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**Project Management | Assignment 4 | 13-Sept-2023**

1. **Define Sprints. How scrum will be planned and executed using Sprints?**

In Scrum, a Sprint is a fixed length period of work, typically lasting one month or less, during which a Scrum team works to complete a set amount of work. Sprints are the heartbeat of Scrum, where ideas are turned into value. They create consistency and ensure short iterations for feedback in order to inspect and adapt both how work is done and what is being worked on. A new Sprint starts immediately after the conclusion of the previous Sprint.

Planning and executing Scrum using Sprints involves several steps:

* **Sprint Planning**: This is when the team decides what work can get done in this sprint and how the chosen work will get done. The product owner discusses the objective that the sprint should achieve, and the product backlog items that, upon completion, would achieve the sprint goal.
* **Execution**: During the Sprint, no changes are made that would endanger the Sprint Goal. The Product Backlog is refined as needed. scope may be clarified and renegotiated with the Product Owner as more is learned.
* **Daily Scrums**: Over the course of the sprint, daily check-ins allow staff to stay informed about their peers’ progress and address any concerns.
* **Sprint Review**: This is when the Scrum Team inspects what was done during the Sprint, discusses what went well and potential improvements, and adjusts the Product Backlog if needed.
* **Sprint Retrospective**: This occurs after the Sprint Review and prior to the next Sprint Planning. This is an opportunity for the Scrum Team to inspect itself and create a plan for improvements to be enacted during the next Sprint.

1. **What is the purpose of Daily Stand-up, Iteration Review and Retrospective**

* **Daily Stand-up**: The purpose of the Daily Stand-up, also known as the Daily Scrum, is to inspect progress toward the Sprint Goal and adapt the Sprint Backlog as necessary, adjusting the upcoming planned work. It’s a 15-minute event for the Developers of the Scrum Team where they discuss what they did yesterday, what they plan to do today, and any blockers they have.
* **Iteration Review**: Also known as the Sprint Review, this is a regular event where the team inspects the iteration increment, assesses progress, and adjusts the team backlog. It provides a way to regularly gather immediate, contextual feedback from the team and its stakeholders. The team and stakeholders review the accomplishments in the iteration and based on this information, attendees collaborate on what to do next.
* **Retrospective**: The purpose of the Sprint Retrospective is to plan ways to increase quality and effectiveness. The Scrum Team inspects how the last Sprint went with regards to individuals, interactions, processes, tools, and their Definition of Done. The team discusses what went well during the Sprint, what problems it encountered, and how those problems were (or were not) solved. The Scrum Team identifies the most helpful changes to improve its effectiveness.

1. **What are the responsibilities of Scrum master?**

The Scrum Master is a key role in Scrum. Here are some of their responsibilities:

* **Facilitate the Scrum process**: The Scrum Master ensures that the Scrum process is rigorously followed by the team. This includes conducting Scrum ceremonies such as Sprint Planning, Daily Standup, Sprint Review, and Sprint Retrospective.
* **Servant Leader**: The Scrum Master acts as a servant leader for the Scrum Team, helping to remove impediments that the team might be facing and facilitating team interactions.
* **Coaching and Mentoring**: The Scrum Master coaches the team members on Agile and Scrum principles and helps them to improve their skills and effectiveness.
* **Protecting the Team**: The Scrum Master protects the team from external interruptions and distractions, helping them to focus on the tasks at hand.
* **Promoting and Supporting Scrum**: As defined in the Scrum Guide, Scrum Masters promote and support Scrum by helping everyone understand Scrum theory, practices, rules, and values.
* **Liaison**: The Scrum Master acts as a liaison between the development team and the product owner, ensuring a good relationship between them.
* **Process Improvement**: The Scrum Master is also responsible for promoting continuous improvement in the team, facilitating retrospectives, and implementing changes to increase the team’s productivity.
* **Ensuring Transparency**: The Scrum Master ensures transparency in communication within the team and also with stakeholders.

1. **How Scrum of Scrum is different from Scrum meeting? What are the benefits of it?**

The Scrum of Scrums and a Scrum meeting are both important components of the Scrum framework, but they serve different purposes and are used in different contexts.

A Scrum meeting, also known as a Daily Scrum or stand-up, is a short meeting that the Scrum team holds every day to plan the work for the next 24 hours. During this meeting, team members discuss what they did the previous day, what they plan to do today, and any obstacles they are facing.

On the other hand, a Scrum of Scrums is a technique used to scale Scrum up to large groups (over twelve people), where the groups are divided into Agile teams of 5-10. Each daily Scrum within these teams includes a designated member as an “ambassador” who participates in a daily meeting with ambassadors from other teams. This meeting is called the Scrum of Scrums. The purpose of this meeting is to synchronize work across multiple Scrum teams. These meetings allow clusters of teams to discuss their work, focusing especially on areas of overlap and integration.

The benefits of using Scrum of Scrums include:

* **Improved Coordination**: It helps in coordinating efforts among multiple teams working on the same product or project.
* **Identifying and Resolving Dependencies**: It provides a platform for identifying and resolving dependencies and issues across teams.
* **Better Communication**: It enhances communication across teams, ensuring everyone is aligned towards the common goal.
* **Scaling Agile**: It provides a method for scaling Agile practices beyond individual teams.
* **Increased Efficiency**: It can lead to increased efficiency and effectiveness in delivering complex solutions.

1. **Explain agile workflows w.r.t. Project management.**

An Agile workflow is a series of stages that Agile teams use to develop their projects. It’s an iterative method of delivering a project where multiple individual teams work on tasks for a certain duration of time termed as ‘Sprints’.

Here are the key elements of Agile workflows:

* **The Agile Manifesto and the 12 Key Agile Principles**: The Agile manifesto is a simple summation of what the Agile methodology is all about. It contains 12 key Agile principles that you must follow to achieve success.
* **Product Backlog**: This is a prioritized list of features, enhancements, and bug fixes that could potentially be developed. The product owner is responsible for managing the product backlog.
* **Sprints**: These are short, time-boxed periods where a scrum team works to complete a set amount of work. Sprints help teams follow the agile principle of “delivering working software frequently.”
* **Agile Meetings**: These include Sprint Planning, Daily Standup, Sprint Review, and Sprint Retrospective. Each meeting serves a specific purpose in the project lifecycle.

The benefits of using an Agile workflow include:

* Breaking your project into smaller individual cycles
* Actively involving customers in the product development process and continually implementing their feedback
* Boosting your project’s efficiency and success rate

1. **What are stories, epics, and initiatives? Explain with suitable examples.**

In Agile project management, stories, epics, and initiatives are used to organize and manage work. Here’s what each of them means:

* **Stories**: Also known as “user stories,” these are short requirements or requests written from the perspective of an end user. For example, a story for an online shopping app might be: “As a user, I want to be able to filter products by category so that I can easily find what I’m looking for.”
* **Epics**: These are large bodies of work that can be broken down into a number of smaller tasks, which are often user stories. An epic is essentially a large user story that can be broken down into smaller stories. For instance, an epic for the same online shopping app could be: “Improve the product search functionality.”
* **Initiatives**: These are collections of epics that drive toward a common goal. They provide a way to track progress on a high-level strategic objective. For example, an initiative for the online shopping app could be: “Enhance the user experience for product discovery.”

1. **What are the responsibilities of the Program manager and Project manager?**

**Program Manager Responsibilities**:

* They’re responsible for daily management through the life cycle of the program.
* They define the program controls, or the processes, procedures, reporting, etc., to manage the program.
* They plan the overall program and monitor progress to ensure that milestones are being met across various projects and programs.
* They manage the program budget.
* They manage the risks and issues that might arise over the course of the program life cycle and take measures to correct them when they occur.
* They coordinate the projects and their interdependencies between the various projects and programs in the program.
* They manage and use resources across the various projects and programs in the program.
* They manage stakeholders who are involved in the projects and programs in the program.
* They make sure deliverables are aligned across the projects and programs in the program.

**Project Manager Responsibilities**:

* Creating long- and short-term plans, including setting targets for milestones and adhering to deadlines
* Delegating tasks on the project to employees best positioned to complete them
* Making effective decisions when presented with multiple options for how to progress with the project
* Coordinating tasks and communicating with various stakeholders
* Executing and completing a project
* Continuously polishing leadership skills, coordination abilities, and motivational skills
* Overseeing all aspects of project planning and execution
* Keeping team motivated
* Building a team that will carry your project from start to finish without any hiccups that may result in delays or other issues.

1. **What is Gantt chart? Explain its usefulness in managing a project.**

A Gantt chart is a type of bar chart that illustrates a project schedule. This chart lists the tasks to be performed on the vertical axis, and time intervals on the horizontal axis. The width of the horizontal bars in the graph shows the duration of each activity. Gantt charts are named after Henry L. Gantt, who designed this charting method in the early 20th century.

Gantt charts are incredibly useful in managing projects for several reasons:

* **Visual Representation**: They provide a visual representation of the project timeline, displaying when each task begins and ends, how long each task will take, and how tasks relate to one another.
* **Tracking Progress**: They allow project managers to track the progress of the project and see how much of a task has been completed.
* **Identifying Dependencies**: Gantt charts can show dependencies between tasks, indicating that one task cannot begin until another has been completed.
* **Resource Management**: They can also help with resource management, as you can see who is assigned to each task and when they will be working on it.
* **Communication Tool**: Gantt charts are an excellent communication tool for stakeholders, providing a clear picture of the project timeline and progress.

1. **Differentiate use of Gantt chart in Agile and Waterfall planning.**

A Gantt chart is a visual tool used in project management to represent the timeline of a project, showing when each task begins and ends, how long each task will take, and how tasks are related to one another. It’s used in both Agile and Waterfall planning, but in different ways:

**In Agile Planning**:

* Gantt charts are used to track progress, manage workloads, and keep stakeholders up to date on the work.
* They can visualize components of an upcoming sprint and help outline later iterations.
* They highlight dependencies between tasks and enable teams to do their own planning.
* Agile Gantt charts apply a Waterfall model to an Agile project by mapping sprint tasks and dependencies out on a visual timeline.

**In Waterfall Planning**:

* Gantt charts are the preferred tool for project managers working in the Waterfall method.
* They allow you to map subtasks, dependencies, and each phase of the project as it moves through the Waterfall lifecycle.
* They are based on the Waterfall model which emphasizes clearly defining your project outcome and time frames up-front.

**10. Create an account on Jira for your project team (one student will create an account using college email id)** and add your team members into your project, name your project.

