

1387 -28
157 - 183

AHP

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AHP

: AHP

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86/3/6 :

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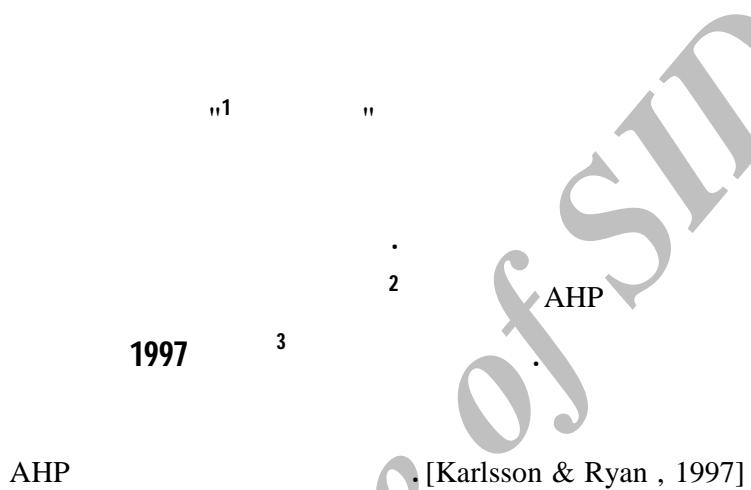
Archive of SID

1990

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2000

1. Frank Moisiadis



[Karlsson & Ryan , 1997]

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- 1. Clustering
 - 2. Saaty
 - 3. Karlsson

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[Mead , 2006]

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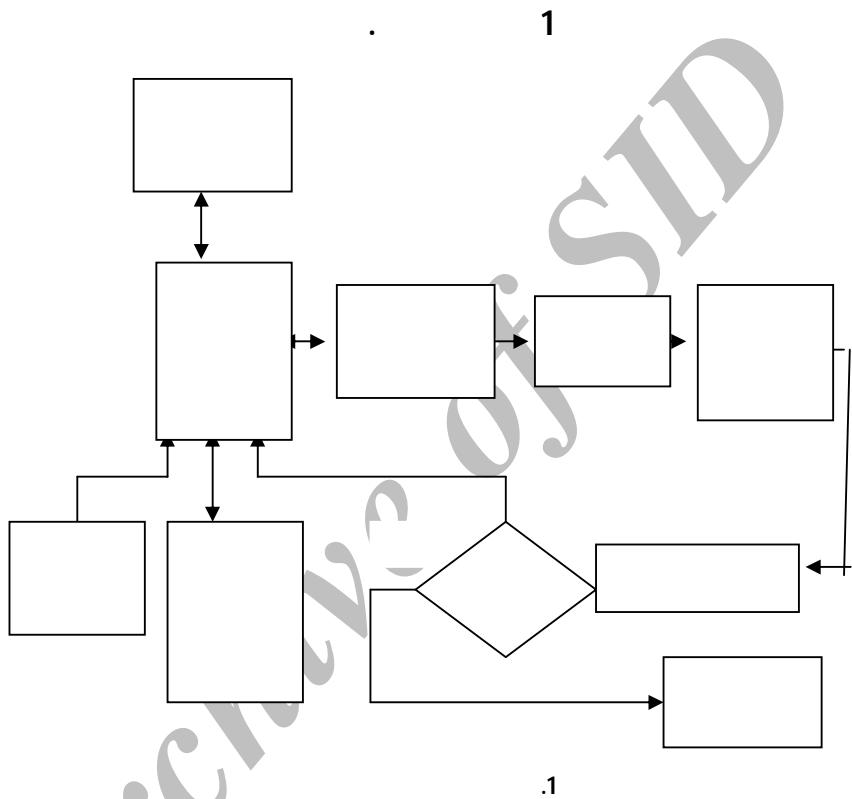
Archive of SID

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- 1. Time Constraints
 - 2. Potential Profitability
 - 3. Benefit of the Task
 - 4. Pressure to complete a Job

[Fitzpatrick , 1996]

Archive of SID

1.Trade off



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- [Thomas, 1995]
- **Binary Search Tree**
 - **Numeral Assignment Technique**
 - **Planning Game**
 - the **100-Point Method**
 - **Theory-W**
 - **Requirements Triage**
 - **Wiegers' Method**
 - **Requirements Prioritization Framework**
 - **AHP**

: [Wiegers , 1999]



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1. Clear-Cut Steps
 2. Quantitative Measurement
 3. High maturity
 4. Low Labor-Intensity
 5. Shallow Learning Curve

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[Source: Nancy, 2006]

[Mead , 2006]

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1. Capability Requirements
 2. Functionality Requirements
 3. Quality Requirements

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1. Functionality
 2. Reliability

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2			4
3			5
4			6
5			7

:[Ronan, 1996]

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- 1. Usability
 - 2. Administer Ability
 - 3. Maintainability
 - 4 . Execution Speed
 - 5. Storage Demand
 - 6. Importance

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Archive of SID

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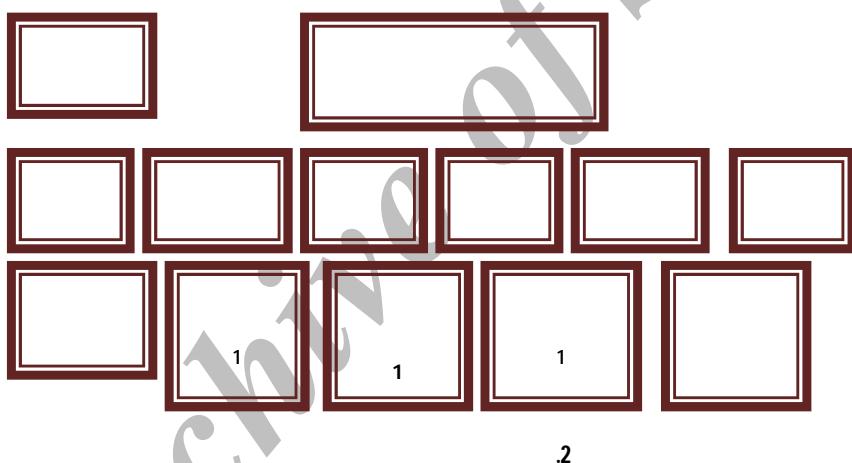
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1. Penalty

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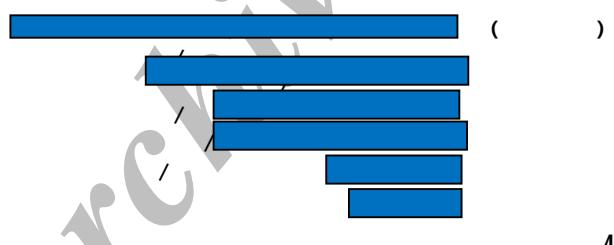
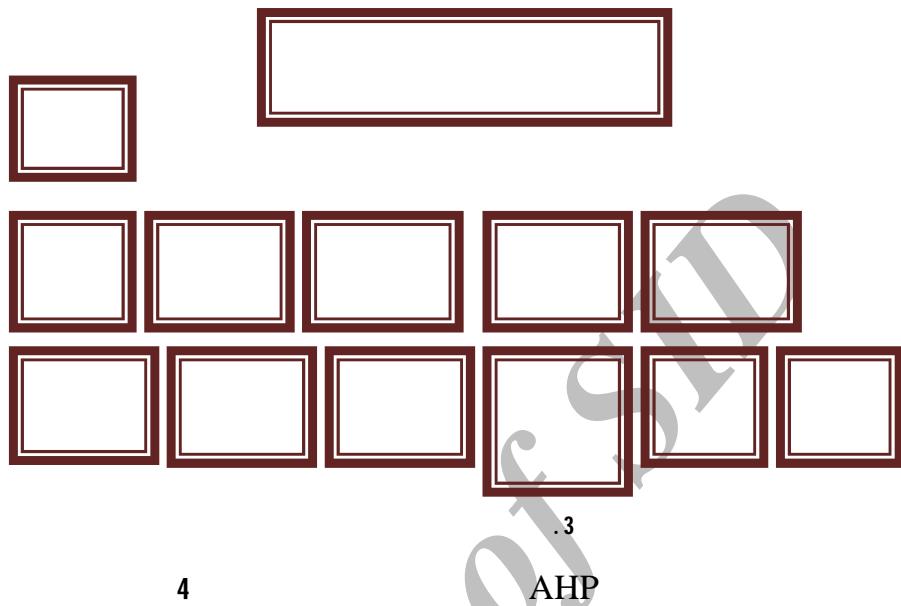
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Source: [Bass *et al.*, 2003]

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AHP

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[Ronan, 1996]

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- 1. Observable via Execution
 - 2. Tolerance
 - 3. Not Observable via Execution

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[Ronan, 1996]:

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- 1. Security
 - 2. Fault Tolerance
 - 3. Portability
 - 4. Performance

$$\text{Performance} = \frac{1}{(\text{Complexity}) (\text{Process}) (\text{Team}) (\text{Tools})}$$

1. Performance= (Complexity) (Process) * (Team) * (Tools)

Server

Firewall

$$\alpha = \frac{\text{mean time to failure}}{\text{mean time to failure} + \text{mean time to repair}}$$

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1. Reliability
 2. Failure

"TimeOut"

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- 3. Mean Time to Failure
 - 1. Mean Time to Repair

Modifiability .

1. Efficiency
 2. Satisfaction

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1. Application
 2. Maintainability

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1. Interoperability
2. Observability
3. Controllability

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1. Claes Wohlin, Aybuke, Aurum (92005), "Engineering And Managing Software Requirement ", Springer.
2. Karl, E. Wiegers (1999), "First Things First: Prioritizing Requirements". www.processimpact.com .
3. Karlsson, J. and Ryan, K. (1997) "A Cost-Value Approach for Prioritizing Requirements" *IEEE Software* Vol.14, No. 5, pp. 67-74.
4. Len Bass, Paul Clements, Rick Kazman (2003),"Software Architecture in Practice"2th ed., Addison Wesley.
5. Nancy R. Mead (2006), "Requirements Prioritization Case Study Using AHP", Software Engineering Institute, Carnegie Mellon University.
6. Donald, Fire Smith, (2006), "Requirements Prioritizing", Software Engineering Institute, U.S.A. *Journal of Object Technology*, 2004.
7. "Prioritization, Making best use of your Time and Resources". <http://www.mindtools.com>.
8. Rick Lutowski (2005), "Encapsulation, Quality, and Reuse", Auerbach, Publications, 2005.
9. Ronan Fitzpatrick (1996), Staffordshire University, "Software Quality: Definitions and Strategic Issues", School of Computing Report.
10. Thomas L. Saaty (1995), "Decision Making for Leaders", University of Pittsburgh.

Archive & SID