Laboratory Report

Experiment No - 06

Batch -

Date of Experiment: _____ Date of Submission: _____

Title: Draw DFD (up to 2 levels) and prepare Data Dictionary for the project.

Evaluation:

1) Attendance [2] ----------

2) Lab Performance [2] ----------

3) Oral [1] ----------

Overall Marks [5] ----------

Subject In-Charge

Experiment No: - 06

TITLE: Draw DFD (up to 2 levels) and prepare Data Dictionary for the project.

PREREQUISITE:

1. Concepts of Object Oriented Programming & Methodology
2. Knowledge of developing applications with front end & back end connectivity.

HARDWARE CONFIGURATION / KIT:

Sr. No	Minimum Hardware Configuration	
1	Processor	800MHz Intel Pentium III or above versions
2	RAM	512 MB
3	HDD	1.5 GB of free disk space

SOFTWARE CONFIGURATION:

Sr. No	Minimum Software Configuration	
1	Operating System	Microsoft Windows Vista/7 or above versions
2	Editor	MS Word, Notepad

Theory: -

Data Flow Diagram (DFD):-

A Data Flow Diagram (DFD) is a graphical representation that depicts the information flow and the processes used for transformation as the data moves from input to output. It illustrates the flow of data between various processes, data stores, and external entities. A DFD typically consists of four components: processes, data stores, data flows, and external entities.

The data flow diagram may be used to represent a system or software at any level of abstraction. DFD provides a mechanism for functional modeling as well as information flow modeling.

Processes are the activities or tasks that are performed on the data, such as data entry, processing, or storage. Data stores are the locations where data is stored, such as databases or files. Data flows represent the movement of data between processes, data stores, and external entities. External entities are the sources or destinations of data, such as users or other systems.

Steps to prepare a Data Flow Diagram:

1. Primary input and output should be carefully noted.
2. All arrows and bubbles should be labeled with meaningful names.
3. Information flow continuity must be maintained from level-to-level.
4. One bubble at a time should be refined.

5. Refinement should begin by isolating candidate processes, data objects, and data stores to be represented at the next level.

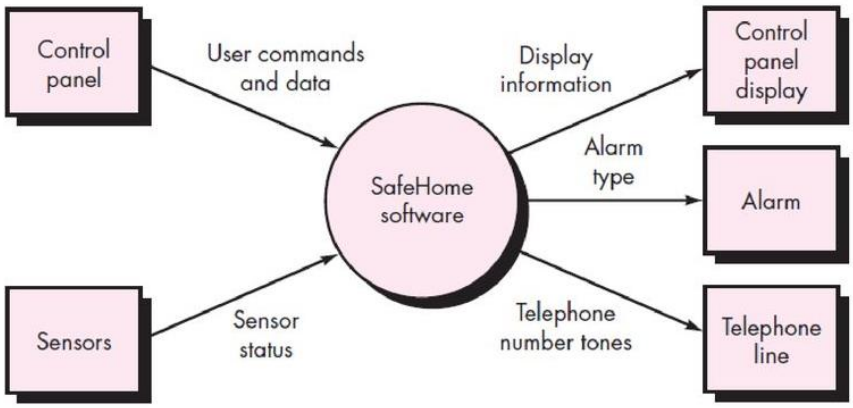

Fig: Level 0 DFD for SafeHome System.

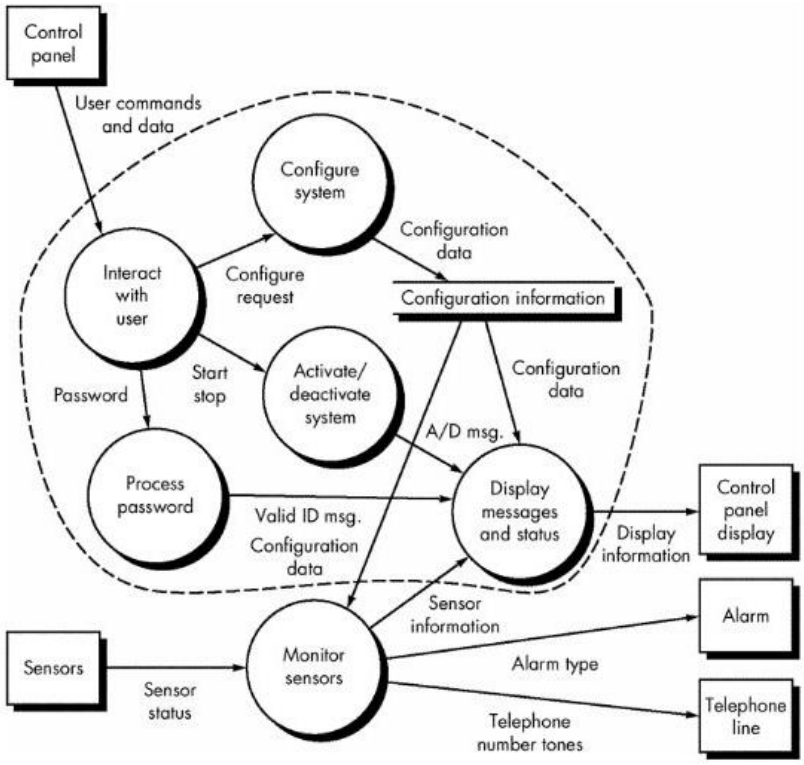

Fig: Level 1 DFD for SafeHome System.

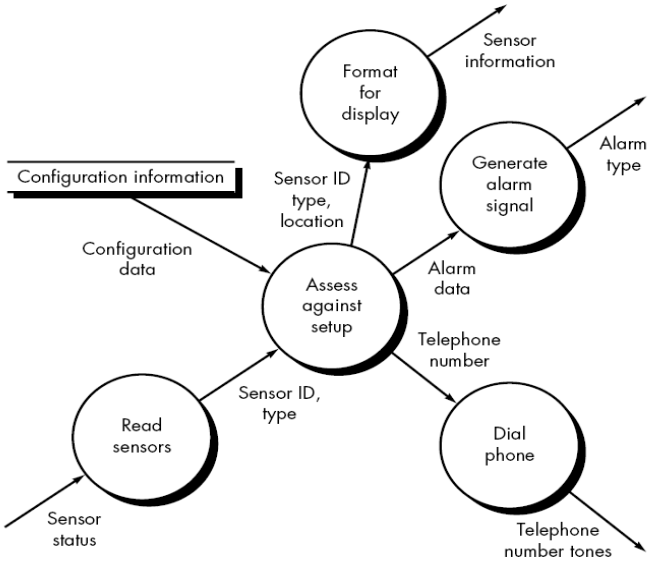

Fig: Level 2 DFD that refines the monitor sensors transform

Data Dictionary:

A data dictionary, on the other hand, is a structured document that describes the data elements and their relationships in a software project. It provides a detailed description of each data element, including its name, definition, data type, length, and other attributes. It also describes the relationships between data elements and provides a standardized vocabulary for the project.

The data dictionary serves as a reference guide for developers, testers, and other stakeholders in the project. It ensures that everyone is using consistent and accurate terminology when discussing the data elements in the project. It also helps to identify any inconsistencies or errors in the data model and facilitates communication between different teams working on the project.

A data dictionary is a file or a set of files that includes a database's metadata. The data dictionary hold records about other objects in the database, such as data ownership, data relationships to other objects, and other data. The data dictionary is an essential component of any relational database. Ironically, because of its importance, it is invisible to most database users. Typically, only database administrators interact with the data dictionary.

The data dictionary, in general, includes information about the following:

- Name of the data item
- Aliases
- Description/purpose
- Related data items
- Range of values
- Data structure definition/Forms

The name of the data item is self-explanatory.

Exercise:

1. Draw DFD (Level 0, Level 1, Level 2) for a project assigned to you.
2. Prepare a data dictionary for your project in excel.