

EE/CprE/SE 4920 WEEKLY REPORT XY

Aug 28th, 2025 – Sept 4th, 2025

Group number: 15

Project title: Vision Based Camera Motion Tracking

Client &/Advisor: Eric Wittrock & Dr. Gaffar

Team Members/Role: Isaac Kenyon, Andrew Gooding, Will Ernatt

○ Weekly Summary

Created plans for additional features to add onto the project, including easier installation, lighting matching, parallelization, moving object tracking and detection. Worked on running new computer vision techniques locally so that it can be soon incorporated into Blender. Read new computer graphics papers and corresponding open source software documentation.

○ Past week accomplishments

- **Eric Wittrock:** Worked on reading documentation and running COLMAP binaries on windows, lighting with HDR image and researched color theory, planned for features that are complementary to existing implementations of existing camera solving techniques in light of recent computer-vision developments.
- **Andrew Gooding:** Worked on getting colmap and glomap downloaded on my computer but the Mac version of it is not currently working. The creator is working on fixes so it should be done within the coming days.
- **Will Ernatt:** Researched documents on camera tracking solutions as shared by other teammates. Started experimenting with implementation of glomap for blender on Windows. Started experimenting with automation of the glomap pipeline as outlined in research documents.
- **Isaac Kenyon:** Planned future steps with the team and learned about recent updates to open source projects related to the project. Started working with colmap+glomap implementation for linux, other members will work on different systems. As a team talked about more add-ons to the project and how these open source projects made improvements. Shortly bounced ideas for the final demo.

○ Pending issues

- **Eric Wittrock:** There occurs a command line error when trying to run structure from motion executable.
- **Andrew Gooding:** Colmap was not able to be downloaded on my computer, but the issue should be fixed soon

- **Will Ernatt:** Glomap automation not working at present, need to look into the cause of this.
- **Isaac Kenyon:** Get open source implementation fully running, understand the full pipeline and figure out where limitations are and report back to the team.

○ **Individual contributions**

<u>NAME</u>	<u>Individual Contributions</u> <i>(Quick list of contributions. This should be short.)</i>	<u>Hours this week</u>	<u>HOURS cumulative</u>
Eric Wittrock	HDR research, reading COLMAP docs and running binaries on Windows, Planning next steps.	6	6
Andrew Gooding	Research on colmap and glomap, tried getting Mac version to work.	5	5
Will Ernatt	Glomap research and planning, start of work on Windows implementation w/ blender.	6	6
Isaac Kenyon	Group planning and brainstorming, running linux colmap+glomap.	6	6

○ **Plans for the upcoming week**

- **Eric Wittrock:** Will work on loading point map into blender after getting COLMAP binaries to work
- **Andrew Gooding:** Will work on glomap implementation if the creator has fixed the problem with the installation on Mac.
- **Will Ernatt:** Continue working on Glomap blender implementation, pending success work on CUDA implementation.
- **Isaac Kenyon:** Finish setting up linux implementation and running, just myself. Report back to the team on findings. Start looking into pulling features in from this code base.