Reconstructing scenes from photos using Global SfM

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1   Problem

Since the

2   Goals

We intend to implement a Global Structure from Motion technique to reconstruct scenes from photos. We will use the techniques described by [Chatterjee and Govindu 2013] and [Wilson and Snavely 2014]. If we run into time constraints, we will use the code for [Chatterjee and Govindu 2013] (which is available online) and we will implement the translation correction ourselves. We intend to use our implementation with a large dataset obtained from the internet.

3   Schedule

3.1   Plan A

- Week of October 13th: Project Proposal Presentation
- Week of October 20th: Feature Detection and Feature Matching
- Week of October 27th: Homography Computation and Relative Rotation/Translation computation
- Week of November 3rd: Homography Computation and Relative Rotation/Translation computation
- Week of November 10th: Rotation Averaging
- Week of November 17th: Rotation Averaging
- Week of November 24th: Translation Correction
- Week of November 1st: Translation Correction
- Week of November 8th: Evaluation

3.2   Plan B

- Week of October 13th: Project Proposal Presentation
- Week of October 20th: Feature Detection and Feature Matching
- Week of October 27th: Homography Computation and Relative Rotation/Translation computation
- Week of November 3rd: Homography Computation and Relative Rotation/Translation computation
- Week of November 10th: Homography Computation and Relative Rotation/Translation computation
- Week of November 17th: Translation Correction
- Week of November 24th: Translation Correction
- Week of November 1st: Translation Correction
- Week of November 8th: Evaluation

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References

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SNAVELY, N., SEITZ, S. M., AND SZELISKI, R. 2006. Photo tourism: exploring photo collections in 3d. *ACM transactions on graphics (TOG) 25*, 3, 835–846.

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