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Agile Transformation: Mastering the Art of Continuous Delivery

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Abstract:

Agile Transformation is the process of transforming an organization's culture and nature to be Agile. It is a important change in the way people in the organization think and feel while approaching their work and goals. The goal is to be nimble, focus innovation, empower teams and thereby generate quality outputs.
Traditional organizations place their governance bodies at their top, and decision rights flow down the hierarchy; conversely, agile organizations instill a common purpose and use new data to give decision rights to the teams closest to the information.
This paper focus on the working of SCRUM,Xtreme programming and KANBAN tools
An agile organization can ideally combine velocity and adaptability with stability and efficiency.

Introduction:

Need of agile transformation:

Businesses must be able to provide product increments to customers quickly and reliably in order to stay ahead of the curve. More significantly, they should be flexible and capable of responding to client feedback. This implies a shift away from the prevalent method of organizing, controlling, and funding activity

The 4 Pillars Of An Agile Transformation Are:

1. Individuals and interactions over processes and tools.
2. Working software over comprehensive documentation.
3. Customer collaboration over contract negotiation.
4. Responding to change over following a plan.

Literature Review:

Scrum:Scrum suggests for teams to divide work into goals to be completed within time-boxed iterations, called *sprints*. Each sprint is no longer than 15 days to one month. The scrum team assesses progress of work in time-boxed, small meetings of up to 15 minutes, called *daily scrums*. At the end of the sprint, the team holds two further meetings: one sprint review to demonstrate the work for stakeholders and receive feedback, and one internal sprint retrospective. A person in charge of a scrum team is called a **scrum master**.[2]

Scrum's approach to product development include focussing on decision-making authority to an operational level. Unlike a sequential approach to product development, scrum is an iterative and incremental framework for product

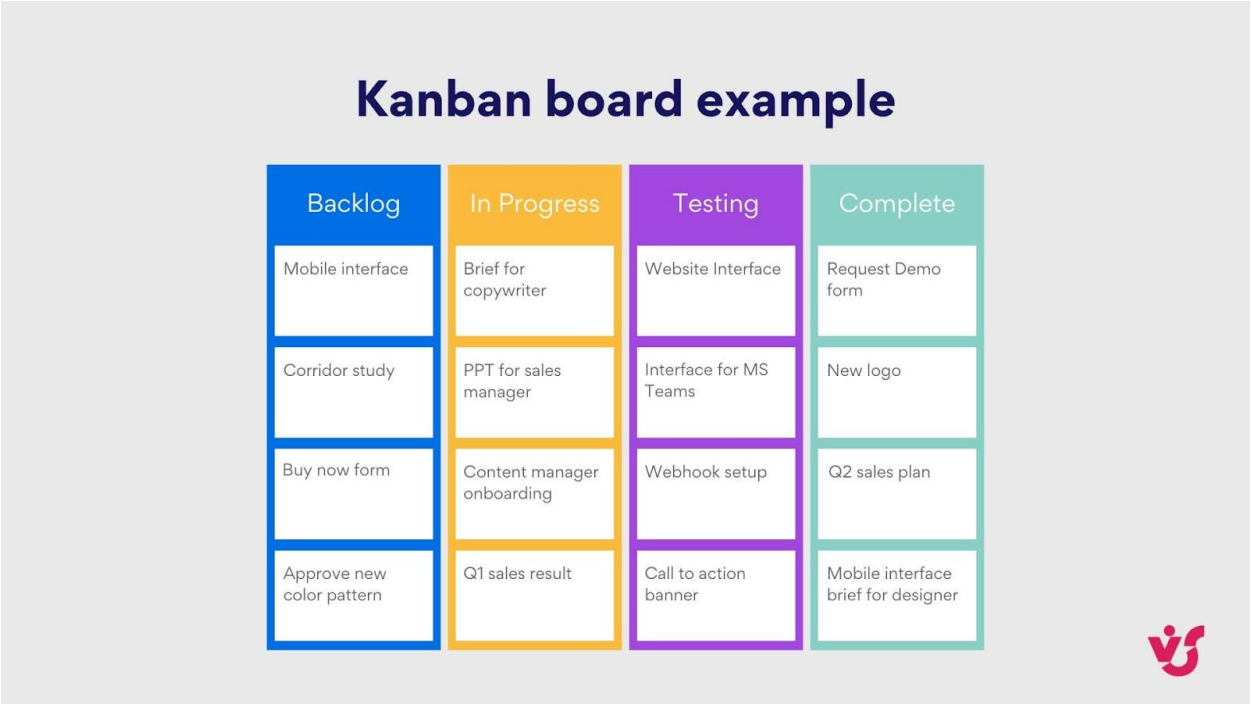
development.Scrum allows for continuous flexibility and feedback, requiring teams to self-organize by encouraging physical co-location or close online collaboration, and mandating frequent communication among all team members. The flexible approach of scrum is based in part on the notion of requirement volatility, that stakeholders will change their requirements as the project evolves.[5]

Kanban:It is agile software development model

Boards

The kanban board is the agile project management tool that designed the necessary visualized work, limited work-in-progress, and maximizes flow (or efficiency). It uses cards, columns, and provides continuous improvement to help technology and service teams who commit the right amount of work and get it done.

1. Visual Signals: The kanban board is a visual card (stickies, tickets, or otherwise). Kanban team write their projects and work items onto cards, usually per person each card. For agile teams, each card could be encapsulated into one user story. Once the board is completed, this visual team helps team members and stock members quickly to understand what the team is working on.
2. Columns: The column represents the specific activities that compose a "workflow" together. The card flows through a workflow until its completion. The workflow may be as simple as "To Do," "In Progress," "Complete," or much more complicated.
3. Work in progress (WIP) Limits: The work in progress limits are the maximum number of cards which can be in one column. This is at any given time. It gives the alert signal that you committed too much work.
4. Commitment point: Kanban teams also maintain a backlog for their board. This is where the customers and team members put ideas for projects that the team can pick up. The team members pick up plans when they are ready. The committed point is a movement where the design is picked up by the team, and work starts on the project.
5. Delivery point: It is the end point of a kanban team's workflow. Mostly the delivery point for every team is when the product and services are handed to the customer.



, Extreme Programing:

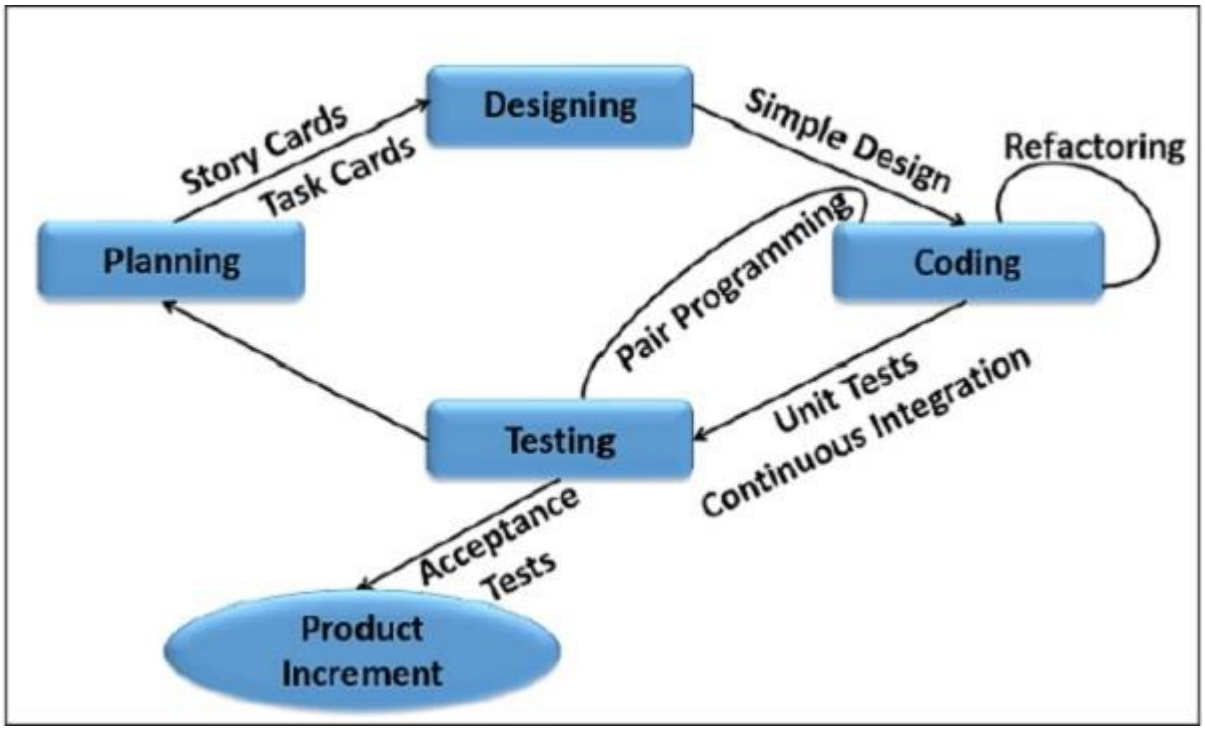
What is Extreme Programming?

XP is a lightweight, efficient, low-risk, flexible, predictable, scientific, and fun way to develop software.

e**X**treme **P**rogramming (XP) was conceived and developed to address the specific needs of software development by small teams in the face of vague and changing requirements.

Extreme Programming is one of the Agile software development methodologies. It provides values and principles to guide the team behavior. The team is expected to self-organize. Extreme Programming provides specific core practices where −

Each practice is simple and self-complete.
Combination of practices produces more complex and emergent behavior.



Practical approach:
Scrum:The Original Scrum Framework
The project begins with a clear vision provided by the business, and a set of product features in order of importance. These features are part of the product backlog, which is maintained by the customer or customer representative referred to as the Product Owner. A time box commonly referred to as an iteration or sprint, is the set amount of time that the team has to complete the features selected. Sprints are generally from one to four weeks in length, and that length is maintained throughout the life of the project so as to establish a cadence. The team selects items from the product backlog that it believes can be completed in the sprint, and creates a sprint backlog consisting of the features and tasks as part of the sprint-planning meeting.

Once the team has committed to a sprint backlog, the task work begins. During this time in the sprint, the team is protected from interruptions and allowed to focus on meeting the sprint goal. No changes to the sprint backlog are allowed; however, the product backlog can be changed in preparation for the next sprint.

During the sprint, the team checks in daily with each other in the form of a 15-minute meeting known as a scrum. The team stands in a circle and each member states what they did yesterday, what they plan to do today, and what is getting in their way.

At the end of the sprint, the team demos the work they have completed to the stakeholders and gathers feedback that will affect what they work on in the next sprint. They also hold a retrospective to learn how to improve. This meeting is critical, as its focus is on the three pillars of Scrum: transparency, inspection, and adaptation.

Roles and Responsibilities

There are only three roles in Scrum: the ScrumMaster, the Product Owner, and the Team.

The ScrumMaster is the keeper of the process, the advocate for the team, and the protector of the team. They remove obstacles, facilitate team communication, mediate discussions within the team and negotiate with those external to the team. Above all, they exist in service to the team.

The Product Owner represents the voice of the customer and has the authority to make decisions about the product. This person owns the product backlog and is responsible for communicating the vision to the team, and defining and prioritizing backlog items. The Product Owner works with the team on a daily basis to answer questions and provide product guidance.

The Team consists of seven plus or minus two people who are jointly responsible for the delivery of the product. They own the estimates, make task commitments, and report daily status to each other in the daily scrum. They are self-organizing, meaning that structure appears without explicit intervention from the outside. In other words, the team owns how it chooses to build product features—the team owns the "how," while the Product Owner owns the "what."

The Application of Scrum

Scrum is applied by following a set of ceremonies, or meetings. Required Scrum ceremonies include the sprint planning meeting, the daily scrum, the sprint review and the sprint retrospective. Working in time boxes called sprints is also required. Release planning meetings are optional and allow for the planning and forecasting of groups of sprints.

Sprint Planning Meeting

The sprint-planning meeting is held on the first day of every sprint. The ScrumMaster, Product Owner, and Team are all in attendance. The Product Owner presents the set of features he or she would like to see completed in the sprint (the "what") then the team determines the tasks needed to implement these features (the "how"). Work estimates are reviewed to see if the team has the time to complete all the features requested in the sprint. If so, the team commits to the sprint. If not, the lower priority features go back into the product backlog, until the workload for the sprint is small enough to obtain the team's commitment.

Tracking Progress

Once the sprint-planning meeting is complete and the team has made a commitment, the team begins to track its progress using highly visible information radiators. These radiators include the burndown chart and the task board.

The task board is used by the team to track the progress of the tasks for each feature. The minimum columns used are To Do, Doing, and Done. Teams will have their daily scrum meeting at the task board, and move items across the board when stating what they did yesterday, what they plan to do today, and what obstacles they are grappling with.

How to Use a Kanban

Kanban boards are broken into multiple different sections. These sections are based on the different stages of the workflow and are the basis for the task-based organization you will engage in. Our Kanban board is broken into 5 different sections: Possible Ideas, Backlog, On Deck, In Progress, and Complete. This is a common setup for a kanban, while some will instead do only three sections consisting of Backlog, In Progress, and Complete, or some will add a section for "stuck" where you can group tasks when you have hit a roadblock.

Whatever the setup for the kanban you're using, the method of interaction will be the same across all of them. You begin by focusing on a specific project or sprint. This project will be the basis of the entire kanban. The purpose of using a kanban is to visualize and organize the actionable tasks you need to accomplish to achieve success in your project. Because of that, you will proceed to create notes based on all of the tangible, actionable tasks that need to be accomplished for the project to finish successfully. These tasks should be as specific as possible to target the actions taken to complete them.

Once you've gathered all of your actionable tasks and possible ideas, you begin to prioritize them. This will be a more unique process since your team will have different priorities based on the specific project you're working on. However, whatever your priorities are, you can organize your tasks into the sections above based on when they need to be completed and their possible impact.

The next step in using the kanban is revisiting it as your project moves forward. As the team completes tasks and progresses toward completion, you can update the board and move tasks towards the completed side.

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