Appreciation for: Software Development Process

SWEN-261
Introduction to Software Engineering
Department of Software Engineering
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What do you want in a Software Development Process?

A few questions to consider:

- How does a software development process provide value to the customer?
- How does a software development process support a team to be predictable and dependable?
- How does a software development process improve software quality?
These are the principles software engineers follow.

- **Customer-focused**
  - *A customer representative must be on "the team"*
  - *The customer validates each increment*
  - *The customer defines and prioritizes the requirements*

- **Use an iterative process**
  - *Build a working increment frequently*
  - *Demo the increment to the customer and get feedback*

- **Manage risk**
  - *Involve the customer to validate and elaborate requirements*
  - *Work on architecturally-significant features early*

- **Use an empirical process**
  - *Process is transparent to all stakeholders*
  - *The team inspects their own process each iteration*
  - *The team adjusts their process from lessons learned in the previous iteration*
These are the core activities software engineers practice.

- **Communicate**
  - *Gather requirements to understand the customers needs and goals.*
  - *Demonstrate each project increment for the customer.*

- **Plan**
  - *Plan each iteration (sprint) of work so the stakeholders know what is expected.*
  - *Conduct retrospectives to improve the process.*

- **Model**
  - *Analyze the domain of the application for a deeper understanding of the requirements.*
  - *Design the system to meet the requirements.*

- **Construct**
  - *Implement a working increment within each iteration.*
  - *Test the system to validate that it meets the requirements.*
  - *Maintain the system by fixing bugs and creating new features.*

- **Deploy**
  - *Deploy software to the production environment.*
  - *Train users so they will succeed with the system.*
A defined process codifies the way in which a team will adhere to those principles and practices.

- Traditional waterfall
- Spiral methodology
- Feature-driven development
- Rapid Application Development
- Extreme programming
- Rational Unified Process
- OpenUP

Your project will use this
OpenUP describes project phases at the strategic level.

- **Inception**
  - Manage requirements risks

- **Elaboration**
  - Manage architectural risks

- **Construction**
  - Build it out

- **Transition**
  - Deploy it
  - Training users

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A team's effort in different activity areas varies by phase.
You will use a Scrum process to define tactical activities.

- A **Sprint** is a single iteration of work that results in a working system that delivers identified value to the customer.
- Each Sprint has its own **Sprint Backlog** of features pulled from the **Product Backlog**.
- Every day the team is working the **Sprint Backlog** to direct their development.
Now you can take the quiz on Appreciation for software development process.