



DIVISION OF
DIGITAL CONTENTS
DONGSEO UNIVERSITY

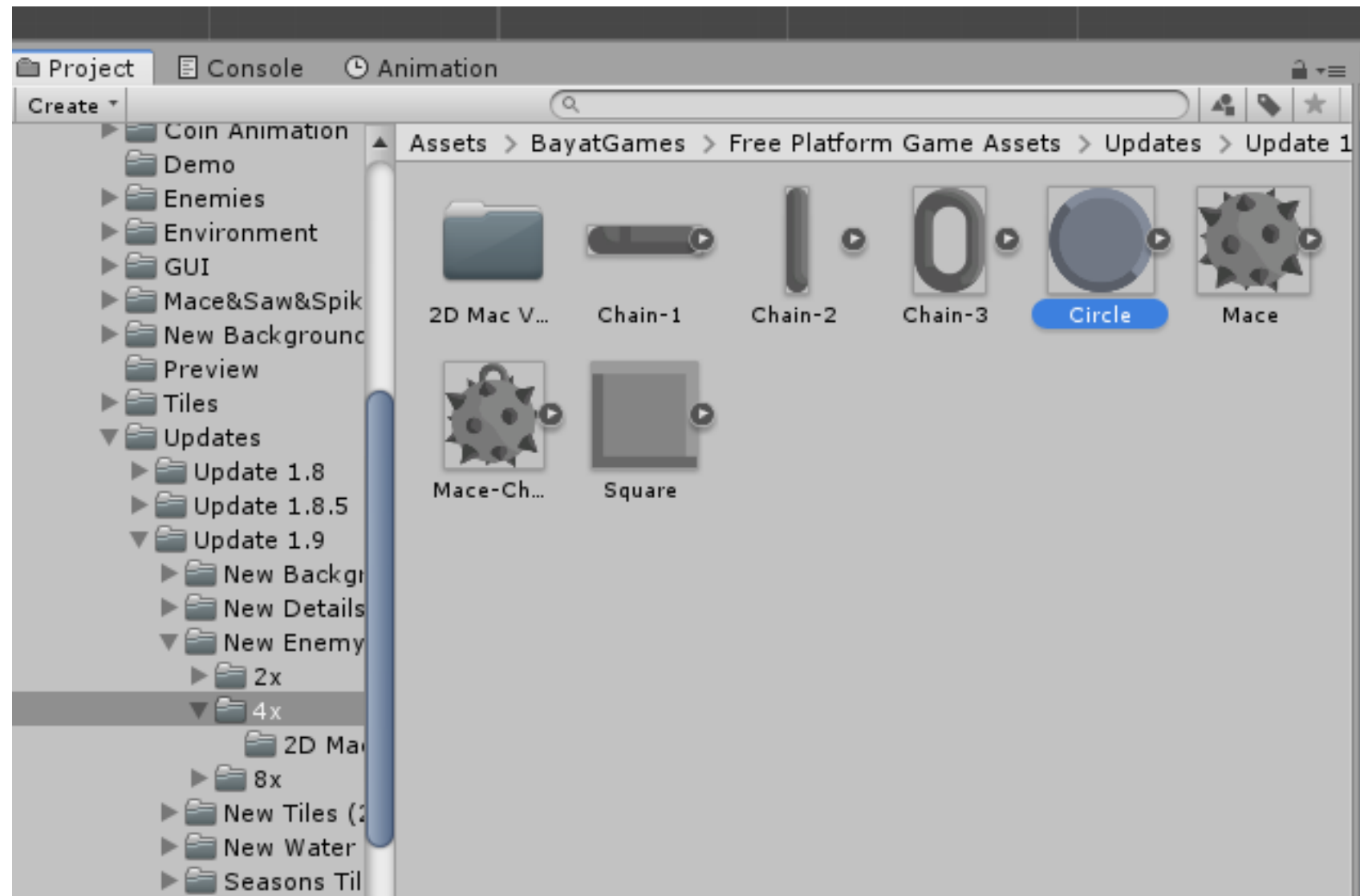
Dangerous Kave

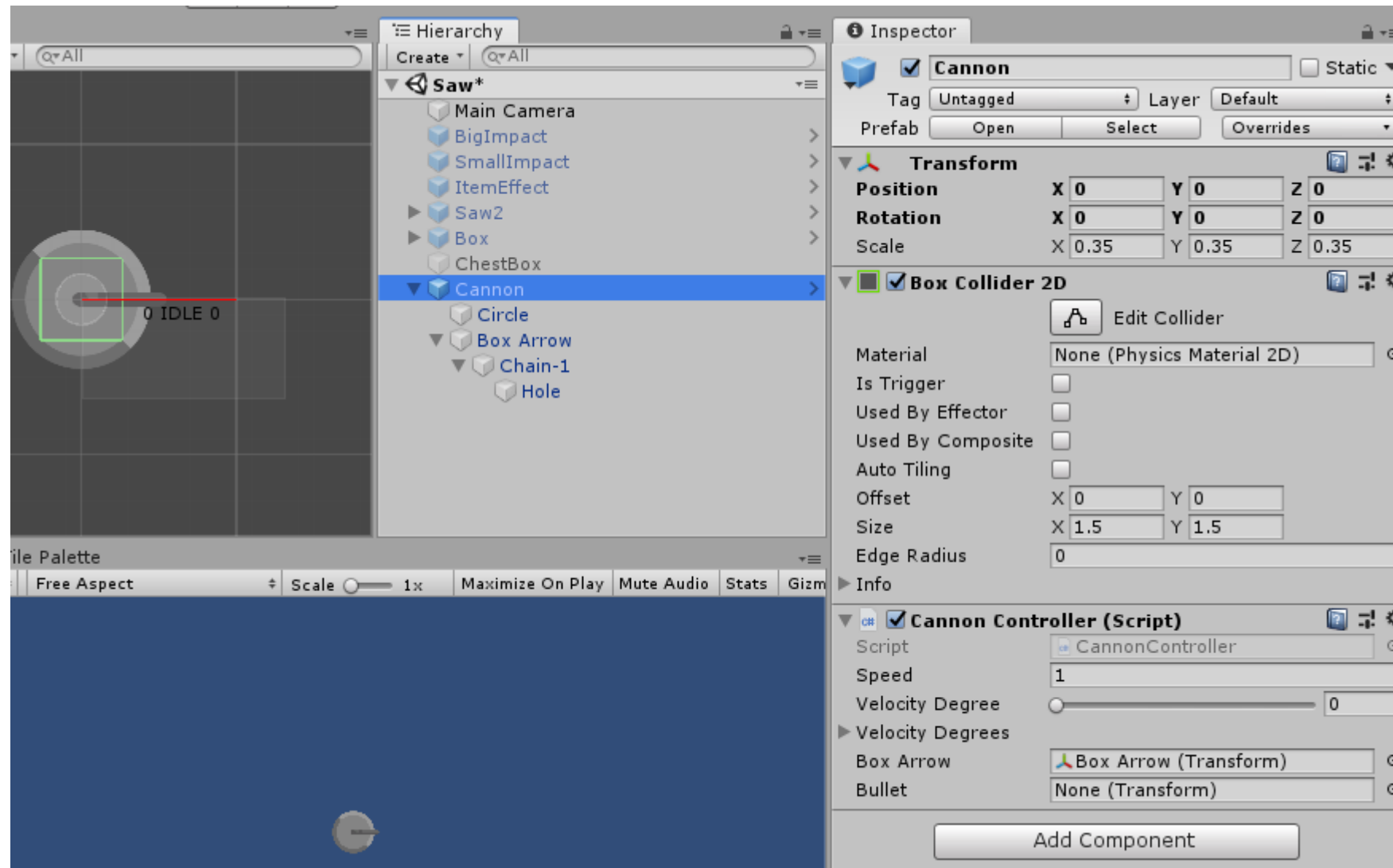
Cannon Mechanic

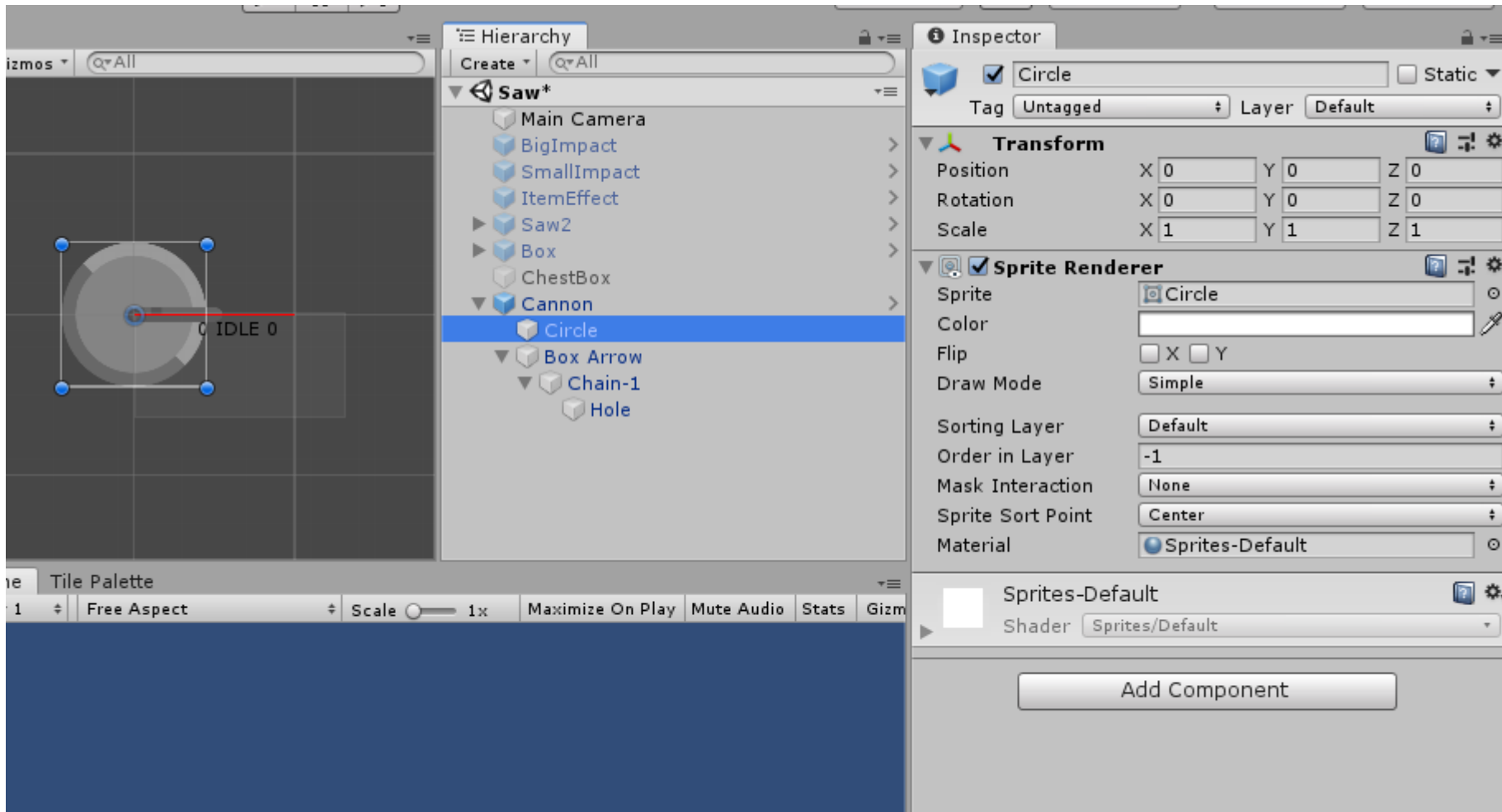
jintaeks@dongseo.ac.kr

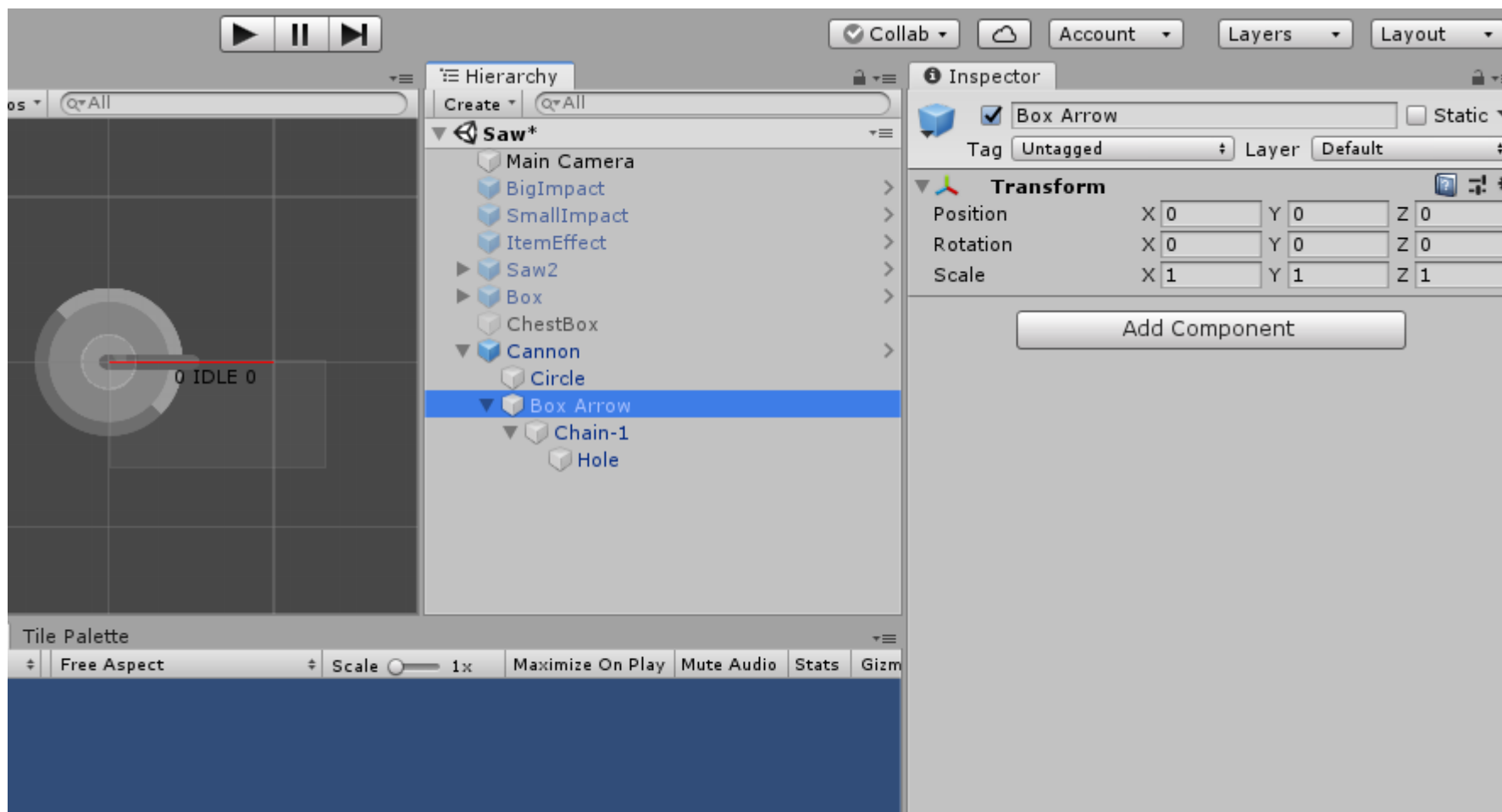
April, 2020

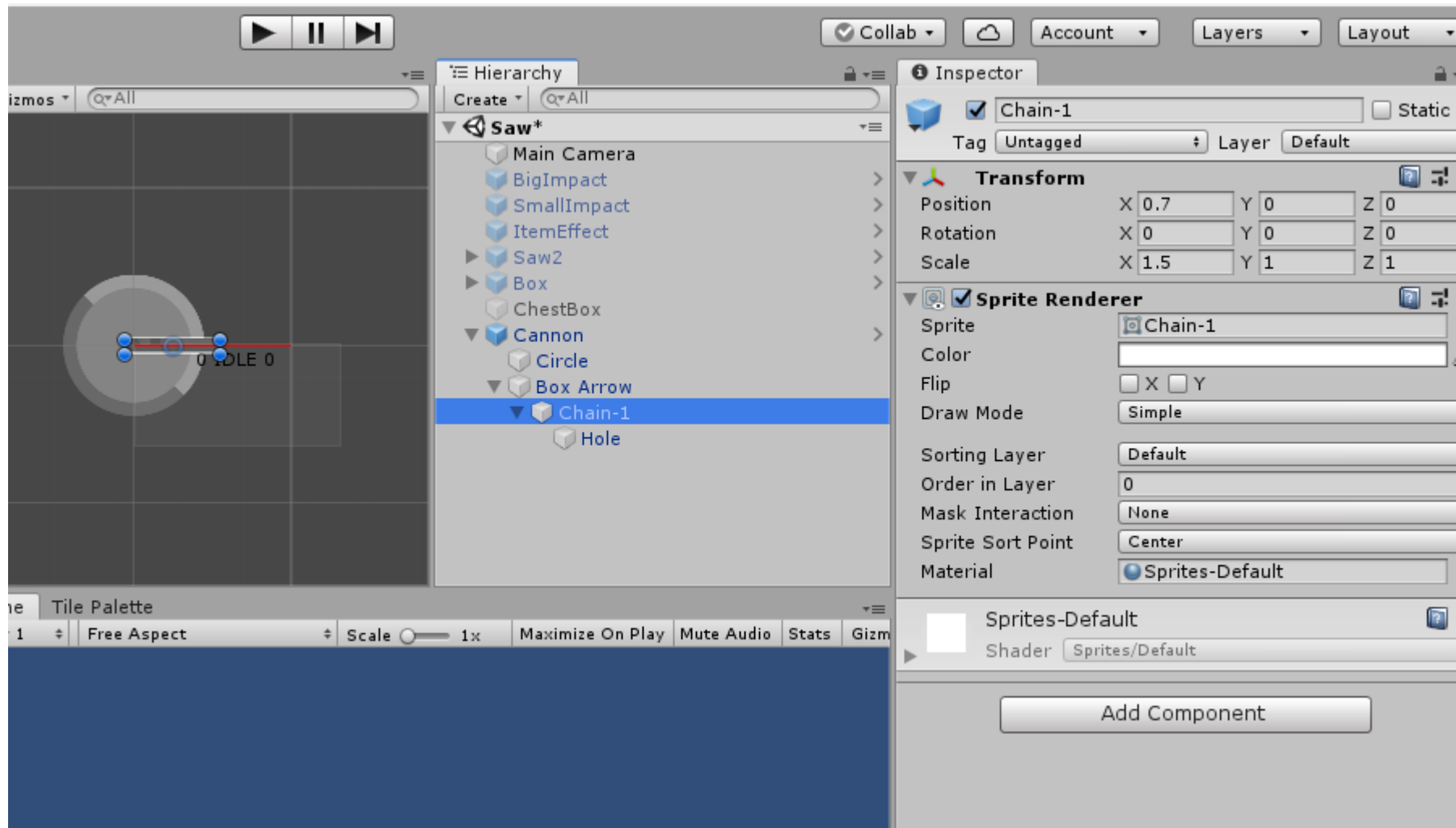
Cannon

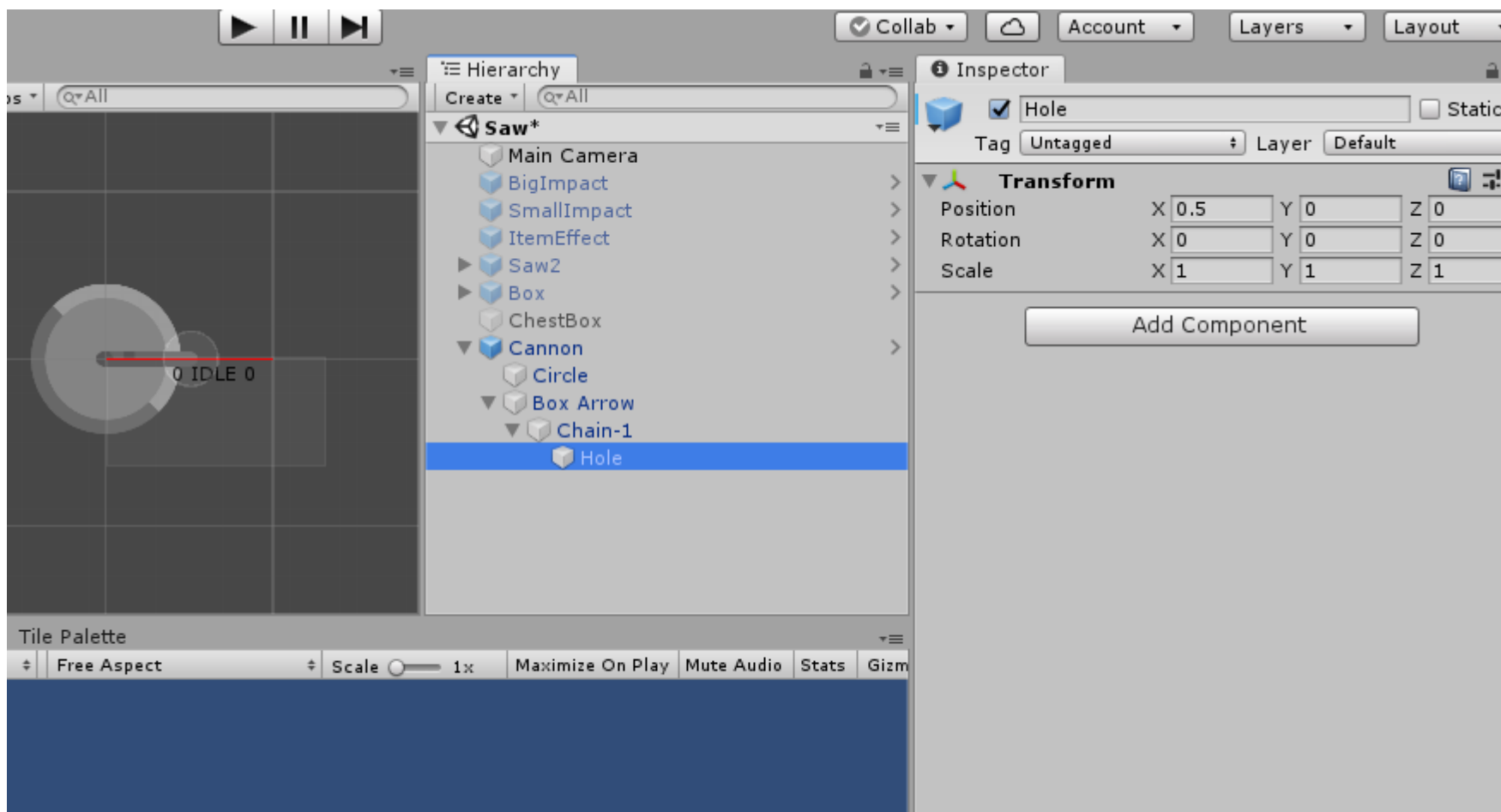




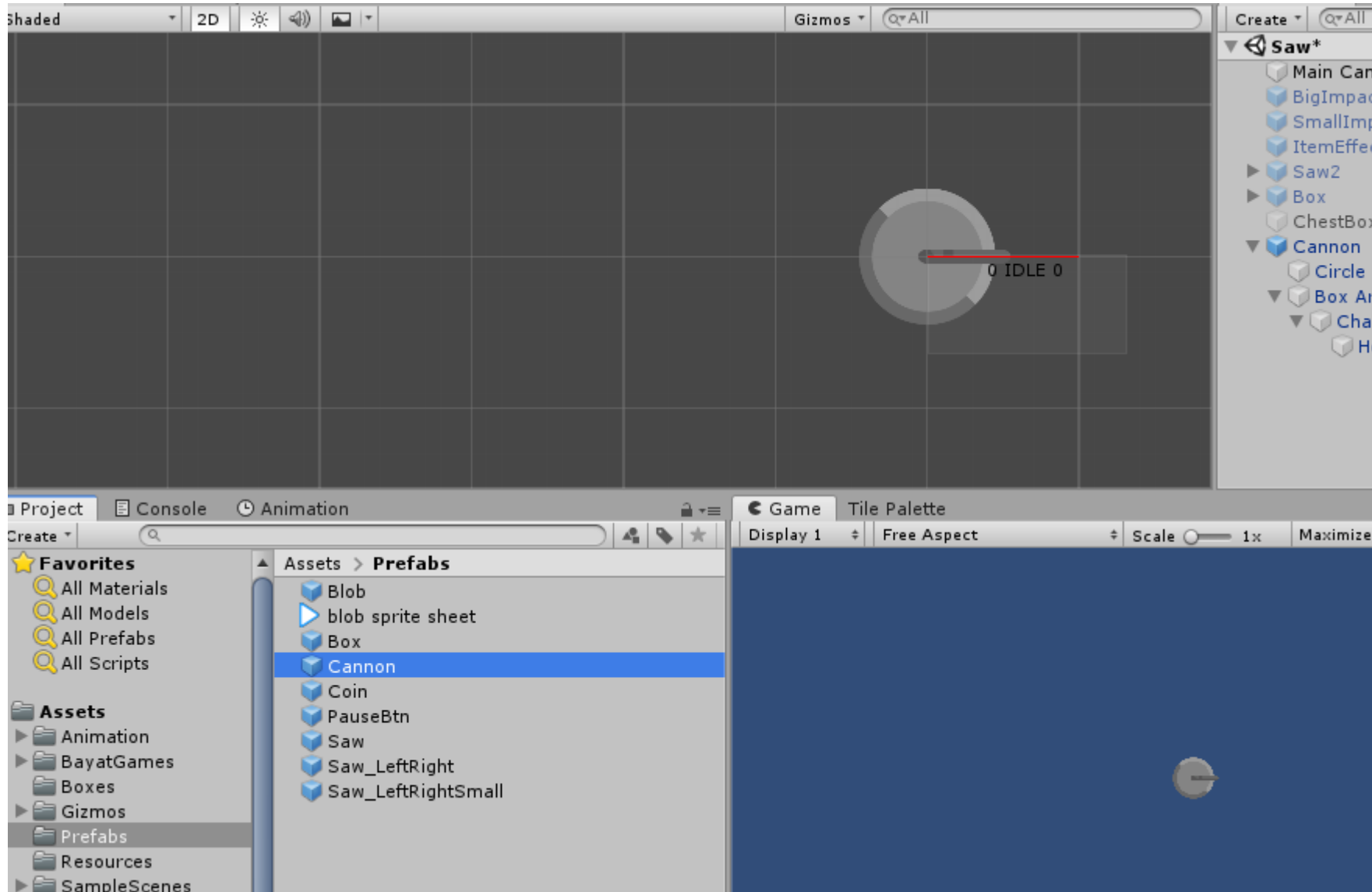








Prefab



BoxBehaviour

```
public class BoxBehaviour : MonoBehaviour
{
    ...

    public EState movingState
    {
        get { return _movingState; }
    }
}
```

```

void _Update_StateIDLE()
{
    // Retrieve all colliders we have intersected after velocity has been applied.
    RaycastHit2D[] hits = Physics2D.BoxCastAll(transform.position, _boxCollider.size, 0,
new Vector2(0, 0));
    if (hits.Length >= 1)
    {
        foreach (RaycastHit2D hit in hits)
        {
            // Ignore our own collider.
            if (hit.transform == transform)
                continue;

            if (hit.transform.gameObject.IsMovingObject())
            {
                bool isStopIterate = /*virtual*/OnStateIdle_Hit(hit);
                if( isStopIterate )
                    break;
            }
        }
    }
}

```

```
public void DoExternalCollision(GameObject gameObject)
{
    /*virtual*/OnExternalCollision(gameObject);
}
```

```
virtual public void OnUpdate(EState movingState, float stateTimer) { }
virtual public void OnPreCollision(){}
virtual public void OnOverlapped(Collider2D hit, ColliderDistance2D
colliderDistance) {}
virtual public void OnPostCollision(){}
virtual public void OnStart(){}
virtual public bool OnStateIdle_Hit(RaycastHit2D hit){return false;}
virtual public void OnExternalCollision(GameObject gameObject) { }
```

BoxController

```
override public bool OnStateIdle_Hit(RaycastHit2D hit)
{
    base.SetState(EState.MOVING);
    return true;
}

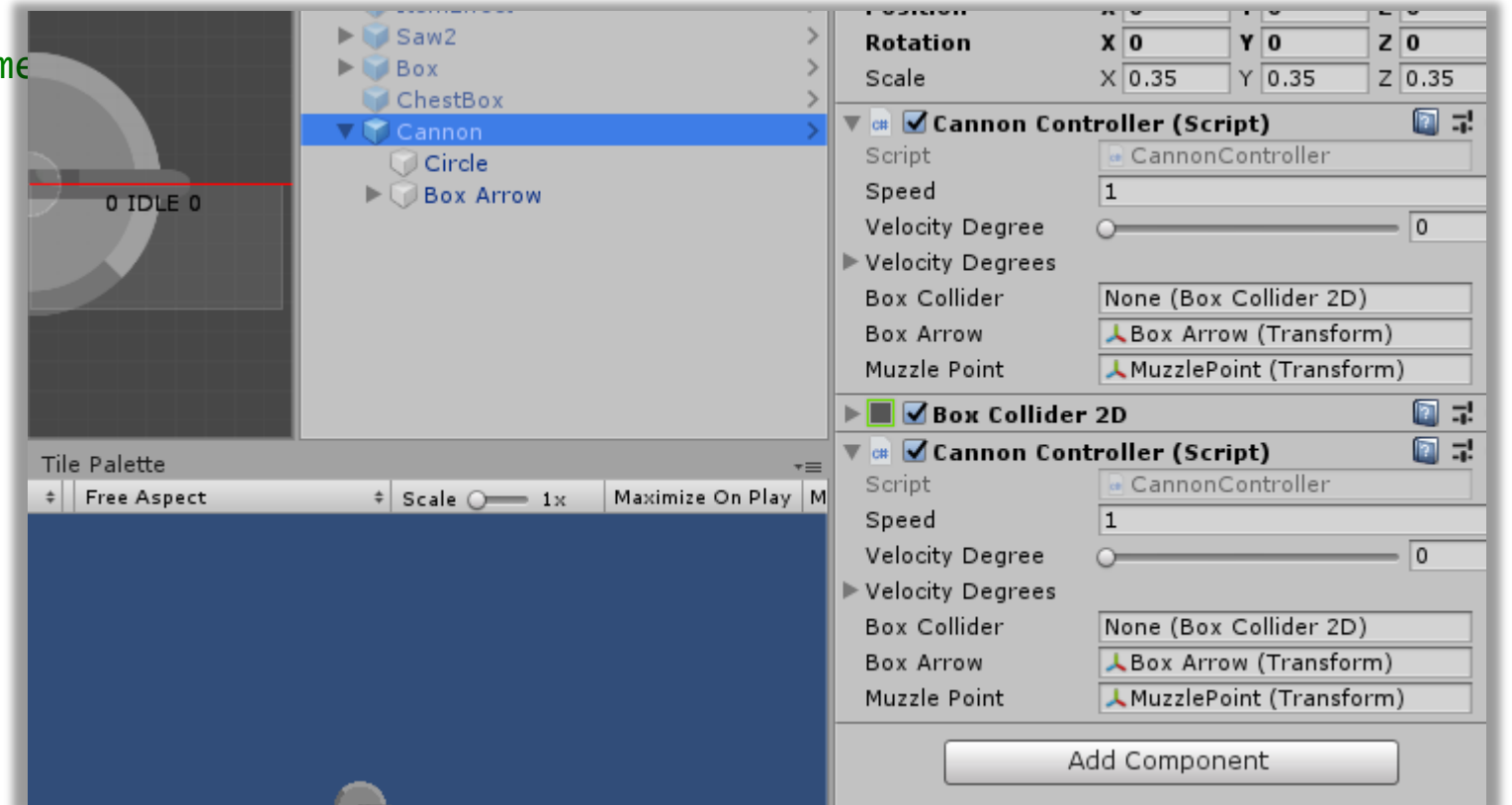
override public void OnExternalCollision(GameObject gameObject)
{
    if (gameObject.CompareTag("Player"))
    {
        if( base.movingState == EState.IDLE )
            base.SetState(EState.MOVING);
    }
}
```

CannonController

```
using System.Collections;
using System.Collections.Generic;
using UnityEngine;

public class CannonController : BoxBehaviour
{
    public Transform _muzzlePoint;
    // Start is called before the first frame
    void Start()
    {
    }

    // Update is called once per frame
    void Update()
    {
    }
}
```



CharacterController2D: Ceil collision bug

```
public class CharacterController2D : MonoBehaviour
```

```
{
```

```
    enum CornerId
```

```
    {
```

```
        Left,
```

```
        Right,
```

```
        Top,
```

```
        Bottom,
```

```
        LeftBottom,
```

```
        RightBottom,
```

```
        MAX
```

```
    }
```

```
    struct CornerData
```

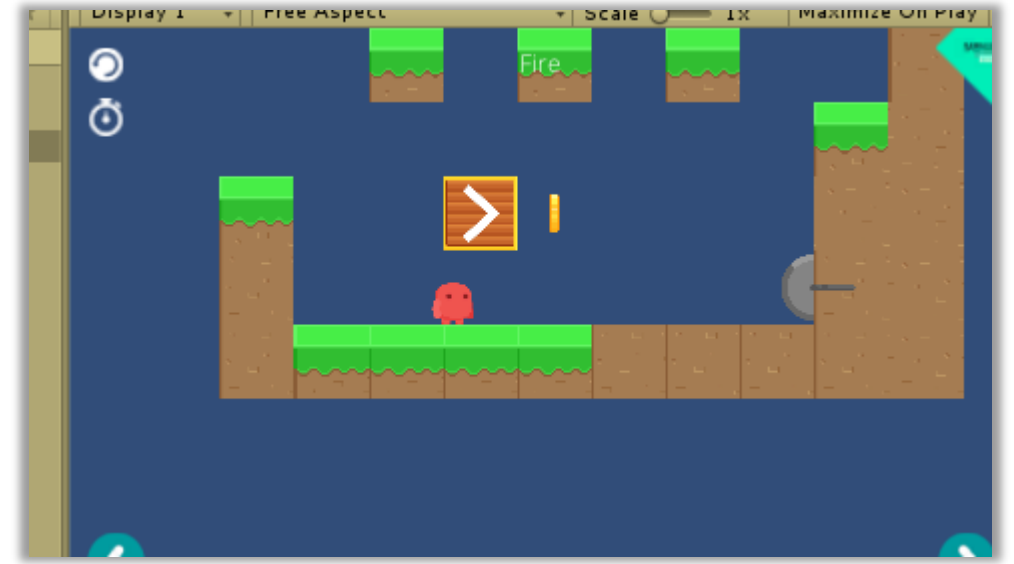
```
    {
```

```
        public Vector2 cornerOffset;
```

```
        public bool isCornerColl;
```

```
        public Collider2D cornerCollider2D;
```

```
    }
```

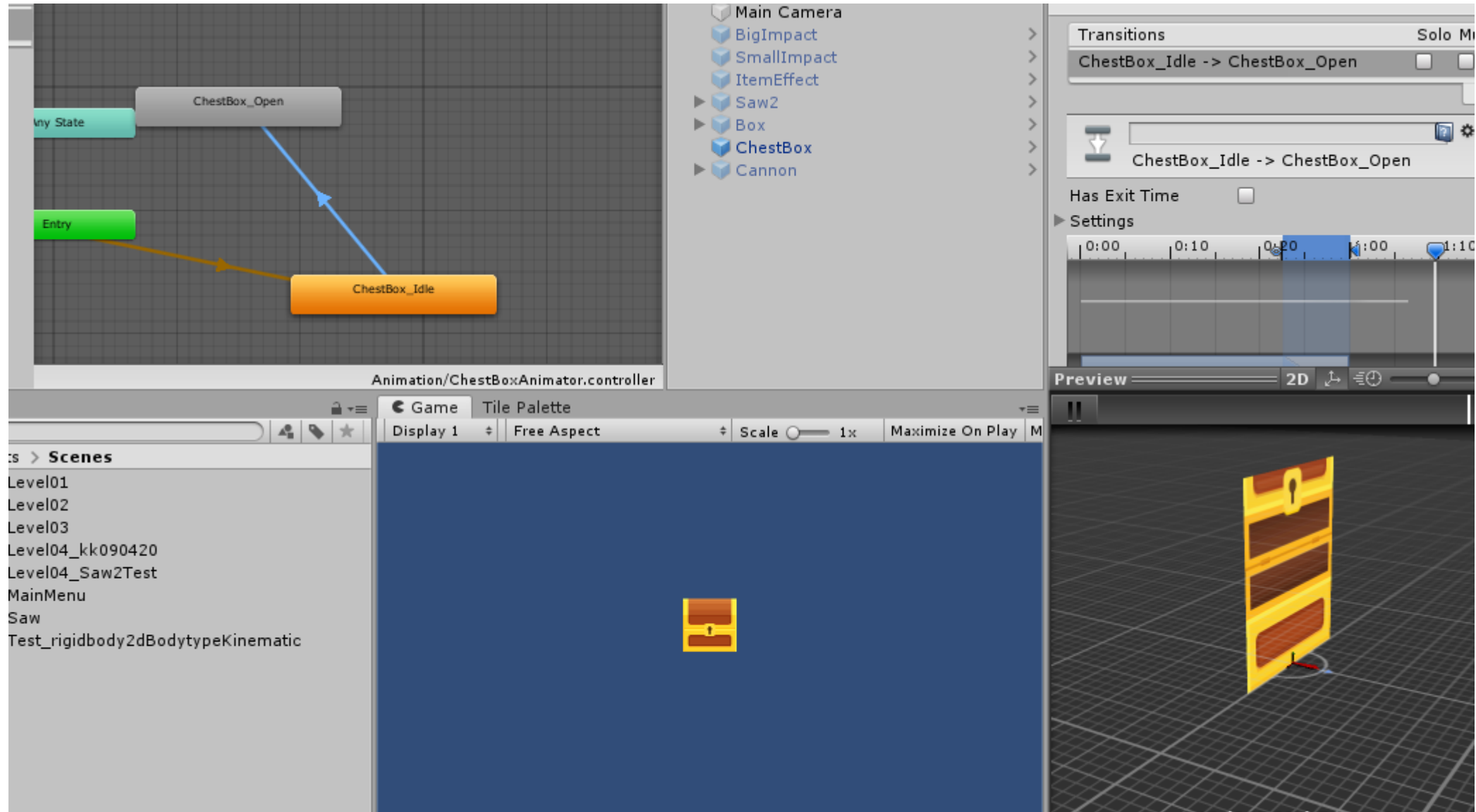


```

_velocity.y += Physics2D.gravity.y * Time.deltaTime;
if (_velocity.y < -_maxFallingVelocity)
    _velocity.y = -_maxFallingVelocity;
_UpdatePointCollInfo();
if (_cornerData[(int)CornerId.Top].isCornerColl && _velocity.y > 0)
{
    Collider2D coll2d = _cornerData[(int)CornerId.Top].cornerCollider2D;
    if (coll2d.transform.CompareTag("Box"))
    {
        BoxBehaviour boxBehavior =
coll2d.gameObject.GetComponent<BoxBehaviour>();
        if (boxBehavior)
        {
            boxBehavior.DoExternalCollision(gameObject);
        }
    }
    _velocity.y = -_velocity.y;
}
transform.Translate(_velocity * Time.deltaTime);

```

ChestBox open animation



MY **BRIGHT** FUTURE

DSU Dongseo University
동서대학교