VisGap - The Gap between Visualization Research and Visualization Software

held in conjunction with EGEV2020
Norrköping, Sweden

May 25, 2020

Scope

Over the years, many visualization methods and tools have been developed and published by the visualization research community. However, most of these are prototypes and never reach a state that can be reliably used by the target audience, e.g., domain scientists. Also, availability of these prototypes as source code or at least as executables is still the exception rather than the norm. The VisGap Symposium aims to shed a light on this gap between research and practical applicability, examine the obstacles every researcher faces, and propose solutions to overcome this problem as a community.

VisGap'20 aims at gathering experts from all over the visualization community in order to advance the way our field works with software, sustains software, and values the effort our members put into developing said software.

Workshop Topics

Topics include, but are not limited to:

- Requirements for successful visualization in applications in general
- Domain-specific requirements for visualizations
- Reflections on the research community and the visualization software ecosystem
- Incentives and funding for developing/maintaining visualization research software
- Legal requirements (e.g., licensing, certification) for visualizations in applications
- Case studies of (un)successful visualization solutions in applications
- Requirements for novel visualization libraries

The chairs allowed our workshop to be extende‌‌‌‌‌‌‌‌‌‌‌‌nt the workshop to allow for in-depth discussions, so we decided to pool discussion time‌‌‌‌‌‌‌‌essions with the 8 longer talks, resulting in something in between panels and a regular workshop.

09:00 Session 1: Introduction & Keynote

Introduction

Invited Speaker: Julien Tierny, CNRS - Sorbonne Université

Julien Tierny received the Ph.D. degree in Computer Science from the University of Lille in 2008 and the Habilitation degree (HDR) from Sorbonne University in 2016. He is currently a CNRS permanent research scientist, affiliated with Sorbonne University (Paris, France). Prior to his CNRS tenure, he held a Fulbright fellowship (U.S. Department of State) and was a post-doctoral researcher at the Scientific Computing and Imaging Institute at the University of Utah. His research expertise lies in topological methods for data analysis and visualization. He co-authored two books on the topic and received several awards for his research, including best paper awards. He regularly serves as an international program committee member for the top venues in data visualization (IEEE VIS, EuroVis, etc.) and he is an associate editor for IEEE Transactions on Visualization and Computer Graphics. Julien Tierny is also the founder and lead developer of the Topology ToolKit (TTK), an open source library for topological data analysis.

Talk (10 min):

Johanna Schmidt: *Visualization in Notebook-Style Interfaces*

Discussion (5 min)

10:30 Coffee Break

11:00 Session 2: Guidelines and General Considerations

Talks (4x 15 min):

Mateus Espadoto: *Selecting and Sharing Multidimensional Projection Algorithms: A Practical View*
Karen Bemis: *Framing the challenges of operational and domain usage of visualization methods*
Robin Maack: *Towards closing the gap of medical visualization research and clinical daily routine*
Stefan Jänicke: *Participatory Visualization Design as an Approach to Minimize the Gap between Research and Application*

Joint Discussion (30 min)

12:30 Lunch

13:30 Session 3: Application Retrospectives

Renata Raidou: *Developing Visual Analytics Applications for Adaptive Prostate Cancer Radiotherapy*
Martin Skrodzki: *How the deprecation of Java applets affected online visualization frameworks - a case study*
Ulrik Günther: *Tales from the Trenches: Developing a new 3D viewer for the ImageJ community*

Joint Discussion (30 min)

15:00 Coffee Break

15:30 Session 4: Capstone & Closing

Talk (10 min):

Jorji Nonaka: *Lessons Learned from Large Data Visualization Software Development for the K computer*

Discussion (5 min)

Invited Speaker: Sebastian Grottel, Manager 3D Software Engineering at FARO Scanner Production GmbH

Sebastian Grottel worked as researcher at the Institute of Visualization and Interactive Systems, and the Visualization Research Center of the University of Stuttgart. He received his PhD on Point-based Visualization of Molecular Dynamics Data Sets. He worked as post-doctoral researcher at the Chair for Computer Graphics and Visualization at the Technical University of Dresden. His research focus was in interactive scientific visualization of large particle-based data sets and multi-dimensional data. Sebastian joined FARO Scanner Production GmbH as senior software developer, working on software for very large point-cloud data sets, resulting from many terrestrial LIDAR scans. He is now manager in Research and Development, and coordinates development of two large software packages for data processing and interactive visualization.

Closing

Call for Papers

extension of previous work (at least 30%). Papers are to be submitted via PCS.
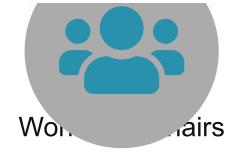
All submissions will undergo a single-blind, single-stage peer review process. Accepted papers will be published by the Eurographics Association, and be stored in the Eurographics Digital Library. At least one author of each accepted paper must register and participate in the VisGap 2020 workshop to present the accepted work.

All papers must be submitted through PCS (https://new.precisionconference.com/vgtc).

Important Dates (**Updated!**)

- ~~February 29~~ **March 10**, 2020 Submission deadline
- ~~April 3~~ **April 10**, 2020 Notification
- ~~April 17~~ **April 24**, 2020 Camera ready version
- May 25, 2020 Workshop

Wor... ...airs

Christina Gillmann, Leipzig University, Germany
Michael Krone, Eberhard Karls University of Tübingen, Germany
Guido Reina, University of Stuttgart, Germany
Thomas Wischgoll, Wright State University, Dayton, USA

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Aaron Knoll, Intel Corporation
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Patric Ljung, Linköping University
Kresimir Matkovic, VRVis Research Center
Kenneth Moreland, Sandia National Laboratories
Paul Navratil, The University of Texas at Austin
Jorji Nonaka, RIKEN Center for Computational Science
Daniela Oelke, Siemens Corporate Technology
Timo Ropinski, Ulm University
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Tom Vierjahn, Westphalian University of Applied Sciences
Gunther Weber, Lawrence Berkeley National Laboratory
Daniel Wiegreffe, Institute of Computer Science
Xiaoru Yuan, Peking University