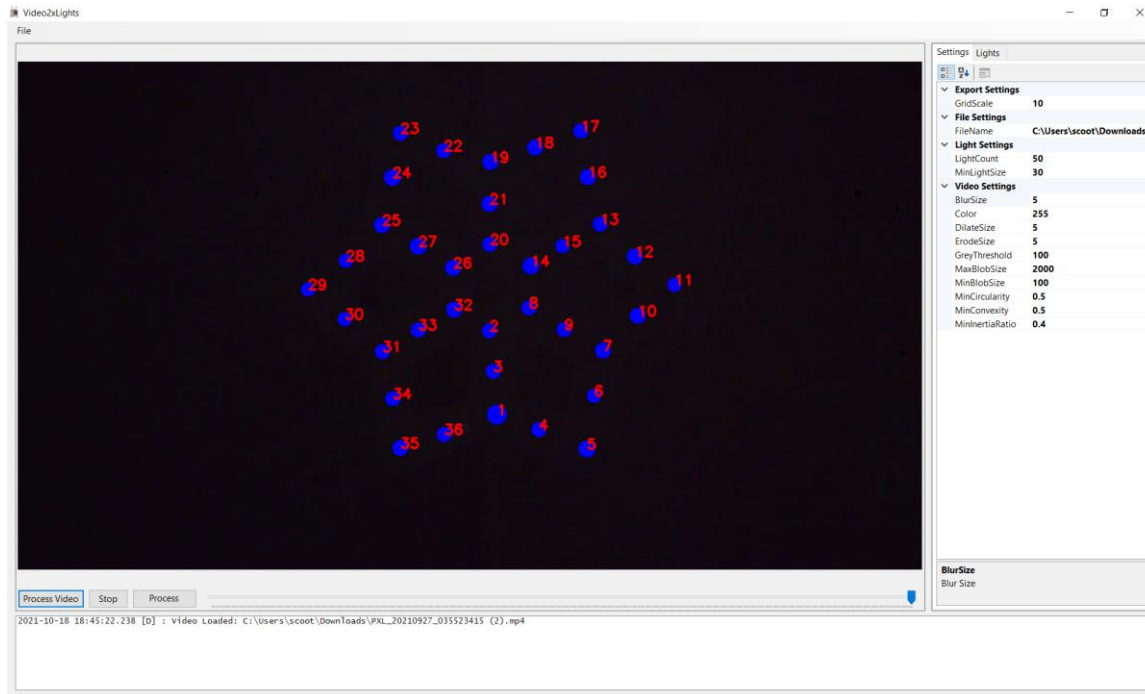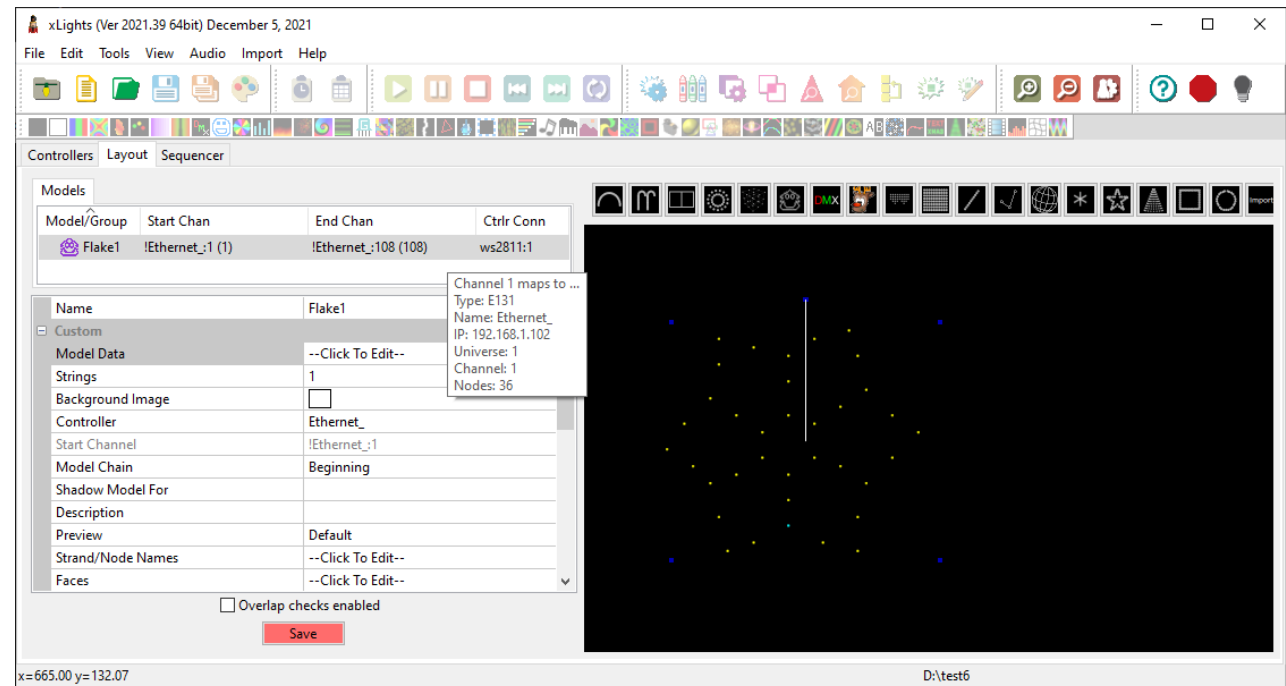# JOLLY SNOWMAN

SCOTT HANSON, GEORGE EBELING, JESSICA MALINOWSKI

WHAT IS JOLLY SNOWMAN?

A custom mapping program that uses a video file or live video feed to map lights in space and export them into the light controller program, xLights.
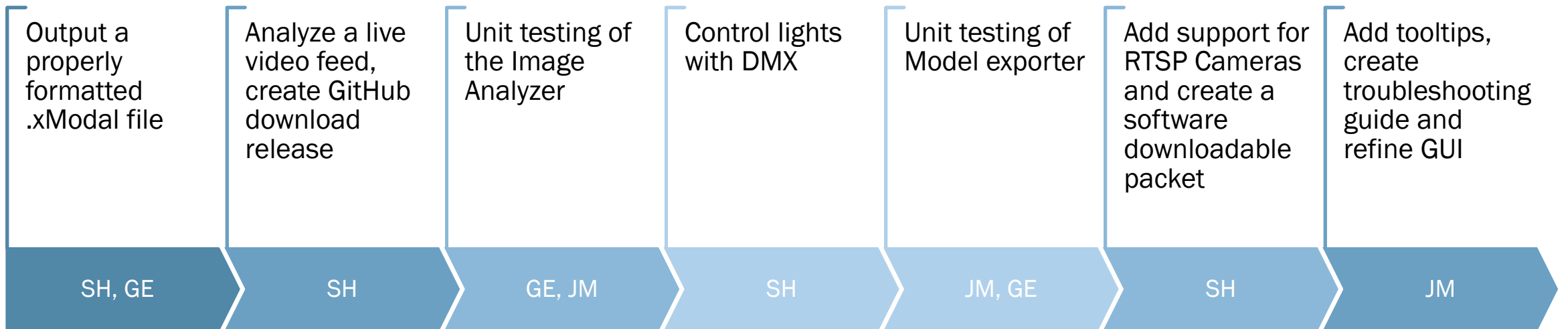

SOFTWARE WHILE PROCESSING

EXPORTED TO XLIGHTS

TASKS COMPLETED ON-TIME: EVERYTHING EXCEPT TESTING
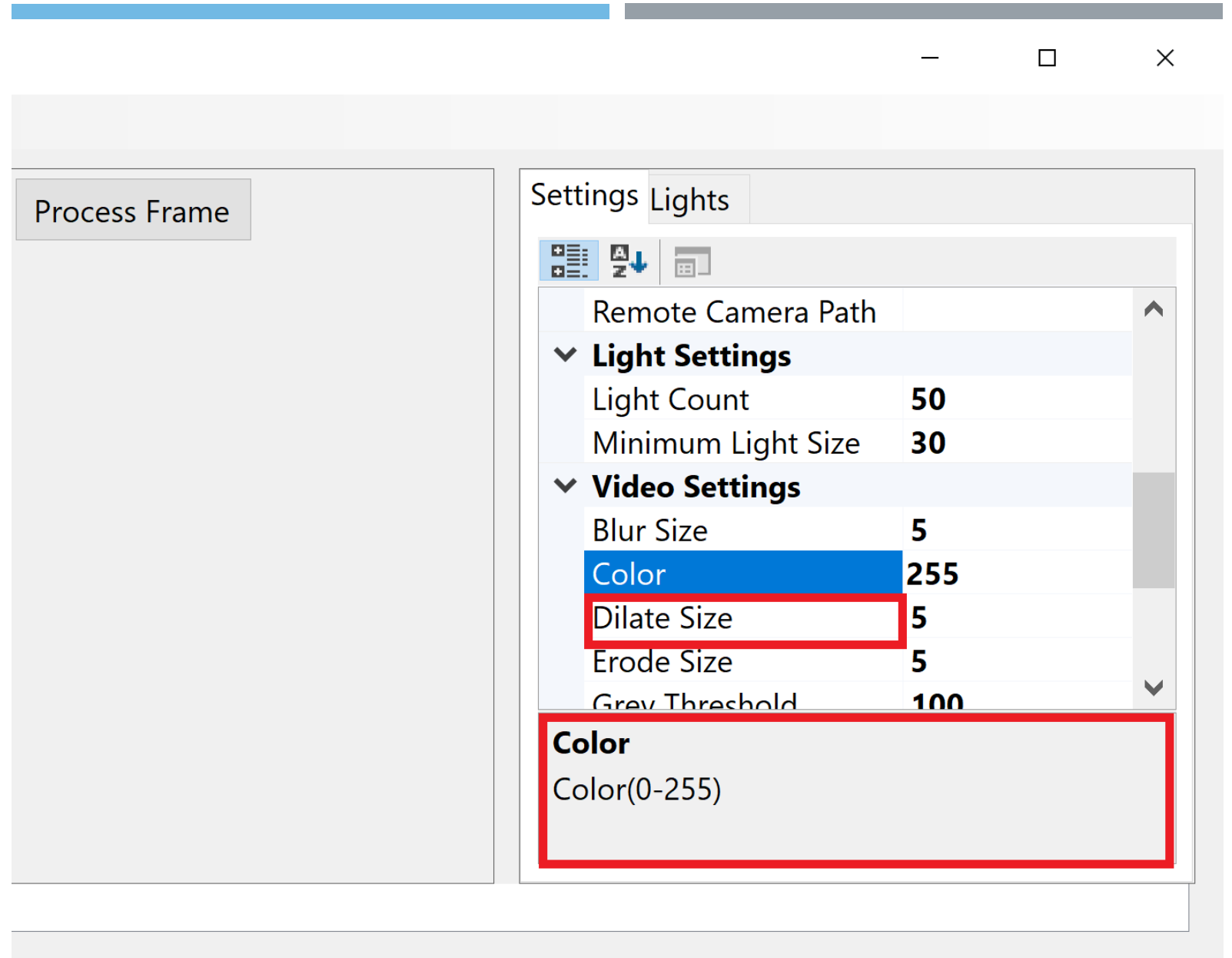## TASKS COMPLETED LISTED BELOW, EXCEEDING INITIAL GOALS

- Basic exploratory projects with OpenCV (GE, SH, JM)

- Create a Christmas lights demo (SH)

- Exploratory project with Mask R-CNN (JM)

- Create a basic video import project (SH)

- Finish filling out software requirements page (GE)

- Add image upload feature to video import project (SH)

- Create midterm presentation materials (JM)

- Start Gantt chart (GE)

- Add more light video files for testing (SH)

- Output a properly formatted .xModel file (SH, GE)

- *(Delayed) Unit testing of Model Exporter (JM, GE)*

- *(Delayed) Unit testing of Image Analyzer (GE, JM)*

- Look into methods to reduce CPU utilization (GE)

- Add feature to control lights with DMX (SH)

- Add feature to analyze a live video feed (SH)

- Add support for RTSP Cameras (SH)

- Set-up equipment for a live demonstration (SH)

- Add tooltips to the settings Menu (JM)

- Utilize GitHub Actions to create a downloadable packet (SH)

- Created a user trouble-shooting guide (JM)

TASK COMPLETION SINCE MIDTERM PRESENTATION

Output a properly formatted .xModal file

Analyze a live video feed, create GitHub download release

Unit testing of the Image Analyzer

Control lights with DMX

Unit testing of Model exporter

Add support for RTSP Cameras and create a software downloadable packet

Add tooltips, create troubleshooting guide and refine GUI

| SH, GE | SH | GE, JM | SH | JM, GE | SH | JM |

CHANGES IN FUNCTIONALITY

- Feature Additions
    - Export .xModel file
    - Analyze live video feed
    - Ability to control lights with DMX commands
    - Refined GUI

CHANGE MANAGEMENT PLAN

- For commercial businesses servicing multiple sites we recommend a phased conversion plan, with a planned start in the off-season, if possible.

- For commercial businesses centered around light shows or performances we recommend a pilot conversion plan.

- For all customers, Jolly Snowman offers:

  - A day of training with your technical team, working with our light props, to get hands on experience

  - Customized software development options to fully integrate with your software if the off the shelf option does not meet your needs

  - Software support for 1 year, with extended support plans available

HOW TO USE JOLLY SNOWMAN

Project Page:

- Download Version 1 right off the main page

- https://computergeek1507.github.io/GVSU-CIS641-Jolly-Snowman/

- Upload your video file or select a video stream

- Process on the default settings, and adjust as needed

- See the User Guide for more details

https://computergeek1507.github.io/GVSU-CIS641-Jolly-Snowman/docs/user_guide.html

LIVE DEMONSTRATION