README

Code for application is in 'image_processing' directory.
Code for generating stroke relationship samples is in 'image_generate' directory.

The project application has been uploaded onto an online server at:
http://80.85.84.44:5000/public/test.html

Characters that can be used to try out the application can be found in the thesis
(Evaluation Chapter).

File structure:

```
project/
├── README.pdf ................................................Explanation of the submission files
├── CNN_stroke_type.py ...............Code for training the CNN model for stroke type classification
├── CNN_relationship.py ...... Code for training the CNN model for stroke relationship classification
├── flip_image.py .......................Code for generating more samples through rotating images
├── resize_image.py ...................Code for generating more samples through re-scaling images
├── image_processing/ .......................................................Main application
│   ├── image_processing.py ...............................................Server programme code
│   ├── parse_graphics.py ...........Code for transforming graphics in JSON objects to SVG format
│   ├── svg_to_png.py ...........................Code for transforming SVG images to PNG images
│   ├── relationship_model.h5 ......................CNN model for stroke relationship classification
│   ├── stroke_type_model.h5 ............................. CNN model for stroke type classification
│   ├── graphics.txt ...................................Template characters in JSON object format
│   ├── public/ ......................................................Code for web front-end
│   │   ├── test.html ...............................................Character selection interface
│   │   ├── writing.html ...............................................Character writing interface
│   │   ├── select.js ................................... JavaScript for character selection interface
│   │   ├── index.js .......................................JavaScript for character writing interface
│   │   ├── logo_transparent.png
│   │   ├── loading.gif
│   │   ├── tianzige1.png
│   │   ├── background.png
│   │   ├── templates/ ........................Character templates in PNG format for providing hints
│   │   └── stroke_info/ .............................Correct stroke type and stroke relationship data
│   ├── character_data/ ...........Character templates in BMP format for position and size checking
│   └── __pycache__/
└── image_generate/ ........................... Code for the generating stroke relationship samples
    ├── image_generate.py ...........................Server programme code for generating samples
    ├── public/ ..............................................................code for web front-end
    ├── generated/ ........................................Contains some of the generated samples
    └── __pycache__/
```