ANGRY BIRD

JAWAD SEMAAN

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INSTRUCTOR NAME: ALON
SUBMISSION DATE: 01-21-2025
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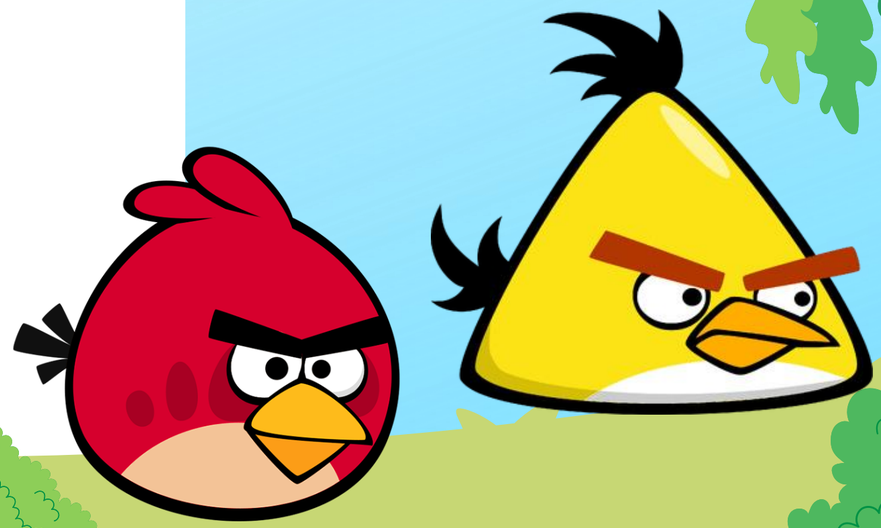
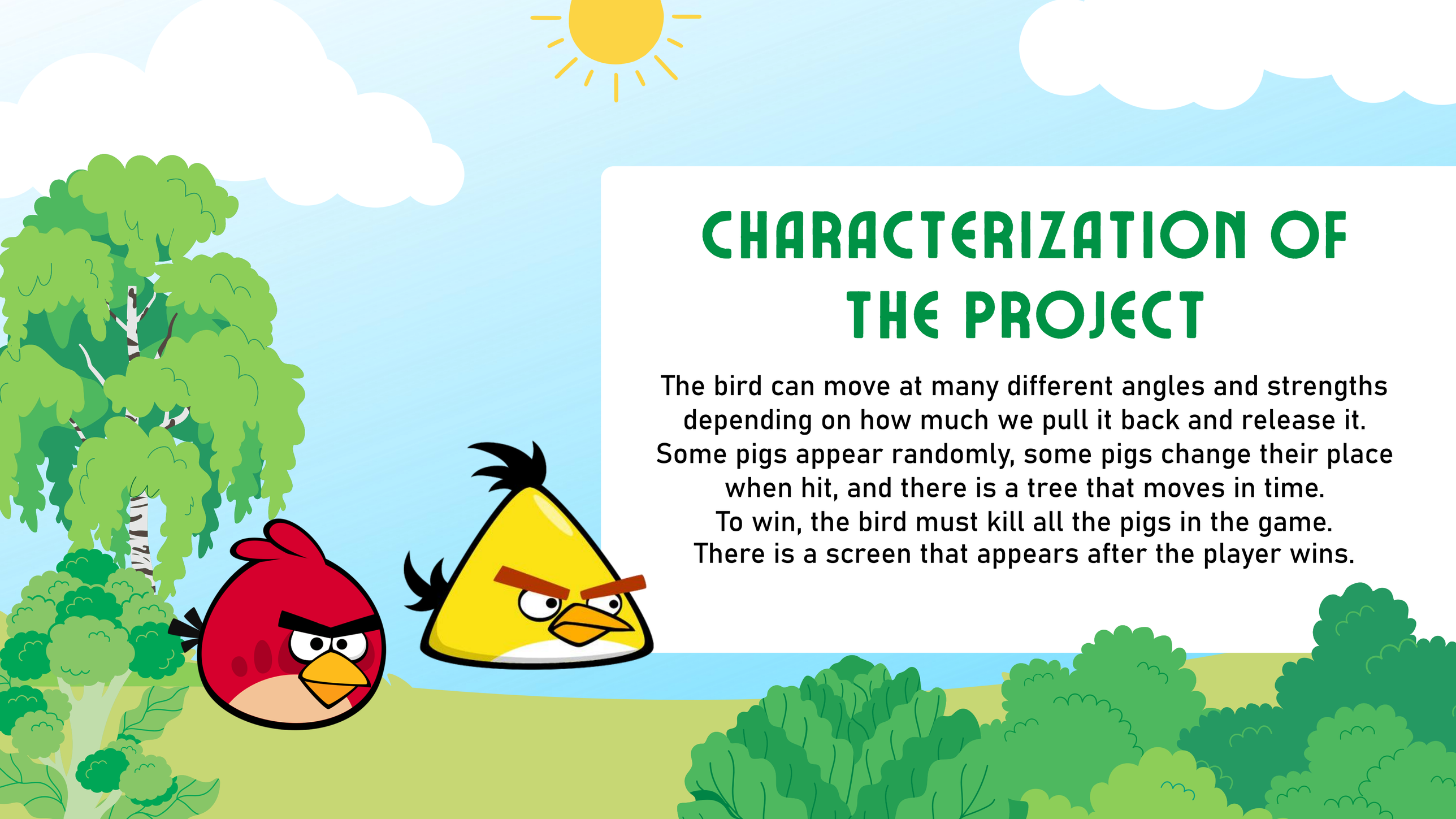




CHARACTERIZATION OF THE PROJECT

The bird can move at many different angles and strengths depending on how much we pull it back and release it.
Some pigs appear randomly, some pigs change their place when hit, and there is a tree that moves in time.
To win, the bird must kill all the pigs in the game.
There is a screen that appears after the player wins.

SYSTEM INTERFACES

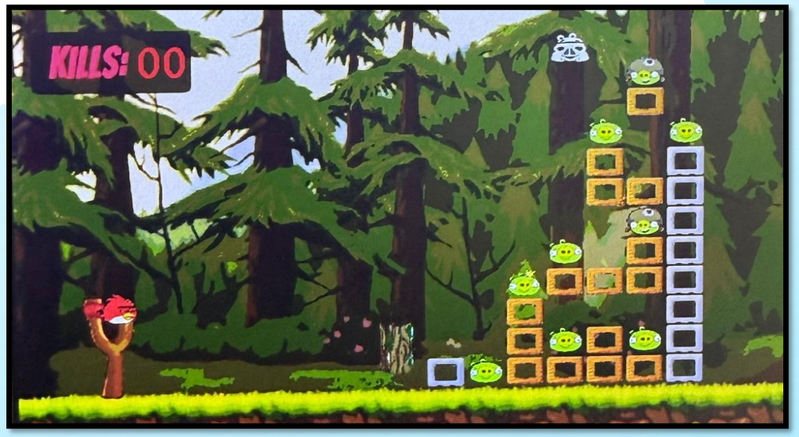
מקלדת-ממשק משתמש

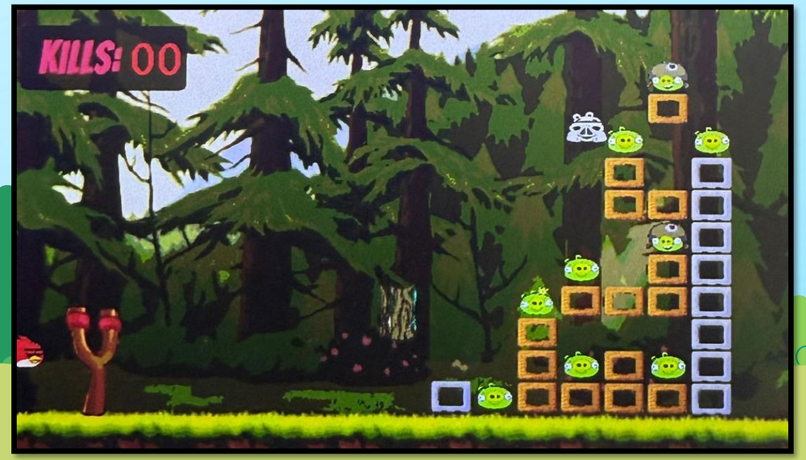
כרטיס פיתוח מריץ את הפרויקט

מסך לתצוגה

רמקול

SCREENSHOTS OF THE GAME





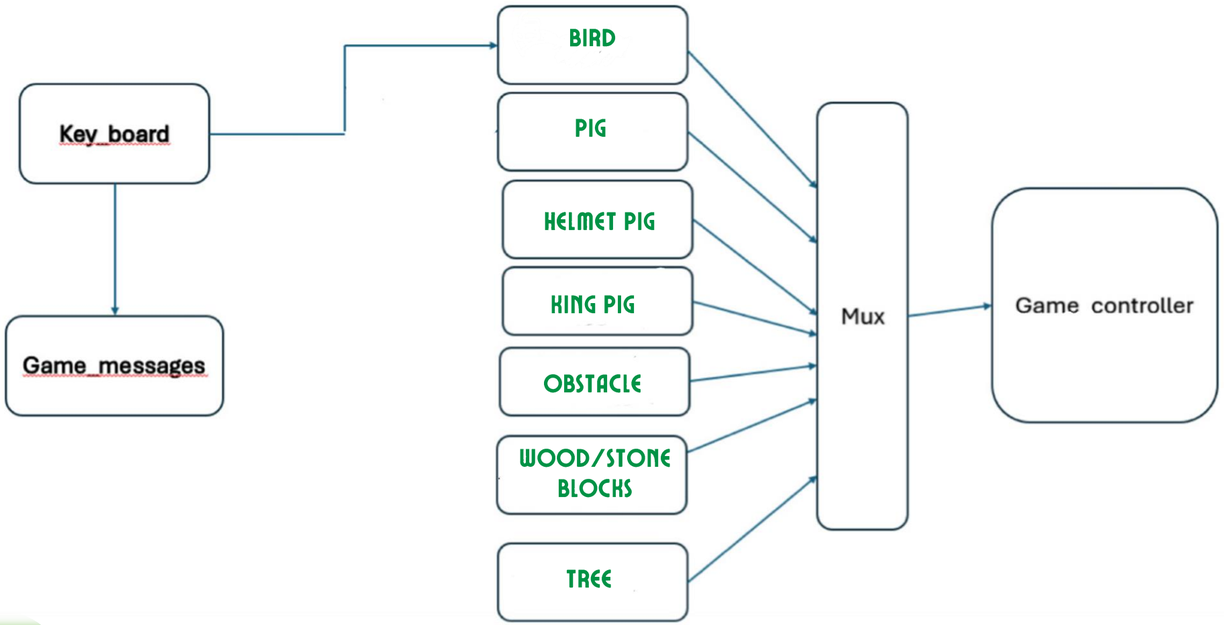
OPERATING INSTRUCTIONS

WHEN YOU STRETCH BACK, IT INCREASES THE STRETCH UPWARDS.

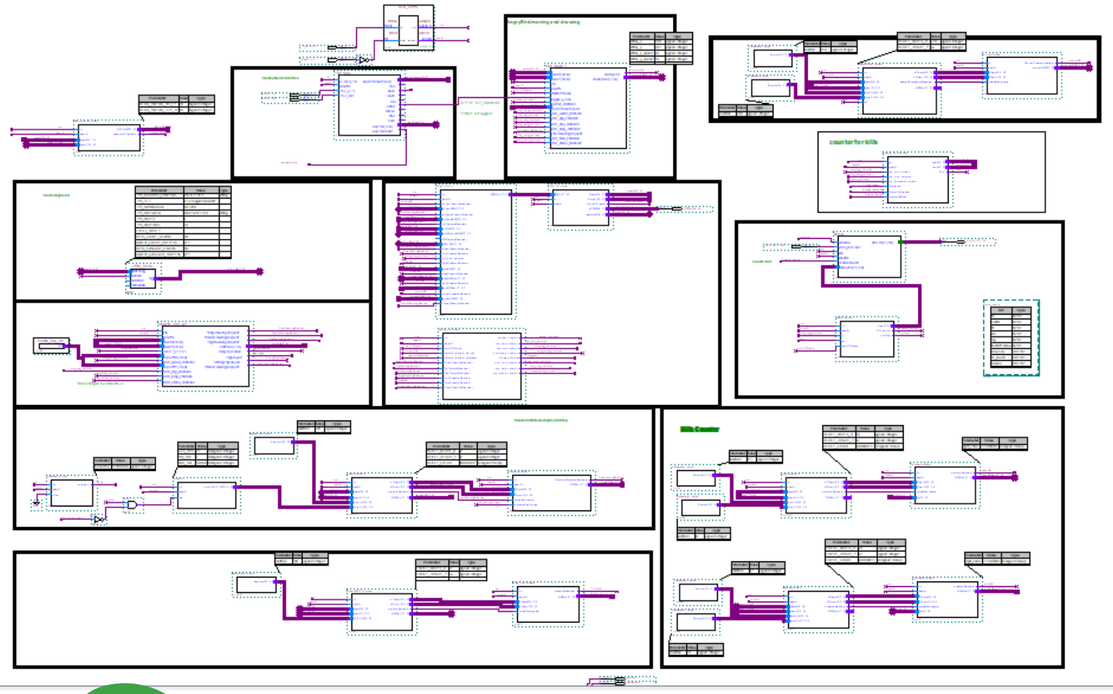
WHEN YOU PULL BACK, THE TENSION DROPS DOWN.

MOVE BACKWARDS AND WHEN RELEASED IT SHOOTS.

RECTANGLE SCHEME



UPPER HIERARCHY



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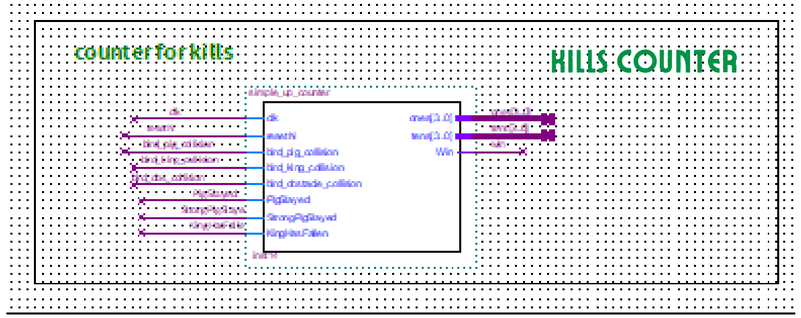

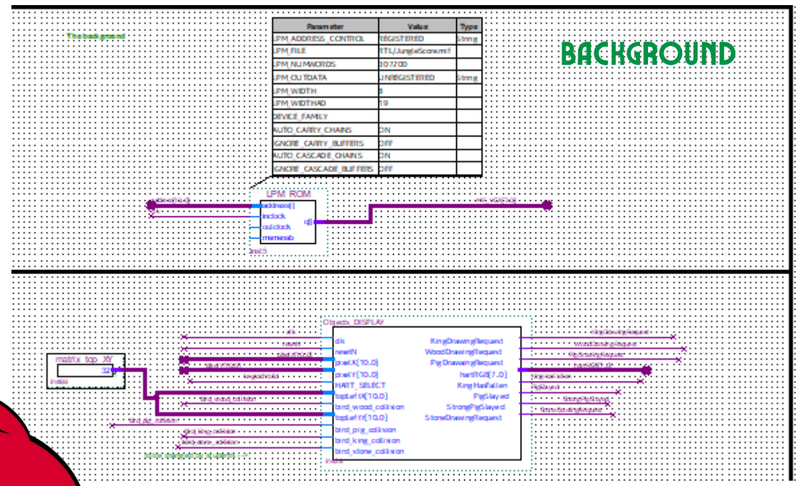

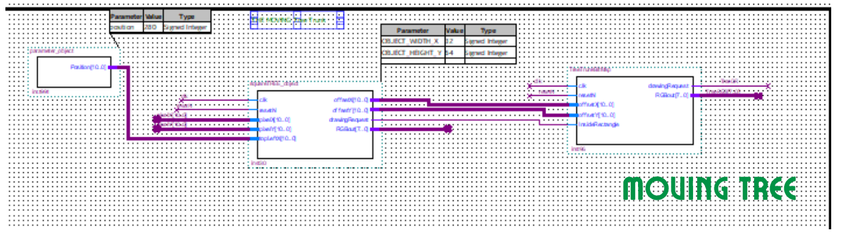

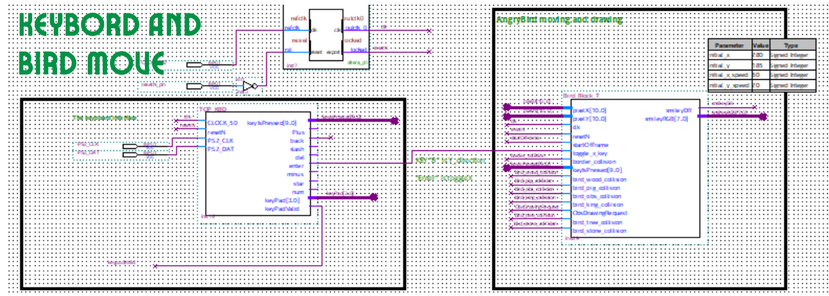

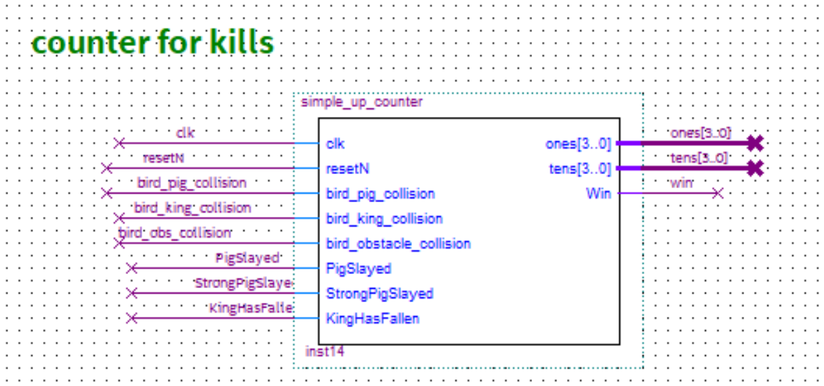

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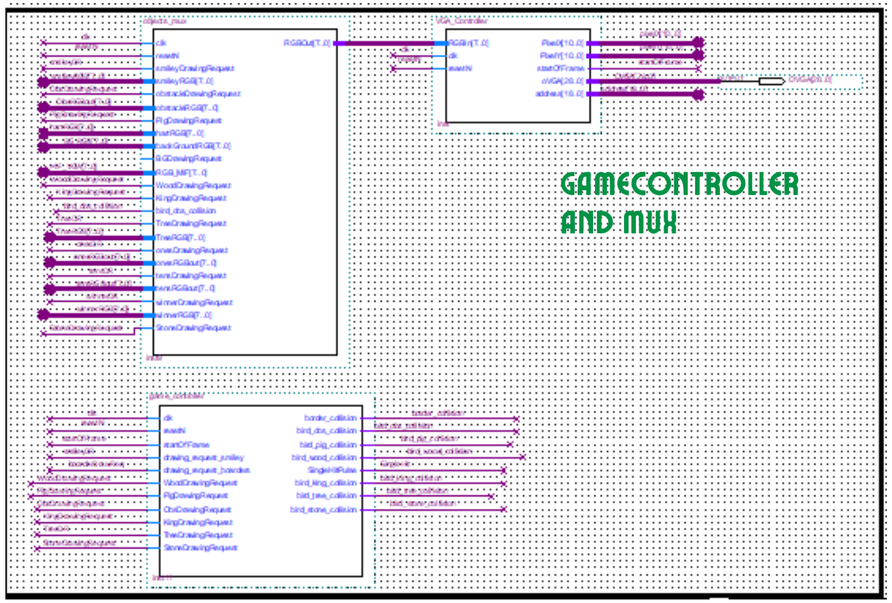
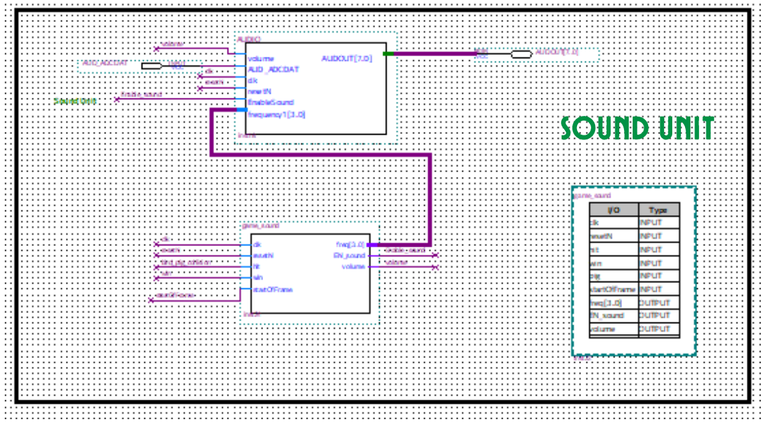
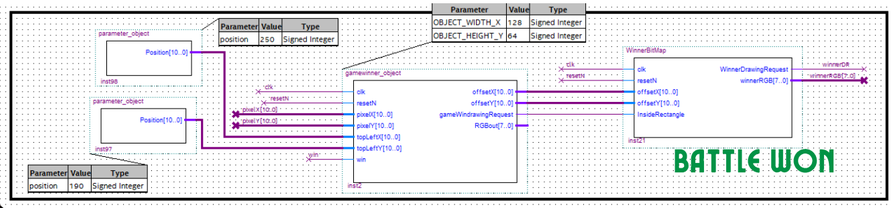
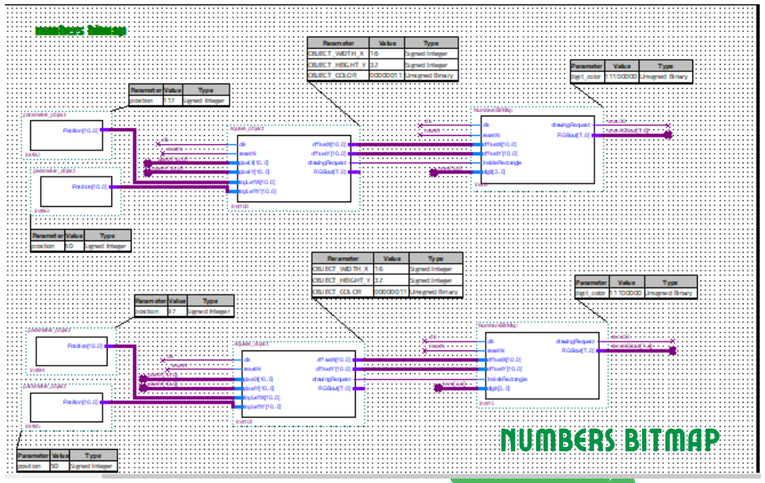
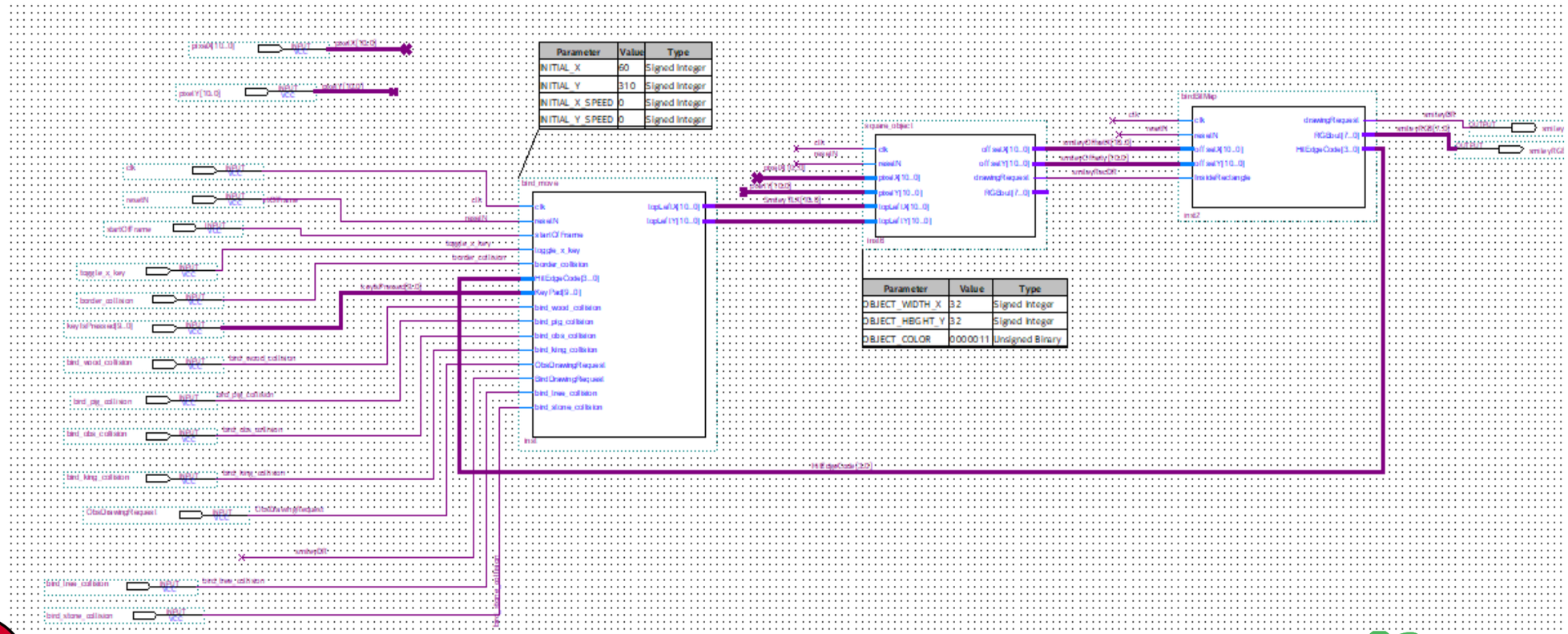








FIRST MODEL – THE BIRD



FIRST MODEL - DESCRIPTION OF THE MOVEMENT

Bird Move → **Square_Object** → **Bird BitMap**

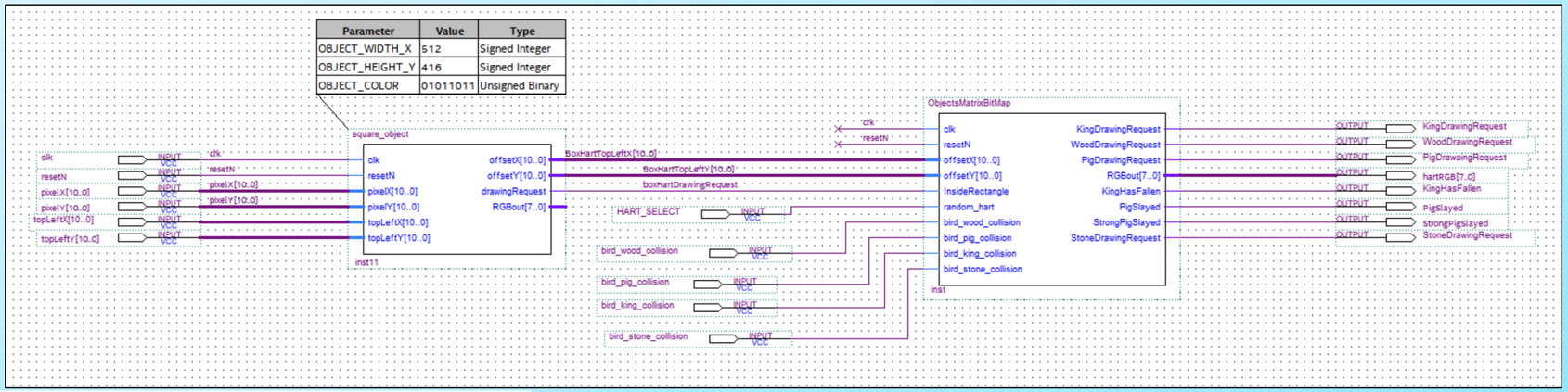
In this model, we simulated the bird's movement through a state machine that moves the bird according to the key on the keyboard, and we handled the launch force and the coils at different angles, as well as collisions with the boundaries so that the bird does not exceed the screen.

This model takes the upper left corner of the player and determines the area in which we draw the bird.

This model is responsible for drawing the bird according to the bitmap.

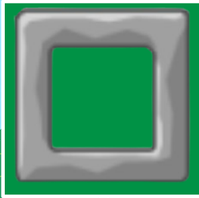
OBJECTS_DISPLAY

Model Two – Pigs+Blocks



GETS DAMAGED

TELEPORTS 2 TIMES



GETS DAMAGED

PURPOSE:

HOW THE MODEL WORKS?

BLOCK is 32*32 pixels

Matrix is 16 rows and 16 col

640*480 → 512*416

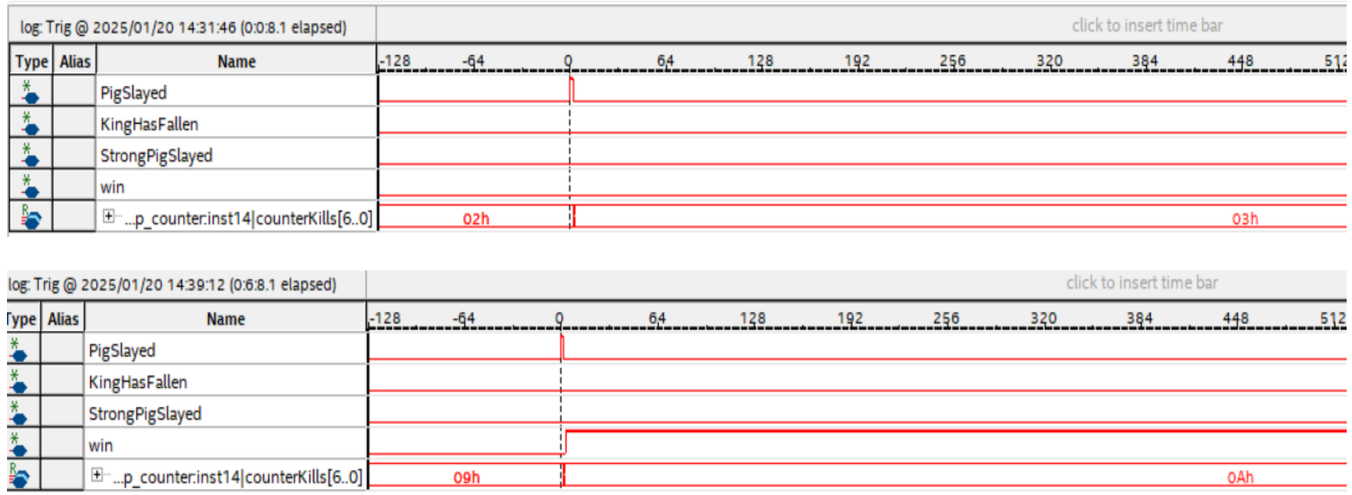
USE

מקבל את הזווית השמאלית העליונה

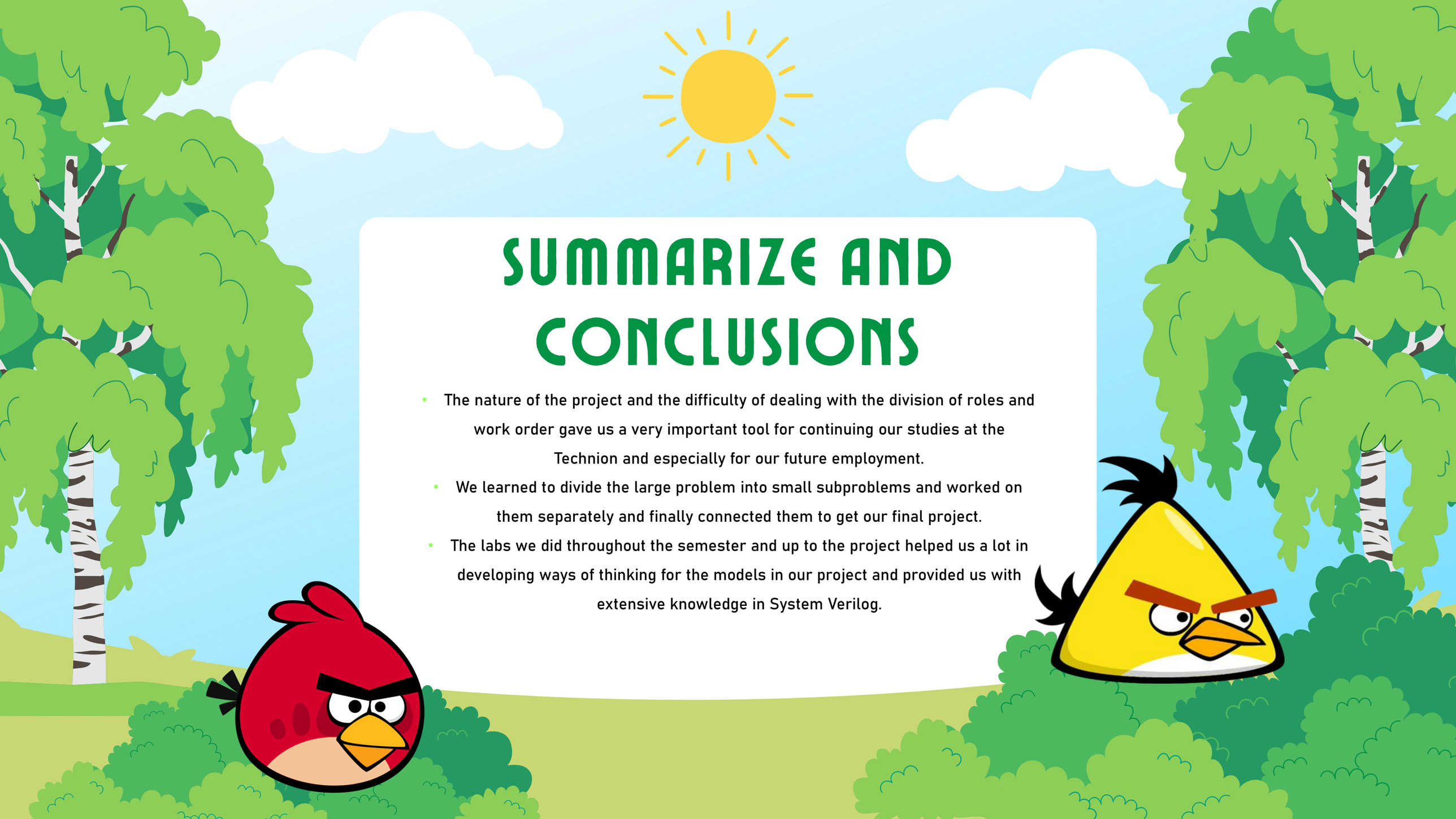
אחראי על ציור
וסדר האובייקטים

0	0	0	4	0	0	0	0
0	0	4	1	4	0	0	0
0	0	3	3	3	0	0	0
0	0	1	2	1	0	0	0
0	0	3	3	3	0	0	0
0	0	1	2	1	0	0	0

SIGNAL TAB



You can see how the bird's kills counter mechanism works so that after each time a pig dies, the counter increases by one, and only on the tenth and final hit do we see the win sign increase.



SUMMARIZE AND CONCLUSIONS

- The nature of the project and the difficulty of dealing with the division of roles and work order gave us a very important tool for continuing our studies at the Technion and especially for our future employment.
- We learned to divide the large problem into small subproblems and worked on them separately and finally connected them to get our final project.
- The labs we did throughout the semester and up to the project helped us a lot in developing ways of thinking for the models in our project and provided us with extensive knowledge in System Verilog.