Master Thesis

Combine Mesh Rigging and Skinning with 3D Skeleton Data

Description

The professorship Digital Signal Processing and Circuit Technology is developing methods for human behavioral analysis. An application field is monitoring the care of elderly people.

Based on a 3D sensor device, it is possible to extract skeleton points of a person. These information can be used furthermore in physiotherapy sessions. It is planned to visualize the extended skeleton data to give an optical feedback. The task for this project is to conduct a literature survey in the field of mesh rigging and skinning.

Starting with a theoretical analysis of related state-of the-art approaches, one method should be selected for implementation.

The working steps of this project should be:

- literature research of state of the art mesh rigging in combination with Qt
- find a possible tool to rig an avatar
- export rigged mesh with all relevant data in a properly file format
- import file to Qt
- set up 3D device
- use 3D skeleton data to skin and animate the imported mesh
- evaluation of the results

It is expected that all tasks are documented as part of a scientific written report.

Recommended experience

- General understanding of image processing

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