**Design Implementation**

Aim of this project is to implement Roll a ball game using voice control. Hence we require a platform which provides us with libraries and APIS to develop a voice recognition system.

This project is developed in two separate parts. Developing the game graphics & objects and developing the Voice recognition script.

**1] Developing the actual game graphics and game objects.**

**Unity3D** platform is used for this purpose. Scripts to control various objects in the game are written in C#. **MonoDevelop** is used to build these scripts which is installed as a component along with Unity3D. One has an option to download and install **Microsoft visual studio 2015** community also along with it which can be used to develop C# program.

**2] Developing the Voice control program.**

**Microsoft visual studio 2013 express** is used to write the scripts in C#. Using the **Microsoft’s runtime speech platform** and **libraries** we can a speech recognition engine object which is trained using **Microsoft’s runtime language support**. We develop a Grammar object which contains the commands or words which we want this recognition object to recognize. This Grammar object is passed as a parameter to our speech recognition object. We than create an Event handler function which is triggered whenever user speaks any of the words which were used to build this particular speech recognition object. In the event handler function we write to the console a string which states that which word was spoken and exit’s the program.

In our game development environment there are three scripts

1] ***“playercontroller.cs”*** which controls the ball object.

2] ***“cameracontroller.cs”*** which controls the camera object.

3] ***“rotator.cs***” which controls the animation of the cube objects.

Playercontroller.cs is responsible for the following

* The movement of the ball.
* To receive the speech commands using ***“speech.exe”*** program
* Keeping the count of collected cubes
* Notifying the player about the progress.