Making (large) legacy systems beautiful

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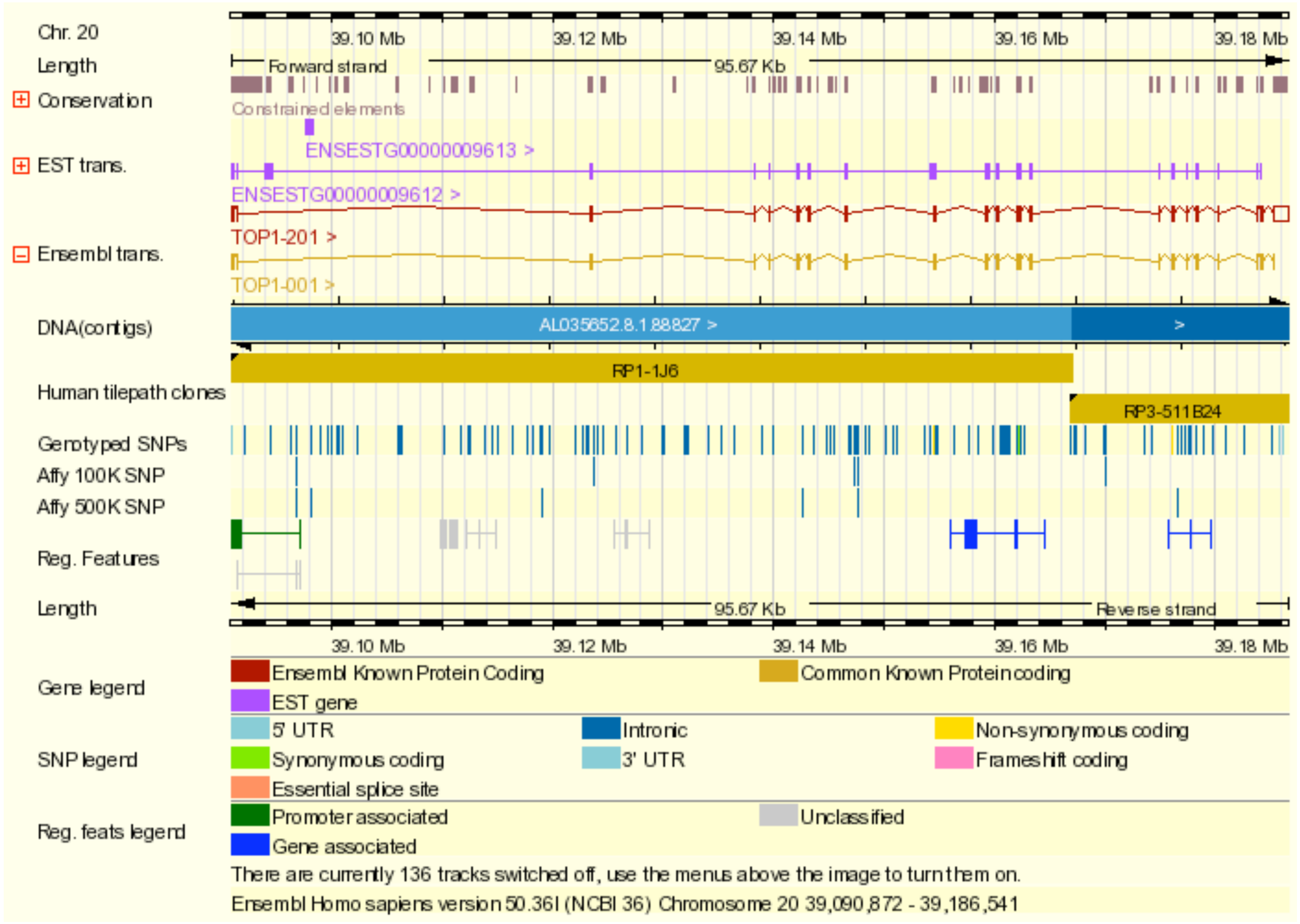
wellcome trust sanger institute

- Participated in the Human Genome project
- CERN of biological data
- Open Data, Open Science, (Open Source)
- Ranked UKs most influential research institute.



Gene legend	
🟥 Ensembl Known Protein Coding	🟨 Common Known Protein coding
🟪 EST gene	

SNP legend		
🟦 5' UTR	🟦 Intronic	🟨 Non-synonymous coding
🟩 Synonymous coding	🟦 3' UTR	🟪 Frameshift coding
🟧 Essential splice site		

Reg. feats legend	
🟩 Promoter associated	⬜ Unclassified
🟦 Gene associated	

There are currently 136 tracks switched off, use the menus above the image to turn them on.

Ensembl Homo sapiens version 50.36l (NCBI 36) Chromosome 20 39,090,872 - 39,186,541

Warning:
Contains personal opinion

Legacy?

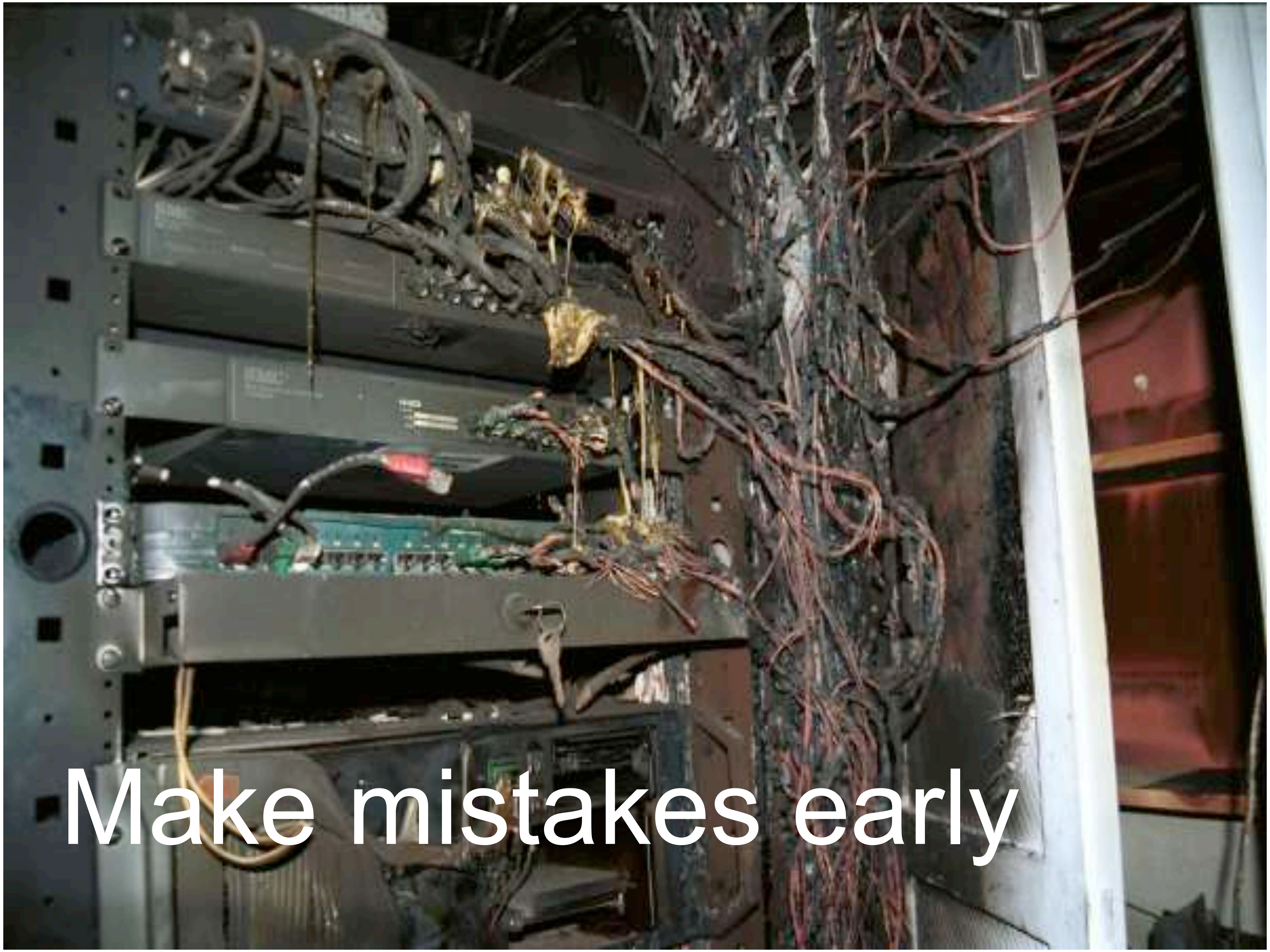
Large?

- > 600 Gb - 1 Tb OLTP databases
- > 75 Tb of raw data per week
- > 10000 samples
- Complicated analysis
- Novel applications => Extreme amounts of change

Beautiful?

Time is money

Refactor or recycle?



Make mistakes early

ATTENTION
Your mother doesn't work here.
Please clean up your own mess!

Remove old code

Ignore software fatigue

See the project with fresh eyes

Set up a staging environment

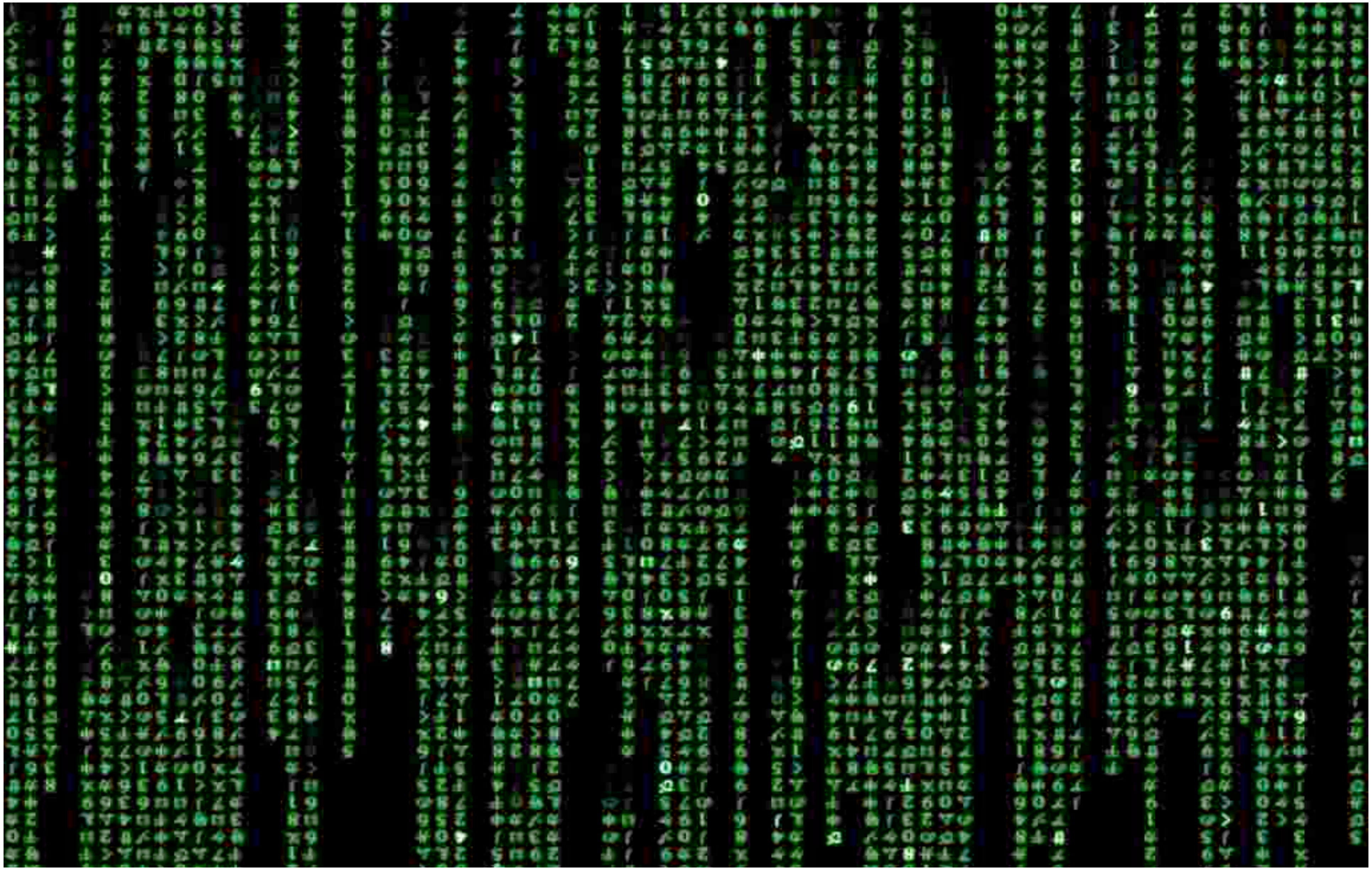
- Take thing to bits

Is it testable?

Adding tests

- Start from the top
- Be creative when it comes to mocking
- Use language features
- (See a TDD/BDD talk)

See **all** the code



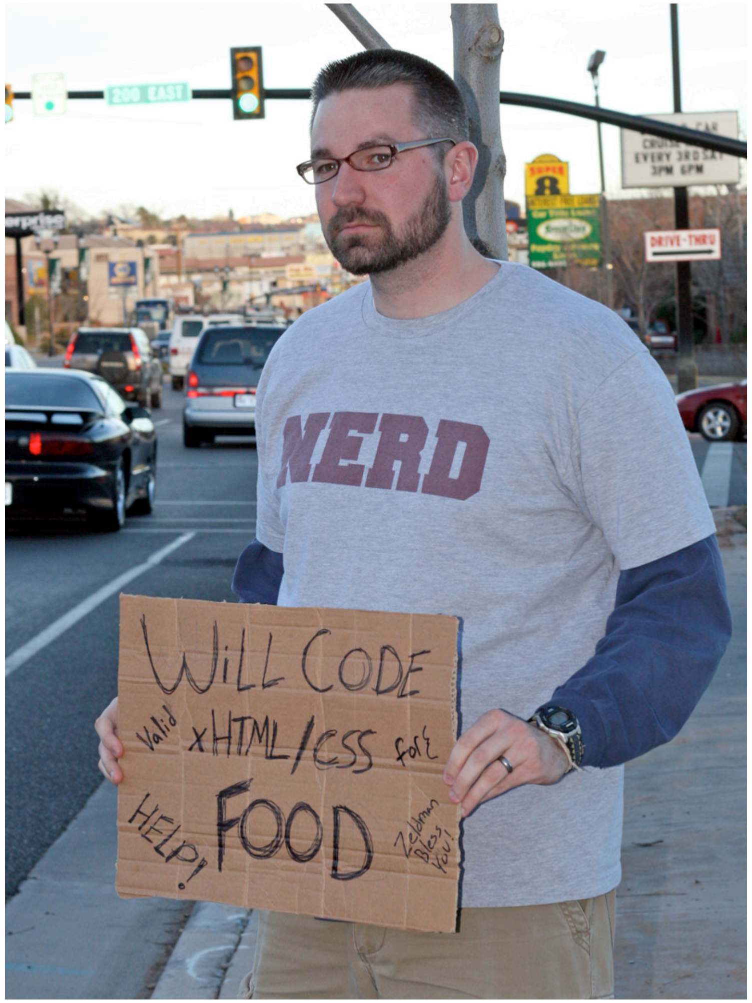
Under utilized technology

- Are there some features in the current technology stack that can help you.
- Views, PL/SQL, Partioning, Stored procedures
- Facade design pattern

Try and reducing the problem size

Is feature useful or have it just become “the standard” way

Talk to the users



Talk to the developers
(if they are still around)

My Legacy dogma

- Work towards a complete mental model of the system
- Keep it simple
- Break it early
- Always move forward
- Choose small targets
- Don’t take it personal

Come work with Perl

- Come and help human kind by programming Perl (and other things)!

www.sanger.ac.uk
blog.clustersolutions.dk

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