User Interfaces and Scheduling and Planning (UISP)

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Why Are We Here?

We solicited papers and participation in this workshop to discuss the following themes:

• User Interfaces for Planning and Scheduling Systems
• Planning and Scheduling to build better user interfaces (UIs)
• Emerging UI technology
Why Are We Here?

User Interfaces for Planning and Scheduling Systems:

• Increase usability of ICAPS derived technology.
• Stimulate UI-related automated planning research in the ICAPS community.
• Opportunities to collaborate with other communities (e.g. Human Computer Interaction).
Why Are We Here?

Planning and Scheduling technology to build better UIs.

• ICAPS derived technology to build UI workflows.

• Automated reasoning systems to automatically generate the UI itself.
Why Are We Here?

Emerging UI technology
• Virtual Reality and Augmented Reality.
• Natural Language Processing.
• Haptics.
Ancient History
(>10 years)

• Spoken language interfaces to AI planning
  – Dowding et al. 2002
  – DARPA CALO project (origins of Siri) (2005)

• Integrating automated reasoning and humans

• Automated reasoning to build UIs
  – Weld et al. 2003, Gajos et al. 2004

• ...and much more!
Not-So-Ancient History (within 10 years)

• Aerospace (ahem, NASA) Applications
  – Bresina et al. 2005, Aghveli et al., 2007, Deans et al. 2011, Meuleau et al., 2009, Frank et al. 2017

• Integrating automated reasoning and humans
  – Mohseni-Kabir 2015

• Planning visual search strategies for improved UIs
  – Chen et al. CHI 2015

• Human Robot Interaction
  – Nikolaidis et al., 2012, Lasota et al., 2015, Gombolay et al., 2017

• Knowledge Engineering Tools
  – Vaquero et al., 2007

• ...and much more!
Workshop overview

• 8 papers
  – 6 long, 2 short

• 2 invited talks
  – 1 academic, 1 industry

• 1 panel
  – Mix of perspectives

• Discussion
  – What next?
Some Videos:

NASA Exploration Ground Data System (long)

- [https://www.youtube.com/watch?v=CrDdtVEJyCk](https://www.youtube.com/watch?v=CrDdtVEJyCk)

Orion Cockpit (short)

- [https://www.youtube.com/watch?v=cM4qKfNuFX4](https://www.youtube.com/watch?v=cM4qKfNuFX4)
Panel: Google Doc

- https://docs.google.com/document/d/13cYrbZEAMzyESO4FoEuJmKVS7mXBZyM-AZ5WgqNrvM/edit
Let’s get on with it, then!
Bibliography


DARPA CALO https://en.wikipedia.org/wiki/CALO.


Tiago Stegun Vaquero and Victor Romero and Flavio Tonidandel and Jose Reinaldo Silva. itSIMPLE2.0: An Integrated Tool for Designing Planning Domains. ICAPS 2007


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