Working in an agile software development team

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● Who are Esendex?
● What is agile?
● Project planning at Esendex
● Software development at Esendex
● Demo
Who are UK's leading specialist business SMS provider?
● 6-800,000 messages processed each day
● ~99% of messages processed within 5 seconds
● > 200,000,000 message processed each year
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

Long feedback loop!
A worrying statistic...

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

Standish Report, 2009
Time Line, Autumn 2011 (1)
- Early September: Project start up
- September: Picking teams
- October: Preparations and simulations

Time Line, Autumn 2011 (2)
- November: Transferring knowledge
- December: Initial implementation
- January: Further implementation

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
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  
Mike Beedle 
Arie van Bennekum 
Alistair Cockburn 
Ward Cunningham 
Martin Fowler

James Grenning  
Jim Highsmith 
Andrew Hunt 
Ron Jeffries 
Jon Kern 
Brian Marick

Robert C. Martin  
Steve Mellor 
Ken Schwaber 
Jeff Sutherland 
Dave Thomas

http://agilemanifesto.org/
"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

**USER LOGIN**

Create a login page for registered users.
Planning Poker
Planning Poker

http://developers.esendex.com/Blog/Planning-and-estimating-at-Esendex
Kanban 看板

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

- 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

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

The only valid measurement: WTFs/minute

(c) 2008 Focus Shift/OSNews/Thom Holwerda - http://www.osnews.com/comics
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

Write a failing test

Make the test pass

Refactor

Commit!
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.