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HW1

① What is the most important difference between generic software product development and custom software product development?

- Generic software consists of stand-alone systems that are produced by a developer to be sold on the open marketplace. Examples of this software include mobile apps, word processors, projectmanagement tools and more. "Vertical" applications for library information systems, systems for manging medical records, and the like are also included.
- Customized (or bespoke) software is commissioned and developed for a particular client or customer. Specifications for this software are directed towards a special case within the industry the developer is working with.

② Explain why the fundamental software engineering principles of process, dependability, requirements management, and reuse are relevant to all types of software systems

- Process: Having a systematic approcach that allows for a framwork of development to be maintained. Similar to a ruleset or modular procedure.
- Dependability: Involves aspects of software that upholds characteristics including reliability, security, and safety.
- Requirements Manggement: A given client may have expectations for the codebase they are purchasing. It is imperative that as the product grows, it can scale to dynamic expectations of the customer.
- Reuse: Reusability of software allows for time to be saved and relbrics of the product to be recycled for future patches or updates.

- All of these components in software engineering allow for the proliferation of the product in organized, intentional, cohesive, and rigid manner.

③ Describe the four main process activities.

① Software specification: Developing a process of understanding that defines what service needs to be produced.

② Software design and implementation: The process of developing an executable system for delivery to the customer.

③ Software Validation: Also referred to as the verification & validation step, which intends to display that a system both conforms to its specifications and meets the expectations of the system client.

④ Software Evolution: This is the component of software development that involves the maintenance of the product throughout its lifetime.

④ Software Process Improvement:

① Process maturity approach: Focuses on improving process and project management while implementing commonly accepted software engineering practices.

② Agile approach: Focused on iterative development and reduction of overheads in the software process. Rapid delivery of functionality and responsiveness to changing customer requirements are the base of this approach.

Cyclical process:

1. Process measurement: Aquisition of quantitative metric on a process to create benchmark for future deployments.
2. Process Analysis: Assessment that looks for bottle necks to ensure the reinforcement of robustness and rapidity within the process.
3. Process Change: Addressing weakpoints that need to be addressed in development