CODEX

https://codex-iter.github.io/NewsLetter/	WE CODE. WE EXPLORE	JUNE 12,2021

CODEX NEWSLETTER

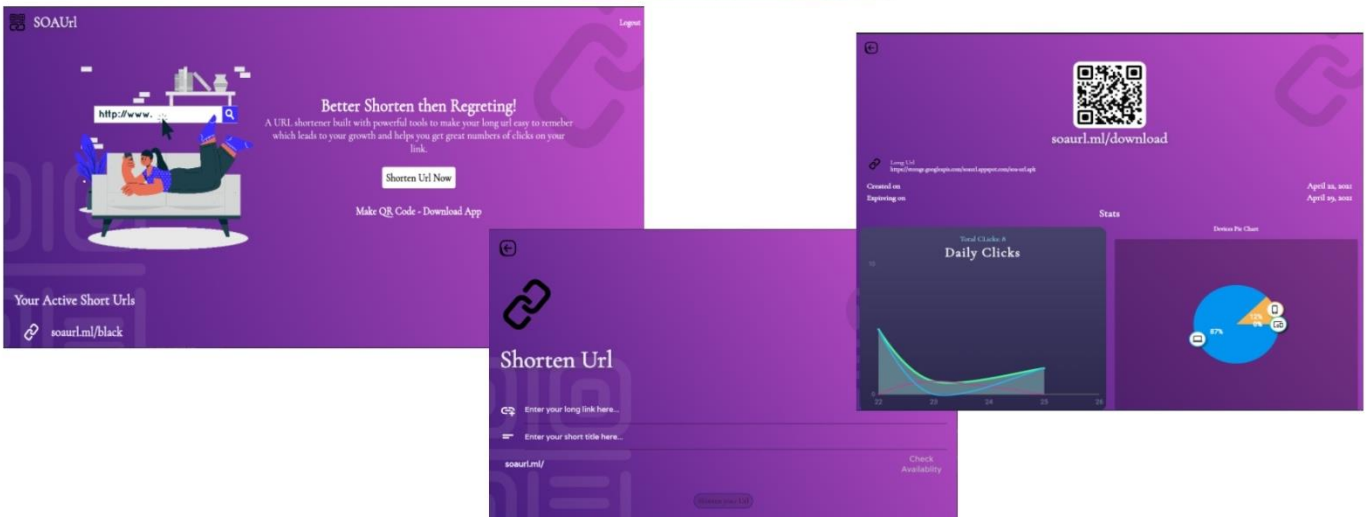
FROM OUR MEMBERS:

SOAUrl :

Ayush Kejariwal, Rohan Verma, Nishant Chaudhary (Batch 2019-23)

SOAUrl is an url shortner with custom endpoints. One can track the stats of the shortened url i.e., no. of clicks, which device user is using. This project is made with flask and Flutter for backend & frontend respectively. User can use app or web for shortening their long url. After shortening user can track it from either app or web by just signing in using Google. App has some extra features like qr code generator/scanner. User can generate their own qr and directly share it to the platforms. And when user makes or scans a qr the qr data is saved in history which user can refer back. User can also save a qr data to our server cause history is local and limited to 25 datas only. Soon it will show some in-depth stats like for last 24 hrs performance, and auto Delete feature i.e., link will be deleted after a certain period of time. So, Better shorten it then regretting.

Visit them here



YouTube_A/V_dl :

Rituraj Gupta, Kshitiz Ranjan (Batch 2019-23)

This project is based upon python youtube_dl module and for gui tkinter is used the ideation of the project is to give user a convincing way to download the YouTube video in both audio and video format

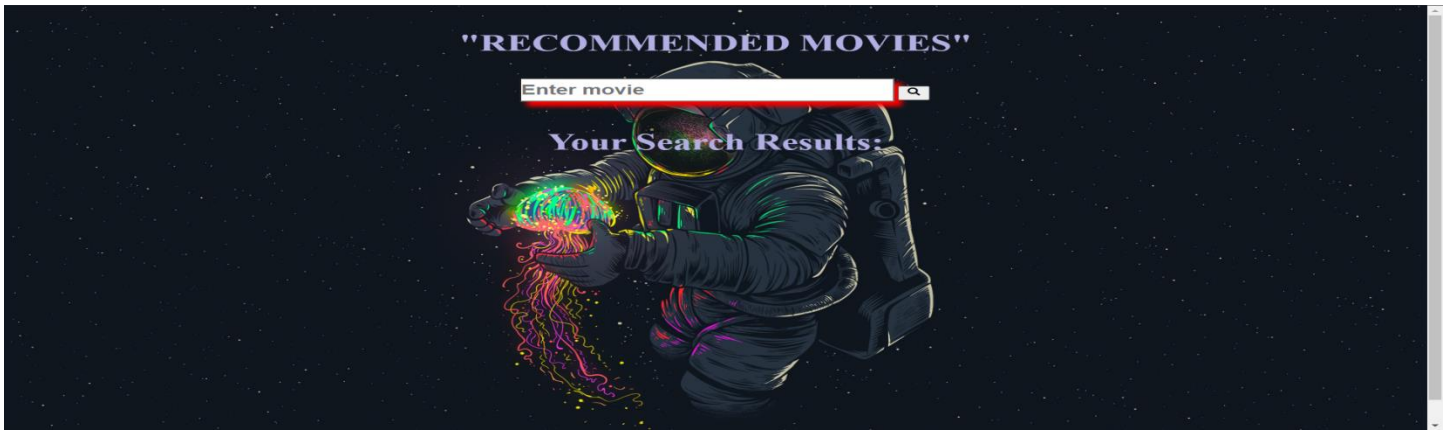
GitHub link

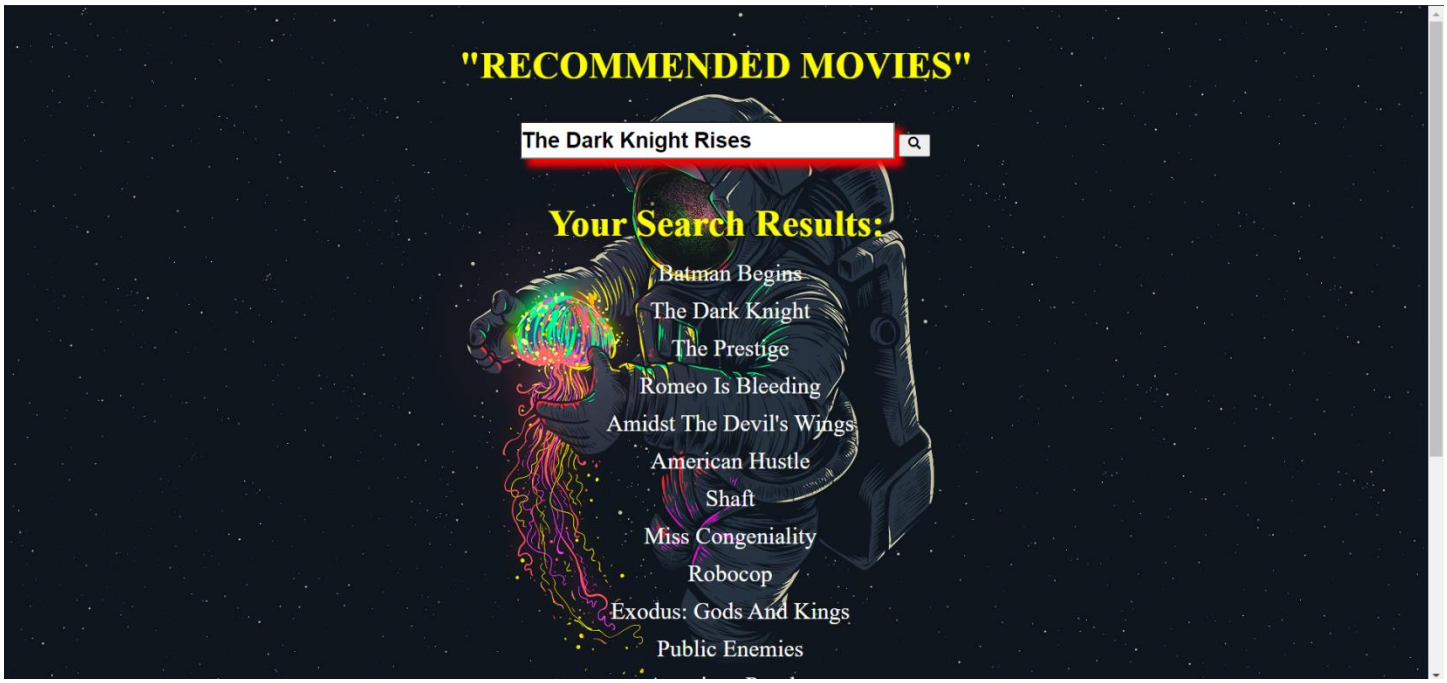
What Next :

Satyapragyan Das, Suvojit Barick (Batch 2019-23)

What Next is a movie recommendation system where you can get your answers when you are perplexed about what to add next to your watchlist. It is built using JavaScript, CSS, HTML and Moviesrecommendation API.

GitHub link



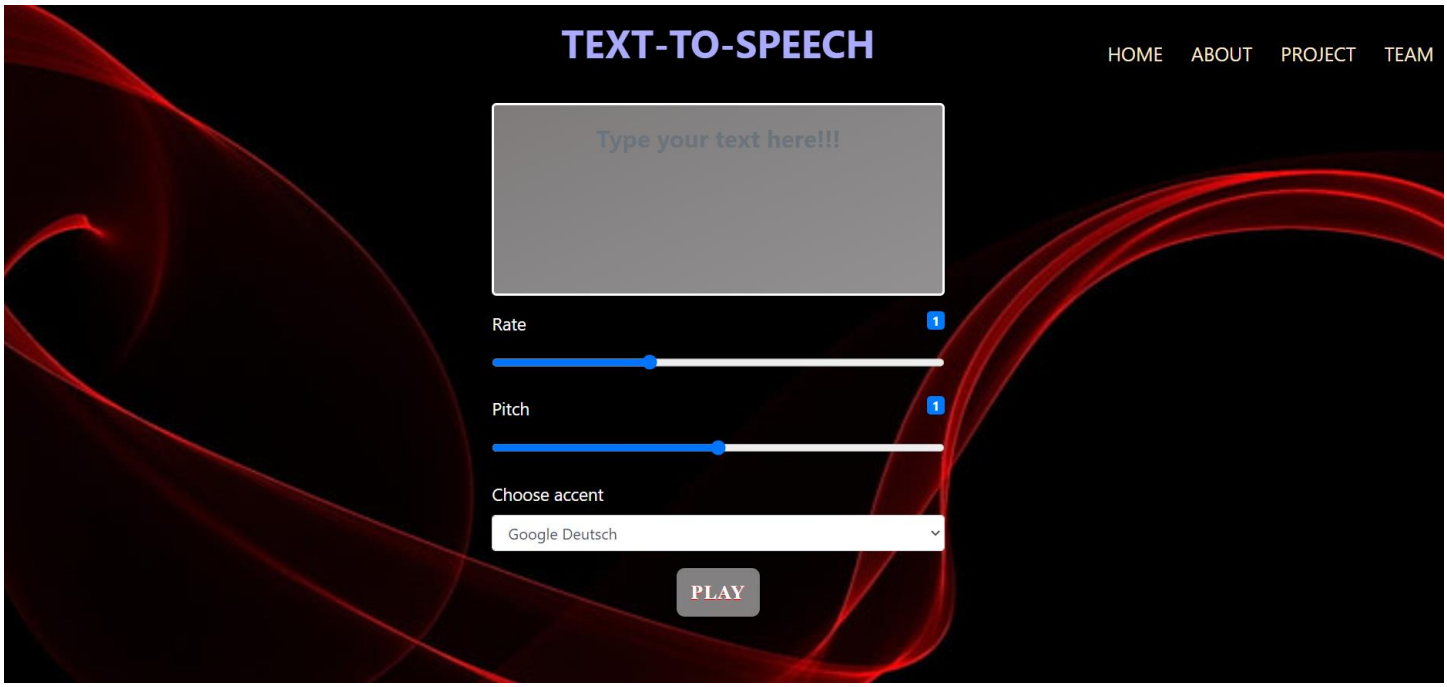


Text-to-Speech :

Suman More, Sahil Agarwal, Minal Rai (Batch 2019-23)

This Web application aims to make education accessible to a greater population, such as those with literacy difficulties, learning disabilities, reduced vision and those learning a language. We have made this application using HTML, CSS, JAVASCRIPT AND BOOTSTRAP. We used the web speech API and it works with "Speech synthesis". It involves receiving and synthesising text contained within the app to speech, and playing it out of a device's speaker or audio output connection.This includes a set of controls for entering the text to be synthesized and setting the pitch ,rate and accent to use when the text is uttered. In future updates, We can extend this for converting pdf into audio book. Also, we can do the reverse of text-to-speech i.e. converting speech into text.

GitHub link



MyIDMS- Dustbin Management System :

Abhinanandan Roul, Suvam Pattnaik, Ayush Kumar Sahoo (Batch 2019-23)

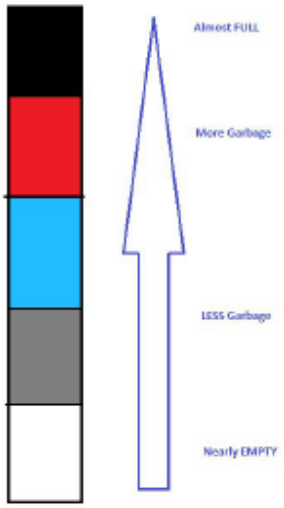
An Intelligent Dustbin Management system to save time and bring efficiency in the waste management.

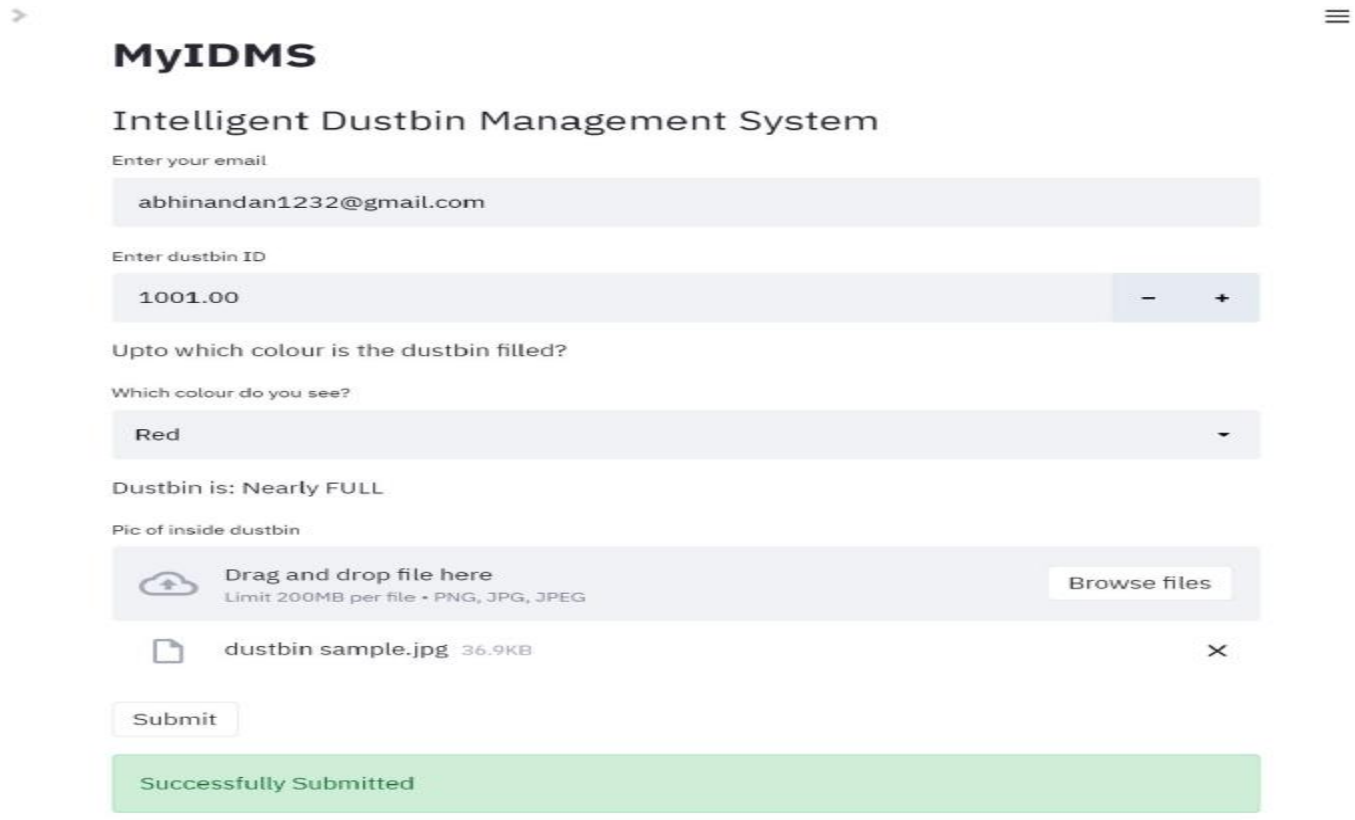
Our solution include an user interface where they can report how much the locality dustbin is filled with our app, our system prioritises the dustbins which requires cleaning which can be managed by the local municipality and help them identify which dustbins require cleaning. This process will not only save time and fuel but also bring efficiency to the whole process.

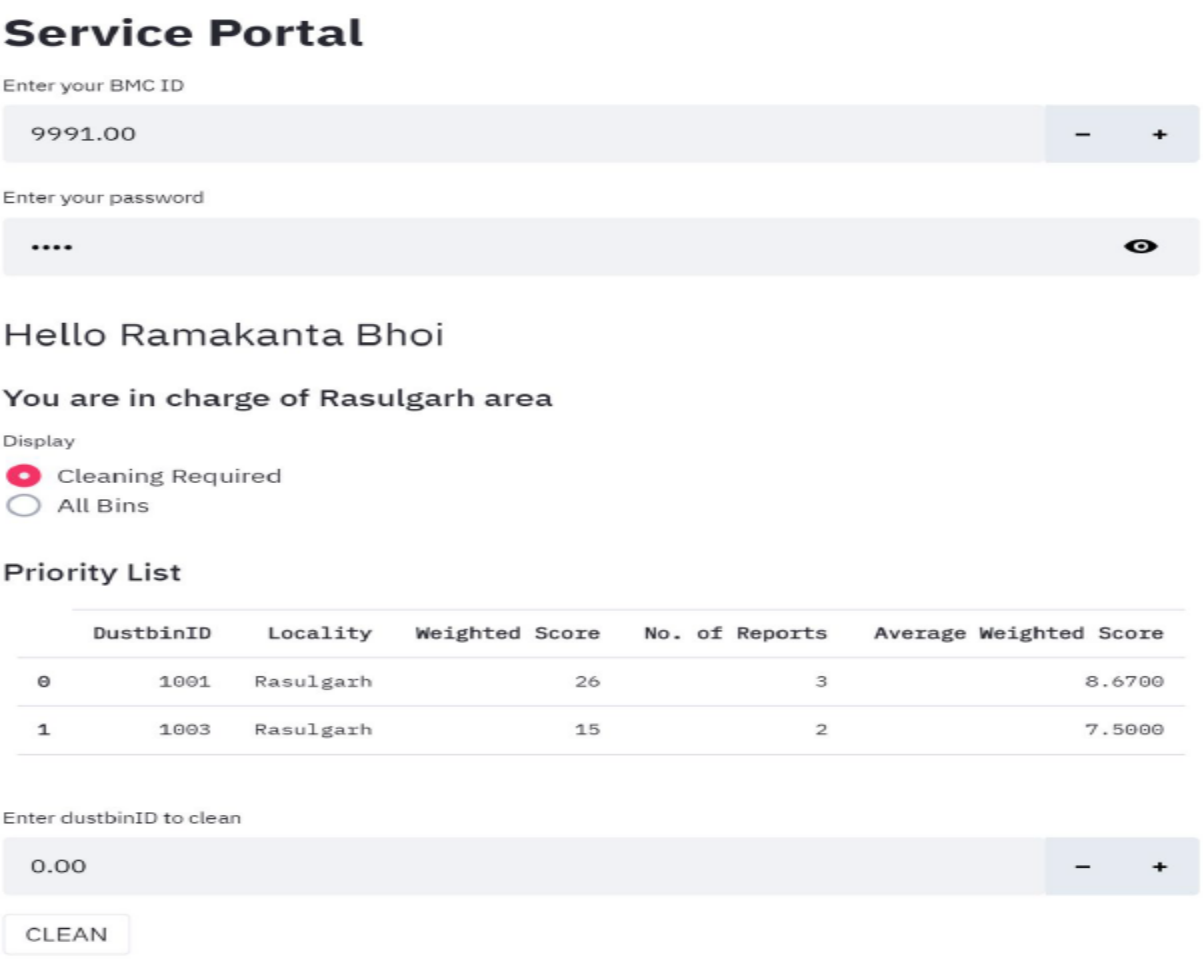
Website

GitHub link

- **Details: -**
- Our software involves the user taking a photo each time any trash is thrown in the dustbin. The photo is sent to the database along with the location of the dustbin.
- We will have user interface in which it will ask the users if there is garbage or no garbage, if the option is garbage then it will ask to upload an image of the garbage inside the dustbin. To improve the efficiency of analysis we aim to introduce the **C-Rod** into all dustbins. C-Rod is a multi coloured rod/sticker divided into five categories, which will indicate the level of garbage in the bin. The user needs to check the colour and enter it during photo upload.
- Then this will be sent to our database and a report of this will be send to the local municipal department. This will help in prioritization of garbage collection to the bins already filled.
- In this way we will be able to save time and fuel, thus improving the efficiency in the waste management.







GeoLocate

Saniya Ahuja, Bravish Ghosh (Batch 2019-23)

Our website provides up to 20 nearest places of a particular domain of user's choice. It also shows the detail of each place including images, ratings and links. It's built using JavaScript, CSS, BootStrap, HTML and Google Maps API.

Website **GitHub link**

An e-commerce web app

Majji Kishore (Batch 2019-23)

An e-commerce website for selling T-shirts

Features

- User authentication and browsing different products and adding to cart for purchase
- Admin authentication and dashboard for creating, deleting and updating products and categories.
- Payments integration for making an order and purchasing

Tech Stack

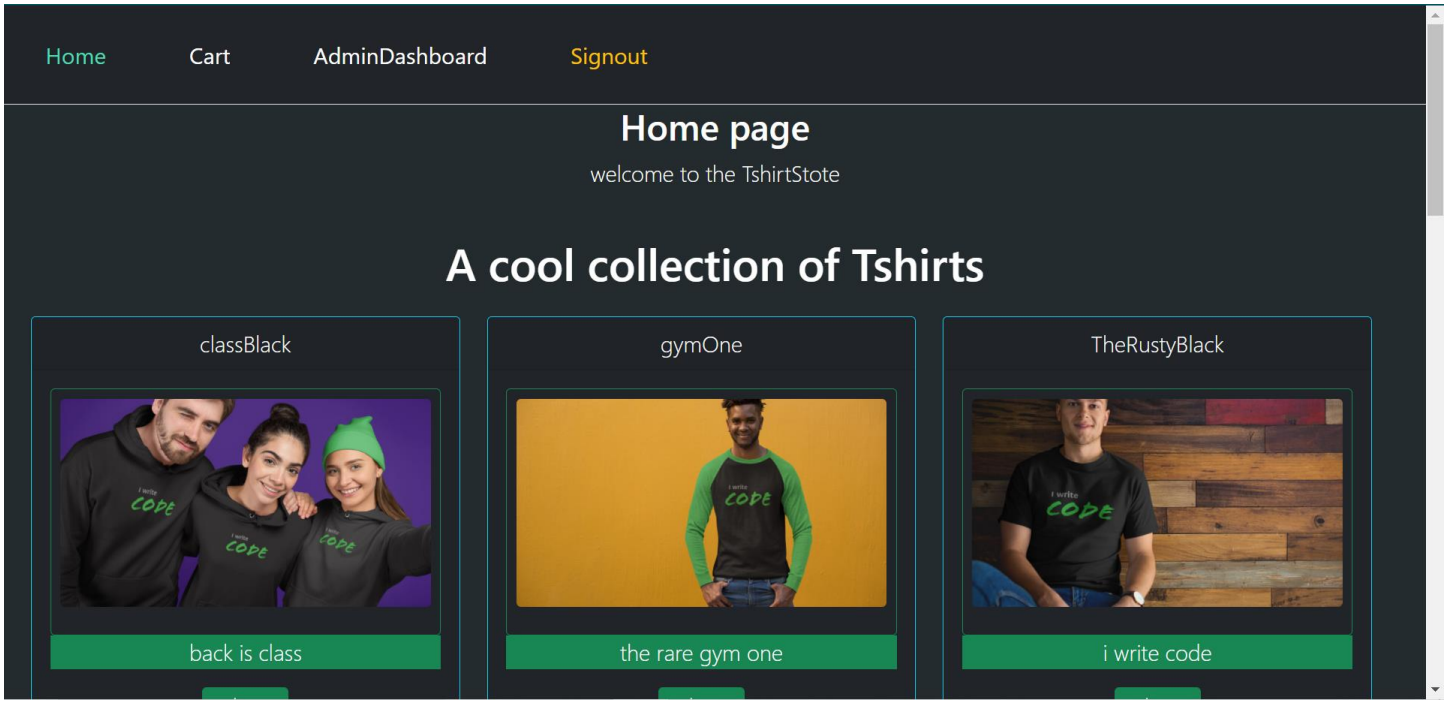
- MongoDB, ExpressJs, ReactJs, NodeJS -> MERN
- Payments Gateway with Braintree

Setup

Ensure to install

- NodeJS
- MongoDB

GitHub link



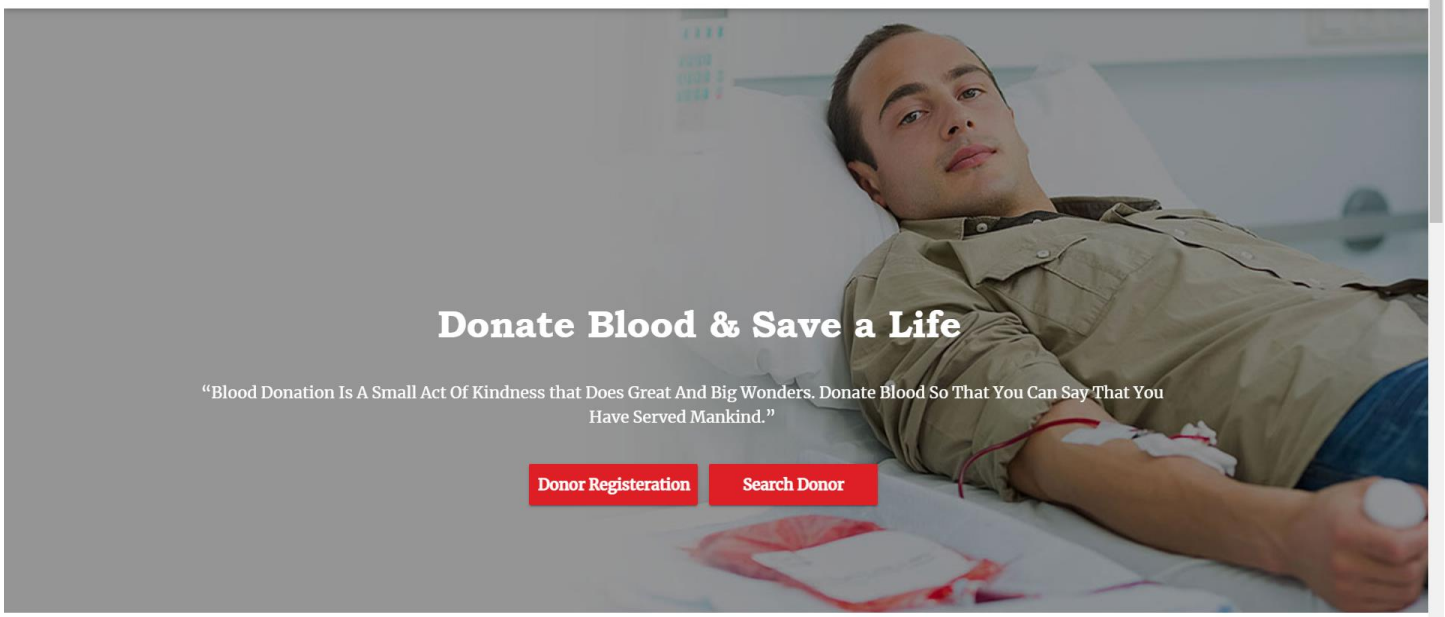
Blood-Donation

Ravi Kumar Prasad, M. Akhilesh, Subhodip Chatterjee (Batch 2019-23)

This is an online website where user can register to donate blood and can also find a donor of required blood group. This website is built using HTML, CSS, Javascript for front-end and Express js, node js for back-end and mongodb for data storing.

Blood Donation

Home About Us Gallery Process Contact US



About Us

Blood Donation

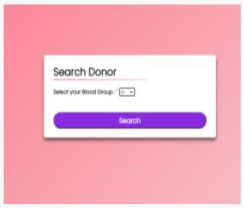
Home About Us Gallery Process Contact US

Donation Process

The donation process in this website is given below :

1 - Registration

Those who wants to donate can register themself as a donor by tapping donor-redgestration.



2 - Searching

Those who are searching for blood can get information of specific blood type donor by tapping search-doner .

3 - Contact the Donor

Contact the doner, using provided information to know their availability (time gap between donation should be atleast 56 days).

4 - Save Life

The Best Among Men Is The One Who Helps Others, So Donate Blood And Be Helpful.

Blood Donation

Home About Us Gallery Process Contact US

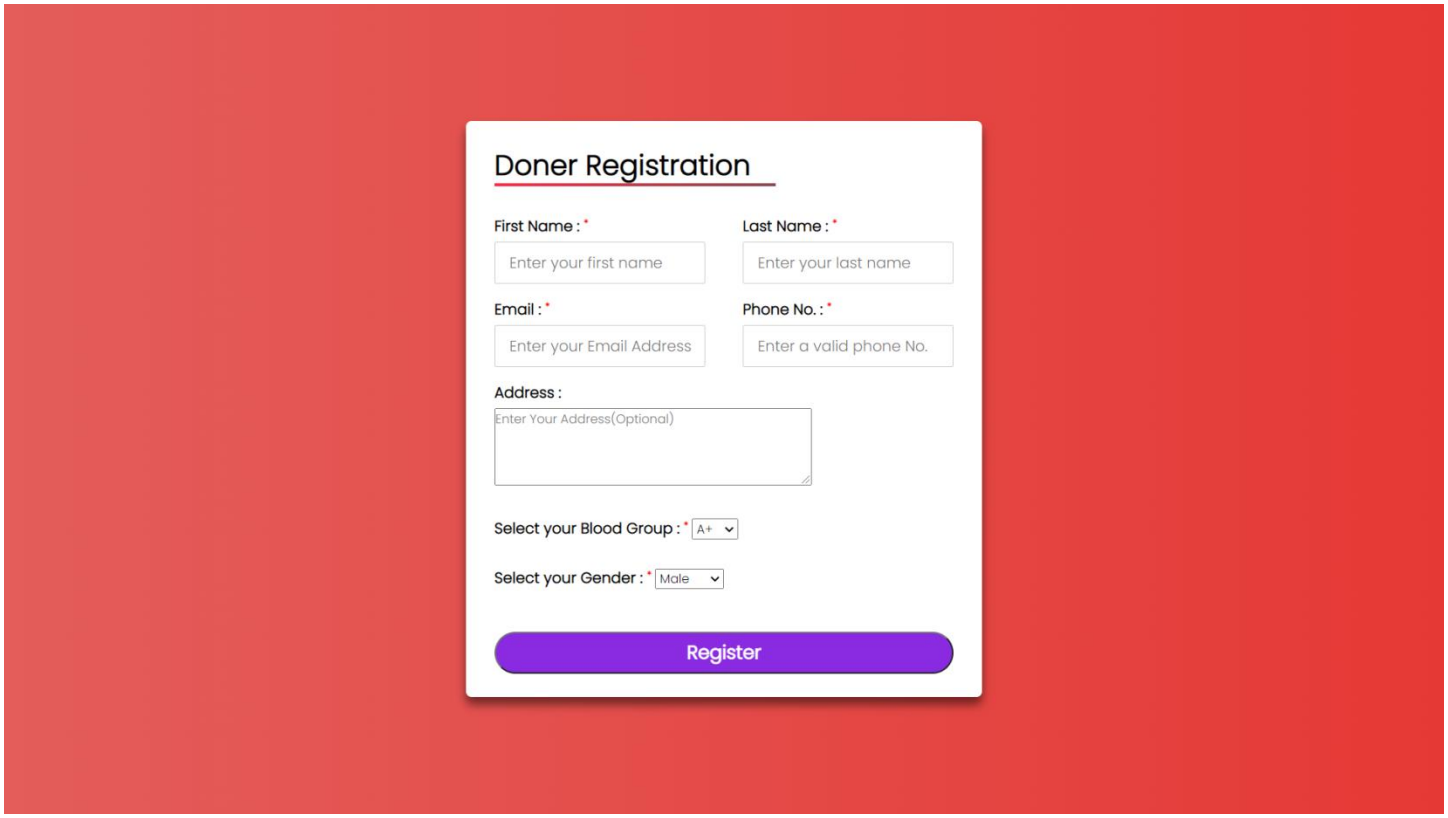
Checkout Our Gallery

Donation Process

BLOOD DONATION MAIN PAGE CREATE NEW ACCOUNT SEARCH DONER

DONER DETAILS

Name	Blood Group	Gender	Email	Contact	Address	Edit column
Akhilesh Mattam	O+	M	akhilesh@gmail.com	6203036314	Jharkhand	EDIT DELETE
Subhodip Chatterjee	AB+	M	subho@gamil.com	8101190884	kharagpur medinipur	EDIT DELETE
Shivam Arnav	O-	M	lgbc4@gmail.com	8210546911	Dimna Chowk, Jamshedpur Jharkhand	EDIT DELETE
Abhijit Mandal	AB-	M	abhijit22@gmail.com	9976906534	Sakshi, Jamshedpur, Jharkhand	EDIT DELETE
Harish Yadav	A+	M	harish1233@gmail.com	6200695743	Bhagbera, Jamshedpur, Jharkhand	EDIT DELETE
Paritosh Pandey	A-	M	pandey99@gmail.com	8762987615	Durgapur, West Bengal	EDIT DELETE
Virat Kohli	O-	M	virat77@gmail.com	876190825	Bangalore	EDIT DELETE
Luis Suarez	A+	M	subhodip12112000@gmail.com	987987645	Argentina	EDIT



Text-to-Speech Android App

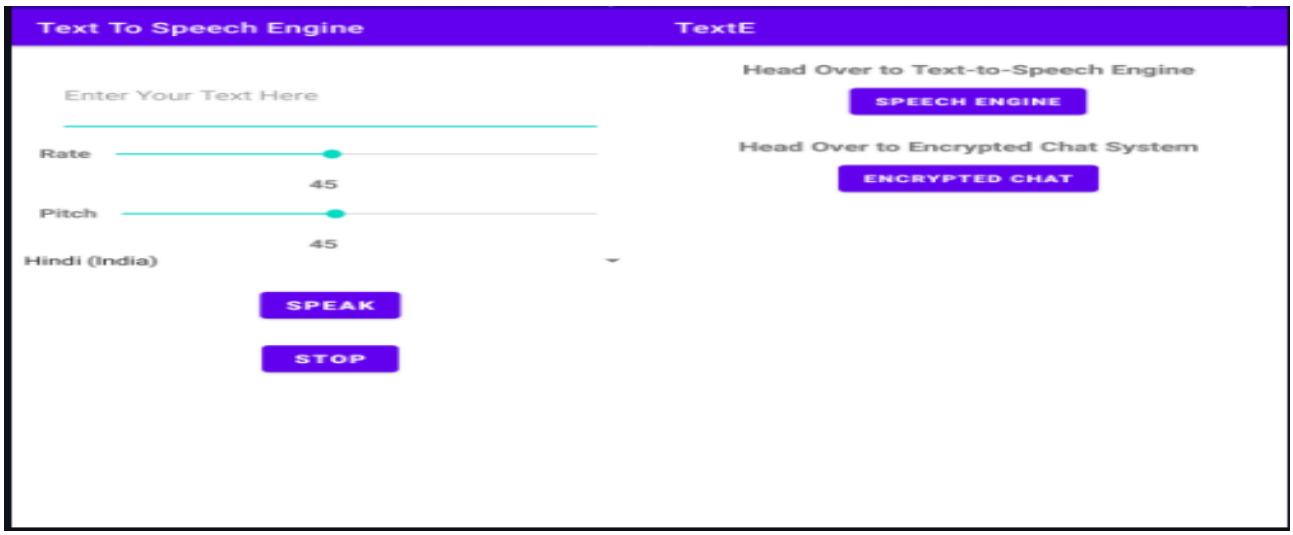
Prakash Pathak, Utkarsh Shankar, Shivangi Bose (Batch 2019-23)

It allows user to enter text in their desired language and returns the text in audio form in their selected language.

This feature will help people to communicate with people who are not literate or those who are blind and cannot read. Also it can be used like a communication app between people knowing two different languages.

We also created a industry-standard(SHA-256) encrypted messaging system for secured normal messaging communications, which works totally offline.

GitHub link



COMPETETIVE PROGRAMMING ROADMAP:

By Rahul Mukherjee (Batch 2018-22)

What is Competitive Programming?

It's basically a mind-sport where you are given a problem and you have come up with optimized solutions for given constraints with your coding skills. This helps in building our logical thinking and analytical thinking skills and most importantly your data structure and algorithms knowledge.

- **Step 1:**

Learn a language

1: The most preferred language used in competitive programming is **C++, Java**. **C++** is usually preferred because it is flexible, very fast. **C++** has many Data structures and Algorithms built-in library which makes it easier while coding.

2: **Java** This language is also used widely in programming but one drawback is it is not suitable for beginner programmers because it is longer code to write and not beginner-friendly.

- **Step 2:**

Practice basic problems from these sites.

Hackerrank: Visit Site

I think this will be one of the best beginner-friendly websites for practicing basic problems. here there a wide range of problems from beginner to advanced. Even we can practice in different languages C, C++, Java, Python, etc...

HackerEarth: Visit Site

HackerEarth is an Indian company focusing on coding problems and hiring challenges. Even this platform provides good beginner-friendly questions. Here there will monthly contest held where you can participate. this website has tutorials for all practice topics. It hosts competitions conducted by various MNC's and Colleges

- **Step 3:**

Once you are done with the basics of coding and practicing it then it's time to learn Data Structure And Algorithms.

This is the most important thing that should be learned and practiced. Having good knowledge of Ds&Algo will make up a more optimal solution for the problem we are trying to solve.

Important Data Structures and Algorithm Topics:

- Array

- Stack
- Queue
- Linked list
- Tree's
- Graph's
- Hash table's
- Tree's
- Dynamic Programming
- Divide and Conquer
- Backtracking

➢ **Step 4:**

Next is completely based on your practice to be master in competitive programming."The more you practice the more you get stronger"

There are different websites you can practice competitive programming

1. **Codechef:** **Visit Site**
2. **Codeforces:** **Visit Site**
3. **Topcoder:** **Visit Site**
4. **Sphere Online Judge:** **Visit Site**

LATEST TECH NEWS:

1. **Scientists develop adaptive font that speeds up reading.**
   Researchers have developed a computer font that adapts its appearance based on the user's interaction with the text. "AdaptiFont" measures a user's reading speed and interactively changes the font's shape seamlessly and continuously to allow the user to read text more easily. By employing an artificial intelligence algorithm, new personalized fonts are generated on the fly in such a way that they increase an individual reader's reading speed.

   Read about it here.

2. **New material could create 'neurons' and 'synapses' for new computers.**
   Classic computers use binary values (0/1) to perform. By contrast, our brain cells can use more values to operate, making them more energy-efficient than computers. This is why scientists are interested in neuromorphic (brain-like) computing. Physicists have used a complex oxide to create elements comparable to the neurons and synapses in the brain using spins, a magnetic property of electrons.

   Read about it here.

3. **Artificial intelligence enhances efficacy of sleep disorder treatments.**
   In a new study, researchers from the University of Copenhagen's Department of Computer Science have collaborated with the Danish Center for Sleep Medicine at the danish hospital Rigshospitalet to develop an artificial intelligence algorithm that can improve diagnoses, treatments, and our overall understanding of sleep disorders.

   Read about it here..

4. **Major Scientific Leap: Quantum Microscope Created That Can See the Impossible.**
   In a major scientific leap, University of Queensland researchers have created a quantum microscope that can reveal biological structures that would otherwise be impossible to see.This paves the way for applications in biotechnology, and could extend far beyond this into areas ranging from navigation to medical imaging.The microscope is powered by the science of quantum entanglement, an effect Einstein described as “spooky interactions at a distance.”

   Read about it here.

5. **New Neptune-Sized Exoplanet Discovered With a Substantial Atmosphere Ripe for Study.**
   An international group of collaborators, including scientists from NASA’s Jet Propulsion Laboratory and The University of New Mexico, have discovered a new, temperate sub-
   Neptune sized exoplanet with a 24-day orbital period orbiting a nearby M dwarf star. The recent discovery offers exciting research opportunities thanks to the planet’s substantial atmosphere, small star, and how fast the system is moving away from the Earth.

   Read about it here.

6. **New Magnetic Nanomaterial Developed for Counterfeit Money Prevention.**
   An international research team led by NUST MISIS has developed a new iron-cobalt-nickel nanocomposite with tunable magnetic properties. The nanocomposite could be used to protect money and securities from counterfeiting.Presently, research on magnetic nanomaterials with controlled magnetic characteristics is one of the most promising fields. Due to their small size, as well as their excellent magnetic and electric properties these materials have a broad range of potential applications from mobile devices to space technologies.

   Read about it here.