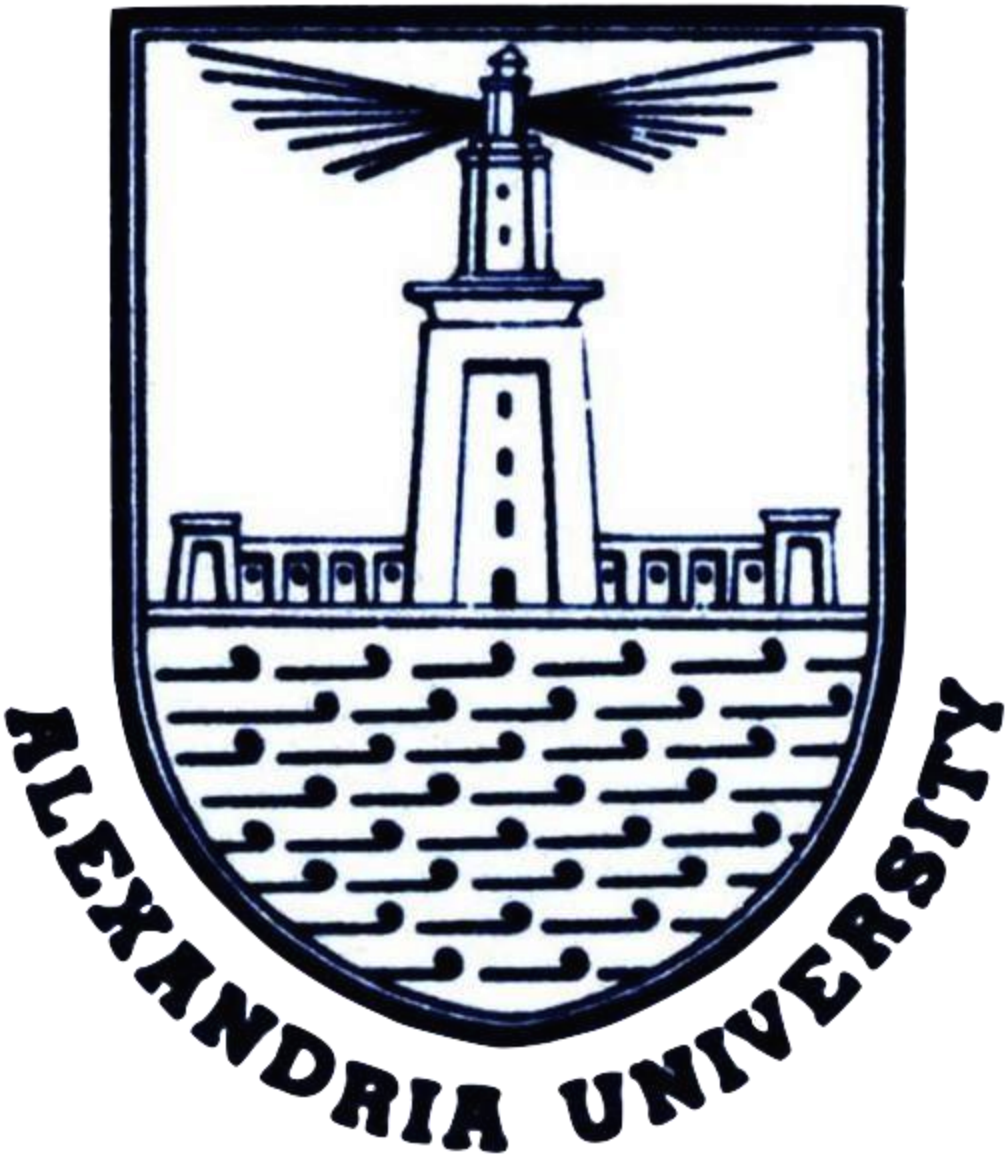
Multimedia Systems



Project 2 Report

Team Members:

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Project Description:

- You are the Nyan cat and you want to escape from these crazy planets. Run as much as you can and destroy them whenever possible.

Logic used:

Logic in this game depends mainly on modularity. A cat is driven across a world meeting flying objects. Collision detection is used to decide whether the cat collides with planets or not and to decide if these planets collide with the rainbow produced from the cat. Explosions are used in an animated format. Once you lose your life you're dead. However, you can submit your score to the database and compete with others, and you'll have the chance to play another game to bypass your score.

Features Accomplished:

- Multi-player Mode. (In Progress)
- Single-Player Mode. ✓
- Audio Integration. ✓
- Animations & Transitions. ✓
- Multiple Stages. ✓
- Ability to pause the game. ✓
- Muting the sound. ✓
- Compatibility with Firefox, Internet Explorer, and Chrome. ✓
- Saving high scores in a database. ✓

Tools Used:

- Dreamweaver
- Sublime2 Text
- Xampp

Technologies Used:

- HTML5
- JavaScript
- Pixi

Code Snippets:

Function to animate the explosion:

```
function loaded(){
    for (var i=0; i < 26; i++) {
        var texture = PIXI.Texture.fromFrame("Explosion_Sequence_A " + (i+1) + ".png");
        explosionTextures.push(texture);
    }
}
```

Collision detection method:

```
function collides(a,b,range){
    var axoff=((a.scale.x*a.width)/2);
    var ayoff=((a.scale.y*a.height)/2);
    var bxoff=((b.scale.x*b.width)/2);
    var byoff=((b.scale.y*b.height)/2);
    var axmin=a.position.x-axoff;
    var aymin=a.position.y-ayoff;
    var bxmin=b.position.x-bxoff;
    var bymin=b.position.y-byoff;
    if(axmin+(a.scale.x*a.width)<bxmin-range  || bxmin+(b.scale.x*b.width)<axmin-range  || aymin+
        (a.scale.y*a.height)<bymin-range  || bymin+(b.scale.y*b.height)<aymin-range ) return 0;
    return 1;
}
```

Animating the background with respect to the difficulty represented in the ‘c’:

```
function animate_background(){
    if(isGameOver) return;
    bkgrnd2.position.y+=c;
    bkgrnd1.position.y+=c;
    if(bkgrnd1.position.y>=window.innerHeight)
        bkgrnd1.position.y=-window.innerHeight+bkgrnd1.position.y-window.innerHeight;
    if(bkgrnd2.position.y>=window.innerHeight)
        bkgrnd2.position.y=-window.innerHeight+bkgrnd2.position.y-window.innerHeight;
}
```

Handling key events (Pause – Mute):

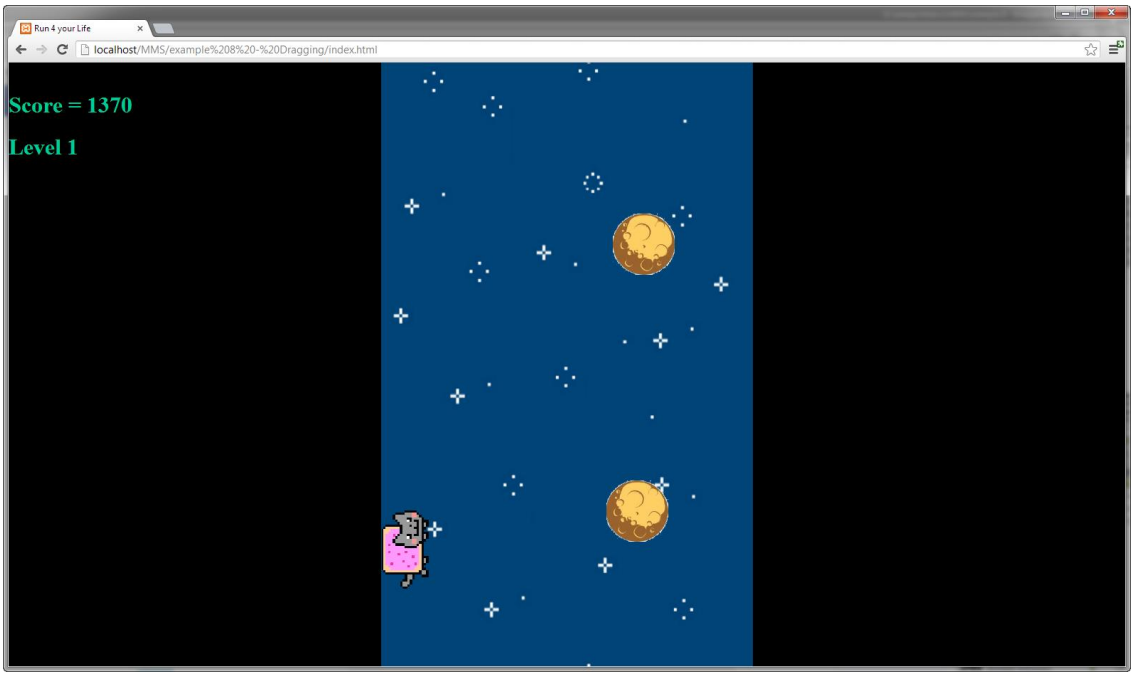
```
function keyDown(e) {

        if(e.keyCode == 77){
            var audioPlayer = document.getElementsByTagName('audio')[0];
            audioPlayer.volume= muteGame;
            muteGame^=1;
        }
        if (e.keyCode == 80)
            pauseGame = !pauseGame ;
            var audioPlayer = document.getElementsByTagName('audio')[0];

            if (audioPlayer.paused) {
                audioPlayer.play();
            } else {
                audioPlayer.pause();
            }
}
```

Updating the score:

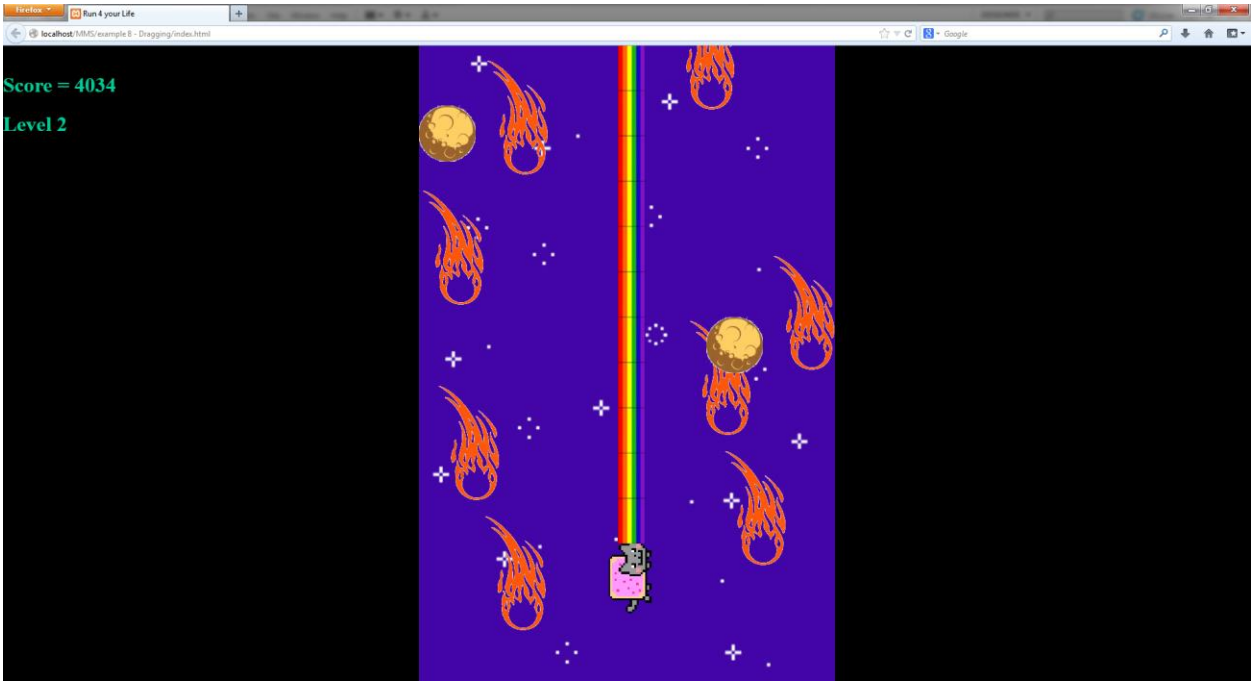
```
function updateScore(){
    document.getElementById('Score').innerHTML ='Score = '+score;
        document.getElementById('Level').innerHTML ='Level  '+(!levelChanged?'1':'2');
    if(score>3000){
        if(!levelChanged){
            levelChanged = true;
            while(stage.children.length>0){
            stage.removeChild(stage.children[0]);
            }
            bkgrnd1 = new PIXI.Sprite(PIXI.Texture.fromImage("background2.png"));
            bkgrnd2 = new PIXI.Sprite(PIXI.Texture.fromImage("background2.png"));
            bkgrnd1.scale.x=window.innerWidth/3/504;
            bkgrnd1.scale.y=window.innerHeight/772;
            bkgrnd2.scale.x=window.innerWidth/3/504;
            bkgrnd2.scale.y=window.innerHeight/772;
            bkgrnd1.position.y=0;
            bkgrnd2.position.y=-window.innerHeight;
            stage.addChild(bkgrnd1);
            stage.addChild(bkgrnd2);
        }
    }
}
```

Screen Shots:

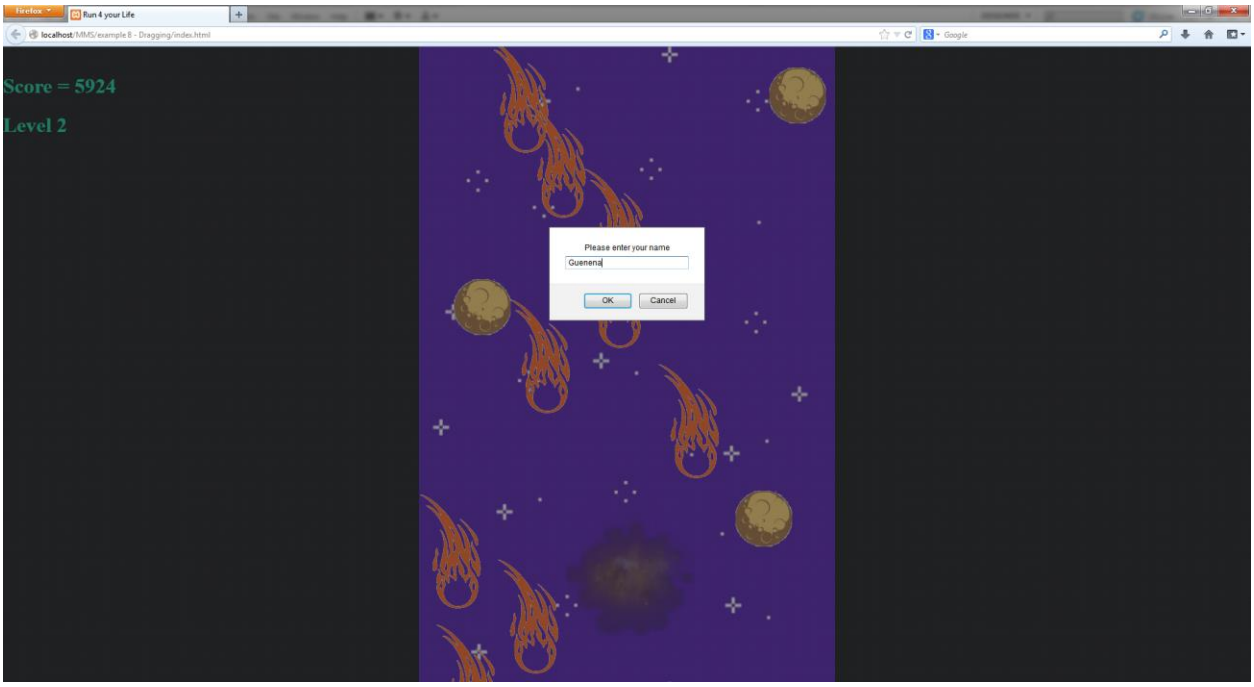
Chrome:



Firefox:



Saving High Score to Database:



I.E:

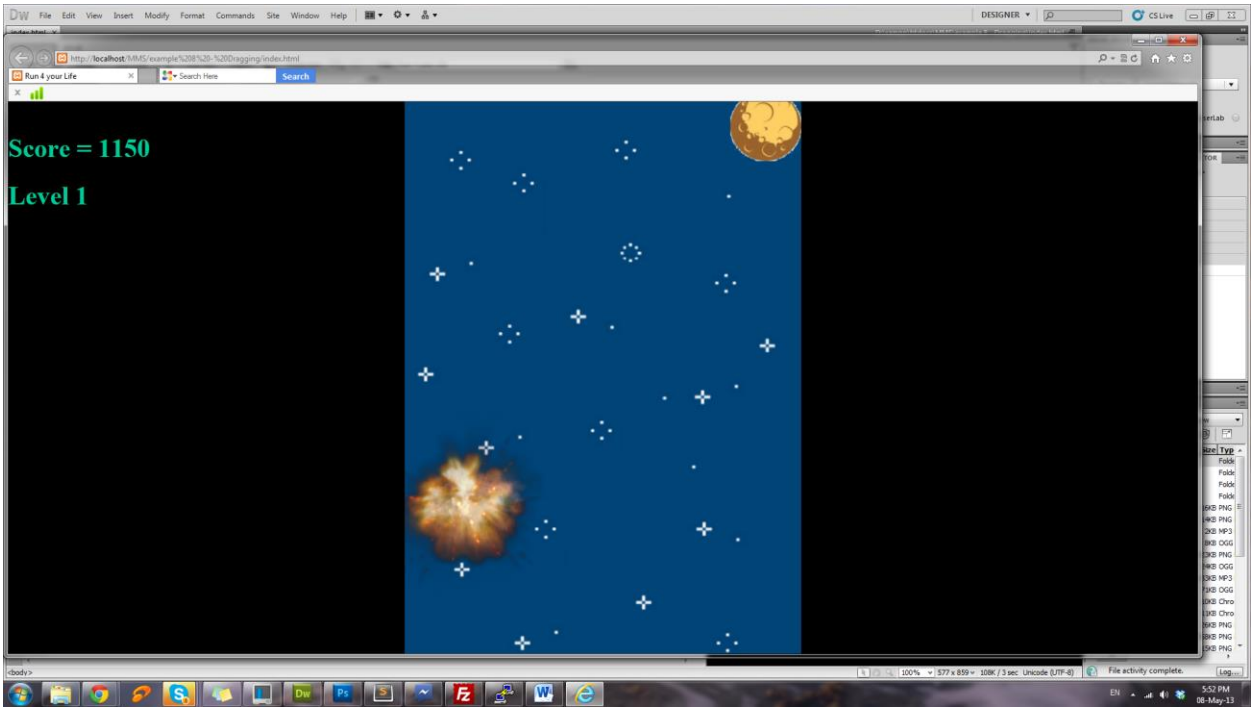


Table of high scores: