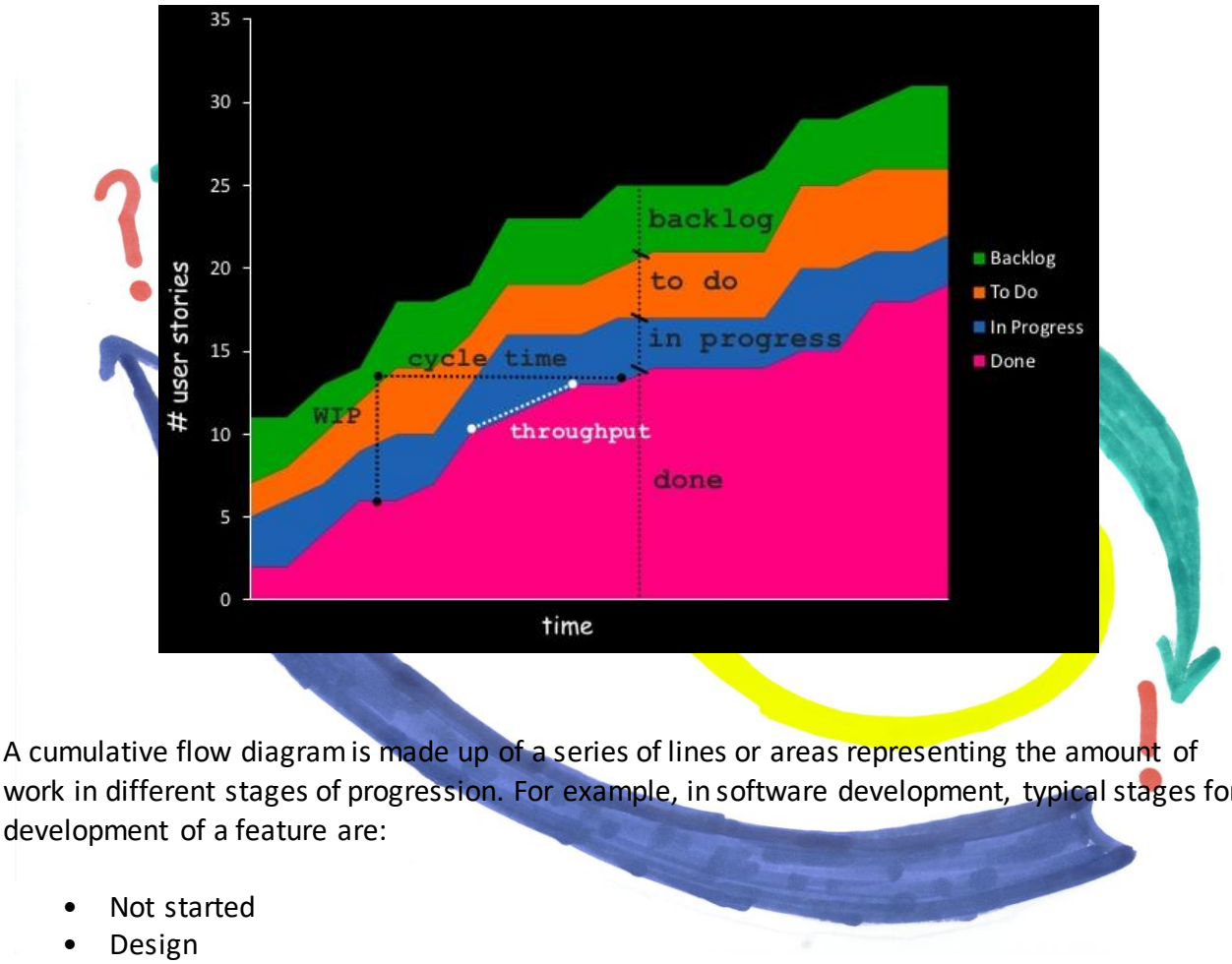
Cumulative Flow Diagram

A Cumulative Flow Diagram (CFD) is an area graph that depicts the quantity of work in a given state, showing arrivals, time in a queue, quantity in queue, and departure. Some teams prefer CFD over Burn Up chart because of its ability to depict historical trend, ability to calculate throughput, clear indication of WIP, & cycle time, and indication of bottlenecks.

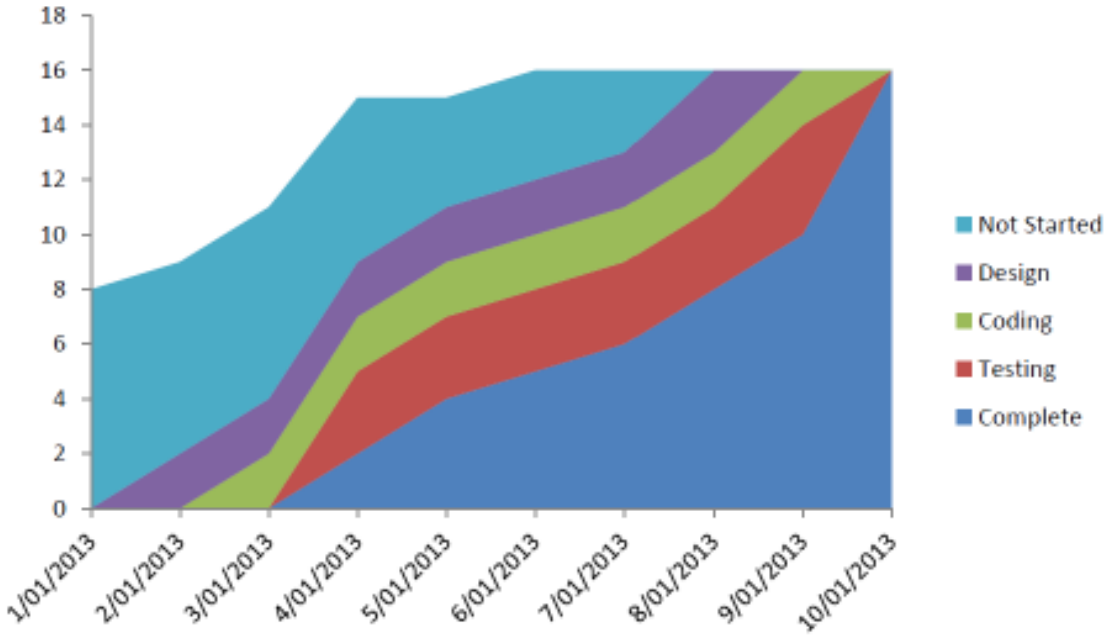
With its focus on tracking changes in queue size per state, the CFD has a stronger focus on identifying and rooting out the causes of dramatic changes in throughput.



A cumulative flow diagram is made up of a series of lines or areas representing the amount of work in different stages of progression. For example, in software development, typical stages for development of a feature are:

- Not started
- Design
- Coding
- Testing
- Complete

In a cumulative flow diagram, the number of features in each stage of development is plotted for each day in the chart.



A cumulative flow diagram may be confusing to read but it provides valuable insight into the project:

- The project will be finished when the complete and not started areas merge
- At a particular moment, the y-axis depicts for each area depicts how much work is currently in that stage (WIP) while x-axis shows how long (duration) work is a particular stage.
- High WIP and duration are indicator of opportunity of potential improvement.
- The horizontal distance from the not started line to the completed line is the Lead Time/Cycle Time. The lead time is the average time from a feature request to a completed implementation.
- The slope of Completed line at a given point is the throughput of the system