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Department: Computer eng.

Project name: Shell game.

Course name: Advanced programming

## 1-Project Topic and materials.

Shell game using JAVA SCRIPT, HTML and CSS.

## 2- Summary

A game, often a swindle involving gambling, in which a small ball hidden under one of three boxes, then shuffles them about on a flat surface while player try to guess the final location of the ball. Also called thimblorig.

## 3- Applied steps





1-filling boxes array with 4 boxes placed in the screen.

2- adding position attribute for each box that determine current positron.

3- moves done by using transform property in CSS.

4 transform move the object from initial place to destination and does not keep the new position

### Boxes initial position

positions	Position 0	Position 1	Position 2	Position 3
Initial position	Position 0 for boxes[0]	Position 0 for boxes[1]	Position 0 for boxes[2]	Position 0 for boxes[3]
				
boxes	boxes[0]	boxes[1]	boxes[2]	boxes[3]
initial position in px	0px	300px	600px	900px

5- adding different position array as attribute for each box as shown below to move boxes to desired positions

#### Moving boxes from initial positions to destination

Move to	Position 0	Position 1	Position 2	Position 3
box[0]	0px	300px	600px	900px
box[1]	-300px	0px	300px	600px
box[2]	-600px	-300px	0px	300px
box[3]	-900px	-600px	-300px	0px

For example: general move statement :

```
box.style.transform ="translateX("+box.boxPositions[position]+"px)"
```

to move box [0] to second position

```
box [0] .style.transform ="translateX("+600)+"px)"
```

to move box [3 ] to second position

```
box [3] .style.transform ="translateX("+-300)+"px)"
```

6- placing ball in random position and keep the position until player select the box and show the result

7- basic functions used in the game

- swap :generate 2 different random positions and shuffle boxes located at that positions and update boxes new positions
- multiple swap: unlike default do multiple swaps in order( synchronously)

8– levels in the game

Easy: only 3 boxes with 1 second duration for each swap and only 5 shuffles.

medium: 4 boxes with 1 second duration for each swap and 10 shuffles.

hard: 4 boxes with 0.5 second duration for each swap and 15 shuffles.

4- screenshots:

