



PROTOTYPE

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PROTOTYPE

- Definisi
 - Prototype adalah suatu produk pendekatan pada satu dimensi atau lebih
- Prototype = mulai dari *sketch* hingga artifak yang memiliki fungsi penuh
- Dimensi
 - Fisik - Analitik
 - Fokus - Komprehensif

Physical vs. Analytical



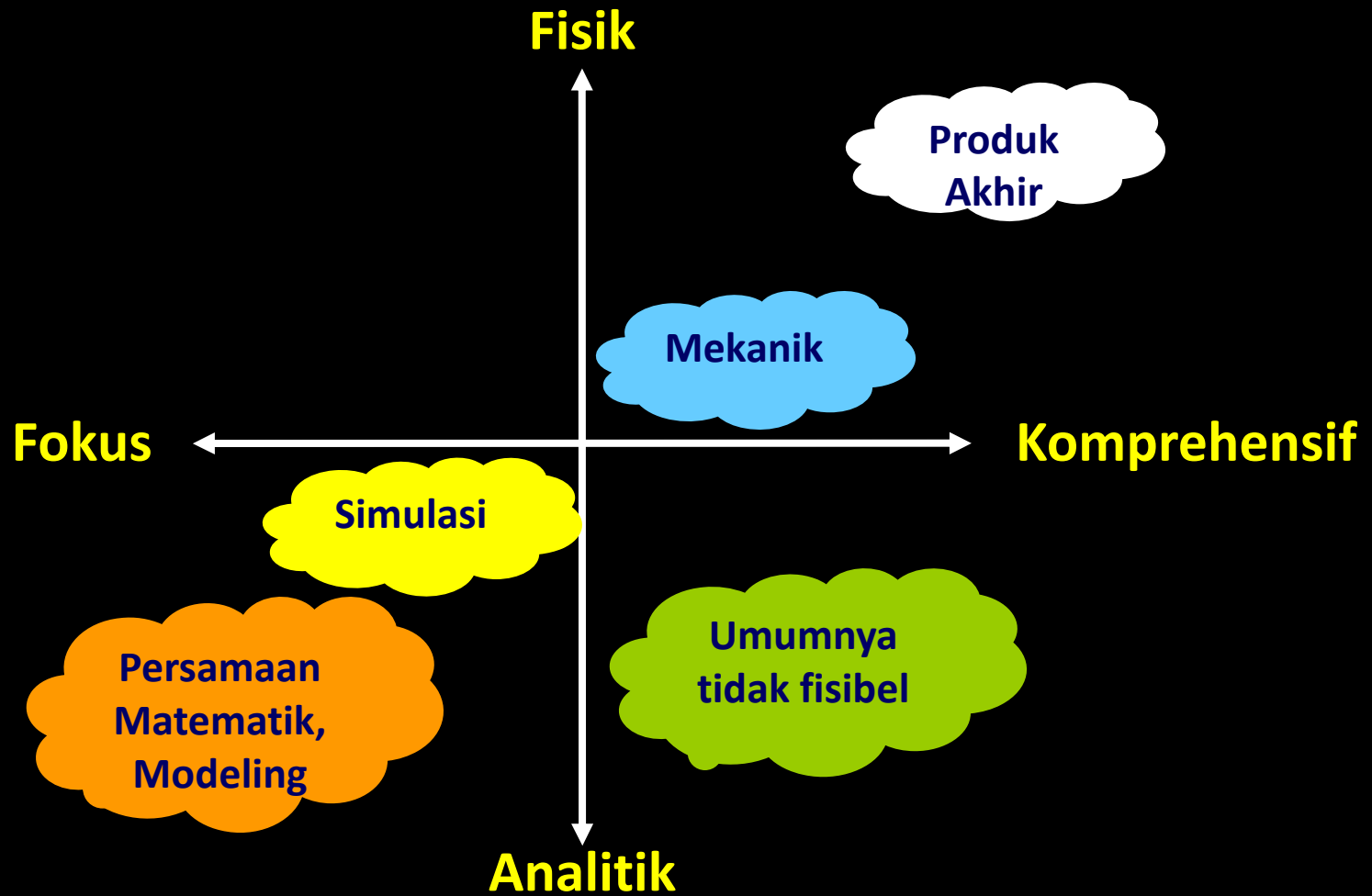
- Physical
 - Tangible artifacts created to approximate the product
 - Used for testing and experimentation
- Analytical
 - Represents the product in a nontangible, usually mathematical manner
 - Product is analyzed, not built

Comprehensive vs. Focused



- Comprehensive
 - Implement all (or most) of the attributes of the product
 - Full-scale
 - Fully operational version of the product
- Focused
 - Implement a few of the attributes of the product
 - Use two or more focused prototypes together to investigate the overall performance of a product













Type Prototype




Prototype Uses

- Learning
 - Will it work?
 - How well does it meet the customer needs?
- Communication
 - Within the company
 - With customers, vendors, and suppliers
- Integration
 - Subsystems and components work together
- Milestones
 - Product achieved a desired level of functionality

Aplikasi Prototype

	Pembelajaran	Komunikasi	Integrasi	Milestones
Fokus-Analitik				
Fokus-Fisik				
Komprehensif-Fisik				

 Lebih sesuai

 Kurang sesuai

Principles of Prototyping



- Analytical Prototypes are generally more flexible than Physical Prototypes
- Physical Prototypes are required to detect unanticipated phenomena
- A Prototype may reduce the risk of costly iterations
- A Prototype may expedite other development steps
- A Prototype may restructure task dependencies

Prototyping Technologies



- 3D Computer Modeling
 - Mudah memvisualisasikan bentuk 3D dari desain
 - Menghitung sifat fisik (massa & volume) secara otomatis
 - Mendeteksi gangguan geometris antarbagian
- Free-Form Fabrication (or Rapid Prototyping)
 - Printer 3D menciptakan benda fisik secara langsung dari model komputer 3D
 - Mengurangi waktu pengembangan produk , meningkatkan produk yang dihasilkan

Planning for Prototypes



1. Define the purpose of the prototype
2. Establish the level of approximation of the prototype
3. Outline an experimental plan
4. Create a schedule for procurement, construction, and test