***Chapter 4***

***System Design***

**4.1 Introduction**

Design is a process through which requirements are translated into a representation of the software. The purpose of the designing phase is to plan a solution for the problem specified by the requirement document. This phase moves from the problem domain to the solution domain i.e. the requirements are translated into software. The design activity often results in three separate outputs:

1. Architecture design
2. High level design
3. Detailed design

In architecture design the focus is on identifying components or subsystems and how they interact to each other. The high level design identifies the modules that should build for developing the system. In case of detailed design the focus is on how the modules are implemented in software.

System design is a solution, a “How to” approach to the creation of a new system. The important phase is composed of several steps. It provides the understanding of procedural details necessary for implementing the system recommended in the feasibility study. Emphasis is on translating the performance requirements into design specifications.

**4.2 Methodology / Objective**

The main objectives of the designs are:

1. Practicality
2. Efficiency
3. Flexibility
4. Completeness
5. Security
6. Verifiability
7. Traceability

**4.3 Context Flow Diagram**

The Context Flow Diagram (CFD) describes the external entities acting on the system. The environment in which the system is used is depicted in the figure.



**4.4 Data Flow Diagram**

A Data Flow Diagram (DFD) is a graphical representation of the “flow” of data through an Information System. A DFD also can be used for the visualization of Data Processing. It is common practice for a designer to draw a context-level DFD first which shows the interaction between the system and outside entities. This context-level DFD is then “exploded” to show more detail of the system being modeled.

The DFD uses four symbols, and are explained below:

* A **SQUARE,** which defines the source or destination of system data also called an external entity, is not responsible for any task performed by the system.

* An **ARROW** represents data flow. It represents the path over which data travels in the system. A data flow can move between processes, flow into or out of data stores to and from external entities. It must be must be given a name the arrow head showing the direction of flow.
* A **CIRCLE** or **BUBBLE** represents a process that transforms data from one to another by performing some tasks with the data. The process name must be given a general idea of its function.
* Two **HORIZONTAL PARALLEL LINES** represents data store, a data store is a place where data is held temporarily from one transaction to the next or is stored permanently.

Data flow diagram describes what data flow (logical) rather than how they are processed, so it does not depend on hardware, Software, data structure or file organization.

**TOP Level DFD – Level 1**

****

**DFD – Level 2: Broadcasting videos**

****

**DFD Level 3:Login process and subscription charge payment**

****

**DFD Level 4:Uploading videos and sending comment**



**DFD Level 5:** Publishing events and broadcasting events

