

# **Islamic University Of Technology**

**Department of  
Computer Science & Engineering**

***CSE 4202 : Semester 2 Project***

**" The Journey Of Miles "**

**Team Members:**  
**(CSE Section-2, Group-2A)**

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- 2. Sahab Al Chowdhury (200041255)**
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It is a story based project.

Miles has to win in a tic-tac-toe game to get money for going on an adventure trip.

There Miles is caught by a monster who tells her to win in a snake game in order to be set free.

# ***Features in Tic-tac-toe***

- Timer: There will be a timer of 5 seconds for each move.
- Advantage move: If a player fails to place a move within this time, the other player will get the chance to place a move in any position except his/her own previous positions.
- Replay mode: At the end of the game, the players can re-watch the gameplay.
- Beeping sound & color: There will be a beep for each move and during result disclosure. The symbols (X and O) will be colored.

## ***The game will look like this:***

```
Tic Tac Toe

Player 1 - Miles(X)  -  Player 2 - Joe (O)

 1 | 2 | 3
---|---|---
 4 | 5 | 6
---|---|---
 7 | 8 | 9
  |  | 

Player 1:

Countdown begins, enter your move within 5 seconds!!!
Time Remaining: 5s
Time Remaining: 4s
Time Remaining: 3s
Time Remaining: 2s
Time Remaining: 1s
Alas, your time is up!!!

Advantage move (with no timer) for player 2:
```

# ***Features in Snake game***

- 3 levels of difficulty: Easy, medium and hard level.
- Obstacles: There will be several hindrances in the path of the snake in levels 2 and 3.
  - The border line will be the only obstacle in the first level.
  - In level 2, there will be 4 obstacles alongside the border. And the obstacles will be continuously moving from LEFT TO RIGHT direction.
  - In level 3, obstacles will be randomly generated and will move from LEFT to RIGHT. They will also get fixed in position.
- Color: The snake, target and obstacles will be colored.

# Level-1:

Score: 20

x

0

-

# Level-2:

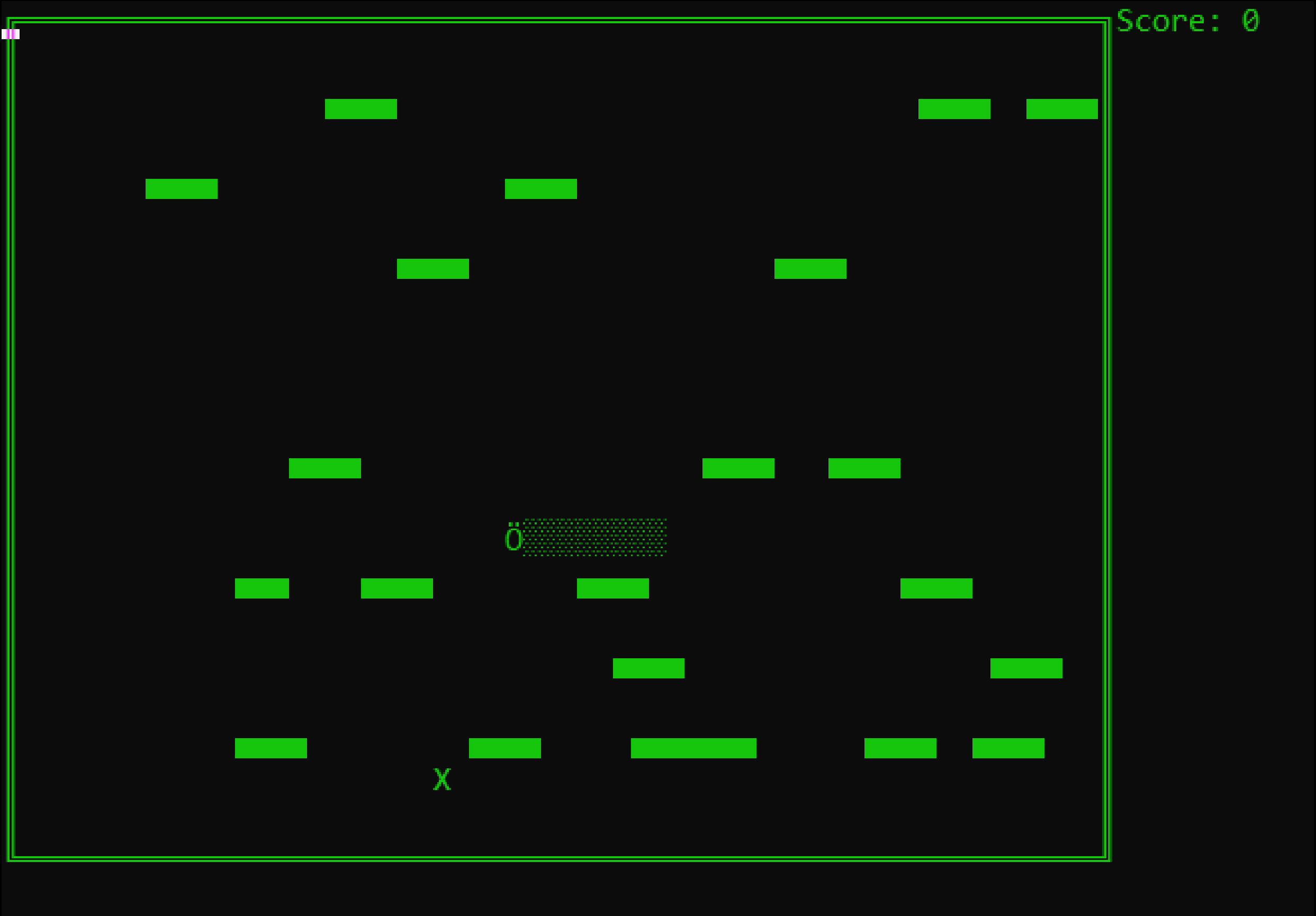
Score: 0

X

0



# Level-3:



***Feature initially proposed  
but not implemented:***

High score feature in snake game:

As this is a story based project, this feature being there is quite meaningless as the game has to be won only once to continue the story. There is no need to have a record of previous high scores.

## ***Challenges faced during project implementation:***

- Replay mode in tic-tac-toe:  
It was quite difficult to implement this feature as there was an inclusion of advantage move in the game which could replace previous moves of the other player.
- Obstacles and food getting overlapped in levels- 2 & 3 of snake:  
This led to the food getting suddenly disappeared from the console which was difficult to fix.

## ***Solutions taken to fix the issues:***

*Replay mode in tic-tac-toe:*

3 arrays were used to implement this feature - 'pos' (int), 'show' (char) and 'sq'(char). 'pos' stored the index of each move. 'show' stored the symbol for each move. 'pos' was used as the index of 'sq' which displayed the symbols stored in 'show' in the console, during replay.

```
sq [ pos [ j ] ] = show [ j ]
```

## ***Solutions taken to fix the issues:***

*Obstacles and food getting overlapped in levels -2 & 3 of snake:*

The entire grid was divided into 2 segments in terms of row number. One segment was for obstacles and the other for random food generation. The rows 1, 3, 5, 8, 10, 13, 15, 17 were fixed specifically for obstacles whereas the remaining were fixed for food.

## ***Individual team member contribution:***

Most of the functions and features were implemented working together as a team. But there were a few cases where a particular member made the major contribution, as follows:

Salvi (200041235): replay, advantage in tictactoe

Sahab (200041255): obstacles in snake , timer in tictactoe

Rafin (200041223): grid formation, movement of snake

*Thank  
you!*

Eid Mubarak in advance!