

Analysis Principles : PARTITIONING

Problem is partitioned - divide into parts that can be easily understood and establish interfaces between the parts.

From the fourth operational analysis principles suggests that the **Information**, **Functional**, and **behavioral** domains of software can be partitioned.

Partitioning Decomposes a problem into its constituent parts.

Conceptually, establish a hierarchical representation of function or information and then partition the **upper-most element** by

1) **Exposing** increasing detail by moving vertically in the hierarchical.

2) **Functionally Decomposing** the problem by moving horizontally in the hierarchy.

Eg:- Safe home Security System.

Safe Home Software enables the home owner to configure the security when it is **installed**, **monitors all sensors**

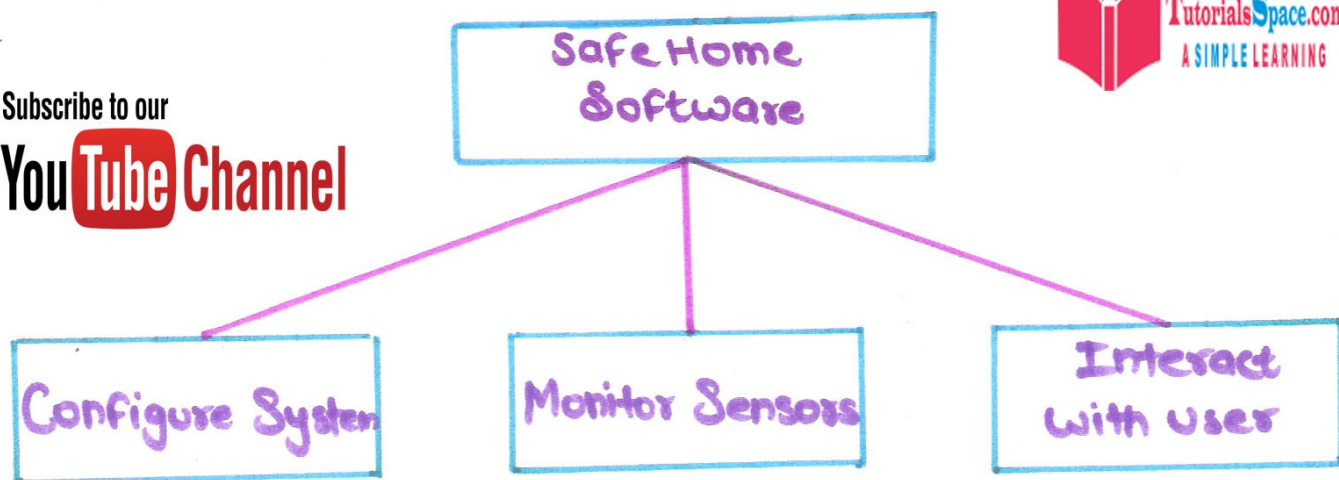
Connected to the Security System, **and interacts** with the

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home owner through a keypad and function keys contained in the **SafeHome** control panel



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Horizontal Partitioning →

During Installation, the **SafeHome** control panel is used ~~for~~ to 'Program' and Configure the System.

Each sensor is assigned a number and type, a master password is programmed for Arming and disarming the System, and telephone no. an input for dialing when a sensor event occurs.

HOW SafeHome WORKS ?

When

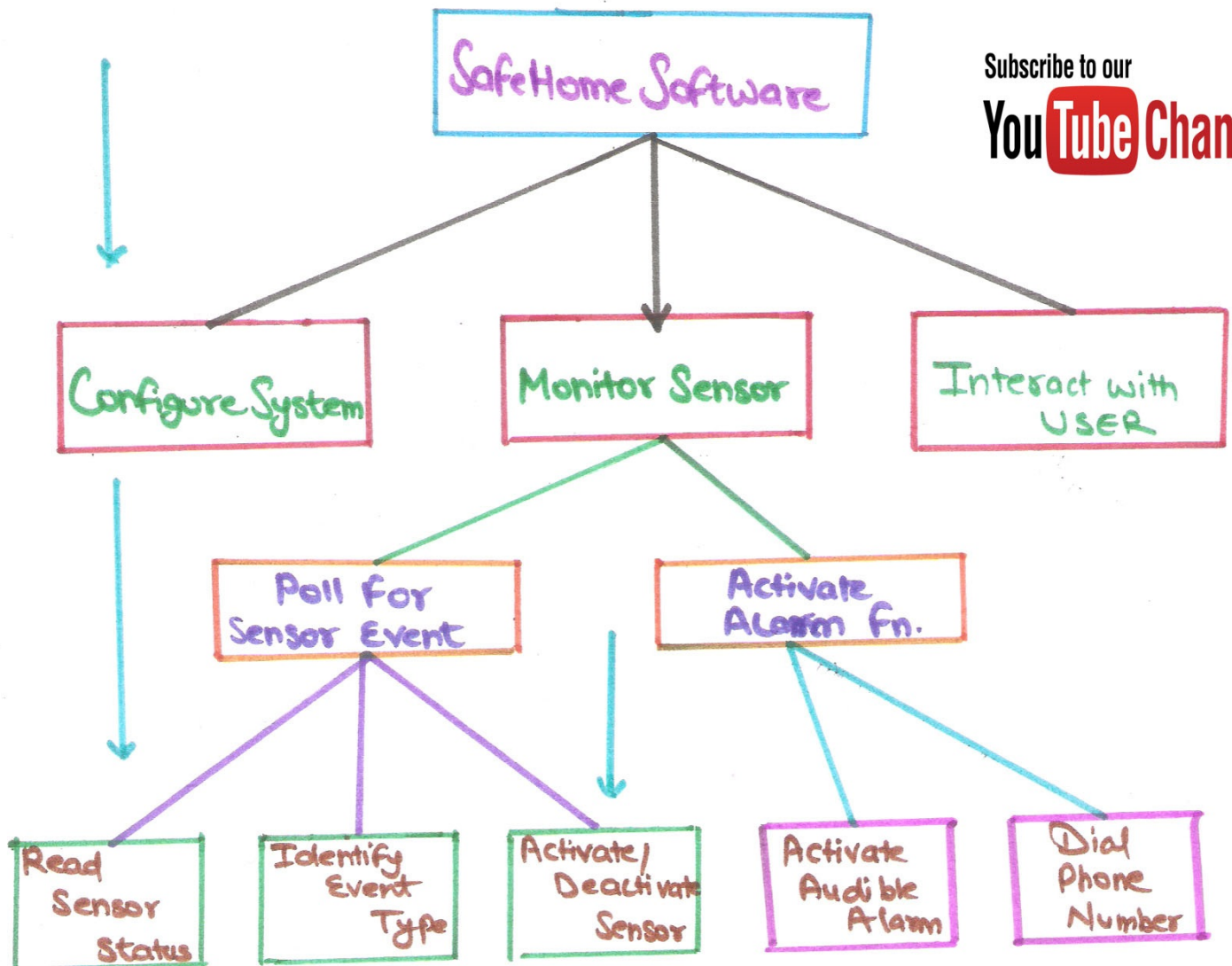
Sensor event is recognized, the SW invokes an audible alarm attached to the System. After a delay time that is specified by the homeowner during System Configuration activities,

The Software dials a telephone number of a monitoring

Service, provide the information about location,
Reporting the nature of the event that has been detected.

The telephone number is dialed every 20 seconds until telephone connection is obtained.

→ All interaction with SafeHome is managed by a user-interaction subsystem that reads input provided through the keypad and function keys, displays prompting messages on the LCD display, displays system status info. on the LCD display.



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Vertical Partitioning of SafeHome