Representations of AI in Film
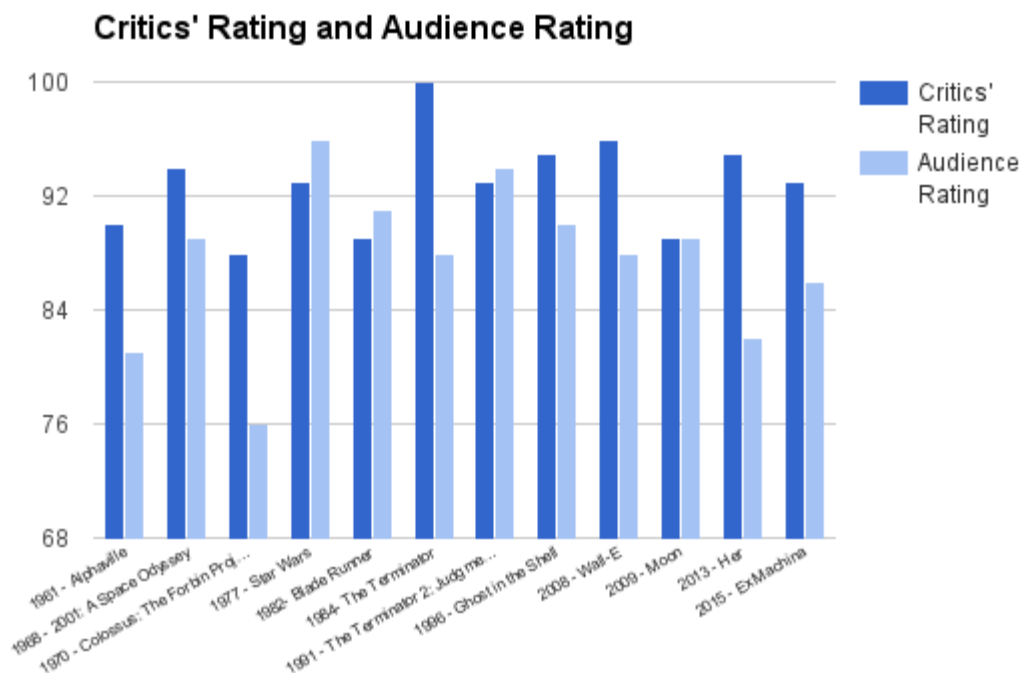
Insights into Meaningful UX Design for AI Products

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Introduction

The purpose of this document is to provide analysis and insight into public perceptions of artificial intelligence (AI) to aid the reader in making informed decisions regarding the design and development of consumer-facing AI products.

Approach

Using a data-driven approach, the highest combined critic and audience rated Rotten Tomatoes scored films-- two of each decade since 1960--were selected to be viewed and analyzed.

The interactions that took place in the film between the AI and its human users were analyzed through a user-centered lens in order to gain insights into how to build meaningful experiences into AI products.

The following is a detailed report on these final insights.

Types of UIs

OS	Human-presenting (discordant)	Human-presenting (concordant)	Transcendent
HAL 9000	Terminator	Replicants	Human "shells"
GERTY	C3P0	Ava	
Colossus	R2D2		
Samantha			

Discordant indicates that the AI resembles a human, but not completely so
Concordant indicates that the AI is indistinguishable from a real human

The type of UI determines the communication it affords.

Types of communication

The types of communication that exist can be classified into three categories. From the least to the most prevalent, the categories are: transcendent, non-verbal, and verbal.
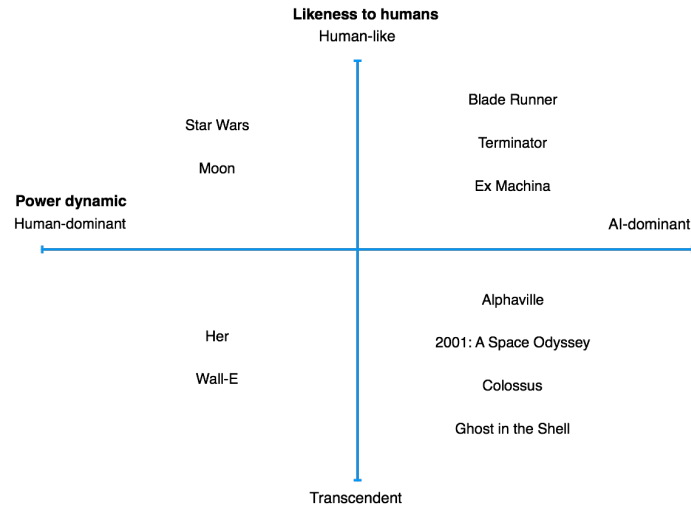
Transcendent communication arises in a post-semantic society in which AIs and humans share consciousness and therefore dispel the need to actively "communicate" as we currently understand it. This is the least likely type of communication and is used only in the film, *Ghost in the Shell*.

The AIs also make use of non-verbal communications: emojis, facial expressions, sound, and body language, to name a few.

Verbal communication is the most prevalent type of communication in all films. The AI depicted in the films are designed to be conversational in order to most effectively communicate with the humans.

Features of Verbal Communication

The tone of the dialogue and general communication is largely influenced by the power dynamic between the AI and the human, as well as how closely the AI resembles a human.

Likeness to humans
Human-like

Blade Runner

Star Wars

Terminator

Moon

Ex Machina

Power dynamic
Human-dominant   AI-dominant

Alphaville

Her

2001: A Space Odyssey

Wall-E
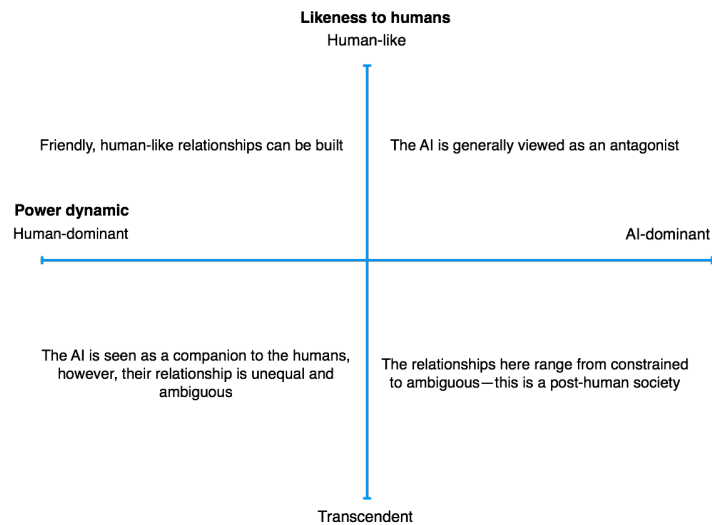
Colossus

Ghost in the Shell

Transcendent

The x-axis demonstrates the **power dynamic** between the AI and the human in society and ranges from human-dominant to AI-dominant.

The y-axis demonstrates the AI's **likeness to humans** in society and ranges from human-like to transcendent, or having in some way evolved past their human counterparts.

Tension between any of these areas or unanticipated movement across either the x or y-axis is the source of fear or apprehension towards AI.

Relationships

Likeness to humans
Human-like

Friendly, human-like relationships can be built   The AI is generally viewed as an antagonist

Power dynamic
Human-dominant   AI-dominant

The AI is seen as a companion to the humans, however, their relationship is unequal and ambiguous

The relationships here range from constrained to ambiguous—this is a post-human society

Transcendent

Conflicts arise when there is movement across the spectrum by the AI, either when the AI threatens the power dynamic or begins to demonstrate that it is evolving beyond the level of

consciousness to which it had been designed. In either case, a breach of trust leaves the relationship between the AI and the human in disrepair.

Movement across the x-axis (from human-dominated to AI-dominated society) is not yet a pertinent conflict and the potential conflicts that could arise in the AI-dominated quadrants are (thankfully) irrelevant.

For the films that seek to depict the conflicts and constraints of human and AI relationships in a human-dominated world, the following themes are recurring, and are ripe topics for developing UI in a newly emerging field.

Considerations in UX for AI Products

Trust

All of the conflicts that arise between humans and AI are based on a violation of trust.

For products, trust building occurs wherever your product promises to deliver value. An AI's value is based on its intelligence (ability to understand the user) and its competence (ability to execute).

You can build trust in an AI's intelligence by being clear and transparent with its scope.

- Include strict guidance on interacting with the AI
- Offer information about the end-to-end flow of the ops behind the AI
- Provide a clear exposition of your AI's purpose and capabilities

These expectations will help the user understand the AI's capabilities and boost confidence in the user's ability to build a meaningful relationship with the AI. In addition, a clear exposition in the beginning of the relationship will assist the AI in execution, since they will encourage the user to behave in a way so that their intentions and communications are clear to the AI.

Clear expectations are the first line of offense against distrust. In the case that the user's intentions are unclear to the AI, the AI's ability to execute should not be affected.

- Build your AI with flexible fallbacks (safety nets in its intelligence) that can swiftly handle these cases
- Utilize feedback: if the user's error is frequent, reconsider your UI. If the user's error is anomalous, discourage the user from repeating his error by reaffirming the AI scope

Language

For the consumer-facing AI products that primarily utilize verbal communication as their UI, special considerations in language must be made. The language that your AI uses will assist in building its identity and, therefore, its relevance and relation to the user.

- Use language that properly reflects the role that your AI occupies. Give special consideration to how the user typically interacts with this role