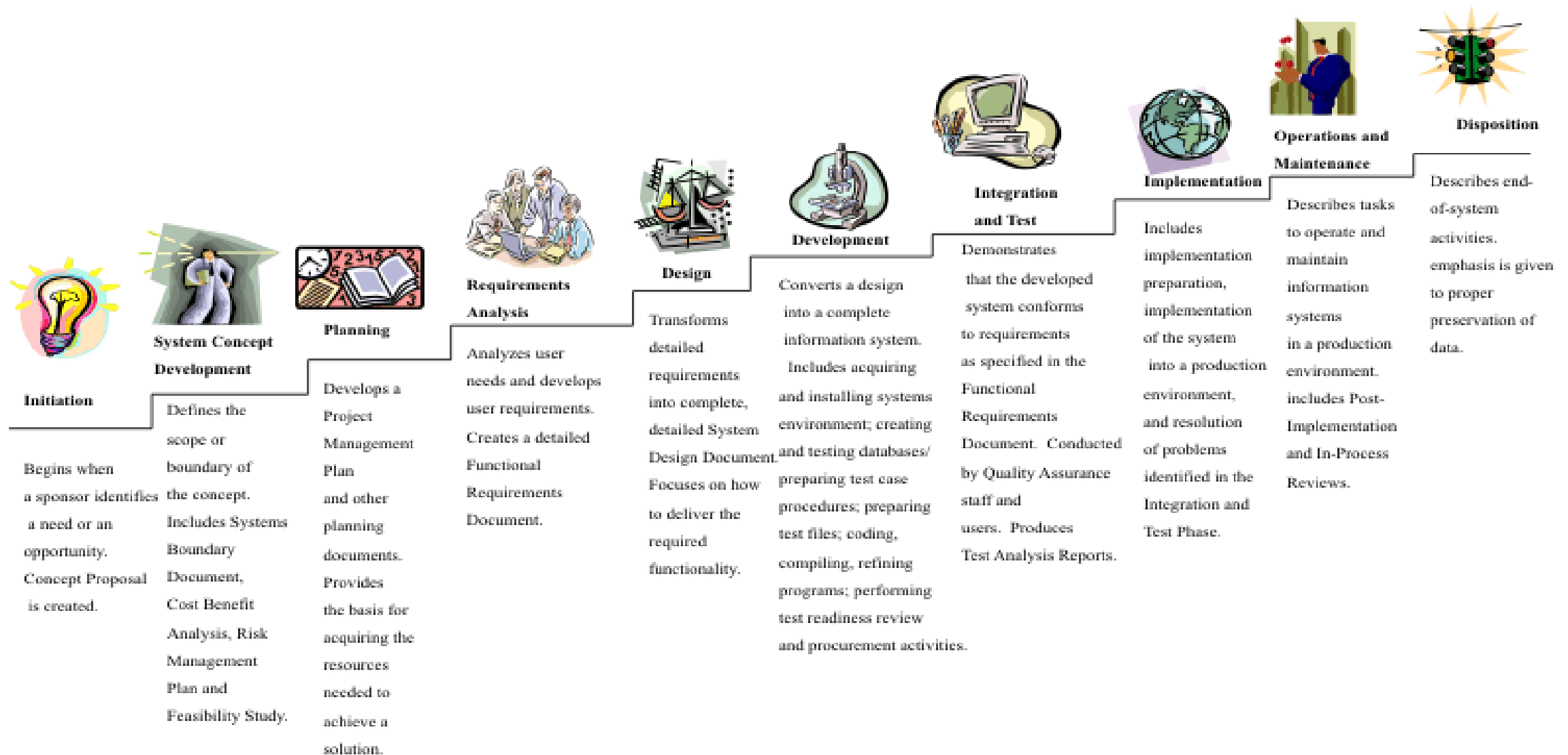# Making Meaning

Honr269i

To the Moon and Back: The Apollo Program

A Full-Class Discussion Group

- Apollo: Reflections and Lessons video
  - A unique forum that brought together politicians and managers from Apollo

- Siddiqi article ("Competing Technologies, Nationalist Narratives, and Universal Claims: Toward a Global History of Space Exploration")

- de Monchaux Chapter 19 ("Cities and Cyborgs")
  - The failure of Apollo's systems analysis approach to improve life in cities

- Rittel article ("Dilemmas in a General Theory of Planning")
  - Why some "wicked problems" are not amenable to the Apollo approach

Systems Development Life Cycle (SDLC)
Life-Cycle Phases

Initiation

Begins when a sponsor identifies a need or an opportunity. Concept Proposal is created.

System Concept Development

Defines the scope or boundary of the concept. Includes Systems Boundary Document, Cost Benefit Analysis, Risk Management Plan and Feasibility Study.

Planning

Develops a Project Management Plan and other planning documents. Provides the basis for acquiring the resources needed to achieve a solution.

Requirements Analysis

Analyzes user needs and develops user requirements. Creates a detailed Functional Requirements Document.

Design

Transforms detailed requirements into complete, detailed System Design Document. Focuses on how to deliver the required functionality.

Development

Converts a design into a complete information system. Includes acquiring and installing systems environment; creating and testing databases/ preparing test case procedures; preparing test files; coding, compiling, refining programs; performing test readiness review and procurement activities.

Integration and Test

Demonstrates that the developed system conforms to requirements as specified in the Functional Requirements Document. Conducted by Quality Assurance staff and users. Produces Test Analysis Reports.

Implementation

Includes implementation preparation, implementation of the system into a production environment, and resolution of problems identified in the Integration and Test Phase.

Operations and Maintenance

Describes tasks to operate and maintain information systems in a production environment. includes Post-Implementation and In-Process Reviews.

Disposition

Describes end-of-system activities. emphasis is given to proper preservation of data.

Open Systems: Wicked Problems

- Wicked problems are interconnected; each is a symptom of others
- Truly understanding the problem implies knowing every possible solution
- Wicked problems do not have an enumerable set of potential solutions
- Explanations constrain your thinking, and all explanations are incomplete
- There is no way to no which solutions you have not yet thought of
- Solutions to wicked problems can be better or worse, but not right or wrong
- Choices have consequences, and those consequences have consequences, …
- Some of those consequences are irreversible, so every try is playing for keeps
- Wicked problems may seem similar, but their differences may be crucial
- Decisions need to be made by those who have the right to be wrong

Term Papers

- US Permanent Space Presence

- How America Helped Win World War II

- Commercializing Aviation

- The Societal Revolution Around the Automobile

- US Department of Education's Office of Innovation and Improvement

- World War I: The Decision of War and the Defeat of Germany

- Faster, Better, Cheaper

- Colonization of Mars

- The Manhattan Project

- Post-9/11 NSA Surveillance

- Equal Rights Ammendment