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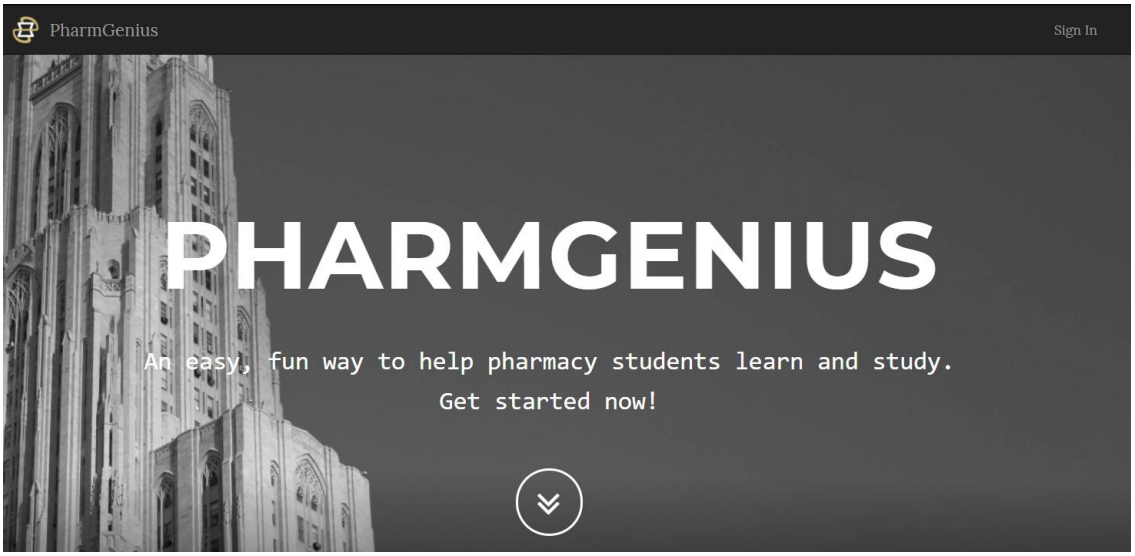
Jeffrey Krystek, Katherine Milliken
Project Leaders: Dr. Ravi Patel, Mr. Jonathan Velez
Spring 2018 Capstone

Pharmacy Quiz Game

Our Approach:

This semester we are responsible for the progress of the Pharmacy Quiz Game. The "game" system is a program intended for educational review. The purpose of the game is to prepare burgeoning pharmacists pass the pharmaceutical law exam; and in the future returning reviewers. In the past there were two quiz games which were separated between the School of Pharmacy and the School of Dentistry. The School of Pharmacy quiz supported multiple choice questions among several subjects, some standard and submitted by students. Whereas the School of Dentistry quiz provided images for students to select from for diagnosing various pathological conditions. Since our client leaders have allowed capstone students to assist them in developing the quiz games further, the games have been on the merge. Recently the databases were merged to support a cumulative application, one wherein the students may choose which quiz they would prefer to review and then progress from there interactively. We have elected to debug and develop from the database structure up through to the user interactive elements. Prior developers had failed to document appropriately, and much revision to the code is necessary to provide an adequate service.

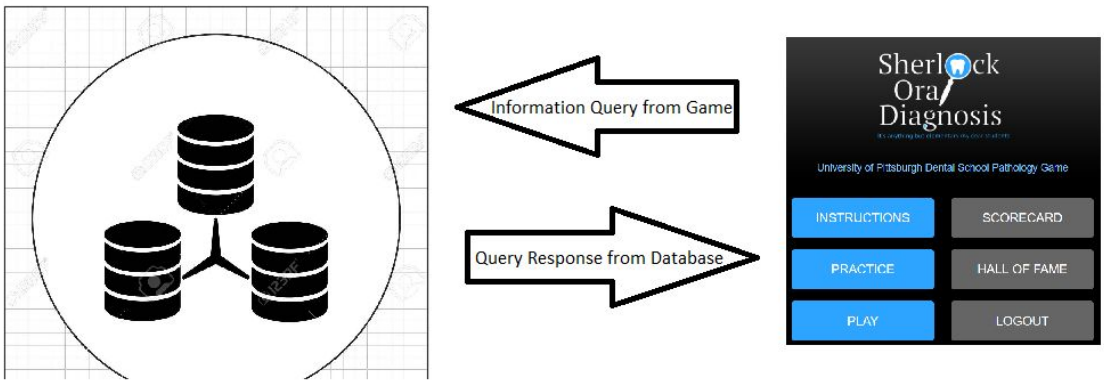


We intend to communicate with one another remotely through GroupMe primarily, as well as email. In-person stand-ups will occur when absolutely necessary, as our schedules frequently conflict during the week. We also intend to meet in-person during the allotted class time (when available) and after meetings with our clients. The division of labor will be split evenly amongst the various categories within the project; which has a “narrow but deep” orientation. Jeff is interested in testing the code for bugs and making recommendations with respect to quality assurance. Ethan is interested in the back-end database development. Adrian would like to work with the user interface components. Katie has experience with web-based user interface components and will likely help out there, but would like to focus on documentation and administrative responsibilities.

Furthermore, Our clients have provided us a list of parameters in which they wish for us to communicate with them. We are currently scheduled to meet at the first Friday of each sprint, or loosely, every other week. At least twenty-four hours before each in-person meeting, we are to provide them with agenda minutes to give them an idea of our intentions for the meeting. If it is an off-week, we are obliged to provide a general progress update, and to inform them of roadblocks. At least one business day following the meeting, we are to provide a brief summary for documentation, to track the actual discussion in meeting for future reference. Anything we submit as course material must also be provided to the clients. Additionally, we are expected to be reachable by the clients, primarily via email.

Our Implementation:

The languages which will be utilized in the project include HTML and CSS for the user interface qualities, Javascript to encode the controllers and respond to the user actions whilst reviewing with the game, and the database will be supported through a PHP, MySQL (particularly a InnoDB engine) server. As Mr. Velez informed us over email “We are not using any particular "software framework" with respect to these technologies because it does not help for [us] to use them and not develop working knowledge of the underlying code. However, if [we] feel confident in our working knowledge of Php and would like to use a Php framework for the back-end stuff, [we may] select a framework along with a justification as to why this framework is the right tool for the job.” The program is intended to run through a web browser, and thus will be accessible through any major operating system, provided there is an adequate internet connection. It follows that the architecture will be nominally straight-forward; a linear connection between interface and database structures.



We intend to test as we debug, beginning from the database. The way we see it, if we can fix bugs in the underlying database structure, that allows us to dig out of a more narrow, but deeper hole. We will have a better understanding of the interaction between server and user interface if we work from the server out. That way, if we encounter trouble during user testing of the product, we will understand where the disconnection may have occurred. So it follows, we will group the system into the MVC components of which we have previously described; namely HTML and CSS of the view component, Javascript of the controller component and PHP/ MySQL for the model. In short, we will group the system by functionality.

The potential for issues to arise is very well possible. First, we may have chosen to take on too much with restoring the code from the server level, as only one of us have experience with database language. Secondly, the group that provided us with their work thus far did not document accurately, nor sufficient in quantity. We will likely encounter code which has no rhyme nor reason. Furthermore, we will have to work within time constraints which may limit our overall progress. Our clients informed us that virtually half of the course in sprints that lead up to a build, then the build and finally a wrap up by the mid-end of April. To learn so many languages, with which several group members have not had experience, will be a key obstacle for our progress. Our generally incompatible personal schedules may also prove difficult, as arranged meetings to assist one another could prove to be difficult to organize.

User Stories:

As a Pharmacy Professor
I want the software to allow feedback on the quality of the questions
So that my students are learning the appropriate material.

As a Professor
I want the software to be updated to the most current information
So that my students are reviewing the most accurate material.

As a Pharmacy Student
I want the software to have a short response interval
So that I can review without being hindered by slow database querie

As a Pharmacy Student
I want the software to be mobile friendly
So that I may review without needing access to a computer necessarily.

As a Dental Student
I want the images to have clear resolution on any size screen
So that I may clearly visualize the pathology I am reviewing.

As a Future Developer
I want there to be adequate documentation
So that I may debug more efficiently and provide a better program.

As a Client
I want a working prototype available through all steps of development
So that I may run quality assurance user testing with focus groups.

As a Returning User
I want the software to be intuitive
So that I may review study material without having to relearn the software itself first.

As Professor Laboon
I want the software to be functional
So that my students will have experience and be able to provide the software as evidence of aptitude to future employers.