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Integrity, Service, Solutions

Turning Complexity Into Simplicity

An experience report

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Theme

Complex: *"Hard to separate, analyze or solve."*

Hard: *"Needing much effort or skill to accomplish, deal with, or understand.*

Understand: *"to grasp the meaning or to have technical acquaintance with or expertness in the practice of"*

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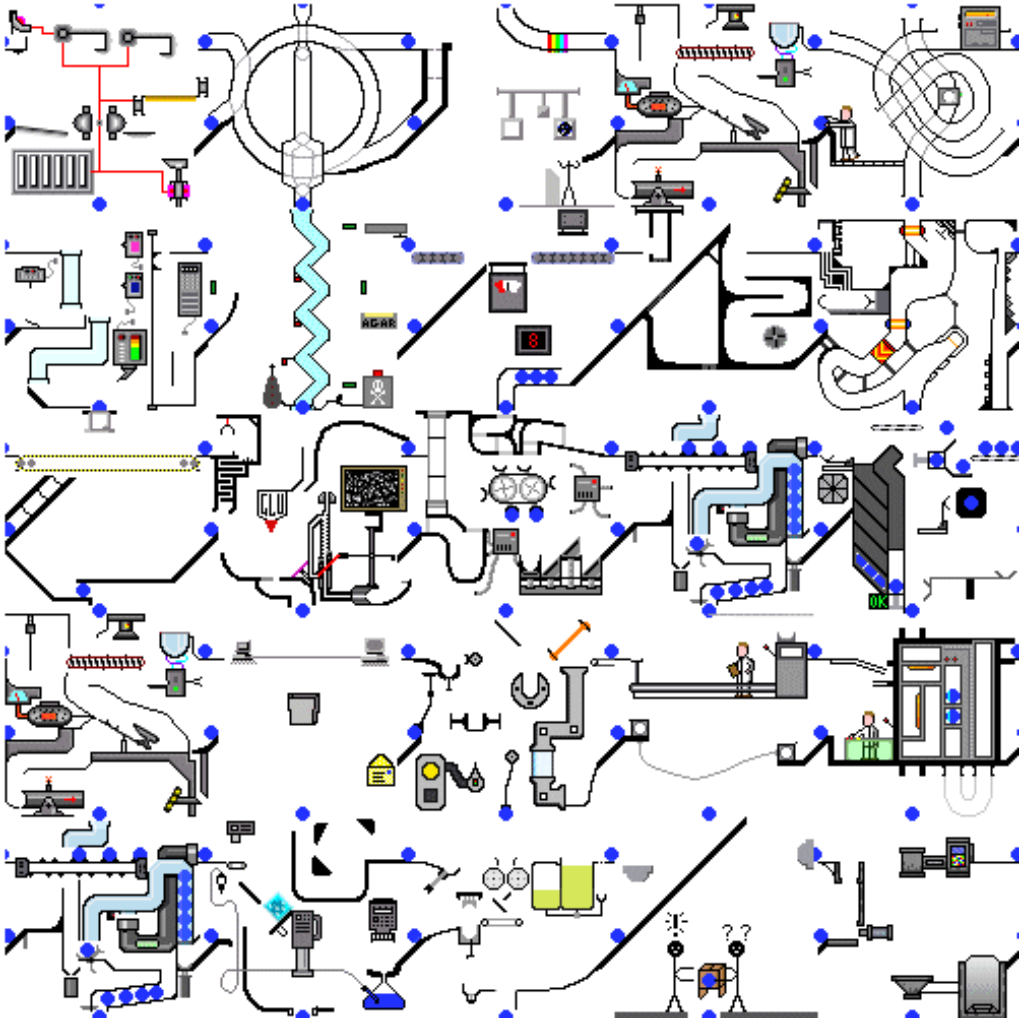
Many elements at once



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Amount of features

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Information overload

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Mifos

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Charter

"Create a list of features toward creating a test coverage outline and for planning charters to be posted on the site for volunteer testers can run. Find every feature or enhancement you can find and be ready to discuss your questions and issues with project stakeholders."

So, I did…

```
CHARTER
-----------------------------------------------
Analyze MapMaker's View menu functionality and report on areas of potential risk.

#AREAS
OS | Windows 2000
Menu | View
Strategy | Function Testing
Strategy | Functional Analysis

START
-----------------------------------------------
5/30/00 03:20 pm

TESTER
-----------------------------------------------
Jonathan Bach

TASK BREAKDOWN
-----------------------------------------------
 PNSQC2010\Complexity_into_simplicity.pdf
#DURATIONComplexity_into_simplicity.pdf
short

#TEST DESIGN AND EXECUTION
65

#BUG INVESTIGATION AND REPORTING
25

#SESSION SETUP
20
```

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Weekend Tester Club Charter

"Read the new user manual and the welcome doc to learn a bit about the purpose of Mifos and pick one of the following sections to discover new bugs, usability improvements, and user manual improvements."

What happened?

```
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-----------------------------------------------------
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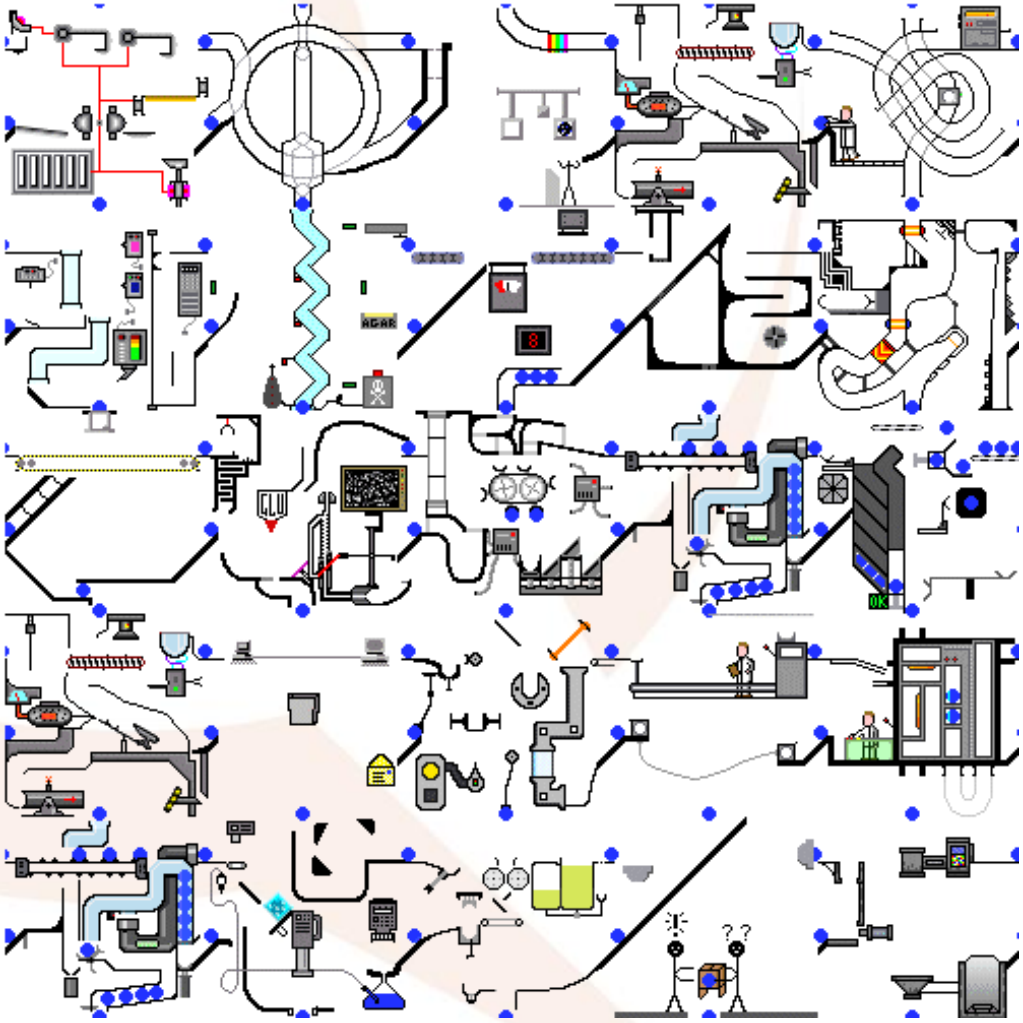
Lesson #1

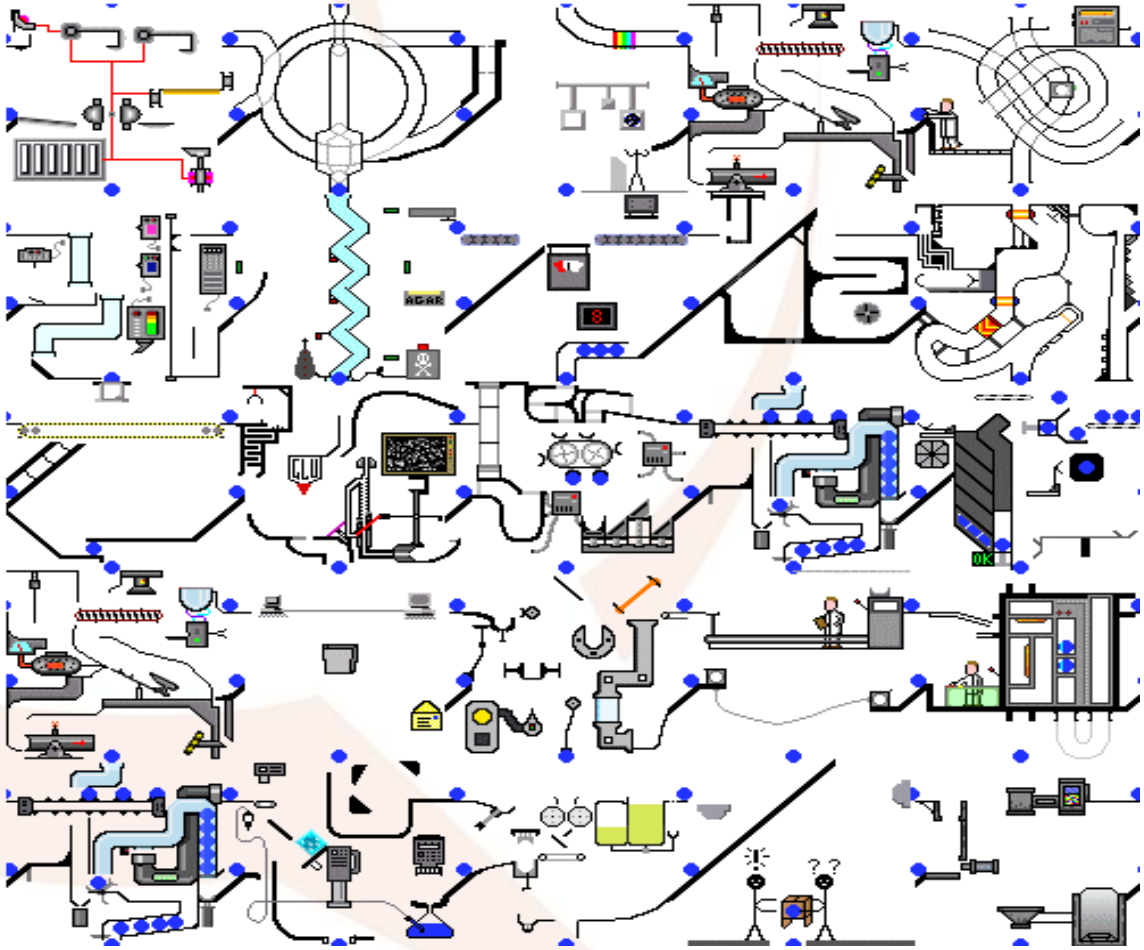
Complexity: many factors working at once

*"I stopped reading the manual because there was **too much** to read (too complex). I felt I had to try the product to get context then re-read the manual. It was only at that stage that I could read the manual in detail to find issues with the wording, etc. I found the manual was non-technical, and I needed some technical content to understand how to enter data in the fields - eg. the limits of the fields, or field types, or basic date rules." -- Tester*



Remedy

Focus on one area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OK

Lesson #2

Complexity: info overload

*"The manual was too complex, but not the wording. It was written in a very basic way. It was just too much too **soon**. My brain was not prepared to read all that information. I had to try to learn it **quickly** in increments. That meant doing about 3 passes over the manual as I was learning the data entry form."*

Remedy

Slow down

Give yourself more time

Lesson #3

Complexity: an emotional relationship

*"You have to acknowledge the level of detail you are **at**, and move between your '**safe** zone' and the complex zone. There is always a level you are **confident** with. If you **freak out**, then go back to your 'safe place' and start again."*

Remedy

Safety

What do you understand?

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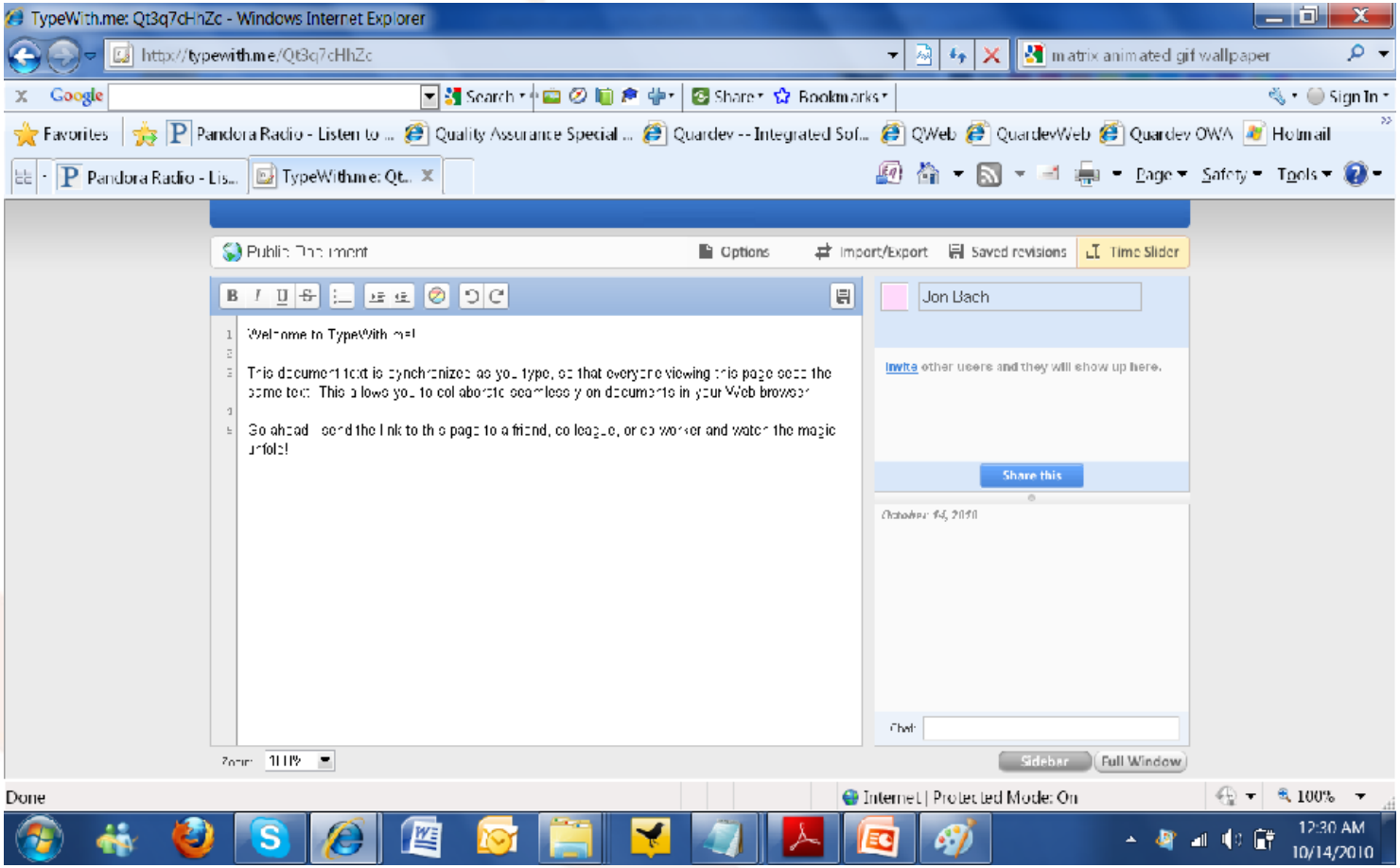
Simplicity



Simplicity

Safe
Confident
Familiar / Experienced
Freedom
Extension of Power
Focused
One or 2 layers
Matches Mental Model
“Makes it look easy”
Paradigm / Pattern
Bandwidth handled

Simplicity into complexity…

Taking a shower

- except when you have a leg in a cast

Open a file and saving it

- except when the OS is Japanese

Flying an airplane

- except when the weather is rough
- …and you're flying formation
- …and it's night
- …and you're about to land on an aircraft carrier

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Complexity into simplicity…

How do you reduce complexity?

- Create equivalence classes
- Find patterns
- Give yourself more time
- Improve the interface
- Make it easier to identify what complexity is
- Reduce the number of things to deal with
- Education – identifying parts and their interaction
- Different views of system
- Encapsulation
- Dashboard or Visibility
- New eyes, different people looking at the same system
- Remove components

Birds of a Feather :Yesterday

Why reduce complexity?

- App will run faster
- Easier to Fix & Maintain
- Easier to Test
- Increase resilience
- Eliminate redundancy
- Reduce risk
- Lower Cost
- Satisfy customer needs

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