看板開發方法(KanBan)─資料整理

歷史：In the late 1940s, Toyota found a better engineering process from an unlikely source: the supermarket. They noticed that store clerks restocked a grocery item by their store’s inventory, not their vendor’s supply.

店員進貨是依照庫存的多寡決定，而非供給商的供應，只有快賣完時才會進貨

Only when an item was near sellout did the clerks order more.

In simplest terms, by better communication through visual management.

The system’s highly visual nature allowed teams to communicate more easily on what work needed to be done and when. It also standardized cues and refined processes, which helped to reduce waste and maximize value.

A new application of Kanban emerged for knowledge work as early as 2005,

取代文字的優勢─大腦對圖像的運作速度遠高於看文字

neurological pathways might even prefer pictorial displays over text.

功能類：

三大分類：To Do, In Progress, and Done……

優點：

Planning flexibility：A kanban team is only focused on the work that's actively in progress. Once the team completes a work item, they pluck the next work item off the top of the backlog. As long as the product owner keeps the most important work items on top of the backlog, the development team is assured they are delivering maximum value back to the business.

彈性、不受既定時間約束一項任務，完成就撕掉、新的就貼上去，依照Board上安排的順序就可知道任務的重要性和完成度。

看板開發只在乎WIP，一旦完成，直接從Board上撕去，將擺在下一個優線順位的work「改貼到」backlog的「Top」，只要觀察上下擺放的順序或是顏色區分，成員可以快速且明確的得知目前最重要(應施予最大努力完成)的work。

(略過)Shortened cycle times：Overlapping skill sets lead to smaller cycle times. When only one person holds a skill set, that person becomes a bottleneck in the workflow. So teams employ basic best practices like code review and mentoring help to spread knowledge. Shared skills mean that team members can take on heterogeneous work, which further optimizes cycle time.

In a kanban framework, it's the entire team's responsibility to ensure work is moving smoothly through the process.

Fewer bottlenecks：Multitasking kills efficiency. That's why a key tenant of kanban is to limit the amount of work in progress (WIP). Work-in-progress limits highlight bottlenecks and backups in the team's process due to lack of focus, people, or skill sets.

The WIP limit tells you how much work items are allowed to be in a certain state at any given point in time. If a state reaches its pre-defined WIP limit, no new work can enter that state.

For example, a typical software team might have four workflow states: To Do, In Progress, Code Review, and Done. They could choose to set a WIP limit of 2 for the code review state. That might seem like a low limit, but there's good reason for it: developers often prefer to write new code, rather than spend time reviewing someone else's work. A low limit encourages the team to pay special attention to issues in the review state, and to review others work before raising their own code reviews. This ultimately reduces the overall cycle time.

限制一個workflow WIP的數量，讓成員們可以更專心的集中解決同一個問題

多工實際上會降低完成一項work的效率，人都只能專注在一件事情上面，而KanBan正限制了work in progress的數量。

每個workflow state都有規定的WIP最大限制，一旦抵達上限，新的任務就不允許再增加，等同督促成員趕快集中火力在現有排程中的work。

所有開發者都是一樣的，比起review和檢查他人的code，開發者更傾向寫新的code和work，如果允許任何新進的工作馬上進入排程，那人們通常都會放掉現有卡在結束線上的工作，轉向一個新的work(換個任務看會不會比較輕鬆?)，因此一個低數量的WIP限制，可以”鼓勵”成員優先將現有的work一起努力完工，另外，少量的既有目標也不會給人一種「怎麼樣都做不完」的痛苦感。

Visual metrics：Charts provide a visual mechanism for teams to ensure they're continuing to improve. Two common reports kanban teams use are control charts and cumulative flow diagrams.

A control chart shows the cycle time for each issue as well as a rolling average for the team.

增進效率的方法 -> 良好的溝通，而圖像化的KanBan Management能更好管理

大腦解讀圖像的速度是文字的60000倍，人的神經網路也遠擅長對圖像的處理勝過文字，重點是圖像式的表現工作流程，即便是新進的成員也能馬上進入狀況，而不必花更多的時間在解釋文字上頭(即使存在著一套完整的document，第一次接觸的人還是得花一定時間去熟悉)。

提高效率的方法之一，就是讓所有人能不藉由額外的解釋，立刻能明白：

當前的目標是什麼/現在專案完成到哪裡/我該做些甚麼。

Continuous delivery：continuous integration–the practice of automatically building and testing code incrementally throughout the day–is essential for maintaining quality. Now it's time to meet continuous delivery (CD). CD is the practice of releasing work to customers frequently–even daily or hourly. Kanban and CD beautifully complement each other because both techniques focus on the just-in-time (and one-at-a-time) delivery of value.

The faster a team can deliver innovation to market, the more competitive their product will be in the marketplace. And kanban teams focus on exactly that: optimizing the flow of work out to customers.

隨時做完，立即發布，符合時效性

Continually是KanBan的最大優勢，整個開發流程和release都很彈性，如同便利貼一旦完成就撕下，就能立即release給顧客。

KanBan VS Scrum: Continually VS Iteration

The Kanban methodology is way less structured than Scrum. It’s no process framework at all, but a model for introducing change through incremental improvements.

The only management criteria introduced by Kanban is the so called “Work In Progress (WIP)”. By managing WIP you can optimize flow of work items.

If you already have working processes, which you want to improve over time without shaking up the whole system, Kanban should be your tool of choice.

參考來源：

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