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Course: Software Project Management

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Key Concepts Learned:

This week's sessions focused on the diverse nature of project initiation, planning, monitoring, control, and closure, emphasizing the applicability across various project types like road construction, building development, and software products. Special attention was given to software project management, highlighting the need for specialized skills in software engineering, testing, and design.

Characteristics of project:

* Planned
* Aiming at a specific target
* Work carried out for a customer
* Constrained by time and resources
* Non-routine

Software tasks in software projects

* Requirement management
* Design management
* Source code building
* Software testing
* Software deployment
* Software maintenance

Further, the crucial aspects of project initiation were discussed.

A detailed project scope is developed to define boundaries of the project. The scope will include what functionalities are needed in the software product to be developed. It will also define level of quality needed in the software product.

Project charter is made by the top management of the organization for starting a software project. Project charter basically defines the purpose for starting the project

The importance of accurate estimation of task duration, identification of task dependencies, and the subsequent creation of a baseline schedule were emphasized.

Software project initiation tasks

* Initial schedule estimates
* Project charter
* Project scope
* Project objectives
* Initial effort estimates
* Initial cost estimates

Project consumes

* Resources
* Budget
* Time

Objectives of Project should be SMART

**S** – specific, that is, concrete and well-defined

**M** – measurable, that is, satisfaction of the objective can be objectively judged

**A** – achievable, that is, it is within the power of the individual or group concerned to meet the target

**R** – relevant, the objective must relevant to the true purpose of the project

**T** – time constrained: there is defined point in time by which the objective should be achieved

Application in Real Projects:

Project scheduling principles have broad implications in a variety of fields and real-world contexts. Many fields can benefit from the application of the techniques covered in this discussion, which include precise job length prediction, task dependency identification, baseline schedule development, and the project division technique.

1. Construction Industry: Managing processes like excavation, foundation laying, and structural construction in construction projects requires precise scheduling. It is essential to have task dependencies, such as finishing the foundation before building the walls. Establishing baseline schedules makes it easier to monitor development and modify schedules in response to site conditions. Before granting building contracts, the project division technique can also be used to estimate effort and costs with the help of experts.

2. Information Technology and Software Development: Precise scheduling is crucial to software initiatives. It is essential to estimate the amount of time needed for the coding, testing, and debugging stages. A smooth workflow depends on task dependencies, such as finishing software design before coding. Software development projects use baseline schedules as a point of reference to monitor progress, and the project division technique can be used to obtain expert estimates prior to outsourcing development work.

3. Healthcare Sector: Project scheduling is essential for bringing new technologies, such electronic health record (EHR) deployments, to life in the healthcare sector. It's critical to estimate the time needed accurately for workflow modifications, system integration, and staff training. Task dependencies are important, such as finishing training prior to system rollout.

Challenges Faced:

Encountered challenges in reconciling general project management concepts with the intricacies of software development. Further clarification is needed on how metrics and tools can be tailored for effective software project control and monitoring.

Mastering project scheduling involves overcoming difficulties with precise work time estimation, managing dependencies, and fine-tuning preliminary schedules. Coordination is a hurdle when putting the project division technique into practice, and expert estimates must be seamlessly integrated into the bidding process. The ability to be flexible and solve problems is necessary when applying theory to real-world situations.

Personal Development Activities:

Supplemented class materials by reading case studies on the integration of software engineering practices into project management.

Goals for the Next Week:

1. Explore case studies that demonstrate cost estimation in project management.
2. Dive deeper into the risk management for the project management as risk can hamper a project either affecting product quality or rate of production.