

## STATE OF PRACTICE FOR MEDICAL IMAGING SOFTWARE

ASSESSING THE CURRENT STATE OF THE PRACTICE FOR MEDICAL IMAGING  
DOMAIN WITHIN SCIENTIFIC COMPUTING SOFTWARE

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## **Abstract**

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# Acknowledgments

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# **Chapter 1**

## **Introduction**

introduction

# **Chapter 2**

## **Background**

### **2.1 Categories and Status**

Briefly discuss open source, freeware and commercial software.

### **2.2 Software Quality Definitions**

Refer to the Quality Definitions of Qualities created by us

### **2.3 Analytic Hierarchy Process**

# **Chapter 3**

## **Measurement Methods**

Where to include Domain experts, in Software Product Selection?

It might be a good idea to make the methods general and independent to domains.

### **3.1 Overall Process**

Briefly introduce the following subsections.

### **3.2 Domain Selection**

How do we choose SCS domains, and point out again that the whole section should be able to apply to most domains.

### **3.3 Software Product Selection**

My process of collecting and screening the packages step by step.

### **3.4 Grading Template**

Manual measurements and empirical tools.

### **3.5 Measuring Qualities**

e.g. virtual machines, time spent per software, where to look for docs, etc.

### **3.6 Interviewee Selection**

Generally speaking, ask all the teams which we can find contacts, and continue with the ones who are willing to participate.

### **3.7 Interview Question Selection**

The aspects we focused on.

### **3.8 Interview Methods**

The way to ask questions, the way to transcript answers and the technologies used.

# **Chapter 4**

## **Measurement Results**

For some qualities, it might be a good idea to cross-compare with the empirical scores.

### **4.1 Selected Software List**

### **4.2 Installability**

### **4.3 Correctness & Verifiability**

### **4.4 Reliability**

### **4.5 Robustness**

### **4.6 Usability**

### **4.7 Maintainability**

### **4.8 Reusability**

### **4.9 Understandability**

### **4.10 Visibility & Transparency**

# **Chapter 5**

## **Interviews with Developers**

### **5.1 Summary of Answers**

- Start with one by one, with commonalities and interesting special cases.
- Shorten and summarize later.

### **5.2 Discussions**

Any conclusions?

## **Chapter 6**

# **Recommendations**

I think the recommendations can originate from both parts - measurements and interviews.

# **Chapter 7**

## **Conclusions**

No clues yet. Should be started at a later stage.



# **Bibliography**

# **Appendix A**

## **Full Grading Template**

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## **Appendix B**

### **Summary of Measurements**

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# **Appendix C**

## **Interview Answers**

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# **Appendix D**

## **Ethics Approval**

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