



Team Name: Invictus

App Name: Blowpter, FuuK, Puff The Ship :D

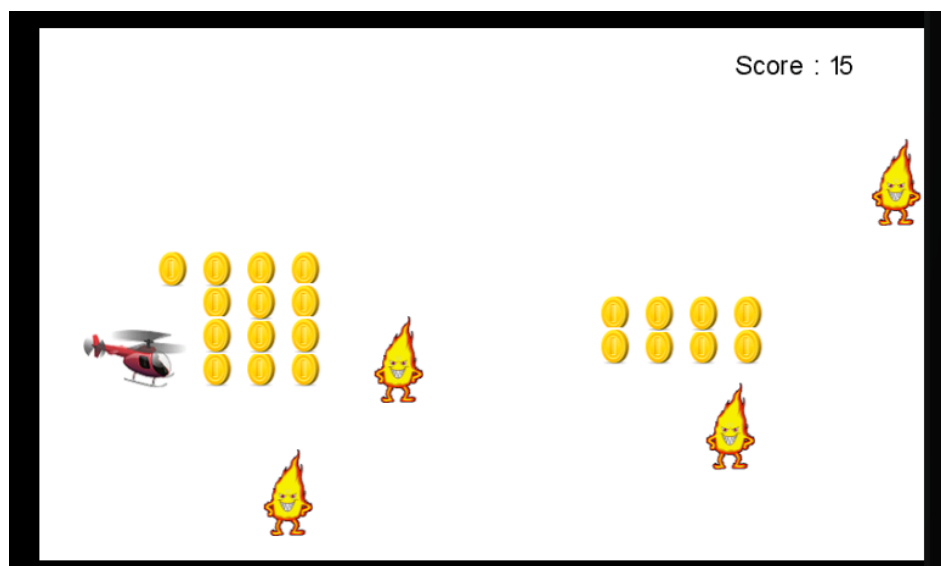
Platform Targeted: Windows Phone 7.X/8

Tools Used: Visual Studio 2010/2012, FFT Algorithms, XNA Framework, Unity3d

Summary of the Idea

The idea and motivation behind the app to shift the medium of gaming on smartphones.. Generally, for playing games we have to use touch to interact. We want use blow to control some set of games. We have the seen the flappy bird game where we have tap the screen to make the bird fly but we can achieve the same thing by using blow to control the game instead. We have made some apps which can detect the blow sound made by the user and make the bird/ship fly. This mode of interaction is more intuitive for the player and provides a new fun way of playing the game and also presents new challenges while playing.

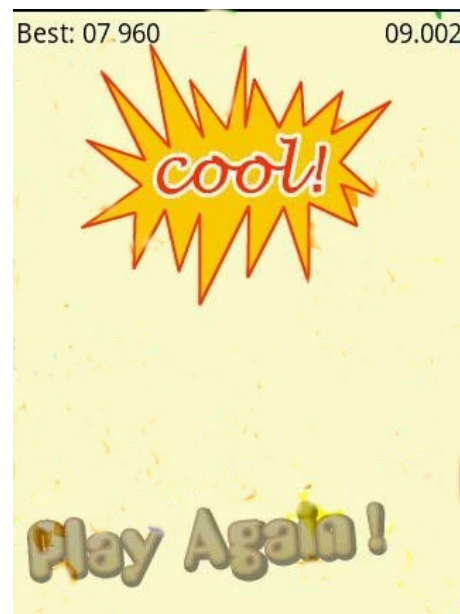
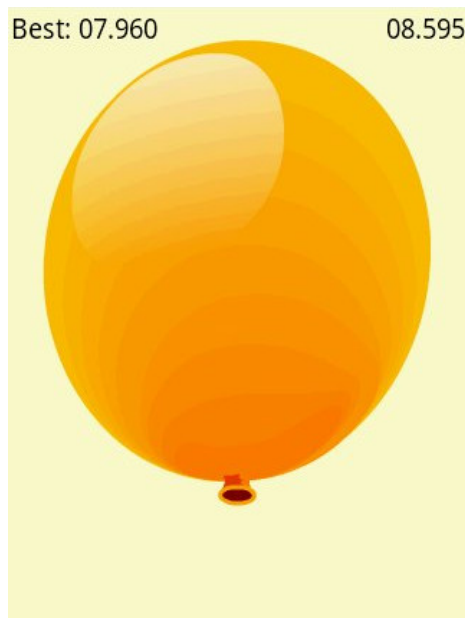
For code fun do, we made three prototype games which uses this concept. First of all we made a WindowsPhoneGame similar to helicopter/flappy bird. For triggering the movement we used blow rather than tap. During the summers, we will polish this game to improve its graphics, smoothness of motion and interaction with blow, speed etc. and make it ready to be uploaded on the app store.



App Name -: Blowpter



In second game, player has to pop the balloon by blowing air into it. When the user fills the balloon with sufficient air, the balloon pops. The aim of the game is to pop maximum balloons in given time. On each successful pop, the the time left increases by 3 seconds. An initial time of 20 seconds is provided to the player. During the summers, we will improve its graphics and make it ready to be uploaded on the app store.



App Name -: FuuK

In the third game, the user has to sail a boat by blowing air. The aim of the game is to reach the finish point in minimum time. During the summers, we will polish the game to include more race tracks, make it multiplayer and make it ready to be uploaded onto the app store.



App Name -: Puff The Ship



Blow sound contains low frequency content and our speech in general has high frequency content and it is a bit shrill. To detect the blow, we find out FFT (fast fourier transform) of the sound stream using the api provided in the links below and then we check for the magnitude of the each frequency (for a particular sound buffer). If the sound contains much magnitude of low frequency ranges rather than higher ones then we can differentiate between blow and other sounds. The comparison is calibrated in environment in which the application has to be run.

FFT ALGO:

http://developer.nokia.com/community/wiki/Audio_Noise_Reduction_in_Windows_Phone

<http://mobileorchard.com/tutorial-detecting-when-a-user-blows-into-the-mic/>