Number Plate Recognition

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What is Number Plate Recognition?

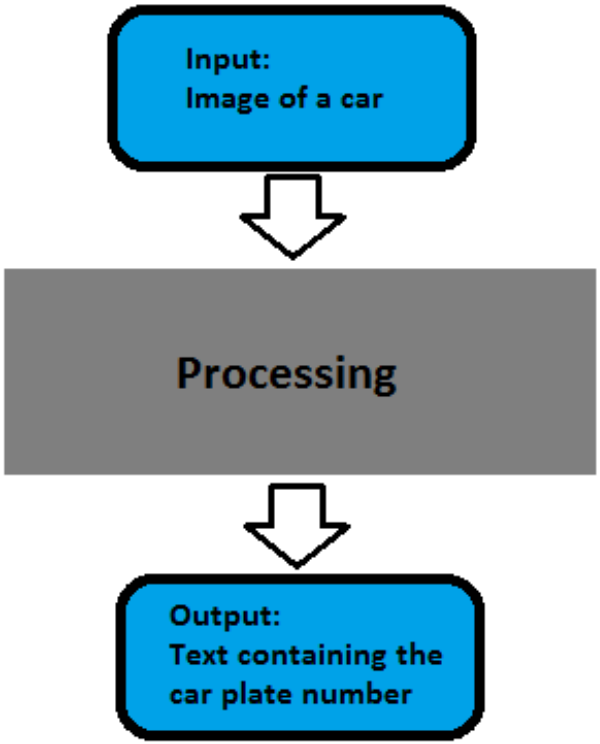

Figure: What the program does

What is Number Plate Recognition?

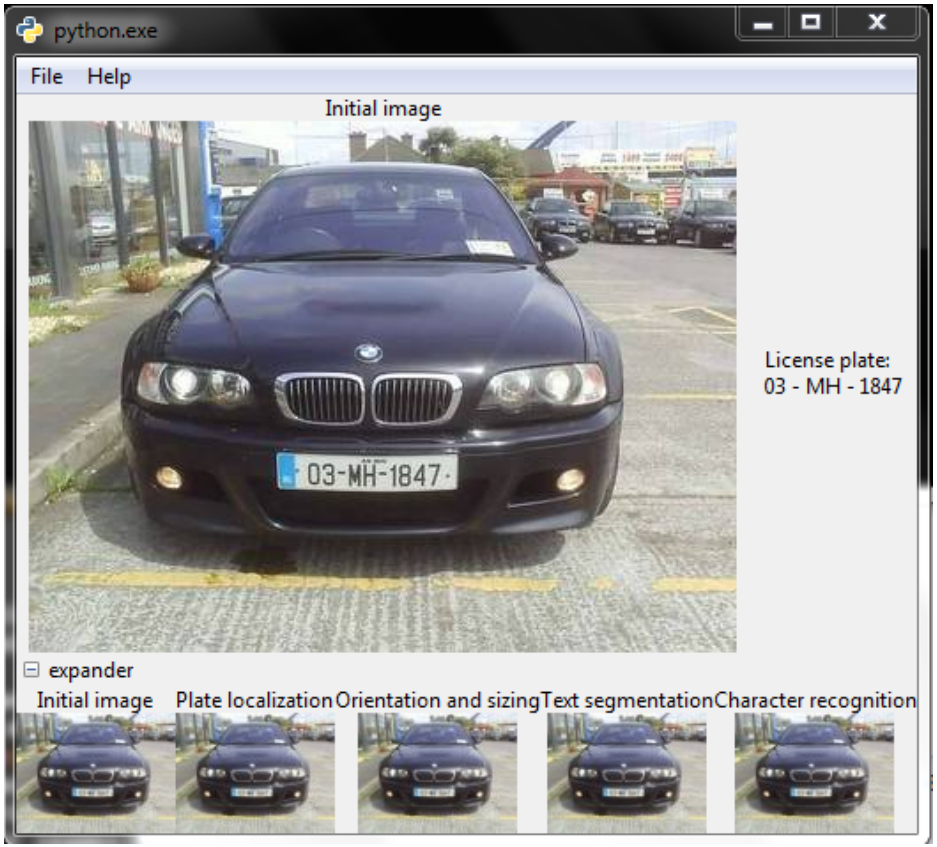

Figure: Interface of NPR

Different steps

- Input image
- Gray scale image
- Edge detections: Sobel filter
- Plate localization
- Horizontal and vertical projections
- Template matching
- Output: string

Screen shots of the first two algorithms

Figure: Three images: Initial image, Gray scale image, Gray scale Image with Edge Detection

What has been done so far?

- Design of the GUI
- Gray scale
- Sobel Filter
- Plate localization
- Developing Interface

What has to be done?

- Character segmentation using vertical and horizontal projections
- Template matching
- Add detections of events in the GUI
- Test with different images to find bugs

The technologies that I am using

- Language: Python
- Libraries
  - PyGTK: Graphical User Interface
  - Scipy: Open/save images
  - Numpy: Convert images to matrices
- User Interface Designer: Glade

Glade

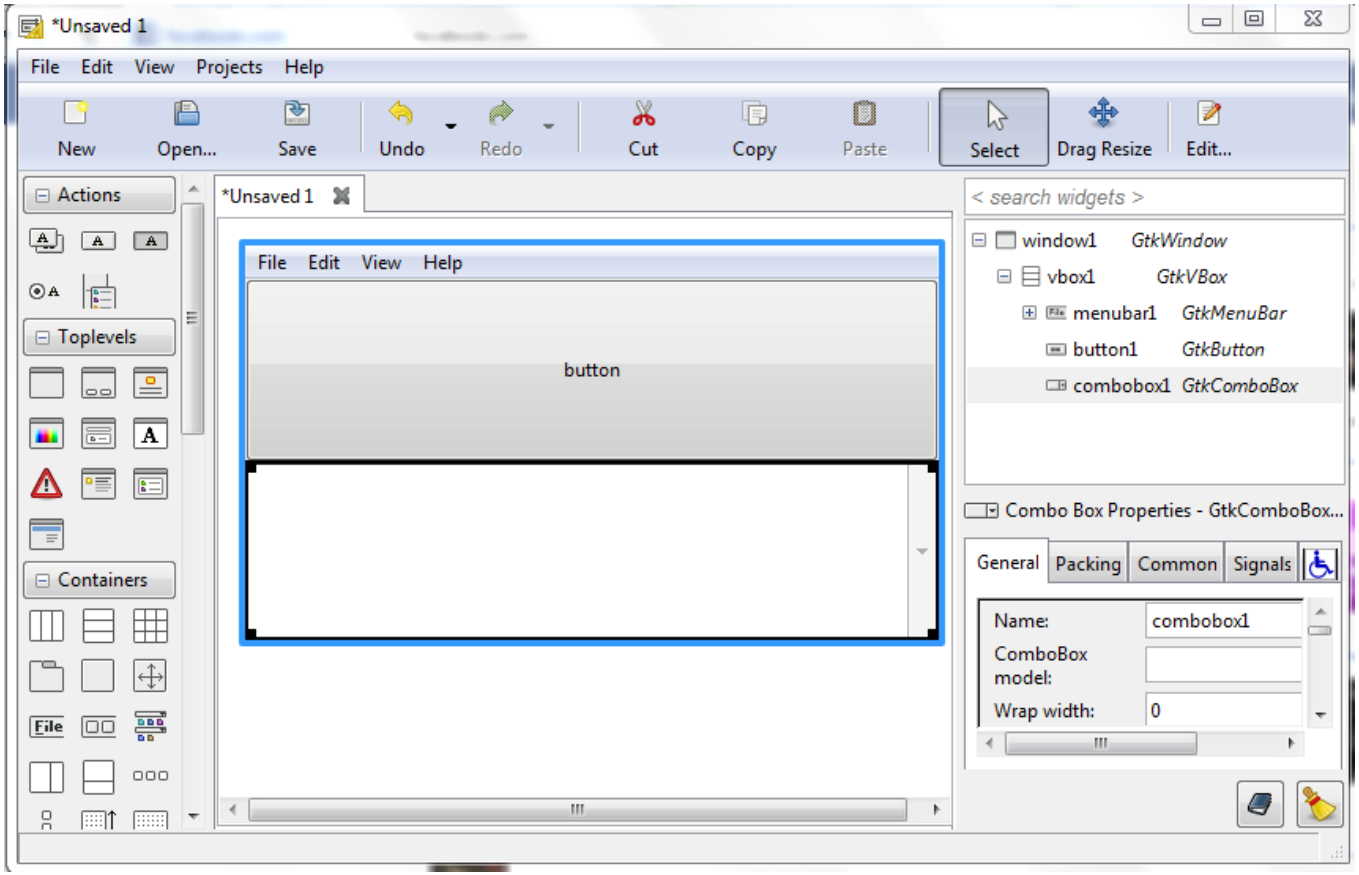

Figure: Glade: User Interface Designer

Issues

Issues I have encountered:

- Performance
- Usage of the Numpy library
- Image processing

Other languages

List of the most used languages for image processing:

- C: compiled language
- C++: compiled language
- Java: semi-compiled language

What is different?

- Better performance
- More lines of code in those languages
- Different libraries
- Easier to read and debug the Python code

Questions

Any questions?