



CLAW!

First workshop on Conversational Interfaces
for Agentic Web-browsing

| Agenda

- Introduction
- Icebreaker
- Storyboard activity
- Closing
- After workshop activities

| Organizers



Heloisa Candello

Associate Professor at Inteli, and worked as a Senior Research Scientist for more than 10 years in IBM Research. Her work explores the design and evaluation of ethical, engaging AI interaction.



Maristella Matera

Full professor of Computer Engineering at Politecnico di Milano. Her current research interests focus on AI technologies for multimodal systems, with an emphasis on ensuring that emerging technologies are aligned with human needs and values.

| Organizers



Christine Murad

Post-Doctoral Fellow in the SPIRL lab at Carleton University, and a Research Associate at the University of Waterloo. Her research involves exploring the design of human-centered AI, with a focus on conversational voice interfaces and the development of design heuristics.



Ludovica Piro

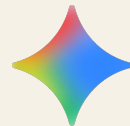
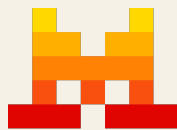
PostDoc researcher at Politecnico di Milano. She specializes in Conversational User Interfaces and web accessibility. Her work explores the intersection of conversational interaction and accessible web browsing.

| From LLM-based chatbots

The unprecedented flexibility in dialogue offered by LLMs made natural-language interaction far more practical than previously possible.



perplexity



Gemini



deepseek



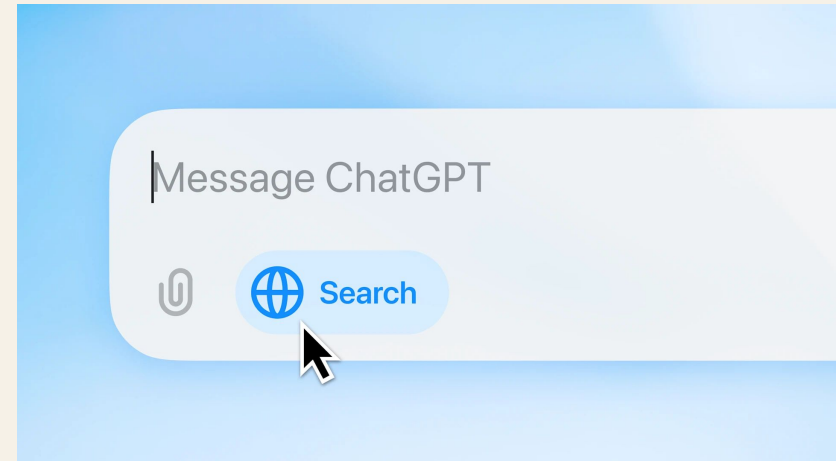
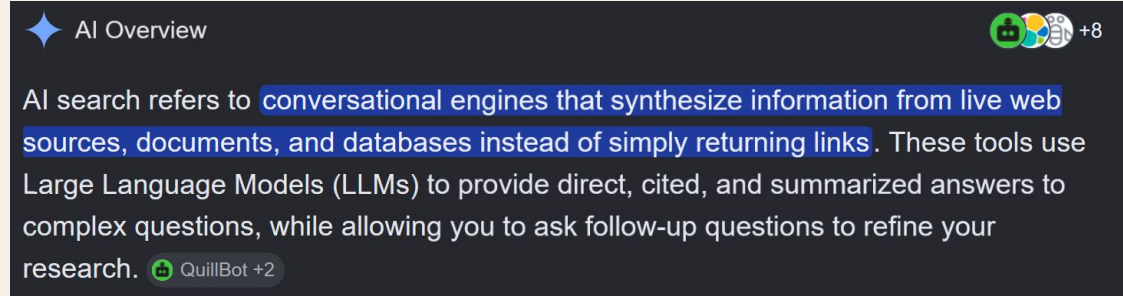
Claude

| ... to AI search...

Leveraging the models capabilities in summarizing and retrieving information, a first integration with the Web was AI search.

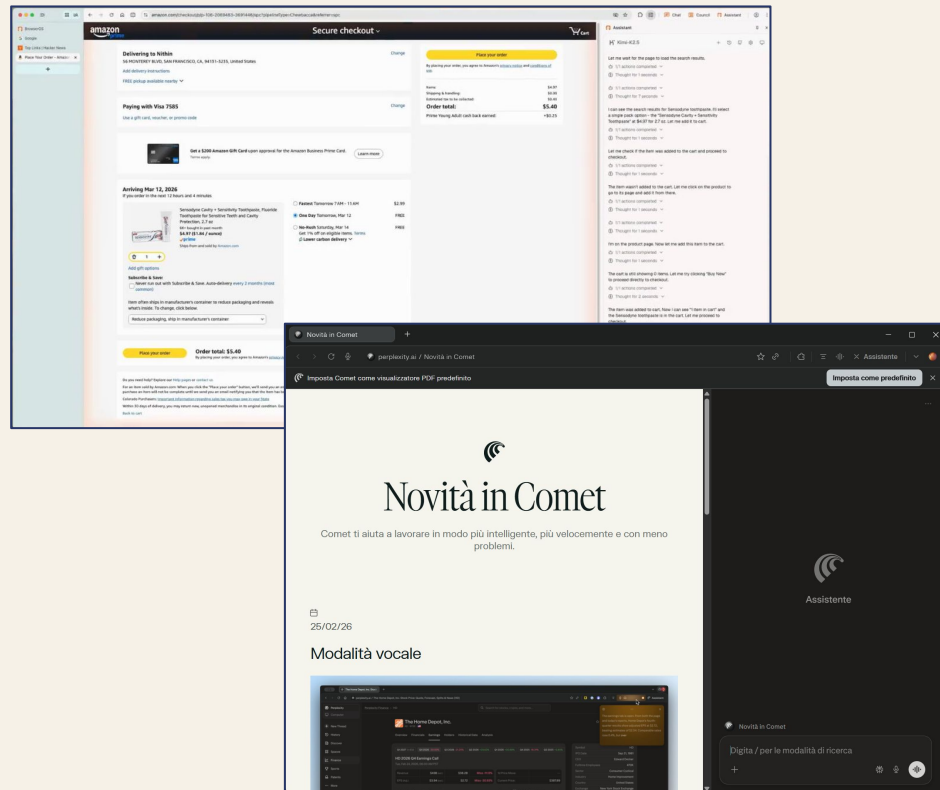
Changing user behaviour: users do not visit certain websites, but consume the AI content instead.

<https://www.similarweb.com/corp/the-2026-generative-ai-landscape/>



| ... to agentic web browsing

Now, *agentic browsers* promise to automate complex workflows, such as planning trips, and to operate almost completely independently on the Web in place of human users.





| New challenges and opportunities

Challenges

- Managing sensitive data
- Understanding the influence of web interfaces on agent behavior
- Ensuring user agency
- Establishing accountability
- Surfacing underrepresented groups needs

Opportunities

- Increasing the accessibility of digital systems
- Lowering the cognitive demands of complex workflows
- Personalized interface generation
- New affordances for verification and fact-checking

| Sources

- [Dark Patterns Meet GUI Agents: LLM Agent Susceptibility to Manipulative Interfaces and the Role of Human Oversight](#)
- [Characterizing Unintended Consequences of GUI Agents For Web Browsing](#)
- [From Human Web to Agentic Web: When Machines Become the Internet's Primary Users](#)
- [Co-Disclosing the Computer: LLM-Mediated Computing through Reflective Conversation](#)
- [Conversational Web Browsing: Where Do Existing Design Guidelines Fall Short?](#)

| Let's start!

| Introduce yourselves!

- 1) Who are you and where are you from?
- 2) In 1 phrase, what challenges, problems or opportunities do you see in agentic browsing?
- 3) How does it relate to your research?
- 4) What would you like to have done in your research within next CUI?

| Introduce yourselves!

- 1) Backtracking: how do you undo and go back one or a few steps?
- 2) What happens when user intents are underspecified?
- 3) How biases present themselves in agentic search?
- 4) Will users lose creativity and problem solving skills if they over-rely on agentic interaction?
- 5) What does the user do while the agent is working? What happens in the context of embodied interactions?
- 6) How do we preserve user agency and control?
- 7) How can we measure social impact using agentic systems?
- 8) What to preserve of web-authors identity in the agentic mediation?
- 9) What interaction patterns are needed to ensure accessibility?

| Practical activity

| Practical activity: storyboards (Phase 01)

1. Choose a theme

- Designing for the new paradigm for web browsing
- Inclusivity and Accessibility
- Interaction Models for the Agentic Web
- Limitations of Current Solutions
- The Use of Voice and Speech in the Agentic Web

2. Choose a context

- Health
- Leisure
- Work
- Education
- Language learning
- Information foraging

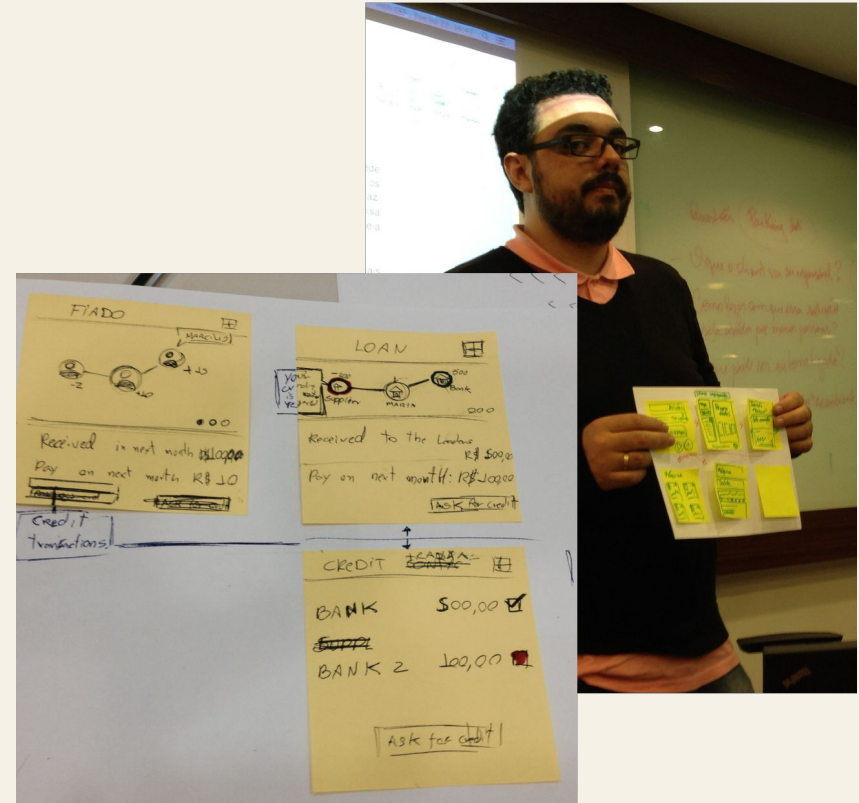
2. Choose a challenge

- Managing sensitive data
- Understanding the influence of web interfaces on agent behavior
- Ensuring user agency
- Establishing accountability
- Surfacing underrepresented groups' needs

Practical activity: storyboards (Phase 01)

45 min

1. **Sketch:** Individually map the scenario flow using up to 6 post-its.
2. **Discuss:** Compare your sketches with your partner or group.
3. **Align:** Agree on the best final flow (create new one based on the individual ones).
4. **Share:** Photograph your board and share with the team



Practical activity: storyboards (Phase 02)

20 min

1. **Evaluate the group storyboard according to the dimensions:**
Choose at least two dimensions
2. **Redesign or adapt if necessary**
3. **Present:** Be ready to present your single group storyboard
(5 min)

List of dimensions

- Privacy and data handling
- Trust and transparency
- Accessibility
- Users' autonomy and control
- System accountability and permissions
- Usability

Discuss & share!

USER PERSONA :- 65 year old, looking for health plans. INTERACTION MODELS.

MEDICARE
ENROLLMENT
SITE

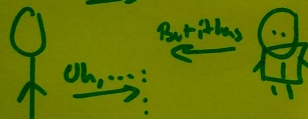
I'M HERE
TO EXPLAIN
THE RULES

ARE YOU ARE:

- OLDER
- BLIND
- PAUPER

AUTONOMY

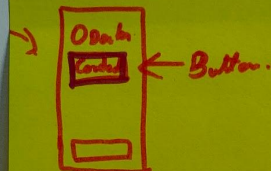
Explain and Refine
X costs more than Y!



SCENARIOS



-IF YOU WERE
TO FALL SEVERELY
ILL AT 75.. "



A: Contact the doctor
professional.

Finalize Selection

Option Y

Pros: ...

Cons: ...

Important Notes:
.....



Everything OK? Sing!

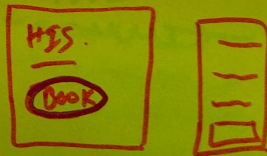
Sort Options

1- Option X
Reasons ...

2- Option Y
Reasons ...
...

ACCOUNTABLE

NEXT STEPS

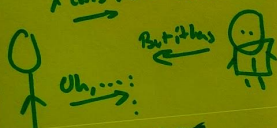


R: OKay fine. Book
blood test appt.

Agent asks for
private Information

PRIVACY & DATA HANDLING AUTONOMY

Explain and Refine
X cuts more than Y?

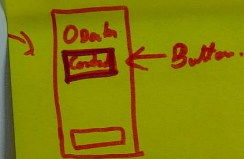


SCENARIOS



-IF YOU WERE
TO FALL SEVERELY
ILL AT 75.. "

65 year old, looking for health plans. INTERACTION MODELS.



A: Contact the ~~doctor~~
professional.

SYSTEM ACCOUNTABLE

Finalize Selection

Option Y

Pros: ...

Cons: ...

Important Notes:
.....



Everything OK! Sing!

Sort Options

1- Option X

Reasons ...

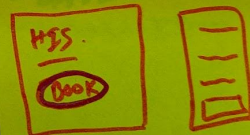
2- Option Y

Reasons ...

...

SYSTEM ACCOUNTABLE

NEXT STEPS

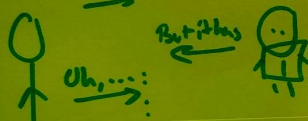


R: OKay fine. Book
blood test opt.

Voice + HBS

USER'S AUTONOMY

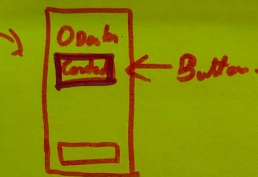
Explain and Refine
X costs more than Y!



SCENARIOS



- IF YOU WERE
TO FALL SEVERELY
ILL AT 75. ..



A: Contact the ~~doctor~~
professional.

SYSTEM ACCOUNTABLE

Finalize Selection

Option Y

Pros: ...

Cons: ...

Important Notes:
.....



Everything OK! Sign!

Sort Options

1- Option X
Reasons ...

2- Option Y
Reasons ...
:

SYSTEM ACCOUNTABLE

NEXT STEPS

- SAVE
- ~~COMMIT~~
- START NEW
SCENARIO
- ~~CHALLENGE LAST~~
YEAR'S SELECTION

SYSTEM ACCOUNTABLE

MISS

Book

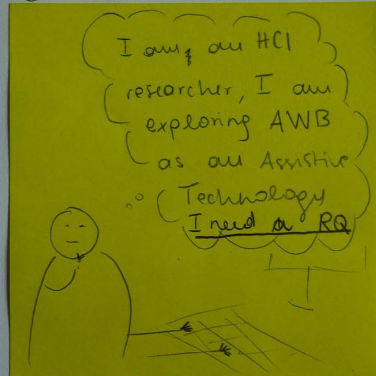
R: OK
done

Life + Health

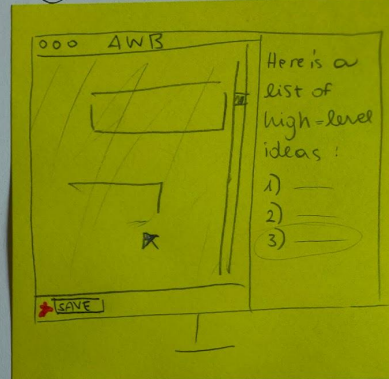
① CONFIGURATION

* Optional configuration:
user can enable
(adjust on a scale)
personalization
SHOW / NOT SHOW
+ REASONING STEPS

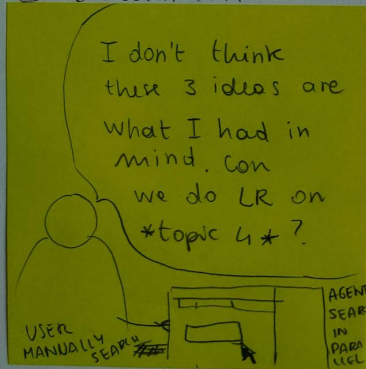
② INSTRUCTING SYS.



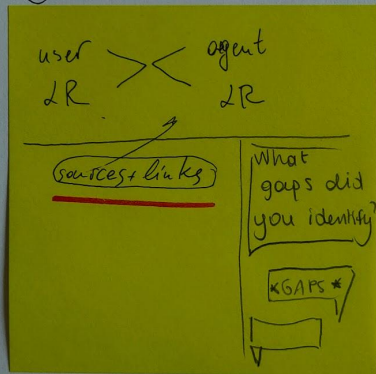
③ 1st ANSWER



④ EXPLORATION

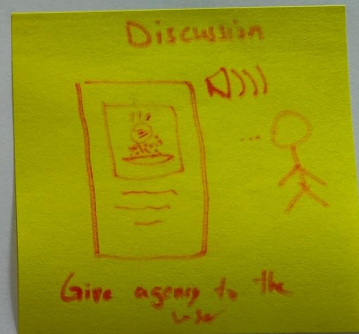
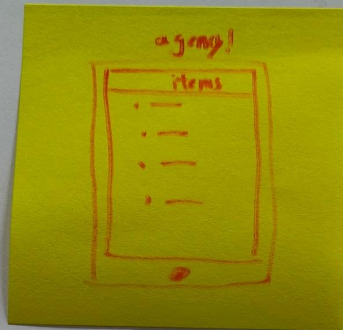


⑤ SYNTHESIS



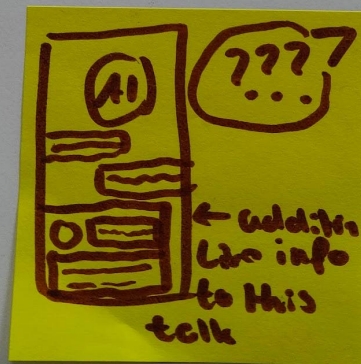
⑥ RESULT





listen is to +
include discussion
with
waiter

providing options + translate / participate in discussion



Discussion
user autonomy
&
control

+
privacy & data
handling

↓
local model
for translation

↑ only searching if I need
specific information

show info in protocol
what was processed locally /
via wa api