SWE.573 Software Development Practice Final Report

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Couse: SWE.573 Software Development Practice
Date: 29.05.2022
Project Name: LearnWithUs
Git Repository: https://github.com/gulsahmkapucu/bounswe573-2022
Git Tag Version: v0.9
Deployment URI: https://learnwithus-app.herokuapp.com/

HONOR CODE

Related to the submission of all the project deliverables for the Swe573 2022 Spring semester project reported in this report, **I Gülşah Merve Kapucu declare that**:

- I am a student in the Sofware Engineering MS program at Bogazici University and am registered for Swe573 course during the 2022 Spring semester.

- All the material that I am submitting related to my project (including but not limited to the project repository, the final project report, and supplementary documents)
have been exclusively prepared by myself.

- I have prepared this material individually without the assistance of anyone else with the exception of permitted peer assistance which I have explicitly disclosed in this report.

Gülşah Merve Kapucu

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Overview

This application called LearnWithUs is created for people who wants to learn new things from scratch.

Users can register and log in to the application. They can search course catalog, join to the courses, ask questions to their peers and also answer the other learners questions.

Users can see their course history from their profile page.

Also there is an admin panel fort he site administrators which is called “superuser”. “superuser” can see and edit the course contents, add new course contents and also questions and answers.

In this project I’ve followed some tutorials like:

https://tutorial.djangogirls.org/en/

https://www.youtube.com/watch?v=rA4X73E_HV0 (A video series includes 8 videos)

https://realpython.com/learning-paths/

In the references section I’ll be giving more links.

2.Required Informations

Learner Credentials

Username: uskudarli

Password: YxdeU%*%

Site Admin Credentials

Username: superuser

Password: superuser

Demonstration Video: https://www.youtube.com/watch?v=TR6-Do-Y4_4

Deployment URI: https://learnwithus-app.herokuapp.com/

3. Software Requirements

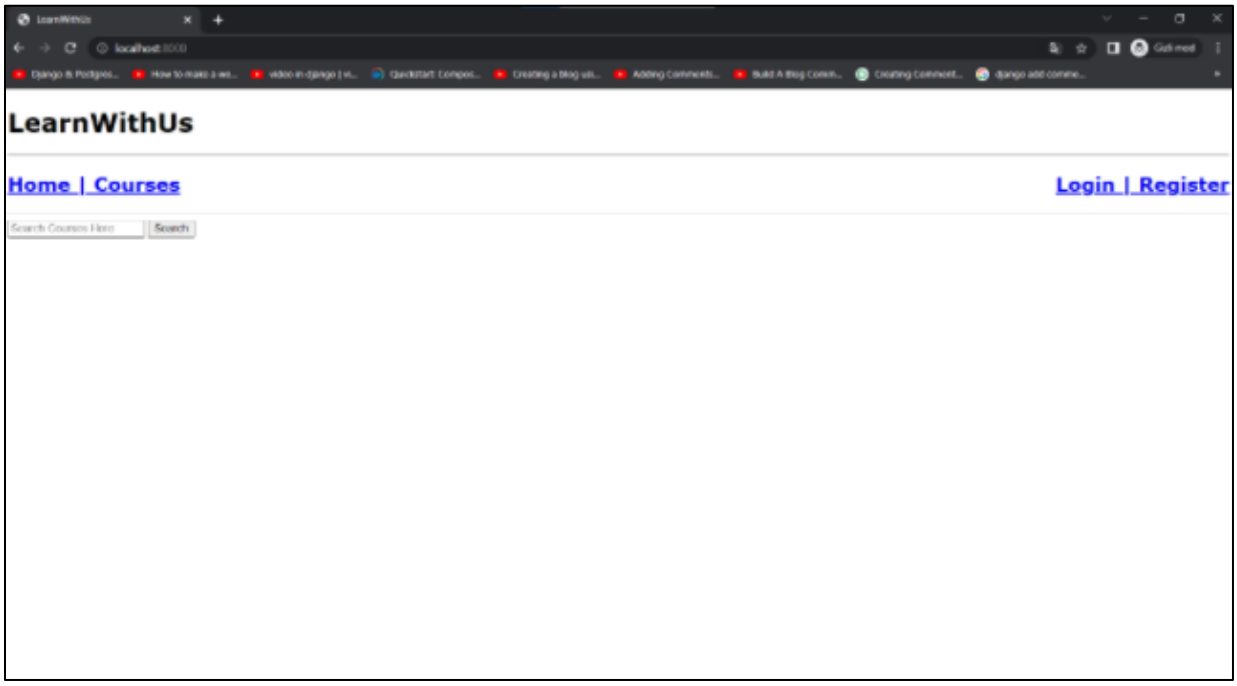
1. The user should be able to create a profile.
2. The user should be able to sign in to the learning platform.
3. The user should be able to see the categories.
4. The user should be able to see the courses.
5. The user should be able to join the courses.
6. The user should be able to watch and listen the courses.
7. The user should be able to watch the courses with a subtitle.
8. The user should be able to see his / her grades from profile menu.
9. The user should be able to upload the homework documents.
10. The user should be able to ask questions.
11. The user should be able to answer questions.
12. The user should be able to save courses to watch them later.
13. The lecturer should be able to create a profile.
14. The lecturer should be able to sign in to the learning platform.
15. The lecturer should be able to see categories.
16. The lecturer should be able to see the courses that he / she added.
17. The lecturer should be able to create lectures.
18. The lecturer should be able to create quizzes.
19. The lecturer should be able to create exams.
20. The lecturer should be able to grade the quizzes and exams. Gizlilik Sınıflandırması : Genel Paylaşım
21. The lecturer should be able to see the grades that he / she given.
22. The lecturer should be able to see the homeworks uploaded by the students.
23. Administrator should be able to create categories.
24. Administrator should be able to make content control. (Ex: Is it appropriate?)
25. Administrator should be able to approve the lecturers for being a lecturer in the platform.
26. The user should be able to add courses to his/her “My Courses” page.
27. The user should be able to remove courses to his/her “My Courses” page.
28. The admin panel should display registered users.
29. The admin panel should display registered lecturers.
30. The admin panel should display course categories.
31. The admin panel should display course videos.
32. The admin panel should display active user count.
33. The admin panel should display active lecturer count.
34. The admin panel should display active user count per hour.

35. The admin panel should display active user count as daily.
36. The admin panel should display active user count per week.
37. The admin panel should display active user count per month.
38. The admin panel should display the last login times of the users.
39. The course page should let the users to ask questions.
40. The course page should let the users to answer questions.
41. The website should contain 6 pages: HomePage, RegistrationPage, Sign-InPage, ProfilePage, CoursesPage, CourseDetailPage.
42. The website should let users to filter the courses.
43. The website should let the users to sort the courses according to lecture rating.
44. The website should let the users to sort the courses according to course rating.
45. The website should let the users to sort the courses according to upload date.
46. The website should let the users to sort the courses according to Name ascending .
47. The website should let the users to sort the courses according to Name descending.
48. The website should let the user to give rating for videos.
49. The QA panel should display the usernames.
50. The QA panel should display the answer date-time.
51. The menu should be on the left of the page.
52. The search bar should be on top of the page.
53. The user should be able to rate the lecturers.
54. The user should be able to select website language from the profile page.
55. The user should be able to change personal informations from the profile page.
56. The user should be able to give star to the answers which are helpful.
57. The user should be able to upload profile photo.
58. The user should be able to change profile photo.
59. The user should be able to set video speed.
60. The user should be able to set video quailty.

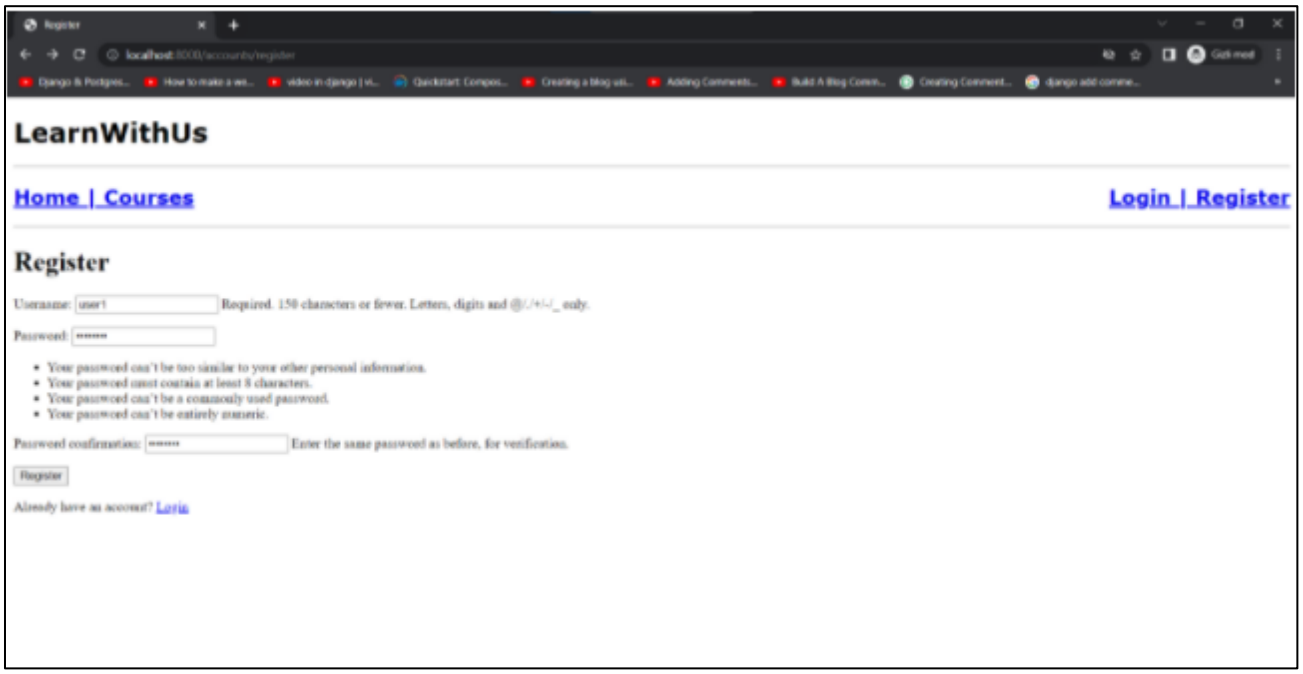
4.Design & Mockups

The design of the latest application:

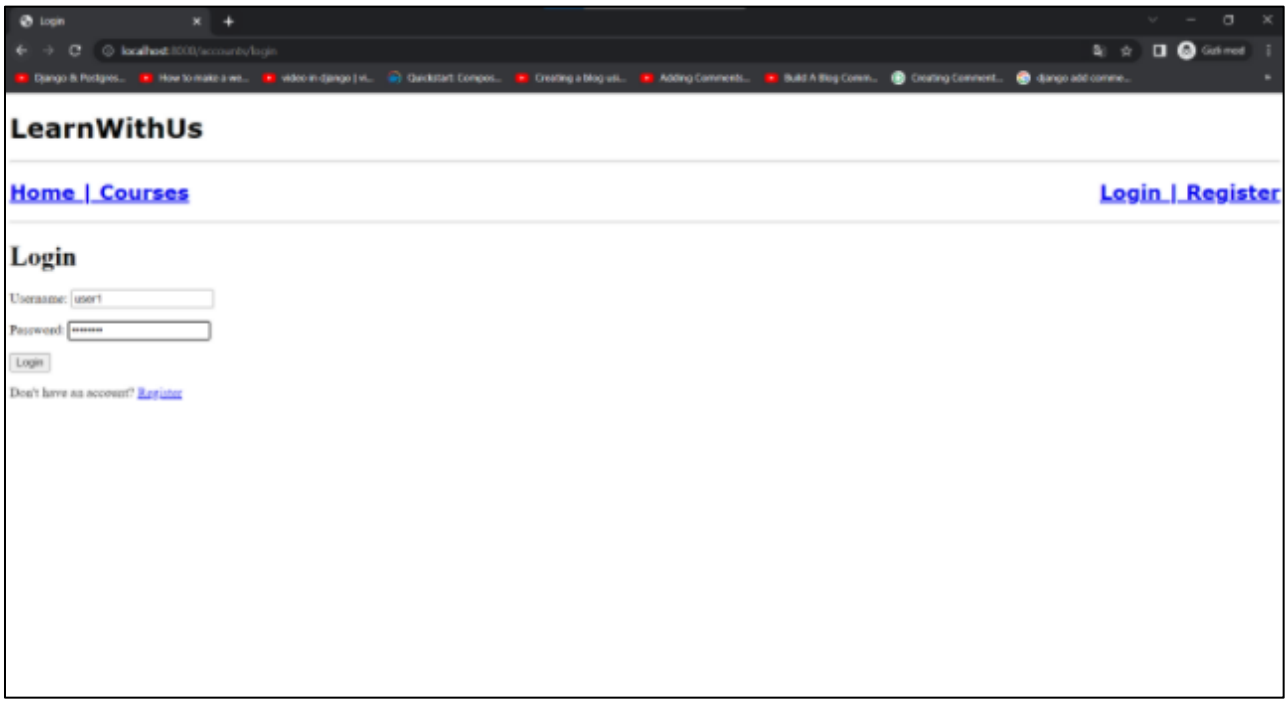
1- When user called the website, he/she is redirected to the “Home Page” In the Home Page users can see Home Page link, Courses Page link, Login & Registration and Searchbar. Users are required to register to join the lectures they’re interested in:



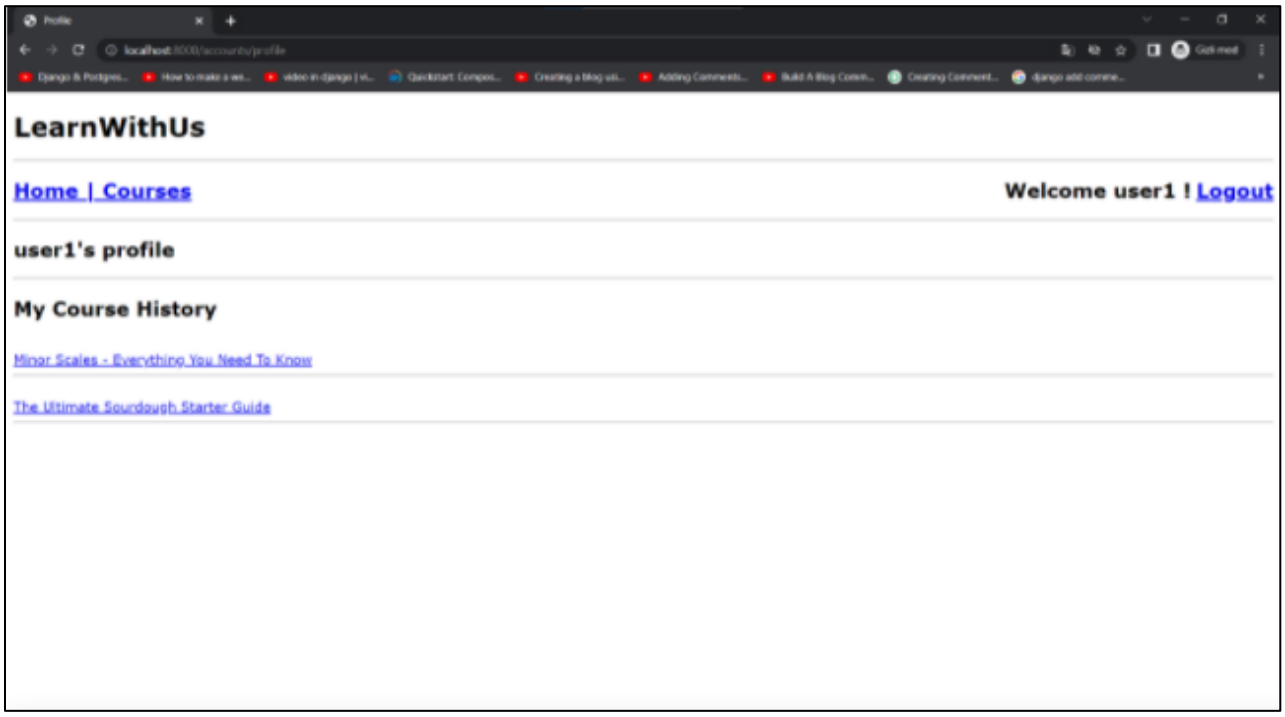
2- Second page is Registration Screen, users can easily register to the website only with their Username and Password informations.



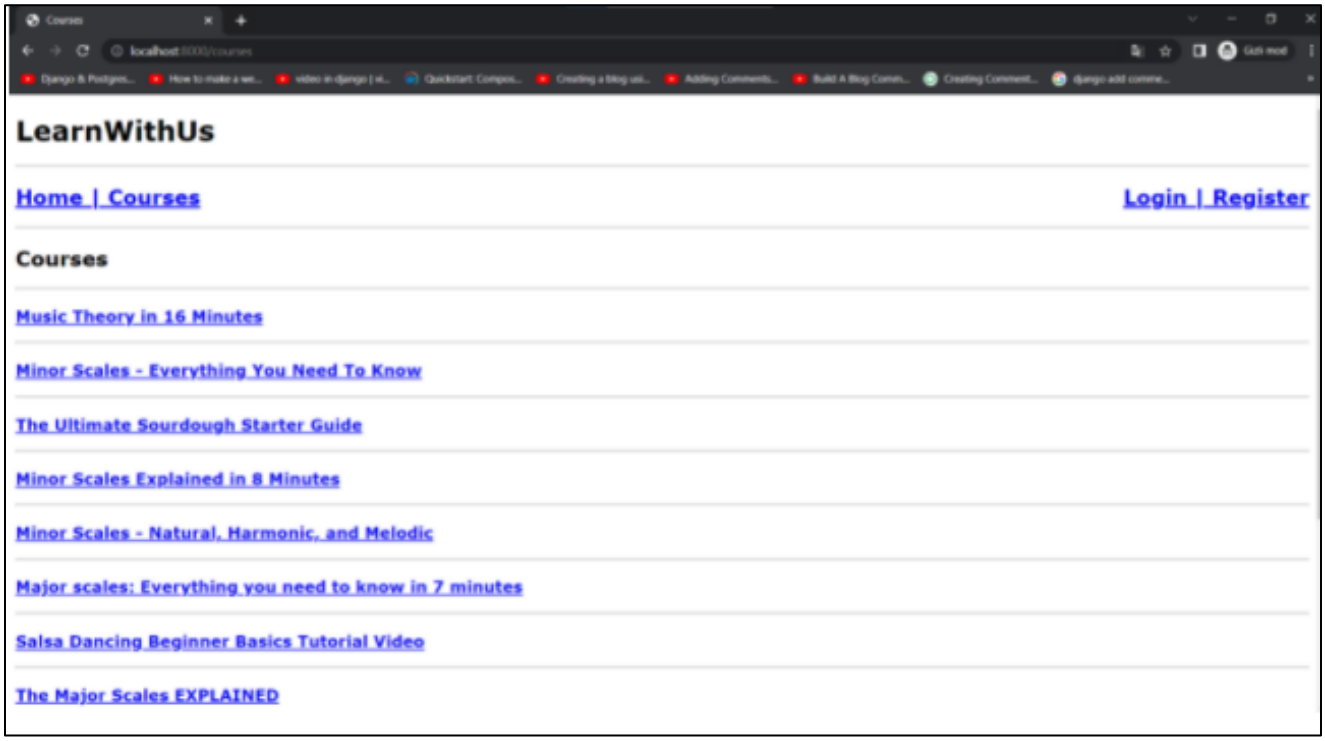
3- When users completed the registration process they can sign-in from Sign-In page.



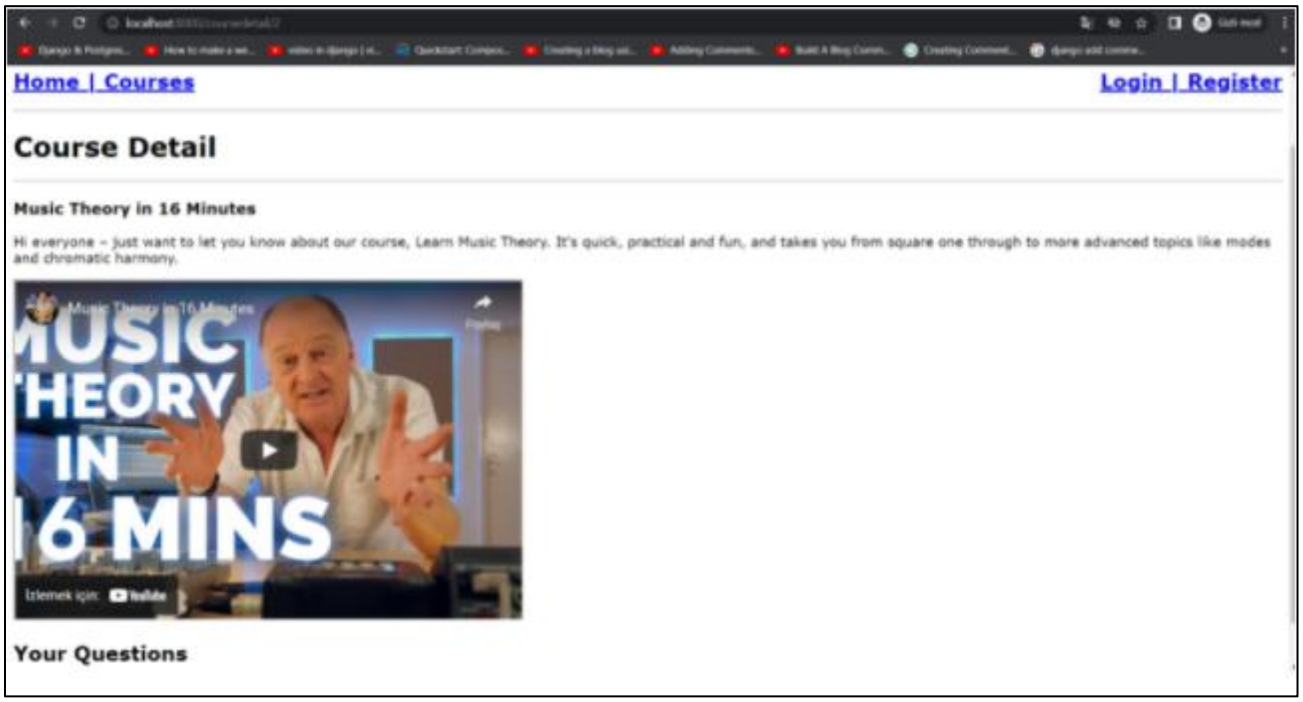
4- After Sign-In process user can see his / her profile page. In the profile page there are courses that user joined to watch.



5- Users can search courses from the search bar or using “Courses” menu item from the side menu. Menur bar design is changed in the latest application regarding to some front-end styling issues.

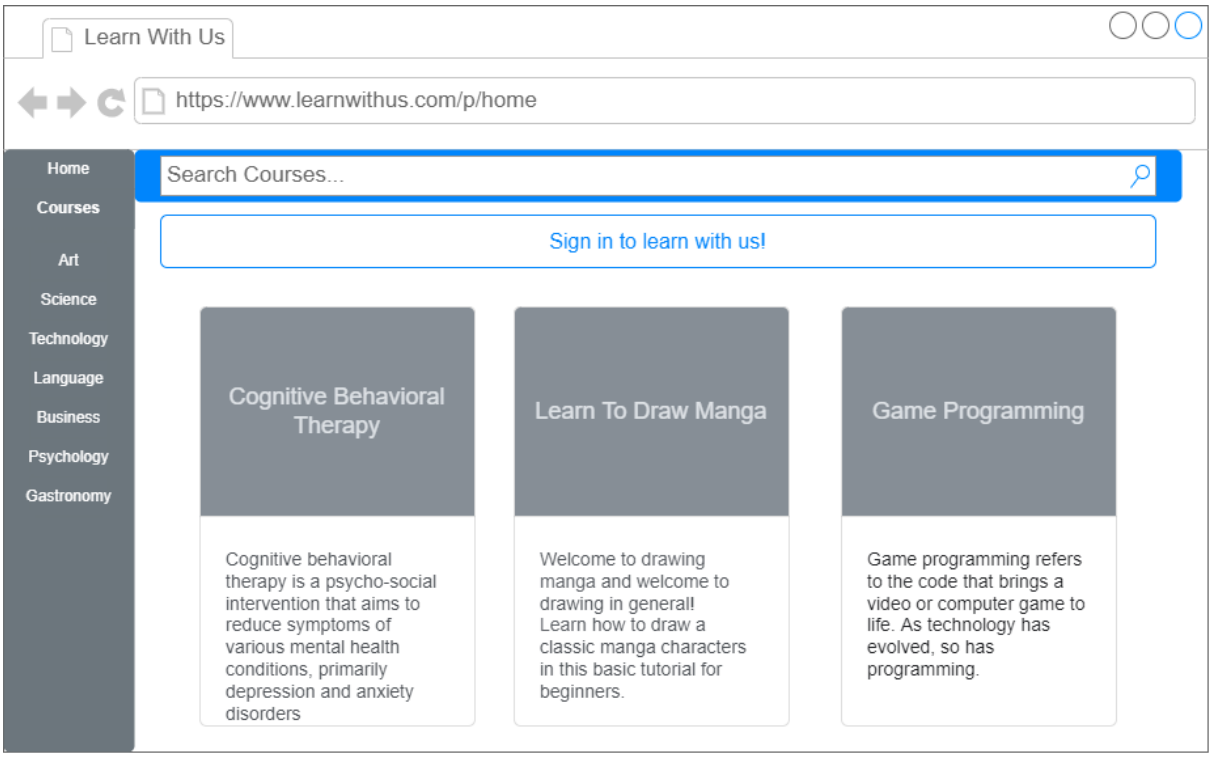


6- In the course page students can watch course videos, ask questions to their peers and answer the questions. Users are required to login to the website to ask questions.

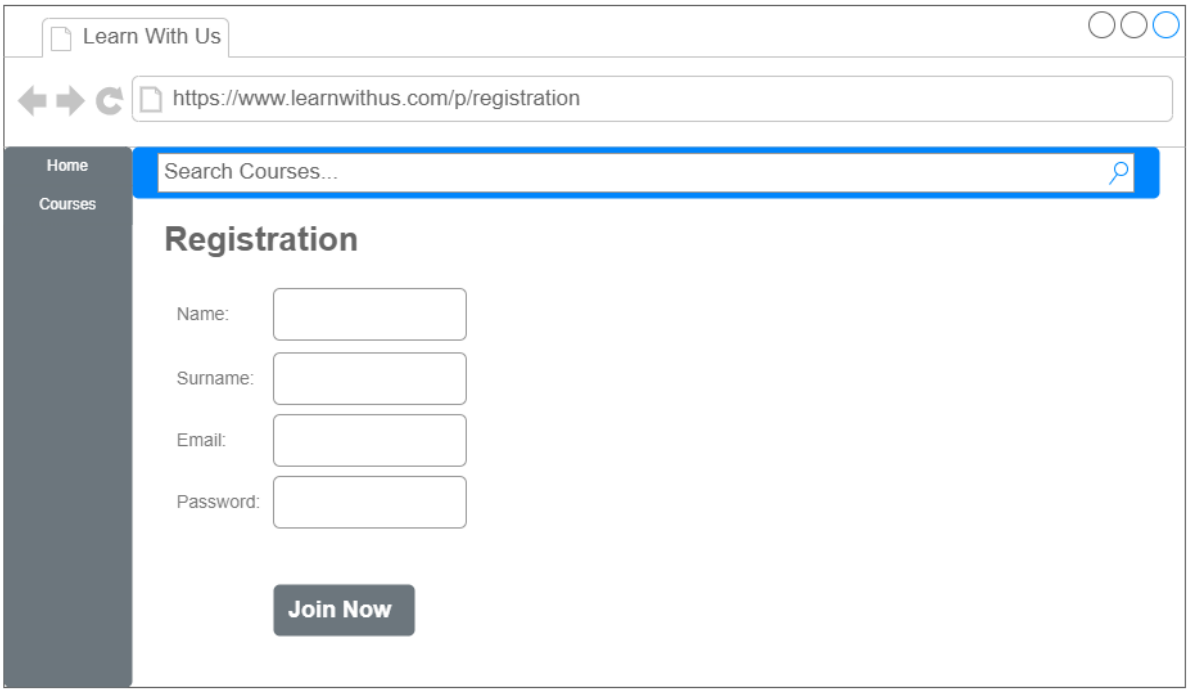


The design in the begginning of the project:

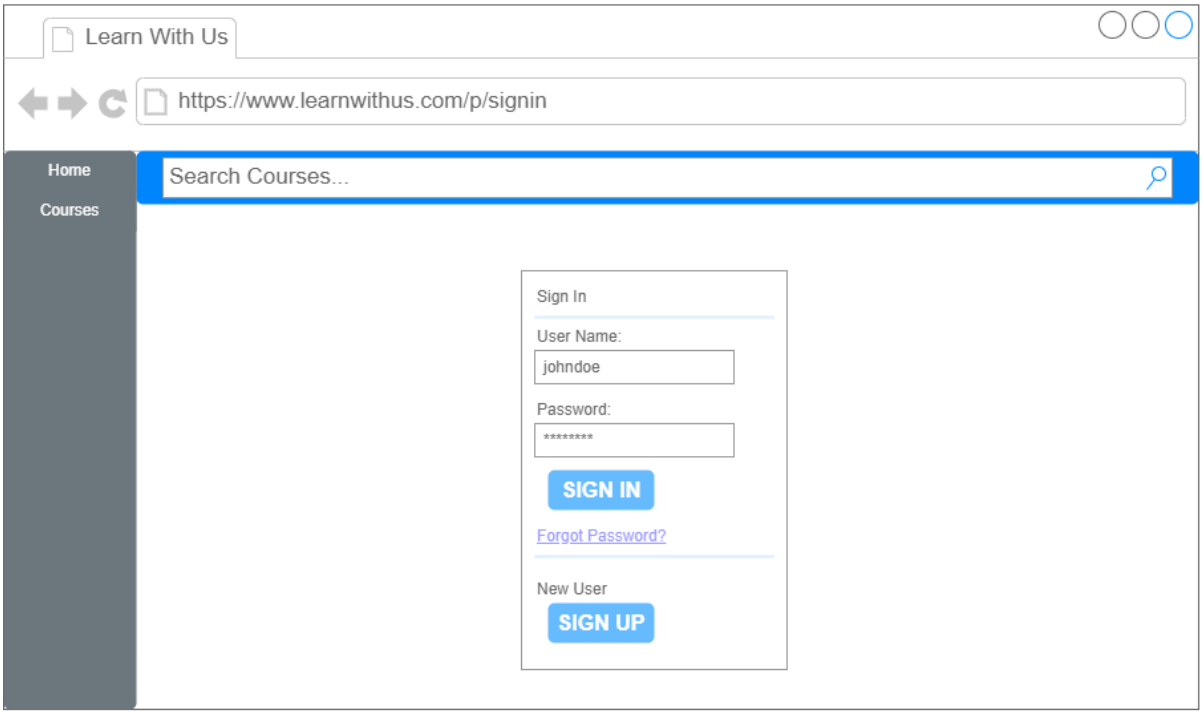
1-



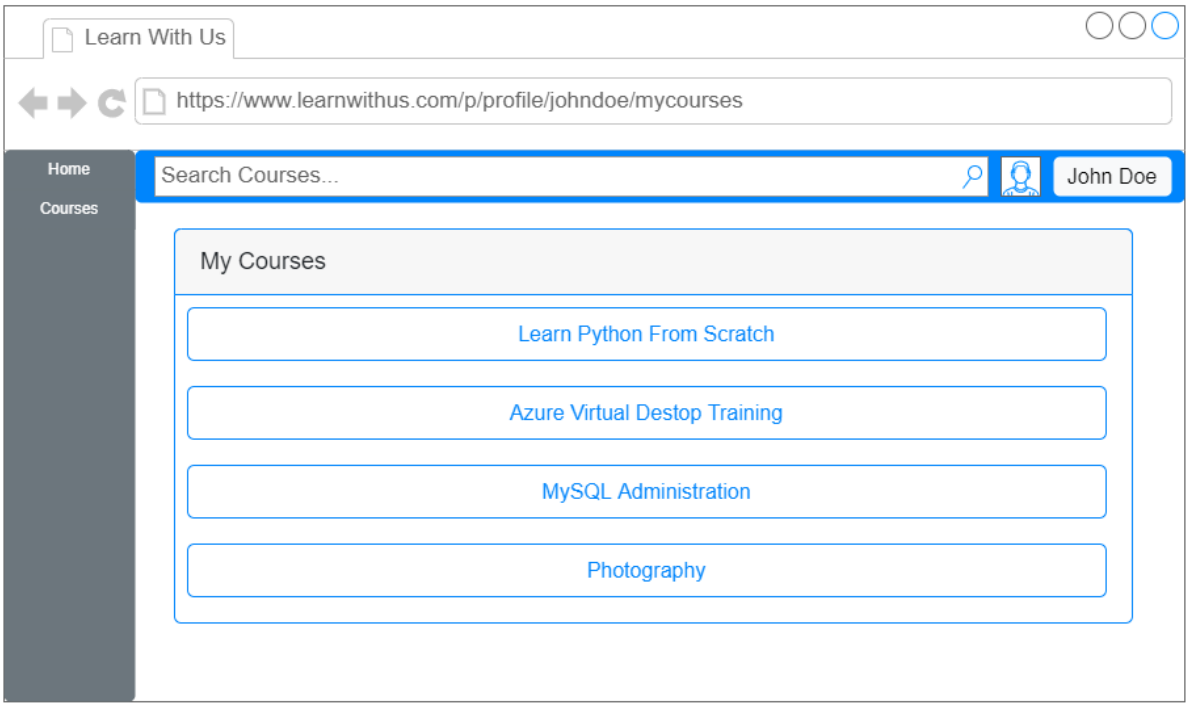
2-



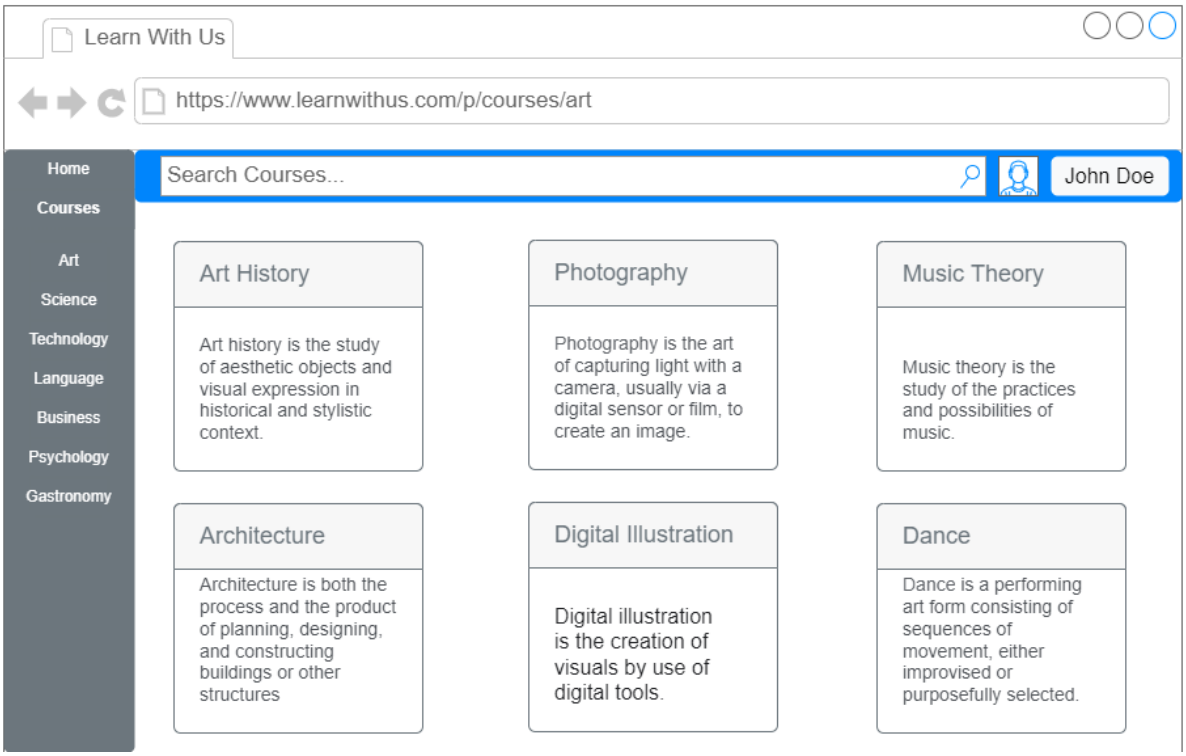
3-



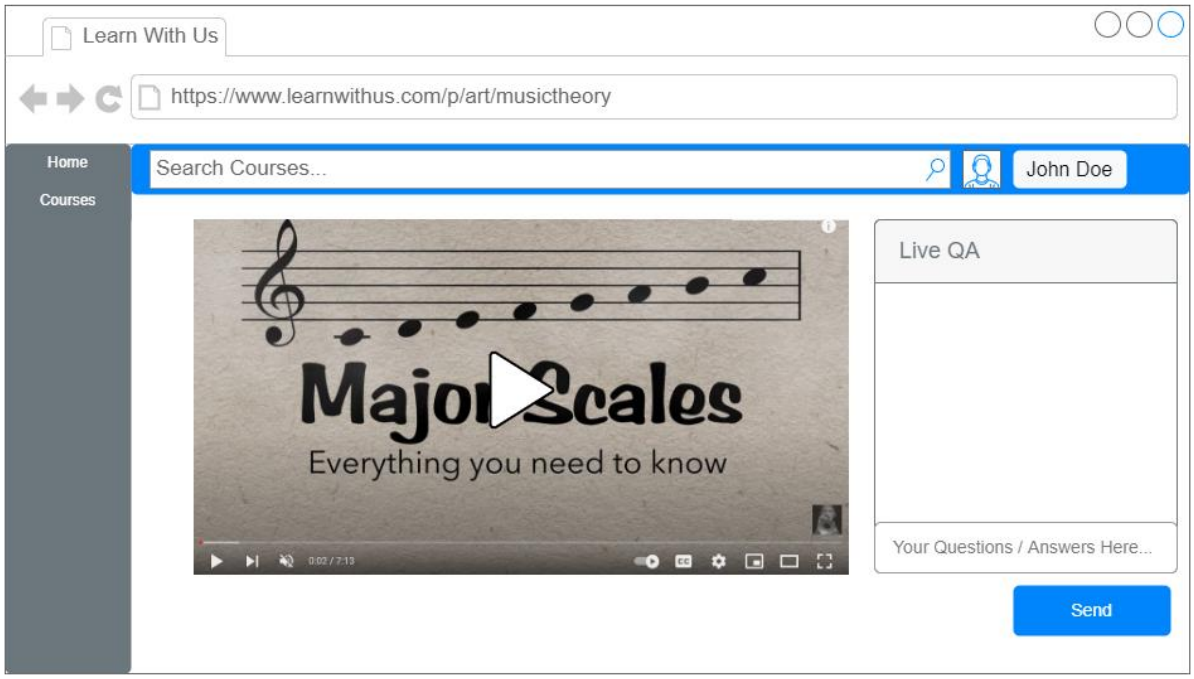
4-



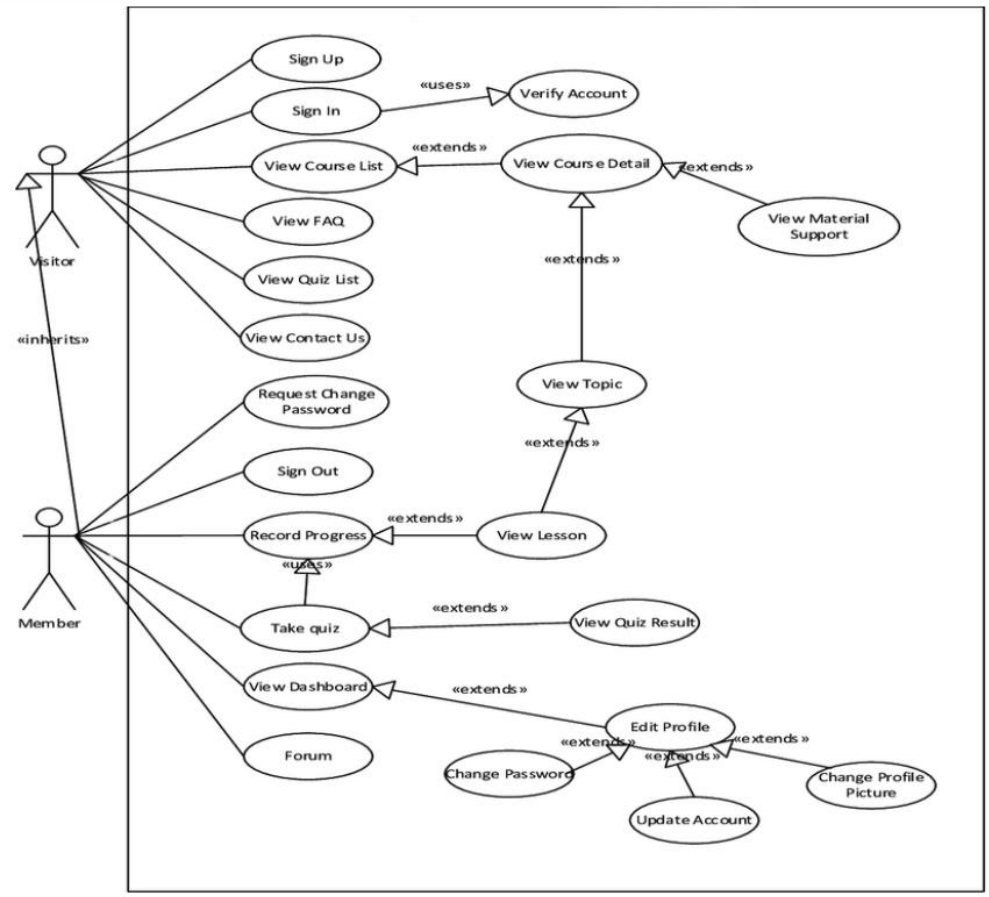
5-



6-



5.Use Case Diagrams



6. Infrastructure

While creating this application in a Windows OS, VS Code, Git extension, Git Version Management System, PgAdmin for Postgresql Server, Docker Container programs are used.
https://code.visualstudio.com/download
http://gitextensions.github.io/
https://github.com/gulsahmkapucu/bounswe573-2022
https://www.pgadmin.org/download/
https://www.postgresql.org/download/windows/
https://docs.docker.com/desktop/windows/install/

This application is Dockerized:
https://github.com/gulsahmkapucu/bounswe573-2022/blob/main/Dockerfile
https://github.com/gulsahmkapucu/bounswe573-2022/blob/main/docker-compose.yml

7.Deployment

In the deployment part unfortunately I had so many issues. I've tried 6 different deployment platforms to deploy this application:

AWS
AWS Beanstalk

Azure Deployment : https://django-postgres.azurewebsites.net/

AWS by Using Qovery

Heroku : https://learnwithus-app.herokuapp.com/

PythonAnywhere

Every time I tried to deploy my application I ended up with the error:

Error in collectstatic command: <No such file or directory>

https://stackoverflow.com/questions/60470995/static-error-when-giving-the-command-python-manage-py-collectstatic

I have followed so many solutions in order to solve this error but I couldn't manage to figüre it out. It's working totally fine in my local environment but I couldn2t deployed it in to a cloud system. However, I have deployed

my Postgres database while I'm trying to deploy my application by using Heroku, this is where the database works from:

ec2-34-230-153-41.compute-1.amazonaws.com

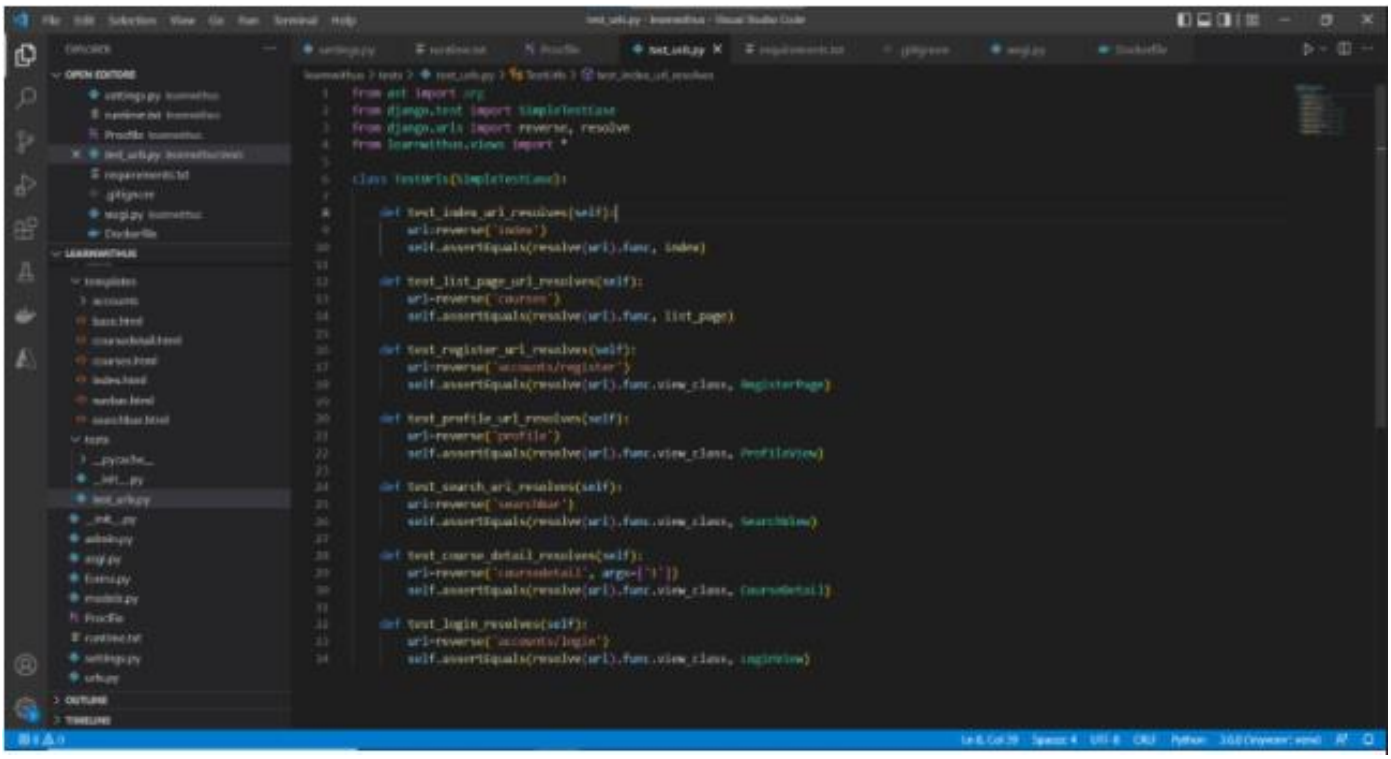
And these are the database credentials from Heroku:

```
DATABASES = {
    'default': {

        'ENGINE': 'django.db.backends.postgresql_psycopg2',

        'NAME': 'd5nuq1a6ar1cq2',

        'USER': 'lozqxgnopjbcsq',

        'PASSWORD': '4aa20aee382fe8af1d73e561f3287fa3f7a88c57a3dbc79105ed35d28f4eb39d',

        'HOST': 'ec2-34-230-153-41.compute-1.amazonaws.com',

        'PORT': '5432',

    }
}
```

7.Tests

This section contains test scenarios but the image quality very low, so you can find it in the given link:

https://github.com/gulsahmkapucu/bounswe573-2022/tree/main/learnwithus/tests



```
6   class TestUrls(SimpleTestCase):
7
8       def test_index_url_resolves(self):
9           url=reverse('index')
10          self.assertEquals(resolve(url).func, index)
11
12      def test_list_page_url_resolves(self):
13          url=reverse('courses')
14          self.assertEquals(resolve(url).func, list_page)
15
16      def test_register_url_resolves(self):
17          url=reverse('accounts/register')
18          self.assertEquals(resolve(url).func.view_class, RegisterPage)
19
20      def test_profile_url_resolves(self):
21          url=reverse('profile')
```

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  AZURE

[31/May/2022 12:59:33] "GET / HTTP/1.1" 200 1188
(myvenv) PS C:\learnwithus> python manage.py test
System check identified no issues (0 silenced).
.......
----------------------------------------------------------------------
Ran 7 tests in 0.015s

OK
(myvenv) PS C:\learnwithus>
```

9.References

- https://tutorial.djangogirls.org/en/
- https://www.youtube.com/watch?v=rA4X73E_HV0 (A video series includes 8 videos)
- https://realpython.com/learning-paths/
- https://www.youtube.com/c/hackershack
- https://www.docker.com/products/docker-desktop/
- https://docs.microsoft.com/en-us/azure/app-service/tutorial-python-postgresql-app?tabs=flask%2Cwindows%2Cazure-portal%2Cterminal-bash%2Cazure-portal-access%2Cvscode-aztools-deploy%2Cdeploy-instructions-azportal%2Cdeploy-instructions--zip-azcli%2Cdeploy-instructions-curl-bash
- https://realpython.com/django-hosting-on-heroku/
- https://realpython.com/deploying-a-django-app-and-postgresql-to-aws-elastic-beanstalk/
- http://whitenoise.evans.io/en/stable/django.html
- https://www.youtube.com/watch?v=51YwXvJ9LOE
- https://testdriven.io/blog/django-elastic-beanstalk/
- https://code.visualstudio.com/download
- http://gitextensions.github.io/
- https://github.com/gulsahmkapucu/bounswe573-2022
- https://www.pgadmin.org/download/
- https://www.postgresql.org/download/windows/
- https://docs.docker.com/desktop/windows/install/
- https://docs.djangoproject.com/en/4.0/
- https://stackoverflow.com/questions/36665889/collectstatic-error-while-deploying-django-app-to-heroku
- https://betterprogramming.pub/production-django-elastic-beanstalk-part1-6632c0d4956a
- https://codeutility.org/python-collectstatic-error-while-deploying-django-app-to-heroku-stack-overflow/
- https://www.pythonanywhere.com/forums/topic/29516/