House price predictor (GhorbariBechaKena.com)

Project Members:

1.

Niamul Hasan
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2.

Md. Anik Khan
Id: 17201021

3.

Tahura Nasrin
Id:17201031

Version Control System:

https://github.com/niamul64/GhorBariKenaBecha-ecommerce-website-by-django-and-machine-learning.git

Website Hosted to This Link:

http://niamul26.pythonanywhere.com/

Profile:

Niamul Hasan: Backend developing and hosting the website.

(github: https://github.com/niamul64)

MD. Anik Khan: Frontend developing.

(github: https://github.com/CodeAnik)

Tahura Nasrin: Quality assurance sector.

(github: https://github.com/Tahura31)

1.Purpose/objective of the project:

We will build a proper, Dedicated, free E-commerce website for the people of Dhaka city, where they will able to post advertisements about lands, flats, and apartments.
Also, we will provide a machine learning-based flat price predicting system where people will able to predict the price of a flat based on some inputs.

2.Project problem definition in details:

There are many e-commerce websites to post Advertisements to sell or buy products (bikroy.com, ebazar.evaly.com.bd). Recently bikroy.com become a paid website (you need to pay, for post-Advertise).
There is no dedicated free E-commerce website to post advertisements about houses, lands, apartments (in Dhaka city). On the other hand, selling the land or flat through a broker also not financially efficient for both sides, buyer and seller. So, it is difficult for the people of Dhaka city, to buy or sell, a flat or land at a good price.
Here a dedicated website may solve the problem.

Furthermore, often a person who newly thinking to buy a flat, do not have the proper idea about pricing. So, a flat price predicting system with this dedicated website may help that person.

3.Benefits of the Project:

I. Effect on Society: Basically, this is an e-commerce web application. The impact of the application could be like other e-commerce web apps. The website will provide easy to use buy-and-sell platform. It will help the people of society to become economically benefited by buying or selling houses, apartments, lands at competitive prices.

II. Effect on environment: This project dose not have any bad effect on environment.
This software is not consuming any energy from environment.

III. Sustainability: We built this Web-app on django2.2. This website making frame-work provides better security, sustainability. So, we can say that, our system is sustainable.

4. Investigation:

Depth of analysis is required to select the most feasible machine learning model. We studied about other machine learning models (Single-Variable -Linear-Regression-Model, Naïve Bayes) and we picked Multivariable-Linear-Regression-model for our project

5. Project Management and finance:

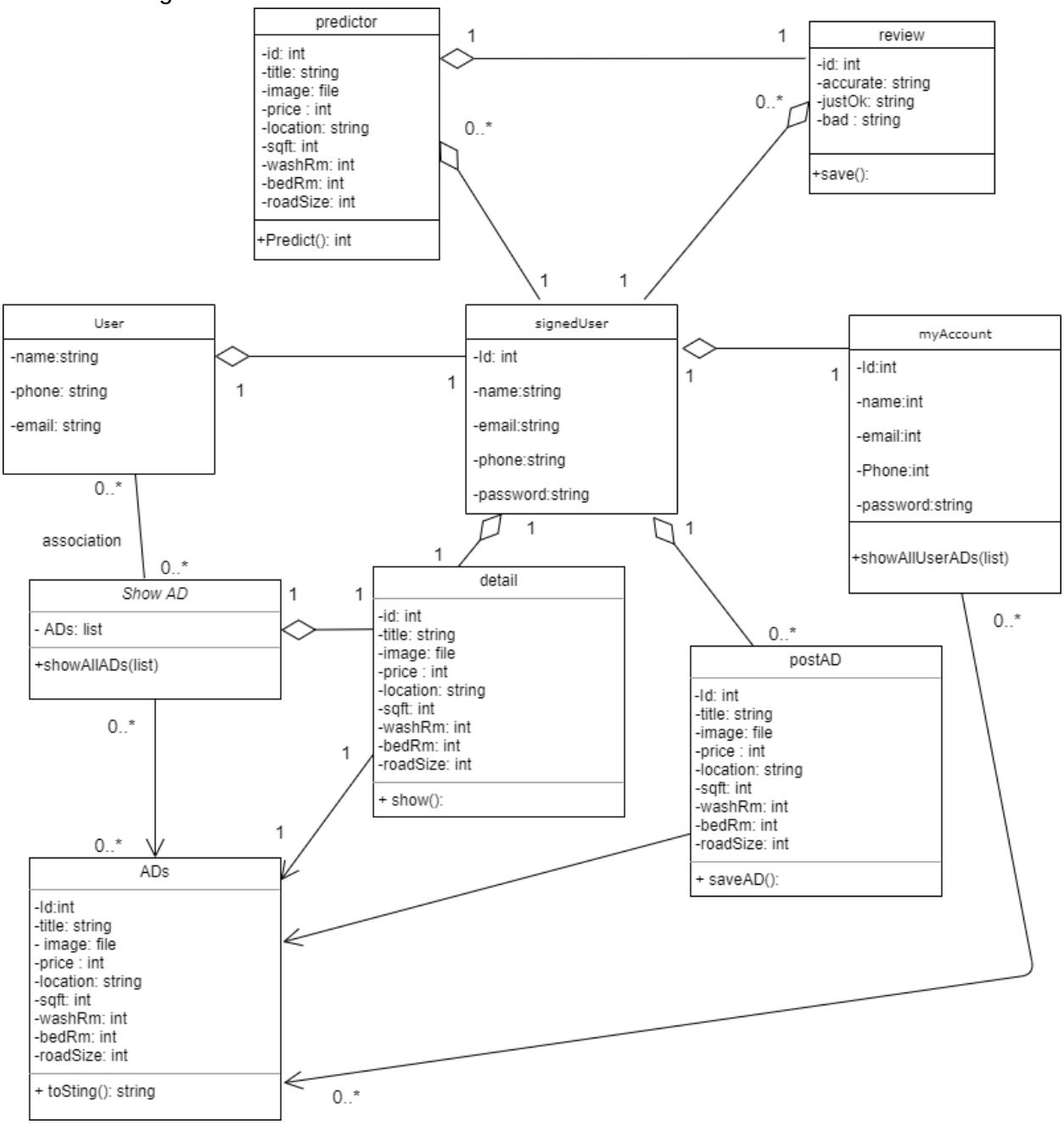
Suppose, we are working for a company and doing contract based project.(cash Amount depends on weekly work)

Week	Work	Workers on lead	Cash Amount
1	Project Idea Finding	Niamul Hasan, Md. Anik Khan, Tahura Nasrin	10000
2,3	System Analysis and Design	Niamul Hasan, Md. Anik Khan, Tahura Nasrin	10000
4	Database Design	Niamul Hasan, Tahura Nasrin	10000
5	Database Implementation	Niamul Hasan	10000
6,7	Backend Developing, Frontend Developing	Niamul Hasan, Md. Anik Khan,	20000
8	Quality assuring	Tahura Nasrin	10000
9,10,11	Backend Developing, Frontend Developing, Quality assuring	Niamul Hasan, Md. Anik Khan, Tahura Nasrin	20000

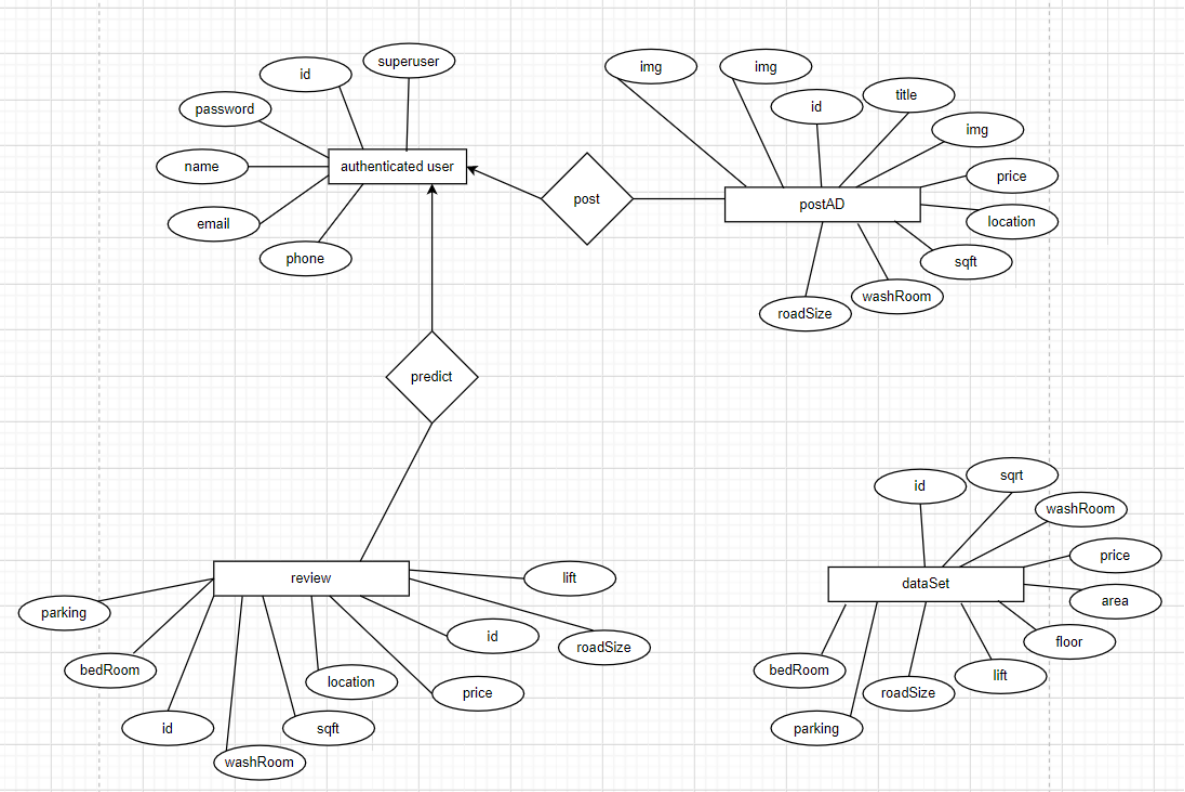
12	Project Demonstration and report generation	Niamul Hasan, Md. Anik Khan, Tahura Nasrin	15000

6. Design model of solution:

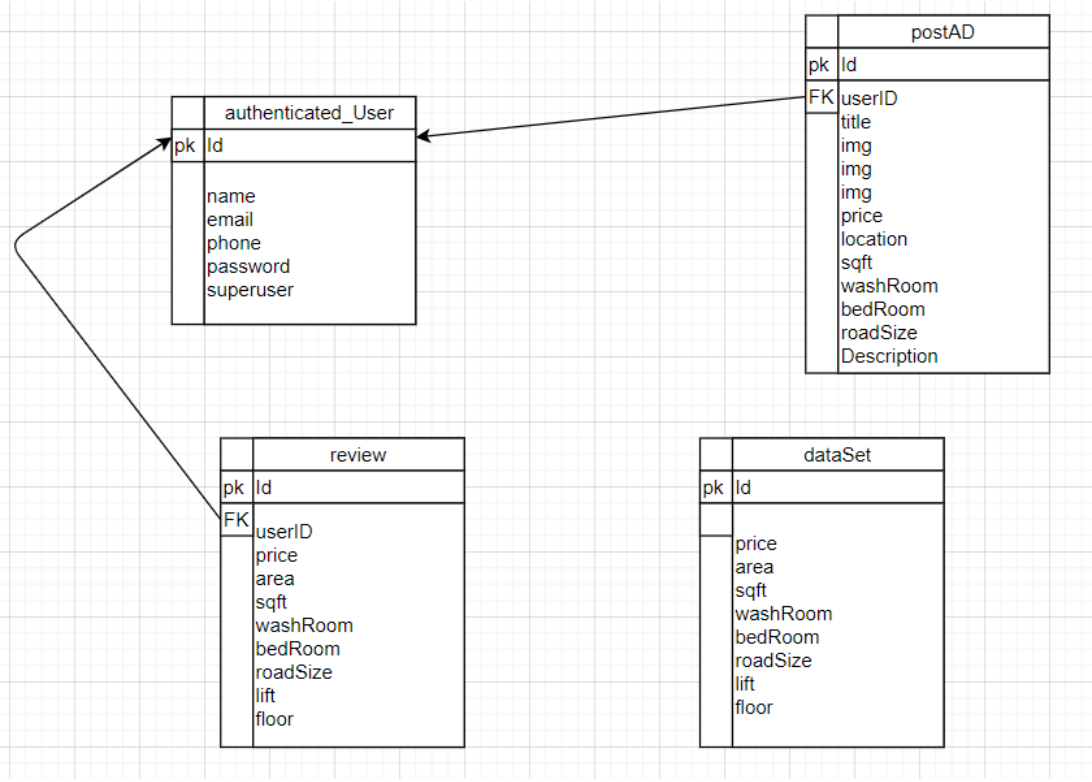
UML class diagram:



ER-Diagram:



Schema diagram:



Project Developing resource:

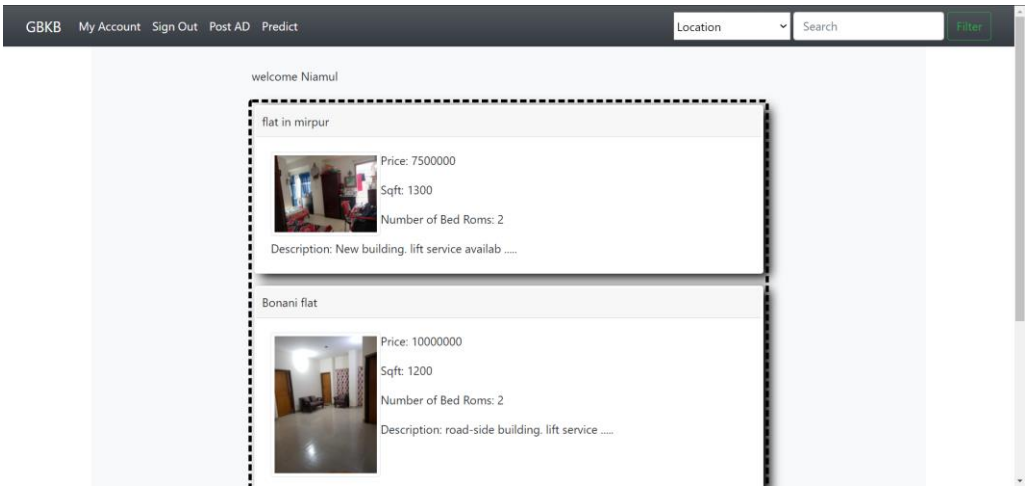
1. sqlLite3 (database)
2. Django2.2 (framework)
3. Joblib (package)

7. Risk Analysis:

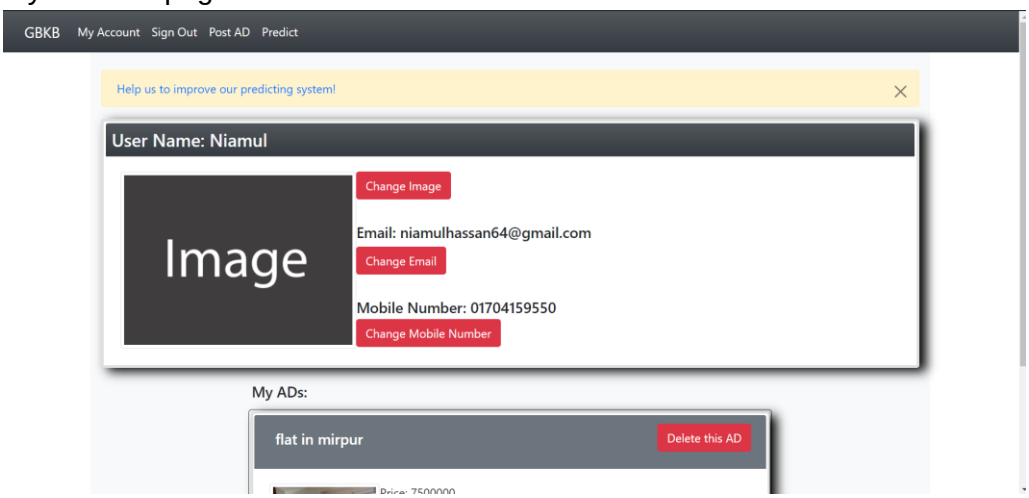
At first, we had started our project with python3.8 environment. we used joblib to use our machine learning model in django2.2. But later we faced a problem that we getting unexpected error for using joblib in python3.8 environment. After a lot of research, we found that joblib package works till the python version 3.7. joblib package wont work on python3.8.

8. Final Project (sample image):

Home page:

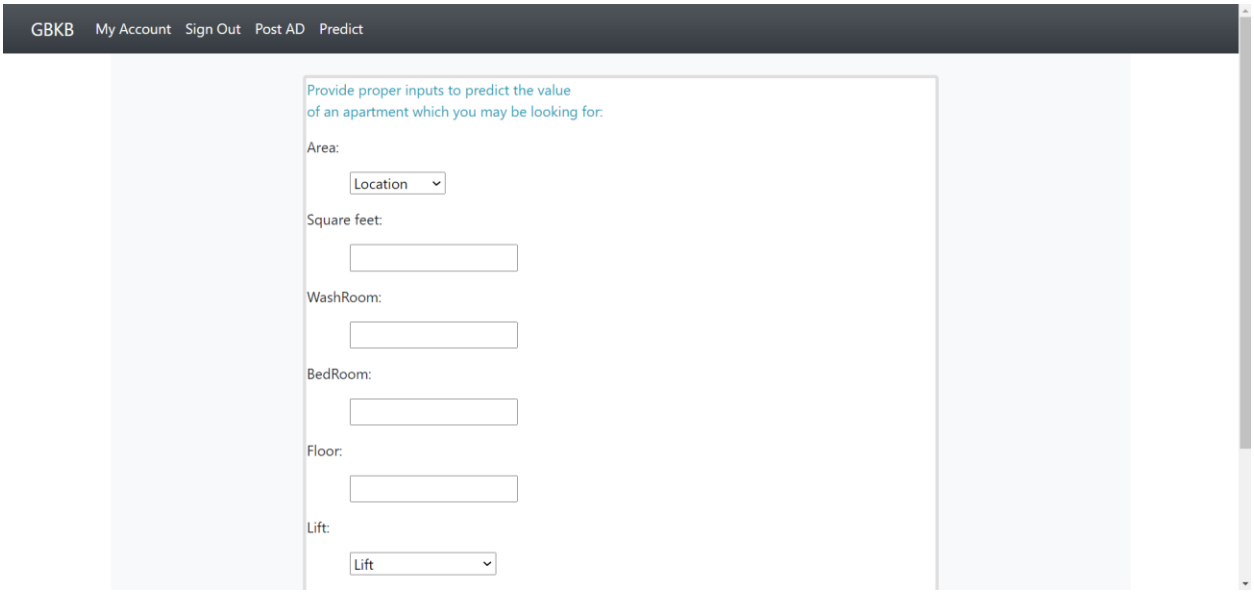


My Account page:

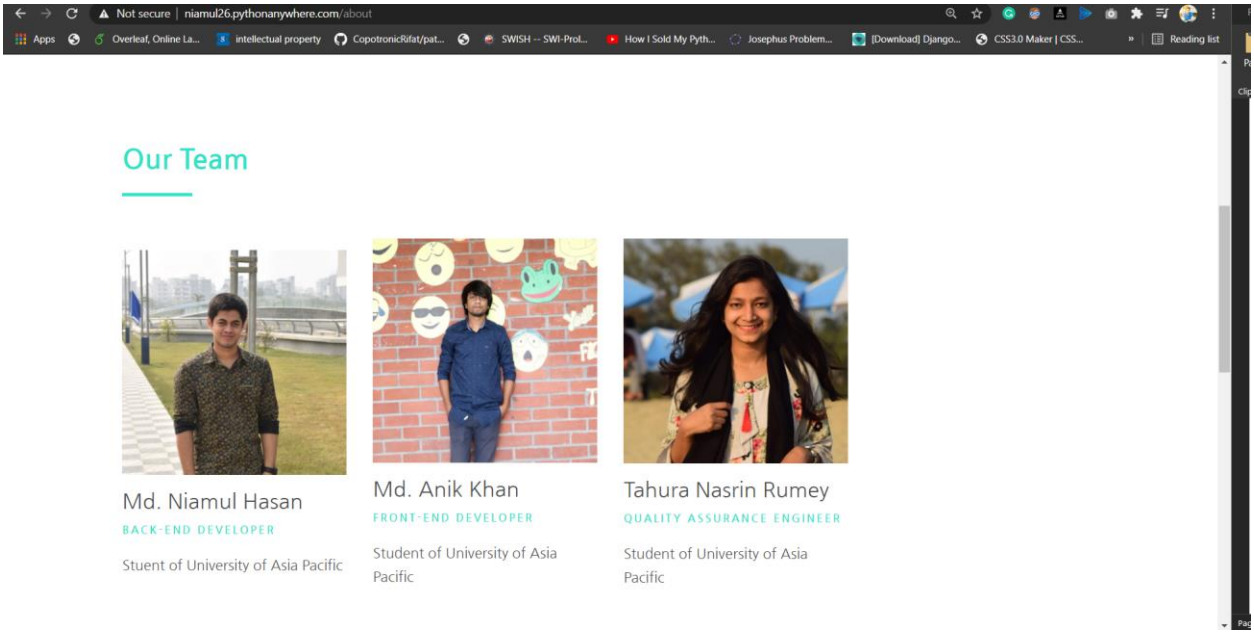


AD posting page:

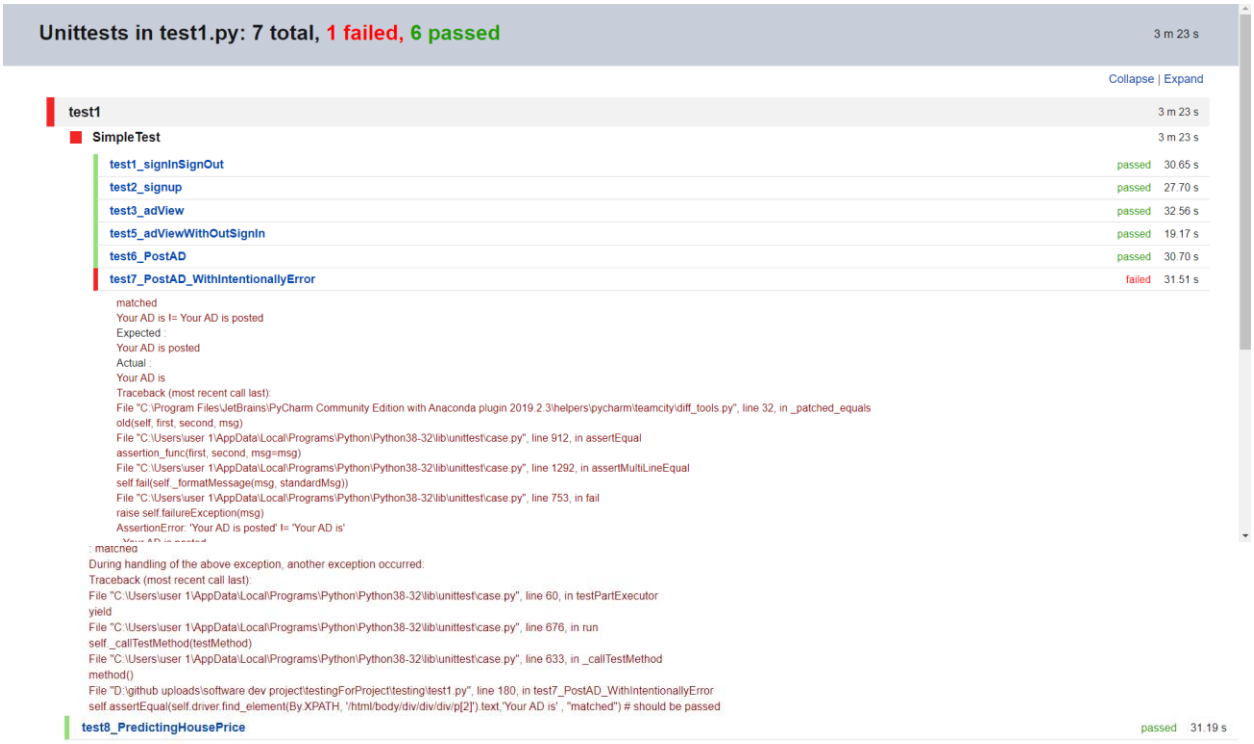
Price prediction page:



About page:



9. Testing And Debugging Report:



10. Testing And Debugging Report:

We learned how to use a machine learning model in a django project.
We learned about joblib package.

11. Deployment :

The website is deployed to this link:

http://niamul26.pythonanywhere.com/

Otherwise, if You want to deploy this website in local machine: (follow the steps)

1. At first set up the virtual environment. (python 3.7)
2. clone the GitHub directory, under that environment. ($ git clone https://github.com/niamul64/GhorBariKenaBecha-ecommerce-website-by-django-and-machine-learning.git)
3. Now change directory to ‘GBKB. ($ cd GBKB)
4. Install Django==2.2 ($ pip install Django==2.2)
5. Now again change directory to Django project ‘GBKB’. ($ cd GBKB)
6. Now run commands(1 by 1):
   $ pip install django-crispy-forms
   $ pip install requests
   $ pip install -U scikit-learn
   $ pip install numpy
   $ pip install joblib
   $ pip install Django-Verify-Email
   $ pip install pillow
   $ python manage.py collectstatic
   $ python manage.py makemigrations
   $ python manage.py migrate
   $ python manage.py runserver
7. Now the server is running.