CHAPTER 5

CONCLUSION

5.1   Summary

A music box is design and implemented using FPGA in this project. This project has been successfully carried out where it can play five types of different tones based on the program written.

The function of the FPGA is enhanced as most of the FPGA is used for display purposes. While in this project, it is used to play tones based on the program written.

Through this project, knowledge on FPGA has been strengthened. As there is more opportunity to explore and study about what FPGA is. In the mean time, better understanding about the internal function of the FGPA chips is gained.

Apart from that, as the entire program coding is written in Verilog HDL language to program the FPGA performs like music box; programming skills have been developed and sharpened indirectly through this project.

Besides that, theoretical knowledge is applied in order to produce this music box. Through this hands-on experience, we find that theoretical and practical results are differed. However, it is very important to have the basic knowledge before apply it.

5.2   Recommendation for Future Work

The following recommendations are suggested for future developments of this project. Firstly, from this design, other designer can increase the numbers of music play in the music box by using the ROM of the FPGA board. For commercial purpose, it should have the ability of playing a variety of music.

Other than that, increase the function of the music box, for instance blinking the LED and display the title of music while the music is playing. It is very common and bored for a music box to only play music. Add in more feature to it will make it sounds more interesting.

As the last recommendation, other designer could try out designing and implement other application that uses audio sound besides music box. Apart from music box, other products like MP3 decoder, amplifier and equalizer can be designed and implemented using FPGA.