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Revised Proposal

We plan on creating a version of the notorious flappy bird game with an FPGA board and quartus software. The game will be displayed on a computer screen and we want to control the bird by pressing one of the buttons on the board. In order to display our design we will have to implement a VGA output to a computer screen. The hole positions will be generated randomly through a side scrolling background. Our design is simple because it is one peripheral system, meaning it only has one input. In order to make it more complicated, we will try to display a running score at the top of the screen. If we got that to work, then it would make sense to add a running clock as well. We will start working on the project by looking for examples of how to connect the FPGA to the computer monitor with a VGA port. If we are able to make sense of what we find, then we will mold our own version. If we aren’t able to make sense of how the connection is created, then we will have to borrow the material from an outside source and cite it in our final report. Even if we borrow someone’s material, it will still take some effort to apply it to our project. From here, we plan on working on how to get the running background to include the walls and their varying hole spots. Once we get that worked out, we plan on working on how the “bird” will rise as a button is pressed and how it will fall for no clicks. At this point, we will have a very bare bones design for our project. At this point, we will have to figure out how to recognize when the “bird” hits a wall and dies. This seems like a hard task, so hopefully we can make sense of other examples. From here we plan on debugging the project as everything comes together. There are bound to be errors that we have to work out. Once this is complete, we will have a functioning game. Being able to have a running score displayed on the screen will be very hard. We will have to find a way to create the numbers using the pixels in the monitor. If we happen to get this to work, then it wouldn’t be too difficult to add a running clock on the monitor. Finally, we will work on how we are going to demo the project. Overall, we plan on doing most of the project through Verilog.

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| Working on connection with VGA | Designing the loop for the walls | Designing control and movement of “bird” | Figure out how to recognize losing | Debugging | Design a running score count and clock | Demo work |
| 15 hours | 20 hours | 20 hours | 15 hours | 12 hours | 20 hours | 8 hours |

Total: 110 hours