

MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR

(A Govt. Aided UGC Autonomous & NAAC Accredited Institute Affiliated to RGPV, Bhopal)



Project Report
on
Student Study Portal

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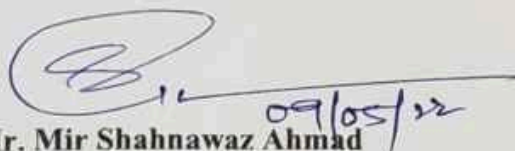
MAY-JUNE 2022

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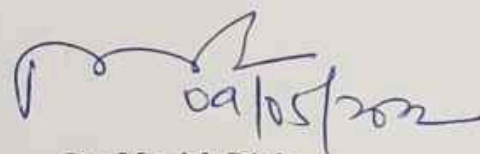
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CERTIFICATE

This is certified that **Somya Jain** (0901CS191122) has submitted the project report titled **Student Study Portal** under the mentorship of **Mr. Mir Shahnawaz Ahmad**, in partial fulfilment of the requirement for the award of degree of Bachelor of Technology in Computer Science and Engineering from Madhav Institute of Technology and Science, Gwalior.



Mr. Mir Shahnawaz Ahmad
Faculty Mentor
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DECLARATION

I hereby declare that the work being presented in this project report, for the partial fulfilment of requirement for the award of the degree of Bachelor of Technology in Computer Science and Engineering at Madhav Institute of Technology & Science, Gwalior is an authenticated and original record of my work under the mentorship of **Mr. Mir Shahnawaz Ahmad, Assistant Professor,** Computer Science and Engineering.

I declare that I have not submitted the matter embodied in this report for the award of any degree or diploma anywhere else.


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0901CS191122

3rd Year,

Computer Science and Engineering

MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR

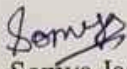
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The full semester project has proved to be pivotal to my career. I am thankful to my institute, **Madhav Institute of Technology and Science** to allow me to continue my disciplinary/interdisciplinary project as a curriculum requirement, under the provisions of the Flexible Curriculum Scheme (based on the AICTE Model Curriculum 2018), approved by the Academic Council of the institute. I extend my gratitude to the Director of the institute, **Dr. R. K. Pandit** and Dean Academics, **Dr. Manjaree Pandit** for this.

I would sincerely like to thank my department, **Department of Computer Science and Engineering**, for allowing me to explore this project. I humbly thank **Dr. Manish Dixit**, Professor and Head, Department of Computer Science and Engineering, for his continued support during the course of this engagement, which eased the process and formalities involved.

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ABSTRACT

The idea of developing a Student Study Portal is to make students self study easy. Now students can keep track of their own learnings by using various functions like making todo lists, using dictionaries for unknown words, reading various books and courses on youtube and writing notes, homework questions. Along with this, students can also keep track of how much work is done and what is left to be completed. The project uses various api's for youtube videos, wikipedia and dictionary search, and the user interface of the app is quite interactive to make user experience better, providing everything at one place and hence saving time from switching applications.

सार:

छात्र अध्ययन पोर्टल विकसित करने का विचार छात्रों को स्व-अध्ययन को आसान बनाना है। अब छात्र टूट्टू लिस्ट बनाने, अज्ञात शब्दों के लिए डिक्शनरी का उपयोग करने, यूट्यूब पर विभिन्न पुस्तकों और पाठ्यक्रमों को पढ़ने और नोट्स लिखने, होमवर्क प्रश्नों जैसे विभिन्न कार्यों का उपयोग करके अपने स्वयं के सीखने का ट्रैक रख सकते हैं।

इसके साथ ही छात्र इस बात पर भी नजर रख सकते हैं कि कितना काम हुआ है और क्या पूरा होना बाकी है।

परियोजना यूट्यूब वीडियो, विकिपीडिया और शब्दकोश खोज के लिए विभिन्न एपीआई का उपयोग करती है, और ऐप का यूजर इंटरफेस उपयोगकर्ता अनुभव को बेहतर बनाने के लिए काफी इंटरैक्टिव है, सब कुछ एक ही स्थान पर प्रदान करता है और इसलिए एप्लिकेशन स्विच करने से समय बचाता है।

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Chapter 1: Project Overview

1.1 Introduction:

A Portal is a web system that provides the functions and features to authenticate and identify the users and provide them with an easy, intuitive, personalized and user-customizable web-interface for facilitating access to information and services that are of primary relevance and interests to the users.

Student Portal is nothing but a portal which thinks student's as the main target users and provides so many useful services to students at a single place through a single interface but in customized form.

1.2 Objective and Scope:

The main objective behind construction of this portal is to provide a single place to students from where they can do all the study related activities without login to different websites. In other words, to provide a single place.

Students can keep up their assignments, course material, Notes, allows them to search words, learn from online books and many more.

It provides students to keep track of their completed and uncompleted work on a daily basis.

1.3 Object Features:

- Globally accessible

- Central place for all tasks
- 24 Hour accessible
- User friendly
- Secure and Personalized
- Enhance performance
- Saving of time and man-power

1.4 Methodology:

The tools, which were employed during this methodology stage, were mainly tables, Data Flow Diagrams and Entity Relationship Diagrams. The design ensures that only authorized users can access the system information.

1.5 Technologies Used:

PYTHON:

Python is an interpreted high-level general-purpose programming language. Its design philosophy emphasizes code readability with its use of significant indentation. Its language constructs as well as its object-oriented approach aim to help programmers write clear, logical code for small and large-scale projects.

DJANGO:

Django is a high-level Python web framework that encourages rapid development and clean, pragmatic design. Built by experienced developers, it takes care of much of the hassle of web development, so you can focus on writing your app without needing to reinvent the wheel. It's free and open source. Django features to consider if you're looking for the right framework to build a shop:

- Scalability
- Feature-rich
- SEO-friendly
- Reliable

SQLite:

SQLite is a relational database management system contained in a C library. In contrast to many other database management systems, SQLite is not a client–server database engine. Rather, it is embedded into the end program. SQLite generally follows PostgreSQL syntax.

HTML, CSS JavaScript:

HTML provides the basic structure of sites, which is enhanced and modified by other technologies like CSS and JavaScript. CSS is used to control presentation, formatting, and layout. JavaScript is used to control the behavior of different elements.

Chapter 2: Literature Survey

The literature and studies tackle the different concepts, understanding, and ideas, related to study from the past up to the present and which serves as the proponents guide in developing the project. Those that were also helps in familiarizing information that are relevant and similar to the present study.

Foreign

Based on Chalmers The Student Portal, you will find information about studies at Chalmers and the services that facilitate your studies. Here you can find information about courses. In addition to the web pages, the student study portal serves as an interface to a range of services in different systems.

The student Portal has a responsive design i.e. the design adapts to fit the size of the screen regardless of browser or device.

The contents of the student portal are divided into home, notes, homework, youtube, dictionary, conversions, todo list, books.

Chapter 3: Preliminary Design

Actions performed:**Functions access by only authorised students:****Notes**

- Make notes
- Update notes
- Delete notes

ToDo-List

- Make todo-list
- Update todo-list
- Delete todo-list

Homework

- Write homework
- Update homework
- Delete homework

View Profile**Functions accessed by anyone is:**

- Login
- Logout
- Register
- YouTube videos
- Dictionary
- Conversion of dimensions
- Searching Books

ER Diagrams:

Dashboard:

User-Defined database tables

Notes:

Notes	
id	BigAutoField
user	ForeignKey (id)
Description	TextField
Title	CharField

Homework:

HomeWork	
id	BigAutoField
user	ForeignKey (id)
description	TextField
due	DateTimeField
status	BooleanField
subject	CharField
title	CharField

Todo:

ToDo	
id	BigAutoField
user	ForeignKey (id)

status	BooleanField
title	CharField

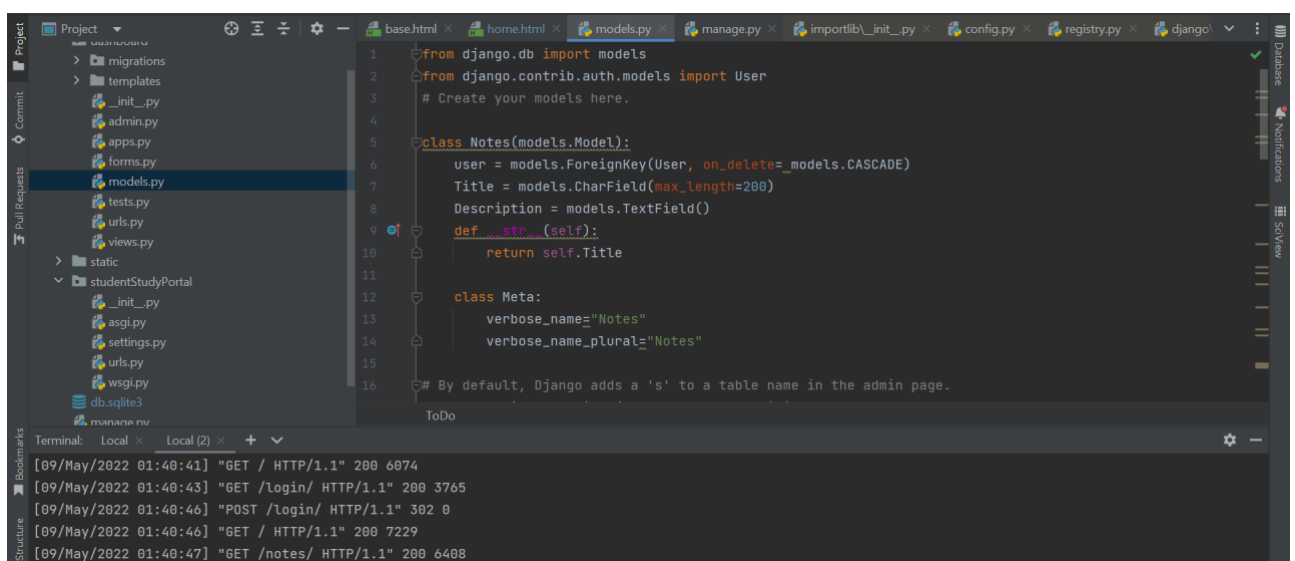
Chapter 4: Final Analysis and Design

The web application is used by students to keep track of their daily work. It is solely used to improve student's academic performance.

The web-app is built using django, python as backend, bootstrap, css, html, sqlite3 as database.SA

4.1 Structures of the Project File

Django is a Model View Control (MVC) framework



- Mange.py -This file is used basically as a command-line utility and for deploying, debugging, or running our web application. It contains code for run-server, or make migrations or migrations, etc. that we use in the shell. Anyway, we do not need to make any changes to the file.
- Db.sqlite3 is the database file.
- Static folder contains all the static files like CSS and images.
- Dashboard folder is the Django projects consisting of init, admin, models, views, apps and forms.
- Models are basically the blueprints of the database we are using and hence contain the information regarding attributes and the fields etc of the database.

```
urlpatterns = [
    path('', views.home, name="home"),
    path('notes/', views.notes, name='notes'),
    path('delete_notes/<int:pk>', views.deleteNotes, name="deleteNotes"),
    path('notes_detail/<int:pk>', views.NotesDetailView.as_view(), name="notesDetail"),
    path('homework/', views.homeWork, name="homework"),
    path('update_homework/<int:pk>', views.update_homework, name="update-homework"),
    path('delete_homework/<int:pk>', views.delete_homework, name="delete-homework"),
    path('youtube/', views.youtube, name='youtube'),
    path('todo/', views.todo, name='todo'),
    path('update_todo/<int:pk>', views.update_todo, name="update-todo"),
    path('delete_todo/<int:pk>', views.delete_todo, name="delete-todo"),
    path('books/', views.books, name="books"),
    path('dictionary/', views.dictionary, name="dictionary"),
    path('wikipedia/', views.wiki, name="wikipedia"),
    path('conversion/', views.Conversion, name='conversion'),
]
```

```
[09/May/2022 01:40:41] "GET / HTTP/1.1" 200 6074
[09/May/2022 01:40:43] "GET /login/ HTTP/1.1" 200 3765
[09/May/2022 01:40:46] "POST /login/ HTTP/1.1" 302 0
[09/May/2022 01:40:46] "GET / HTTP/1.1" 200 7229
[09/May/2022 01:40:47] "GET /notes/ HTTP/1.1" 200 6408
```

- Views is a crucial one, it contains all the Views (usually as classes). Views.py can be considered as a file that interacts with the client. Views are a user interface for what we see when we render a Django Web application.
- URLs Just like the project urls.py file, this file handles all the URLs of our web application.
- Dashboard folder is the Django application directory consisting of the following essential files.
- Init.py This file remains empty and is present only to tell that this particular directory is a package.
- Settings.py This file is present for adding all the applications and the middleware application present. Also, it has information about templates and databases. Overall, this is the main file of our Django web application.
- Urls.py This file handles all the URLs of our web application. This file has the lists of all the endpoints that we will have for our website.
- Wsgi.py This file is mainly concerned with the WSGI server and is used for deploying our applications on servers like Apache etc.
- Asgi.py In the newer versions of Django, you will also find a file named as asgi.py apart from wsgi.py. ASGI can be considered as a successful interface to WSGI. ASGI, short for Asynchronous Server Gateway interface.

- Template Files contain all the HTML files of the application

The screenshot shows the PyCharm IDE with the `home.html` template file open. The template extends `dashboard/base.html` and includes a `section` with a `h3` tag and a `div` containing a `card`. The `card` contains an `img` tag, a `div` with a `h5` tag, and a `Notes` text. The terminal at the bottom shows the following output:

```
[09/May/2022 01:40:41] "GET / HTTP/1.1" 200 6074
[09/May/2022 01:40:43] "GET /login/ HTTP/1.1" 200 3765
[09/May/2022 01:40:46] "POST /login/ HTTP/1.1" 302 0
[09/May/2022 01:40:46] "GET / HTTP/1.1" 200 7229
[09/May/2022 01:40:47] "GET /notes/ HTTP/1.1" 200 6408
```

- Books function implementations using api hit

The screenshot shows the PyCharm IDE with the `views.py` file open. The `books(request)` function is defined, which handles a POST request by sending a request to the Google Books API and returning a list of book details. The function is as follows:

```
def books(request):
    if request.method == "POST":
        form = DashboardForm(request.POST)
        text = request.POST['text']
        url = "https://www.googleapis.com/books/v1/volumes?q=" + text
        r = requests.get(url)
        answer = r.json()
        result_list = []
        for i in range(10):
            result_dict = {
                'title': answer['items'][i]['volumeInfo']['title'],
                'subtitle': answer['items'][i]['volumeInfo'].get('subtitle'),
                'description': answer['items'][i]['volumeInfo'].get('description'),
                'count': answer['items'][i]['volumeInfo'].get('pageCount'),
                'categories': answer['items'][i]['volumeInfo'].get('categories'),
                'rating': answer['items'][i]['volumeInfo'].get('pageRating'),
                'thumbnail': answer['items'][i]['volumeInfo'].get('imageLinks').get('thumbnail'),
                'preview': answer['items'][i]['volumeInfo'].get('previewLink'),
            }
            result_list.append(result_dict)
    if request.method == "POST":
        try
```


4.2

Result

Home


Student Study Portal
Home Register Login

Welcome




Notes

Create Notes to refer them later. They are stored permanently until deleted




Homework

Add homeworks and assign them deadlines. They will be displayed prioritised by deadlines




Youtube

Search Youtube and select your desired video to play it on youtube




To Do

Add your to-do lists for your day and remove them as you finish




Books

Browse books from a list of neatly organised book menu




Dictionary

A vocabulary from a book is troubling you? No problem, enter the word, and the meaning will be displayed almost instantaneously.



WikiPedia

Homework and Assignments? Search wikipedia to get fast results



Conversion

Check out the conversion table, that helps you to convert measurements to more familiar ones of your choice.

Notes:

Student-dashboard
127.0.0.1:8000/notes/

Student Study Portal
Home Profile Options Logout

Data structures
Binary search tree deletion and insertion time complexity in worst case is $O(n)$

Operating System
Operating system manage all the functionalities, it manage the memory, input / output operations and

python
python is a programming language

Create Notes

Title*




Description*

Homework

← → ↻ 127.0.0.1:8000/homework/

Student Study Portal Home Profile Options Logout

Homework added from somya successfully

#	Subject	Title	Description	Due	Status	Delete
1	Algorithm	unit 1	complexity analysis	April 20, 2022, midnight	<input checked="" type="checkbox"/> Mark as Completed	
2	compiler	Grammar	grammar is collection of 4 tuple V,T,P,S	May 5, 2022, midnight	<input type="checkbox"/> Mark as Completed	
3	Data structures	Binary Search Tree	Binary search tree In-order traversal is always in ascending order. In binary search tree for each node left child contains less value than root and right child greater value than root.	May 9, 2022, midnight	<input type="checkbox"/> Mark as Completed	





Create Homework

Todo-list

Student-dashboard x +

← → ↻ 127.0.0.1:8000/todo/

Student Study Portal Home Profile Options Logout

#	Title	Status	Delete
1	learn python	<input checked="" type="checkbox"/> Mark as Completed	
2	wake up at 5am	<input checked="" type="checkbox"/> Mark as Completed	
3	complete divide and conquer topic	<input checked="" type="checkbox"/> Mark as Completed	
4	give water to plants	<input type="checkbox"/> Mark as Completed	

Create Todo

Title*

Go for walking for 30 mins

☒ Status

Profile will show only the incomplete homework and todo's

Student-dashboard x +

127.0.0.1:8000/profile/

Due ToDos

#	Title	Status	Delete
1	give water to plants	<input type="checkbox"/> Mark as Completed	

To Do

Due Homeworks

#	Subject	Title	Description	Due	Status	Delete
1	compiler	Grammar	grammar is collection of 4 tuple V,T,P,S	May 5, 2022, midnight	<input type="checkbox"/> Mark as Completed	
2	Data structures	Binary Search Tree	Binary search tree in-order traversal is always in ascending order, In binary search tree for each node left child contains less value than root and right child greater value than root.	May 9, 2022, midnight	<input type="checkbox"/> Mark as Completed	

Homeworks


Book search

Student Study Portal Home Profile Options Logout

Search books and browse your favorite

Just enter the search query to obtain the results

Enter your Search :




The Alchemist

None

A special 25th anniversary edition of the extraordinary international bestseller, including a new Foreword by Paulo Coelho. Combining magic, mysticism, wisdom and wonder into an inspiring tale of self-discovery, The Alchemist has become a modern classic, selling millions of copies around the world and transforming the lives of countless readers across generations. Paulo Coelho's masterpiece tells the mystical story of Santiago, an Andalusian shepherd boy who yearns to travel in search of a worldly treasure. His quest will lead him to riches far different—and far more satisfying—than he ever imagined. Santiago's journey teaches us about the essential wisdom of listening to our hearts, of recognizing opportunity and learning to read the omens strewn along life's path, and, most importantly, to follow our dreams.

Category: Fiction
Pages: 208

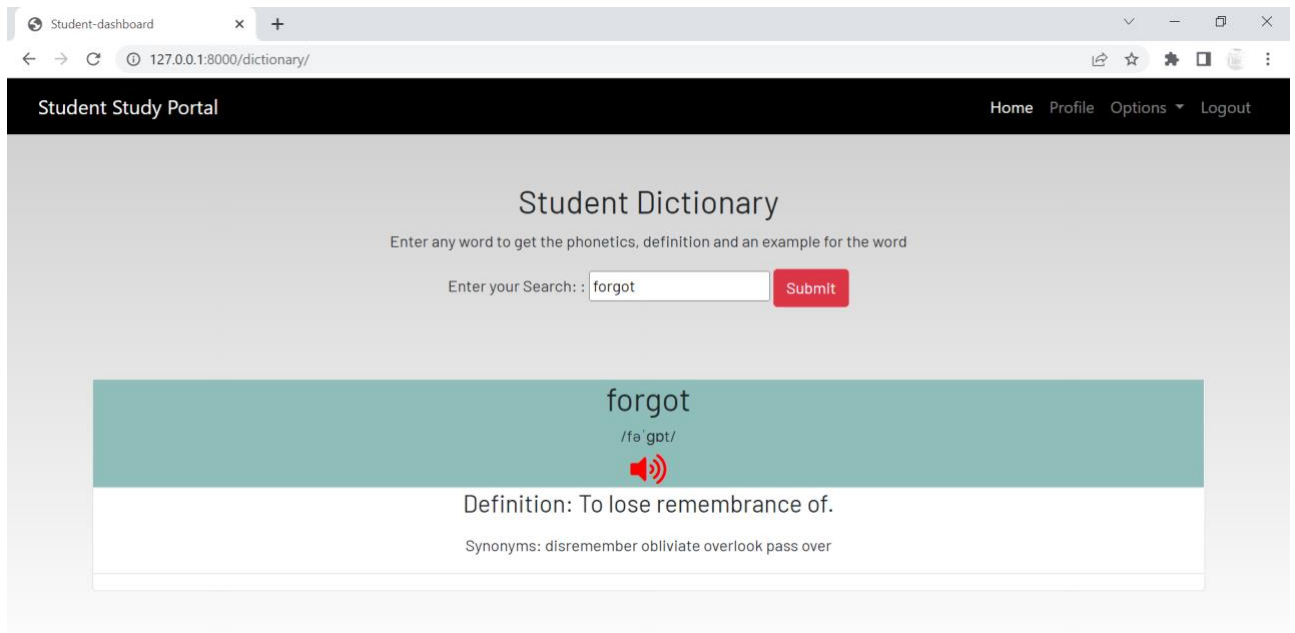


THE ALCHEMIST

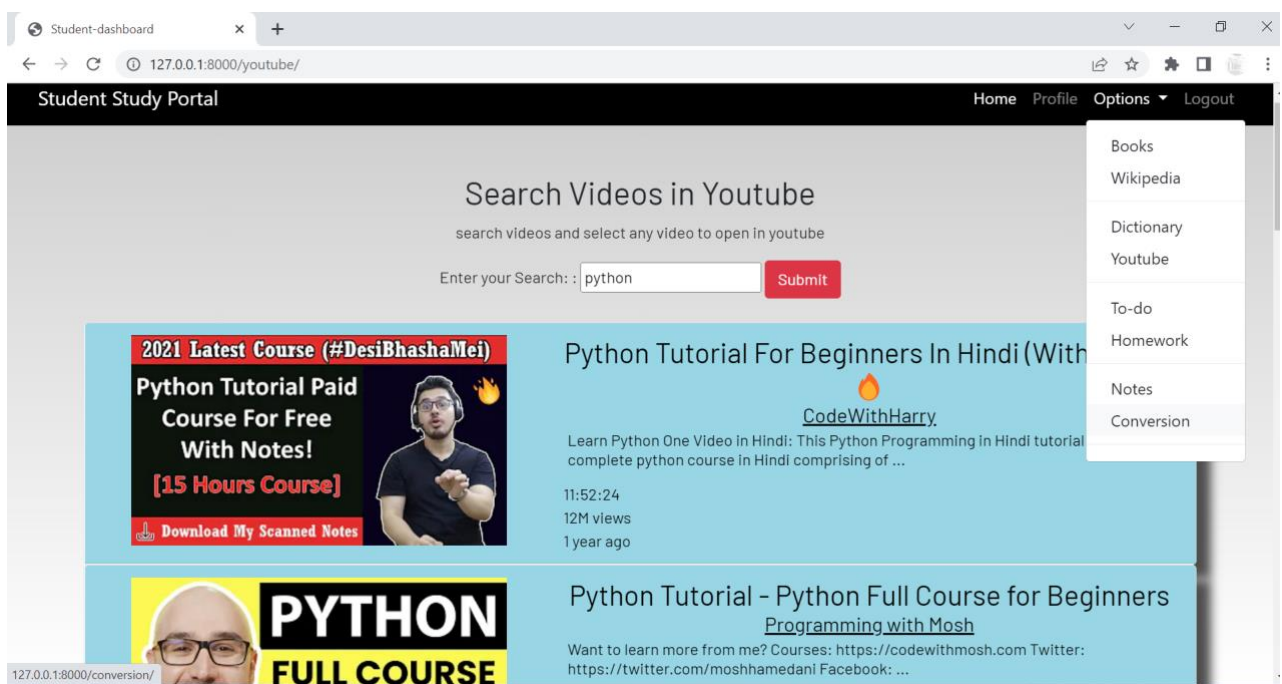
None

books.google.co.in/books?id=FzVjBgAAQBAJ&printsec=frontcover&dq=alc...

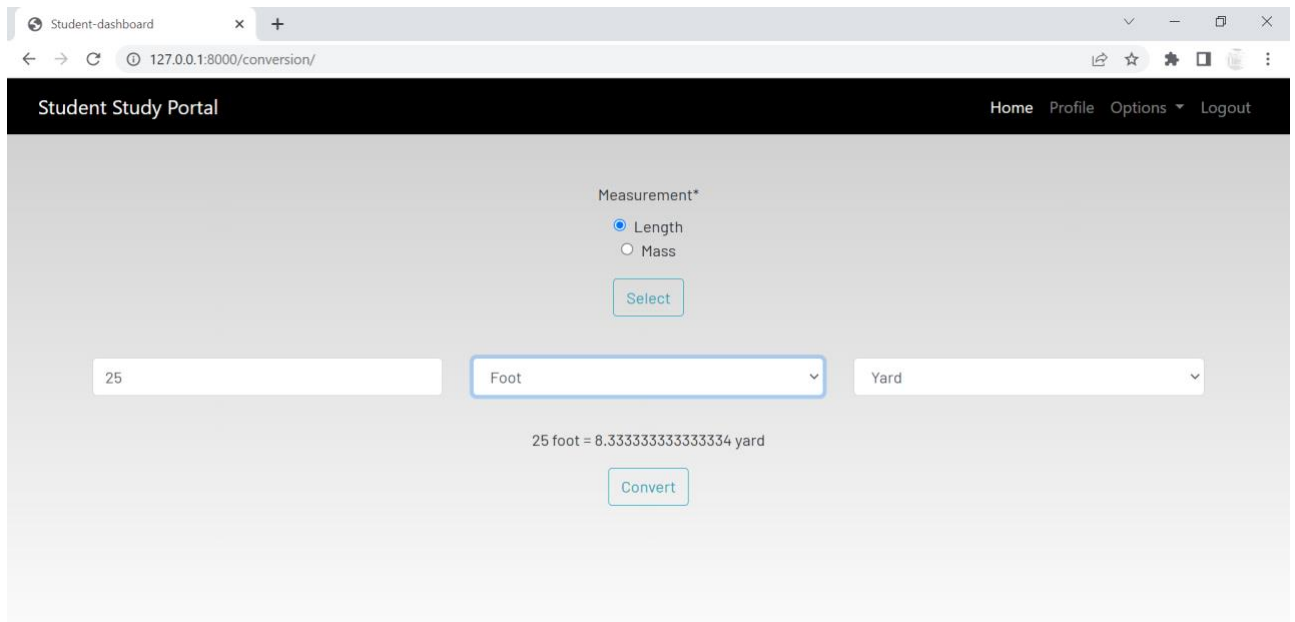
Dictionary



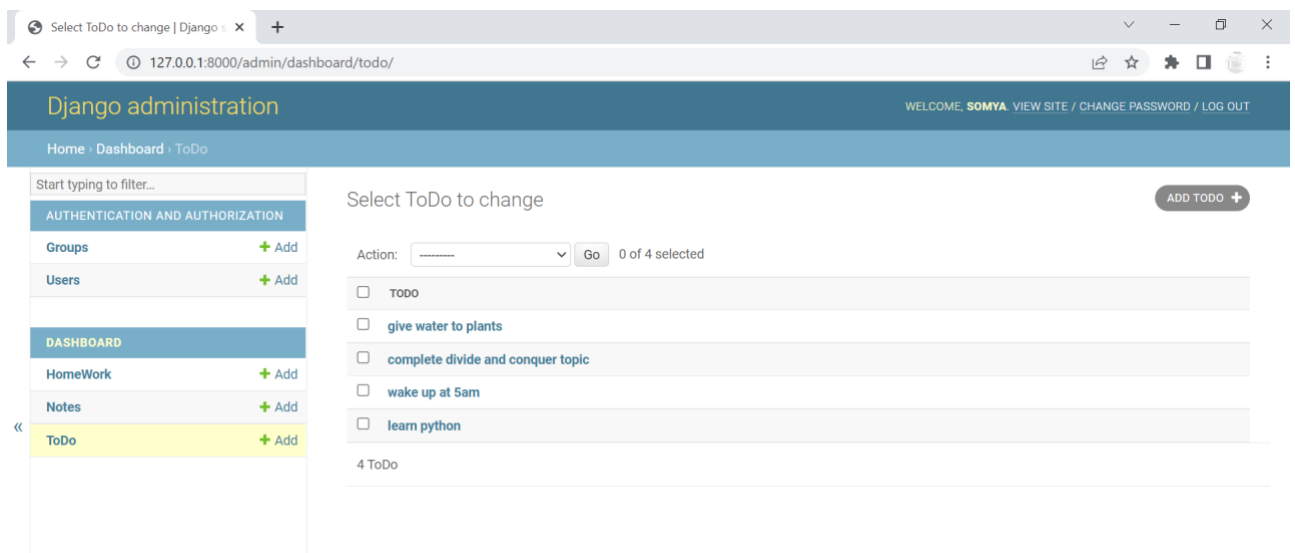
Youtube



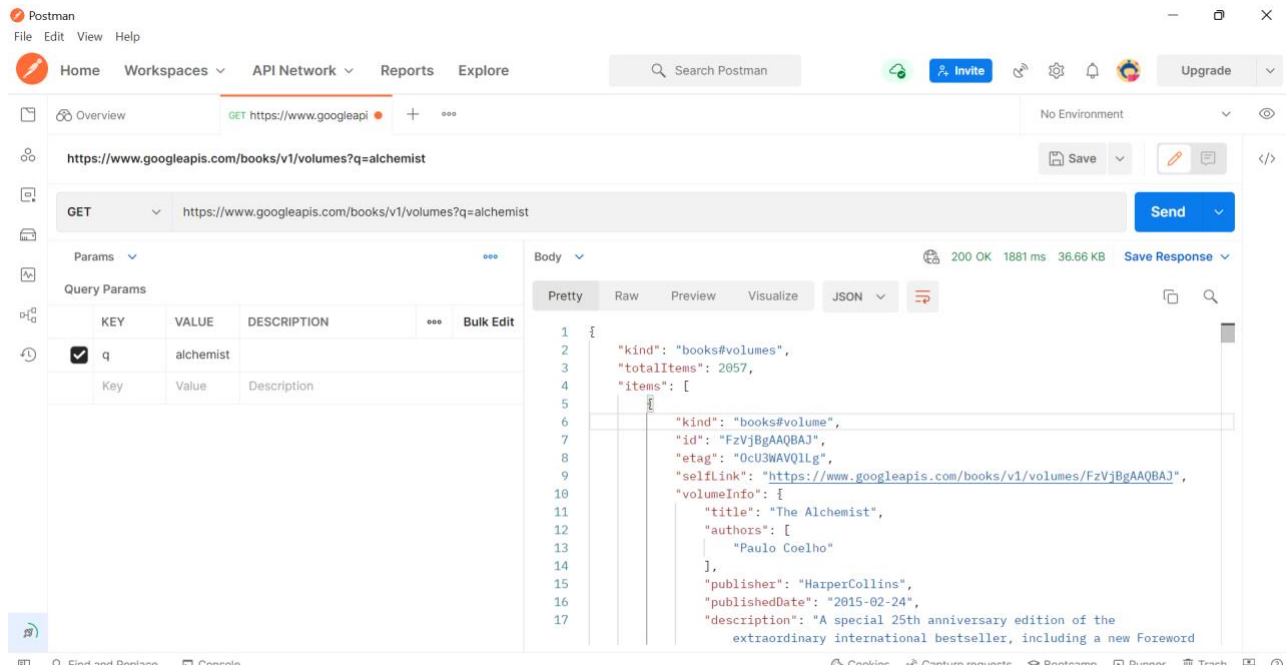
Conversion



Various Models



Catching api request



4.3 Limitations

This project is only limited to students self study purpose, students can not upload their own files, images etc.

There is no notification system to remind students of the pending work.

There is no download books option, so each time we read the book, our internet should be on.

Chapter 5: Conclusion

5.1 Conclusion:

The Student study portal can improve the student learning process, Student's can keep track of themselves and learn to analyse their own progress.

It provides all the functionalities used by students at one place helping them to be more focussed, and enhancing their performance.

It makes the student more aware of their time usage and daily works, helping them to be more disciplined.

5.2 Future Scope:

We will add an upload files option for students to upload their own documents in the app, also we will try to add all the possible conversions in the conversion list.

The more searching sites can be added.

We will also provide courses for students to make them learn more in a systematic way

Notification system will be added to make sure that students complete the incomplete task on that day itself.

Focused study sessions alarm system we will add to keep track of how much time we are taking to learn and how we can optimize it.

5.3 References:

- Book name: Django for beginners
Author: William S. Vincent
- Book name: Django for Professionals
Author: William S. Vincent