

Final Project

Problem Statement:

To give patients a place to fill out the THI and TFI forms. Then based on their answers calculate their THI and TFI scores and send the information to a database corresponding to the patient.

Design of Solution:

We have PHP code communicating between the HTML and for database. The first screen that pops up request user information and has two options for TFI and THI. If the patient already exists, then it loads all the information from the database, but if the user doesn't it creates a new user with the information given. Then the user can click on either the THI or TFI forms, and fill it out. Then when the user clicks the submit button, the information from the survey goes through the PHP and goes to the database and is stored there.

Stack:

We used HTML/CSS to create the forms and then PHP to display the forms and send the information to the database, which we used MYSQL for.

Description of Implementation:

The patient table is the first to be filled out. The visit table is then filled out according to the patient table; that way we can keep track of the number of visits each patient has had. The TFI and THI tables hold all the values for each question and additionally has access to the visit_id as a foreign key, so that the table can know which visit the answers belong to. We used CSS for UI design.

Description of Technology:

We used Kali Linux for the server and Virtualbox as a virtual machine.

We used HTML to display user interaction and record data, PHP to connect to the Apache2 web server and the database, and MySQL for the database. We also used CSS for UI design.

Sequence of program

- You start off at main. You type in your name at Patient THC #, and fill out your THC # as well; this is your patient # id.
- You then click submit and then click on either THI form or TFI form.
- From here, you fill out the form and then scroll to the bottom and hit submit.
- Once the form has been properly submitted, you can navigate to the other form.
- Once both forms have been filled out, you are done with your forms and can now proceed to the appointment with the doctors. Please navigate back to the main page for the next patient.

Listed Contributions:

Hunter Lai:

- Worked on HTML form portion of the TFI and THI pages
- Did 3NF proof for Database
- Also wrote most of the final report.

Alex:

- DDL script for the database
- helped debug all of the files
- contributed greatly to the working functionality of the main page as well
- also added css format to the pages.

Harry:

- Wrote the majority of the main page, submit_thi, submit_tfi pages as well as the PHP encapsulation of the TFI, THI php pages as well
- Made light changes to the DDL
- Contributed to the instructions provided in the final report.

Proof

TFI(q1, q2, q3, ... , q25, visit_visit_id)

FD: visit_visit_id -> q1, q2, ... , q25

Key: {visit_visit_id}

3NF: visit_visit_id is in Key, so this FD is in 3NF

Instructions to deploy and run:

First, you need to download virtualbox from this link. Make sure to download Make sure you download the correct one for your machine. Run it and open it up.

- <https://www.virtualbox.org/wiki/Downloads>.

Next, you need a server; we recommend this one since it's the one we were working with. Again, make sure you download the correct one for your machine. Also, make sure that you download the virtualbox version, not the vmware one.

- <https://www.offensive-security.com/kali-linux-vm-vmware-virtualbox-image-download/>

Now that you have both a server and virtualbox, click on machine in the virtualbox window. Click add. Now you should find where the server is and click on it and then press open.

From here, you need to go navigate to network and click the green add button. Name this network 'NatNetwork'. From here, you need to click on settings and change it from 'Nat' to 'NatNetwork'.

Then, you can click on the kali server under the tools. It should run from here smoothly on Windows, we had a slight hiccup on Apple Macs though. The username is 'root' and the password should be 'toor'. From here, click on the terminal and type in the commands:

1. Service apache2 start
2. Service mysql start
3. Mysql -u root -ptoor
4. Copy and then ctrl-shift-v [init.ddl](#) onto the terminal and press enter.
5. Copy and then ctrl-shift-v [config.ddl](#) onto the terminal and press enter.

Now we need to download the client-side code. You can do this one of two ways. Either download directly into the Kali server through the browser or you can use a shared folder.

For the shared folder, in the kali server browser, click on Devices and then shared folders. You can click on the add new shared folder button on the right side and then choose your selected folder.

Now that you have the client side code, navigate to the var/www/html/ folder; create a new folder there called 'CS157A'. Move the client side code into the folder; make sure

that there is not further folder encapsulation. The path to the files should be var/www/html/CS157A/file_name.php. From here, you can click on the browser and type in

'localhost/CS157A'. Then you should click on main.php to start the program.

THI(q1, q2, q3, ... , q25, visit_visit_id)

FD: visit_visit_id -> q1, q2, ... , q25

Key: {visit_visit_id}

3NF: visit_visit_id is in Key, so this FD is in 3NF

Visit(visit_id, visit_nr, date, comments, patient_thc)

FD: visit_visit_id -> visit_nr, date, comments, patient_thc

Key: {visit_visit_id}

3NF: visit_visit_id is in Key, so this FD is in 3NF