Feature Matching the SLWA Photographic Archive

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Scale Invariant Feature Transform (SIFT) – feature matching
Methodology

- SLWA provided a 10k image collection
- Features extraction performed
- Feature matching performed at the Pawsey Supercomputing Centre (50 million image matches)
- Feature match results identified matched images and clusters of matched images
- Perform sample image processing (panoramas, 3D reconstruction, and metadata comparison)
Supercomputing

The time required to match images against each other scales exponentially as the dataset becomes larger

Split the problem into independent, parallel tasks on Magnus
Results - Panoramas
Results – metadata & 3D Reconstruction
Conclusion

- Feature Matching offers a new way of visually searching items in the State Library photographic collection.

- The technique offers a new way of clustering images to potentially identify panoramas, locate images suitable for 3D reconstruction, find duplicates, share and compare metadata, perhaps geo-locate the images so that a geo-search can be performed, plus many more opportunities.

- We’re looking for ways to continue the project.
Feature Matching the SLWA Photographic Archive

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How connected are the images?