

Developing Process Flowcharts & Gantt Charts

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Flowcharting

- Flowcharts allow one to see a pictorial representation of the process.
- They make it easier to understand the process at hand!
- MS Visio is a great tool for developing flowcharts as you can easily drag and drop the symbols.

Flowchart Symbols



Terminator
Indicates the beginning or end of a program flow in your diagram.



Process
Indicates any processing function.



Decision
Indicates a decision point between two or more paths in a flowchart.



Delay
Indicates a delay in the process.



Data
Can represent any type of data in a flowchart.



Document
Indicates data that can be read by people, such as printed output.



Multiple documents
Indicates multiple documents.



Subroutine
Indicates a predefined (named) process, such as a subroutine or a module.



Preparation
Indicates a modification to a process, such as setting a switch or initializing a routine.



Display
Indicates data that is displayed for people to read, such as data on a monitor or projector screen.



Manual input
Indicates any operation that is performed manually (by a person).



Manual loop
Indicates a sequence of commands that will continue to repeat until stopped manually.



Loop limit
Indicates the start of a loop. Flip the shape vertically to indicate the end of a loop.



Stored data
Indicates any type of stored data.



Connector
Indicates an inspection point.



Off-page connector
Use this shape to create a cross-reference and hyperlink from a process on one page to a process on another page.



Off-page connector



Off-page connector



Off-page connector



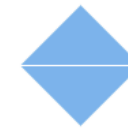
Or
Logical OR



Summing junction
Logical AND



Collate
Indicates a step that organizes data into a standard format.



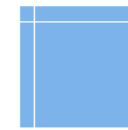
Sort
Indicates a step that organizes items list sequentially.



Merge
Indicates a step that combines multiple sets into one.



Database
Indicates a list of information with a standard structure that allows for searching and sorting.



Internal storage
Indicates an internal storage device.

http://www.gridgit.com/postpic/2011/12/meaning-flowchart-symbols-shape_8566.png

Visio Basic Flowchart Shapes



Drawing5 - Microsoft Visio

File Home Insert Design Data Process Review View Developer

Clipboard Font Paragraph Tools Shape Arrange Editing Visio Guy

Search for Shapes

More Shapes

Quick Shapes

Basic Flowchart Shapes (US units)

Cross-Functional Flowchart Shapes (US units)

Basic Flowchart Shapes (US units)

- Process
- Subprocess
- Document
- Database
- Custom 1
- Custom 3
- On-page reference
- Decision
- Start/End
- Data
- External Data
- Custom 2
- Custom 4
- Off-page reference

Shape Data - ThePage

No Shape Data

MS Visio Basic Flowchart Example

```
graph TD; A[Process] --> B[Subprocess]; B --> C{Decision}; C --> D[/Data/]; C --> E[/Document/]; E --> F[Process]; F --> G[Document]; G --> H[Process];
```

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Flowcharting Tutorial

- MS Visio 2016 Tutorial (11:44)

<https://www.youtube.com/watch?v=b09dKHvu4-4>

Flowchart Common Errors

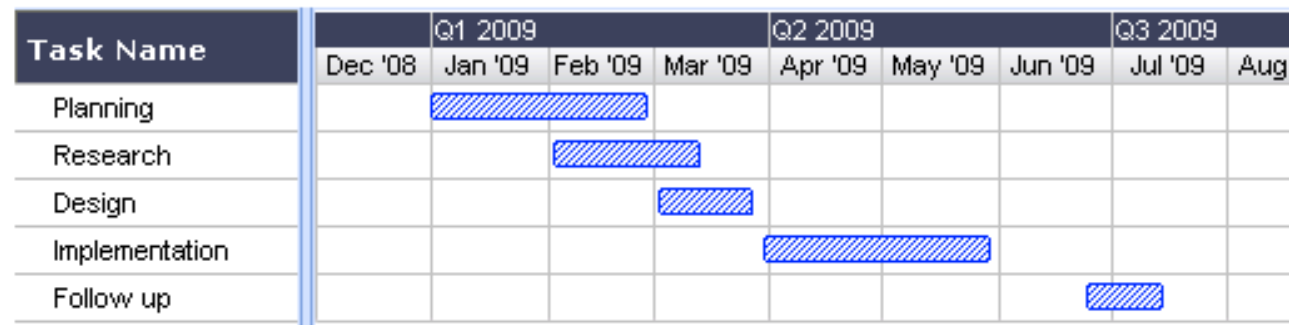
- Arrows / Flow issues
 - Missing
 - Direction
 - Decision Symbols
- Incorrect Symbol usage
 - Documentation vs Process
 - Think of documentation as a special type of process that has a special symbol
 - Decision
 - Label them
 - Cleaner to use one line per joint
 - Subprocess vs Process
 - Subprocess symbols will require another flowchart
 - Continuation References
 - On or off page symbols

What is a Gantt chart?

A Gantt chart, commonly used in project management, is one of the most popular and useful ways of showing activities (tasks or events) displayed against time. On the left of the chart is a list of the activities and along the top is a suitable time scale. Each activity is represented by a bar; the position and length of the bar reflects the start date, duration and end date of the activity. This allows you to see at a glance:

- What the various activities are
- When each activity begins and ends
- How long each activity is scheduled to last
- Where activities overlap with other activities, and by how much
- The start and end date of the whole project

To summarize, a Gantt chart shows you what has to be done (the activities) and when (the schedule).



A simple Gantt chart

Gantt Chart History

The first Gantt chart was devised in the mid 1890s by Karol Adamiecki, a Polish engineer who ran a steelworks in southern Poland and had become interested in management ideas and techniques. Some 15 years after Adamiecki, **Henry Gantt**, an American engineer and management consultant, devised his own version of the chart and it was this that became widely known and popular in western countries. Consequently it was Henry Gantt whose name was to become associated with charts of this type.



Karol Adamiecki



Henry Gantt

Gantt Chart Demo & Tutorial

Creating Gantt and PERT charts in Project 2013 (3:05)

<https://www.youtube.com/watch?v=3SIHN2Qionw>

MS Project 2016 – Basics in 15 min (23:27)

<https://www.youtube.com/watch?v=goX6N9RjGUs>