

Enhancing interaction with supplementary Supportive User Interfaces (UIs): Meta-UIs, Mega-UIs, Extra-UIs, Supra-UIs ...

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ABSTRACT

In order to improve the interaction control and intelligibility, end-user applications are supplemented with Supportive User Interfaces (SUI), like meta-UIs, mega-UIs, helping or configuration wizards. These additional UIs support the users by providing them with information about the available functionalities, the context of use, or the performed adaptations. Such UIs allow the user to supervise and modify an application interactive behavior according to her/his needs.

Given the rising complexity of interactive systems, supportive UIs are highly desirable features. However, there is currently no common understanding of types and roles of supportive UIs. Enabling concepts and definitions underlying the engineering of such UIs are also missing. In order to fill this gap, the workshop seeks a discussion with a broad audience of researchers, who have experience with the design and development of supportive UIs.

Author Keywords

Supportive User Interfaces, UIs quality, explanative UIs, help systems, awareness of the context of use, meta-UI, mega-UI, supra UI.

ACM Classification Keywords

H.5.2 [User Interfaces]: Ergonomics, Graphical user interfaces (GUI), Prototyping, User-centered design, Evaluation/methodology. D.2.2 [Software Engineering]: Design Tools and Techniques, User Interfaces.

General Terms

Design, Human factors, Algorithms.

INTRODUCTION

Enabling technologies make it possible to create more and more complex systems in terms of functional core, new interaction techniques and context-of-use dynamics. Coming along with systems complexity, the users require a better understanding and control of their applications.

In the aftermath of “pervasive intelligibility” researches [5], this workshop focuses on human-computer interaction and more specifically on the engineering of user interfaces to foster intelligibility and control. User interface intelligibility has been approached from different perspectives. The concept of “Meta-UI” has been introduced as a metaphorical UI to *control and evaluate the state of interactive ambient spaces* [1]. Other works focus on self-explanatory user interfaces, and make it possible for the end-user to *understand the design of the user interface* [4]. The Crystal tabletop prototype has been developed to handle a complex platform composed of components like TVs, robots, picture frames, etc. [3]. Crystal provides the users with intelligible UIs to *control the media distribution and the component discovery*.

Such research projects exemplify the notion of **supportive UI**. In a broader context this workshop aims to identify and classify the supportive UIs that may enhance the interaction (e.g., by rendering the workflow in e-government applications or making it possible to the end-user to see the available platforms in the surrounding and redistribute the UIs him/herself). These include Meta-UIs [1], Mega-UIs [2], self-explanatory UI, Supra-UIs and others. The goals of the workshop are to:

- Define the concept of supportive UI,
- Elicit the dimensions of supportive UIs through a taxonomy that would cover both the abstraction and presentation of supportive UIs,
- Discuss the properties supportive UIs should convey,
- Explore how to integrate supportive UIs into development processes and Model-based UI development,
- Identify the key research stakeholders for further research.

To that end, examples of points of discussion could be:

- What is the added-value for the users? Which one is the border between UI and supportive UI? Do UIs for help, personalization or end-user programming belong to supportive UIs?

- Are supportive UIs parts of the original UI? Are they generic or do they require application-specific features or rendering?
- How to take benefit from model-based approaches to integrate supportive UIs by design?
- How to evaluate supportive UIs?

The relevance of the workshop is two-fold: first, to improve the quality of UIs, and to reconcile research areas (e.g., model-based approaches, end-user programming).

ORGANIZATION

Alexandre Demeure is assistant professor at the University of Grenoble. His main research interests include plasticity of UIs, software architecture for HCI, multitouch interaction and creativity support. **Grzegorz Lehmann** is a PhD student at the Technische Universität Berlin. His research focuses on the utilization of runtime and executable models for developing ubiquitous UIs. **Mathieu Petit** is a post doctoral fellow at the University of Grenoble. His current research focuses on model description and automated transformation to design plastic UIs. **Gaëlle Calvary** is professor at the University of Grenoble. Her research area is about UI plasticity to ensure UI quality along the variations of the context of use. She mostly explores model-driven engineering.

FORMAT

We propose a one-day workshop with six working hours, excluding the breaks. Our goal is to facilitate a combination of presentations, demonstrations, discussions and community building.

Candidate participants must submit a short paper or a position statement. The short paper describes experiences, ongoing work or results related to the workshop's topic. We encourage submissions including video demonstrations. A position statement describes requirements or issues the participant encounters when designing and/or implementing supportive UIs, as well as desirable solutions from the author's point of view.

In order to focus the discussion on supportive UIs concepts and design, the organizers will select the most prominent themes relative to the workshop topic from the set of accepted papers. The authors will be asked to mainly focus their presentations on these relevant themes.

At first, the participants will introduce themselves. Each introduction should include a short statement about the favorite problem to tackle during the workshop. After the introductions, Jérémie Melchior, from Université Catholique de Louvain (Belgium) will give an introduction speech about quality properties for intelligent UIs. The workshop will then focus on reviews and discussions of topics emerged from the position papers. The selected papers will be presented in two one-hour slots.

After the lunch break, participants will be split into groups structured around the core topics provided in the papers and

statements. Afterwards, the groups will report back to the plenary forum. The following is a tentative schedule for the workshop, time given in working hours, excluding breaks:

0:00-0:15	Introduction by the organizers
0:15-45	Brief introduction talk by each participant, using predefined template (e.g., background, experience, favorite problem)
0:45-1:15	Invited talk : "Quality properties of intelligent interfaces" by Jérémie Melchior
1:15-2:15	Selected paper presentations
2:15	Break
2:15-3:15	Selected paper presentations
3:15-3:30	Summary and presentation of afternoon works
3:30	Lunch
3:30-5:00	Breakout groups – initiation
5:00-6:30	Plenary discussion on group results, future agenda and follow-up activities

PROGRAM COMMITTEE

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WEBSITE AND CONTACT

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