UNIVERSITY OF TECHNOLOGY CHEMNITZ

BACHELOR THESIS

Inspection and comparison of automated methods for embedding skeletons and motion retargeting for 3D Scans

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Declaration of Authorship

I, Mick KÖRNER, declare that this thesis titled, "Inspection and comparison of automated methods for embedding skeletons and motion retargeting for 3D Scans" and the work presented in it are my own. I confirm that:

- This work was done wholly or mainly while in candidature for a research degree at this University.
- Where any part of this thesis has previously been submitted for a degree or any other qualification at this University or any other institution, this has been clearly stated.
- Where I have consulted the published work of others, this is always clearly attributed.
- Where I have quoted from the work of others, the source is always given. With the exception of such quotations, this thesis is entirely my own work.
- I have acknowledged all main sources of help.
- Where the thesis is based on work done by myself jointly with others, I have made clear exactly what was done by others and what I have contributed myself.

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Abstract

Professorship of Computer Graphics and Visualization

Bachelor of Science

Inspection and comparison of automated methods for embedding skeletons and motion retargeting for 3D Scans

by Mick KÖRNER

The Thesis Abstract is written here (and usually kept to just this page). The page is kept centered vertically so can expand into the blank space above the title too...

Acknowledgements

Contents

List of Figures

List of Tables

List of Abbreviations

LAH	**L**ist **A**bbreviations **H**ere
WSF	**W**hat (it) **S**tands **F**or

Physical Constants

Speed of Light $\quad c_0 = 2.997\,924\,58 \times 10^8\,\mathrm{m\,s^{-1}}$ (exact)

List of Symbols

a	distance	m
P	power	W ($\mathrm{J\,s^{-1}}$)
ω	angular frequency	rad

For/Dedicated to/To my…

Chapter 1

Introduction (0. Aufgabenstellung)

1.1 The Problem

1.2 Overview

Chapter 2

Related Work

2.1 3D Animation Basics (0.5 Basics)

2.1.1 Joints

2.1.2 Skeletal Format

2.1.3 Pose Space vs. Work Space

2.1.4 Forward Kinematics

2.2 Inverse Kinematics (1. Inverse Kinematics)

2.2.1 Analytical Methods

2.2.2 Jacobian Methods

2.2.3 CCD

2.2.4 FABRIK

2.2.5 Other Methods

2.3 Constraints (2. Constraints)

2.3.1 Constraint Types

2.3.2 Jacobian Constraints

2.3.3 CCD Constraints

2.3.4 FABRIK Constraints

2.3.5 iTASC

2.4 Motion Retargeting (4. Motion Retargeting)

2.4.1 Available Tools

2.4.2 Skeleton Matching

2.4.3 Naive Retargeting

2.4.4 Limb based Retargeting

2.4.5 Machine Learning Approaches

2.5 Automated Rigging (5. Autorigging)

2.5.1 Machine Learning Approaches

2.5.2 Thinning Approaches (TODO genauer anschauen für mögliche impl?)

2.5.3 Skin Matching Approaches

2.5.4 SMPL fitting

2.5.5 Re-Meshing

Chapter 3

Motion Retarget Editor (6. Editor)

3.1 Chosen Tools

3.2 Scene Management

3.3 User Interface

3.3.1 Picking System

3.3.2 Imgui Integration

3.4 Animation System

3.4.1 Sequencer

3.4.2 Motion Retargeting and Rigging Integration

3.4.3 Editing Tools (Restore Restpose, apply Transform etc.)

3.5 Inverse Kinematics Implementation

3.5.1 Jacobian Method

3.5.2 CCD

3.5.3 FABRIK

3.6 Constraints Implementation

3.7 Motion Retargeting

3.8 Model Import and Export

Chapter 4

Conclusion and Future Work (7. Future)

4.1 Editor Improvements

4.2 Utilizing Skinning Alternatives

4.3 Other Useful Tools

4.4 Clothing

4.5 Motion Blending

4.6 Blender Addon

here is a citation test cite: [1] textcite: Gleicher [1] cite: [1]

Bibliography

[1] Michael Gleicher. "Comparing Constraint-Based Motion Editing Methods". In: *Graphical Models* 63.2 (Mar. 2001), pp. 107–134. ISSN: 15240703. DOI: 10.1006/gmod.2001.0549. URL: https://linkinghub.elsevier.com/retrieve/pii/S1524070301905491.