Beyond Individual UX: Defining Group Experience(GX) as a New Paradigm for Group-centered AI

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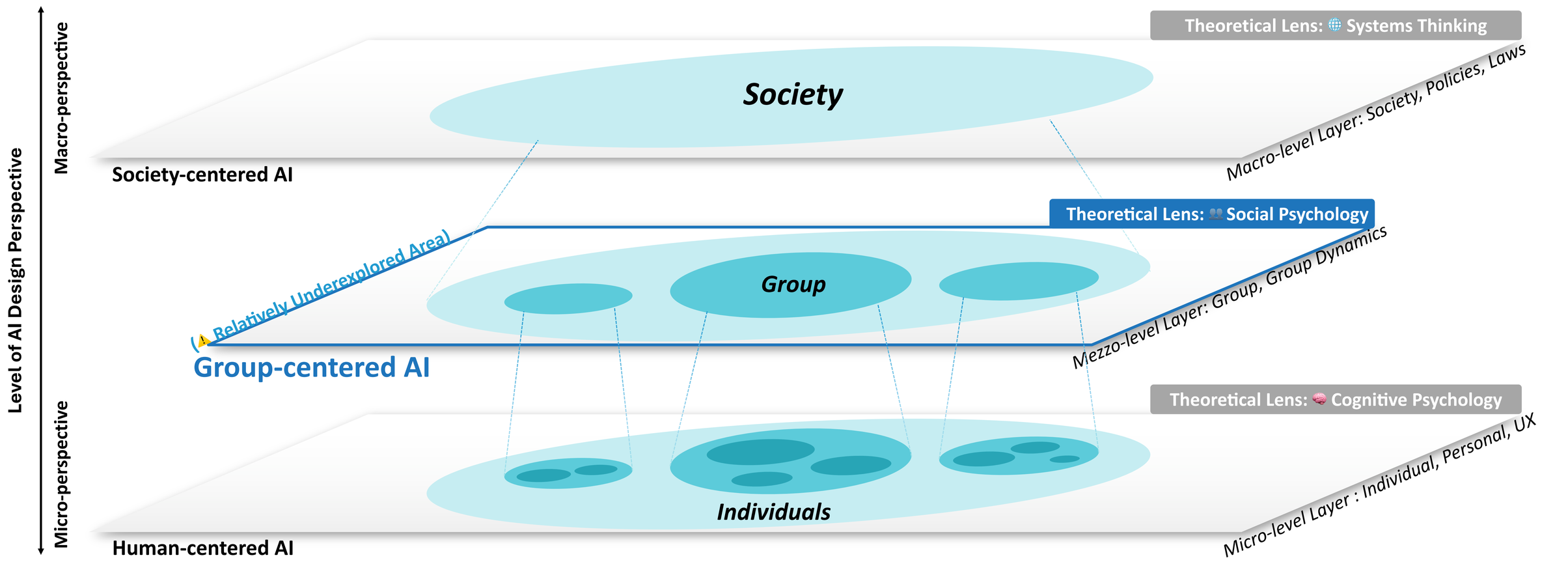
Paper Link

Summary

- **GX Definition**: Group Experience (GX) captures collective perceptual, emotional, and cognitive responses that emerge when multiple individuals interact as a cohesive unit, focusing on group flow, collective sensemaking, social coordination, and shared identity.
- **Group-centered AI Framework**: GCAI bridges the gap between individual-focused and society-level AI by employing five core mechanisms: interaction mediation, social transparency, adaptive scaffolding, collective intelligence amplification, and group-level accountability.
- **Design Implications**: Group-centered design extends traditional human-centered approaches by incorporating role-based personas, interaction mappings, and evaluation metrics that measure collaboration quality, participation equity, and collective decision legitimacy.



The three-tiered framework illustrated in this image reveals how Group-centered AI occupies a vital but underexplored mezzo-level space between Human-centered AI (focused on individuals) and Society-centered AI (focused on macro structures), highlighting that groups—though influenced by both levels—possess unique group dynamics requiring specialized theoretical approaches grounded in social psychology rather than just cognitive psychology or systems thinking.

Group Experience(GX) & Group-centered Design Process

- **Group Experience (GX)** represents a paradigm shift that focuses on the collective dynamics that emerge when individuals interact as a cohesive unit. Unlike traditional UX, GX explicitly acknowledges group-level phenomena including collective sensemaking, group flow, social coordination, emergent behaviors, and shared identity.
- The **Group-centered Design Process** extends human-centered design by systematically addressing these collective dimensions across all design phases. Rather than simply aggregating individual feedback, this approach considers how design choices affect group dynamics, inclusivity, and collective outcomes, ultimately creating systems that genuinely support the richness of group interactions.

Example: Good for UX, Bad for GX?

While real-time visual and auditory feedback helps individual dancers improve quickly, the same approach can harm group dynamics in group context when one member consistently receives public corrections—causing stress, embarrassment, and undermining the collective experience. This illustrates how optimizing for individual UX can unintentionally damage group cohesion and psychological safety.

	Discovery	Define	Design	Prototype & Test	Plan & Implementation
Human-centered Design	Exploring individual needs, developing personas	Defining user needs, framing problems	User flow, function design	Usability testing, Collecting individual feedback	Product launch, Personal user proliferation
More Considerations in Group Context	- Social Role-based persona - Interaction mapping - Social influence factor analysis (power, silence, dominance)	- Tension framing within the group - Defining problems related to group interactions - Defining problems taking into account group characteristics and culture	- Multi-party experience flow scenario - System design considering group context	- Multi-party simulation - Group-based testing (e.g. focus group, role-play) - Dynamic feedback collection (e.g. behavior log + post-discussion interview)	- Evaluation of suitability with organizational culture - Role-based onboarding strategy rather than user training - Customization plan according to group structure
Group-centered Design	Exploring group interactions, roles, and social norms	Defining group-level conflict, cooperation, and structural issues	Interaction flow, cooperation strategy design	Apply metrics to evaluate inter-group cooperation, inclusiveness, and group dynamics	Consideration of introduction and application of group/organization units

This diagram contrasts Human-centered Design (top) with Group-centered Design (bottom) across five phases. While HCD prioritizes individual needs and personal feedback, GCD incorporates social roles, group tensions, multi-party interactions, collective testing methods, and organizational structures. This approach addresses the complex group dynamics and collective experiences that individual-focused design methodologies often overlook.

Group-centered AI: Mechanisms for Mezzo-level Human-AI Interaction

Group-centered AI operates at the **mezzo-level** between individual-focused and society-centered AI systems, enhancing collective experiences through five core mechanisms:

- 🤝 **Interaction Mediation** - AI facilitates constructive conflict resolution and consensus-building by strategically moderating group tensions and guiding discussions toward mutual understanding.
- 👁️ **Social Transparency** - AI reveals hidden contribution patterns, power dynamics, and marginalized voices, empowering groups to recognize and adjust problematic interactions.
- 🎯 **Adaptive Scaffolding** - AI dynamically supports collaborative problem-solving by adapting interventions to evolving group contexts rather than individual preferences.
- 🧠 **Collective Intelligence Amplification** - AI strategically aggregates diverse perspectives, amplifies minority voices, and introduces thoughtful provocations to prevent groupthink.
- ⚖️ **Group-Level Accountability** - AI fosters shared ethical reflection and collective responsibility, moving beyond individual accountability to group-wide ethical deliberation.

Unlike traditional AI that optimizes for individual outcomes, **Group-centered AI recognizes groups as meaningful social entities** with emergent properties requiring specialized support to genuinely enhance collaborative human experiences.

Future Provocations

1 Balancing Individual & Collective Interests

How can AI effectively mediate tensions between personal autonomy and group consensus when individual preferences conflict with collective goals?

2 Optimal Social Transparency

What is the appropriate level of AI intervention in revealing group dynamics without undermining group autonomy or privacy?

3 Authority & Trust in Scaffolding

How authoritative should AI systems be in group contexts, and how does this affect psychological safety and perceived fairness?

4 Constructive Provocations

How can AI introduce intelligent challenges that stimulate critical thinking and diverse viewpoints without escalating conflicts?

5 Ethical Accountability at Group Level

What novel mechanisms can foster shared ethical reflection and responsibility among group members beyond individual accountability?

6 New Evaluation Methodologies

What metrics and approaches can effectively assess collective experiences like cohesion, psychological safety, and participation equity?

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