

# workshop introduction

Daniel Jackson · Autodesk, Boston · March 17-18, 2025

introducing  
myself

# my career in buildings



Physics at Oxford



Programmer for Logica UK

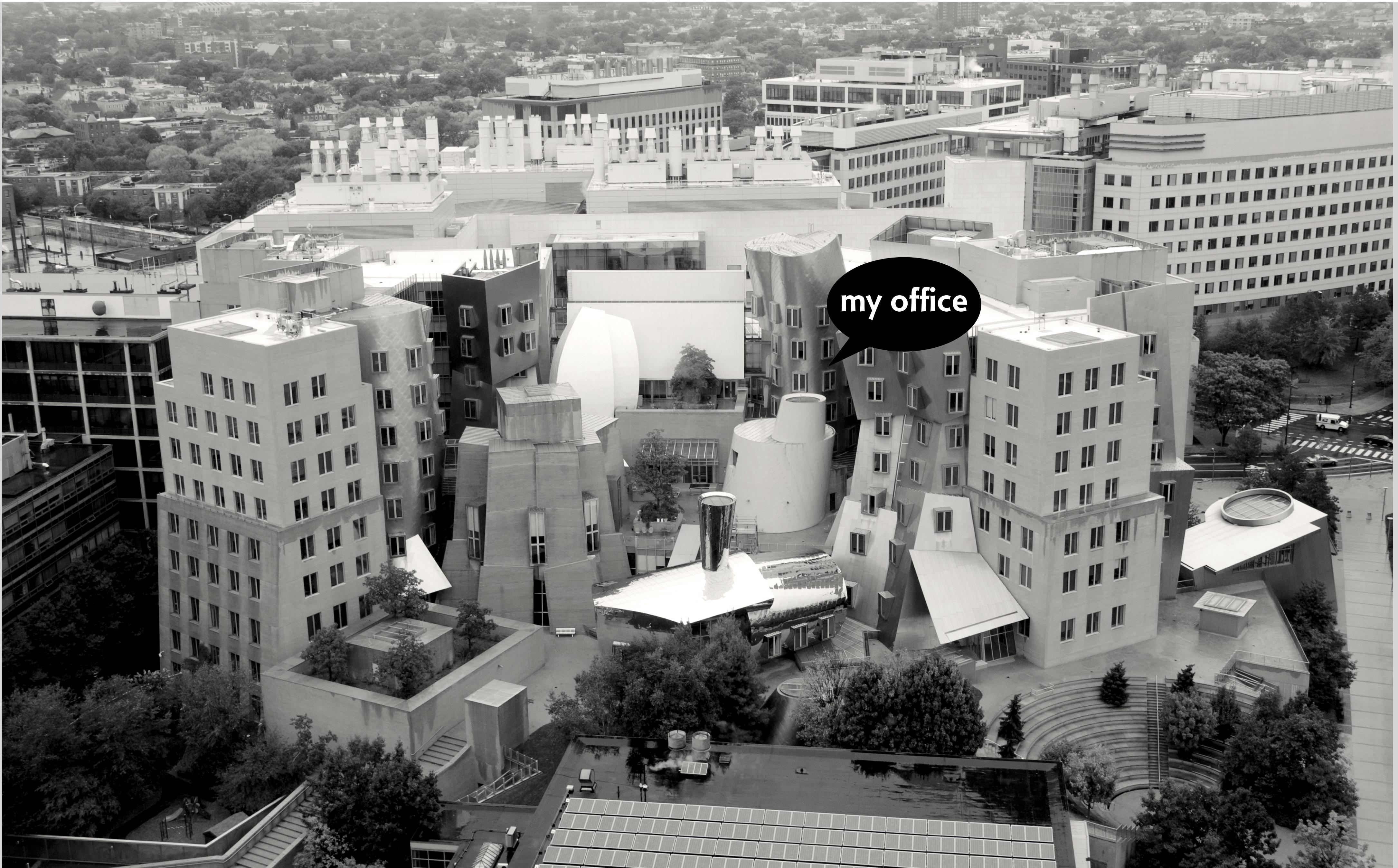


Computer science PhD at MIT

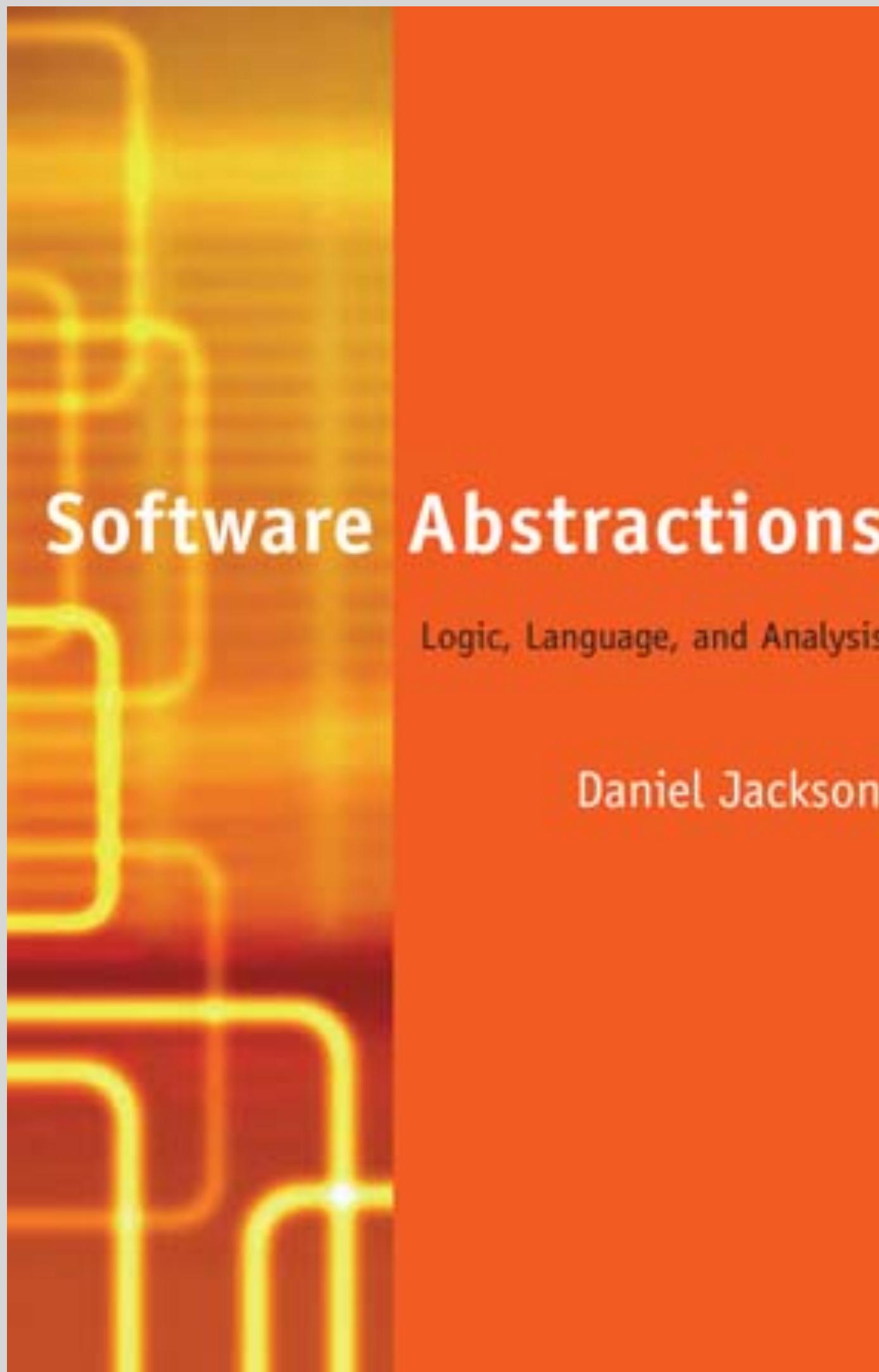


Assistant prof at CMU

# where I work now



# alloy: a lightweight, analyzable modeling language



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

```
2 sig Server extends EndPoint {  
3   causes: set HTTPEvent  
4 }
```

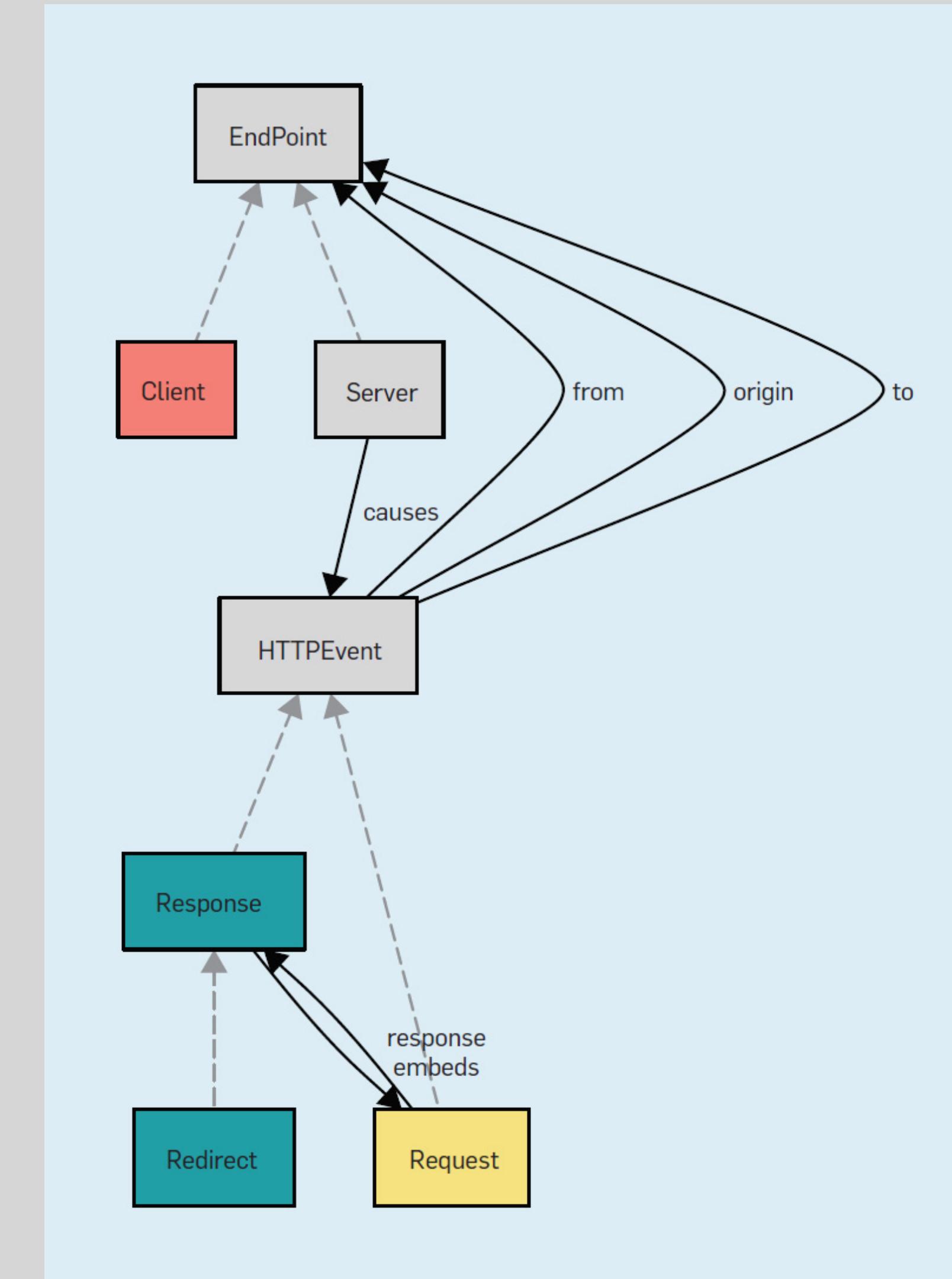
```
5 sig Client extends EndPoint { }
```

```
6 abstract sig HTTPEvent {  
7   from, to, origin: EndPoint  
8 }
```

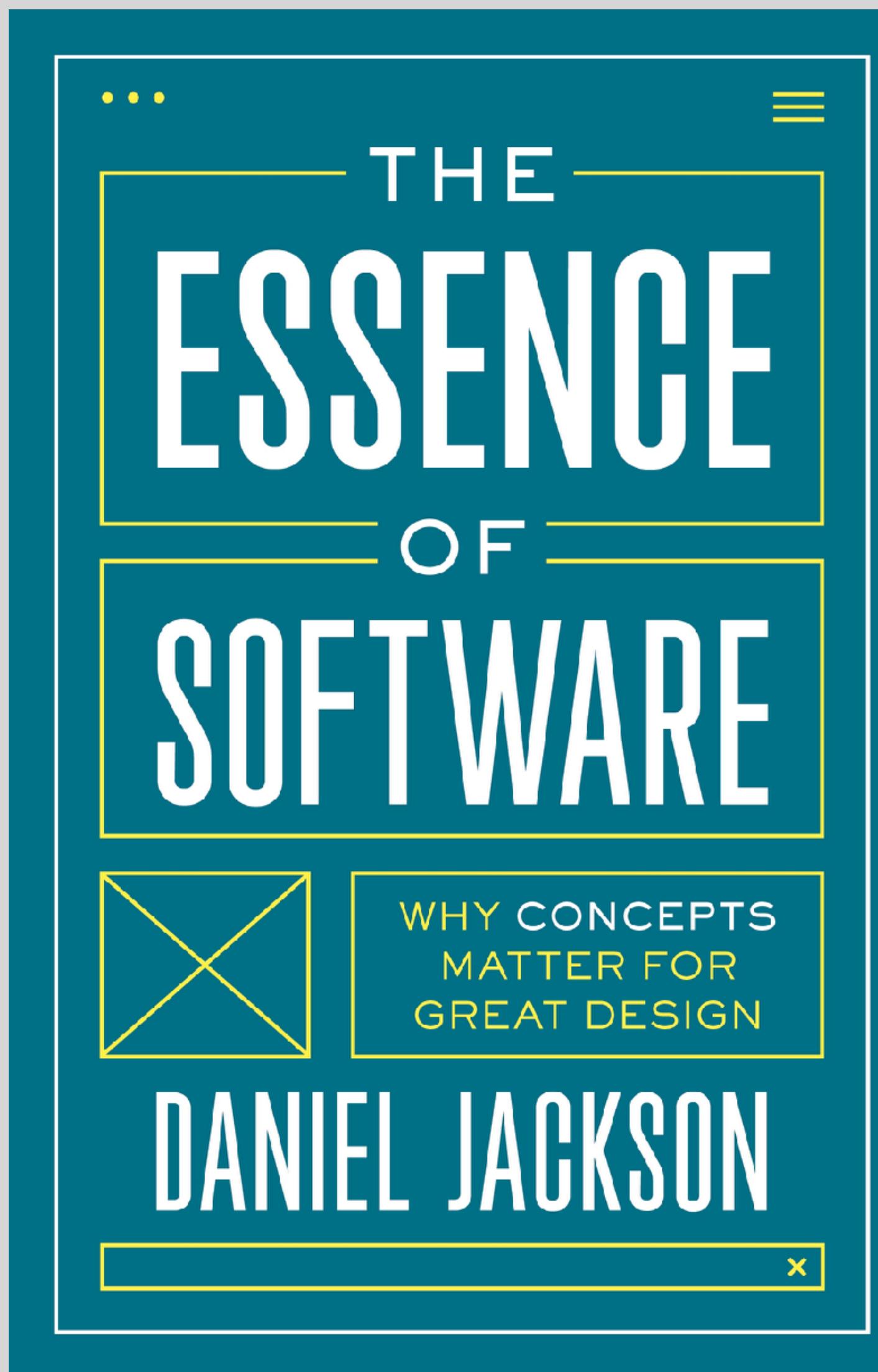
```
9 sig Request extends HTTPEvent {  
10  response: lone Response  
11 }
```

```
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



# workshop plans & goals

# Workshop Schedule

Time	Monday	Tuesday
9:00	Welcome & intros	Questions & review
9:30	Introducing concepts	Design moves
10:45	Break	Break
11:00	Identifying concepts	Team vision exercise
12:15	Lunch	Lunch
1:15	Designing concepts	Team integration exercise
2:45	Break	Break
3:00	Design exercise	Presentations
4:30	Reflections	Reflections
5:00	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**

strategic goal of integration of tools in cloud platform

maintaining simplicity & clarity as function grows even richer

concept catalog as a place to evolve & record design wisdom

**have fun and learn**

looking forward to our time together & learning a lot from you!

how about you?

in one or two words, what do you hope for in this workshop?



in one or two words, what's the biggest software challenge autodesk faces?



what's next?

## **introducing concepts**

why do concepts matter?

how can concept design help?

where do concepts come from?

schedule, slides, etc

**<https://essenceofsoftware.com/autodesk>**

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*

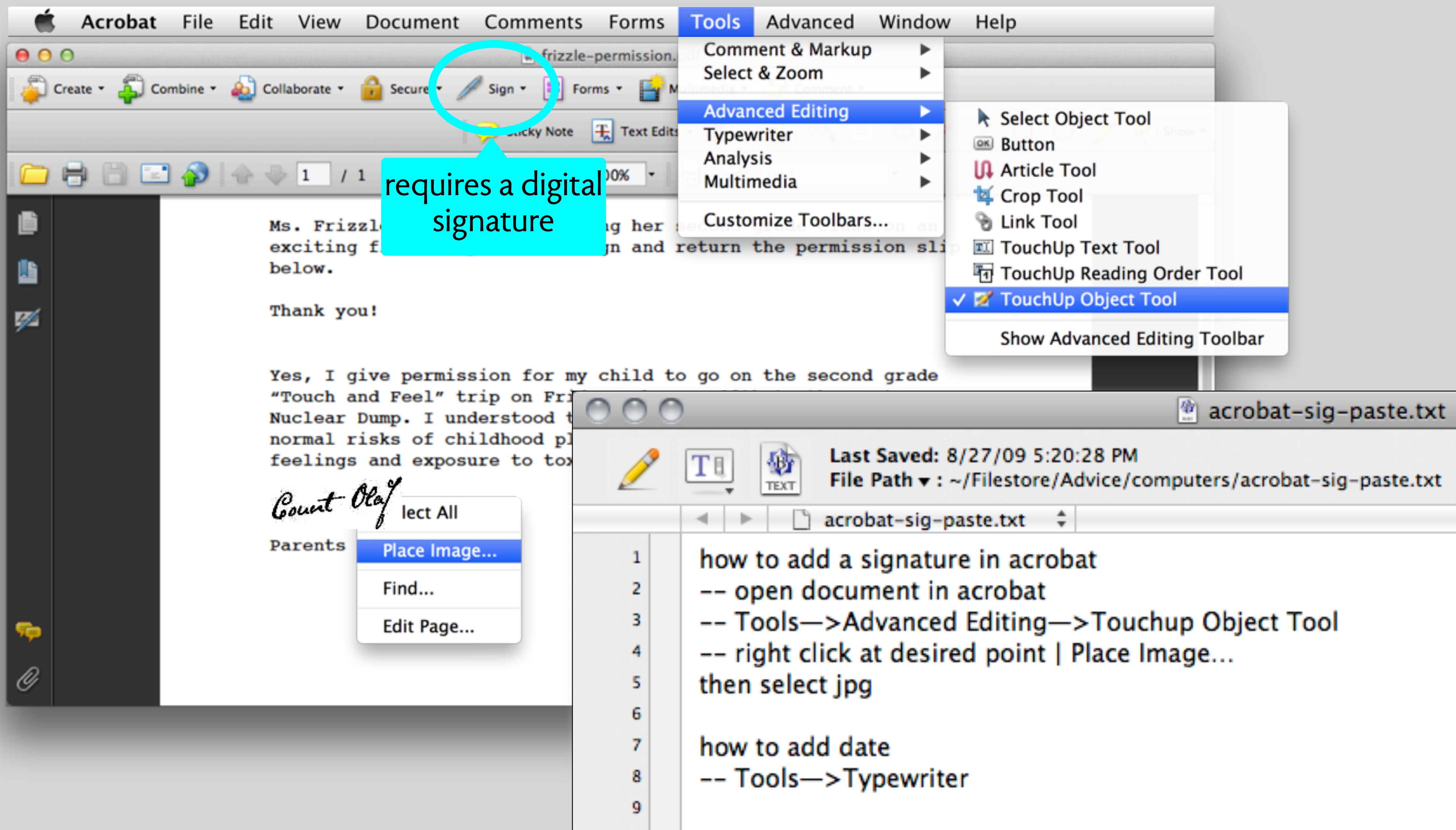
Dec 12, 2009

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Parents signature

Date

# acrobat to the rescue?



# i am not alone...



# what kinds of problems are these?



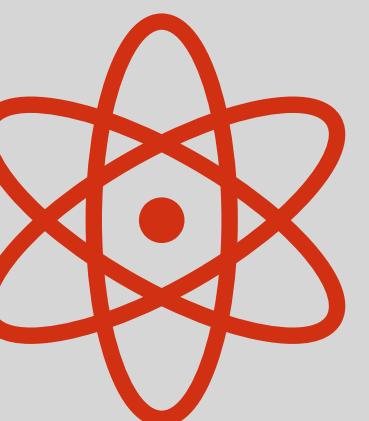
not human errors



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