

# Exploring Fairness in Asymmetric Competitive Gaming For Mixed-Visual-Ability Pairs

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Games often overlook disabilities, rendering them **inaccessible** to a big portion of the population.



For blind players, this typically results in a **segregated** community based on visual ability.

## LEVERAGING ASYMMETRY

Asymmetry has created engaging cooperative mixed-ability games. However, for competitive mixed-ability games, asymmetry raises concerns about **fairness** and **balance**.

We explored how to create a **fair** and **engaging** mixed-visual-ability competitive game by leveraging:

**Asymmetry of Interface** - refers to how players engage with the game, i.e., input and output

**Asymmetry of Challenge** - players face different challenges/obstacles

## OUR TESTBED GAME

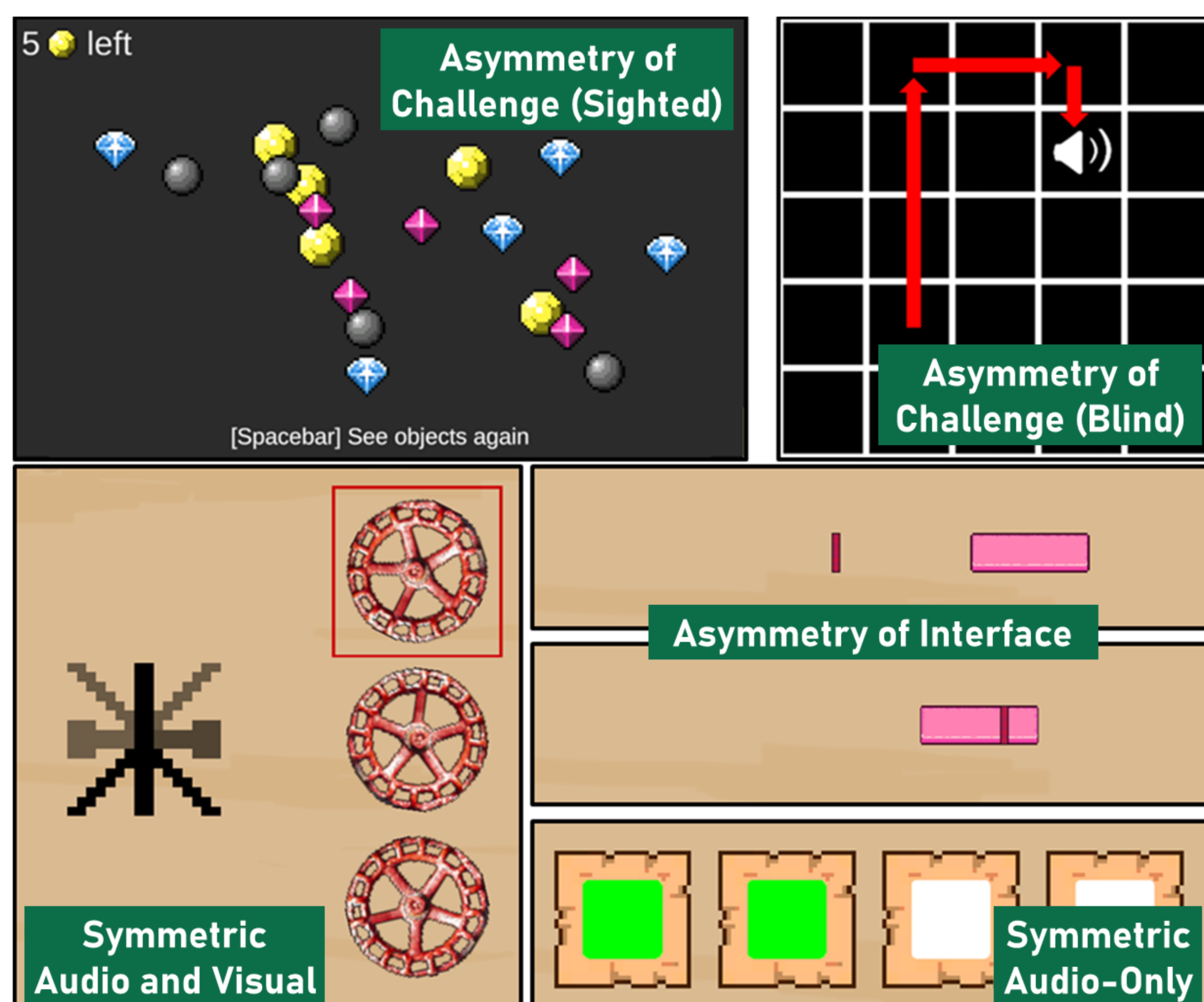
We developed a testbed game to explore mixed-ability competition and different asymmetric design approaches.

	Symmetric Audio-Only	Symmetric Audio and Visual	Asymmetry of Interface	Asymmetry of Challenge
Challenge	=	=	=	≠
Interface	=	=	≠	≠

audiogame

only sighted can leverage the visual feedback

visual-only or audio-only feedback



A race between magical chefs: **navigate** to gather ingredients, utilize cooking **stations** (i.e., moments of a/symmetric play), and fulfill **orders**.

## USER STUDY

6 Sighted vs 4 Blind

Questionnaires + Interviews

We focused on players' perceptions of **fairness** and **engagement**.

- Engage in an online 1v1 competition without knowing opponents' visual abilities.
- Exposed to the opponent's mechanics and informed of their visual abilities.
- Reflected on competitive mixed-ability asymmetric game design.

## FINDINGS

- Asymmetry of Challenge considered **fair** and **engaging** by all.
- Symmetric Audio-Only rated fair but lacked engagement for sighted players.
- Some sighted felt **guilt** upon learning opponents' visual abilities.