# CPEN208 PROJECT 1 REPORT

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TASK1

1. Database for the project was created.
2. Following schemas were created as per the functionality requirements for the data base:
   a. Student- containing student name, Id number and email address as attributes.
   b. Lecturers- containing the lecturer names
   c. TA- containing the teaching assistance names
   d. Courses- containing the course codes(primary key) and titles
   e. Fee- containing details about the already paid amoun and status of the remaining fees paid by individual students, it was linked to the student table through the student Id numbers.
   f. Enrollments-  containing the details of course enrolment by different students such as date, course code and student id, foreign keys were used to link the student and courses table to this table.
   g. Course assignment- It linked the lecturers to their particular courses and info on any assignments.
   h. Ta to Courses- in this table the teaching assistants were joined to the respective courses they are part of.
3. After all the schemas were implemented, data was populated into these using our class as sample size as shown in the figures.
4. A function to calculate the outstanding fees for each student which returned the output in a json array was created and the code for it is included in the the database script.

Here are the images showing the result of the implemented database

| | student_id [PK] integer | name character varying (100) | student_number character varying (10) | email character varying (255) |
|---|---|---|---|---|
| 1 | 1 | Daniel Akwetey Akunyumu-Tetteh | 10975105 | edward.opokuagyemang@ug.st.edu.gh |
| 2 | 2 | Ishaan Bhardwaj | 11004272 | ishaan.bhardwaj@ug.st.edu.gh |
| 3 | 3 | Samia Soleimani | 11010910 | samia.soleiman@ug.st.edu.gh |
| 4 | 4 | Arthur Ebenezer | 11012330 | ebenezer.haydenarthur@ug.st.edu.gh |
| 5 | 5 | Kumi Kelvin Gyabaah | 11012343 | kumi.kelvingyabaah@ug.st.edu.gh |
| 6 | 6 | Annan Chioma Praise | 11014727 | annan.chiomapraise@ug.st.edu.gh |
| 7 | 7 | Mohammed Salihu Hamisu | 11014977 | mohammed.salihuhamisu@ug.st.edu.gh |
| 8 | 8 | Daniel Agyin Manford | 11015506 | daniel.agyinmanford@ug.st.edu.gh |
| 9 | 9 | Pius Oblie | 11018690 | pius.oblie@ug.st.edu.gh |
| 10 | 10 | Iddrisu Tahiru | 11021544 | iddrisu.tahiru@ug.st.edu.gh |
| 11 | 11 | Nyavor Cyril Etornam | 11023595 | nyavor.cyrilmorkporkpor@ug.st.edu.gh |
| 12 | 12 | David Kwaku Ntow Anno | 11025159 | david.ntowanno@ug.st.edu.gh |
| 13 | 13 | Agyepong Kwesi | 11038081 | agyepong.kwesi_asante@ug.st.edu.gh |
| 14 | 14 | Asare Marvin | 11049492 | asare.marvin@ug.st.edu.gh |
| 15 | 15 | Peggy Esinam Somuah | 11049523 | peggy.esinamsomuah@ug.st.edu.gh |
| 16 | 16 | Ampomah Samuel | 11053386 | ampomah.samuel@ug.st.edu.gh |
| 17 | 17 | Andrews Kwarteng Twum | 11105235 | kwarteng.andrewstwum@ug.st.edu.gh |
| 18 | 18 | Fiavor Isaac Sedem | 11112276 | fiavor.isaacsedem@ug.st.edu.gh |
| 19 | 19 | Yakubu Tanko Mohammed-Awal | 11116537 | mohammed.awaltanko@ug.st.edu.gh |
| 20 | 20 | Eririe Jeffery | 11116737 | jeffrey.eririe@ug.st.edu.gh |
| 21 | 21 | Kafu Kwame Kemeh | 11116804 | kafu.kemeh@ug.st.edu.gh |

FIG1. STUDENT TABLE

| | lecturer_name [PK] character varying (100) |
|---|---|
| 1 | Agyare Debrah |
| 2 | Dr. Godfrey Augustus Mills |
| 3 | Dr. Isaac Adjaye Aboagye |
| 4 | Dr. John Kutor |
| 5 | Dr. Margaret Ansah Richardson |
| 6 | Dr. Percy Okae |
| 7 | Mr. John Asiammah |

FIG 2. LECTURER'S TABLE

| | ta_name<br>[PK] character varying (100) |
|---|---|
| 1 | Bamzy |
| 2 | Ben |
| 3 | Foster |
| 4 | Hakeem |
| 5 | Kevin |
| 6 | Samed |

FIG 3. TA'S TABLE

| | id<br>[PK] integer | student_number<br>character varying (20) | amount<br>numeric (10,2) | date_paid<br>date | total_fee<br>numeric (10,2) | status<br>character varying (20) |
|---|---|---|---|---|---|---|
| 1 | 1 | 10975105 | 500.00 | 2024-01-10 | 1000.00 | paid |
| 2 | 2 | 11004272 | 300.00 | 2024-02-15 | 1000.00 | paid |
| 3 | 3 | 11010910 | 200.00 | 2024-03-20 | 1000.00 | paid |
| 4 | 4 | 11012330 | 400.00 | 2024-04-10 | 1000.00 | paid |
| 5 | 5 | 11012343 | 600.00 | 2024-05-15 | 1000.00 | paid |
| 6 | 6 | 11014727 | 450.00 | 2024-01-20 | 1000.00 | paid |
| 7 | 7 | 11014977 | 350.00 | 2024-02-25 | 1000.00 | paid |
| 8 | 8 | 11015506 | 500.00 | 2024-03-30 | 1000.00 | paid |
| 9 | 9 | 11018690 | 250.00 | 2024-04-05 | 1000.00 | paid |
| 10 | 10 | 11021544 | 300.00 | 2024-05-10 | 1000.00 | paid |
| 11 | 11 | 11023595 | 700.00 | 2024-01-15 | 1000.00 | paid |
| 12 | 12 | 11025159 | 200.00 | 2024-02-20 | 1000.00 | paid |
| 13 | 13 | 11038081 | 400.00 | 2024-03-25 | 1000.00 | paid |
| 14 | 14 | 11049492 | 600.00 | 2024-04-30 | 1000.00 | paid |
| 15 | 15 | 11049523 | 500.00 | 2024-05-05 | 1000.00 | paid |
| 16 | 16 | 11053386 | 300.00 | 2024-01-18 | 1000.00 | paid |
| 17 | 17 | 11105235 | 200.00 | 2024-02-22 | 1000.00 | paid |
| 18 | 18 | 11112276 | 400.00 | 2024-03-28 | 1000.00 | paid |
| 19 | 19 | 11116537 | 600.00 | 2024-04-02 | 1000.00 | paid |
| 20 | 20 | 11116737 | 500.00 | 2024-05-07 | 1000.00 | paid |
| 21 | 21 | 11116804 | 300.00 | 2024-01-20 | 1000.00 | paid |

FIG 4. FEE'S TABLE

| | course_code [PK] character varying (20) | course_name character varying (100) |
|---|---|---|
| 1 | CBAS210 | Academic Writing II |
| 2 | CPEN 202 | Computer system design |
| 3 | CPEN 204 | Data structures and Algorithms |
| 4 | CPEN 206 | Linear circuits |
| 5 | CPEN 208 | Software Engineering |
| 6 | CPEN 212 | Data Communications |
| 7 | SENG202 | Differential equations |

FIG 5. COURSES TABLE

| | enrollment_id [PK] integer | student_number character varying (20) | course_code character varying (20) | enrollment_date date |
|---|---|---|---|---|
| 1 | 1 | 10975105 | CPEN 202 | 2024-01-10 |
| 2 | 2 | 11004272 | CPEN 202 | 2024-01-10 |
| 3 | 3 | 11010910 | CPEN 202 | 2024-01-10 |
| 4 | 4 | 11053386 | CPEN 202 | 2024-01-10 |
| 5 | 5 | 11105235 | CPEN 202 | 2024-01-10 |
| 6 | 6 | 11208328 | CPEN 202 | 2024-01-10 |
| 7 | 7 | 11209640 | CPEN 202 | 2024-01-10 |
| 8 | 8 | 11275876 | CPEN 202 | 2024-01-10 |
| 9 | 9 | 11285635 | CPEN 202 | 2024-01-10 |
| 10 | 10 | 11348310 | CPEN 202 | 2024-01-10 |
| 11 | 11 | 11353826 | CPEN 202 | 2024-01-10 |
| 12 | 12 | 11012330 | CPEN 204 | 2024-02-15 |
| 13 | 13 | 11012343 | CPEN 204 | 2024-02-15 |
| 14 | 14 | 11112276 | CPEN 204 | 2024-02-15 |
| 15 | 15 | 11116537 | CPEN 204 | 2024-02-15 |
| 16 | 16 | 11213307 | CPEN 204 | 2024-02-15 |
| 17 | 17 | 11218951 | CPEN 204 | 2024-02-15 |
| 18 | 18 | 11292620 | CPEN 204 | 2024-02-15 |
| 19 | 19 | 11293871 | CPEN 204 | 2024-02-15 |
| 20 | 20 | 11356825 | CPEN 204 | 2024-02-15 |
| 21 | 21 | 11014727 | CPEN 206 | 2024-03-20 |

FIG 6. ENROLLMENT TABLE

| | assignment_id [PK] integer | course_code character varying (20) | lecturer_name character varying (100) |
|---|---|---|---|
| 1 | 1 | CPEN 202 | Agyare Debrah |
| 2 | 2 | CPEN 204 | Dr. Margaret Ansah Richardson |
| 3 | 3 | CPEN 206 | Dr. Godfrey Augustus Mills |
| 4 | 4 | CPEN 208 | Mr. John Asiammah |
| 5 | 5 | CPEN 212 | Dr. Isaac Adjaye Aboagye |
| 6 | 6 | SENG202 | Dr. John Kutor |
| 7 | 7 | CBAS210 | Dr. Percy Okae |

FIG.7 COURSE ASSIGNMENT

| | assignment_id [PK] integer | course_code character varying (20) | ta_name character varying (100) |
|---|---|---|---|
| 1 | 1 | CPEN 202 | Bamzy |
| 2 | 2 | CPEN 204 | Foster |
| 3 | 3 | CPEN 206 | Hakeem |
| 4 | 4 | CPEN 208 | Foster |
| 5 | 5 | CPEN 212 | Samed |
| 6 | 6 | SENG202 | Ben |
| 7 | 7 | CBAS210 | Kevin |

FIG.8  TA TO COURSE ASSIGNMENT

## TASK 2

After the task1 was accomplished, nexjs14 was used to implement task 2 in the following method:

1. A folder called Project was opened on VScode.
2. After installing the npm library, the following code was written into the terminal of VScode to create a nextjs project:

    "*npx create-next-app@latest my-project --typescript --eslint*"

    where my-project is the name of the project being created.
3. After the project folder was created a directory of the same name as the project was created by entering in the terminal: "*cd my-project* "
4. After entering the "*my-project*" directory the following prompt was input into the terminal to launch the nextjs project :"*npm run dev*".
5. the "*shadcn-ui init*" command was run in terminal to setup the project:
6. After launching the nextjs project under the src directory 2 folders called components and auth were created.
7. In components a ui folder was imported by running the command to import button framework from shadcn-ui." *npx shadcn-ui@latest add button*"
8. Using this button feature 2 components called Navbar and SideNavbar were created.
9. A css file for implementation of buttons in SideNavbar was also created.
10. Another folder was created under components called form, under these two files were created for the sign in and sign up features of the project.
11. Inorder to create the sign in and sign up framework all necessary libraries were installed and imported from shadcn ui. The form,input and label files were added into the ui folder and were used as per the needs.
12. After creating the form frameworks, two new folders were created under the app directory in the src folder: auth and dashboard.
13. Under the (auth) folder the sign and sign up folders were created and each were given their own page files. It is over here where all the containers for the and frameworks is called for our project to work. The work done here is what is shown as the final result.
14. The layout file of the (auth) folder was edited to ensure that the signup and sign in box is centered.

15. After sign up and sign in pages were created and linked to each other, an admin folder was created under the dashboard folder.

16. In the admin folder the dashboard feature was designed. The components such as the SideNavbar was used here.

17. A css file was also created to adjust the SideNavbar in the dashboard page.
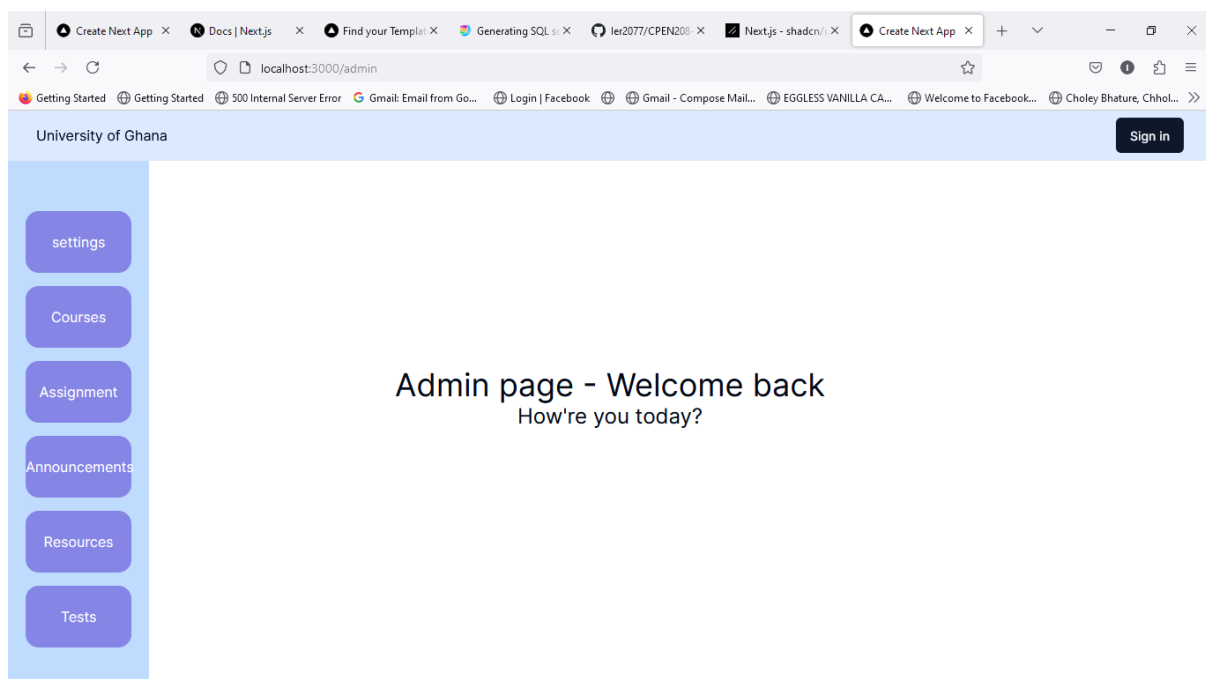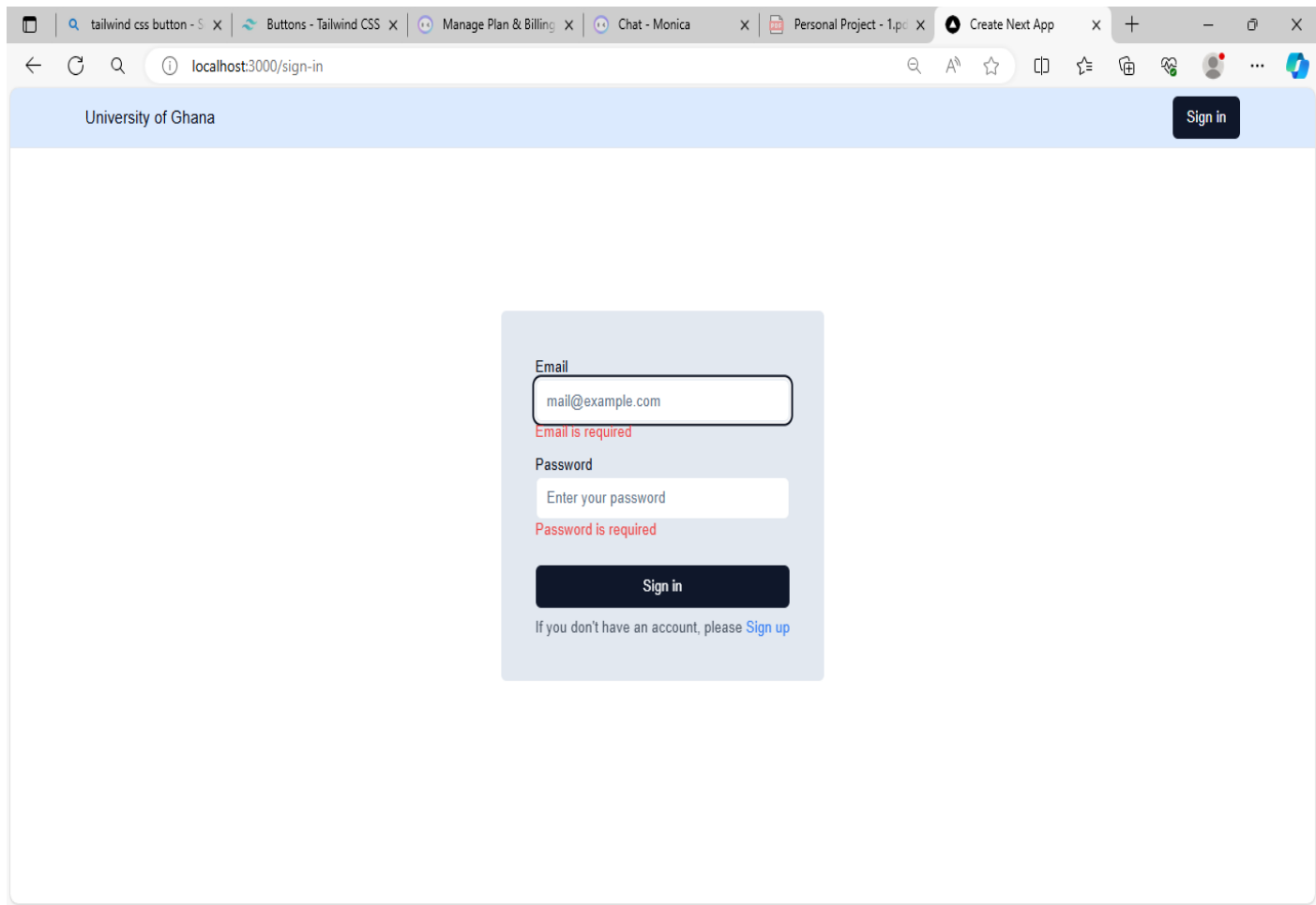
THE FOLLOWING IMAGES SHOW THE RESULT OF NEXTJS PROJECT
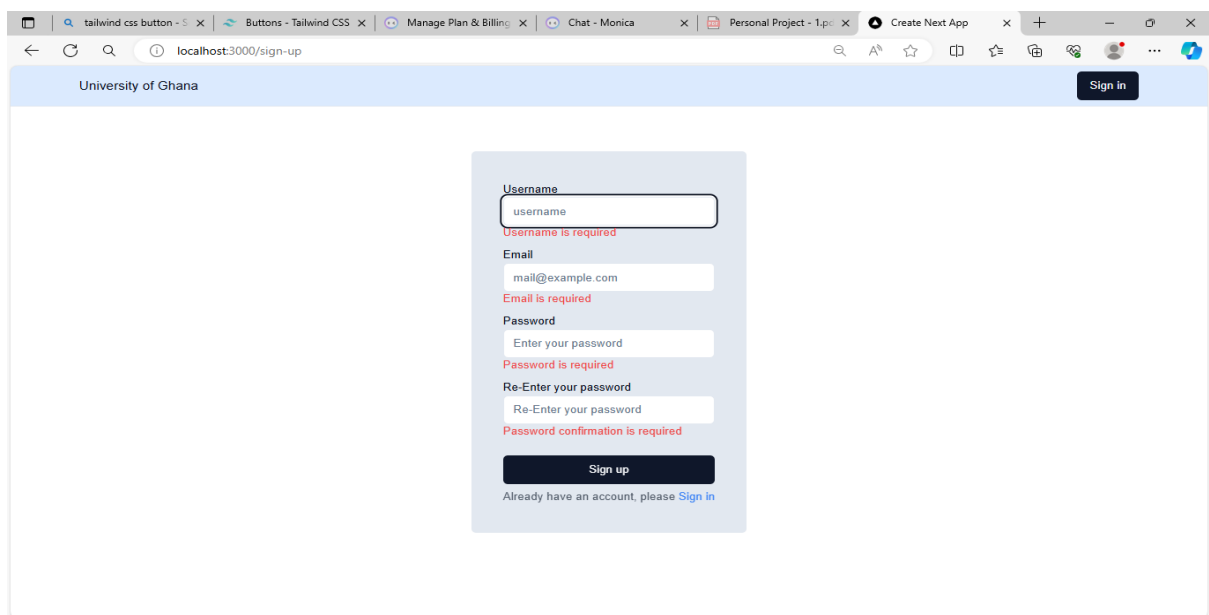


FIG. 9 DASHBOARD PAGE

FIG. 10 SIGN IN PAGE



FIG. 11 SIGN UP PAGE