


NCLC 475 Multimedia Research and Project Development



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Multimedia Research



- Consists of two categories
 - Research into multimedia systems
 - Research that applies multimedia to classical endeavors
- Multimedia systems
 - Technological in nature and involves investigating multimedia data models, system architecture, information architecture, information management etc.

More MM Research



■ Classical MM Research

- Focuses on assessing the impact of multimedia on other enterprises, as in assessing the impact of multimedia on education and decision support systems

Multimedia Research Areas



■ Multimedia Research

- Content-based retrieval, expert systems, audio coding, mobile multimedia systems

■ Classical MM Research

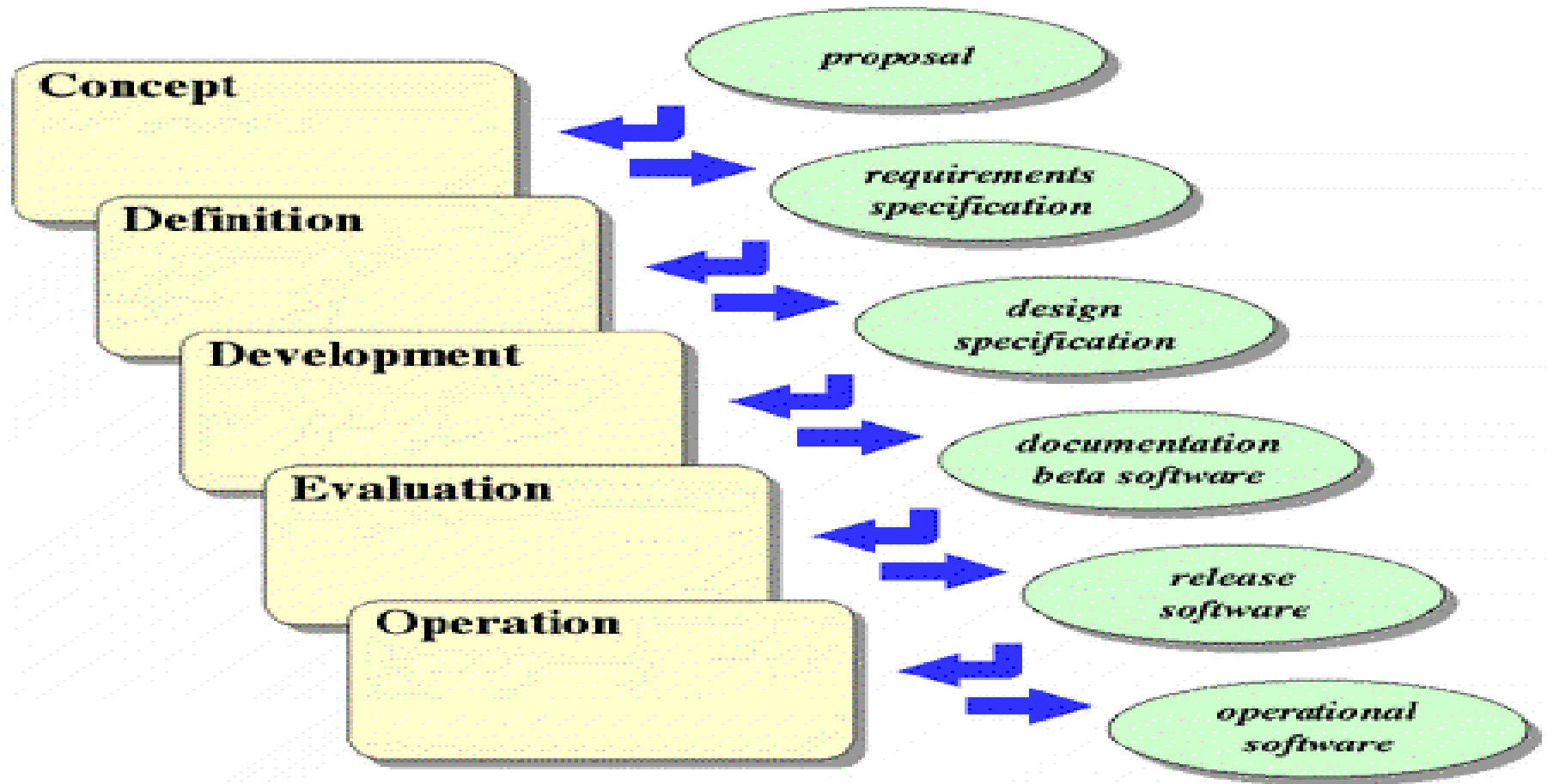
- Instructional design, distance education, cognition, decision support simulation, interface effectiveness

Classical MM Research



- Most of your work will be here
- Case studies
- Literature searches
- All original ideas
- Generate list

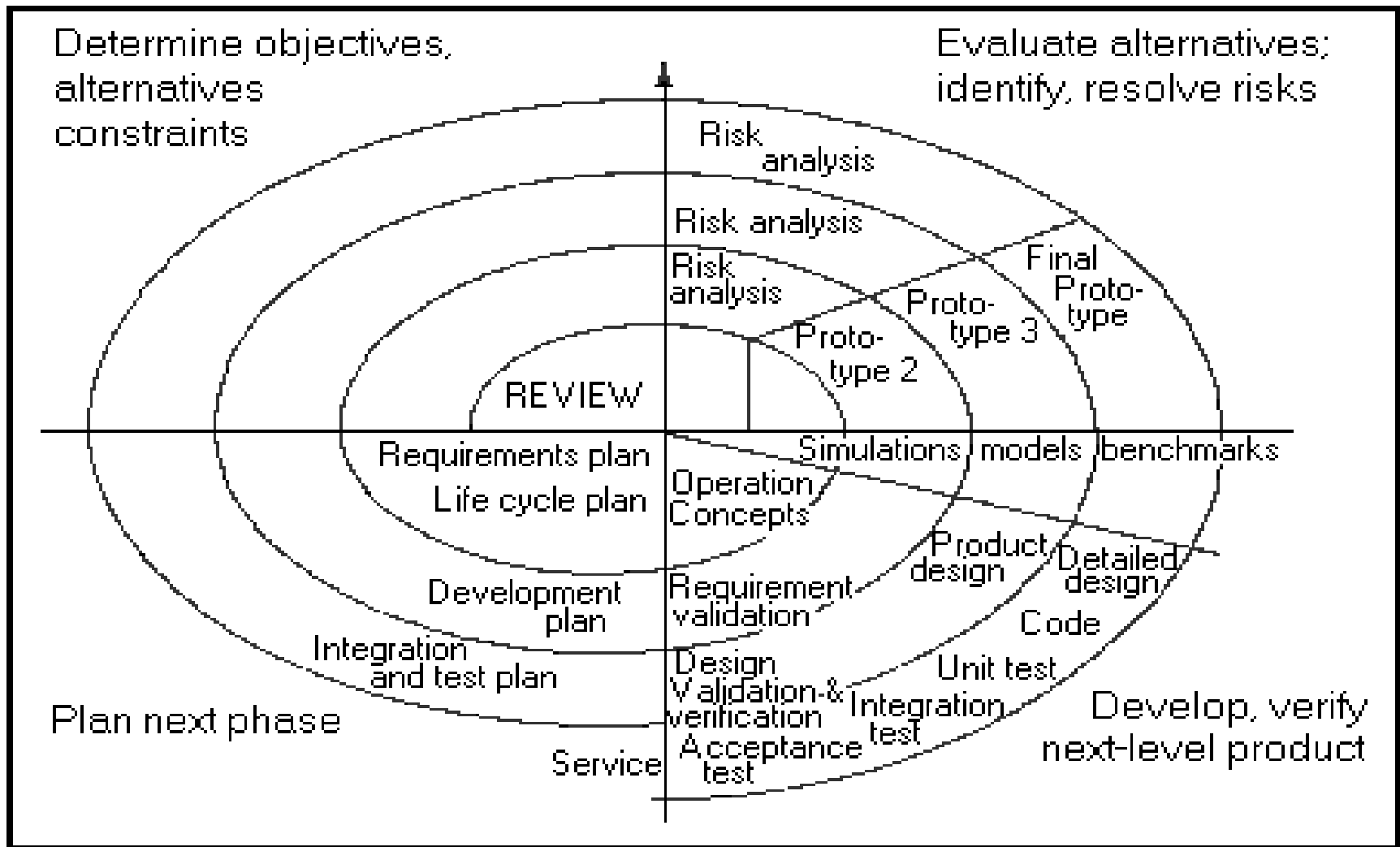
Waterfall Model



<http://www.cs.colorado.edu/~sanders/cs4308/class/guide/lifecycle/lifecycle.html>

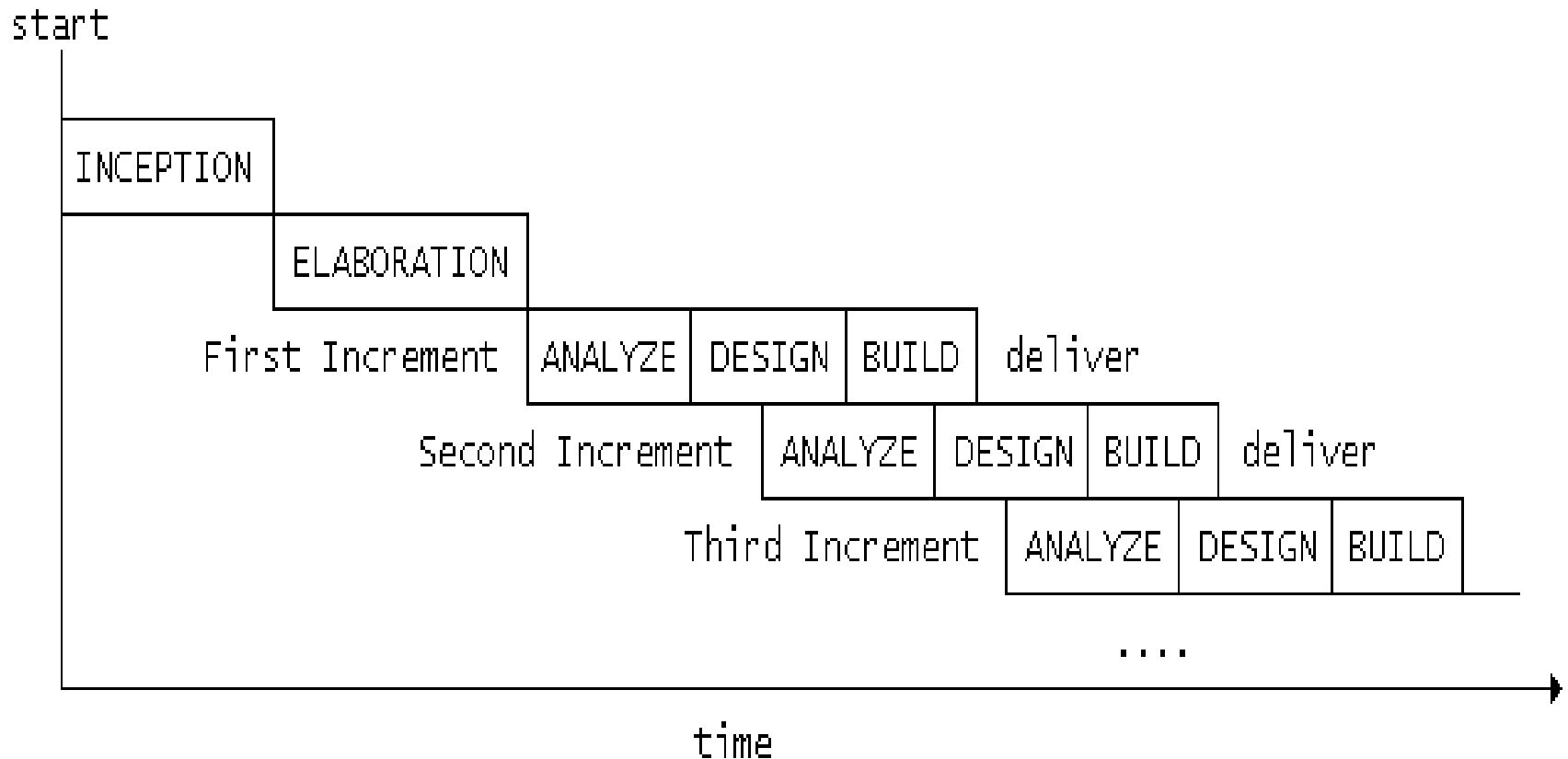
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Spiral Model



Example of a Spiral Development Process [Boehm] p.434

Incremental Model



<http://www4.allencol.edu/~dml1/it532/class03/devincre.html>

Usability is Missing from SW Eng. Models



- The market is dominated by products that are technically sophisticated to use. These products reflect the process by which it was developed. When developing a product, engineers typically start by deciding what functionality should be provided with the bulk of the time spent on designing and implementing these features . . . User interface is seen only as a front end.
 - Isaacs et al.

Effect to Cause Model

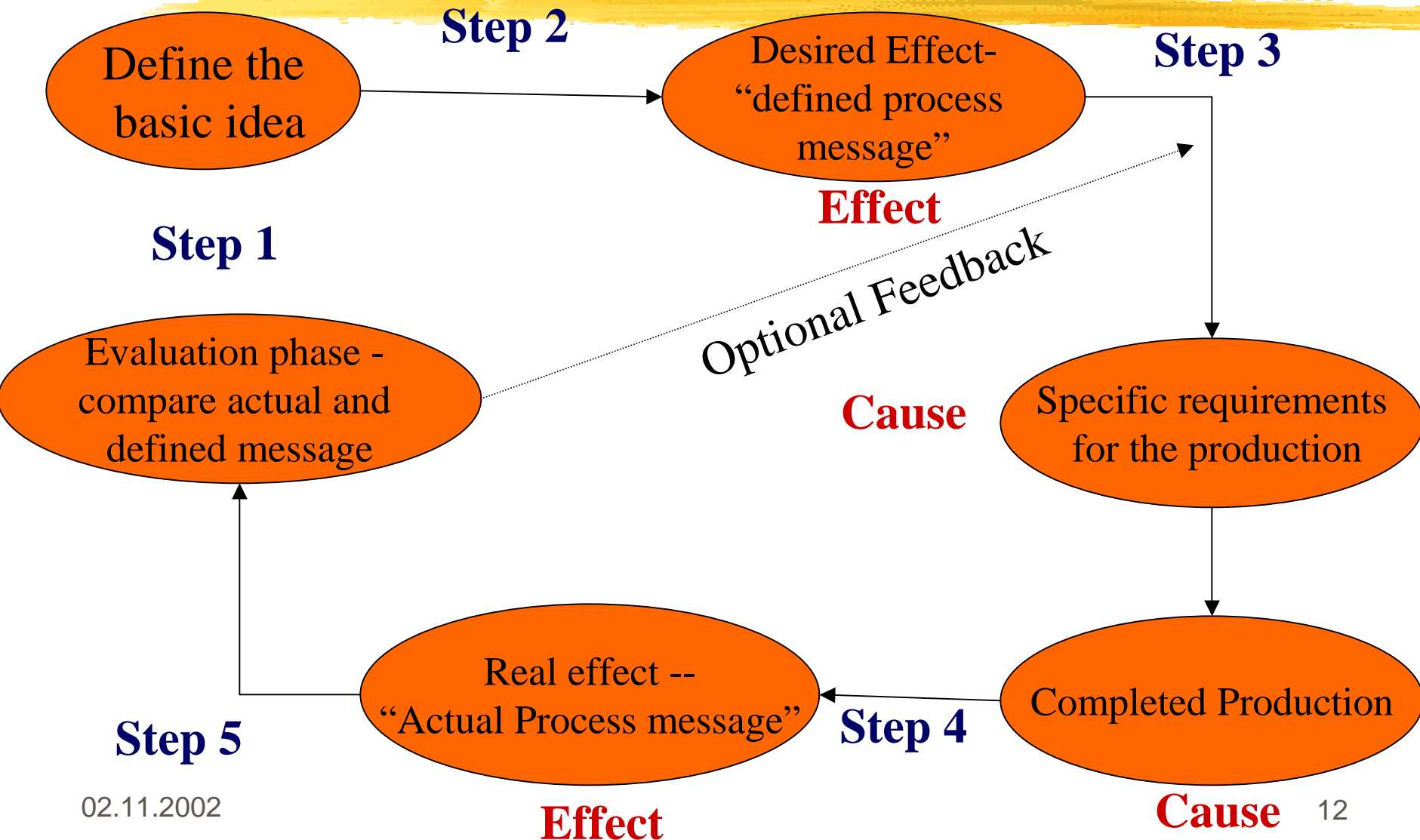


- Entails thinking in terms of the effect that the developer wants to produce in the user
- First attempt to define the message that should be received by a viewer (the effect) and then deciding what content and production techniques will be needed to create the message (the cause)

Effect to Cause Model (con'd)

- Step 1: An idea is translated into a statement of which effects are desired in the user of a multimedia production
- Step 2: A determination is made of the sort of multimedia production that would cause those effects and what would be required to create such a production
- Step 3: The finished production is tested with actual users to determine the effect that is actually produced
- Step 4: The actual effect is compared with the desired effect (validation and verification)
- Step 5: In an evaluation phase, the actual process message is compared with the defined message (V&V). The closer they are, the more successful the product is considered.

Effect to Cause Model (Zettl)

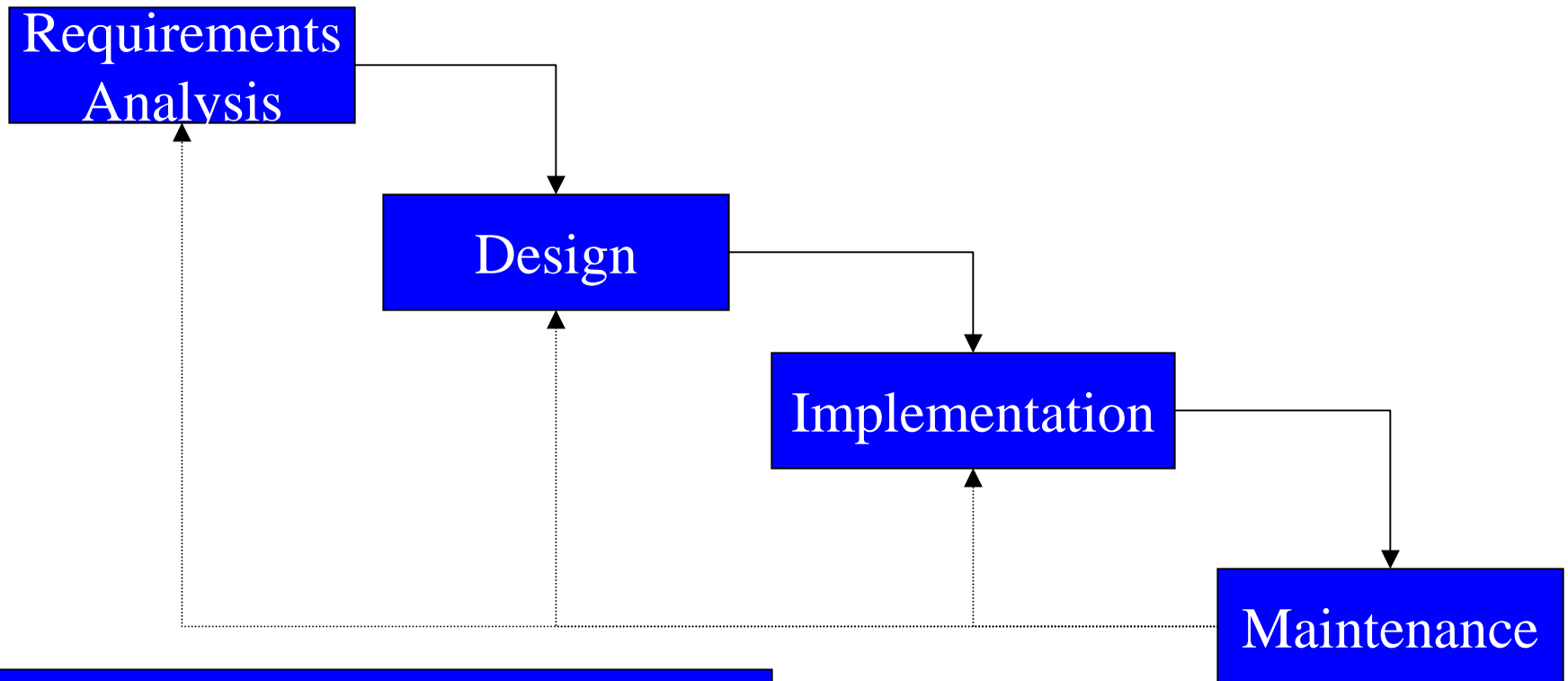


In Class Assignment



- Your team has been approached by a client who wants you to produce a multimedia tour of a new mall, including interactive visits to the major stores and other attractions. Think about how you would proceed with this commission by performing steps 1 through 4 of the Effect-to-Cause model.

Life Cycle of a Web Service



The Stages of Multimedia (Vaughan)



- Planning and costing
 - Defining your idea, planning the effort, budgeting your resources
- Designing and producing
 - Perform each of the planned tasks
- Testing
- Delivering

Web Engineering Tidbits



- Delivered systems did not meet business needs 84% of the time
- Schedule delays plagued 79% of all projects
- Projects exceeded budgets 63% of the time
- Delivered systems did not have the required functionality 53% of the time
- Deliverables were of poor quality 52% of the time

Cutter Consortium, reported in Research Briefs November 7, 2000

Planning and Costing



- You need a sense of scope and content
 - Do not follow the “Seat of the Pants Approach”
- This is where you create your idea/concept
- There are still very few rules for ‘how’ to do this
- Your vision cannot be myopic and you must think for your customer
- See page 412 of book

What is a 'Good' idea/concept?



- If I knew, I'd be rich:)
- Two principles:
 - Think big
 - Do not let rationality hold you down
- You can 'build' off an existing idea and make it better
 - Web designers do this ALL of the time

What is a Good Idea?



- Is there a need?
- Is it feasible?
- Will it make your life easier?
- Some would ask: Will it make me money?
- Is it ethical? (also asked by 'some')

Team Members



■ Program Lead

- Responsible for overall development and implementation of a project (including budgets and schedules). Usually the main interface to client or management

■ Developer

- Responsible for technical implementation of project. Sometimes there will be a separation of duties between the developer and the designer

Team Members



■ Writer

- Responsible for documentation, but also for any text appearing within the site. Does the site get its message across?
- There will always be some crossover in responsibilities and depending on skill level, more defined roles can be created (A/V specialist, graphics artist, programmer).
- Creating a collective synergy is the goal!
- Skill assessment page 407

Planning and Costing



■ Three steps

- Clarify the project's objectives
- Evaluate the possible approaches
- Assess the cost/effectiveness of each approach

Planning



- You want to use a top down approach
- Never lose sight of your goal . . . It is very easy to create something that you did not initially envision
- Feasibility . . . CAN this happen?
- Use software, EXCEL -> MS Project to schedule (leave a lag)
- Follow your model, decide what/when deliverables will be
- Time to complete a task also depends on how enjoyable the task is, and who is performing it

Project Table

Works Tasks	Planned Start	Actual Start	Planned Complete
1.1.1 Identify Needs and benefits			
Meet with customers	wk 1, d 1	wk 1, d 1	wk 1, d 2
Identify needs and project constraints	wk 1, d 2	wk 1, d 2	wk 1, d 2
Establish Product Statement	wk 1, d 3	wk 1, d 3	wk 1, d 3
1.1.2 Define desired Output/Control/Input			
Scope keyboard functions	wk 1, d 4	wk 1, d 4	wk 1, d 5
Scope modes of interaction	wk 1, d 3	wk 1, d 3	wk 1, d 3

Software Engineering, Pressman, Roger

Project Table (con'd)

Actual Complete	Assigned Person	Effort Allocated	Notes
wk 1, d 2	hft	2 p-d	Scoping will
wk 1, d 3	rfs	1 p-d	require more time
wk 1, d 3	hft/aje	1 p-d	
	aje	1.5 p-d	
	hft	2 p-d	

Software Engineering, Pressman, Roger

Costing



- While SW Engineers have Source Lines of Code (SLOC) and function points, there is not an industry standard for MM
- Categories that must be considered include, but are not limited to:
 - Salaries Contractors Facilities
 - Travel SW/HW Communications
 - Distribution Copyright fees Consumables (ink)

References

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