



CONSTRUCTION TECHNOLOGY & MANAGEMENT

Objective:
Introducing the background,
importance and knowledge areas of
CoTM.

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BACKGROUND

- Construction management evolved from construction site management as a professional practice distinct from design in response to increasing complexities in the construction industry.
- **This development observed in the early 1960's in the USA & 1980's in Europe.**
- Highly sophisticated construction systems led to the specialization of both design and construction professionals.
- Additionally, increasing regulatory mandates, litigation and other risks created a need for a new professional to be an advocate for the owner and bridge the gap between the owner, the designers and the contractor in order to efficiently manage the construction process.

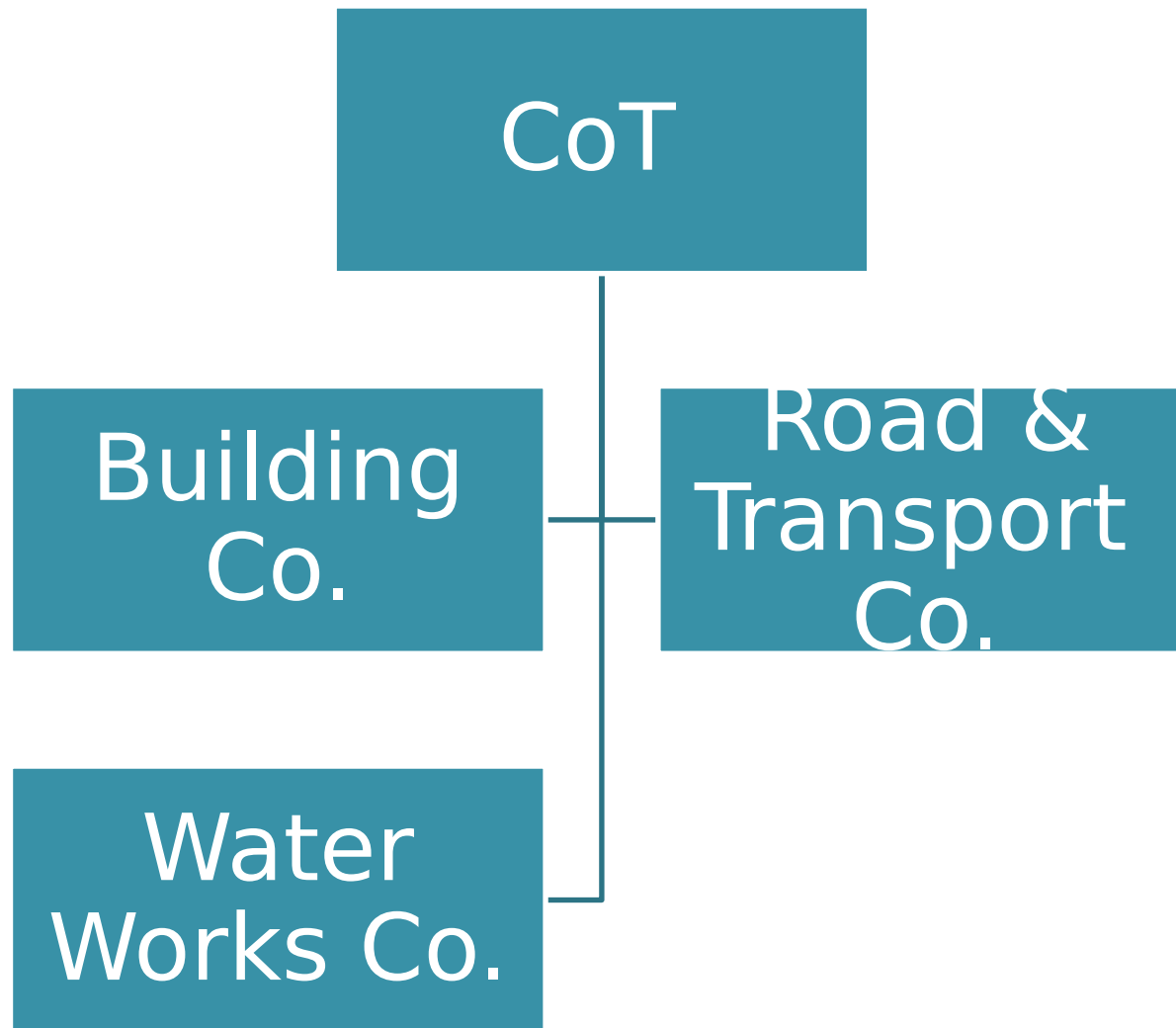
FOCUS AREAS!

CoTM

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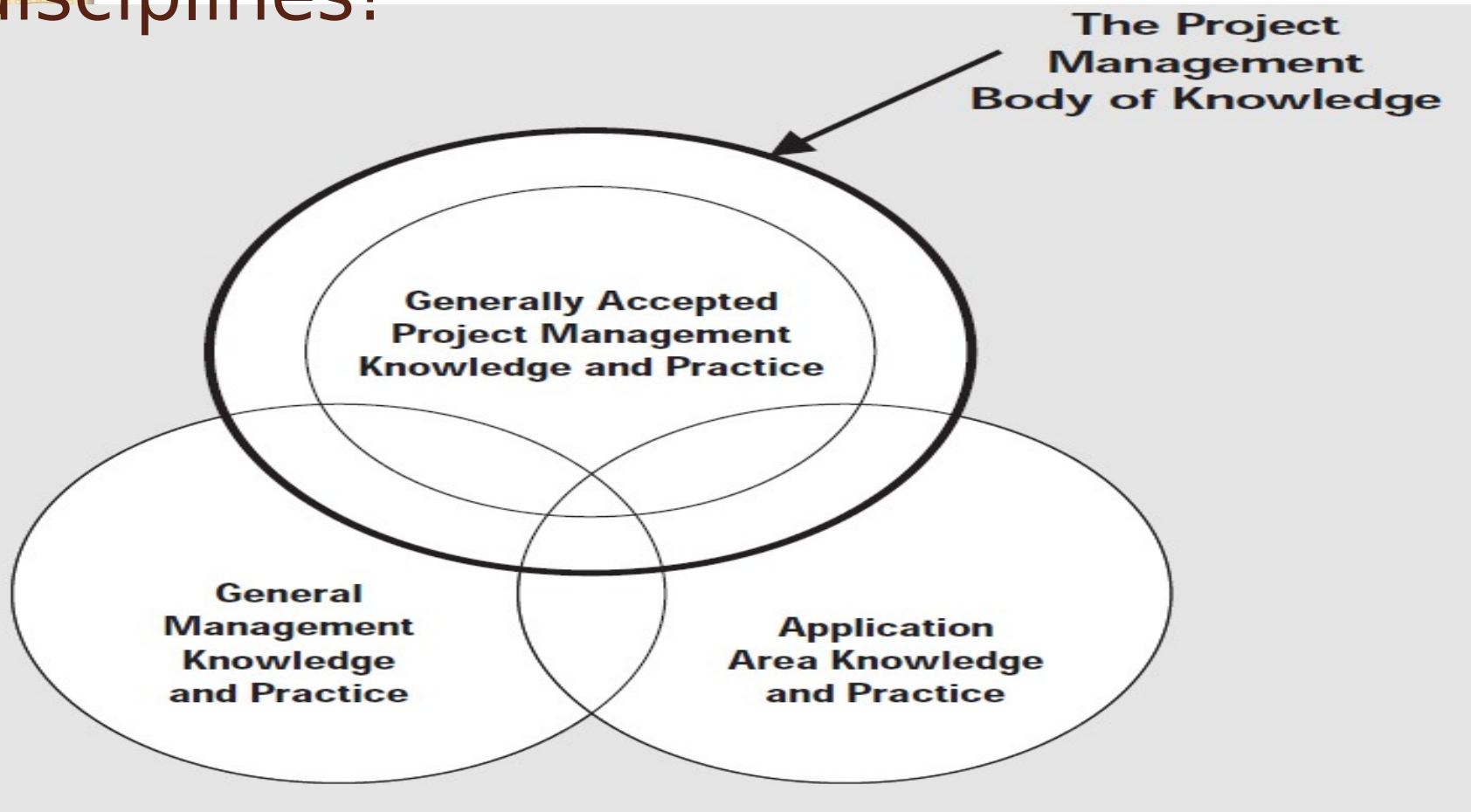
CoT

CM



Category of CoT

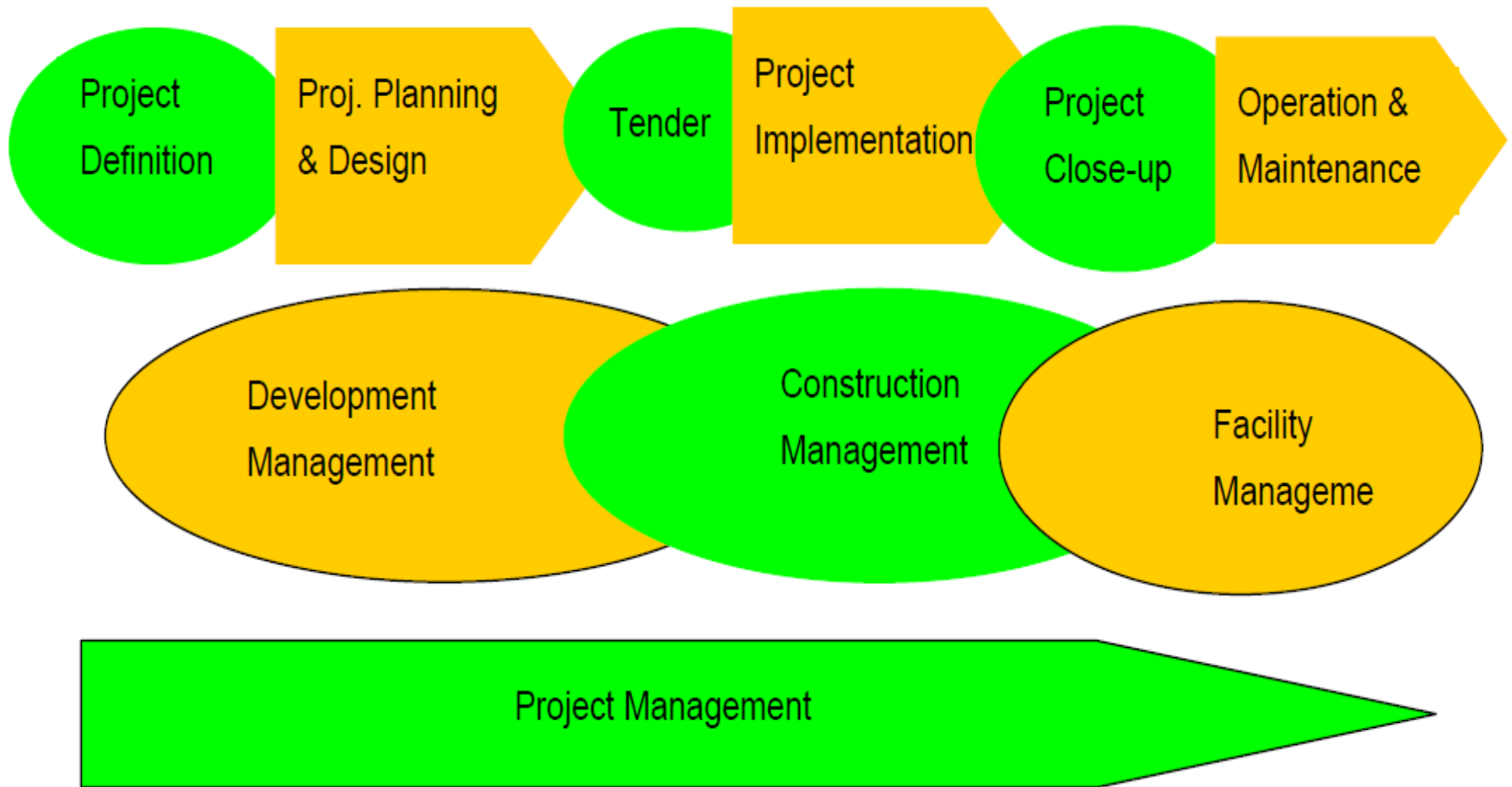
Relationship with other Management disciplines!



Relationship of project Management to Other Management Disciplines

- This Figure is a conceptual view of these relationship. The overlaps shown are not proportional.

PROFESSIONAL PROFILE



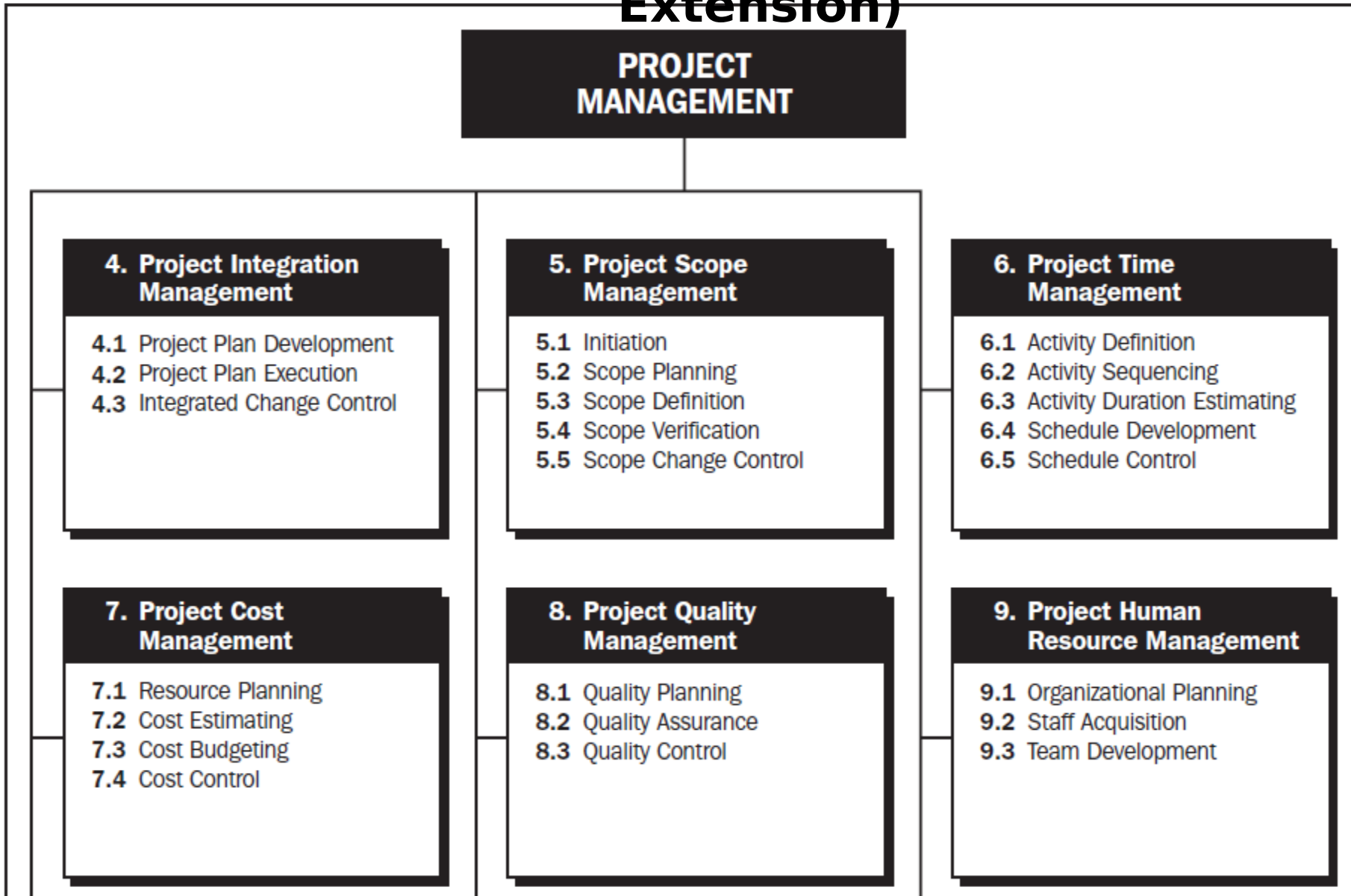
Project Management Process Cycle

- Project Management is defined as the planning, coordination and administration of project components that include the stakeholders and their relationships, resources, processes and their combined performances for getting things done successfully.
- It encompasses the whole management processes from the date when the project is invented to the date the project is physically handed over to the investor, including the management aspects in the operation and maintenance phase of the project.

- Construction Management, as defined under the broader term Project Management, is a professional services discipline applied to the planning, organizing, executing and monitoring processes of construction projects from the procurement to completion and closing-up phases.
- Professional construction managers address the needs of projects and owners by providing management services and expertise tailored to the project needs in the implementation phase.
- This management approach makes construction management unique that it doesn't lend itself to standardization. It involves continual review and updating of planning and scheduling, and monitoring of the construction projects for an optimized utilization of available resources in a manner that is economical safe and efficient (in terms of cost, time and quality).

- Construction management professionals (CMP) plan the execution of construction project/s by coordinating people, equipments and materials together with finance.
- They investigate available resources and site condition, make estimations and initial planning and budgeting costs including advice on securing low cost finances.
- They also plan and prepare work schedules and cash flow; procure materials, form work-teams, direct and monitor performance and quality of works to complete projects in time, with in budget and with required quality. This may be the construction of a new building/ infrastructure, or the maintenance and refurbishment of existing ones

PMBOK (Construction Extension)



10. Project Communications Management

- 10.1** Communications Planning
- 10.2** Information Distribution
- 10.3** Performance Reporting
- 10.4** Administrative Closure

11. Project Risk Management

- 11.1** Risk Management Planning
- 11.2** Risk Identification
- 11.3** Qualitative Risk Analysis
- 11.4** Quantitative Risk Analysis
- 11.5** Risk Response Planning
- 11.6** Risk Monitoring and Control

12. Project Procurement Management

- 12.1** Procurement Planning
- 12.2** Solicitation Planning
- 12.3** Solicitation
- 12.4** Source Selection
- 12.5** Contract Administration
- 12.6** Contract Closeout

Figure 1–1. Overview of Project Management Knowledge Areas and Project Management Processes

CONSTRUCTION UNIQUE PROJECT MANAGEMENT

13. Project Safety Management

- 13.1 Safety Planning
- 13.2 Safety Plan Execution
- 13.3 Administration and Reporting

14. Project Environmental Management

- 14.1 Environmental Planning
- 14.2 Environmental Assurance
- 14.3 Environmental Control

15. Project Financial Management

- 15.1 Financial Planning
- 15.2 Financial Control
- 15.3 Administration and Records

16. Project Claim Management

- 16.1 Claim Identification
- 16.2 Claim Quantification
- 16.3 Claim Prevention
- 16.4 Claim Resolution

Figure 1–2. Overview of Construction Unique Project Management Knowledge Areas and Project Management Processes

Categorize your Courses!

