



Progress Report Submission for C. J. Taylor

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Agreed Upon

This Week's Activities

- Notation used to describe objective functions needs to be resolved, e.g arrows.
- Options and some alternatives to be written down.
- Collaborate with Carole to agree on some registration algorithms and a common vocabulary.
- Two thirds of the week to be spent understanding Carole's and Tim's work.
- Warp correctness issues are not yet the main problem to address.

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Future Perspective

- Discussion for continuation report to written up and probably re-organised later.
- Report might also need to include the modelling of warps variation – an implementation task that is yet to come.
- 2-D registration is expected to begin in year 2.

Progress Made

- Shortly prior to the previous meeting I applied the inverse CPS warp to the model's approximation of each example. From this I could measure residuals, but corruption of the warps must be resolved.
- Automatic increase of W_s at each iteration, as is already done with optimisation precision. The results are rather interesting and should be worth a closer look.
- Handling of the height change needs to be done in some appropriate way. Discussions with Carole on this fundamental issue continued.
- Point(s) can be inserted where model discrepancy is high.
- Short sections for the continuation report were written.
- Notation document was worked on. It was sent to Carole for some preliminary feedback and it is hyper-linked from the Progress Report page. Implementation was left aside in line with CJT's suggestion on Tuesday.
- Meeting in UCL
- Ph.D. Workshop the entire day Wednesday.
- Number of figure is shown in indices to allow important experiments to be located even more quickly
- Journal covers were looked at. This is typically done on a monthly basis.
- Carole's and Tim's papers were re-read to reassure more proper understanding.
- Log book entries describing algorithmic alternatives were added.

Next Stage

- Discuss the pseudo-code document.
- Discuss the new document about objective functions and notation.
- Structure of continuation report should possibly be discussed. A Skeleton should be available for a later meeting if required.
- Profound VXL knowledge is necessary for MATLAB wrapping. I am therefore not the most person suitable for the job. Ian, on the contrary, would find it less time-consuming.
- See some log book sketches if time allows.

Appendix

More specific progress which was made

- Display of model reconstruction for warped images was made possible.
- Display of the inverse of the above, including some menu options for both.
- Double interpolation results in discrepancy, but it appears excessive. This leading to bug suspicion.