**University of British Columbia, Vancouver**
Department of Computer Science

# CPSC 304 Project Cover Page

Milestone #:   4

Date: . Apr 4, 2024

Group Number: 1

| Name | Student Number | CS Alias (Userid) | Preferred E-mail Address |
|---|---|---|---|
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By typing our names and student numbers in the above table, we certify that the work in the attached assignment was performed solely by those whose names and student IDs are included above.  (In the case of Project Milestone 0, the main purpose of this page is for you to let us know your e-mail address, and then let us assign you to a TA for your project supervisor.)

In addition, we indicate that we are fully aware of the rules and consequences of plagiarism, as set forth by the Department of Computer Science and the University of British Columbia

**Link To Repo:**

https://github.students.cs.ubc.ca/CPSC304-2023W-T2/project_l9a0z_p5c5w_w9y4b

**Link to SQL Initialization Script**

https://github.students.cs.ubc.ca/CPSC304-2023W-T2/project_l9a0z_p5c5w_w9y4b/blob/main/database_setup.sql

**Project description:**

Our project is a web application which allows users to share tutorials that they have created. These tutorials can be for software projects, or for hardware projects which may require materials and tools. Once shared, other users may leave feedback, in the form of ratings, comments, and images, on the tutorial. Users may also compile collections of tutorials, update these collections as they see fit, and send messages to one another. Moreover, users may search for projects based on arbitrary conditions, and access aggregate statistics about projects and users.

**Schema differences**
- As a list of completed projects is functionally identical to a wishlist of such projects, we have decided to eliminate the functionality for the completed projects list in favour of developing other distinct features
    - This removes the *CompletesProject* relation from the schema submitted in Milestone 2
- In order to facilitate inserting images from our SQL script, we have decided to change the *ImageData* columns in our *Images_ContainsImages* and *Feedback_LeavesFeedback* relations from a MEDIUMBLOB data type to MEDIUMTEXT. This enables transmitting images as plaintext, instead of binary data
- To correct a mistake from our previous schema, we have added numerical bounds to the lengths of VARCHAR data types

## Relational Model schema

- Users(*Username*: VARCHAR(40), *PasswordHash*: CHAR(32), *JoinDate*: DATE, **City: VARCHAR(40)**)
- City_Timezones(*City:* VARCHAR(40), *Timezone*: INTEGER)
- Images_ContainsImages(*GalleryIndex*: INTEGER, *ImageData*: MEDIUMTEXT, *Caption*: VARCHAR(100), **PID: INTEGER**)
- Feedback_LeavesFeedback(*FBID*: INTEGER, *Title*: VARCHAR(60), *Stars*: TINYINT, *Comment*: VARCHAR(500), *ImageData*: MEDIUMTEXT, *Timestamp*: DATETIME, **Username: VARCHAR(40)**, **PID: INTEGER**)
- Message_Sends(*MSID*: INTEGER, *Text*: VARCHAR(1000), *Timestamp*: DATETIME, **SenderUsername: VARCHAR(40)**, **ReceiverUsername: VARCHAR(40)**)
- ProjectWishlist_Creates(*WLID*: INTEGER, *Name*: VARCHAR(60), **Username: VARCHAR(40)**)
- Equipment_NeedsTools(*EID*: INTEGER, **PurchaseLink: VARCHAR(100)**, **PID: INTEGER**)
- PurchaseLink_Name(*PurchaseLink*: VARCHAR(100), *Name*: VARCHAR(60))
- Materials_MadeWith(*MID*: INTEGER, *Name*: VARCHAR(60), *Quantity*: INTEGER, *QuantityUnit*: VARCHAR(10), **PID: INTEGER**)
- Projects_PostsProject(*PID*: INTEGER, *Name*: VARCHAR(60), *InstructionText*: VARCHAR(2500), *Timestamp*: DATETIME, **Username: VARCHAR(40)**)
- Contains(***WLID*: INTEGER, *PID*: INTEGER**)

## Data Present After SQL Script

City_Timezones:

```
+-------------+----------+
| City        | Timezone |
+-------------+----------+
| Berlin      |        1 |
| Geneva      |        1 |
| London      |        0 |
| Quebec City |       -4 |
| Seattle     |       -7 |
| Toronto     |       -4 |
| Vancouver   |       -7 |
| Victoria    |       -7 |
+-------------+----------+
```

Contains:

```
+------+-----+
| WLID | PID |
+------+-----+
|    1 |   1 |
|    1 |   2 |
|    3 |   2 |
|    4 |   3 |
|    4 |   4 |
+------+-----+
```

Equipment_NeedsTools:

```
+-----+-------------------------------------------------------------------------------+-----+
| EID | PurchaseLink                                                                  | PID |
+-----+-------------------------------------------------------------------------------+-----+
|   1 | https://www.amazon.ca/hammer/s?k=hammer                                       |   1 |
|   2 | https://www.bestbuy.ca/en-ca/category/laptops-macbooks/20352                  |   3 |
|   3 | https://www.amazon.ca/b?ie=UTF8&node=15306831                                 |   4 |
|   4 | https://www.homedepot.com/b/Tools-Hand-Tools-Screwdrivers-Nut-Drivers-Screwdrivers/N-5yc1vZc993 |   5 |
+-----+-------------------------------------------------------------------------------+-----+
```

Feedback_LeavesFeedback:

```
+------+---------------------+-------+-----------------------------------------------+----------------------------------------+---------------------+----------------+-----+
| FBID | Title               | Stars | Comment                                       | ImageData                              | Timestamp           | Username       | PID |
+------+---------------------+-------+-----------------------------------------------+----------------------------------------+---------------------+----------------+-----+
|    1 | I hate this product  | NULL  | My wife left me because of these unclear instructions | NULL                          | 2024-04-02 15:37:23 | Michael Morbius |  1 |
|    2 | I'm confused         |    2  | NULL                                          | NULL                                   | 2024-04-02 15:37:23 | Jacob Zhu      |  2 |
|    3 | I'm Satisfied        | NULL  | My wife managed to follow these instructions  | NULL                                   | 2024-04-02 15:37:23 | Bob Jones      |  1 |
|    4 | A picture            | NULL  | NULL                                          | data:image/png;base64,iVBORw0KGgoAAAANSU... | 2024-04-02 15:37:23 | Bob Jones  |  3 |
|    5 | I'm moderately happy |    4  | NULL                                          | NULL                                   | 2024-04-02 15:37:23 | John Fubar     |  4 |
|    6 | I'm very dissatisfied |   1  | NULL                                          | NULL                                   | 2024-04-02 15:37:23 | Jacob Zhu      |  4 |
|    7 | I'm happy            |    5  | NULL                                          | NULL                                   | 2024-04-02 15:37:23 | Future Fellow  |  4 |
|    8 | Mid                  |    3  | NULL                                          | NULL                                   | 2024-04-02 15:37:23 | Bob Jones      |  4 |
|    9 | Pretty good          |    4  | NULL                                          | NULL                                   | 2024-04-02 15:37:23 | Sally Jones    |  4 |
|   10 | I'm Michael Morbius! |    5  | NULL                                          | NULL                                   | 2024-04-02 15:37:23 | Michael Morbius |  4 |
|   11 | Morbing out rn. 3/5. |    3  | NULL                                          | NULL                                   | 2024-04-02 15:37:23 | Michael Morbius |  1 |
|   12 | Terrible!!!          |    1  | NULL                                          | NULL                                   | 2024-04-02 15:37:23 | Sally Jones    |  1 |
+------+---------------------+-------+-----------------------------------------------+----------------------------------------+---------------------+----------------+-----+
```

Images_ContainsImage:

```
+--------------+-----------------------------------------------------------------------------------------------+-----------+-----+
| GalleryIndex | ImageData                                                                                     | Caption   | PID |
+--------------+-----------------------------------------------------------------------------------------------+-----------+-----+
|            1 | data:image/png;base64,iVBORw0KGgoAAAANSUhEUgAAANwAAADlCAMAAAAP8WnWAAAAilBMVEUAAAD39/f////7+/v19fXu7Ozs7Jycnq6urAwMD29vbn5+enp6... | A Cat     |  1 |
|            1 | data:image/png;base64,iVBORw0KGgoAAAANSUhEUgAAADAAAAA1AQAAAAsYlcCAAAACklEQVR4AWMaBQAIHgIHYH2qggAAAABJRU5ErkJggg==... | My House  |  2 |
|            1 | data:image/png;base64,iVBORw0KGgoAAAANSUhEUgAAAgAAAAIABAMAAAAGVsnJAAAAAXNSR0IArs4c6QAAACdQTFRF////9Pr+5/X+1u39wuT7rtv6mtP5hcn3br... | Twitter   |  3 |
|            2 | data:image/png;base64,iVBORw0KGgoAAAANSUhEUgAAADAAAAA1AQAAAAsYlcCAAAACklEQVR4AWMaBQAIHgIHYH2qggAAAABJRU5ErkJggg==... | A Dog     |  1 |
|            2 | data:image/png;base64, iVBORw0KGgoAAAANSUhEUgAAASwAAAAeCAYAAACWuCNnAAAAYElEQVR42u3UAREAAAQEsJdcdHI4W4hVMh2AA0pYgLAAhAUIC0BYAMICh... | A Flat Tire |  3 |
+--------------+-----------------------------------------------------------------------------------------------+-----------+-----+
```

## Materials_Madewith:

| MID | Name | Quantity | QuantityUnit | PID |
|-----|------|----------|--------------|-----|
| 1 | Wood | 1 | LBS | 1 |
| 2 | Water | 2 | L | 2 |
| 3 | PLA Filament | 1 | KG | 3 |
| 4 | Wood | 4 | LBS | 4 |
| 5 | Wood | 5 | LBS | 5 |

## Message_Sends:

| MSID | Text | Timestamp | SenderUsername | ReceiverUsername |
|------|------|-----------|----------------|------------------|
| 1 | Hello! | 2024-04-02 15:37:23 | Bob Jones | Sally Jones |
| 2 | Hi Jacob | 2024-04-02 15:37:23 | Bob Jones | Jacob Zhu |
| 3 | Check out my projects | 2024-04-02 15:37:23 | Michael Morbius | Jacob Zhu |
| 4 | My wife left me because of your project. | 2024-04-02 15:37:23 | Bob Jones | Michael Morbius |
| 5 | Hello world! | 2024-04-02 15:37:23 | Sally Jones | Jacob Zhu |

## Projects_PostsProject:

| PID | Name | InstructionText | Timestamp | Username |
|-----|------|-----------------|-----------|----------|
| 1 | Arrange Plants | Arrange plants in an aesthetic way! | 2023-03-28 16:30:57 | Bob Jones |
| 2 | Read Textbook | Read the math textbook and finish the questions | 2023-08-10 12:30:50 | Sally Jones |
| 3 | Take a walk | Take a walk outside! | 2024-04-02 15:37:23 | Jacob Zhu |
| 4 | Tear down drywall | Use hammer to deconstruct drywall | 2024-04-02 15:37:23 | Bob Jones |
| 5 | Construct bed | Build IKEA bed | 2024-04-02 15:37:23 | Michael Morbius |

## ProjectWishlist_Creates:

| WLID | Name | Username |
|------|------|----------|
| 1 | Coding Project | Sally Jones |
| 2 | Interior Furnishing | Bob Jones |
| 3 | My TodoList | Michael Morbius |
| 4 | Homework Research | Sally Jones |
| 5 | Hiking Preparation | Jacob Zhu |

## PurchaseLink_Name:

| PurchaseLink | Name |
|--------------|------|
| https://www.amazon.ca/b?ie=UTF8&node=15306831 | Calculus Textbook |
| https://www.amazon.ca/hammer/s?k=hammer | Hammer |
| https://www.bestbuy.ca/en-ca/category/laptops-macbooks/20352 | Macbook Laptop |
| https://www.homedepot.com/b/Tools-Hand-Tools-Screwdrivers-Nut-Drivers-Screwdrivers/N-5yc1vZc993 | Screwdrivers |

Users:

| Username | PasswordHash | JoinDate | City |
|----------------|----------------------------------|------------|-------------|
| Bob Jones | 5f4dcc3b5aa765d61d8327deb882cf99 | 2024-04-02 | Vancouver |
| Future Fellow | 6104b739e435902b39b54085aa3953f9 | 2025-01-01 | Quebec City |
| Jacob Zhu | faae576dc6a876e23fcb61cd03cff032 | 2024-04-02 | Geneva |
| John Fubar | 6134b81f81f5f52f023e9a56d7cd8cf2 | 2024-04-02 | Seattle |
| Michael Morbius | 6104b739e435902b40b54085aa3953f9 | 2024-04-02 | Berlin |
| Sally Jones | b8bba2baae4c2a08fdff4e223458577d | 2024-04-02 | London |

# Queries

## INSERT

File: api/add_project_to_wishlist.php

Line: 51

Link:

https://github.students.cs.ubc.ca/CPSC304-2023W-T2/project_l9a0z_p5c5w_w9y4b/blob/3044
0fb057d2141f5f223138c8b33c669bc7c99f/htdocs/api/add_project_to_wishlist.php#L51

Database before:

```
[mysql> select * from Contains;
+------+-----+
| WLID | PID |
+------+-----+
|    1 |   1 |
|    1 |   2 |
|    3 |   2 |
|    4 |   3 |
|    4 |   4 |
+------+-----+
5 rows in set (0.00 sec)
```

GUI during:

**My TodoList**

Michael Morbius                                                                    DELETE

**Projects:**

• Read Textbook

                                                                        3        ADD PROJECT

**Send your wishlist to someone else!**

New wishlist name   Username of new wishl   UPDATE WISHLIST

*(insert operation occurs after user presses "ADD PROJECT" button; the tuple inserted references the Projects_PostsProject and ProjectWishlist_Creates tables, if the specified project does not exist, then an error message is thrown)*

Database on success:

```
[mysql> select * from Contains;
+------+-----+
| WLID | PID |
+------+-----+
|    1 |   1 |
|    1 |   2 |
|    3 |   2 |
|    3 |   3 |
|    4 |   3 |
|    4 |   4 |
+------+-----+
6 rows in set (0.01 sec)
```

Error message on failure:

*Specified project does not exist*

## My TodoList

[Michael Morbius](#)

`DELETE`

**Projects:**

- Read Textbook
- Take a walk

[Project ID] [ADD PROJECT]

**Send your wishlist to someone else!**

[New wishlist name] [Username of new wishl] [UPDATE WISHLIST]

## **DELETE**

File: api/delete_project.php

Line: 17

Link:

https://github.students.cs.ubc.ca/CPSC304-2023W-T2/project_l9a0z_p5c5w_w9y4b/blob/main/htdocs/api/delete_project.php#L17

Database  before:

```
+-----+-----------------+------------------------------------------------+---------------------+----------------+
| PID | Name            | InstructionText                                | Timestamp           | Username       |
+-----+-----------------+------------------------------------------------+---------------------+----------------+
|   1 | Arrange Plants  | Arrange plants in an aesthetic way!            | 2023-03-28 16:30:57 | Bob Jones      |
|   2 | Read Textbook   | Read the math textbook and finish the questions| 2023-08-10 12:30:50 | Sally Jones    |
|   3 | Take a walk     | Take a walk outside!                           | 2024-04-02 15:37:23 | Jacob Zhu      |
|   4 | Tear down drywall| Use hammer to deconstruct drywall             | 2024-04-02 15:37:23 | Bob Jones      |
|   5 | Construct bed   | Build IKEA bed                                 | 2024-04-02 15:37:23 | Michael Morbius|
+-----+-----------------+------------------------------------------------+---------------------+----------------+
```

GUI during:

## **Construct bed**

**By *Michael Morbius***

2024-04-02 15:37:23

`DELETE`

**Equipment:**

- Screwdrivers

*(query occurs after user presses "DELETE" button)*

Database after:

```
+-----+------------------+-------------------------------------------------+---------------------+-------------+
| PID | Name             | InstructionText                                 | Timestamp           | Username    |
+-----+------------------+-------------------------------------------------+---------------------+-------------+
|   1 | Arrange Plants   | Arrange plants in an aesthetic way!             | 2023-03-28 16:30:57 | Bob Jones   |
|   2 | Read Textbook    | Read the math textbook and finish the questions | 2023-08-10 12:30:50 | Sally Jones |
|   3 | Take a walk      | Take a walk outside!                            | 2024-04-02 15:37:23 | Jacob Zhu   |
|   4 | Tear down drywall| Use hammer to deconstruct drywall               | 2024-04-02 15:37:23 | Bob Jones   |
+-----+------------------+-------------------------------------------------+---------------------+-------------+
```

Note: DELETE here also causes cascading deletions from tools, materials, and feedback associated with the project.
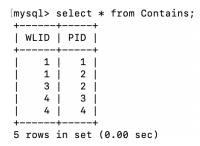
## UPDATE

File: api/update_wishlist.php

Line: 60 & 64 & 68

Link:

https://github.students.cs.ubc.ca/CPSC304-2023W-T2/project_l9a0z_p5c5w_w9y4b/blob/3044
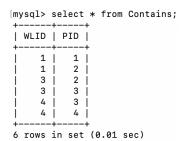0fb057d2141f5f223138c8b33c669bc7c99f/htdocs/api/update_wishlist.php#L60

Database before:

```
[mysql> select * from ProjectWishlist_Creates;
+------+--------------------+-----------------+
| WLID | Name               | Username        |
+------+--------------------+-----------------+
|    1 | Coding Project     | Sally Jones     |
|    2 | Interior Furnishing | Bob Jones      |
|    3 | My TodoList        | Michael Morbius |
|    4 | Homework Research  | Sally Jones     |
|    5 | Hiking Preparation | Jacob Zhu       |
+------+--------------------+-----------------+
5 rows in set (0.00 sec)
```

GUI during:

**My TodoList**

[Michael Morbius](#)                                                                    DELETE

**Projects:**

- Read Textbook
- Take a walk

Project ID    ADD PROJECT

**Send your wishlist to someone else!**

I think this might be inte | Jacob Zhu    UPDATE WISHLIST

*(query occurs when user presses "update wishlist" button; either one or both of the Name or Username attributes can be changed - if the specified user does not exist, then an error message is thrown)*

Database after:

```
[mysql> select * from ProjectWishlist_Creates;
+------+-----------------------------------+-------------+
| WLID | Name                              | Username    |
+------+-----------------------------------+-------------+
|    1 | Coding Project                    | Sally Jones |
|    2 | Interior Furnishing               | Bob Jones   |
|    3 | I think this might be interesting! | Jacob Zhu   |
|    4 | Homework Research                 | Sally Jones |
|    5 | Hiking Preparation                | Jacob Zhu   |
+------+-----------------------------------+-------------+
5 rows in set (0.01 sec)
```

Error message on failure:

**Hello1**

[Michael Morbius](#)   <kbd>DELETE</kbd>

**Projects:**

- Read Textbook
- Take a walk

Project ID [ ]   <kbd>ADD PROJECT</kbd>

**Send your wishlist to someone else!**

[New wishlist name] [Username of new wishl] <kbd>UPDATE WISHLIST</kbd>

## Selection

File: api/search_results.php

Line: 43-59 (query must be dynamically constructed based on user inputs)

Link:

https://github.students.cs.ubc.ca/CPSC304-2023W-T2/project_l9a0z_p5c5w_w9y4b/blob/main/htdocs/api/search_results.php#L43

Database before:

```
+-----+----------------+-----------------------------------------------+---------------------+----------------+
| PID | Name           | InstructionText                               | Timestamp           | Username       |
+-----+----------------+-----------------------------------------------+---------------------+----------------+
|   1 | Arrange Plants | Arrange plants in an aesthetic way!           | 2023-03-28 16:30:57 | Bob Jones      |
|   2 | Read Textbook  | Read the math textbook and finish the questions | 2023-08-10 12:30:50 | Sally Jones    |
|   3 | Take a walk    | Take a walk outside!                          | 2024-04-02 15:37:23 | Jacob Zhu      |
|   4 | Tear down drywall | Use hammer to deconstruct drywall          | 2024-04-02 15:37:23 | Bob Jones      |
|   5 | Construct bed  | Build IKEA bed                                | 2024-04-02 15:37:23 | Michael Morbius |
+-----+----------------+-----------------------------------------------+---------------------+----------------+
```

GUI during:

# SEARCH PROJECTS

*Reminder: AND is always evaluated before OR.*

|       | Project ID (Integer)        | > | 1               |
|-------|-----------------------------|---|-----------------|
| AND   | Project Timestamp (Datetime) | < | 2024-01-01      |
| OR    | Author Username (String)    | = | Michael Morbius |

<kbd>+</kbd> <kbd>-</kbd>

<kbd>SEARCH</kbd>

*(user can add arbitrarily many AND/OR, and run query with "SEARCH" button)*

GUI after:

**2 results:**

| PID | Name | Timestamp | Username |
|-----|------|-----------|----------|
| 2 | Read Textbook | 2023-08-10 12:30:50 | Sally Jones |
| 5 | Construct bed | 2024-04-02 16:45:23 | Michael Morbius |

## Projection

File: api/projection_results.php

Line: 38

Link:

https://github.students.cs.ubc.ca/CPSC304-2023W-T2/project_l9a0z_p5c5w_w9y4b/blob/main/htdocs/api/projection_results.php#L38

Database before:

```
+----------------+-----------------------------------+------------+-------------+
| Username       | PasswordHash                      | JoinDate   | City        |
+----------------+-----------------------------------+------------+-------------+
| Bob Jones      | 5f4dcc3b5aa765d61d8327deb882cf99  | 2024-04-02 | Vancouver   |
| Future Fellow  | 6104b739e435902b39b54085aa3953f9  | 2025-01-01 | Quebec City |
| Jacob Zhu      | faae576dc6a876e23fcb61cd03cff032  | 2024-04-02 | Geneva      |
| John Fubar     | 6134b81f81f5f52f023e9a56d7cd8cf2  | 2024-04-02 | Seattle     |
| Michael Morbius| 6104b739e435902b40b54085aa3953f9  | 2024-04-02 | Berlin      |
| Sally Jones    | b8bba2baae4c2a08fdff4e223458577d  | 2024-04-02 | London      |
+----------------+-----------------------------------+------------+-------------+
```

GUI during:

# COLUMN PROJECTION

Table: Users ⌄

Columns:

Username ☑

PasswordHash ☐

JoinDate ☑

City ☑

Submit Query

*(query is executed when user clicks "Submit Query")*

GUI after:

| Username | JoinDate | City |
|---|---|---|
| Bob Jones | 2024-04-02 | Vancouver |
| Future Fellow | 2025-01-01 | Quebec City |
| Jacob Zhu | 2024-04-02 | Geneva |
| John Fubar | 2024-04-02 | Seattle |
| Michael Morbius | 2024-04-02 | Berlin |
| Sally Jones | 2024-04-02 | London |

(note: similar queries can be performed for any relation/attributes in the database)

**Join**

File: project_viewer.php

Line: 35

Link:

Database before:

```
+-----+------------------------------------------------------------------------------------------+-----+
| EID | PurchaseLink                                                                             | PID |
+-----+------------------------------------------------------------------------------------------+-----+
|   1 | https://www.amazon.ca/hammer/s?k=hammer                                                  |   1 |
|   2 | https://www.bestbuy.ca/en-ca/category/laptops-macbooks/20352                             |   3 |
|   3 | https://www.amazon.ca/b?ie=UTF8&node=15306831                                            |   4 |
|   4 | https://www.homedepot.com/b/Tools-Hand-Tools-Screwdrivers-Nut-Drivers-Screwdrivers/N-5yc1vZc993 |   5 |
+-----+------------------------------------------------------------------------------------------+-----+
```

```
+------------------------------------------------------------------------------------------+------------------+
| PurchaseLink                                                                             | Name             |
+------------------------------------------------------------------------------------------+------------------+
| https://www.amazon.ca/b?ie=UTF8&node=15306831                                            | Calculus Textbook |
| https://www.amazon.ca/hammer/s?k=hammer                                                  | Hammer           |
| https://www.bestbuy.ca/en-ca/category/laptops-macbooks/20352                             | Macbook Laptop   |
| https://www.homedepot.com/b/Tools-Hand-Tools-Screwdrivers-Nut-Drivers-Screwdrivers/N-5yc1vZc993 | Screwdrivers |
+------------------------------------------------------------------------------------------+------------------+
```

```
+-----+-----------------+------------------------------------------------+---------------------+-----------------+
| PID | Name            | InstructionText                                | Timestamp           | Username        |
+-----+-----------------+------------------------------------------------+---------------------+-----------------+
|   1 | Arrange Plants  | Arrange plants in an aesthetic way!            | 2023-03-28 16:30:57 | Bob Jones       |
|   2 | Read Textbook   | Read the math textbook and finish the questions | 2023-08-10 12:30:50 | Sally Jones     |
|   3 | Take a walk     | Take a walk outside!                           | 2024-04-02 16:45:23 | Jacob Zhu       |
|   4 | Tear down drywall | Use hammer to deconstruct drywall            | 2024-04-02 16:45:23 | Bob Jones       |
|   5 | Construct bed   | Build IKEA bed                                 | 2024-04-02 16:45:23 | Michael Morbius |
+-----+-----------------+------------------------------------------------+---------------------+-----------------+
```

GUI during/after:

# Tear down drywall

## By *Bob Jones*

2024-04-02 16:45:23

### Equipment:

- Calculus Textbook

*(Query happens on page load. PID in URL determines PID to join tables on. End result: equipment used on this project, and a link to it, is listed on the project page)*

**Aggregation with GROUP BY**

File: index.php

Line: 11

Link:

https://github.students.cs.ubc.ca/CPSC304-2023W-T2/project_l9a0z_p5c5w_w9y4b/blob/30440fb057d2141f5f223138c8b33c669bc7c99f/htdocs/index.php#L11

Database before:

```
[mysql> select * from Projects_PostsProject;
+-----+-----------------+-------------------------------------------------+---------------------+----------------+
| PID | Name            | InstructionText                                 | Timestamp           | Username       |
+-----+-----------------+-------------------------------------------------+---------------------+----------------+
|   1 | Arrange Plants  | Arrange plants in an aesthetic way!             | 2023-03-28 16:30:57 | Bob Jones      |
|   2 | Read Textbook   | Read the math textbook and finish the questions | 2023-08-10 12:30:50 | Sally Jones    |
|   3 | Take a walk     | Take a walk outside!                            | 2024-04-02 16:30:39 | Jacob Zhu      |
|   4 | Tear down drywall | Use hammer to deconstruct drywall             | 2024-04-02 16:30:39 | Bob Jones      |
|   5 | Construct bed   | Build IKEA bed                                  | 2024-04-02 16:30:39 | Michael Morbius |
+-----+-----------------+-------------------------------------------------+---------------------+----------------+
5 rows in set (0.00 sec)
```

GUI during/after:

# CREATABLES

**Recent projects:**

| | |
|---|---|
| Take a walk | Jacob Zhu |
| Tear down drywall | Bob Jones |
| Construct bed | Michael Morbius |
| Read Textbook | Sally Jones |
| Arrange Plants | Bob Jones |

SEARCH

COLUMN PROJECTION

INTERESTING STATS

**Highest rated project:**

Take a walk    Rating: 3.67

Tear down drywall    Rating: 3.67

**Project counts by user:**

Bob Jones : 2
Jacob Zhu : 1
Michael Morbius : 1
Sally Jones : 1

*(Query happens on page load. All projects in Projects_PostsProject are grouped by Username and counted. End result: a summary of the number of guides each user has submitted)*

## Aggregation with HAVING

File: api/popular_projects.php

Line: 9

Link:

https://github.students.cs.ubc.ca/CPSC304-2023W-T2/project_l9a0z_p5c5w_w9y4b/blob/main/htdocs/api/popular_projects.php#L9

Database before:

```
mysql> select p.PID, Name, CONCAT(SUBSTR(InstructionText, 1, 16), '...') as InstructionText, p.Timestamp, p.Username, FBID, Title, Stars, Comment, CONCAT(SUBSTR(ImageData, 1, 16), '...') as ImageData, f.Timestamp, f.Username from Feedback_Leaves Feedback f, Projects_PostsProject p WHERE p.PID = f.PID;
+-----+------------------+------------------+---------------------+-------------+------+----------------------+-------+-----------------------------------------------------+-------------------+---------------------+-----------------+
| PID | Name             | InstructionText  | Timestamp           | Username    | FBID | Title                | Stars | Comment                                             | ImageData         | Timestamp           | Username        |
+-----+------------------+------------------+---------------------+-------------+------+----------------------+-------+-----------------------------------------------------+-------------------+---------------------+-----------------+
|   1 | Arrange Plants   | Arrange plants i...| 2023-03-28 16:30:57 | Bob Jones   |    1 | I hate this product  | NULL  | My wife left me because of these unclear instructions| NULL              | 2024-04-02 16:30:39 | Michael Morbius |
|   1 | Arrange Plants   | Arrange plants i...| 2023-03-28 16:30:57 | Bob Jones   |    3 | I'm Satisfied        | NULL  | My wife managed to follow these instructions        | NULL              | 2024-04-02 16:30:39 | Bob Jones       |
|   1 | Arrange Plants   | Arrange plants i...| 2023-03-28 16:30:57 | Bob Jones   |   20 | Morbing out rn. 3/5. |     3 | NULL                                                | NULL              | 2024-04-02 16:30:39 | Michael Morbius |
|   1 | Arrange Plants   | Arrange plants i...| 2023-03-28 16:30:57 | Bob Jones   |   21 | Terrible!!!          |     1 | NULL                                                | NULL              | 2024-04-02 16:30:39 | Sally Jones     |
|   2 | Read Textbook    | Read the math te...| 2023-08-10 12:30:50 | Sally Jones |    2 | I'm confused         |     2 | NULL                                                | NULL              | 2024-04-02 16:30:39 | Jacob Zhu       |
|   2 | Read Textbook    | Read the math te...| 2023-08-10 12:30:50 | Sally Jones |   17 | Mid                  |     3 | NULL                                                | NULL              | 2024-04-02 16:30:39 | Bob Jones       |
|   2 | Read Textbook    | Read the math te...| 2023-08-10 12:30:50 | Sally Jones |   18 | Pretty good          |     4 | NULL                                                | NULL              | 2024-04-02 16:30:39 | Sally Jones     |
|   2 | Read Textbook    | Read the math te...| 2023-08-10 12:30:50 | Sally Jones |   19 | I'm Michael Morbius! |     5 | NULL                                                | NULL              | 2024-04-02 16:30:39 | Michael Morbius |
|   3 | Take a walk      | Take a walk outs...| 2024-04-02 16:30:39 | Jacob Zhu   |    4 | A picture            | NULL  | NULL                                                | data:image/png;b...| 2024-04-02 16:30:39 | Bob Jones       |
|   3 | Take a walk      | Take a walk outs...| 2024-04-02 16:30:39 | Jacob Zhu   |   11 | I'm moderately happy |     4 | NULL                                                | NULL              | 2024-04-02 16:30:39 | John Fubar      |
|   3 | Take a walk      | Take a walk outs...| 2024-04-02 16:30:39 | Jacob Zhu   |   12 | I'm very dissatisfied|     1 | NULL                                                | NULL              | 2024-04-02 16:30:39 | Jacob Zhu       |
|   3 | Take a walk      | Take a walk outs...| 2024-04-02 16:30:39 | Jacob Zhu   |   13 | I'm happy            |     5 | NULL                                                | NULL              | 2024-04-02 16:30:39 | Future Fellow   |
|   3 | Take a walk      | Take a walk outs...| 2024-04-02 16:30:39 | Jacob Zhu   |   14 | Mid                  |     3 | NULL                                                | NULL              | 2024-04-02 16:30:39 | Bob Jones       |
|   3 | Take a walk      | Take a walk outs...| 2024-04-02 16:30:39 | Jacob Zhu   |   15 | Pretty good          |     4 | NULL                                                | NULL              | 2024-04-02 16:30:39 | Sally Jones     |
|   3 | Take a walk      | Take a walk outs...| 2024-04-02 16:30:39 | Jacob Zhu   |   16 | I'm Michael Morbius! |     5 | NULL                                                | NULL              | 2024-04-02 16:30:39 | Michael Morbius |
|   4 | Tear down drywall| Use hammer to de...| 2024-04-02 16:30:39 | Bob Jones   |    5 | I'm moderately happy |     4 | NULL                                                | NULL              | 2024-04-02 16:30:39 | John Fubar      |
|   4 | Tear down drywall| Use hammer to de...| 2024-04-02 16:30:39 | Bob Jones   |    6 | I'm very dissatisfied|     1 | NULL                                                | NULL              | 2024-04-02 16:30:39 | Jacob Zhu       |
|   4 | Tear down drywall| Use hammer to de...| 2024-04-02 16:30:39 | Bob Jones   |    7 | I'm happy            |     5 | NULL                                                | NULL              | 2024-04-02 16:30:39 | Future Fellow   |
|   4 | Tear down drywall| Use hammer to de...| 2024-04-02 16:30:39 | Bob Jones   |    8 | Mid                  |     3 | NULL                                                | NULL              | 2024-04-02 16:30:39 | Bob Jones       |
|   4 | Tear down drywall| Use hammer to de...| 2024-04-02 16:30:39 | Bob Jones   |    9 | Pretty good          |     4 | NULL                                                | NULL              | 2024-04-02 16:30:39 | Sally Jones     |
|   4 | Tear down drywall| Use hammer to de...| 2024-04-02 16:30:39 | Bob Jones   |   10 | I'm Michael Morbius! |     5 | NULL                                                | NULL              | 2024-04-02 16:30:39 | Michael Morbius |
+-----+------------------+------------------+---------------------+-------------+------+----------------------+-------+-----------------------------------------------------+-------------------+---------------------+-----------------+
21 rows in set (0.00 sec)
```
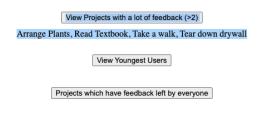
GUI during/after:

## Extra Info

*(Query performed when the user presses "View Projects with a lot of feedback" button. Projects_PostsProject and Feedback_LeavesFeedback are equi-joined on PID, and the number of pieces of feedback are counted for each project. Only those with over 2 pieces of feedback each are displayed. End result: a list of projects who each have at least 3 distinct pieces of feedback)*

**Nested aggregation with GROUP BY**

File: index.php

Line: 14 & 19

Link:

https://github.students.cs.ubc.ca/CPSC304-2023W-T2/project_l9a0z_p5c5w_w9y4b/blob/main/htdocs/index.php#L14

Database before:

```
mysql> SELECT FBID, Title, Stars, Comment, CONCAT(SUBSTR(ImageData, 1, 32), '...') as ImageData, Timestamp, Username, PID FROM Feedback_LeavesFeedback;
+------+------------------------+-------+-------------------------------------------------------------+--------------------------------+---------------------+----------------+-----+
| FBID | Title                  | Stars | Comment                                                     | ImageData                      | Timestamp           | Username       | PID |
+------+------------------------+-------+-------------------------------------------------------------+--------------------------------+---------------------+----------------+-----+
|    1 | I hate this product    | NULL  | My wife left me because of these unclear instructions       | NULL                           | 2024-04-02 16:30:39 | Michael Morbius |   1 |
|    2 | I'm confused           |     2 | NULL                                                        | NULL                           | 2024-04-02 16:30:39 | Jacob Zhu      |   2 |
|    3 | I'm Satisfied          | NULL  | My wife managed to follow these instructions                | NULL                           | 2024-04-02 16:30:39 | Bob Jones      |   1 |
|    4 | A picture              | NULL  | NULL                                                        | data:image/png;base64,iVBORw0KGg... | 2024-04-02 16:30:39 | Bob Jones  |   3 |
|    5 | I'm moderately happy   |     4 | NULL                                                        | NULL                           | 2024-04-02 16:30:39 | John Fubar     |   4 |
|    6 | I'm very dissatisfied  |     1 | NULL                                                        | NULL                           | 2024-04-02 16:30:39 | Jacob Zhu      |   4 |
|    7 | I'm happy              |     5 | NULL                                                        | NULL                           | 2024-04-02 16:30:39 | Future Fellow  |   4 |
|    8 | Mid                    |     3 | NULL                                                        | NULL                           | 2024-04-02 16:30:39 | Bob Jones      |   4 |
|    9 | Pretty good            |     4 | NULL                                                        | NULL                           | 2024-04-02 16:30:39 | Sally Jones    |   4 |
|   10 | I'm Michael Morbius!   |     5 | NULL                                                        | NULL                           | 2024-04-02 16:30:39 | Michael Morbius |   4 |
|   11 | I'm moderately happy   |     4 | NULL                                                        | NULL                           | 2024-04-02 16:30:39 | John Fubar     |   3 |
|   12 | I'm very dissatisfied  |     1 | NULL                                                        | NULL                           | 2024-04-02 16:30:39 | Jacob Zhu      |   3 |
|   13 | I'm happy              |     5 | NULL                                                        | NULL                           | 2024-04-02 16:30:39 | Future Fellow  |   3 |
|   14 | Mid                    |     3 | NULL                                                        | NULL                           | 2024-04-02 16:30:39 | Bob Jones      |   3 |
|   15 | Pretty good            |     4 | NULL                                                        | NULL                           | 2024-04-02 16:30:39 | Sally Jones    |   3 |
|   16 | I'm Michael Morbius!   |     5 | NULL                                                        | NULL                           | 2024-04-02 16:30:39 | Michael Morbius |   3 |
|   17 | Mid                    |     3 | NULL                                                        | NULL                           | 2024-04-02 16:30:39 | Bob Jones      |   2 |
|   18 | Pretty good            |     4 | NULL                                                        | NULL                           | 2024-04-02 16:30:39 | Sally Jones    |   2 |
|   19 | I'm Michael Morbius!   |     5 | NULL                                                        | NULL                           | 2024-04-02 16:30:39 | Michael Morbius |   2 |
|   20 | Morbing out rn. 3/5.   |     3 | NULL                                                        | NULL                           | 2024-04-02 16:30:39 | Michael Morbius |   1 |
|   21 | Terrible!!!            |     1 | NULL                                                        | NULL                           | 2024-04-02 16:30:39 | Sally Jones    |   1 |
+------+------------------------+-------+-------------------------------------------------------------+--------------------------------+---------------------+----------------+-----+
21 rows in set (0.00 sec)
```

GUI during/after:

## CREATABLES

**Logged in as Michael Morbius**

LOG OUT

**Recent projects:**

| | |
|---|---|
| Take a walk | Jacob Zhu |
| Tear down drywall | Bob Jones |
| Construct bed | Michael Morbius |
| Read Textbook | Sally Jones |
| Arrange Plants | Bob Jones |

SEARCH

COLUMN PROJECTION

INTERESTING STATS

**Highest rated project:**

| | |
|---|---|
| Take a walk | Rating: 3.67 |
| Tear down drywall | Rating: 3.67 |

**Total projects: 5**

*(Query happens on page load. Average star ratings per project are calculated from Feedback_LeavesFeedback, and then the maximum average star rating is selected. This is then used to find the PID(s) who have an average star rating equal to this maximum. End result: links to projects with a rating equal to the maximum rating are displayed)*
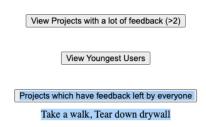
## Division

File: api/all_rated.php

Line: 9

Link:

https://github.students.cs.ubc.ca/CPSC304-2023W-T2/project_l9a0z_p5c5w_w9y4b/blob/30440fb057d2141f5f223138c8b33c669bc7c99f/htdocs/api/all_rated.php#L9

Database before:

```
mysql> SELECT FBID, Title, Stars, Comment, CONCAT(SUBSTR(ImageData, 1, 32), '...') as ImageData, Timestamp, Username, PID FROM Feedback_LeavesFeedback;
+------+----------------------+-------+---------------------------------------------------+---------------------------------+---------------------+----------------+-----+
| FBID | Title                | Stars | Comment                                           | ImageData                       | Timestamp           | Username       | PID |
+------+----------------------+-------+---------------------------------------------------+---------------------------------+---------------------+----------------+-----+
|    1 | I hate this product  | NULL  | My wife left me because of these unclear instructions | NULL                         | 2024-04-02 16:30:39 | Michael Morbius |   1 |
|    2 | I'm confused         |     2 | NULL                                              | NULL                            | 2024-04-02 16:30:39 | Jacob Zhu      |   2 |
|    3 | I'm Satisfied        | NULL  | My wife managed to follow these instructions      | NULL                            | 2024-04-02 16:30:39 | Bob Jones      |   1 |
|    4 | A picture            | NULL  | NULL                                              | data:image/png;base64,iVBORw0KGg... | 2024-04-02 16:30:39 | Bob Jones  |   3 |
|    5 | I'm moderately happy |     4 | NULL                                              | NULL                            | 2024-04-02 16:30:39 | John Fubar     |   4 |
|    6 | I'm very dissatisfied |    1 | NULL                                              | NULL                            | 2024-04-02 16:30:39 | Jacob Zhu      |   4 |
|    7 | I'm happy            |     5 | NULL                                              | NULL                            | 2024-04-02 16:30:39 | Future Fellow  |   4 |
|    8 | Mid                  |     3 | NULL                                              | NULL                            | 2024-04-02 16:30:39 | Bob Jones      |   4 |
|    9 | Pretty good          |     4 | NULL                                              | NULL                            | 2024-04-02 16:30:39 | Sally Jones    |   4 |
|   10 | I'm Michael Morbius! |     5 | NULL                                              | NULL                            | 2024-04-02 16:30:39 | Michael Morbius |  4 |
|   11 | I'm moderately happy |     4 | NULL                                              | NULL                            | 2024-04-02 16:30:39 | John Fubar     |   3 |
|   12 | I'm very dissatisfied |    1 | NULL                                              | NULL                            | 2024-04-02 16:30:39 | Jacob Zhu      |   3 |
|   13 | I'm happy            |     5 | NULL                                              | NULL                            | 2024-04-02 16:30:39 | Future Fellow  |   3 |
|   14 | Mid                  |     3 | NULL                                              | NULL                            | 2024-04-02 16:30:39 | Bob Jones      |   3 |
|   15 | Pretty good          |     4 | NULL                                              | NULL                            | 2024-04-02 16:30:39 | Sally Jones    |   3 |
|   16 | I'm Michael Morbius! |     5 | NULL                                              | NULL                            | 2024-04-02 16:30:39 | Michael Morbius |  3 |
|   17 | Mid                  |     3 | NULL                                              | NULL                            | 2024-04-02 16:30:39 | Bob Jones      |   2 |
|   18 | Pretty good          |     4 | NULL                                              | NULL                            | 2024-04-02 16:30:39 | Sally Jones    |   2 |
|   19 | I'm Michael Morbius! |     5 | NULL                                              | NULL                            | 2024-04-02 16:30:39 | Michael Morbius |  2 |
|   20 | Morbing out rn. 3/5. |     3 | NULL                                              | NULL                            | 2024-04-02 16:30:39 | Michael Morbius |  1 |
|   21 | Terrible!!!          |     1 | NULL                                              | NULL                            | 2024-04-02 16:30:39 | Sally Jones    |   1 |
+------+----------------------+-------+---------------------------------------------------+---------------------------------+---------------------+----------------+-----+
21 rows in set (0.00 sec)
```

GUI during/after:

# Extra Info

View Projects with a lot of feedback (>2)

View Youngest Users

Projects which have feedback left by everyone
Take a walk, Tear down drywall

RETURN HOME

*(Query performed when the user presses "Projects which have feedback left by everyone" button. Projects are filtered according to those who have received feedback from everyone. In other words, projects who have not received feedback from at least one user are disqualified. End result: a list of projects who have received feedback from every user)*