Introduction

This is a Kanban game developed by Sune Lomholt for Danske Bank Kanban workshop. It is based on Software development Kanban © 2009-2010 Christina Skaskiw which can be found here: http://www.skaskiw.biz/resources.html

The rest of this document describes how to facilitate a Danske Bank Kanban game.

Possible improvements

- Consider to have an initial setup of the board or have a round -3 to 0 to populate the board.
- Make examples in slides equal to board layout. This means that when going through the theory afterwards you can discuss based on the same board.
    - Pro – they know the layout will be able to connect with it.
    - Con – they may get locked down on this type of layout …

Basic rules

The basic rules of the game are:

- Lead time is calculated as = Done round – Planned round
- Cycle time is calculated as = Done round – Analysis round
- Business value is calculated based on cycle time.
- Dices can be moved from column to column, but is reduced to half. Hence a dice of 1&2 = 1, 3&4 = 2 and 5&6 = 3.
- Dice score not used are lost.
- Daily meeting decides
    - Placement of dices
    - What to work on (pull from previous column)
- Daily meeting (start of each round) can only take limited time (e.g. 2 minutes) and each round can only take a limited time (e.g. 2 minutes). This is in order to keep the game rolling and avoiding too much "ludo" playing.
- In one round you can only work a story in one column (state). Hence a story cannot be worked on in several column in the same round.
- Stories can be placed at bottom of the a column if team finds the will not complete it, because not possible to gain business value.
- Change WIP limit every 5th round if needed.

Rules

- Redistribute dice every round
- Dice score not used are lost
- Change WIP limit 5th round

Regular story:
Target cycle time = 4 rounds
  4 rounds = 100% business value
  5 rounds = 75 % business value
  6 rounds = 50 % business value
  7 rounds = 25 % business value
  >7 rounds = 0 business value
Cycle time = Completed - Started

Fixed date story:
  Must complete on deadline
  Only value when on time
  Lead and cycle time irrelevant for gaining business value

Expedite story:
  Must complete in 3 rounds
  Can break WIP limits
  Only value when on time

Figure 1: This shows the powerpoint which you can have present for the team for look at during the game

Basic flow of game

The game is planned on a board like:

Backlog	Planned	Analysis		Development		Test		Deploy	Done
		Doing	Done	Doing	Done	Doing	Done		

The backlog contains the standard and fixed date stories. Each column Analysis, Development, test and Deploy have assigned dices. Analysis has 2 dice, Development has 4 dice, Test has 2 dice and Deploy has 1.

In planned, analysis and deploy you have definition of done (or policies). For planned it is that the planned round field on the card must be filled when it enter the column, similarly for analysis the started field on the card must be filled in when the story entered doing in the analysis column. Finally, the round it is done in deploy the completed in field must be filled out together with the score field. Write these policies on sticky notes and have them at the bottom of the board.

The game is typically running for 20 rounds even though the measurement poster states 25. This is to "cheat" the participants into thinking that where are running 25 and thus avoiding tactical thinking at the

end of the game. For System Management areas you will not have an end, but for projects you may consider to state that you are only playing 20 rounds to simulate the project end also.

Before round 1

Explain rules and assign dices. Be sure to explain the cycle time and relation to business value. For example, for standard stories to obtain maximum business value it means that they must in play for 5 rounds (this equals a cycle time of 4). While for expedite stories they must move every round in order to achieve the business value.

You may ask the players to sort through the backlog to get some idea of the work to be done (this is similar to a discovery session :o)). Then you ask them to select 5 stories that they will start with. This mean that you put a limit on the Planned column that it can only hold 5 items. Then you are ready for round one.

Flow of game

Round	Description	Hint
1	- You ask them to write which round they were planned in the right cell on the story. - You ask the team to select which stories from the planned column they want work on in analysis. - You ask the team to write when work began in the right cell on the story card. - You then ask them to place them in priority order in the doing column. - Then the team rolls the dice and assign dice to stories in priority order. - If a story's maximum dice is reached this can be moved to done. - Update Diagram poster	team is allowed to take all dices to analysis, but do not tell them if they do not take them from the top then ask if planned is in priority order :o)
2	- You ask the team to work their way from right to left. I.e. they start with figuring out what to work on in development. They can pull stories from the done column in analysis into doing in development (again remember to place in priority order). - Then have team look at analysis – do they need new stories in the doing column? Then pull in from planned. - What about planned should this contain new stories? - Then redistribute dice. - Then the team rolls the dice for each column and assign dice to stories in priority order. - If a story's maximum dice is reached this can be moved to done. - Update Diagram poster	Ensure that team work from right to left in order to induce the pull rather than push mechanism The team is allowed to change priority in the stories during daily meeting (i.e. before assigning dice and doing work (rolling dice)) If team does not redistribute dice – tell them!
3	You ask the team to work their way from right to left. I.e. they start with figuring out what to work on in test. They can pull stories from the done	After round 3 the team should understand the basics of the game

		column in development into doing in test (again remember to place in priority order. - They can pull stories from the done column in analysis into doing in development (again remember to place in priority order). - Then have team look at analysis – do they need new stories in the doing column? Then pull in from planned. - What about planned should this contain new stories? - Then redistribute dice. - Then the team rolls the dice for each column and assign dice to stories in priority order. - If a story's maximum dice is reached this can be moved to done. - Update Diagram poster	
4	Same as above	
5	Same as above	Set WIP Limits (or have team decide on WIP limits) When introducing the limits try to set them low 2 or 3 at least on the development, test and deploy so that they will immediately feel the impact of the limit.
6	Normal round	
7	Team gets first expedite story to handle - expedite story #3	Help team with rules on expedite stories
8	Normal round	
9	Normal round	
10	Team gets first expedite story to handle - expedite story #1 Change WIP limit if needed	Help team with rules on expedite stories After round stop game and have a short retrospective – use a simple starfish or learning matrix Ask team about diagrams – can they read anything from them? Ask team about effect when introducing WIP limits Probably have break at this point …
11	Normal round	
12	Normal round	
13	A team member gets sick	Be sure that team understand the rules for the new team member
14	Team gets third expedite story to handle - expedite story #5	Help team with rules on expedite stories

Danske Bank version created by Sune Lomholt based on Software development Kanban
© 2009-2010 Christina Skaskiw

15	Team gets new team member Change WIP limit if needed	Be sure that team understand the rules for the new team member
16	Normal round	
17	Team gets third expedite story to handle - expedite story #4	Help team with rules on expedite stories
18	Normal round	
19	Normal round	
20	Normal round	

Materials

- Story cards; white paper = normal cards, yellow paper = fixed date cards, red paper = expedite cards
- Dice: 2 blue for analysis, 4 orange for development, 2 green for test, 1 purple for deploy
- Cup for dices
- Poster for measurement after each round
- Post-its to write WIP limits
- Whiteboard pens to update the diagrams on the poster, preferably 6 colours.
- Pens to write on story cards.
- Post-its to mark some policies on board
    - Enter planned the round number must be added
    - Entering analysis the round number must be added
    - When in done it the round number must be added
    - When in done business value is added
- Clock or hourglass for timing daily meeting and rounds
- Easyflip with boards drawn on it: Backlog, planned, analysis (doing;done), development (doing;done)

Backlog	Planned	Analysis		Development		Test		Deploy	Done
		Doing	Done	Doing	Done	Doing	Done		

Facilitator instructions

Length of game

You may consider to tell the participants that you run the game for 25 rounds and then end it after 20. This will ensure that they are not thinking tactically near the end. This will resemble a System management situation. Another approach could be to set-up a rule that the board should be empty after round 20. Any stories in progress (analysis – deploy) will count as negative business value equal to half the business value on the story. This may resemble a project situation. Another approach could be to time box it to 2-3 hours.

Variations to consider

Deploy in regular intervals

Instead of deploy every round you could introduce that they can only deploy every 5th or 3rd round. You will need to determine what deploy dice points means then. Likely it means that you move them from deploy doing to deploy ready. Then end of the round with deploy you empty the deploy column. This will introduce another aspect of the game. For example that you need to plan fixed date according to deploy rounds and what about expedite? Likely you could state that these can be deployed at any time with an additional cost of 2 dice points (or 3 or 4).

Provide stories to backlog throughout the game

Instead of providing all 30 normal and 5 fixed date stories at the beginning, provide a smaller amount to the backlog during the game. In this case you may consider to have a different lead time, namely lead time done round - backlog round. This will resemble a real situation even more. When doing this be sure to have a relatively even distribution of small and large stories … also distribute such that you slowly fill up the backlog.

Have dices on stories instead of column

Instead of placing dices on columns (states/phases) you could distribute dices across stories and then establish 3 swim lanes with different types of stories and assign dices to these instead. Maybe even have some that only count for ½ for some swim lanes. This will resemble a situation where participants (team members) actually take a story all the way through the process. Hence you could use this variation to get closer to the participants real world. Basic rules for this could be

- Each round a dice is related to a story
- You can have one or more dices to one story
- The number of dice points are then used in order of analysis, development, test and deploy. I.e you cannot use any amount on development until analysis is done.

Stories can be pulled from board with a penalty

The penalty is a clean task = one fourth of the dice points used on the story. This resembles that we want to clean up after us, i.e. we have done some work. For example, if you want to pull a story from development and you have spend 3 analysis point and 12 development points. It will cost you 1 analysis point and 3 development points to remove it.

Additional events you may use

- Test environment down => all your test dice points in this round are lost
- A couple of the stories get blocked at specific states in 1-2 rounds
- Organizational changes => change one developer dice to an analyst dice or vice versa (or any other dices)

Danske Bank version created by Sune Lomholt based on Software development Kanban
© 2009-2010 Christina Skaskiw