

Software Design Document

CHARCHA – STRENGTHENING COMMUNICATION
“Sign language to text conversion”

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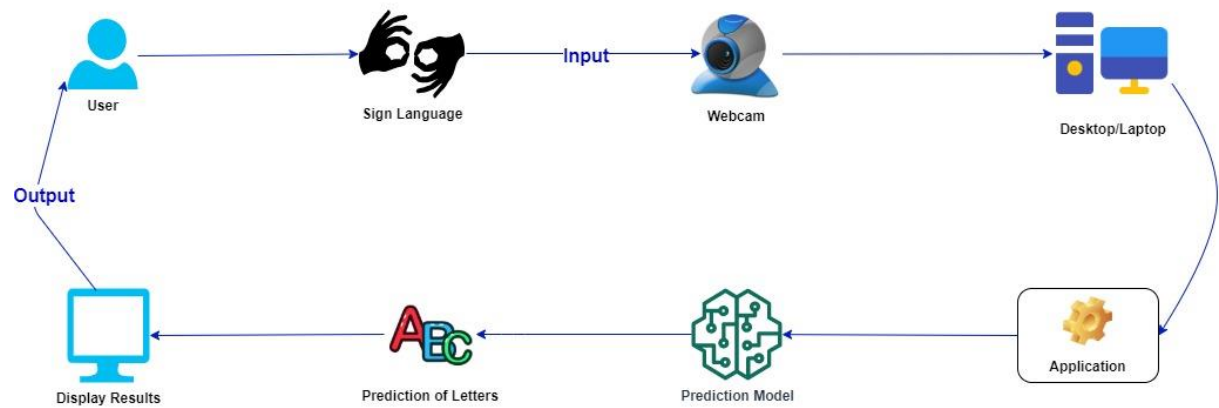
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1. Technologies Used:

The following technologies have been used in our entire project:

- Python,
- OpenCV,
- TensorFlow,
- Keras,
- TKinter,
- Pandas,
- Numpy,
- Matplotlib,
- Cuda,
- Splitfolders,
- PIL,
- Operator,
- Trello Boards,
- Microsoft Teams,
- Google drive,
- XMind,
- LucidCharts,
- App.diagrams.net,
- Blender,
- Sequencediagram.org, and
- Microsoft Excel

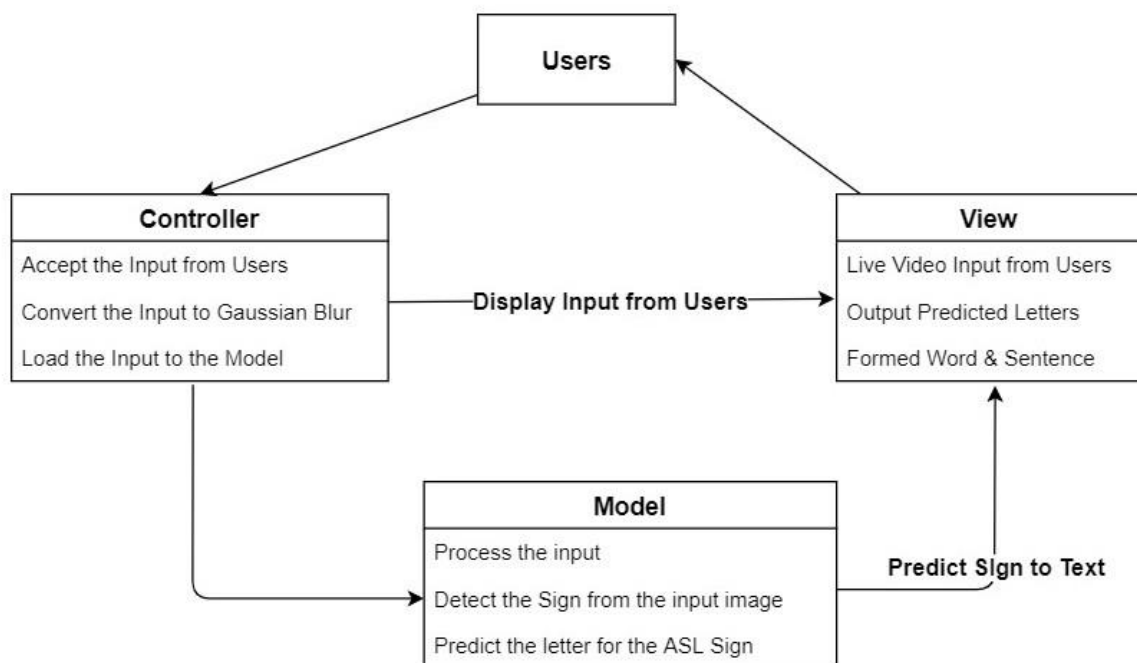
2. System Overview Diagram:



Charcha Talks System Overview

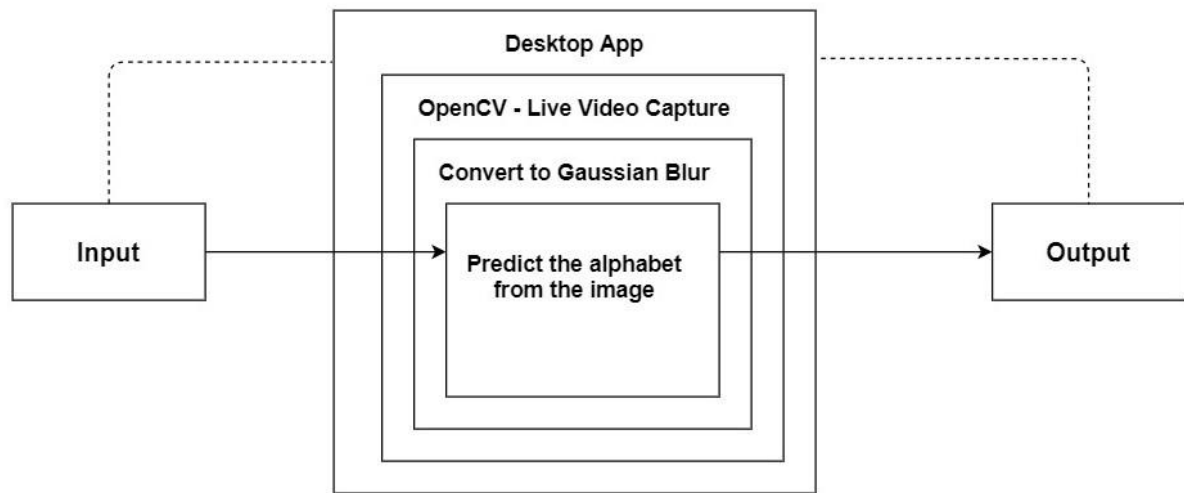
3. Architectural Design Pattern:

Our project fits the MVC architectural design pattern. The diagram is shown below;



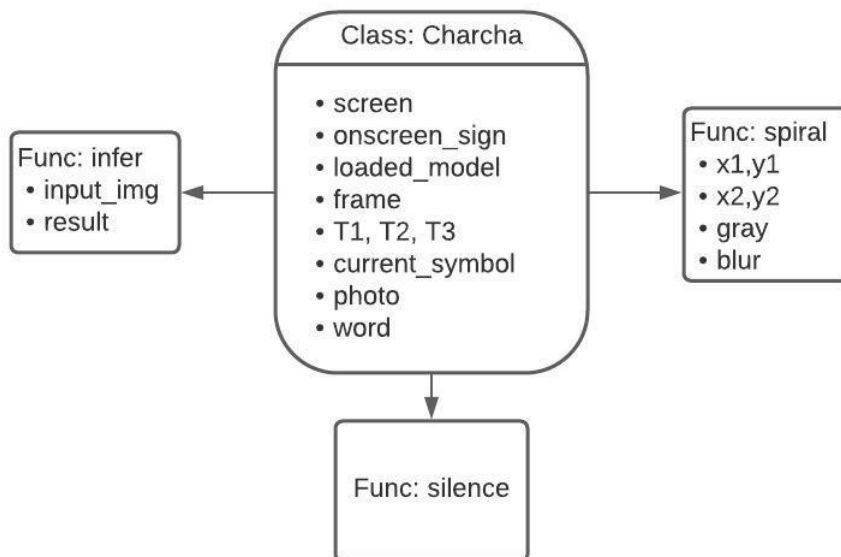
Architectural Design - MVC Pattern

4. Block Diagram:



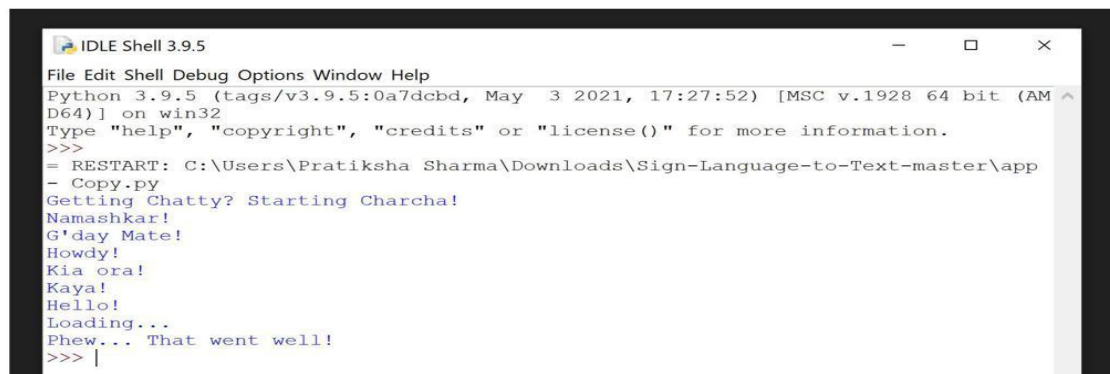
Block Diagram

5. Design Viewpoints including Logical Viewpoints (Class Diagram):

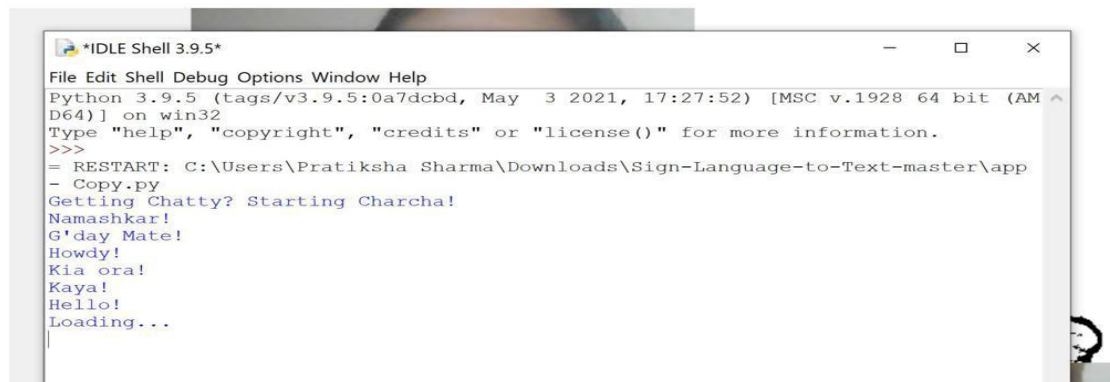


6. Interface Viewpoints (Frontend Screenshots):

This is how the console log looks like;

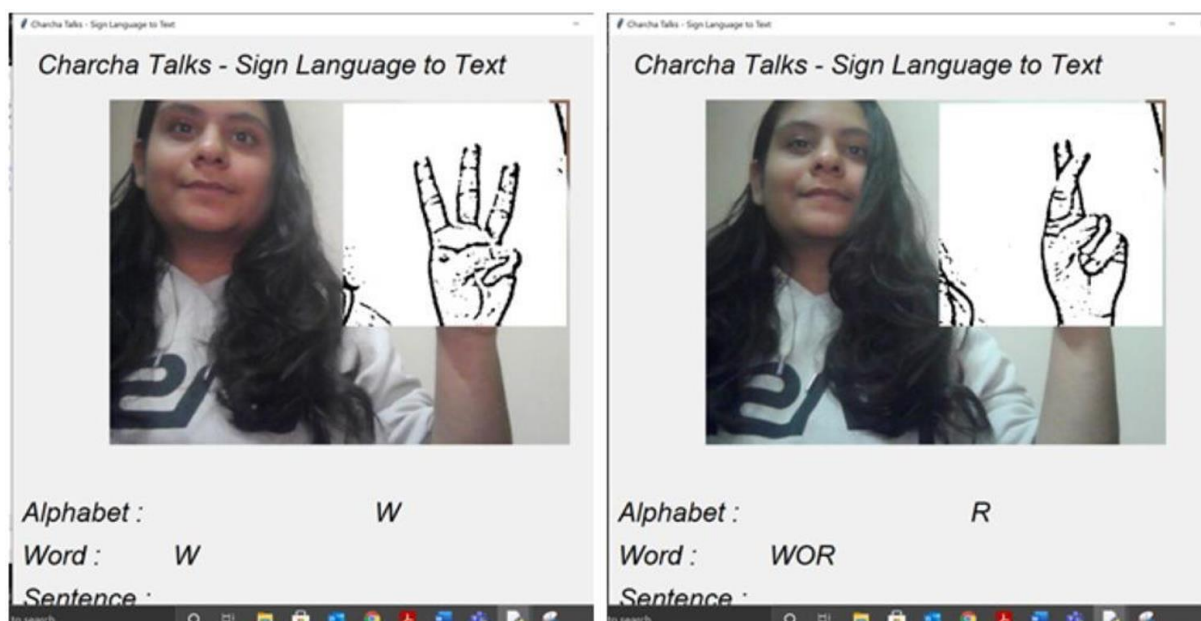


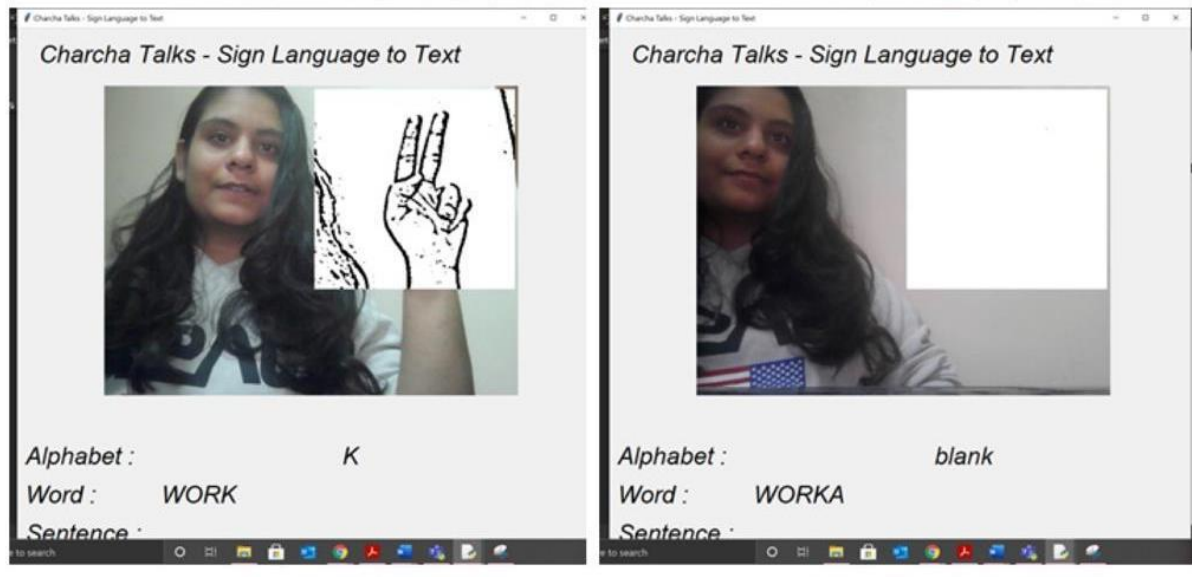
```
IDLE Shell 3.9.5
File Edit Shell Debug Options Window Help
Python 3.9.5 (tags/v3.9.5:0a7dcdb, May 3 2021, 17:27:52) [MSC v.1928 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
= RESTART: C:\Users\Pratiksha Sharma\Downloads\Sign-Language-to-Text-master\app
- Copy.py
Getting Chatty? Starting Charcha!
Namashkar!
G'day Mate!
Howdy!
Kia ora!
Kaya!
Hello!
Loading...
Phew... That went well!
>>> |
```



```
*IDLE Shell 3.9.5*
File Edit Shell Debug Options Window Help
Python 3.9.5 (tags/v3.9.5:0a7dcdb, May 3 2021, 17:27:52) [MSC v.1928 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
= RESTART: C:\Users\Pratiksha Sharma\Downloads\Sign-Language-to-Text-master\app
- Copy.py
Getting Chatty? Starting Charcha!
Namashkar!
G'day Mate!
Howdy!
Kia ora!
Kaya!
Hello!
Loading...
|
```

These are how the letters and blanks look like;





7. Interaction Viewpoints (Sequence Diagram):

