# Chapter 7
# Cloud–Based Gaming Services

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## ABSTRACT

*This chapter talks about the latest technology being used for Cloud Gaming. It discusses about various aspects of this technology. The first part gives a brief introduction about what is actually cloud gaming and the ways in which it is implemented. The subsequent section talks about the various servers and units involved in the whole process. The next section talks about the importance of performance and efficiency in the Cloud Gaming system. There are various advantages of implementing such systems over the traditional gaming systems and of course every coin has two sides and thus there are various limitations of this technology which are discussed further in the chapter. What can be the new advancements and the future of the Cloud Gaming System has also been taken up in this chapter. Some case studies have also been included in this chapter to understand the various topics more clearly by analyzing the present scenarios and systems. The companies which offer cloud based gaming services have been discussed about to understand their technologies and implementation mechanisms.*

# INTRODUCTION

Computer games are very popular in today's world. People of all age groups enjoy playing different kinds of games. It has been observed that people in the recent years are spending above 25 billion USD on games and hardware required for playing the high requirement games.

Traditionally games are offered on optical drives or are available on the Internet. The games have to be installed on the physical machine by the user. This process sometimes becomes very tedious because the computer games are too complicated and also big in size whereas the computer software is very fragmented. Also with the popularity of new high requirement games it is often that users find that they need to upgrade their hardware to be able to play the game without lags and glitches.

These limitations of the traditional games have been the motivation of developing cloud based gaming systems. It has been seen as a new opportunity which will be more affordable for the users and also has promising future for the business giants. Ina cloud gaming system the games run on powerful cloud servers and the users can play them on their devices which eliminates the necessity of always having a very powerful console and updating it after short periods of time which makes cloud gaming systems more affordable for the user and thus it becomes beneficial for them and also for the companies implementing this system because of increase in number of users. A market report has come up which says that the cloud gaming market will increase 9 times between 2011 and 2017.

Although the cloud gaming systems have many advantages over the traditional systems but due to users always asking for better audio and graphics, implementing the cloud system is a very challenging task which can meet the user's demands. Fortunately, this technology and its benefits have gained the attention on researchers and thus there is vast research going on to make better ways to implement the system which can both be easy and also efficient and cost effective.

The chapter goes deeper into these topics and tries to explain them.

# DESIGN PHILOSOPHY

Before going into the implementation of the cloud gaming systems here we will discuss that with which aims in mind these systems are being developed:

- **Extensibility:** Extensibility means that the components related to the gaming components like codecs can be easily replaced and with the same system used for cloud gaming other things can also be done like any real time multimedia application such as live casting.

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