



Flowcharts

Flowcharts: Training Session



- ◆ Overview
- ◆ Detailed look at flowcharting
- ◆ Real world examples



Overview of Flowcharts



- What is a flowchart?
- How are they useful?



What is a flowchart?


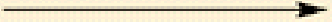


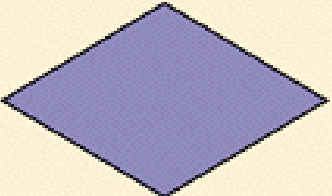
- ◆ A.k.a. Process Flow Diagram
- ◆ A diagram illustrating the activities of a process
- ◆ One of Ishikawa's seven basic tools of quality



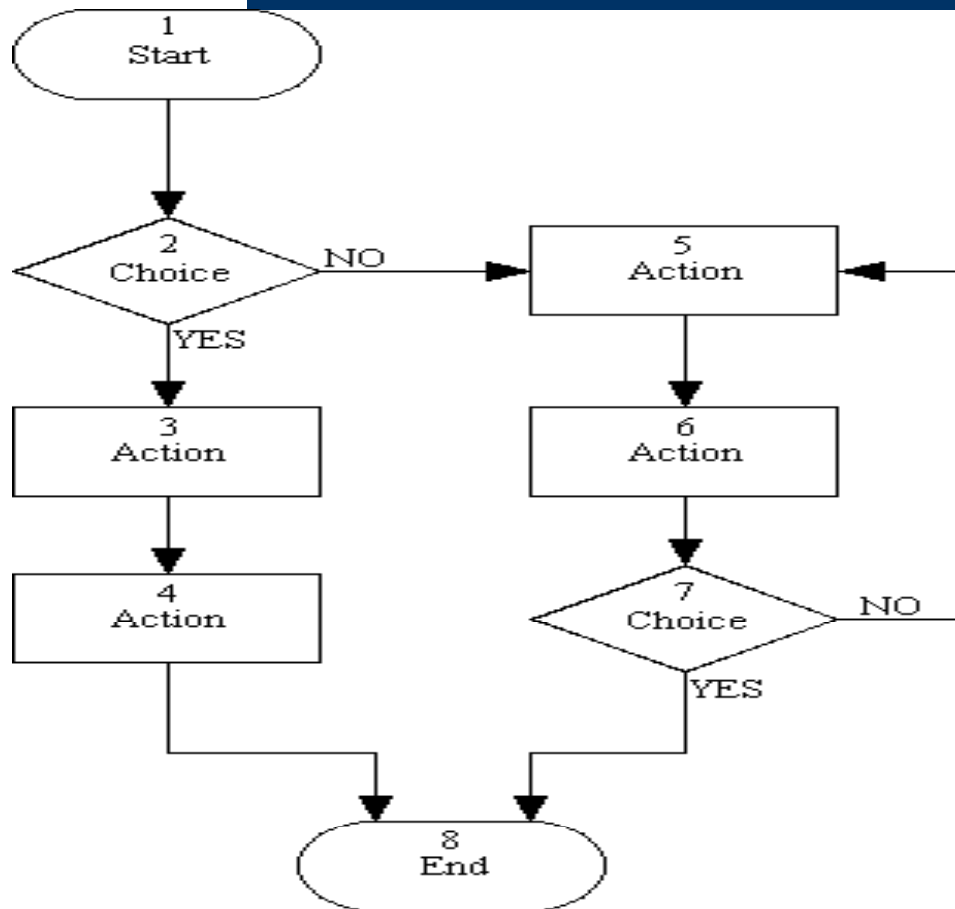
Brief History

- ◆ No originator, or “father” of flowcharts
- ◆ Forms of flowcharts have always been used
- ◆ Give us insight into historical processes

Flowchart Symbols

| Name | Symbol | Use in flowchart |
|---------------|---|--|
| Oval |  | Denotes the beginning or end of a program. |
| Flow line |  | Denotes the direction of logic flow in a program. |
| Parallelogram |  | Denotes either an input operation (e.g., INPUT) or an output operation (e.g., PRINT). |
| Rectangle |  | Denotes a process to be carried out (e.g., an addition). |
| Diamond |  | Denotes a decision (or branch) to be made. The program should continue along one of two routes (e.g., IF/THEN/ELSE). |

Basic Flowchart





Types of Flowcharts



- Macro Flowcharts
- Deployment Flowchart

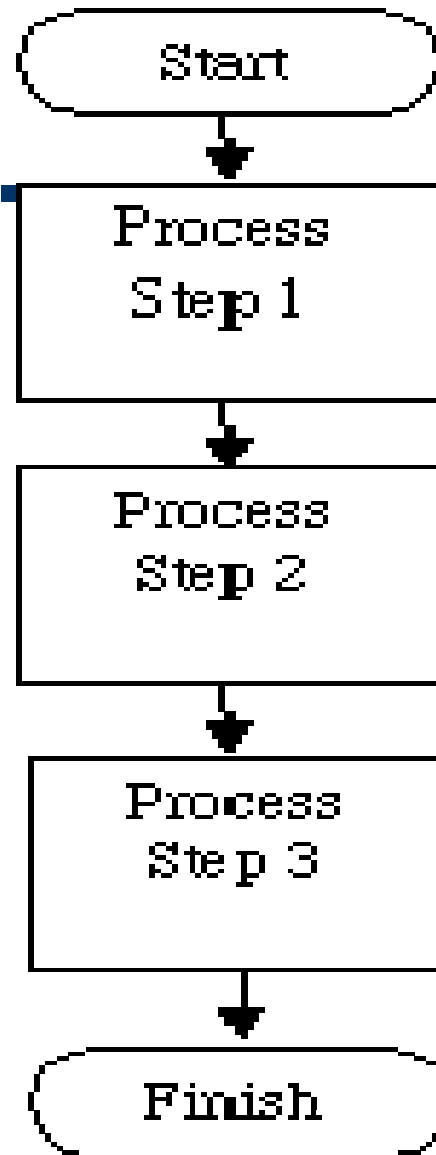


Macro Flowcharts



- High level perspective
- Steps in a process connected by a flow line
- Identifies problems in the process

Macro Flowchart





Deployment Flowcharts

- Much more detailed
- Assign the steps to the person who performed them
- Shows how members of the project team are deployed, or used throughout the project.



Overview of Flowcharts



- What is a flowchart?
- How are they useful?



How are they useful?

- ◆ Create visual maps of a process
- ◆ Help with planning a project
- ◆ Quality improvement tool
 - Identify processes that need improvement
 - Identify unnecessary/ problem steps in a process
 - Good communication tool



Common Rules of Flowcharts

- ◆ Indicate and label all elements of the project
- ◆ Sequence of events is clear
- ◆ No gaps or dead ends
- ◆ Must be logical to the user
- ◆ Use correct symbols



Perspectives of Flowcharts

- ◆ Producer
- ◆ Service provider
- ◆ Customer



Real World Use of Flowcharts

- ◆ Production
 - Manufacturing
 - Used to identify critical path
- ◆ Accounting
 - Help visualize money flow
- ◆ Services
 - Restaurants
 - Real estate



Real World (cont'd)

- ◆ Education
 - Curriculum flowcharts
 - Student flow through process
- ◆ Hospitals
 - Patient flow
 - Medical processes



Class Exercise

- ◆ Develop a flowchart for the process of conducting research
- ◆ Base this flowchart on the actual process that you used for this project
- ◆ Try and identify improvement areas



Summary

- ◆ Valuable and unique quality improvement tool
- ◆ Simple and effective way of visualizing and understanding a process
- ◆ Entire organization has an effect on the flowchart
- ◆ Everyone involved can take part in improving the process

Sources Used

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