**A Theory of Game Mechanic Signaling for Interface Design**

**Zachary O. Toups¹, Igor Dolgov², Elizabeth M. Bonsignore³**
ztoups@nmsu.edu, id@nmsu.edu, ebonsign@umd.edu

**Game Mechanic.** A moment at which a player makes a choice within the rules of a game. [Salen & Zimmerman 2004]

**Affordance.** A relational mapping that specifies interaction between a person and an artifact or environment. [Norman 2014]

**Signifier.** The way in which an affordance is rendered perceptible. [Norman 2014]

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**How do we render game mechanic affordances perceptible?**

**What are the implications of the various techniques?**

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**Player-Perceived Affordance / Player-Interpreted Signifier.** The player’s body image suffices to understand the game mechanics. While the avatar may be differently abled from the player, the avatar acts consistently with the player’s model of the function of her/his body and knowledge of the functioning of the physical world.

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**Avatar-Perceived Affordance / Avatar-Interpreted Signifier.** The player needs an additional step to understand how to invoke game mechanics using an unfamiliar body. As the player acquires skill, incorporating new affordances into her/his repertoire through cognitive gripping [Kirsh 2013], may become player-perceived / player-interpreted.

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**Avatar-Mediated Signifier.** A signifier that taps into the avatar’s presumed knowledge to make it perceptible to the player.

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**Arbitrary Signifier.** A signifier that is neither tied to the player’s nor the avatar’s body, but is incorporated into the world. Arbitrary signifiers must be memorized.

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**Metagame Signifier.** UI constructs that do not tie into the knowledge of the player or the avatar, replacing affordances with a signifier not built on the environment, but on metagame information.

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**Hidden Affordance.** Does not signal how to interact with the environment at all.

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**False Signifier.** A signifier for an action that is not possible.

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references: