

MASTER THESIS

Thesis submitted in fulfillment of the requirements for the degree of Master of Science in Engineering at the University of Applied Sciences Technikum Wien - Degree Program Mechatronics/Robotics

Arbeitstitel Arbeitstitel

By: Titel Vorname Name, Titel

Student Number: XXXXXXXXXXXXXXXX

Supervisor: Titel Vorname Name, Titel

Wien, February 1, 2024

Declaration

"As author and creator of this work to hand, I confirm with my signature knowledge of the relevant copyright regulations governed by higher education acts (see Urheberrechtsgesetz /Austrian copyright law as amended as well as the Statute on Studies Act Provisions / Examination Regulations of the UAS Technikum Wien as amended).

I hereby declare that I completed the present work independently and that any ideas, whether written by others or by myself, have been fully sourced and referenced. I am aware of any consequences I may face on the part of the degree program director if there should be evidence of missing autonomy and independence or evidence of any intent to fraudulently achieve a pass mark for this work (see Statute on Studies Act Provisions / Examination Regulations of the UAS Technikum Wien as amended).

I further declare that up to this date I have not published the work to hand nor have I presented it to another examination board in the same or similar form. I affirm that the version submitted matches the version in the upload tool."

Wien, February 1, 2024

Signature

Kurzfassung

Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like "Huardest gefburn"? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

Schlagworte: Schlagwort1, Schlagwort2, Schlagwort3, Schlagwort4

Abstract

Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like "Huardest gefburn"? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

Keywords: Keyword1, Keyword2, Keyword3, Keyword4

Acknowledgements

Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like "Huardest gefburn"? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

Contents

1	Erst	te Uber	schrift der Tiefe 1 (chapter)	1
	1.1	Erste	Überschrift Tiefe 2 (section)	1
		1.1.1	Erste Überschrift Tiefe 3 (subsection)	1
2	Zwe	ite Übe	erschrift der Tiefe 1 (chapter)	1
	2.1	Zweite	e Überschrift Tiefe 2 (section)	2
		2.1.1	Zweite Überschrift Tiefe 3 (subsection)	2
		2.1.2	Dritte Überschrift Tiefe 3 (subsection)	2
3	Drit	te Übe	rschrift der Tiefe 1 (chapter)	4
	3.1	Algori	thms	4
Bi	bliog	raphy		6
Lis	st of	Figure	s	8
Lis	st of	Tables		9
Lis	st of	source	codes	10
Lis	st of	Abbrev	viations	11
Α	Anh	ang A		12
В	Anh	ang B		13

1 Erste Überschrift der Tiefe 1 (chapter)

Etwas Text... Hier kommen noch einige Abkürzunge vor zum Beispiel Alphabet (ABC),world wide web (WWW) und Rolling on floor laughing (ROFL).

1.1 Erste Überschrift Tiefe 2 (section)

Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like "Huardest gefburn"? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

1.1.1 Erste Überschrift Tiefe 3 (subsection)

Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like "Huardest gefburn"? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

Erste Überschrift Tiefe 4 (subsubsection)

Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like "Huardest gefburn"? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

2 Zweite Überschrift der Tiefe 1 (chapter)

Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like "Huardest gefburn"? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

2.1 Zweite Überschrift Tiefe 2 (section)

Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like "Huardest gefburn"? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

2.1.1 Zweite Überschrift Tiefe 3 (subsection)

Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like "Huardest gefburn"? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

2.1.2 Dritte Überschrift Tiefe 3 (subsection)

Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like "Huardest gefburn"? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

Zweite Überschrift Tiefe 4 (subsubsection)

Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like "Huardest gefburn"? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

Querverweise werden in LaTEX automatisch erzeugt und verwaltet, damit sie leicht aktualisiert werden können. Hier wird zum Beispiel auf Abbildung 1 verwiesen.



Figure 1: Beispiel für die Beschriftung eines Buchrückens.



Figure 2: 2. Beispiel für die Beschriftung eines Buchrückens.

Und hier ist ein Verweis auf Tabelle 1. Das gezeigte Tabellenformat ist nur ein Beispiel. Tabellen können individuell gestaltet werden.

Datum	Thema	Raum
20.08.2008	Graphentheorie	HS 3.13
01.10.2008	Biomathematik	HS 1.05

Table 1: Semesterplan der Lehrveranstaltung "Angewandte Mathematik".

Table 2: 2. Semesterplan der Lehrveranstaltung "Angewandte Mathematik".

Datum	Thema	Raum
20.08.2008	Graphentheorie	HS 3.13
01.10.2008	Biomathematik	HS 1.05

Hier wird auf die Formel 1 verwiesen.

$$x = -\frac{p}{2} \pm \sqrt{\frac{p^2}{4} - q} \tag{1}$$

$$x = -\frac{p}{2} \pm \sqrt{\frac{p^2}{4} - q} \tag{2}$$

Literaturverweise sollten automatisch verwaltet werden, vor allem, wenn es viele Quellenverweise gibt. Beispiele sind [1], [2], [3], [4], [5], [6], [7], [8], [9], [10], [11], [12], [13], [14]. Das verwendete Zitierformat (bzw. das Format des Literaturverzeichnisses) ist entspechend der Vorgaben der Studiengänge zu wählen.

3 Dritte Überschrift der Tiefe 1 (chapter)

Hier wird etwas Quellcode dargestellt:

```
#include <iostream>
1
2
     void SayHello(void)
3
4
          // Kommentar
5
          cout << "Hello World!" << endl;</pre>
     }
8
     int main(int argc, char **argv)
10
          SayHello();
11
          return 0;
12
13
```

Listing 1: Hello-World

3.1 Algorithms

Use a defined environment for algorithms.

Algorithm 1 is an example from the gallery (https://www.overleaf.com/latex/examples/euclids-algorithm-an-example-of-how-to-write-algorithms-in-latex/mbysznrmktqf).

Algorithm 1 Euclid's algorithm

1: **procedure** EUCLID(a, b)

⊳ The g.c.d. of a and b

2: $r \leftarrow a \bmod b$

3: while $r \neq 0$ do

b We have the answer if r is 0

4: $a \leftarrow b$

5: $b \leftarrow r$

6: $r \leftarrow a \bmod b$

7: **return** b \triangleright The gcd is b

Bibliography

- [1] H. Kopka, *LaTeX*, *Band 1: Einführung*, 3rd ed. München: Pearson Studium, 2005.
- [2] H. Kopka, *LaTeX, Band 1: Einführung*, 3rd ed. München: Pearson Studium, 2005. [Online]. Available: http://www.pearson-studium.de (visited on 07/06/2011).
- [3] M. Goossens, F. Mittelbach, and A. Samarin, *Der LaTeX Begleiter*. Bonn: Addison-Wesley Deutschland, 2002.
- [4] S. Teschl, K. M. Göschka, and G. Essl, *Leitfaden zur Verfassung einer Bachelorarbeit oder Master Thesis*, FH Technikum Wien, 2014. [Online]. Available: www.technikum-wien.at (visited on 08/04/2014).
- [5] M. Humenberger, D. Hartermann, and W. Kubinger, "Evaluation of stereo matching systems for real world applications using structured light for ground truth estimation," in *Proceedings of the Tenth IAPR Conference on Machine Vision Applications (MVA2007)*, Tokyo, Japan: MVA Conference Committee, May 16, 2007, pp. 433–436.
- [6] M. Humenberger, C. Zinner, M. Weber, W. Kubinger, and M. Vincze, "A fast stereo matching algorithm suitable for embedded real-time systems," *Computer Vision and Image Understanding*, vol. 114, no. 11, pp. 1180–1202, 2010.
- [7] C. Zinner, W. Kubinger, and R. Isaacs, "Pfelib: A performance primitives library for embedded vision," *EURASIP Journal on Embedded Systems*, vol. 2007, pp. 1–14, 2007. [Online]. Available: http://downloads.hindawi.com/journals/es/2007/049051.pdf (visited on 07/06/2011).
- [8] H. Hemetsberger, *Ait stereo sensor im einsatz während der darpa urban challenge 2007*, AIT Austrian Institute of Technology, 2007.
- [9] Siemens Automation Technology, *Simatic*, 2011. [Online]. Available: http://www.automation.siemens.com/mcms/topics/de/simatic/Seiten/Default.aspx (visited on 07/06/2011).
- [10] Siemens Automation Technology, *Simatic*, [Online] Verfügbar unter: http://www.automation.siemens.com/mcms/topics/de/simatic/Seiten/Default.aspx [Zugang am 17.10.2014], 2014.
- [11] International Standards Office, *Iso* 690 *information and documentation: Bibliographical references: Electronic documents*, Genf: International Standards Office, 1998.

- [12] Atmel Corporation, *Atmel atmega16 8-bit microcontroller with 16k bytes in-system pro- grammable flash*, San Jose, United States: Atmel Corporation, 2011. [Online]. Available:
 http://www.atmel.com/dyn/resources/prod%5C_documents/doc2466.pdf (visited on 07/06/2011).
- [13] M. Humenberger, Real-time stereo matching for embedded systems in robotic applications, Wien: Technische Universität Wien, Fakultät für Elektrotechnik und Informationstechnik, 2011.
- [14] J. Pohn, Condition monitoring systeme für die zustandorientierte instandhaltung von windkraftanlagen, Wien: FH Technikum Wien, Masterstudiengang Innovations- und Technologiemanagement, 2010.

List of Figures

Figure 1	Beispiel für die Beschriftung eines Buchrückens	3
Figure 2	2. Beispiel für die Beschriftung eines Buchrückens	3

List of Tables

Table 1	Semesterplan der Lehrveranstaltung "Angewandte Mathematik"	3
Table 2	2. Semesterplan der Lehrveranstaltung "Angewandte Mathematik"	3

List of source codes

1 Hello-World		
---------------	--	--

List of Abbreviations

ABC Alphabet

WWW world wide web

ROFL Rolling on floor laughing

A Anhang A

B Anhang B