



INNOMATICS
RESEARCH LABS

INTERNSHIP PROJECT REPORT

ON

WEB BASED URL SHORTENER

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Web-based URL Shortener

Summary

URL shortening is a technique on the World Wide Web in which a URL (Uniform Resource Locator) is made substantially shorter and still redirects a user to a required webpage. This is achieved by using the redirect() which links webpages to each other for redirection and often the redirect name is shorter than the original one. A friendly URL may be desired for messaging technologies that limit the number of characters in a message (For example - SMS), for reducing the amount of typing required if the reader is copying the URL from a print source, also for making it easier for a person to remember, or for the intention of a permalink. Other uses of URL shortening is to "beautify" a link, track clicks, or disguise the underlying address.

Purpose

There are several reasons to use URL shortening. Often regular un shortened link may be aesthetically unpleasing. Many web developers pass descriptive attribute in the URL to represent data hierarchy, command structure, transition path, or session information. This can result in URL's that are hundreds of characters long and contains complex character pattern. Such URLs are difficult to memorize, type out or distribute. As a result, a Long URLs must be copied and pasted from reliability. Thus, short URLs may be more convenient for a websites or hard copy publications.

Scope

With the advancement in a web system, security is one of the major aspects coming in through any form. The spamming of URLs by making bot attack a website can cause the website to crash. So, there should be a check on which URLs are allowed to be shortened. Now a days peoples are working from home; students are using lots of resources for their high school study they share web URLs to their friends and hence URL shortening is major aspect.

Goal

The Goal of the project is to build a system that allows users to enter a URL. The URL should be a valid URL and the request to shorten the URL should not be possible unless and until the entered URL is valid based on semantics. If the URL is valid, the shortened URL is given to the user.

Technology Stack

1. Python
2. Flask
3. HTML 5
4. CSS
5. JavaScript
6. SQLAlchemy

Tool Stack

1. Visual Studio Code IDE
2. Web Browser

Working Phases

1. **User Input** = The Goal of this phase is to take the form of a URL
2. **Validating the User Input** = The goal of URL input is to accept the valid URL from a user and pass it to the URL shortening module to shorten the URL
3. **URL Shortening** = The Goal of this phase is to map the given URL with 10 alphanumeric values.
4. **URL Mapping** = The goal of this phase is to map the short and long URLs in database or dictionary so that the URL redirection phase can use this information for future use
5. **URL Redirecting (Testing Phase)** = The Goal of this phase is to test whether the shortened URL redirect to its address or path correctly or not.

Flowchart

