

COAL Project

In COAL term project you will be creating the **Angry Bird** game. You must have played before, if not check the video tutorial available here:

<https://www.youtube.com/watch?v=1Kvh2dULWxA>

Group Mechanism:

You will be working in group of 3 (of your choice) for developing this project. However, along with team evaluation each member will be evaluated individually as well. I emphasize again, each group member will be evaluated individually.

Project Deliverables:

The Project is divided in 2 modules are listed as follow:

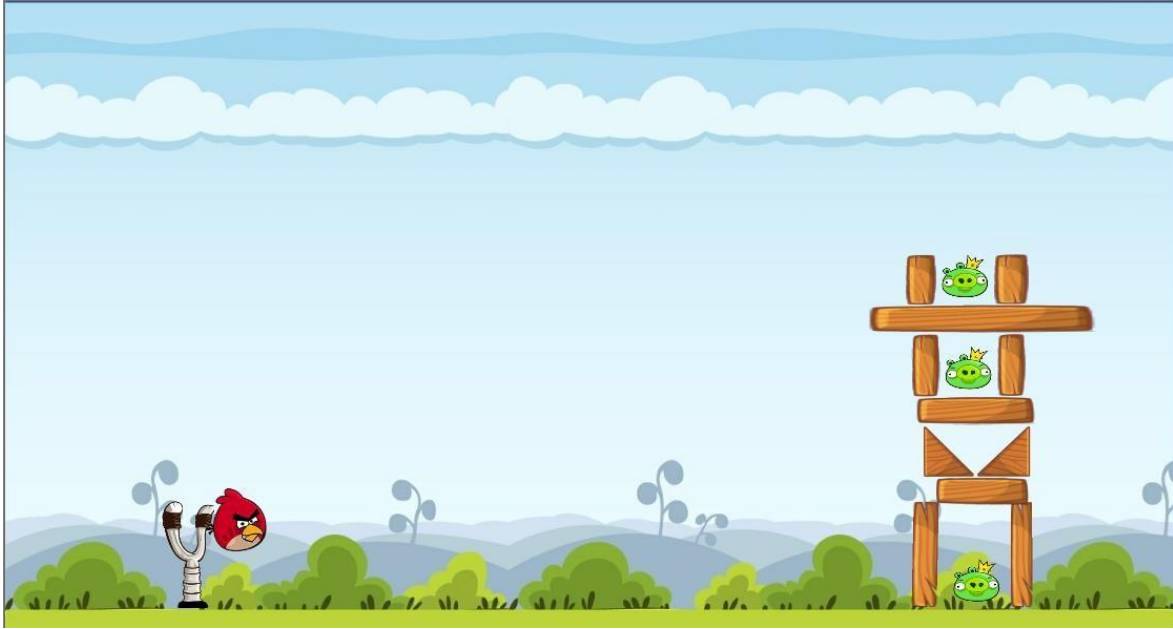
1. Designing User Interface (background and foreground objects)
2. Objects interactions & putting everything together

Each module will have a deadline and separate evaluation.

Module 1: Designing UI

Deadline: Monday 8th December, 2021

In this module you will design the graphics of the screen. Graphics include landscape/background and the objects. An example is given in the following image:



The background and foreground of the game changes according to the level complexity. The higher the level the higher will be the complexity level of the game.

Minimum Requirements of the Background:

- ✦ Base green grass
- ✦ light blue sky and
- ✦ 3 trees

Minimum Requirements of the Foreground:

- ✦ An angry bird of your choice
- ✦ A bow (for starting point of the bird)
- ✦ 10 bricks, try making it like the picture above
- ✦ Score mentioned at the right side of screen (Consider it a static 2 digits number for now)

Your task is to design a static background and foreground of the Angry Bird game with the minimum level of the complexity mentioned above.

Group Task Division:

Important: You need to divide task among your group members. The division mechanism is here:

1. Group Member 1: Works on the Background & Merging of other members tasks.
2. Group Member 2: Design Foreground Objects (Angry Bird, Bow, and Score Printing).
3. Group Member 3: 10 Blocks/ Bricks.

Make sure to send your Names with the task a group member will be doing in module 1 in a shared sheet.

You will be evaluated accordingly.

Make sure to merge all Background and Foreground objects in one program in the submission file.

Bonus: The more complex and dynamic background you can make the more marks you will get. So go ahead with creativity.

Note: Make individual foreground objects (angry bird, rectangular brick, triangular brick) by passing position parameters, not static position, the more dynamic you will make, the easier will be in the future modules to move these objects.

MODULE 2: Movements of Bird and Blocks and Merging Everything Together

Deadline: Thursday 23rd December 2021

(Because the evaluation will be 24th or 25th December)

In this module, you'll have to add the movements for the bird and disappearance of the blocks and update score and time. Using arrow keys, the direction of the bird can be adjusted. (The movement can be in a straight line). Moreover, a score should be displayed, that keeps on getting updated each time a block is hit.

Key Interrupts: -

Right Arrow – To release the Bird

Left Arrow – To move the bird in a ready to release state

Up & Down Arrow- To adjust the height of the bird

Minimum Requirements: -

1. A bird should be in a ready to release state before being fired. (Cannot be released in the initial position. Left Arrow should be pressed once to move it a step back and after setting the appropriate height, the bird could be released).
2. The movement should be a straight line (Moving the bird in a curve would be a plus).
3. There would be 10 tries per game. The score for each consecutive hit would be as follows

1st 9 POINTS

2ND 19 POINTS

3rd 29 POINTS

(Add Ten Points on next Hit).

4. Add randomness in the movement of angry bird. There will be multiple directions possible for a bird movement from bow to blocks. If the angry bird hits the block, the corresponding block will disappear, and marks will be updated.

5. Calculate time spent before the bird release, if the bird is not released from the bow for about 30 seconds, then the bird will be automatically died.

This module should contain a complete working game.

(Best of Luck)