

# Notes on Emotionally Intelligent Design

Adapted from *Emotionally Intelligent Design* by Pamela Pavliscak

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## Introduction

Technology is tied with our identity.

## Emotionally Intelligent Technology

- Current technology doesn't encourage us to be aware of our own emotions or the emotions of those around us. And that's a problem.
- *"Your fridge might work with you on stress eating. Your bathroom mirror might sense that you're feeling blue and turn on the right mood-enhancing music. Your email software will ask you to reflect before you hit send."* – The most meaningful technologies are very likely to be the most emotionally intelligent.
- The driving assumption is that people start in some state of unhappiness which we "solve".
- Evolutionary psychologists suggest six emotions – happiness, sadness, fear, disgust, anger, and surprise.
- Having more emotional concepts at our disposal develops our emotional intelligence.

## Pleasure in Product Design

- Four types of pleasure that factor into product design:
  - **Physio-pleasure** is sensory, tapping into touch, appearance, sound, taste, and smell.
  - **Psycho-pleasure** is cognitive, associated with the usability of the product.
  - **Socio-pleasure** is grounded in relationships with other individuals.

- **Ideo-pleasure** comes from ideas drawn from cultural history or personal values.
- Don Norman: “*attractive things work better*” – Golden Ratio – Rule of thirds.
- To be successful, design should appeal to all three levels of information processing:
  - **The visceral level** is how the object looks.
  - **The behavioral level** is how it works.
  - **The reflective level** is what it means.
- Hierarchy for emotional design: useful, usable, and delightful.

## Designing for Delight

Spark delight with the following points:

- Conciliatory
- Curious
- Caring
- Celebratory

**Potential problems with delightful design:**

- Trivializing
- Obstructionist
- Paternalistic
- Infantilizing

## Emotion AI

Emotion artificial intelligence (AI), also known as affective computing or empathic media, will attempt to make physical expression of emotion machine-readable.

**Emotional robot examples:**

- Cozmo the robot
- Kuri
- Jibo imitate human qualities

**Tools for emotion-machine interface:**

- Facial coding
- Voice analytics
- Wearables
- Gesture tracking
- EEG headsets
- Eye tracking
- Engagement with augmented reality
- Virtual reality

**Positive potential of emotion AI:**

- It can make experiences more personal.
- It can make experiences more exciting.
- It could keep us healthy (e.g., tracking our mental state).
- It could provide therapeutic interventions (e.g., helping people on the autistic spectrum).
- It could show care (e.g., therapy pet robot).
- It could help us learn (e.g., determine whether a student is struggling).
- It could reduce accidents (e.g., driving).
- It could create safer communities.
- It could build awareness of cultural differences.

## **Ethical Considerations and Checklist for Designing with Emotion AI**

**Things to be aware of:**

- The emotion sensing part itself is limited.
- It might skew negative.
- The intelligence is only as good as the data that trains it.
- It might privilege the moment over long-term.
- It might assume actions neatly map to emotions.

- The logic behind emotion-sensing makes assumptions.
- It emphasizes body over mind.
- It might be too granular (emotional intelligence is not just detecting fine-grained or fleeting feelings, it's the capacity to reflect and articulate and evolve).
- It emphasizes social performance.
- It could trivialize emotion.
- It could be manipulative.
- It could invade privacy.
- It could replace human to human intimacy.

**A checklist for designing with emotion AI:**

- Is emotion a crucial component of the experience?
- Will emotion tech add value to the experience?
- Is that added value worth the benefit?
- Is emotional experience detectable?
- Can you accommodate complexity and ambiguity?
- Is it as minimally invasive as possible?
- Have you developed informed consent?
- Do you have a plan for when it fails?
- Are you accounting for legal implications?
- Can you (loosely) follow social conventions and norms?
- Has your platform of choice been trained on a diverse dataset?
- Is it possible to use more than one input?
- Have you given people agency?
- Have you involved a wide swath of people in the process?

## Design Principles

**Emotional intelligence is recognizing emotion in yourself and others and managing those emotions in meaningful ways.**

- Self-awareness (self compassion, self-esteem, confidence)
- Self-management (discipline, optimism, resilience)
- Social awareness (understand the emotions of others, empathy, tolerance, rapport)
- Social skills (vision, motivation, conflict resolution)

To effectively reason, plan and perform tasks means managing feelings so that they are expressed appropriately and effectively.

**RULER-model:** Recognizing, Understanding, Labeling, Expressing and Regulating emotion.

Emotionally intelligent design starts from a mindset that considers emotion as intrinsic to the experience, not a nice-to-have extra.

Where emotional design strives to create products to elicit an emotion, emotionally intelligent design builds emotional capacity.

### **Guiding principles:**

- Learn from emotion.
- Embrace complexity.
- Build a relationship (emotional intelligence takes a longer view. It means thinking in terms of relationships over experiences).
- Be inclusive.
- Consider scale.
- Always be sensitive to context.

## New Ground Rules

- Lead by example:
  - Check your bias.
  - Be aware of stereotypes.
  - Let yourself be vulnerable.
  - Create a safe space.
  - Participate as equals.
  - Respect boundaries.
  - Think post-demographic.

- Develop a shared understanding:
  - Develop emotional vocabulary.
  - Offer multiple ways to participate.
  - Listen empathetically.

## **Inclusive Design Process**

- Get Oriented
- Frame
- Ideate
- Iterate
- Optimize

## **Model for Designing Feeling**

- Find (understand emotion in multiple dimensions using mixed methods)
- Envision (map emotional experience and generate concepts)
- Evolve (model and build relationships)
- Live (develop ways to sustain the relationships)

## **Emotion Awareness Activities**

- Icon (or screen) annotation
- Feeling drawings
- Movie making
- Object interviews (treat an object as a person)
- Kansei clustering (translate feeling into product design)
- Worry tree (this technique looks at your anxiety or worry and traces it back to what you can do)
- Sentence completion

## Good Codesign Practices

- Create intimate experiences (e.g., when people invite friends, neighbors, or family members to share meals, social inequalities involving race, economics, and gender reveal themselves in interesting ways – Alice Julier)
- Seek renewed inspiration
- Simulate emotional experience (VR)
- Strive for immersion (turn in their smartphones)
- Activate the senses (unexpected materials seem to foster new pathways for creative thinking; the odder the objects, the more people open up)
- Add think-alone time (silent walks; include ways for people to be alone with their thoughts and then come together again as a group)
- Expand participation (let people participate online as well)

## Core Questions in Design

- What is your product's core emotion?
- What else is associated with that emotion?
- What emotion do you want to evoke?
- What emotions are people expressing?
- What emotions are unexpressed?
- Which are the most intense feelings people identify?
- Which are the least?
- When beginning, sinking into, and finally leaving your experience, what states are you evoking and in what order?

## Emotional Experience Mapping

Create a map of the emotions associated with the experience; start with Maslow's hierarchy of human needs. Pyramid with the five levels of needs: physiological, safety, love and belonging, esteem, and self-actualization (include knowledge, beauty, transcendence). There are other options to the pyramid.

Emotional experience can be situated on a spectrum of self-directed or socially directed, pleasure-based or purpose-based, leading to four different kinds of experience:

- **Transformative:** experience that facilitates personal growth.

- **Compassionate:** altruistic and prosocial experience.
- **Perceptive:** sensory-rich experience.
- **Convivial:** experience that brings people together socially.

The point is not to fit an experience into a tidy box. Instead, it's simply a way to analyze insights and understand strengths.

## Assessing Emotional Design

- Does it enhance an emotion that's already there?
- Does it activate new emotion?
- Does it help people to process their emotions about the product itself?
- Or relate to something else entirely?
- Does the whole experience stand in as a coping mechanism?
- Has it come to represent an emotional moment, or experience, or even just a feeling on its own?
- Does it stand in as a Source/Support/Symbol?

## Metaphors in Design

- **Emotion+attribute:** connecting emotion with physical aspects of experience like color, texture, scale, size, material, weight, temperature, luster, age, and depth.
- **Motivation-interaction:** connecting social and emotional goals like belonging, transcendence, safety, flow, recognition, love, autonomy, and so on with how people will engage with the system.
- **Value+natural world:** connecting values (or emotions) with the natural world like shadows, changing leaves, a flock of birds, roots, and so on.
- **Behavior+relationship:** connecting an action or behavior with a relevant relationship metaphor like friend, parent, physician, or pet.

## Components of Contemporary Emotion Models

- Cognitive appraisal
- Bodily symptoms
- Action tendencies



- Expression
- Feelings

## Frame Emotional Design as a Relationship

- Start with milestones.
- Move on to meaningful moments.
- Finally, look at the emotional arc.

## Relationship Development Model

Relational development model with ten phases for coming together and coming apart:

1. Initiating (making an impression)
2. Experimenting (getting to know each other)
3. Intensifying (strengthening the relationship)
4. Integrating (identifying as a social unit, a “we”)
5. Bonding (committing to each other, often publicly)
6. Differentiating (reestablishing separate identities)
7. Circumscribing (setting boundaries)
8. Stagnating (remaining in a holding pattern)
9. Avoiding (starting to detach)
10. Terminating (coming apart)

A good relationship is not just a crescendo to blissful union. Coming together and coming apart are the ebb and flow of a good relationship.

## Successful Relationship Components

- **(Ambient) Awareness:** Starting with a bit of background data is fine; too much becomes creepy.
- **(Shared) Interest:** Exploring shared interests. The product must prove itself by showing a respectful interest in us. Just as we make mistakes, our devices should be allowed to make honest mistakes like misunderstanding a text or accidentally shutting down. Mistakes that show a lack of care, though, from data breaches to emotional manipulation, betray trust. The relationship will stop there.

- **(Mutual) Attunement:** A person who is attuned to another anticipates emotional needs, understands the context, and responds appropriately. Mirroring mechanisms, trying to resonate. Attunement is gradual, respectful, hard-won, and two-sided. Design for attunement. Just as we reveal information about ourselves to the various devices in our lives, our tech needs to reveal to us what it knows and how it works. Ongoing transparency with room for human agency.
- **(Healthy) Attachment:** Developing rituals around the relationship, bots and devices will develop convincing empathy by detecting, interpreting, and adapting to human emotions, emotionally durable coexistence.