

Shiva Karki

Team: Team Lotus

Role: Facilitator

Project: Industry Partner Database

EE 585: Senior Design I

Work Package

Project Description:

Our goal is to create a database that serves as the one place or point of access to all the necessary information related to various industry partners and their project offerings. One of the goals is to keep up to date on University connections and how they can contribute to the WSU community. One of our goals is to have the information stored in the database private and be securely available and accessible by university officials in accordance to the level of permission they have. As the database contains an enormously diverse set of information, it will serve as an important resource for many university departments. Another important goal is Sustainability, it is important and crucial to have such an important database functioning reliably for long periods of time. Therefore, it is also important to train users to work on the database to encourage continuous development and improvement. We also aim to have a tracking system in place which will update the database of new industry developments, position changes, graduation dates for students, new job opportunities and much more.

Project Parts:

Since our Project is a Software Project and it is emphasized on following parts:

1. Web Form
2. Database
3. Web Server
4. Dynamic Webpage

Project Status:

We as a team have formulated the very initial prototype of our project. Our initial prototype depicts the basic requirements of the project and represents the foundation for future prototypes.

Since, our initial prototype contains only the basic implementations of the necessary features of our project. The project implementation is 35-40% complete as of now.

In next semester, we will keep on evaluating our initial prototype then create the next prototype and do risk assessment with our client Dr. Cindi, we will iterate prototypes until it reflects the final system and construct the final, real system. As there are works to be done and the following information represents the team's vision and plan for the next semester (Spring 2021).

Project Plan for Spring 2021:

Our product consists of three important parts. The Webform, the Database, and the Web page that retrieves information from the database. In order to complete our project smoothly and perfectly we will need to complete the four major task like tasks modify the existing web form, construct a unified database, modify the web server, and construction of the dynamic webpage. In the Spring semester the following tasks are necessary to bring our product to completion. These tasks are required in bringing about a perfect and reliable final product.

Tasks:

- a. From the information retrieved by ISME group related to webform we will update and modify the current webform and have the blueprint of the webform, that will be major deliverable from ISME group for Fall 2020. In this phase we will run a series of tests to find any securities loopholes that could be existing in our code. This will involve checking with our professors and running it on websites that automatically check the security level for the page.
We will change the webform requirements and features with the feedback we received from our clients. The main goal is to gather feedback from our clients and improve our web form.
- b. We have created a unified database to make our data organized and simple. We will need to test on university server to match up the compatibility issues even though we have used exact version of technology that university has been using.
- c. We will need to reconstruct the Web Server. In our project, our web Server will serve as the bridge between the web form and the database. We will use web server to validate the form submission and submission of input data retrieval like database output. Then we will program the server to accomplish secure Data Retrieval which means accessing the information from the database.

- d. As we have constructed a user Interface (UI) dynamic page, in order to meet the needs of updated Database. we will modify the dynamic webpage. Since, we have conducted many meetings with our client Dr. Cindi and the chairperson to showcase our current prototype and gathered feedback to improve the quality of our web page and we will again do the same to meet the requirements of our clients. Based on the feedback of the clients received, we will update the dynamic Web Page to meet the client's requirement. For example, the client can request features to delete an entry, create backup of multiple entries, and even the ability to export all the contents of the database in multiple file formats.

Testing:

The main goal is to uncover defects/bugs as early as possible. So, will involves integration and acceptance testing. We will need to perform testing on web form, Database, and dynamic webpage.

- a. For the webform, we use the strict form validation technique using Back-End Web Server for all the form elements. We will need to use the third-party software like Recaptcha and test question to prevent spam form submissions from external bots. We will also test for redundant form submissions and multiple form submissions just avoid future confusions. Since, our webform is mostly Front-End. So, we will need to perform the Cross-browser Compatibility and Mobile Responsiveness. we have done 65% compatibility check for different version of browser and for mobile responsiveness we will be working on next semester. We received feedback about the Cross-Browser Compatibility of our prototype. Since our prototype consists of webpages, it is important to ensure that the web pages related to our prototype look and work similarly across popular web browsers like Google Chrome, Firefox, Apple Safari, and Microsoft Edge. This is what Cross-Browser Compatibility means and we received feedback from our professor to find the compatibility of our prototype across these browsers. For example, our prototype works for Google Chrome version 76 or higher and on Windows 7 or later. As a request for improvement, we received feedback to provide the detailed compatibility list of various browsers for our prototype.
- b. Another challenging testing was done for database, as an end user is the person who fills the form and submits information to the database. The client retrieves the information about all the submissions from the database, and testing came up with the correction and detection of the user's Time zone. Our end user could be anywhere, the database should be able to detect user's time zone and covert the timestamp of the user's submission into that of its time zone but also be able to display the results of the submission in the time zone of the client and need to have the ability to differentiate between three time zones which are the database's time zone, the user's time zone, and the client's time zone.

- c. The major testing was done and needs to be done was the dynamic webpage testing. We need to determine the compatibility list for the Dynamic Webpage that includes the supported web browsers, for an example, our prototype works for Google Chrome version 76 or higher and on Windows 7 or later. As our dynamic webpage is/will be mostly front-end part. Hence, we must test it for Cross-browser Compatibility and Mobile Responsiveness.

Maintenance and Delivery Dates:

Since, maintenance is the modification of a software product after delivery to correct faults, to improve performance or other attributes, after our product is developed and deployed into production keeping it running as per the user's expectations requires maintaining it. The maintenance is not just about fixing the bugs discovered by users after it is delivered. It involves activities like establishing a help desk to support the users, and enhancements.

- a. For the delivery aspect of our project, we will again meet up with Media Resource Centre (MRC) to get the technical supports.
- b. With the help of MRC, we will be able to gain access to the domain provided by the university and accomplish user login restrictions.

Next semester Spring 2021, the mobile responsiveness, testing, debugging and development component of the project will be a major undertaking. To have a perfect and reliable final product above task must be completed on time.