

# URL SHORTENER WEB APPLICATION

## Objective:

The main objective of this project work is to convert the long URLs provided by the user to short URLs which can be used to redirect to the same website.

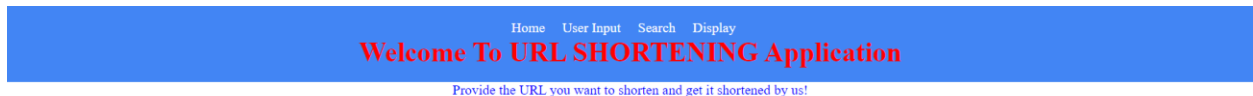
## The project consists of 2 parts:

1. Frontend (done with HTML, CSS)
2. Backend - Flask (Python)
3. Backend - Database ORM

## Front-End:

The front end consists of 4 web pages:

1. **Home Page** – It is a welcoming page on for this application with a welcome note.



2. **User Input:** Here user is provided with an interface to enter input url and provided a button to press which is labelled as shorten .Upon clicking the button the program will shorten url and display shortened url

Home User Input Search Display

Enter your lengthy url and get the shortened version

Enter the url to shorten

Shorten

Shortened url

**3.Search Page :** Here user is provided with an interface to enter input url and provided a button to press which is labelled as Search item .Upon clicking the button the program will search for the url in database and print shorten url .If the url is not present in the database it display “item not found”.

Home User Input Search Display

Enter Item you want to Search

Enter the url

Search Item

Shortened url

← 127.0.0.1:5000/searchitem

Item not found

**2. Display Page** - Containing all the Original URLs along with the Shortened URLs. Also contains a button to clear history which when pressed clears the history

<a href="#">Home</a> <a href="#">User Input</a> <a href="#">Search</a> <a href="#">Display</a>		
Welcome To The Display Page All the url with its shortened version :		
ID	URL	Shortened URL
1	https://www.linkedin.com/in/masna-ashraf/	https://tinyurl.com/2fw39qdx
<div>Clear history</div>		

<a href="#">Home</a> <a href="#">User Input</a> <a href="#">Search</a> <a href="#">Display</a>		
Welcome To The Display Page All the url with its shortened version :		
ID	URL	Shortened URL
<div>Clear history</div>		

## Backend:

For this backend process the code follows python script ,flask framework, SQLAlchemy, And some other libraries are used .So our app.py file consists of various routes for backend process.

- Imported libraries required for writing the entire program.
- Setup sqlite database in flask
- Created a flask application.
- Configured SQLAlchemy.
- Created a table in flask application.
- Created various routes and defined functions in each route:
  - **1. Home Page:** First route is created for home page were written just code for displaying a welcome message.
  - **2. User Input:** Here get and post method is used. After taking url from user it checks whether url is valid if not prints invalid url message. Else check whether the entered url is in the database if so prints the shortened version taken from database. If url is not already present in database used PyShortener method to shorten the url and saved in the database.
  - **3. Search Page:** Here get and post method is used. This page searches for the entered url in database and prints the short version if the url is already present in database else return message item not found.
  - **2. Display Page** - Here get and post method is used. Containing all the Original URLs along with the Shortened URLs. Also contains a button to clear history which when pressed clears the history.