

Complex Interaction

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digital technology
and
communication

limitless interactivity

What is it that makes
interaction complex?

Our paper is attempt to conduct an
analytical examination of
interaction complexity

with the purpose to develop a
theoretical tool suitable for
interactive artifact analysis

Our analysis is not from the perspective of

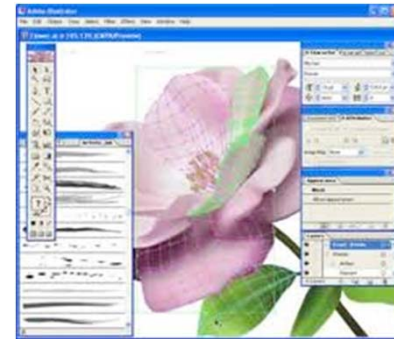
ease of use

difficulty to use

user experience

but from a design perspective,
that is, focusing on qualities that
a designer can control

Our fundamental questions are: what is complex interaction and where does “complexity” reside?



Our research started with
questions such as:

Why are some artifacts seen as complex?

Why does sometimes a seemingly simple artifact
lead to complex interaction?

Why can some artifacts be used in a virtuoso
way
and others not?

In the paper we discuss five common **everyday design strategies** for dealing with complex interaction:

- (1) eliminate unnecessary complexity
- (2) make it simple by sacrificing (quality of) function
- (3) hide complexity
- (4) confine complexity
- (5) dilute complexity

We argue that these common strategies are sometimes insufficient, and sometimes even harmful.

As a proposed corrective we introduce the notion of benign complexity.

And we make the case that complexity in many situations offer desirable interaction qualities.

So, our hypothesis is that it is possible to shape complexity into a benign form that humans can comfortably deal with

BUT

it requires a deeper understanding of interaction complexity

benefits of complexity

richness

depth

entertaining

challenging

Proposed model of complexity

Internal complexity

External complexity

Interaction complexity

Mediated complexity

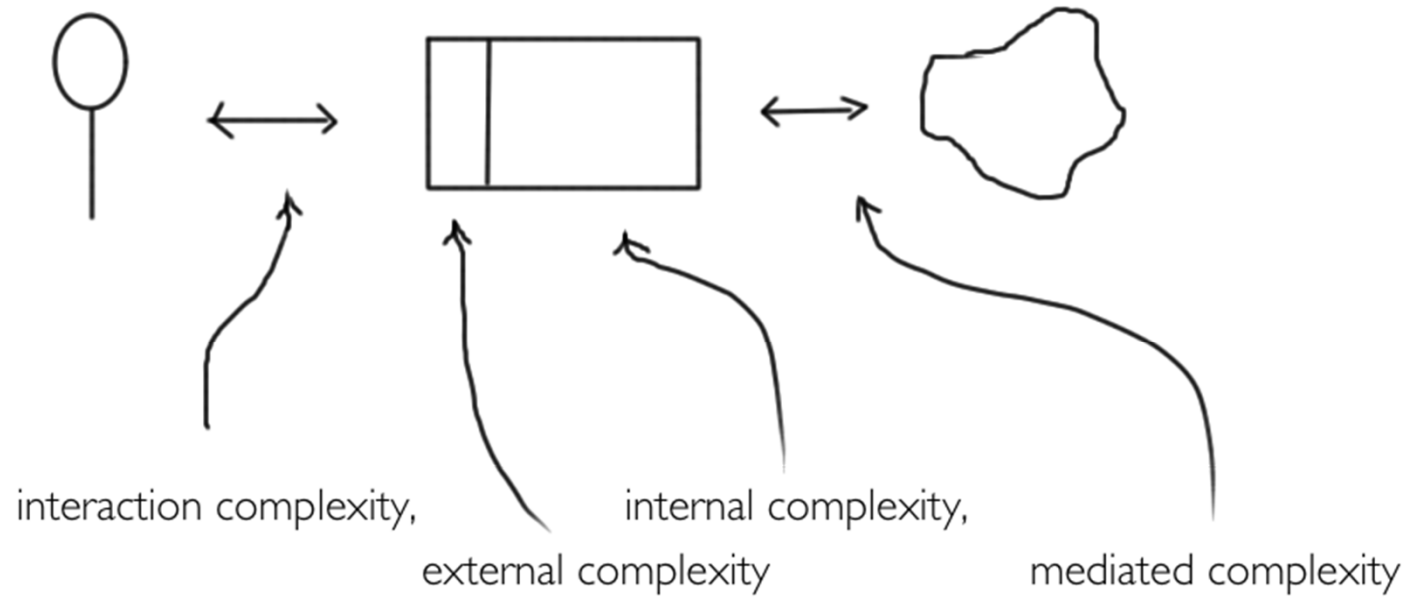
Internal complexity is the complexity of the internal workings of the artifact

External complexity is the complexity of the artifact's interface with the outside world and the user.

Interaction complexity is the complexity of the relation between input and output, between what the outside world and the user does and what the artifact does

Mediated complexity: complexity that is located not in the interior or the exterior of the artifact but in the environment, channeled through the artifact and impacting interaction complexity

Proposed model of complexity



Distributions of complexity
or
complexity profiles, or
complexity allocations



Some findings

- Design tradeoffs
- Automation and control
- -Use virtuosity and complexity
- Easy and difficult to use

Most intriguing result is that the findings
are in many ways counterintuitive

Benefits of a framework on complex interaction

predictive purposes,
analytic purposes,
theoretical purposes

maybe even
design purposes

an analytical approach suitable
not just for complexity

Ongoing studies