

# Signboard translation from vernacular languages

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## CODE OF THE APPLICATION

Code: Webpage

```
<html>
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <link rel="stylesheet" href="https://maxcdn.bootstrapcdn.com/bootstrap/4.0.0/
css/bootstrap.min.css" integrity="sha384-
Gn5384xqQ1aowXA+058RXPxPg6fy4IWvTNh0E263XmFcJlSAwiGgFAW/dAiS6JXm" crossorigin="an
onymous">
  <script src="https://code.jquery.com/jquery-3.6.0.min.js" integrity="sha256-
/xUj+30JU5yExlq6GSYGSHk7tPXikynS7ogEvDej/m4=" crossorigin="anonymous"></script>
  <script>

    var uploadedimage;
    function captureFile()
    {
      let file = document.getElementById("file-id").files;
      let filereader = new FileReader();
      filereader.onload = function(filedata)
      {
        // custom function , filedata.target.result -
> contains nase64 string
        let image = document.getElementById("image");
        image.src=filedata.target.result;
        uploadedimage=image.src;
      }
      filereader.readAsDataURL(file[0]);
    }

    function loadDoc(event)
    {
      event.preventDefault();
```

```

var form=new FormData()
form.append("from",document.getElementsByName("from")[0].value)
form.append("to",document.getElementsByName("to")[0].value)
form.append("img1",document.getElementsByName("img1")[0].files[0])
var xhttp = new XMLHttpRequest();
xhttp.onreadystatechange = function()
{
    if (this.readyState == 4 && this.status == 200)
    {
        output=JSON.parse(this.responseText);
        string=""
        document.getElementById("output").innerHTML="<center>"+"Translated text: "+output["text"]+"</center>"+<br>"
    }
};
xhttp.open("POST", "http://127.0.0.1:5000/image_data", true);
xhttp.send(form);
}
</script>
</head>
<style>
    body{
        margin-bottom: 0%;
        /*background-image: url("https://images.unsplash.com/photo-1486819118102-d9171cf69a92?ixid=MnwxMjA3fDB8MHxwaG90by1wYWdlfHx8fGVufDB8fHx8&ixlib=rb-1.2.1&auto=format&fit=crop&w=1649&q=80");*/
        /*background-image: url("https://images.unsplash.com/photo-1539632346654-dd4c3cffad8c?ixid=MnwxMjA3fDB8MHxwaG90by1wYWdlfHx8fGVufDB8fHx8&ixlib=rb-1.2.1&auto=format&fit=crop&w=1650&q=80");*/
        background-image: url("https://images.unsplash.com/photo-1562776903-cc60d622df72?ixid=MnwxMjA3fDB8MHxwaG90by1wYWdlfHx8fGVufDB8fHx8&ixlib=rb-1.2.1&auto=format&fit=crop&w=3900&q=80");
        background-size: cover;
        min-height:100%;
        background-position: center center;
        background-repeat: no-repeat;
        background-attachment: fixed;
        backdrop-filter: blur(8px);
    }
    h1{
        margin-bottom: 2rem;
        font-family:Arial, Helvetica, sans-serif;
        font-style: italic;
        font-weight: bold;

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}
legend{
    font-weight: 600;
}
form{
    margin : 1rem 20rem 1rem 20rem;
}
button{
    width: 100%;
}
fieldset{
    background-color: white;
    margin-top : 1rem;
    margin-bottom : 1rem;
    padding: 1rem 2rem 1rem 2rem;
    border-radius: 8px;
}
label[for]{
    font-weight: bold;
}
#output{
    font-weight: bold;
    margin-top: 2rem;
    font-size:150%;
}
</style>
<body>
    <p><br></p>
    <h1><center>Sign board translator</center></h1>
    <form method="POST" action="/image_data" enctype="multipart/form-
data" onsubmit="loadDoc(event)">
        <fieldset>
            <div class="form-row">
                <div class="col">
                    <div class="form-group">
                        <label for="from">From</label>
                        <select name="from" class="form-control">
                            <option value="hi">Hindi</option>
                            <option value="ta">Tamil</option>
                            <option value="as">Assamese</option>
                            <option value="en">English</option>
                            <option value="bn">Bengali</option>
                            <option value="ka">Kannada</option>
                            <option value="mr">Marathi</option>
                            <option value="te">Telugu</option>

```

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        <option value="ur">Urdu</option>
    </select>
</div>
</div>
</div>
<div class="form-row">
    <div class="col">
        <div class="form-group">
            <label for="to">To</label>
            <select name="to" class="form-control">
                <option value="hi">Hindi</option>
                <option value="ta">Tamil</option>
                <option value="as">Assamese</option>
                <option value="en">English</option>
                <option value="bn">Bengali</option>
                <option value="ka">Kannada</option>
                <option value="mr">Marathi</option>
                <option value="te">Telugu</option>
                <option value="ur">Urdu</option>
            </select>
        </div>
    </div>
</div>
<div class="form-row">
    <div class="col">
        <div class="form-group">
            <label for="file-id">Select image</label>
            <input type="file" onchange="captureFile()" id="file-
id" name="img1" class="form-control-file">
        </div>
    </div>
</div>
<div class="form-row">
    <div class="col">
        <div class="form-group">
            <center><img id="image" height="300" width="550"></center>
        </div>
    </div>
</div>
</fieldset>
<!--<input type="file" onchange="captureFile()" id="file-
id" name="img1"><br-->
<!--
<a href="/store_file"><button onclick="display_image()">Choose file</button></a><
br-->

```

```

        <button type="submit" class="btn btn-info">Translate</button><br>
        <div id="output"><center>Translated text:Your output will be displayed here</center></div><br><br>
    </form>
</body>
</html>

```

## Code: Flask Server

```

from flask import Flask, json, render_template, request, jsonify
from flask import send_from_directory
from PIL import Image
from tkinter import filedialog
from werkzeug.utils import secure_filename
from text_detector import detect_recognise
import easyocr
import pyttsx3
from google_trans_new import google_translator
import cv2
import numpy as np
import os

app=Flask(__name__)
app.config['UPLOAD_FOLDER']='./Uploads'

@app.route("/")
def initial():
    return render_template("initial.html")

@app.route("/image_data",methods=["GET","POST"])
def translate():
    f = request.files['img1']
    f.save(os.path.join(app.config['UPLOAD_FOLDER'], secure_filename(f.filename)))

    path="Uploads/"+f.filename
    string=detect_recognise(request.form['from'],request.form['to'],path)
    engine = pyttsx3.init()
    engine.setProperty('rate', 125)
    engine.say(string)
    engine.runAndWait()
    text={}
    text['text']=string

```

```
        return jsonify(text)

if __name__ == '__main__':
    app.run(debug = True)
```

Code: Text detector

```
import easyocr
import pyttsx3
from google_trans_new import google_translator

def detect_recognise(l_from,l_to,path):
    reader1=easyocr.Reader([l_from])
    output=reader1.readtext(path)
    translator = google_translator()
    translate_text=""
    for i in range(len(output)):
        try:
            if(output[i][2]>0.4):
                translate_text += translator.translate(output[i][1],lang_tgt=l_to
)
        except:
            print()
    return translate_text
```