Development of the software for editing light distribution files

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Introduction

The aim of the project was to design and implement a software for mass editing the light distribution files which hold the photometric data and other parameters of luminaires. Light distribution files follow the EULUMDAT file format [1].

The editing the photometric data was previously done with for example Photoview-software for each file separately. Editing large batch of files has therefore taken a lot of manual labour and time. Also the user interface of Photoview is rather scattered.

The assignment came from Greenled Ltd. which is a provider of advanced turnkey lighting solutions to companies and public sector [2]. The primary location of the company is in Kempele, Finland.

Objectives

The main objectives for the software were:

- Reliable operation and user-friendly GUI.
- Original files must not be altered but copied to a new directory with edits.
- User chooses whether to edit only files in the given folder or include also files located in possible subdirectories.
- Version number in the filename and in the data must be updated to the new value. User chooses between automatically updated value or user-given value.
- Zip-file is optionally created from directory containing the edited files.
- User runs the software from a stand-alone executable.

Methods

The software was coded in Python 3 language using Visual Studio Code as the text editor. GUI elements were implemented with Tkinter module which is Python's de-facto standard GUI package. Regular expressions were utilized in text pattern searching and in validation of the user input values. Executable was created with PyInstaller.

Results

The software developed in this project met the requirements entirely.

FIGURE 1. Start view.

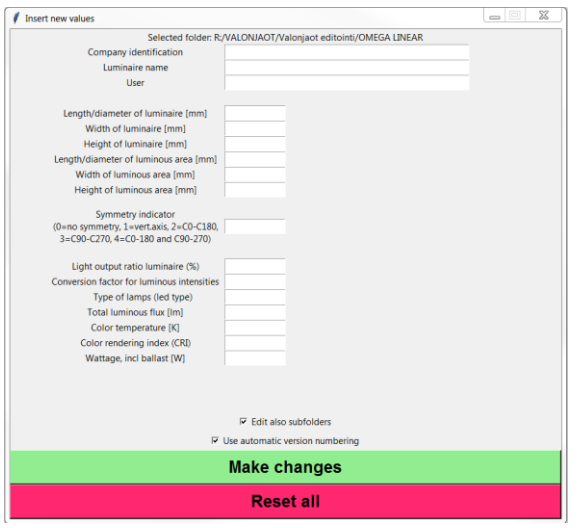

FIGURE 2. View for user inputs.

The functionality of the software was tested and accepted by the assignment provider. Some screenshots of the software interface are presented in figures 1 and 2.

Conclusions

The goal of the project was fully accomplished. With this software editing the light distribution files is now much easier and faster than before.

References

1. EULUMDAT file format:
https://docs.agi32.com/PhotometricToolbox/Content/Open_Tool/eulumdat_file_format.htm
2. Greenled Ltd:
https://greenled.com/company/

Company-Oriented Product Development Project 2
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