

AlphaCoders

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PS6: Smart Talking Gestures



Milestones

15th 5:30 PM

Built prototype app
for sign language.

Evolution 1

15th 10:00 PM

Finalised front-end
software.

Evolution 2

Evolution 3

Final

16th 9:00 AM

Integrated front-end and
back-end code.

16th 4:00 AM

Trained SSD and
ResNet for better
accuracy.

How it works

Step 1

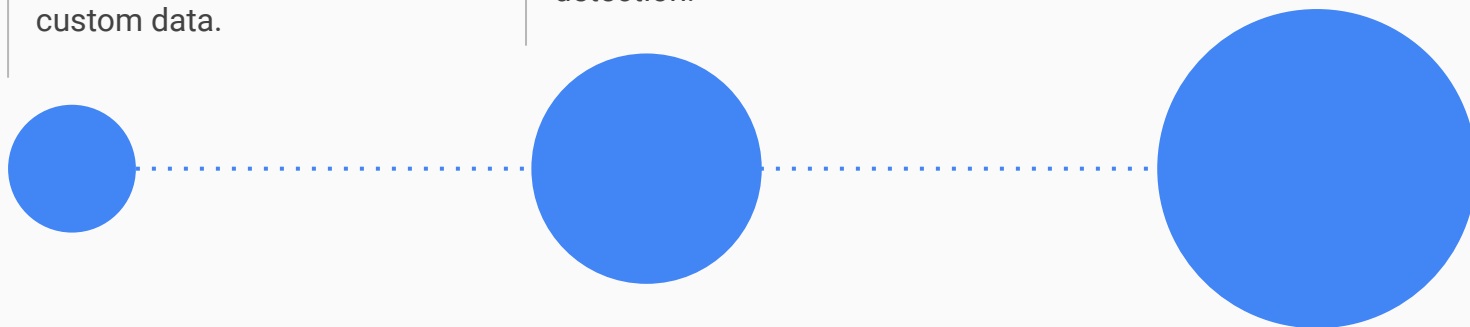
User inputs
audio/gestures/new
custom data.

Step 2

Largest hand detection
and consequent gesture
detection.

Step 3

Interoperability among
vernacular languages.



An aerial photograph of the New York City skyline at dusk. The sky is a mix of dark blue and orange, with scattered clouds. The city is densely packed with skyscrapers, many of which are illuminated with their lights. The Empire State Building is prominent in the center, with its distinctive spire. Other notable buildings include the Chrysler Building and the United Nations Secretariat Building. The overall scene is a vibrant and detailed representation of a major metropolitan area.

The technology:
PyTorch, SSDv1,
ResNet, PyQt5

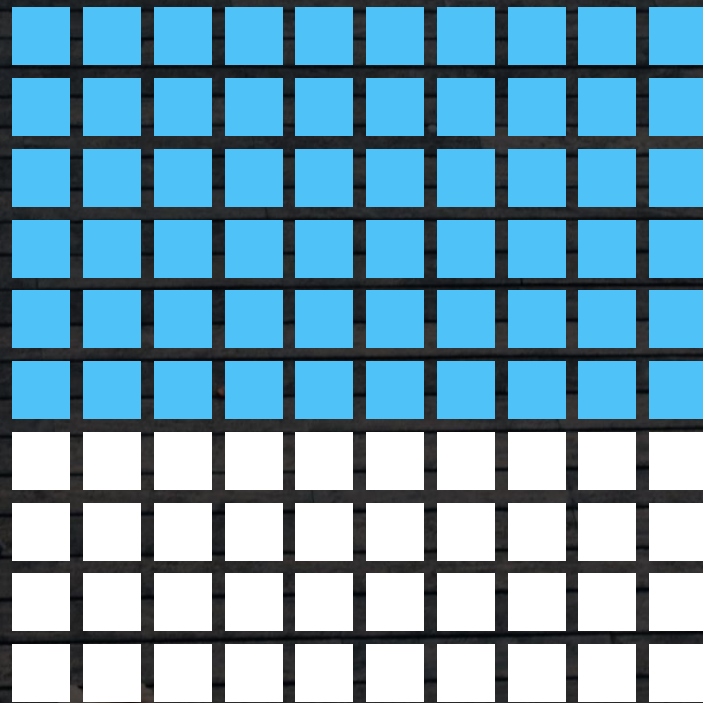
Pros of our app

fssdfssdf

- Vernacular language supported.
- **Works on complicated background.**
- Option to add new custom words very intuitively.

Future prospect:

- Motion gesture detection.
- Complete offline application.
- Platform independent deployment.



References:

- Single Shot MultiBox Detector by Wei Liu and et el.
<https://arxiv.org/abs/1512.02325>
<https://github.com/qfgaohao/pytorch-ssd>
- Deep Residual Learning by K He and et el.
<https://arxiv.org/abs/1512.03385>
- FastAI by Jeremy Howard and et el.
<https://www.fast.ai/>