First Workshop on Hypermedia Multi-Agent Systems

May 13, San Francisco, CA
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Weaving a Web for People and Artificial Agents
The World Wide Web -
An Internet-scale hypermedia environment for people
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Local guidance: hypermedia
The World Wide Web - An Internet-scale hypermedia environment for people

Local guidance: hypermedia
Global guidance: the buyer's goal
“(…) in fact documents on the web describe real objects and imaginary concepts, and give particular relationships between them. (…) This means that machines, as well as operating on the web information, can do real things.”
Sir Tim Berners-Lee, WWW 1994

“Hypertext does not need to be HTML on a browser. Machines can follow links when they understand the data format and relationship types.”

“(…) then automated agents can traverse these applications almost as well as any human. There are plenty of examples in the linked data communities. (…) and thus we can design the protocols to support both machine and human-driven applications by following the same architectural style.”
Roy Fielding, 2008
What About the “Automated Agents”?

Local guidance: hypermedia is increasingly used in Web service design

- W3C Web of Things Thing Description, W3C Linked Data Platform, Hydra, RESTdesc, HAL, etc.

Global guidance: how can software agents achieve their design goals by navigating the hypermedia and deciding autonomously among the various options presented to them at run-time?

- research on multi-agent systems (MAS) already provides solutions to design, program, debug, monitor, regulate, and coordinate autonomous, goal-directed agents
- it is now necessary to have comprehensive discussions on integrating hypermedia systems and MAS, what we call hypermedia MAS
Hypermedia Multi-Agent Systems

Socio-technical systems composed of people and autonomous agents situated and interacting in a shared hypermedia environment that is distributed across the open Web.

Distributed hypermedia environment

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Distributed hypermedia environment
Why HyperAgents 2019?

To establish a common forum for both the Web and MAS communities, and to create social, conceptual and technological bridges across these fields.

AAMAS 2019

18th International Conference on Autonomous Agents and Multiagent Systems
(Montreal, May 13th-17th)
Organization

41 PC members (incl. senior researchers from both the Web and MAS communities)
4 submissions, 20 reviews, 3 accepted papers
Sponsor: Siemens Corporate Technology
# Workshop Program

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
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</thead>
<tbody>
<tr>
<td>14:00</td>
<td>Welcome and Opening</td>
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<tr>
<td>14:50</td>
<td>MAMS: Multi-Agent MicroServices (Rem Collier)</td>
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<td>15:10</td>
<td>Digital Companion for Industry (Florian Michahelles)</td>
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<td>15:20</td>
<td>Towards Enabling Internet-Scale Context-as-a-Service (Alexandru Sorici)</td>
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<td>15:30</td>
<td>Coffee Break</td>
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<tr>
<td>16:00</td>
<td>Keynote (Florian Michahelles): As We May Work - Free Minds from Routines and Enable Creativity and Intuition</td>
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<td>16:30</td>
<td>Keynote (Mike Amundsen): &quot;Such a rich set of affordances&quot; - Mapping the Hyperagent Ecosystem</td>
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<td>17:00</td>
<td>1 Minute Madness and Breakout Discussions</td>
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<tr>
<td>17:25</td>
<td>Wrap up</td>
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<td>Social Evening</td>
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“1 Minute Madness” and Breakout Discussions

Objective: to offer everyone the opportunity to participate actively in the workshop

How it works:

- ideas for the “1 Minute Madness” were submitted online
- the submission system will stay open until the beginning of the coffee break
- each idea gets 1 slide (16:9, PDF) and 1 minute for presentation
Social Evening

Let’s continue our discussions right after the workshop!

5:45pm, Eclipse Rooftop Bar (Hyatt Regency)

Drinks are sponsored by Siemens Corporate Technology