Study Studio

subtitle

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1. Introduction (something like motivation/goal/proposal, and members..)

Study Studio is a website that students of any age will be able to use easily and efficiently to study for their exams and bring up their grades. It is a site that gives students the independence to study the proper material in a light and fun environment. The site promotes visual reinforcement through repetition which allows students to succeed in their classes.

For our senior project, our team decided to develop a flashcard type of website where students and teachers can create questions on virtual flashcards for testing, studying or both. This is a great way for teachers and students to connect and learn rather than just study individually on normal flash cards. This also ensures to students that they're studying what teachers what them to study. This creates an interactive environment that helps both parties accomplish their goals.

Our team has discovered a need for teachers to incorporate technology into their students learning in a more convenient way. That has led us to the idea of a flashcard website. This website will aid teachers and students in learning. Teachers will be able to create flashcards to aid their students in studying. Teachers will also be able to create tests and quizzes for their students to practice the material. Students will be able to use the website to study the material by using the flashcards, tests and quizzes as aids. Students will be able to download a printable version of the cards for studying.

1.1

The market that we want to reach is to students and teachers. This gives an interactive learning approach to any grade level. This is mainly for students to study from their own notes, use as normal flashcards and benefit each student's' learning.

Teacher will be able to log in and create classes. Within the classes the teacher can create topics they will cover. In each topic, the teacher will highlight specific study points for their students by creating flashcards. From the created flash cards, teachers can create homework, tests and quizzes for their students. The teacher can then grade the students on their performance.

1.2

The group members working on the project consist of Elishua Brown, Ahmed Kamara, Michael Lentzis, Kimberly Matthews and Jonathan Nieves. Brown and Matthews worked on the database and PHP code for the project while Lentzis and Nieves spent time getting the HTML and CSS code working. Kamara worked on designs for a chatbox.

2. Related Work

2.1 Comparison with Similar Applications

Study Studio

Table 1 shows an overview of the comparison. A yes (Y) indicates that the feature is offered, and an asterisk (*) represents that a feature is offered, but in a way that differs from .....These differences shall be explained in the sections following the table.

	Study Studio	CRAM.com	Quizlet.com	StudyBlue.com	StudyStack.com
Sign-up/Login	Y	*	Y	*	Y
Connection	Y		*		
Chatbox	Y				
Search	Y	Y	*	*	*
Database	Y	Y	Y	Y	Y
Newsfeed	Y				

Table 1 - Comparison with Existing Products

1

CRAM.com offers a website where users can make and view flashcards and essays for studying purposes. This site gives the users an option if they want to create an account or not. Either way, the user is still able to create and use flashcards. There is an option to sign in. When a user creates an account there is a tool that allows the user to create and manage their flashcards. This site also has options for Android and iPhone users to be able to study "on-the-go" with their phone. This web app allows the user to create the front and the back of the flashcard. The user can create and edit the text on a miniature flashcard. There are also options to import items from saved documents. The user can create a minimum of three cards in a set.

2

Quizlet provides features to view and study from flashcards that have been created without an account. In order to create any flashcards an account needs to be created. Once the user creates an account, they are able to create sets of flashcards with a minimum of three cards. After the sets of cards are created the user has more options to use them than to flip through them. Quizlet has created study games that the user can play using their sets of flashcards to aid studying. To make flashcards on Quizlet there is a list of textboxes requiring a term and definition. The boxes allow the user to add a voice-recording or image to the flashcards. These cards will be auto-generated after they are saved. Users can also test themselves from the flashcards they create.

3

StudyBlue features include providing the user information that pertains to classes they are in and the interests that they specify. To use StudyBlue, the user must create an account. When a user creates an account they must specify the reason for using the site (student, teacher or life-long learner). The user may also state classes and interests to them. StudyBlue requires a minimum of five cards in a set. The user edits one card at a time both the front and back at the same time. The user can the study by choosing how many cards they want to look through, the difficulty, etc. The user is also able to quiz themselves from the flashcards they create.

4

StudyStack allows users to use their premade flashcards, make their own flashcards, and "Ace their exams." Users can search through the premade cards to study from those or they can sign up in order to make their own cards to study from. Once the user signs in they can "create a new stack" of cards. Creating a stack requires a name, description and labels, all customizable by the user. The cards are created by the user entering rows of material into textboxes. There are seven rows but the option to add more. Once the information is filled out the user must validate their email address in order to view and study from the cards they created.

2.2 Literacy Study (eg. related techniques you studied)

There are many different aspects to Study Studio that needed consideration before anything was implemented for the project. Nieves was responsible for researching layout and design aspects of the webpages. He had a background in HTML and CSS code which was a great asset to the website, so he mainly needed to determine best color schemes, efficient layouts, best places to have buttons/textboxes/logos/headings and so on. He looked into different colors and patterns that have been proven to boost effective study time. Lentzis was responsible for

3. Project Design (timeline can be here or in appendix)

Study Studio would be composed of a three-tier webpage. This means that there is the front-end (HTML/CSS), the back-end (MySQL) and the PHP code that connects the front and back so the user can maneuver through the website as well as store and access information related to their personal profile.

3.1 Design Pattern (architecture and etc.)

3.2 Data Model (eg. database design)

A UML diagram was created before any code was written for the database. Study Studio would need a MySQL database to work most efficiently. Table 2 (below) shows the UML diagram that was created for Study Studio.

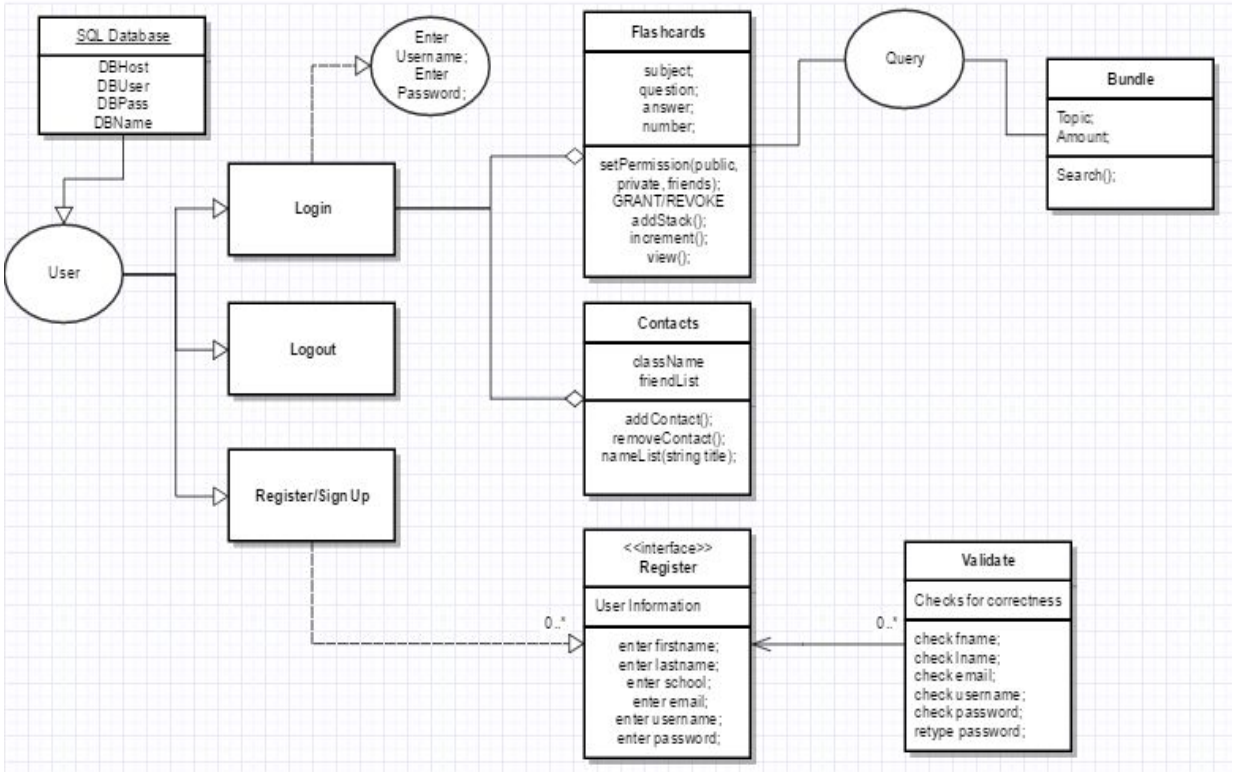

Table 2 – UML diagram

Table 2 depicts all the aspects that Study Studio should contain and how they will all be connected. The User clearly has three options on the site. The user can use their username and password to connect tot eh database to access their information. Once a user is signed in they have more options.

3.3 Programming Languages and Tools (the techniques you actually used and you used them)

The languages used to create Study Studio are HTML/CSS, PHP, JavaScript and MySQL. HTML/CSS was used to create the user interface and styling for the webpages. This code creates what the user is able to view on their screens. The PHP code links the HTML code with the database that was created. It makes it possible for the user to store and access information on their profile. JavaScript was used on some of the pages to create animations or make some of the buttons work properly. MySQL is the language that the database was written in. The database consists of many different tables to store information, including, User information and flashcard data.

3.4 Work Flow

Step 1: Our group formed in class during the first week. We quickly began brainstorming ideas. Our group eventually decided on a web application for students and teachers that will aid in learning of course material. Once we decided on the topic, we did some research and wrote up the proposal.

Step 2: Our group completed lots of research in order to get our project going. Brown completed research related to the background of the web app. He answered the “Why?” questions. Lentzis completed research pertaining to how the users will create flashcards when using the website.

Kamara researched how we should implement a search function within the website. Matthews researched the implementation of a chatbox for user connections and the navigation bar with will help the user change pages efficiently. Nieves completed all the research related to design and layout for the website.
Step 3: Our group divided into "teams" where some of us worked on the back-end and the others worked on the front-end. We started on the database design by creating a UML diagram. We also used our research to create effective layouts and designs for the website using Illustrator.
Step 4: We spent excessive amounts of time using Illustrator to design all of the web pages before we actually started coding using HTML and CSS.
Step 5: Begin to code the database using MySQL. Database consists of Users, Flashcards, and Search.
Step 6: Begin to code using PHP to have the HTML connect to the database.
Step 7: Set up a server.

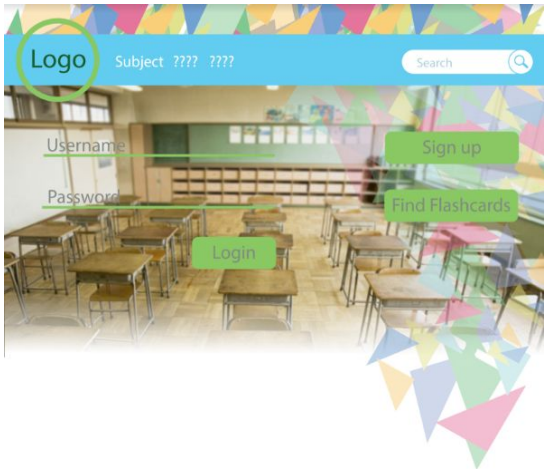

Fig 1 – Homepage

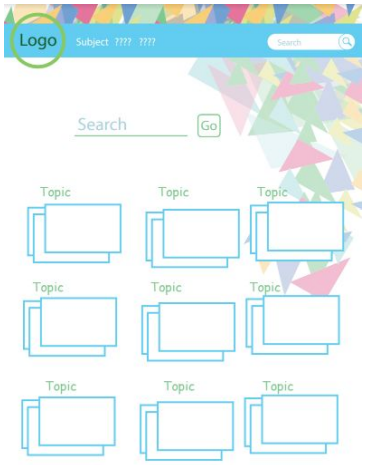

Fig 2 – Search page

4. Special Problems Solved and Solutions (need details here)

The first major problem we encountered was timing. When our group began this project we created the timeline with intentions to complete a lot of work right off the bat. This did not become a reality as deadlines were frequently missed. Our original goal to have all of the website coded by week 8 of the semester came and went with no great progress.

Another problem we encountered was communication.

We also encountered a change in plans right near the end of the project. This was due to the fact that our timing was off and we could not create an effective way to store the flashcard information to the database in the way the site was set up for the user to create the cards.

5. Product Vision and Marketing Strategies

Study Studio has the potential to become a great tool and asset to students and teachers. We see this web app as a great was for students to have an interactive learning environment. Study Studio has the

possibility to give students study tips and reminders to take a break, which sets it apart from other websites that are similar.
Some marketing strategies include

6. Possible Global and Community Impact

This project has the potential to have a huge community and global impact. Not only are there schools across the globe but the website has the potential to expand its languages. The

7. Summary and Suggestions

The big thing that our group got wrong on this project was organization. There were no repercussions for not completing our assignments in a timely manner therefore group members did not finish their assignments by the time we needed to have them complete.

References

[1] ...

[2] ...

[3] ....

[4]

[5]

Appendix (team member contribution table and schedule line)

Team Member	Hours	Features
Elishua Brown		UML diagram, PHP code
Ahmed Kamara		Chatbox
Michael Lentiz		HTML/CSS for: creating a flashcard webpage
Kimberly Matthews		Database construction, PHP code
Jonathan Nieves		HTML/CSS for: homepage, sign-up page, search page, navigation bar PHP code for navigation bar

Project Time Line

Week One was used to brainstorm project ideas which finally came down to creating a web app that students and teachers can use to create flashcards that will help when studying class material. We also completed the project proposal.

Week Two was the week that we began to layout the pages we wanted to include on the website. We made a list of pages that will be helpful for the user. From that list we began making designs of each of the pages using Illustrator. We also began the basic HTML code.

Week Three of our project was focused on our initial research of our topic and writing the initial research paper/proposal of what the website will include and the reasoning for it.

Week Four we continued creating the designs for our web app. In addition to that we created a UNL diagram to begin the database and we also continued working on the HTML and CSS.

Week Five we began to implement the database using MySQL. We looked into the best way to implement the search engine in our website. We have been continuing our work coding the HTML and CSS for each of the pages.

Week Six We got a GitHub account up and running so we could share our code more easily and efficiently than we had been. We got all the MySQL files into the account. This week the HTML/CSS for the homepage was also finished. HTML/CSS code is being continued for the next web pages. The database tables for Users and Flashcards were completed and we began working on a database for the Search page. We began coding the PHP can fixed some errors in the code.

Week Seven we worked on connecting the PHP code to the MySQL database. We also started the design of the sites chatbox feature. We are researching the Search engine more in depth to see if there is a better way to implement it. Finally, we are talking about the security of user information on the website and possibly creating an auto-generated email upon sign-up. The JavaScript for some of the pages was also started.

Week Eight the layout and design of the chatbox has been completed. The MySQL code is completed for what is required from our website at this point and most of the webpages are fully coded in HTML/CSS.

Week Nine we are continuing our work on the PHP and making touch-up to the HTML/CSS code. The flashcard page still needs to be coded so it is working efficiently.

Week Ten We are working on password encryption and hashing so the user information is more secure. We are implementing the PHP code for the navigation bar and the HTML/CSS for the flashcard page is still being finished up.

Week Eleven We began to set up a server for our project. We continued to connect the PHP within the HTML code. We also worked specifically to get the PHP working with the navigation bar.

Week Twelve we worked on our final paper and continued to connect all of our files through a server.

Week Thirteen we continued to connect all of our files through a server so they would be up and running for the presentation. We finished up the paper and the presentation. We completed the flashcard page.