Restructuring VIS for the Future - Workshop Summary Report
Dagstuhl, May 3-4, 2018 and BIRS, June 15-17, 2018

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Introduction

IEEE VIS, the premier conference in the field of visualization, is at a crossroad: for many years it has been subdivided into the SciVis, InfoVis, and Visual Analytics conferences. There is now considerable appetite to consider alternative structures, such as a more unified conference, that may better enhance vibrancy and growth. Our goals are to preserve intellectual diversity while promoting organizational consistency. A subcommittee (Hagen, Keim, Munzner, North, and Pfister) has been charged by the VIS Executive Committee (VEC) to guide this decision-making process, which started in 2016.

Two similar workshops were held in the summer of 2018, at Dagstuhl in Wadern, Germany, and BIRS in Banff, Canada, as the cornerstones that provided a broad cross-section of the community a voice into the set of options under consideration. Invitees included the VEC, VIS Steering Committees, selected members of recent and upcoming VIS Organizing Committees, and many earlier-career researchers. The recommendations that arose from these workshops will shape the future of our flagship venue and thus the field of visualization for the coming decades.

Process

The organizers invited 144 visualization researchers and practitioners who held current and recent organizing and steering committee positions and people who participated in the early career meet-up at VIS 2017, which was mainly tenure-track faculty who are ultimately going to lead the future of the VIS conference. The notably high acceptance rate of about 70% indicated that the topic of the workshops resonates with the community. Ultimately we had 43 attendees at Dagstuhl and 47 attendees at BIRS, including some last minute cancellations.

The participants wrote one-page statements that were shared before the meeting. The organizers gave an initial briefing to frame the discussion regarding goals, scenarios, and lenses through which to evaluate them, and concerns and challenges. Participants made short oral statements highlighting key points from their one-pagers. After a brainstorming session to propose topics for breakout meetings, the organizers grouped the topics into themes. There was a series of breakout meetings, with plenary sessions to discuss the results and iteratively re-organize the themes based on progress made. Participants submitted one-page follow-up reflections a few weeks after each workshop.

Unification

A vast majority of attendees were in favor of unifying the three conferences. Although the separation of V-I-S (VAST - InfoVis - SciVis) has a historical basis, it raises many issues. Newer attendees of the VIS conference do not understand the separation and find it confusing. Another problem is that the separation may not align well with paper submissions, in which multiple aspects of visualization are involved that cross-cut the three historical areas. The discussion covered both internal and external unification.

A first step towards external unification, primarily affecting authors, was to allow authors to submit to either V-I-S conference or VIS in general and in the latter case let the PC chairs decide by which of V-I-S conference sub-committees the paper is reviewed. Another proposal was to immediately move to a uniform set of publication mechanisms across all three V-I-S tracks so that they all have conference-only and short papers in addition to TVCG papers. A proposal for external unification, primarily affecting attendees, was to have paper sessions integrated across all three V-I-S tracks. All three steps towards external unification could be implemented immediately, and are independent from an internal unification of the reviewing process.

Proposals for internal unification focused on how the current three-part chairship for organizers from each of V-I-S could be improved. A PC structure based on an area chair model was discussed, where the key questions are the number of areas, exactly what the categories are, the right balance between continuity of existing categories and vibrancy from changing them, and the governance process of how these decisions are made. There was debate over whether starting with the existing three conference areas as the categories, possibly with the addition of

a fourth multicategory track, would be a useful first step or a counterproductive diversion from real change.

Publication Model

The publication model was extensively discussed. One major issue is that submission to V-I-S is possible only once a year. Some attendees expressed a desire for a rolling submission model, with several deadlines throughout the year, to increase the number of potential reviewing rounds with the goals of decreasing the burstiness of work for both authors and reviewers and potentially increasing review quality due to less time pressure. However, concerns were raised that increasing the number of submissions to the VIS conference in this way would very likely hurt the submissions to other conferences such as EuroVis and PacificVis and the TVCG journal, to the detriment of the health of the field as a whole.

Another extensive debate revolved around a journal-only option, where journal papers would only be possible through the TVCG umbrella (rather than the current dual-track policy that VIS runs its reviewing and publishes proceedings as a special issue and in addition all TVCG papers have talks at VIS). Although there is substantial overlap between the pool of people who review for both venues and are VIS papers chairs or TVCG associate editors, TVCG policies could be changed abruptly by IEEE Computer Society dictate or by decisions made by its constituencies. Concerns were raised that relinquishing our flagship publication track to an entity that is not under the direct control of the VIS community might be unwise.

There were also suggestions on improving the review process while reducing the burden on individual reviewers and the appropriate target for acceptance rates. There was a desire to accommodate multiple levels of effort and quality under the VIS umbrella because some attendees have goals that do not align with publishing TVCG journal papers. Some suggested adding partnerships with other journals. A substantial majority of attendees were in favor of short papers with a later deadline than the full papers (in the same spirit as EuroVis).

Attendees of the workshop also made several suggestions for new publication formats including explainer sites, online demos, and open source contributions. There was also discussion about improving the quality of some of the presentations into more TED-like talks that would be

approachable by a general audience. In general, these new contribution formats need more consideration.

Practitioners

There was strong agreement of the need to attract more practitioners, even as there was a great deal of controversy over who these people are and how we might connect with them more effectively. There was discussion of the many different kinds of practitioners that we might attract and what terms these non-academics might find appropriate for themselves. There was also debate about what kinds of content and mechanisms would align with their incentives, and many noted that papers are not rewarded outside of academia. The suggestion of an option to offer a lower-cost one-day ticket was made, in conjunction with the idea that the technical program could be structured to make one-day attendance more attractive to various types of participants.

Growth in Size, Breadth, and Depth

For the ideal growth in size, there was no consensus. Suggestions ranged from keeping the current size (about 1,000 attendees) to aiming for gradual increases up to double in current size, to massive expansion to the size of the CHI conference.

There was a clear wish to increase the range of VIS, both concerning increasing the breadth of targeted topics and the depth of our impact on the world including adjacent fields. The suggestions included having more parallel sessions and including new topics such as education.

Also, there was extensive discussion of how to increase the diversity of the community to keep it healthy, covering both demographic diversity (increasing the participation of underrepresented groups including gender, race) and intellectual diversity (increasing the participation of people from other fields and of non-academics). In this context, several significant issues were raised: How to start something new in the ecosystem of the VIS conference? How does the entire VIS system relate to adjacent fields such as scientific computing and data science? How can the field do more to recognize the practical successes we have already had, and highlight them to attract practitioners?

Application Papers

There was a clear consensus that we need more application papers. Although the suggestions on this topic were varied, an option that had strong support was to immediately establish a separate application track for papers, with appropriate reviewing criteria that differ from the current call for research papers. This unified track would accept papers from all areas of V-I-S, independently of any other unification efforts that might take more time to work out for the research papers. A suggestion about having mini-symposia on designated topics also received positive feedback.

Governance

There was concern that the upper levels of the organization (VGTC ExCom) are not flexible enough to respond to changing situations and needs by acting on them, due to insufficient turnover and a very top-down structure with a great deal of control from the VGTC chair. For comparison, the SIGGRAPH ExCom has nine elected positions (not just one) and one seat for a past chair (not seven). There was agreement that the VEC would need to change composition in a unified VIS, but no discussion of concrete alternatives to the current structure. The participants generally agreed there should be a well-defined Code of Conduct for the conference itself, not just for the preparation of submitted papers.

Divergence

The two workshops were designed to have many commonalities but also to allow divergent themes to arise from the different sets of participants. The most obvious points of divergence were a much more detailed discussion of the journal-only option at Dagstuhl and the area chair publication model at BIRS.

Next Steps

The committee will report these findings to the Visualization Executive Committee (VEC). This report constitutes an executive summary; a more detailed version, including a set of committee recommendations, will be distributed to the VEC and the community and discussed at an open meeting at the VIS 2018 Conference in Berlin. The committee would like to thank Dagstuhl and BIRS for their hospitality and generous support of our endeavors.