

STUDY BUDDIES V.2
CSC 130 – SPRING 2018

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Problem and Specification:

The idea for this app came to my mind when I saw a poster inside my residence building. It was a poster designed to connect students taking same courses and help them find study buddies. The question I asked myself at the start of this project was "How can I bring people who struggle, need practice or confused about their course material and shy to ask questions during lectures together, help them study together and help them increase their performance?". The app I designed solves the frustration of students who cannot find study groups or study buddies to practice together on their course work.

On this app, students are able to fill out a short form by filling in their name, the course they need study group for, group size they want, and any additional information they want to attach. Then submit this form as a post to be seen by whole UVic community on the feed page, which is the homepage of the app. Then, other students checking the feed can find a group they want and click on the post to see details and join the study group. When the group size is filled, the creator of the post can book a study room in the library and set a date to meet. Everyone in the group then get a notification prior to meeting. In addition, there is a "Student Help" page that has visualized statistics on the correlation between student performance and various student study habits, such as the frequency of raising hands during lectures or amount of visited external resources while studying. These information is added to the website to inform students that such things will definitely increase their course performance and motivate them towards these habits. This also contributes to my initial question and goal of increasing student performance.

Excluding the statistics on student help page, the data involved in this app is 100% user generated because in order for this app to function, real people have to create posts on the page and other people should see/interact with them. I am going to get all the data through a form on the post creation page of the website. Then the data will be displayed in text boxes, sorted by the time of creation, on the main page of the website because displaying the data individually, in a well-organized fashion, and on the main page is the best way to attract users.

As for the Student Help page, the data is pulled from a public dataset on Kaggle.com. The visualization of choice is bar graph, because it proved to be the most neat-looking and least confusing format among other options for this dataset.

Design and Storyboard:

The structure of data processing starts with acquiring or creating the data. In this case it is the creation of the data. So, the design starts with the post creation system. On the page, there is a form that asks for user's name, the course they want to find study group for, the size of the group they desire, and any additional information they want to provide. In addition to these inputs, there are two hidden parameters on each list; timestamp and unique post ID. Both of these hidden parameters are dynamically generated when user submits the form, assuming there is no missing information. Otherwise page will throw an alert and not create any post. The unique post ID is a randomly generated alphanumeric String sequence that distinguishes each post created. When the post is created, all these parameters are stored on a Google Spreadsheets document for further use.

The second stage of the design consists of the main feed page, also will be our homepage for the app. The main page uses a GET request to pull all the information stored on the Google Spreadsheets document. Each item inside the container JSON array initiates a <div> object which has many more divs inside it. The data inside each item of JSON array fills the div object and create a post visualized as a text box divided into multiple parts for easy reading. These posts are ordered by timestamp so that the most recent post shows up on top of the page.

The third stage of the design is the detailed view page. This page is used to separate a post the user is interested from all other posts and give them the option to join the group created. The way a user reaches this detailed view page is that every div object on the main feed page is responsive. When clicked, it redirects user to the detailed view page and appends the unique post ID of the clicked post at the end of the URL. Then, on the detailed view page, the unique ID is pulled from the URL and also the JSON data is pulled from the Google Spreadsheets document just like the main feed page. The ID pulled from the URL is compared to the ID attribute in each item of the JSON array and the appropriate post information is found. A single div object is filled by this info. Under the div object there is a "Join!" button to join the group. This button is supposed to enroll the user to the group and. decrease the remaining group size by 1 by manipulating the information on Google Spreadsheets. However, the functions of the Join button could not be implemented due to time constraints, since it involved adding a login/account system to track people who joined a particle post.

The last stage of the design is the implementation of the Student Help page. In order to achieve this, the public data is pulled from Kaggle.com. Then, by the use of Chart.js the data is visualized as bar graphs.

Testing:

It took a lot of testing and trial/error process while implementing the backend. I started out by just passing one type of data to the Google Spreadsheets. Once successful it was easy implementing other types of data through same way. Likewise, it took a lot of trials to design the timestamp generator and unique ID generator algorithms, because the date format of the default Javascript function was not functional enough for me. I ended up making use of someone else's code snippet for the timestamp. As for the unique ID generation, the challenging part was parsing the String sequence because when done wrong, the ID would not exist at all. Same goes for appending the ID at the end of the URL.

Screenshots for mobile devices are at the end of the document.

Documentation:

As of now, the page is not perfect but totally functional and usable. Although the system of joining groups via posts could not be implemented, people can still reach and contact each other if the owner of the post adds their contact information in the additional information section. Since the implementation is just enough to help people communicate and connect each other, the design

and concept of app seems successful. It can help people find or form study groups and boost their course performance off the charts. :)

The things left to do is actually a lot. When I first designed the app on paper, there was supposed to be an account/login system, a chatting system, ability to filter posts by date/size/course and two different detailed view pages; one for the post owner and one for the normal user. The page for the normal user mostly seems like the implemented version, but the detailed view for the post owner would have a roster consisting of people who joined the group, time until the post expires (probably a week after posting), option to launch the group when the group size is filled or even before it is filled and when it is launched, the ability to book a library study room via the library page on uvic webpage.

As for the obstacles I would have to overcome to implement these above ideas is mostly the account/login system and the library booking system. The library booking system may actually not be possible because I would probably need some sort of uvic library API to tackle the issue. Other than these two major obstacles, other implementations could not be done because of time constraints.

Implementation:

Link to GitHub repository: <https://github.com/tolgaturker/StudyBuddies>

Pictures and Additional Documentation:

web.uvic.ca

Post Submit Page

Create A Post

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Name:

Course:

Group Size:

Additional Info:

Study Buddies	
Create Post	Student Help
<div>Tolga Turker MATH 100 Live test vol. 2 Size: 5 4/17/2018 6:09:32 PM</div>	
<div>Tolga Turker CSC 130 This is a live test. Size: 6 4/17/2018 6:07:42 PM</div>	
<div>Jason Norton CSC115 This is a test post. Size: 6 4/17/2018 2:08:37 AM</div>	
<div>Julia Baker CSC130 This is a test post. Size: 4 4/17/2018 2:07:59 AM</div>	
<div>Mike Mason PSYC 100A This is a test post.</div>	

web.uvic.ca

Detailed View

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Tolga Turker

MATH 100

Live test vol. 2

Size: 5

4/17/2018 6:09:32 PM

Join This Group

web.uvic.ca/~tolgaturker/stu... x

web.uvic.ca/~tolgaturker/studentHelp.html

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Number of Raised Hands in Lectures Against Overall Grades

raised hands in lectures

Overall Grade	Raised Hands in Lectures
60	10
65	10
70	20
75	30
80	40
85	50
90	60
95	70
100	80

Number of Resources Visited Against Overall Grades

Visited Resources for Study

Overall Grade	Visited Resources for Study
60	10
65	10
70	20
75	30
80	40
85	50
90	60
95	70
100	80

This page is dedicated to statistical information on various student habits and how these habits reflect onto their course performance. As seen on above graphs, raising hand and asking questions increases understanding of course material. Likewise, the use of external materials and futher research/exploration on course materials also increases overall course performance. Keep these information in mind while studvine.

Study Buddies

+

You are almost done!

Book A Study Room

Date:

▼

Please Select

Time:

▼

Please Select

Room:

▼

Please Select

Reservation Title:

Complete

Filters

≡

Study Buddies

+

Waiting for Students to Join

Students Currently Engaged:

Student 1

Student 2

Student 3

Time Until This Post Expires:

Days:

Hours:

Minutes:

Seconds:

0

5

1

2

4

3

5

9

Please wait until your roster is full.

OR

Launch Group Now

Filters