Visualisierung Medizinischer Daten 2

VORBESPRECHUNG

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Webpage:
http://cg.tuwien.ac.at/courses/MedVis2/VU.html

Abgabesystem:
https://lva.cg.tuwien.ac.at/vismed2/
Introduction

- Visualisierung medizinischer Daten 2
- VU, 3 ECTS
- Mandatory for the master study Medizinische Informatik
Introduction

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- VU, 3 ECTS
- Mandatory for the master study Medizinische Informatik

Theoretical goals:
- Get a specialized knowledge in the field of medical visualization study
- Be able to study a state-of-the-art topic
Introduction

- Visualisierung medizinischer Daten 2
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- Mandatory for the master study *Medizinische Informatik*

Theoretical goals:

- Get a specialized knowledge in the field of medical visualization study
- Be able to study a state-of-the-art topic

Practically, be able to . . .

- . . . understand medical imaging data
- . . . implement basic visualization techniques
Roadmap

- A series of lectures throughout the semester
- Implement certain amount of visualization and image processing techniques
Roadmap

- A series of lectures throughout the semester
- Implement certain amount of visualization and image processing techniques

- Find a colleague (**group of 2 is preferred**)
- Choose sufficient topics (**list on the webpage**)
- Choose technologies for their implementation
- Write a short summary (**official registration**)
- Implement the topics, or even others
- Submit the results with the source code
- Present your results
Topics & Implementation

- Covers a wide spectrum of medical visualization
  - Slices
  - Volume rendering
  - Segmentation
  - … or choose a custom topic!
- Divided into three categories: easy, medium, hard
- **Mandatory**: at least one topic per category
- Every topic is worth a certain amount of points
- Choose others to reach a total of 35 points
Topics & Implementation

- Covers a wide spectrum of medical visualization
  - Slices
  - Volume rendering
  - Segmentation
  - ... or choose a custom topic!

- Divided into three categories: easy, medium, hard

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Implementation:

- Use your own framework, tools, libraries
- VolumeShop (provided on the webpage)
- Topics must be implemented, not taken from a library!
Useful Links

- Dates on the webpage

http://cg.tuwien.ac.at/courses/MedVis2/VU.html

- Choose a certain set of topics and implement them
- Oral exam at the end of the semester
The implementations need not necessarily be interactive
CPU implementations are sufficient
For all 3D visualizations (MIP, LMIP, MIDA, DVR) axis-aligned viewing directions are sufficient
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CPU implementations are sufficient

For all 3D visualizations (MIP, LMIP, MIDA, DVR)
axis-aligned viewing directions are sufficient

Bonus points:

+5 for any GPU implementation
+5 for arbitrary viewing directions (e.g., camera)
+5 for interactive 3D rendering (MIP, LMIP, MIDA, DVR, CPR, Iso-surface)
+5 for nice user interface widgets (e.g., 1D or 2D transfer function widgets)
## Important Dates

<table>
<thead>
<tr>
<th>Event</th>
<th>Date</th>
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<tbody>
<tr>
<td>1&lt;sup&gt;st&lt;/sup&gt; Submission (registration) deadline</td>
<td>26.10.2014</td>
</tr>
<tr>
<td>2&lt;sup&gt;nd&lt;/sup&gt; Submission deadline</td>
<td>14.01.2015</td>
</tr>
<tr>
<td>Presentations</td>
<td>15.01.2015</td>
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<tr>
<td></td>
<td>22.01.2015*</td>
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<tr>
<td>Oral exam &amp; review of results</td>
<td>29.01.2015</td>
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<td>30.01.2015</td>
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*At this date the BEST RESULTS will be awarded!

Submissions done via the ABGABESYSTEM

[https://lva.cg.tuwien.ac.at/vismed2/](https://lva.cg.tuwien.ac.at/vismed2/)
Grading

- VU consists of a practical & theoretical part
- Being negative in one means negative in total

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Component</th>
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<tbody>
<tr>
<td>5%</td>
<td>Summary of the topics and implementation outlook</td>
</tr>
<tr>
<td>35%</td>
<td>Results of the implementation</td>
</tr>
<tr>
<td>10%</td>
<td>Presentation of the results</td>
</tr>
</tbody>
</table>

Total for the practical part, BUT at least 25%: 50%

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Component</th>
</tr>
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<tbody>
<tr>
<td>50%</td>
<td>Oral exam</td>
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</table>

Total for the theoretical part, BUT at least 25%: 50%
First Steps

1. Register to the course in TISS
2. Form a group (1-2 members) via Abgabesystem
3. Choose topics and implementation technologies
4. Submit a short summary
   - About one A4 page (PDF)
   - List of topics
   - If custom topic, describe it shortly
   - Technologies used for the implementation

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Thank you!

Questions?

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