# Chapter 2: Analysis

## 2.1: Introduction to Analysis

An analysis is a process of determining the user needs and expectation for the new or upgraded products. These features are called requirements. In this process, a systematic examination and evaluation of information or data are performed to discover the important components to build the system.

The analysis is the first phase of the software development life cycle (SDLC). In this software development conceptual model, analysis focuses on the following parts:

* Gather, analyze, and validate the information.
* Define the requirements and prototypes for new system.
* Evaluate the alternatives and prioritize the requirements.
* Examine the needs of end-user and enhance to meet the system goal.
* Prepare the Software Requirement Specification (SRS) document, which specifies the software, hardware, functional, non-functional, and network requirements of the system.

## 2.2: Analysis Methodology

The project uses Object-Oriented Analysis and Design Methodology. It is a technical method of analyzing and designing a system based on their object models. An object is an instance of anything that represents a real world object and has all the same types of characteristics (properties), behavior (methods), and states (data). This methodology not only focuses on a processes or data of the system but outlook the system as a collection of object that can interact with each other to accomplish tasks.

Object-Oriented Analysis and Design (OOAD) often include stages i.e. requirements, planning, design, coding, testing, deployment and maintenance. These stages are similar to waterfall SDLC and does not require additional tasks for the project as the requirement are well defined. That’s why I have decided to use OOAD for this project.

## 2.3: Feasibility Study

## 2.4: Requirement Analysis

## 2.4.1: Functional Requirement

## 2.4.2: Non-functional Requirement

## 2.4.3: MOSCOW Prioritization

## 2.4.4: Software Requirement Specification

## 2.5: Use Case Diagram

## 2.6: NLA and Initial Class Diagram