtrics which allows students and staff to use it for free.Also after testing qualtrics we found out that it gives the best results for what our clients require.

5 Project Future

Currently we are implementing Qualtrics for our project. We still have to work on different parts of qualtrics:
- Firstly we have to work on the filter options in Qualtrics. We have to see if qualtrics allows us to filter different questions. For example If our clients want to make a report only for females who took this survey. We want to be able to do that using Qualtrics.
-Secondly, we have to do research and find out how long can Qualtrics can store the data for our clients.
-We also want to be able to merge different surveys and generate a report. For example if there are similar surveys for several camps A,B and C, we want to be able to merge these surveys for all three camps and generate a single report.
-Lastly we want to make a tutorial for our clients, as they are non-technical staff. So we want to make a tutorial for them, making it easier for them to solve issues in the future.

6 Weekly Summary of Fall 2017

During the first two weeks we learned about the course, selected preferred projects, met team members and clients, and got familiar with our project. A summary of our week by week progress from week 3 is listed below.

Week 3

Got started with our project by meeting our client. Joined GitHub group repository and now working on final problem statement. We have still not decided which way to go for our project. Waiting to meet our TA and ask him which way we should go– to start a new project or to update the old one. We started working on our final problem statement. Met with our TA and our clients to discuss the project and decide what to do next.

Week 4

Worked on problem statement and sent it to our client for feedback. Also met with the TA and instructor to talk about out project. We did not face a lot of problems this week, it was just a lot of changes we had to make for our project based on the client and the instructors feedback.

Week 5

Started working on Requirements Document. Had some suggestions from the TA for what to add and what not to. He gave us an estimated idea about what the document should consist of. We updated the document with user stories, and set up a client meeting to discuss requirements. Overall, we got our work done as we had great help from the TA and our client. So we now have a clear view of what our document requires.

Week 6

We worked on the requirement document the whole week. Met with TA, client and the instructor. Quite a lot of changes in the requirement document. Had to change a lot of things in our document. Our project took different turns and still unsure about what is about to happen.

Week 7

Went through the Tech Review Document and started working on it. Also met TA for weekly meeting and contacted our Client. It was just a little hard to understand what exactly we should add for the individual pieces. Overall went through the tech review document. Our TA hinted what the pieces could be. We emailed our client for meeting schedule.

Week 8

For this week, we worked on tech review. We were unsure if our pieces were adequate, but the scope of our project didnt allow more pieces. Finally got help from central web services for getting access to php files set up by last years capstone team. We met our instructor and got a clear view about what exactly we will be doing . Came to a conclusion to work on Literature Review, UI for administrators, database management and report generation.

Week 9

We completed the individual technical review documents. Started working on the design, met with the client and informed them whats going on. They wanted us to do more research on Qualtrics to see how far it can go for this project. Thanksgiving week, not much going on.

Week 10

We met our clients and discussed the capabilities of Qualtrics. Our clients seem satisfied with what Qualtrics can do for them, but require us to carry out a few extra tests (report storage, filter options, and specific types of survey questions). After our research, we conclude that well be implementing Qualtrics for this project. We informed our instructors about it and are waiting for their feedback on what we can expect for the next two terms. In the design document, we talked about how Qualtrics can be used for this project with specific steps. We also completed our progress report document and presentation.

7 Retrospectives

Positives:

Meetings with the clients and TA.

Completed all assignments and got client verifications on time.

Collaboration from all team mates.

Deltas:

Resolve time conflicts for team meetings.

Staying on track of the course requirements and deadlines.

Actions:

Set regular meeting time.

Better time management, start projects early and give equal time to all projects.