

Working in an agile software development team



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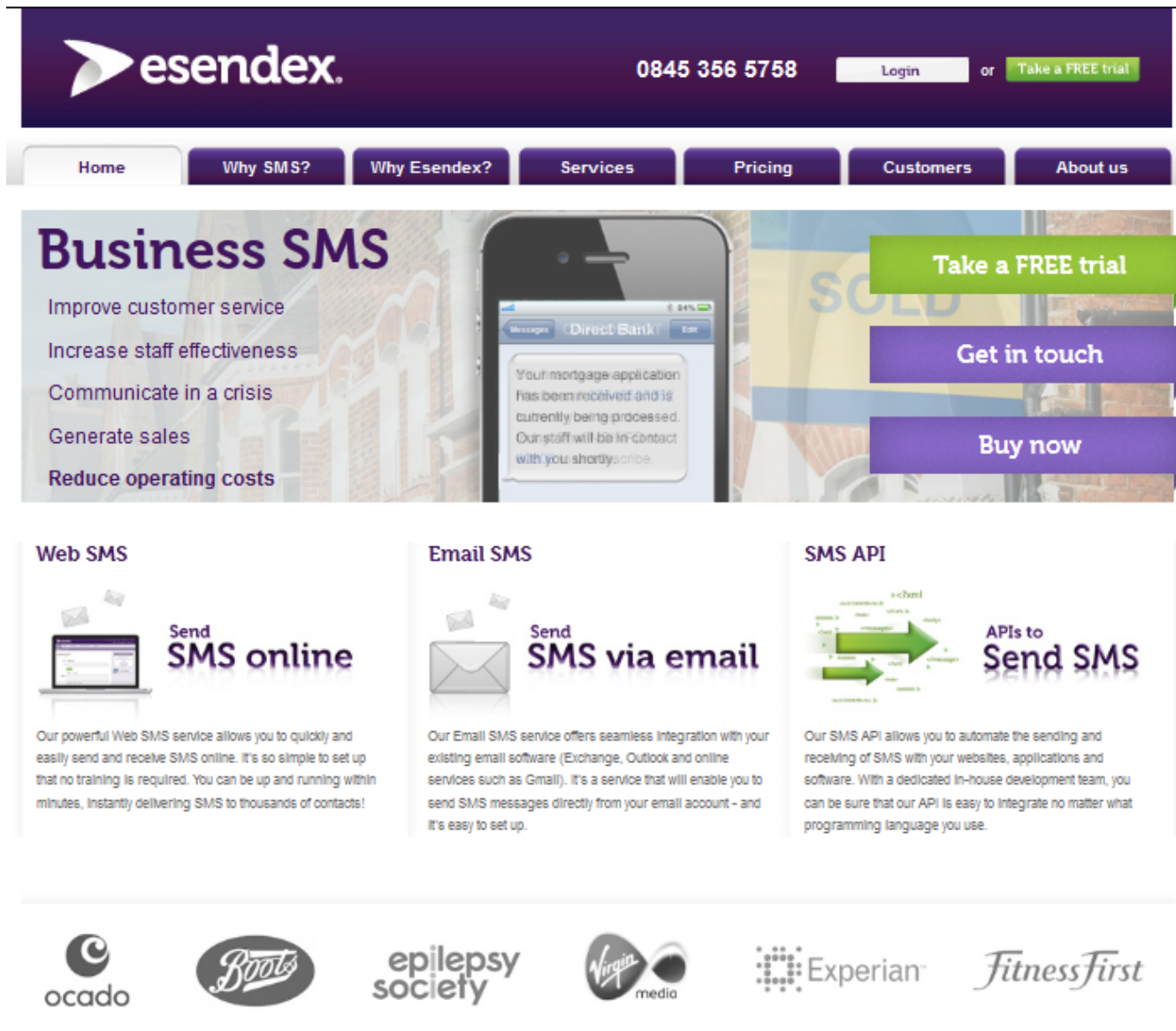


Neil Kilbride
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In this talk...

- Who are Esendex?
- What is agile?
- Project planning at Esendex
- Software development at Esendex
- Demo

Who are esendex® ?



The screenshot shows the esendex website homepage. At the top, there is a dark purple header with the esendex logo on the left, the phone number 0845 356 5758 in the center, and a navigation bar on the right with 'Login' and 'Take a FREE trial' buttons. Below the header is a secondary navigation bar with links for Home, Why SMS?, Why Esendex?, Services, Pricing, Customers, and About us. The main content area features a large banner for 'Business SMS' with a list of benefits: 'Improve customer service', 'Increase staff effectiveness', 'Communicate in a crisis', 'Generate sales', and 'Reduce operating costs'. To the right of the banner is a smartphone displaying a text message about a mortgage application. Three call-to-action buttons are overlaid on the banner: 'Take a FREE trial' (green), 'Get in touch' (purple), and 'Buy now' (purple). Below the banner are three service cards: 'Web SMS' (Send SMS online), 'Email SMS' (Send SMS via email), and 'SMS API' (APIs to Send SMS). Each card includes a brief description of the service. At the bottom of the page, there is a row of logos for partner companies: ocado, Boots, epilepsy society, Virgin media, Experian, and FitnessFirst.

UK's leading specialist business SMS provider

Who are esendex.® ?

- 6-800,000 messages processed each day
- ~99% of messages processed within 5 seconds
- > 200,000,000 message processed each year

The development team



- We use the latest technologies to deliver first class messaging APIs and web applications

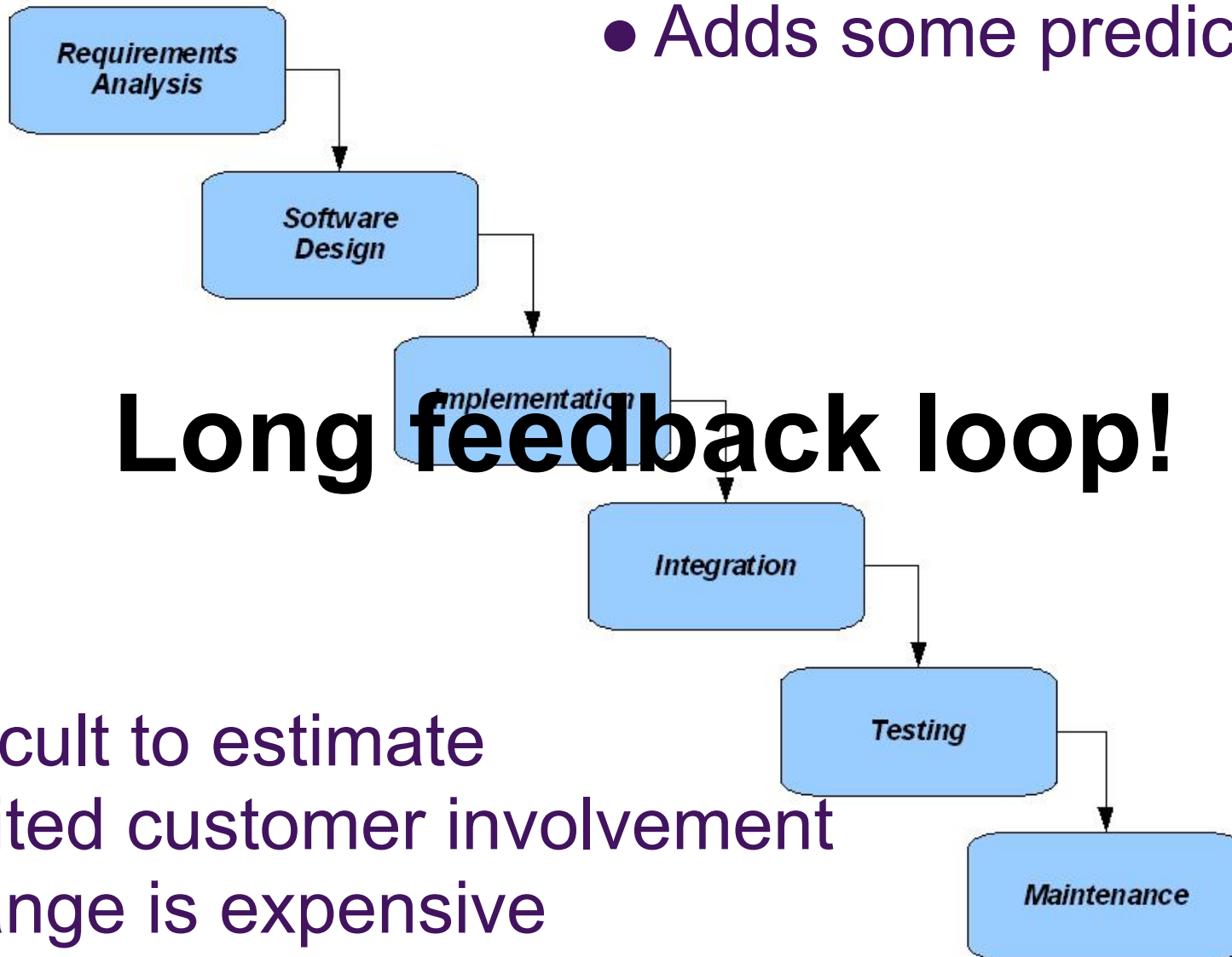


**What is agile software
development?**

What is agile?

- Before agile...
- "Code & fix"
- Unpredictable
- Industry response: apply engineering principles

Waterfall



- Adds some predictability

- Difficult to estimate
- Limited customer involvement
- Change is expensive

A worrying statistic...

Only 32% of IT projects are "delivered on budget, on time, and with expected functionality."

Standish Report, 2009



G52GRP Suggested Timeline

Time Line, Autumn 2011 (1)

- **Er** Time Line, Autumn 2011 (2)

- **Nov** Time Line, Spring 2012

- **February:** Main implementation effort; start writing up.
 - **March:** Integration; testing and debugging; continue writing.
 - **Late March:** Fine-tune implementation; finish reports; prepare Open Day and Presentations.
 - **30 March:** Final reports and software due
 - **2 April–27 April:** Easter break
 - **9 May:** Open Day

Agile Manifesto

Manifesto for Agile Software Development

We are uncovering better ways of developing software by doing it and helping others do it.
Through this work we have come to value:

Individuals and interactions over processes and tools
Working software over comprehensive documentation
Customer collaboration over contract negotiation
Responding to change over following a plan

That is, while there is value in the items on the right, we value the items on the left more.

Kent Beck	James Grenning	Robert C. Martin
Mike Beedle	Jim Highsmith	Steve Mellor
Arie van Bennekum	Andrew Hunt	Ken Schwaber
Alistair Cockburn	Ron Jeffries	Jeff Sutherland
Ward Cunningham	Jon Kern	Dave Thomas
Martin Fowler	Brian Marick	

<http://agilemanifesto.org/>

Agile

"**Agile software development** is a group of software development methodologies based on **iterative and incremental** development, where requirements and solutions evolve through **collaboration** between **self-organizing, cross-functional teams**. It promotes adaptive planning, evolutionary development and delivery, a time-boxed iterative approach, and encourages **rapid and flexible response to change**"

So what about the group project?

- Closest university-taught experience to working in a real software development team
- Assess requirements
- Organise team members' responsibilities
- Work together
- Deliver a *working piece* of software *on time*

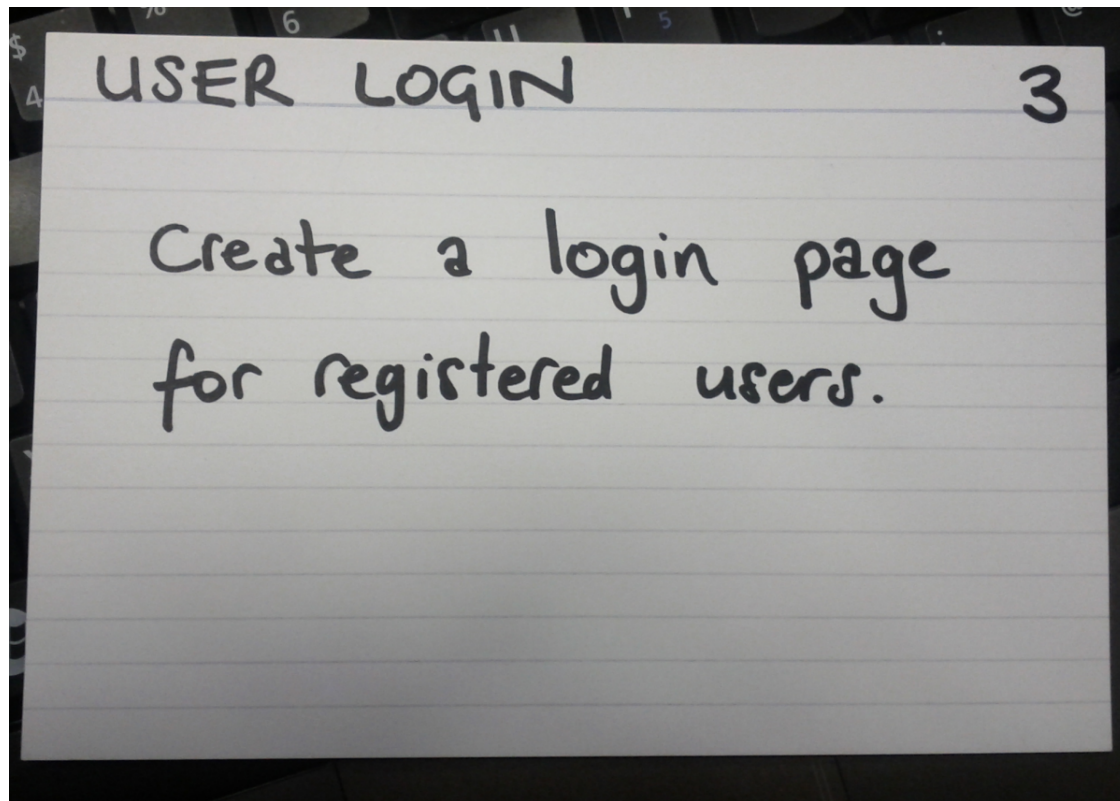


Project planning & organisation

- Project planning
- Kanban
- Stand-up meetings
- Retrospectives

Project Planning

- 2 week iterations
- Break problems into small, deliverable, estimable pieces
- Define requirements for each piece of work



Planning Poker



Planning Poker



Kanban 看板

- Lean manufacturing concept created by Toyota, meaning "sign board"
- Make progress visible & identify bottleneck
- Low tech!



Kanban 看板

Your own simplified version?



Typically story cards will go from TODO to LIVE in 3 days or less!

Stand-up meetings



- < 5 minutes
- Keep team members informed & raise blocking issues
- Focus & sense of team
- Would a bi-weekly, stand-up type meetup help you?

Retrospectives

#7

19/10

02/11

16/11

30/11

ACTIONS 01/11
Review + Dialogue
About C.R.F. - ALL

What went well?

What could have gone better?

BRAND NEW DAVID

RDS IMPROVE ACCTS

INCREASE IN SALESFORCE CASES

OPS LIB V11 OUT OF BITZ

Lack of Monitoring on Prod Backend

BREACH OF "IN PROGRESS" LIMIT BY SOME DICK

Velocity not so Great

Will By Tomorrow

Not turned over yet

Change to JSON Library

JSON Library Change

Side some to change

105

200

175

120

165

195

6

7

8

9

esendex.

Stand-Up Checklist v1

1. In the build RED?

CHRISTMAS HOLIDAYS

- End of every iteration
- Inspect & adapt
- Set actions to improve



Software development

- Pair-programming
- Source control
- Test-driven development
- Continuous integration

Pair-programming



Pair-programming

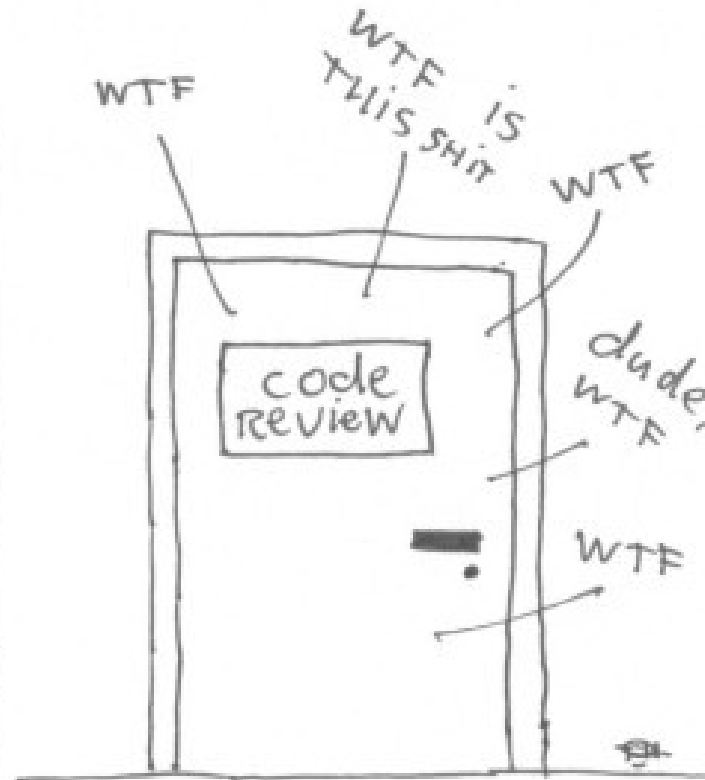
The ONLY valid MEASUREMENT

- Improve code quality
- Share knowledge
- Maintain focus
- Fun & social

city: WTFs/minute

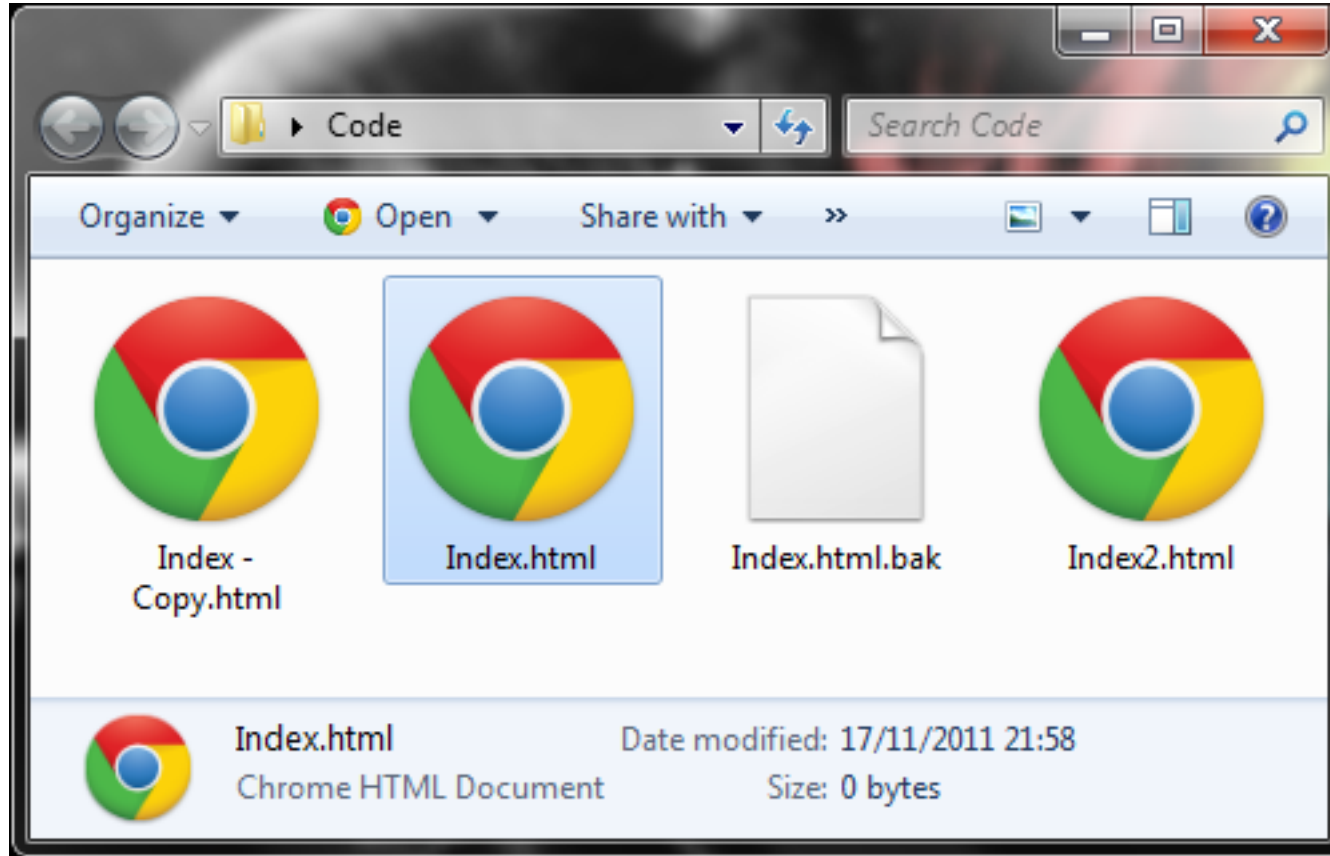


Good code.



Bad code.

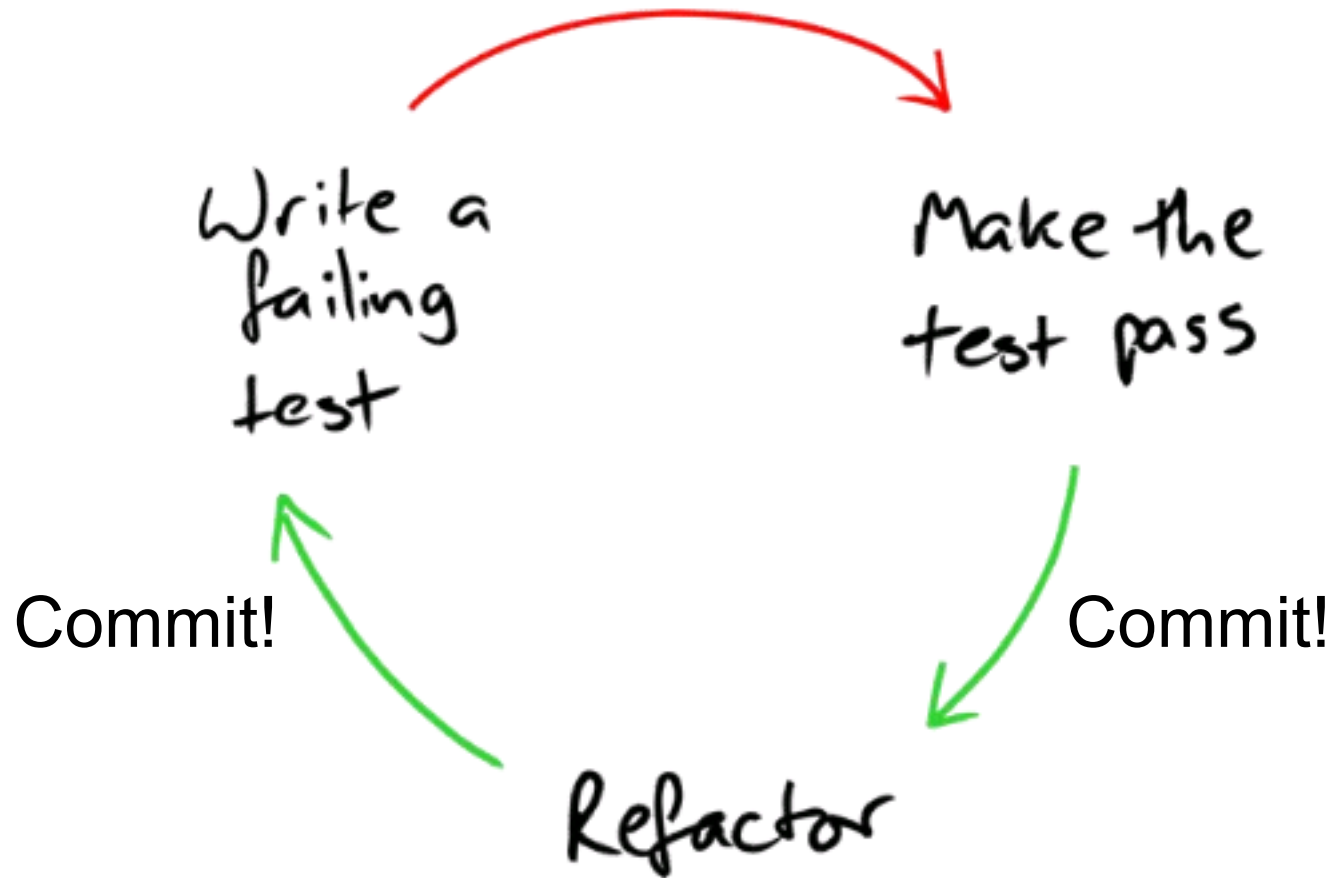
Source control



Source control

- Save incremental changes to your work
- Enables distributed working
- Safety
- You're crazy if you don't use it
- Top tip: commit regularly

Test-driven development



Nat Pryce

Test-driven development

- Provides code confidence
- Easy to isolate bugs
- Writing good tests forces you to write good code
- Tests are living documentation
- Time spent debugging is time wasted

Continuous integration

- Automate the build
- Make the build self-testing
- Instant feedback
- History of successful / unsuccessful builds
- Everyone can see what's happening
- Continuous delivery

Live demo

Interested?



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Esendex (@esendex) do have internship and graduate opportunities, so get in touch if you are interested.

GeekUp Nottingham (@geekupnotts) takes place on the first Monday of every month. It's a grass-roots knowledge sharing and networking social for folks involved or interested in all forms of technology and creative media.