

# Bachelor Thesis Review

Faculty of Mathematics and Physics, Charles University

|                       |  |
|-----------------------|--|
| <b>Thesis author</b>  | Silvie Paprskářová   |
| <b>Thesis title</b>   | Design and Prototypical Implementation of a Radiometrically Calibrated Light Source to Perform Dark-light Adaptation Measurements of the Human Eye |
| <b>Year submitted</b> | 2023   |
| <b>Study program</b>  | Computer Science   |
| <b>Specialization</b> | Computer Graphics, Vision and Game Development   |
| <b>Review author</b>  | Dipl.-Ing. Thomas Klaus Nindel, Ph.D.      Advisor   |
| <b>Department</b>     | KSVI   |

**Overall** good    OK    poor    insufficient

|   |   |   |  |  |
|---|---|---|--|--|
| Assignment difficulty                                 | X |   |  |  |
| Assignment fulfilled                                  |   | X |  |  |
| Total size <i>... text and code, overall workload</i> | X |   |  |  |

The thesis takes up the topic of radiometric calibration to the end of developing an apparatus to measure the adaptation of the human visual system to changing brightness. This brings many challenging tasks together, such as camera calibration, radiometry, and crosses over into biology.

**Thesis Text** good    OK    poor    insufficient

|  |   |   |  |  |
|--|---|---|--|--|
| Form <i>... language, typography, references</i>                                   | X |   |  |  |
| Structure <i>... context, goals, analysis, design, evaluation, level of detail</i> | X |   |  |  |
| Problem analysis   | X |   |  |  |
| Developer documentation  |   | X |  |  |
| User Documentation   |   | X |  |  |

The author successfully implements a well-known method for radiometric self-calibration using the algorithm of Debevec et. al. [2008]. This in turn allowed for the absolute radiometric calibration of a computer screen through taking photos thereof.

Mrs. Paprskářová shows skillful application of the required mathematical, physical and algorithmic knowledge in the second Chapter of her thesis. The review of related work is brief but includes relevant work in the field. The thesis is rather short, and would greatly benefit from an implementation of another calibration method and a comparison to the one that is shown.

**Thesis Code** good    OK    poor    insufficient

|  |   |   |  |  |
|--|---|---|--|--|
| Design <i>... architecture, algorithms, data structures, used technologies</i> |   | X |  |  |
| Implementation <i>... naming conventions, formatting, comments, testing</i>    |   | X |  |  |
| Stability  | X |   |  |  |

**Overall grade**    Very Good  
**Award level thesis**    No

Date

Signature