Online Application Forms

Balbir Singh (R.N: 22M0747)

Aniket Jadhav (R.N: 22M0817)

Department of Computer Science and Engineering
Indian Institute of Technology Bombay

November 2022

Table of Contents

- To provide a web application interface to students to fill application forms for the various programs in the IITB, online instead of offline.
- Students need to fill the form online and then submit to required authority.
- Application forms made online are available in the IITB website :
  - ▸ Application Forms for various Programmes in IIT Bombay

Existing System

- In Existing system students have to download Application form for various programs available and have to fill it manually and then submit offline.
- This process is tedious and wastes lots of time for students as well as administration staff.
- Making application forms for different services available totally online will help both students as well as issuing authorities.

What did we achieve

We have converted all the following offline forms to online.

- Undertaking Forms
  - ▸ GATE
  - ▸ CEED
- ▸ Withdrawal Form:
- ▸ Bonafide
- ▸ Re-Examination

Technology Learned

- Django
- * Python
- * PostgreSQL
- * Latex

- Successful Register and login of a user
- Email verification using OTP and Forget Password 4 Forgot password

- HTML
- CSS
- JavaScript
- * IDE– VSCode
- * git

Future work pending (Future Scope/Updation)

Version 1.5:

To write the application form data and PDF generated into database.

Version 2.0:

- As data of students are already available with the IITB , so instead of taking all information from students, students need to provide their LDAP ID (Roll. No.) and all information is fetched from the central repository.

- E.g Declaration form , students need to provide LDAP id all other information will filled automatically.
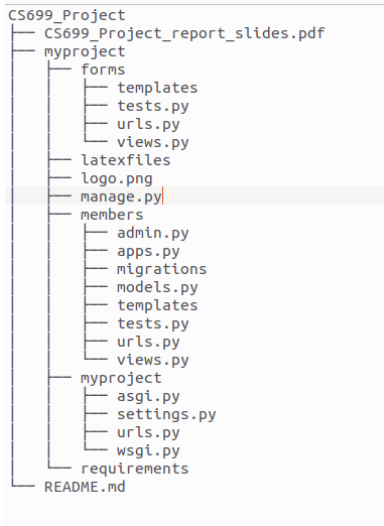
Version 3.0:

Version 3.0

- Student need not go to required authority for verification , the web application will send the request to verified authority online and they will verified internally.

- E.g for Institute Bonafide certificate, student need to provide roll no. only, Application (student information will automatically fetch from IITB records from version 2.0) request will be sent to academic office and academic office internally verified and provide the certificate online to the students.

High level documentation of directories, files, main libraries/functions

```
CS699_Project
├── CS699_Project_report_slides.pdf
├── myproject
│   ├── forms
│   │   ├── templates
│   │   ├── tests.py
│   │   ├── urls.py
│   │   └── views.py
│   ├── latexfiles
│   ├── logo.png
│   ├── manage.py
│   ├── members
│   │   ├── admin.py
│   │   ├── apps.py
│   │   ├── migrations
│   │   ├── models.py
│   │   ├── templates
│   │   ├── tests.py
│   │   ├── urls.py
│   │   └── views.py
│   ├── myproject
│   │   ├── asgi.py
│   │   ├── settings.py
│   │   ├── urls.py
│   │   └── wsgi.py
│   └── requirements
└── README.md
```

Directory Structures

Libraries Used

- django library - basic webapp functionality
- os library - remove unneccessary files
- subprocess library - create subprocess to create latex to pdf
- pdflatex library - create latex to pdf document
- random library - generate random number for otp varification
- mailjet library - send mail to desired users emailid using api and its services
- models library - to create and use database according to djanago requirements
- HttpResponse, HttpResponseRedirect - send return response to webapp
- FileResponse - send file as response to webapp/browser
- template loader - load html template from html files to render at browser

Functionality Implemented

1. Registration
2. Login
3. Email verification using OTP
4. Forgot password
5. Pdf forms creation from latex documents
   1. Undertaking
   2. Withdrawal
   3. Re-examination.
   4. Bonafide
6. Download Application pdf after creation.

Compilation and Running instructions

1. Install Required Packages
2. Setup database
3. Activate virtual environment
4. Install more packages i.e pip install Django psycopg2
5. Database Configuration
6. Change ALLOWEDHOSTS in settings.py
7. Make migrations and setup
8. run python manage.py runserver 0.0.0.0:8000
9. access via browser http://server-domain-or-IP:8000

Thank You