



Agile Software Development

Software development that delivers what you want



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Producing software delivered on time and on budget

Computers now populate nearly every aspect of our lives, from our schools and business, through to hospitals and up to the highest echelons of central government. The Geospatial industry is no different. The way that software for those machines has been produced has remained fairly static ever since the days when a computer was the size of a small house, yet since the turn of the century a minor revolution in software development has been taking place.

How things always were

Originally, software development was a process in which the customer would list their requirements, software developers would go away and build the software, it would be tested and then put into use by the customer.

Although this process sounds simple enough, for as long as there has been software development, there have been failings in the system. More often than not the software delivered is not what is required.

The development revolution

Agile addresses these failings through the dramatic reduction of documentation - saving months of time wasted from following documents that are not fully understood, vague, incomplete and open to interpretation.

Agile also embraces the fact that the customer will most likely change their mind due to a new influence on the business or a change of priorities. It does not theorise about what the customer may or may not want.

Agile Terminology

Sprint: Within the Agile process the delivery of functionality to the customer is frequent and comes in short spurts or sprints. Typically sprints will last three to four weeks with the objective of producing the customer's priority function within that time period.

Scrum: The Agile process is very dependent on team working, face-to-face communication, rather than volumes of documentation. Every day the team meets to tell each other what they are doing, any problems, etc. The scrum, to emphasise the sense of urgency, means these meetings are held while stood up and in a circle.

Product Backlog Item (PBIs): Each Sprint has a set of target PBIs which the development team aims to deliver. These are prioritised by the client in order of importance and the client may delete, change or introduce PBIs at any time in the project. There is no such thing as change control with the Agile process, the whole way of working is focused on giving the client what they want based on actual use of the system.

"The public sector customer is no different to one from the private sector in that their needs from a software development perspective are the same – they want the software to do what they want it to do for a set amount of money and delivered in a set period of time."

- Dinesh Thanigasalam, Project Manager & Proponent of Agile Methodologies

Cardiff Council Case Study

There was requirement at Cardiff to bring in a new system to replace their outdated Estates Management System and they turned to Aligned Assets because of their background in producing software of the highest quality.

Even before the development started, the first thing to happen was to have the people at Cardiff Council thinking about what they were doing on a day to day basis and how they would ideally like to do things.

By doing this, not only were the system users able to see the benefits without being bogged down with IT technical jargon, but it helped the development team to understand the fundamentals of the business.

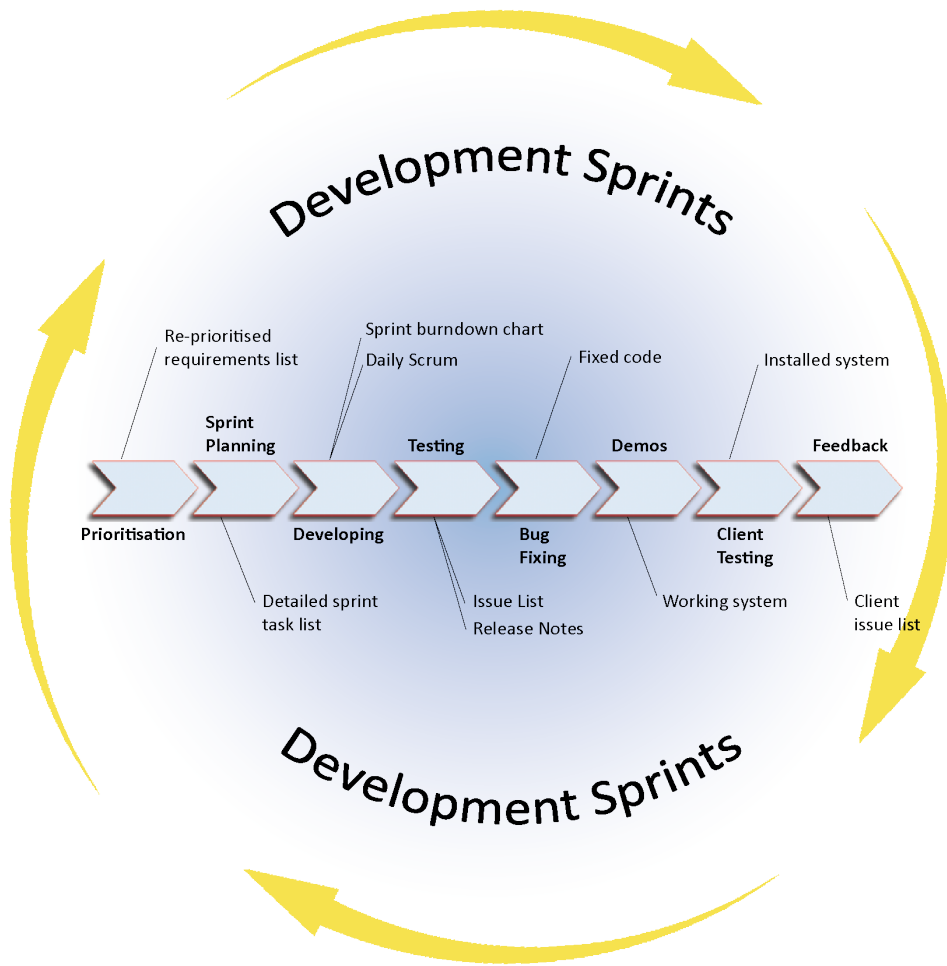
To take the process a stage further a list of requirements for the system were then derived from the business processes and documented in the form of 'User Stories'. These were written in plain English, and once finalised these requirements were prioritised by the client. It was these priorities that formed the basis for the development work.

Key to the Agile development was the developer buy in that allowed them to fully understand what the client required. If they had not, whatever they produced was almost certain to be wrong.

The developer buy in avoided what can often happen in non-Agile developments, which is that the team might produce the most amazing piece of software, but unfortunately it will not do what is required and will therefore probably be completely useless.

With full engagement between Cardiff Council and the development team at Aligned Assets, the PMS system is due for completion on time and on budget. Cardiff Council have been involved at every level, offering feedback and changes direct to the development team who have then been able to move forward with the implementation.

These regular meetings were arguably the most important part of the Agile process and represented the best value for money for the clients as it helped ensure that they got exactly what they wanted.



What happens in Agile Development?

- The client constantly reviews what is produced and provides feedback.
- The client's decisions are made on use of the actual (be it unfinished) system and not on abstract descriptions in a specification.
- A "production ready" deliverable is produced usually every 3 to 4 weeks for the client to test and comment on. This 3 to 4 weeks phase of development is called a sprint.
- User requirements are captured often in the form of user stories and are constantly re-prioritised by the client. The high priority ones are the ones that are tackled in next sprint.
- The client has the right to introduce new requirements or change existing ones throughout the project to cater for changing business requirements and also through their use of the actual software.
- The client has the right to change their mind on seeing what was previously requested.
- The important functionality is always built first to ensure that it provides the most and earliest possible ROI to the client. This means if budget runs out, the client still has a working system that does the most important things for them.

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