

5. PROJECT DEVELOPMENT PHASE

5.1 Introduction

This phase involves coding, integration, and testing of modules.

The system was developed using Python and Streamlit.

5.2 Environment Setup

- Installed Python
 - Installed required libraries
 - Generated Gemini API key
 - Configured .env file
-

5.3 Model Initialization

```
genai.configure(api_key=os.getenv("GOOGLE_API_KEY"))
model = genai.GenerativeModel("gemini-1.5-flash")
```

5.4 Translation Function

```
def translate_text(text, source_language, target_language):
    prompt = f"Translate the following text from {source_language} to {target_language}:
{text}"
    response = model.generate_content(prompt)
    return response.text
```

5.5 Frontend Development

Streamlit Shadcn UI

A Streamlit component library for building beautiful apps easily. Bring the power of Shadcn UI to your Streamlit apps!

Get started with pip install streamlit-shadcn-ui

Get Started Github

Dashboard

Overview Analytics Reports Notifications

Pick a date

Total Revenue \$45,231.89 +20.1% from last month

Subscriptions +2350 +180.1% from last month

Sales +12,234 +19% from last month

Month	Sales
Apr	~4,200
Aug	~4,500
Dec	~2,800
Feb	~3,600
Jan	~3,800
Jul	~2,800
Jun	~1,800
Mar	~2,800
May	~1,900
Nov	~1,500
Oct	~4,800
Sep	~2,100

For OCR app

Upload Image

Drag and drop file here
Limit 200MB per file • JPG, PNG, JPEG, JPG

 a02-004-s02-02.png 77.3KB 

Commonwealth every facility possible to Output is:

Input Image is:

 Extract text

Now I edit the text area and is ready to download with download_button.

Press Ctrl+Enter to apply

 Download data as docx

Text Extraction Completed!



Test Dropdown

circulariteitscode	materiaal	secundair	check	productnaam
603	beton	40	<input checked="" type="checkbox"/>	 wdwdwd Fundering met 20% puingranulaat
409	hout	50	<input checked="" type="checkbox"/>	Hennep Bouwbladen
407	staal	30	<input checked="" type="checkbox"/>	Metisse isolatie Ecococon gevelpaneel Luchtkanalen Greenweave/Multiweave Fabric Duct Luchtkanalen test Beton; gewapend [massief dragende binnenwanden]

Streamlit components used:

- st.title()
- st.text_area()
- st.selectbox()
- st.button()
- st.write()

5.6 Testing Phase

Testing was performed to verify:

- Input validation
- Language selection accuracy
- API response correctness
- UI responsiveness