

Final Report

Our Term Project for Internet Systems Programming is a four-tier web application creator. The theme for the website is a web form creator. Through our web application, users can create forms with multiple different types of answer options. Our web application features drag-and-drop editing to allow users with no programming experience the ability to create web forms.

When the webpage loads, users are welcomed to a beginning template for a form. Then, below the form, there are a variety of different options the user can select from to include in their form. When an option is selected, the user can decide on the question-and-answer options. Once a user has created the new option, they can organize the structure of the form within the template at the top of the page. The user can continue to do this until they are completely satisfied with how the form is structured. While this is occurring, the user can view a current preview of the webpage in a separate window by clicking the *view form* button.

Once the user is satisfied with the form that they have created, they can complete the process by generating the web application. By doing this, the user will receive a download of the form in an html file, a SQL file to insert into a database, and a php file that takes the answers that form users will put into the form and insert them into the database. The html file is created by from the html elements of the form that the user created. This file is formatted by taking the template and formatting a new html file that fills the same template as the user created. Then, the SQL file is created by checking for the number of questions in the form and creating a table based on that number. The table also includes an email address. The user can also add a csv file into the website to state who can submit a form. This allows for users to restrict who has access to their form they have created through the website. Since the SQL file generates an email address column, user will need to enter their email address to submit the form. Finally, a php file is created that is used alongside the html file to take the answers of the form users and input them

into the database. This occurs through an http method between the html and php files once the user has submitted the form. These three files allow for the creation of a four-tier web application through our website. In the current version of the site the user is asked if they would like to build the application using local host (for testing purposes) or their own database. If the user wishes to record information in their own database, they are prompted to enter the information to connect to their database.

Web Form Generator

Drag and drop items to create your form

View Form >>

Generate Application

Delete	Heading	=
Delete	Description	=
Delete	<input type="text" value="your_email"/>	=
Delete	<input type="button" value="Submit"/>	=

Form Elements	HTML Elements	Styling
Drop down <input type="text" value="Yes"/>	Header	BOLD
<input type="button" value="button"/>	Subtitle	<u>Underline</u>
Checkbox <input type="checkbox"/> Select <input type="checkbox"/> all <input type="checkbox"/> that <input type="checkbox"/> apply	Text	<i>Italics</i>
<input type="text" value="Textbox"/>	Link	Important!
Radio buttons <input type="radio"/> Choose <input type="radio"/> An <input type="radio"/> Option	Image	<input type="text" value="Outline"/>
Date: <input type="text" value="mm/dd/yyyy"/>	YouTube Video 	Highlight
<input type="text" value="Number"/>	Linebreak	Code style

Upload CSV File

Upload a .csv file here for restricting form usage to specified users.

Choose File No file chosen

Upload File

The file template should be as follows

Username	Email
Exp123	example@example.com

The group contributed an equal amount between each member. Bradley created the drag-and-drop html website user interface. With this, he added the visual aspects of the overall web application. Bradley also transformed the html form elements which were stored as a JavaScript array into a html file for users to download. He also worked to ensure that the drag and drop editor was compatible with the systems that Alex and Vincent were working on and made necessary changes to accommodate. He also added logic to the SQL and php file generation to allow for users to supply their own database for the four-tier web application.

Alex transformed the html form elements into a SQL file for users to download and upload into their database as a general template based on the form the user designed. Alex also created the csv file upload section of the website. Along with this section, Alex parsed through the csv file and created another SQL file for the user to download and upload into their database.

Vincent created a php file for users to use alongside the form webpage. This file is downloaded as well when users create a customized form. Vincent created the php file to check email verification and input all answers from the form into the database table. Vincent also made modifications to the overall website to help make it run more smoothly and efficiently between all the files. Overall, the team worked very well together to create a successful web application.

A few lessons learned during the process was the ability to delegate different parts of the program to each team member. In typical assignments, the person must complete everything. However, in the group project, we were successfully able to delegate different aspects of the project to each member. Another lesson we learned is further knowledge in a variety of languages including HTML, CSS, JavaScript, PHP, and SQL. One final lesson we learned was how to implement code that is completely based on user input. Since the forms are created by the user, and each form can be different, we had to learn how to write code that is not based on a particular type of input from the user.

Possible future work that could be done for this project is the input of the SQL files into a database for the user using an API. Currently, the user is presented with SQL files to input into their database. With extended time, a script could be written to automatically enter this information into the database management system for the user. Another feature that could be implemented is the option to run the form directly off our current website. There could be an option to save your form to the website and allow users to go to the website to fill out the created form. By doing this, the data would be entered into the current database system instead of relying on the user to have a database system set up. However, since running a database management server online cost money, this was not included in the project.

Overall, this web application could be a useful tool for a wide variety of users, from HR and business personnel with no programming experience even to seasoned web developers looking to quickly and efficiently create a reliable web form page for their website. Our form generator's use of drag and drop editing and an intuitive user interface allows anyone to create and deploy a four-tier web form application.