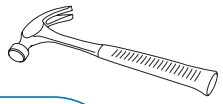
Networked Objects
Spring 2015
IIT Institute of Design

CriticalLoop



A game for two to eight designers to explore networked objects from a critical perspective.

"There will come a time when it isn't 'they're spying on me through my phone' anymore. Eventually, it will be 'my phone is spying on me'."

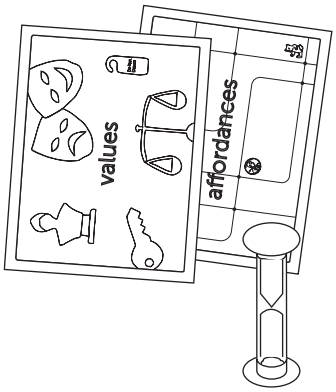
Philip K. Dick

Will we even know when we are interacting with computers in the future? Will desktop computers seem quaint in comparison to computers that are embedded in household appliances, in jewelry, or in our bodies? Will that future fair and democratic? Or will it be a place where we are addicted to our machines, and controlled by technology?

Critical Loop gives designers a set of questions that will help them think about, and make, networked objects.

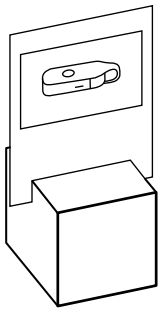
GAME SETUP

1



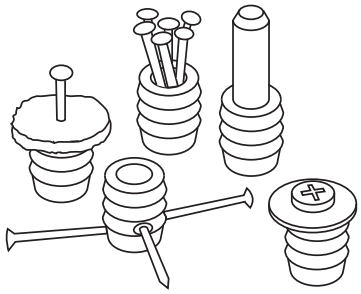
Unfold the game board and place affordance cards, value cards, and the hourglass in their appropriate locations on the board.

2



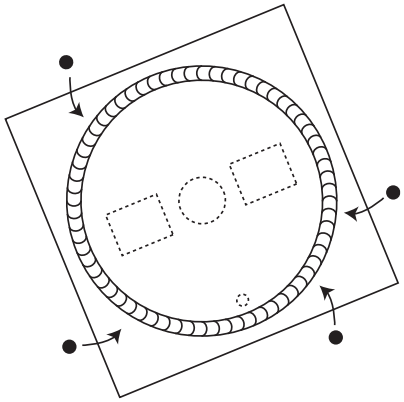
From the object cards, choose one networked object to consider for this round of the game. Attach a picture of it to the object stand and place it in the center of the game board.

3



Each player chooses a token.

4



Begin anywhere on the board. Each player places their token wherever they would like.

HOW TO PLAY

Players take turns, beginning each turn by rolling the ten-sided die.

If the player rolls a number, she should advance that many spaces on the board. There are 64 spaces on the board—so if a player rolls 64 they should make a complete loop around the board and land exactly where she started. If she rolls "A," she should advance to the next affordance space, marked in blue.

If the player lands on a blue affordance space...
Affordances deal with the qualities people will need this object to have. The player should take an affordance card, turn the hourglass, and discuss the affordance question printed on the card for five minutes.

If the player lands on a red value space...
Values deal with the way the object relates to the people, environments, and other objects around it. The player takes a value card, turns the five-minute hourglass, and discusses the question printed on the value card. If the value is for a non-human, the player should try to think from that perspective. What would the non-human want?

Then the next player takes a turn, continuing as long as they like.

HUMAN STAKEHOLDERS

End Users
—who will actually use these objects.

Non-Users
—who do not use objects directly, but are affected by their use.

Makers
—who design and build objects; including designers, software and hardware developers and machine operators.

Environments or Societies
—which may be affected by the object.

NON-HUMAN STAKEHOLDERS

Corporations
—legal entities that can own patents, have relationships with supply chains and direct the work of makers to produce and distribute objects.

Distributors
—corporations that exists in the supply chain, moving physical objects from producer to end-user.

Data Centers
—corporations that store, transform, and distribute data.

Sensors
—which reach out into the world and gather data.

Other Smart Objects
—which may relate to this one.

THE SEVEN AFFORDANCES

(from David Rose's *Enchanted Objects*)

AFFORDABILITY

Businesses and technologists continue to push for increases in computing power and decreasing costs. What types of objects would be possible if sensors and data processing continue to fall in price, or become essentially free?

GESTURABILITY

We talk with our hands and we cross our arms over our chests. Sometimes we are surprised to realize how much we communicate when we drum our fingers or bite our nails. When computers are embedded in the objects around us, what new gestures might have meaning when we interact with them?

GLANCEABILITY

Humans are good at being peripherally aware of things—windows, when seen out of the corners of our eyes, give us information about the time of day or the weather. How might this networked object be "glanceable," giving the people near it information, even when they're not paying much attention?

INDESTRUCTIBILITY

Current small computers are designed for portability above all else, and often use lightweight, fragile materials. It's hard to imagine a computer built to last generations. But if computers could be embedded in crowbars, weights or shop tools, how might our interactions with them be different?

LOVEABILITY

How will we connect emotionally with the objects of the future? What kinds of personalities should our objects have to charm us or keep us entertained? Should our objects be more and more like us, or should they remain different and separate?

USABILITY

Knobs lend themselves to turning, chairs lend themselves to sitting in, and doors lend themselves to opening. How might the networked objects of the future take advantages of these affordances? What will it mean for the interface of the object to be as self evident as the interface of a coffee mug?

WEARABILITY

Cheaper computers also mean that it will be possible to embed them in more of the objects we use every day. We will probably be wearing some computers as fashionable jewelry, and others as unobtrusive as eyeglasses—easy to lose, even while we're wearing them.

VALUES

AESTHETICS

New ways to relate to the objects around us will lead to new ideas about what it means for an object to be graceful or elegant. What standards of beauty could this object support?

ACCESS/INCLUSION

How can this object be accessible to a wide group of people? How might it create value for a wide range of users, distributors and developers?

EMOTIONAL

As objects become more interactive it will be natural for us to feel more connected to them. How might this object create joy in people's lives, as it is touched by designers, business people and end users?

FAIRNESS

Development platforms create new competitive environments. How does this object foster fair competition? In what other ways could it be fair or unfair to those around it?

PRIVACY/SECURITY

As objects contain more sensors and share more data, ideas about privacy and security will evolve. How might this object use information safely and tactfully?

EXAMPLE OBJECTS

Like in real life, information about these objects is often incomplete on the included object cards. The point of the game is to uncover as much of the story of the object as possible. The included objects are just a starting point. As new possible networked objects occur to you feel free to sketch them out and play the game with them as well.

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CREDITS

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