

# workshop introduction

Daniel Jackson · Autodesk · Woodinville, WA · Dec 3-5, 2024

introducing  
myself

# my career in buildings



Physics at Oxford



Programmer for Logica UK

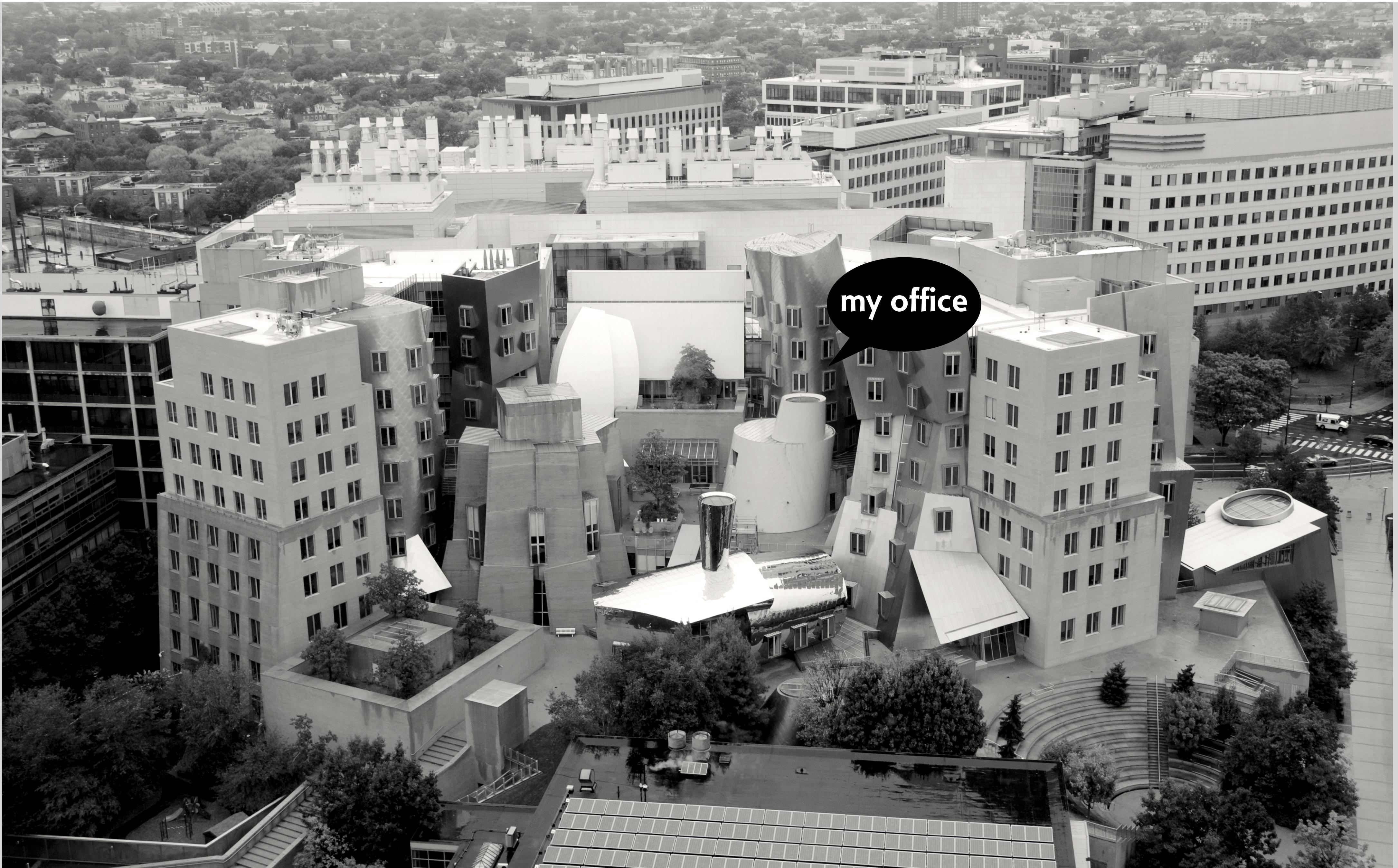


Computer science PhD at MIT

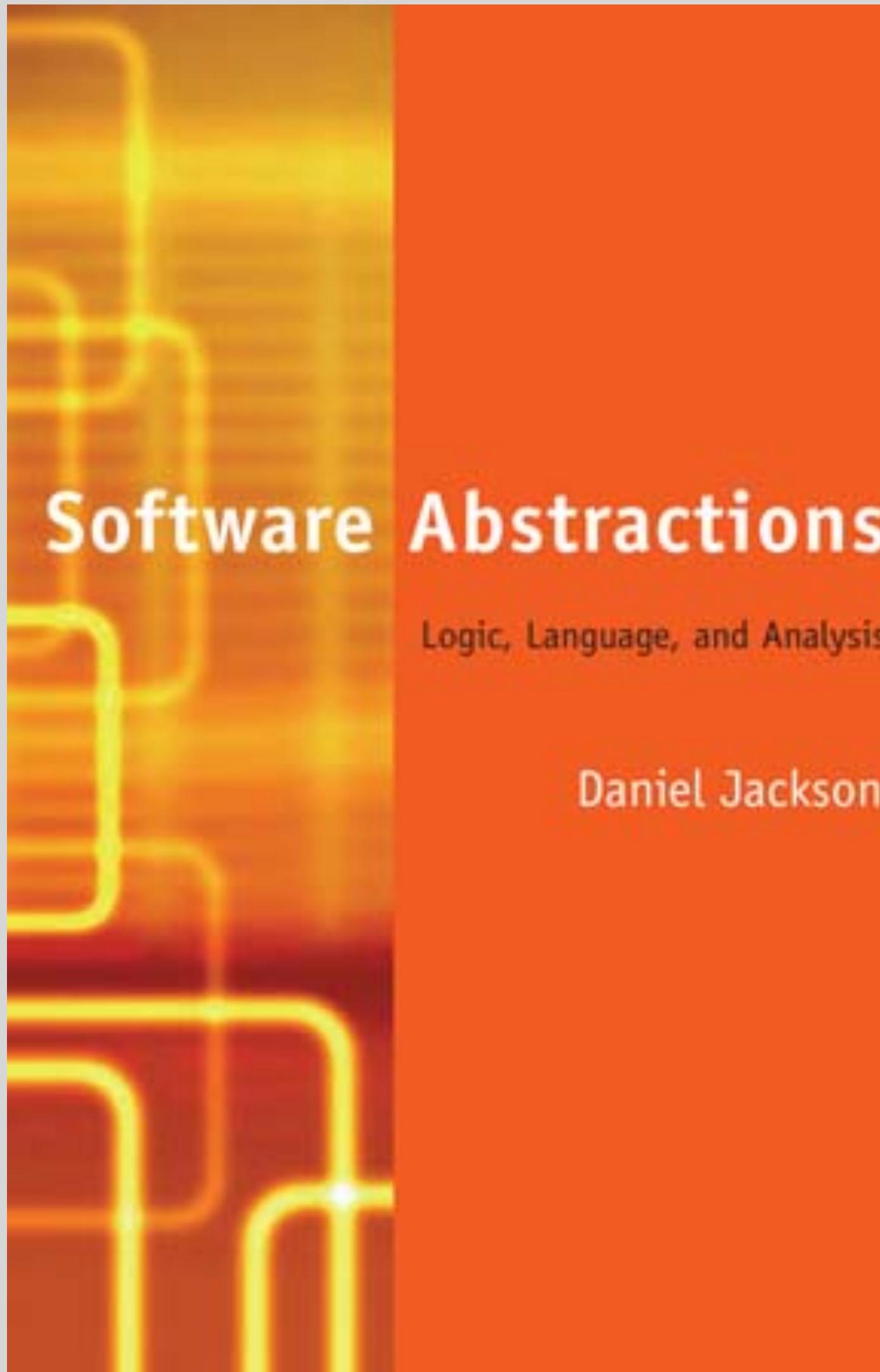


Assistant prof at CMU

# where I work now



# alloy: a lightweight, analyzable modeling language



```
1 abstract sig EndPoint { }
```

```
2 sig Server extends EndPoint {
```

```
3   causes: set HTTPEvent
```

```
4 }
```

```
5 sig Client extends EndPoint { }
```

```
6 abstract sig HTTPEvent {
```

```
7   from, to, origin: EndPoint
```

```
8 }
```

```
9 sig Request extends HTTPEvent {
```

```
10  response: lone Response
```

```
11 }
```

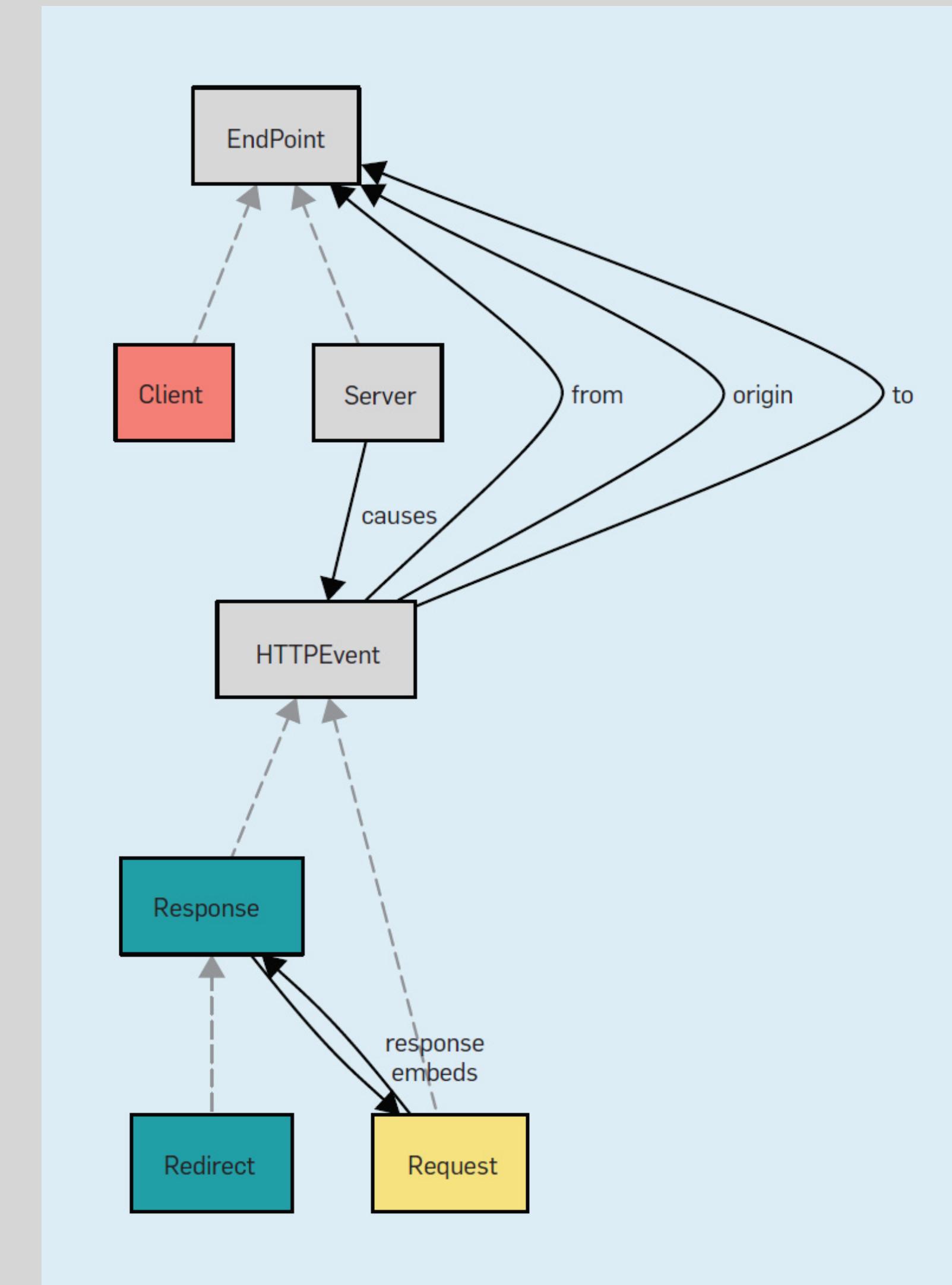
```
12 sig Response extends HTTPEvent {
```

```
13  embeds: set Request
```

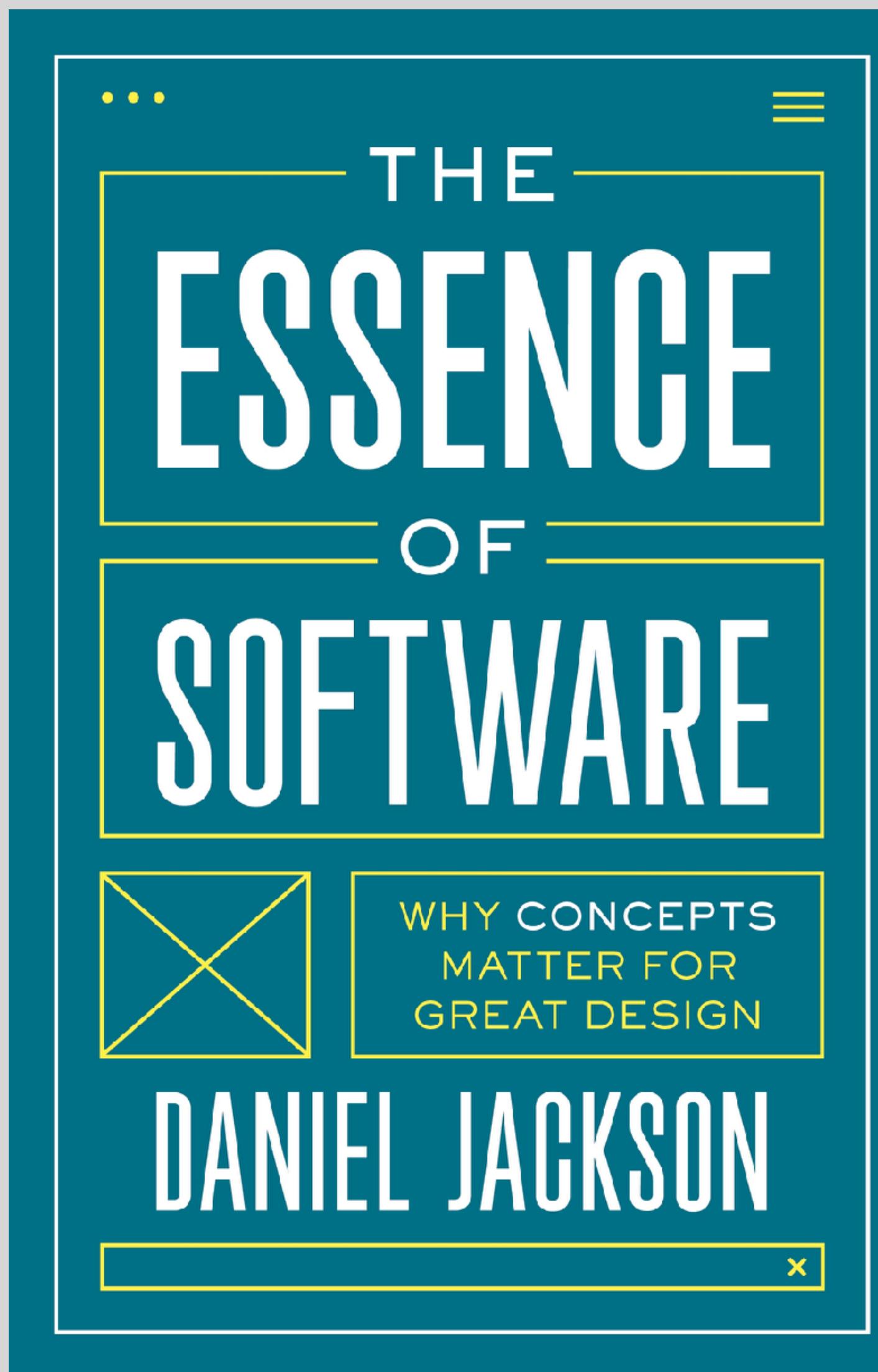
```
14 }
```

```
15 sig Redirect extends Response {
```

```
16 }
```



# concepts: a new approach to software design



# when I'm not working



how this  
project began

# a simple task: sign and return

## Field Trip Permission Form

Dear Parents:

Ms. Frizzle will again be taking her second grade class on an exciting field trip. Please sign and return the permission slip below.

Thank you!

Yes, I give permission for my child to go on the second grade "Touch and Feel" trip on Friday February 13th to the NastyCo Nuclear Dump. I understood that my child may encounter the normal risks of childhood play, including grazed knees, hurt feelings and exposure to toxic waste.

*Count Olaf*

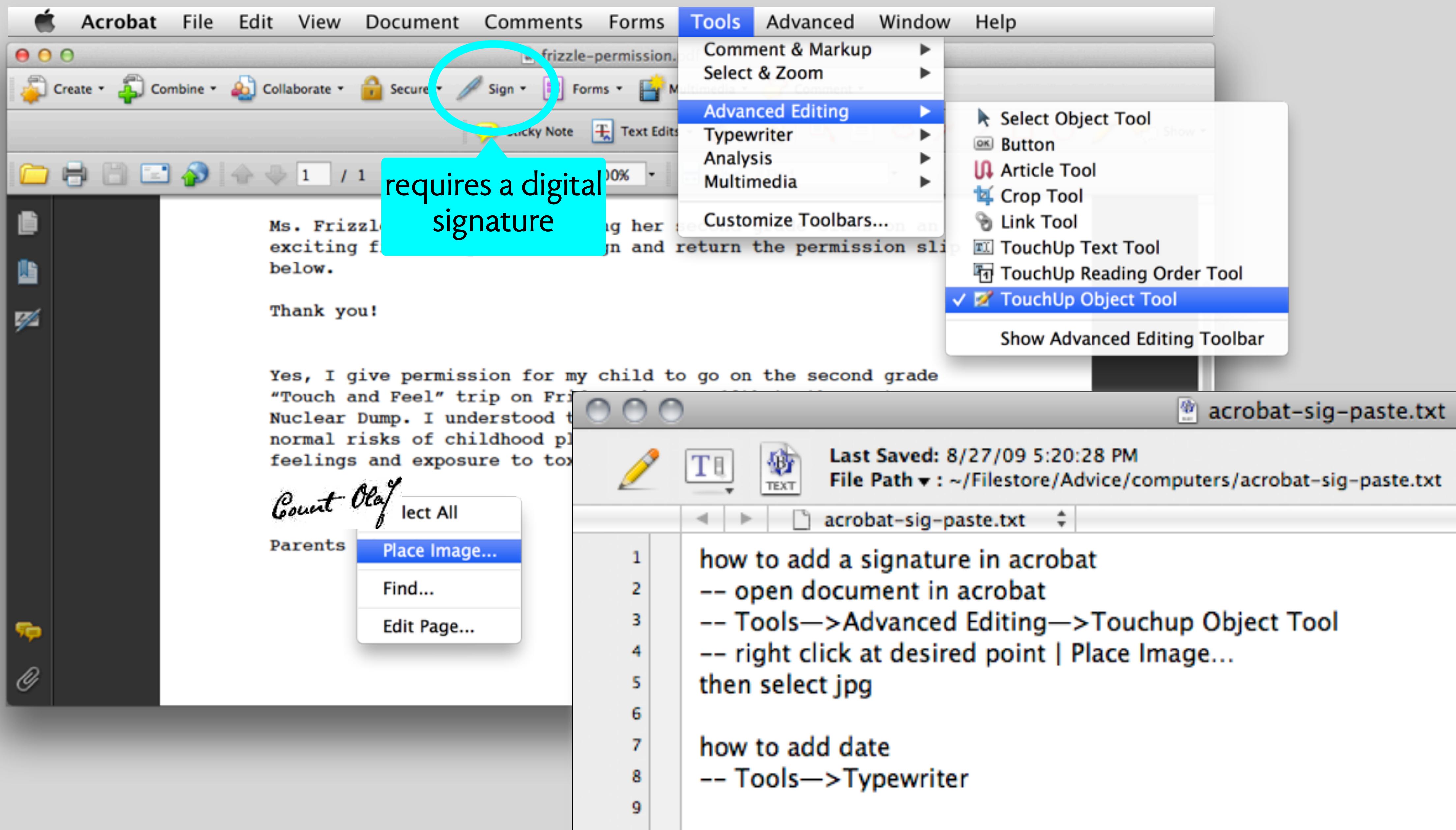
Dec 12, 2009

---

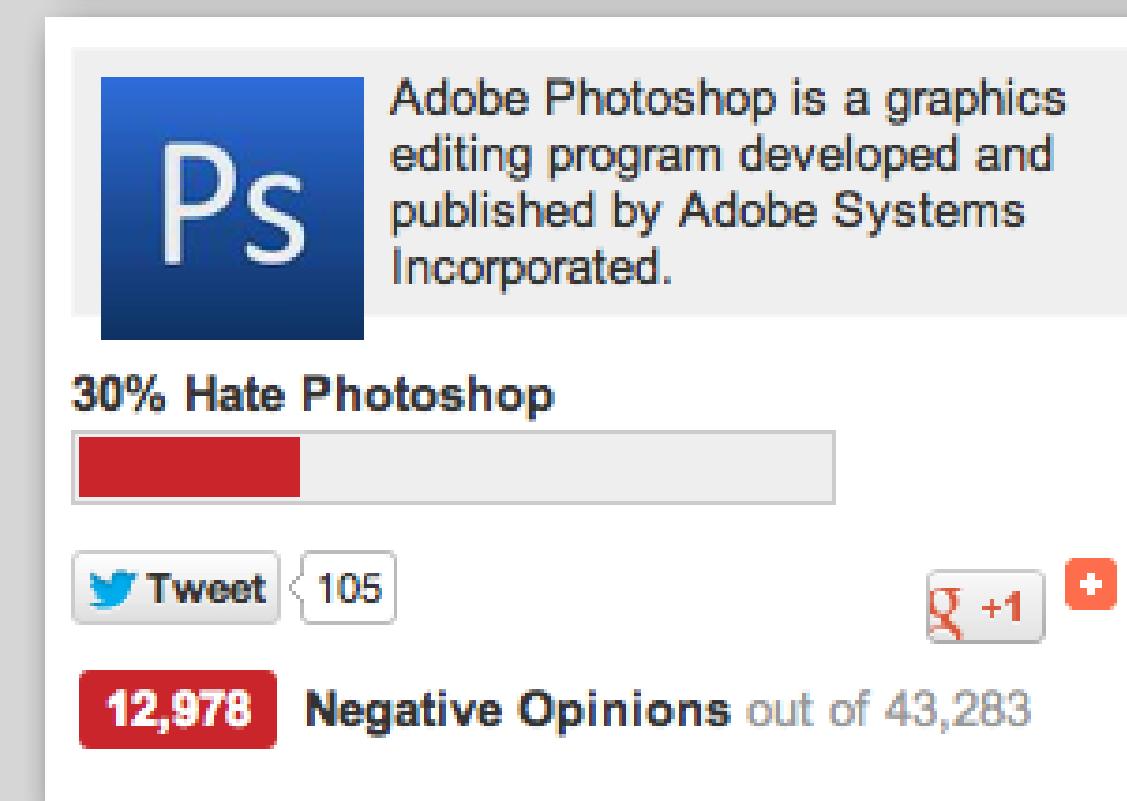
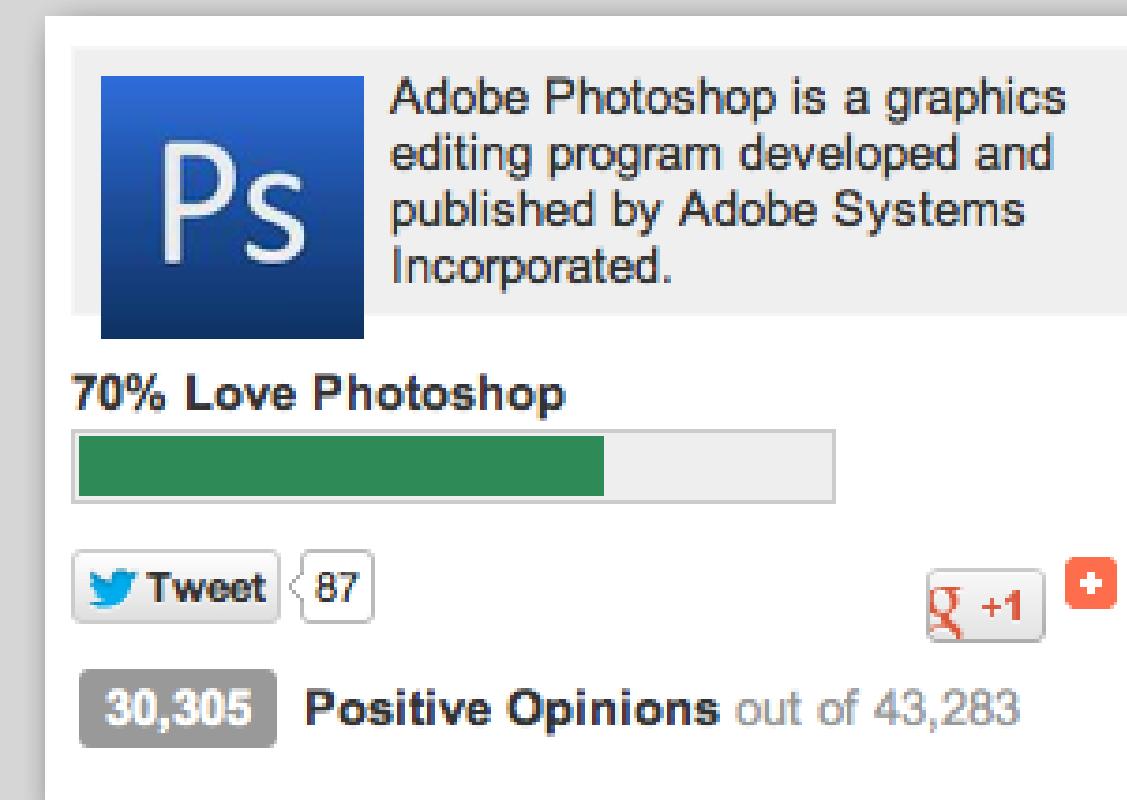
Parents signature

Date

# acrobat to the rescue?



# i am not alone...



# what kinds of problems are these?



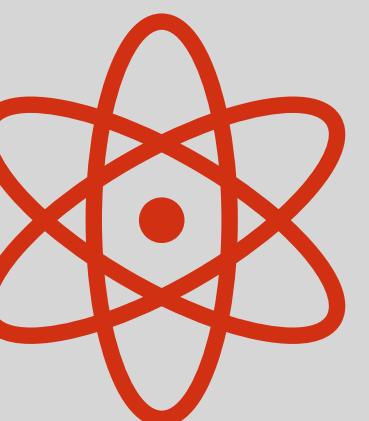
not human errors



not bugs in the code



not UI design flaws



not lack of technology

**if only...**

**we could figure out...**

what makes some apps slick and easy-to-use and some clunky?

why some products take off and others gather dust?

how to design apps to make them flexible, powerful and simple?

**then we might...**

improve the quality of software & people's lives

know how to design successful products

reduce complexity for users & developers alike

# workshop plans & goals

# our schedule

Time	Tuesday	Wednesday	Thursday
9:00	Welcome & intros	Questions from yesterday	Questions from yesterday
9:30	Why software is hard	Disentangling concepts	Team activity: detailed concepts
10:45	Break	Break	Break
11:00	Innovation scenarios	The quintessential design move	TBD
12:15	Discussion	Discussion	Discussion
12:45	Lunch	Lunch	Lunch at 1pm; adjourn
13:45	Designing concepts	Product families & catalogs	Debrief & discussion
15:00	Break	Break	
15:15	Designing syncs	Team activity: initial concepts	
16:30	Review of day	Review of day	
17:00	Adjourn	Adjourn	

# workshop goals

**offer you a fresh viewpoint**

find new insights & joy in your work, whatever your role

**give you a language to articulate design ideas**

capturing and articulating what great designers already do

**support application of concept design at Autodesk**

help you make catalog more valuable & effective

suggest new ways to separate concerns and achieve modularity

focus on data integration and alignment between Revit, Forma, etc

**have fun and learn!**

looking forward to our time together

and expecting to learn a lot from you

how about you?

# 3 questions

**what's your role at Autodesk?**

**what's something you do when you're not working?**

**what's a personal goal you have for this workshop?**

what's next?

**what's special about software?**  
why's it (mostly) so great?  
why do things (sometimes) go wrong?  
what tools do we have at hand?