Verification and Validation Report: ImgBeamer

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1 Revision History

Date	Version	Notes
2023/03/26	0.1.0	Creation
2023/04/02	0.1.1	Start requirements testing sections

2 Symbols, Abbreviations and Acronyms

symbol	description
SRS	Software Requirements Specification
VnV	Verification and Validation
T	Test

See the SRS [3], VnV Plan [4], MG [1], and MIS [2] Documentation for additional items.

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3 Report Purpose

This purpose of this report is to document the tasks accomplished and testing results as part the verification and validation process of ImgBeamer as laid out in the VnV Plan [4]. The code documentation along with notes on developer setup and testing is available at: https://joedf.github.io/ImgBeamer/jsdocs/index.html The software design documentation is available at: https://github.com/joedf/CAS741_w23. The source code is available at: https://github.com/joedf/ImgBeamer/tree/cas741

4 Functional Requirements Evaluation

In this section, we report the measures that were taken to evaluate whether the functional requirements (as listed in the SRS [3]) were met.

4.1 Image Import and Export (R1 and R6)

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4.1.1 T1

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4.1.2 T2

...

4.2 Spot Profile and Imaging Parameters (R2, R3, R4, and R5)

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4.2.1 T3

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4.2.2 T4

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4.2.3   T5

...

4.2.4   T6

...

4.2.5   T7

...

4.2.6   T8

...

4.2.7   T9

...

4.3   Image Quality Metric (R7)

...

4.3.1   T10

...

4.3.2   T11

...

4.3.3   T12

...

4.3.4   T13

...

5 Nonfunctional Requirements Evaluation

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5.1 Usability

...

5.1.1 T14

...

5.2 Accuracy

...

5.2.1 T15

...

5.3 Maintainability

...

5.3.1 T16

...

5.3.2 T17

...

5.4 Portability

...

5.4.1 T18

...

6 Comparison to Existing Implementation

This section will not be appropriate for every project.

7 Unit Testing

8 Changes Due to Testing

9 Automated Testing

10 Trace to Requirements

11 Trace to Modules

12 Code Coverage Metrics

References

[1] J. de Fourestier. Module guide for ImgBeamer, 2023. URL https://github.com/joedf/CAS741_w23/blob/main/docs/Design/SoftArchitecture/MG.pdf.

[2] J. de Fourestier. Module interface specification for ImgBeamer, 2023. URL https://github.com/joedf/CAS741_w23/blob/main/docs/Design/SoftDetailedDes/MIS.pdf.

[3] J. de Fourestier. Software requirements specification for ImgBeamer: Scanning electron microscope image formation, 2023. URL https://github.com/joedf/CAS741_w23/blob/main/docs/SRS/SRS.pdf.

[4] J. de Fourestier. Verification and validation plan for ImgBeamer, 2023. URL https://github.com/joedf/CAS741_w23/blob/main/docs/VnVPlan/VnVPlan.pdf.

Appendix — Reflection

The information in this section will be used to evaluate the team members on the graduate attribute of Lifelong Learning. Please answer the following questions:

1.

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