



IMPROVING PREDICTABILITY USING KANBAN

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Work falls in 2 buckets

Keep the lights on...

- Production Support or Maintenance project
 - ▣ Pipeline changes frequently
 - ▣ Prioritization changes frequently
- Release planning is done in the following few ways:
 - ▣ Either a defined frequency
 - ▣ Around some important functionality
- Estimation limited to primarily “key” work items

Projects

- Discretionary or Value Enhancing
- Traditionally, waterfall based
 - ▣ “MS Project” like scheduling
 - WBS is made
 - Estimate is made
 - Dependencies are defined
 - As project progresses, MSP keep computing a scheduled date
- Increasingly Agile based

Forecasting...

Keep the lights on...

- Quite non-committal
- Whatever can be “fitted” in the given timeline, goes in the release
- Trust deficit between business and IT or customer and vendor
 - ▣ Business/customer always feels that work items are over estimated
 - Extremely difficult to justify every incremental
 - ▣ Delivery always feels that customer/business does not appreciate the details
- Estimation basis is past time sheet data
 - ▣ This too is error prone and massaged

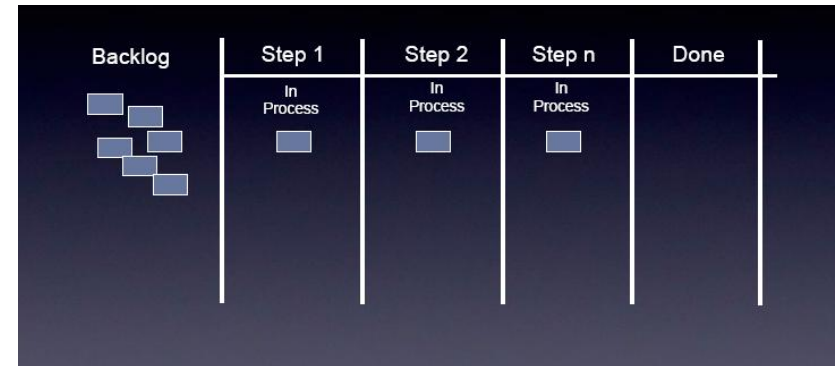
Projects

- Scheduling done with critical path tracking
 - ▣ Two key issues:
 - Scheduling is very deterministic
 - ▣ Though, it is completely based on “estimates”
 - Trust deficit and issues with estimation continue
- With this background, there is an inherent contradiction between the estimate and the forecast
- Further, as work progresses and projects start slipping, focus is around controlling critical path
 - ▣ Limited ability to do scenario based planning

A quick Kanban primer

- Visualize the Work
 - Map your value stream
- Limit Work in Process (WIP)
- Manage Flow; Establish a Cadence
 - Remove bottlenecks and improve the flow
 - Increase throughput
- Make Process Policies Explicit

- Implement Feedback Loops
- Improve Collaboratively, Evolve Experimentally

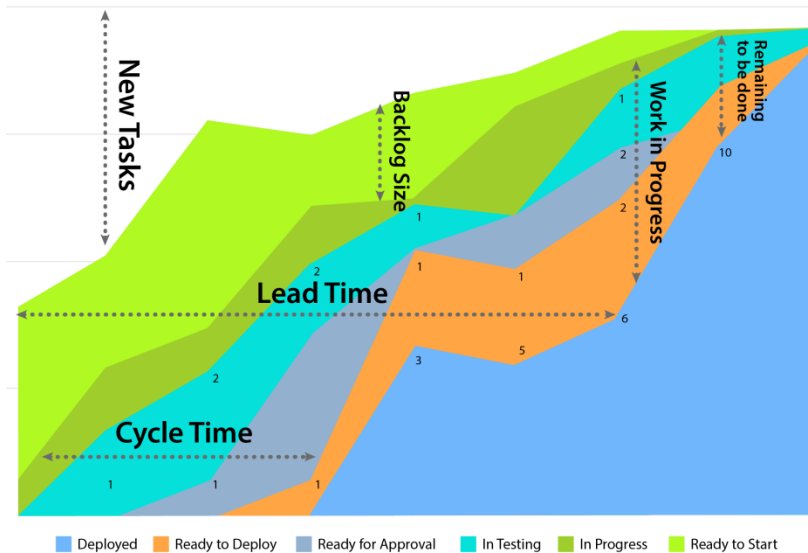


So, how does Kanban help?

- Flowing of cards is at the heart of a Kanban system
- As cards flow, system tracks:
 - ▣ How much each card of different type, of each size, spends on each stage of the value stream
 - Sizing is based on a approx T shirt sizing
 - Wait time and blocked time can be excluded by the system
- Focus on low WIP limits discourages people from multitasking
 - ▣ “Stop starting; start finishing”
 - ▣ Result: calendar time = approx. actual effort

Metrics from a Kanban system

How to Read a Cumulative Flow Diagram



- Cycle Time =
WIP/Throughput
- For a given inventory of work, Cycle Time and Throughput are inversely proportional
 - Will be used interchangeably

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Predicting with CFD

Product demo

Question remains....

- We know what we need to do...
- But how we go about doing it?
- Introducing “Simulation with Swift-Kanban”

Simulation with Swift-Kanban

- Basis:
 - ▣ Estimates are not accurate
 - ▣ Even an accurate estimate fail for multiple reasons!
 - ▣ But...
 - We know that variation in effort takes a distribution pattern
- Next:
 - ▣ We derive base data for the simulation from “actual” data
 - Not by estimates
 - Actual data based on progress of work on the board
 - Accuracy driven by the rigor of Stand-up call
 - Team/work profile
 - ▣ We do make some assumptions...
- Result:
 - ▣ Simulation helps you to evaluate different options that impact your throughput/cycle time
 - You can change your team profile and see the impact
 - You can change your working model and see the impact
 - ▣ Gives you more concrete information “behind” your decision

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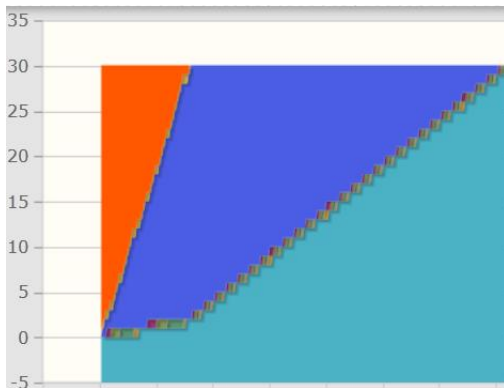
Lets do some “what-if” analysis...

Product demo

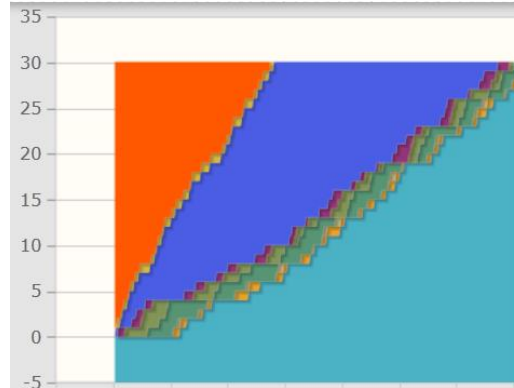
In summary...



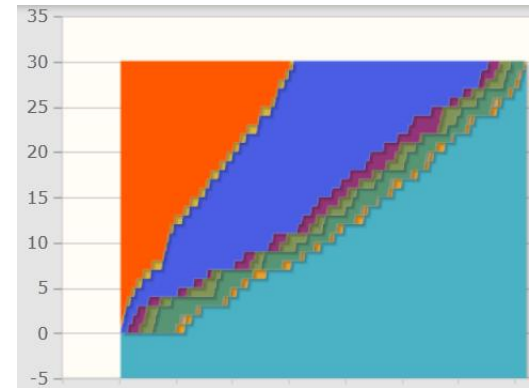
- 30 cards
- With a team of 3:
 - 1 Designer
 - 1 Developer
 - 1 Tester
- Cycle time: 1756



- 30 cards
- With a team of 5:
 - 1 Designer
 - 4 Developers
 - 1 Tester
- Cycle time: 495



- 30 cards
- With a team of 5:
 - 1 Designer
 - 4 Developers
 - 1 Tester
- Plus, Designers can do Development...
- Cycle time: 459



Make prediction with confidence!

- Extend the algorithm to do multiple runs
 - ▣ Eliminates anomalies from a single run
 - ▣ Gives you a 95% confidence number over a large number of runs

- Product demo

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Thank you...

Q&A