

**Function Analysis System Technique (FAST)**

**What is it?**

The Function Analysis System Technique (FAST diagram) is a graphical representation of the relationship between functions. A function diagram is a method to relate the primary functions in a logical sequence to the overall mission or objectives.

[What are functions?](#)

**Objective:**

To enable objective thinking about the problem without reference to a specific solution and to clarify the overall needs or purpose (primary functions).

**Why is it important?**

The function analysis system technique aids in identifying the scope of the project by showing the logical relationships of all functions. The organization of the functions into a logic diagram enables participants to identify of all the required functions. The FAST diagram can be used to verify if a preferred solution achieves its necessary functions and to identify unnecessary or duplicate functions.

The technique helps:

- Identify missing functions.
- Define, simplify and clarify the problem.
- Organize and understand the relationships between functions.
- Identify the basic function of the project, process or product.
- Improves communication and consensus.
- Stimulate creativity.

**What is a function?**

A function is a two word Verb - Noun definition that describes a need. The two words used to describe a function are made up of an active verb and a measurable noun. The measurable noun identifies something that can be described and quantified.

**Key questions to ask:**

- How do you achieve this function?
- Why do you do this function?
- When you do this function, what other functions must you do?

**Is there a “correct” FAST Diagram?**

There is no ‘correct’ FAST diagram but there is a valid method of representing the logic in a diagram. The validity of a FAST model for a given situation is dependent on knowledge and scope of the workshop participants. The FAST diagram aids the team in reaching consensus on their understanding of the project

**Who is involved?**

The Function Analysis System Technique (FAST) diagram is usually prepared in a workshop setting and led by someone with experience in preparing FAST diagrams. Input for the diagram is received from workshop participants, which may include project team members.

Learn more about **FAST Diagrams** by visiting:

MTO VE Program:

<http://www.mto.gov.on.ca/english/transtek/ve/>

Canadian Society of Value Analysis:

<http://www.scav-csva.org/>

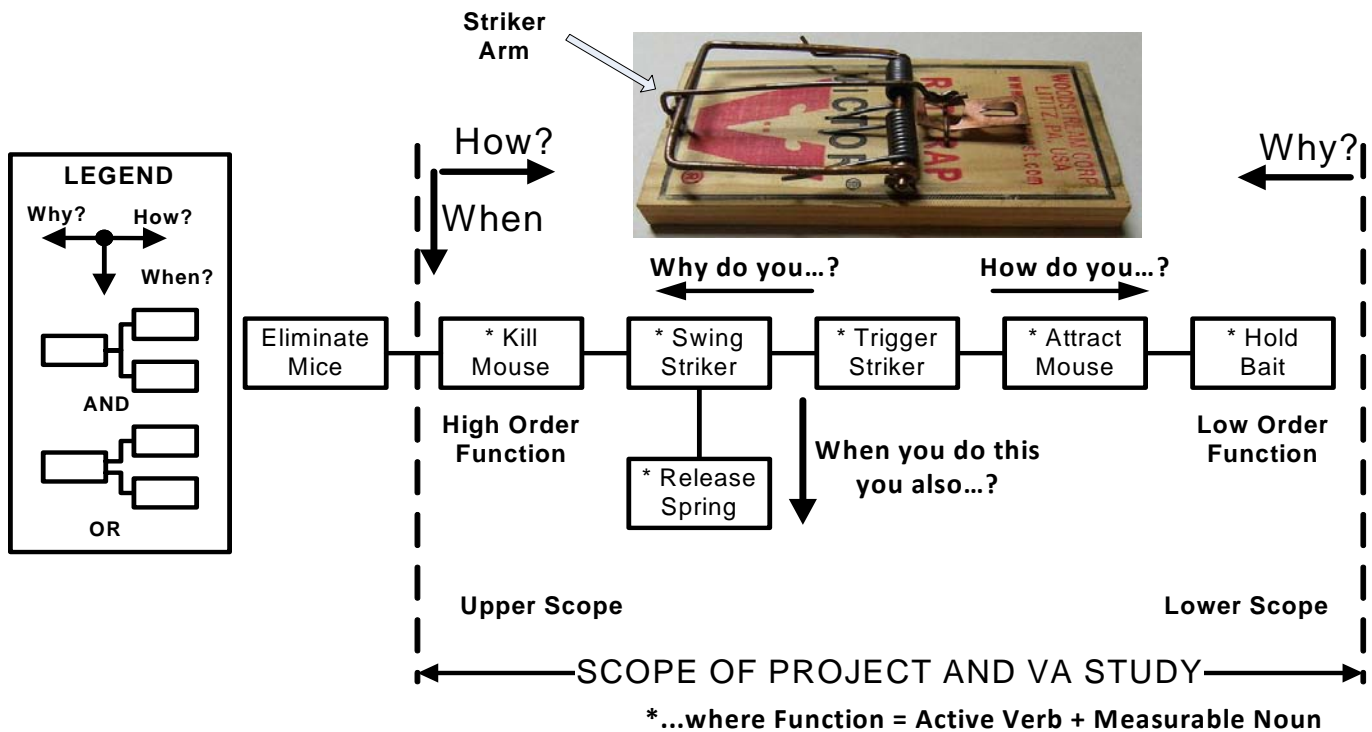
Office of Government Commerce (U.K.):

[www.best-management-practice.com](http://www.best-management-practice.com)

## The basics of ...

### the Function Analysis System Technique (FAST)

#### How to read a FAST Diagram:



#### Expand the functions in the “How” and “Why” directions:

- Build along the “How” path by asking ‘how the function achieved’? Place the answer to the right in terms of an active verb and measurable noun.
- Test the logic in the direction of the “Why” path (right to left) by asking ‘why?’ for each function.
- When the logic does not work, identify any missing functions or adjust the order.
- To identify functions that happen at the same time, ask “when this function is done, what else must be done?”
- The higher order functions describe what is being accomplished and lower order functions describe how they are being accomplished.
- “When” does not refer to time as measured by a clock, but functions that occur in conjunction with each other which answer the question of how we achieve the function and why.

*Just so you know ... FAST Diagrams can show logic paths for “AND” & “OR”.*

