VSOptima

Value Stream Mapping Cheat Sheet

Capture the value stream structure.
Identify operating units (epic, feature, user-story) that come into the value stream and capture steps that the operating unit should go through to be considered a delivered value increment provided to users.

Specify a frequency of incoming operating units
- **New Items per Time Period**

For each operating unit generator, ask how often a new unit comes into the value stream. Don't expect to get a precise number; look for a range. You can use uniform or normal distributions to reflect the frequency of operating unit generation.

Captured details of each step of the value stream (properties of a step)
- **Cycle time**

For each step, clarify its nature as either cyclical or continuous. This cycle duration means that activity starts working periodically. Once in a specified cycle duration period, the step takes items from the incoming queues and processes them. By default, all steps in VSOptima are continuous, which means that the cycle duration is 0.
- **Processing time**

Ask how long it takes to process one operating unit with such a step. Don't ask for a specific number; ask for a range. You can use uniform or normal distributions to reflect the step process duration variation.
- **People and systems**

Ask who is required to process one operating unit at a step. You can reflect the role name and participation percentage. For example, if you have two roles needed to work on an operating unit in equal participation, then you can specify roles one and two as having 50% for each role in a step. "Count" is the number of people used for the capacity calculation of a step.
- **Inputs priority**

Often an activity has several input queues, for instance, it may have rework. It is crucial to clarify the priority in which a step will take items from these input queues. We recommend specifying equal numbers for the priority fields; in this case, during the simulation, it will take items equally distributed among the queues. Otherwise, a step takes items from the input queue with the lower priority number before other items from the queues with the higher priority number.
- **Output distribution**

If a step has several outputs, clarify how often an item goes one way versus another and reflect it in the percentage. For instance, an item goes to exit one in 80% of cases and to another exit in the remaining 20% of cases. It is important that combined, we have 100%.
- **WIP limits are not implemented**

At the moment, you cannot specify the limit of items taken by step; it always takes as much as capacity allows.

Clarify queues behavior
- **Delay time**

Often there is an artificial wait time that is not related to the inability of the step (lack of capacity) to process it. It can be schedule-related delays like a doctor's appointment. To reflect that, select the line and specify the range of delay.
- **Number of items in a queue**

If you want to simulate the process with items in the queue, then you can specify that in the field "initial queue size."