

UNIVERSITY OF MUNICH  
Department "Institute for Informatics"  
Education and Research Units Media Informatics  
Prof. Dr. Heinrich Hußmann

**Master Thesis**

**Web-Based Creator for Activity Sculptures**

Walter Rempening-Diaz  
me@walterrempening.com

Working Time: 1. 12. 2014 to 1. 6. 2015  
Supervisor: Simon Stusak  
Responsible Professor: Prof. Dr. Andreas Butz

## **Acknowledgements**

## **Zusammenfassung**

Kurzzusammenfassung der Arbeit, maximal 250 Wörter.

## **Abstract**

Short abstract of the work, maximum of 250 words.



## **Task Definition**

Kopie der Original-Aufgabenstellung

I confirm that I indepently prepared the thesis and that I used only the references and auxiliary means indicated in the thesis.

Munich, May 8, 2015

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# 1 INTRODUCTION

Introduction

## **1 Introduction**

### **1.1 Motivation**

### **1.2 Problem definition**

### **1.3 Goals**

### **1.4 Content overview**



## 2 RELATED WORK

Background & Related Work

## **2 Related Work**

### **2.1 Product Customization Software**

#### **2.1.1 Commercial Applications**

#### **2.1.2 Usability Aspects**

#### **2.1.3 Technological Limitations**

### **2.2 Activity Sculptures**

#### **2.2.1 Quantified Self**

#### **2.2.2 Personal Data Visualization**

### **2.3 Digital Visualization and Fabrication Workflow**



## 3 PROTOTYPE DESIGN

Prototype Design

### **3 Prototype Design**

#### **3.1 Data Sources**

##### **3.1.1 Fitness Trackers**

##### **3.1.2 Mobile Applications**



## 4 IMPLEMENTATION

Implementation

### **4 Implementation**





## 5 USER STUDY

User Study

### **5 User Study**

#### **5.1 Study Design**

#### **5.2 Questionnaire**

#### **5.3 Participants**

#### **5.4 Procedure**

#### **5.5 Limitations**

#### **5.6 Results**



## 6 CONCLUSION

Conclusion

## 6 Conclusion



## 7 FUTURE WORK

Future Work

## 7 Future Work

## **Appendix**

### **A Online Questionnaire**

### **B User Study Results**

#### **B.1 Questionnaire Results**

#### **B.2 Heat Map Images**

### **C Prototype Sketches**

#### **C.1 Sculpture Prototypes**

#### **C.2 Web Configurator Prototypes**

### **D Code Snippets**

## **Contents of the enclosed CD**

### **Thesis**

- L<sup>A</sup>T<sub>E</sub>X Document
- PDF File

### **Presentations**

- Initial presentation
- Final presentation

### **Activity Sculpture Web Configurator**

- Prototype sketches
- Source code
- Gitlab and Github mirrors
- Instructions for deployment
- Login Data

### **Sculptures**

- Prototype sketches
- .stl 3D print ready example files

### **User Study**

- Questionnaire
- Results
- Heat map images





## References