CSEE W4840 Project Proposal: Shoot bubble video game

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I.   Introduction

Shoot bubble Demo Figure

Our plan is to implement the video game called "shoot bubble". The basic idea shows on the figure. Once the player starts the game, on the upside of the screen, there are some bubbles with different colors holding together. In order to pass the game, player will choose the angle of the next bubble, and press a button to shoot it. If three or more bubbles are connected together, then they will disappear. At the time that there is no bubble in the screen, player wins the game.

II. Features

i. PS/2 Keyboard for User Input

ii. VGA Display

iii. Sound effect through speakers

iv. SD card for background music

III. Implementation

Most of this project is focused on the software design. Developing algorithms to control the shooting path of the bubble and to judge bubble clear off conditions are the essential parts of our project. There is not much modification on the hardware side; all the basic VHDL codes provided by the professor is enough for us to implement the game control, graphics. In addition we need to add some VHDL codes for two-player mode, data saving and background music.

IV. Milestones

Milestone 1:

1. Keyboard Interface
2. VGA Interface
3. Basic logic of the game

Milestone 2:

1. Score of the game
2. Multiple levels of the game
3. Special bubble(bomb bubble, rainbow bubble)

Milestone 3:

1. Two players mode
2. Sound effect
3. Background music

Extra function (if time permits)
1. Two players mode through Ethernet
2. Save game data