

## **Traditional Animation Principles within Mobile App Development**

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Welcome to this  
***Thunderstruck***

Presentation by

***Danny Bacchus & Melvyn Ternan***

"Traditional Animation principles  
within  
mobile App development"

# A unique request

Jake Habgood

## Games Britannia

“A Short Workshop”

Incorporating skills from both

# Animation & Digital Media Production

# A unique request

4 Hours

Animation & DMP

based around  
Games Design

# A unique request

Initially

Nothing  
came to mind

# A unique request

Unique

Games Design

Fusion

# A unique request

?





# Inspiration

## The Neverhood (PC - 1996)

A fully stop motion animated 'point and click' adventure game



3.5 tonnes of clay were used in the production of this game.

Clay was melted down and spread over wooden frames for the large and small sets

# Inspiration

## Skullmonkeys (Playstation - 1998)

Sequel to The Neverhood, a fully stop motion animated 'platformer' game



## Boombots (Playstation - 1999)

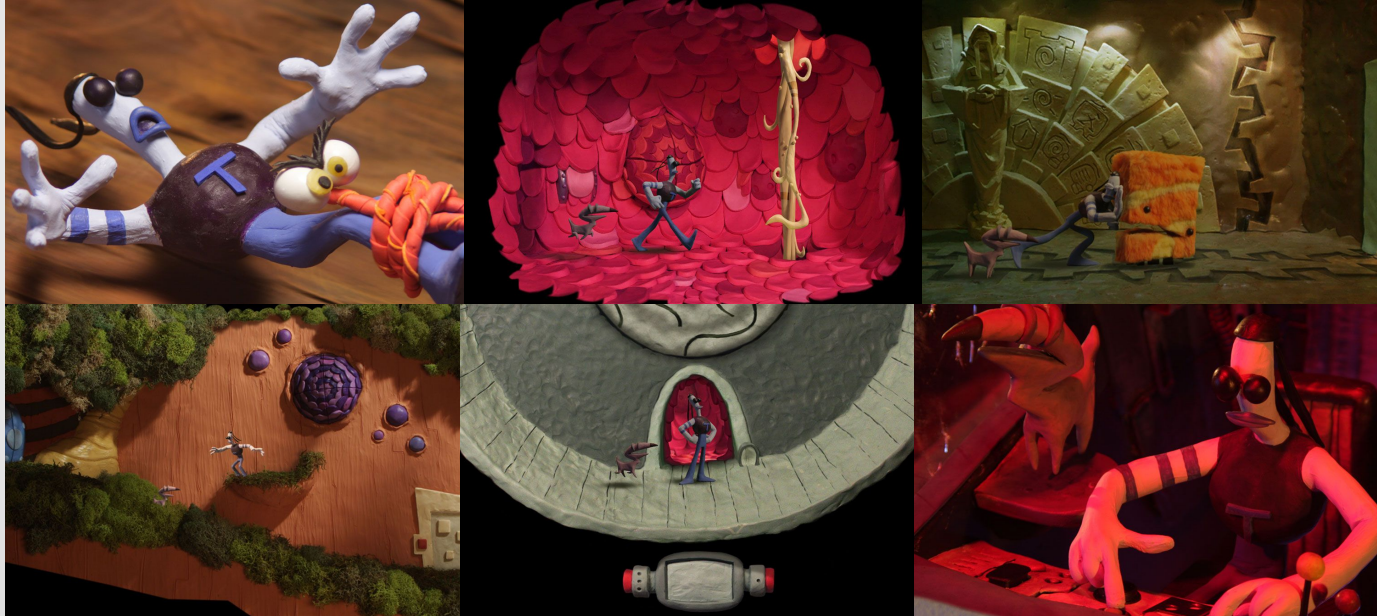
Also developed by The Neverhood, a 3D animated 'beat 'em up' game featuring stop motion elements



# Inspiration

## Armikrog (PC - September 30th 2015)

Long awaited successful Kickstarter project by Doug Tenaple (creator of The Neverhood), a new fully stop motion animated adventure game.



# Inspiration

## Lumino City (PC - 2014)

A 'point and click' adventure game featuring hand-made sets and frame by frame animation



# Inspiration

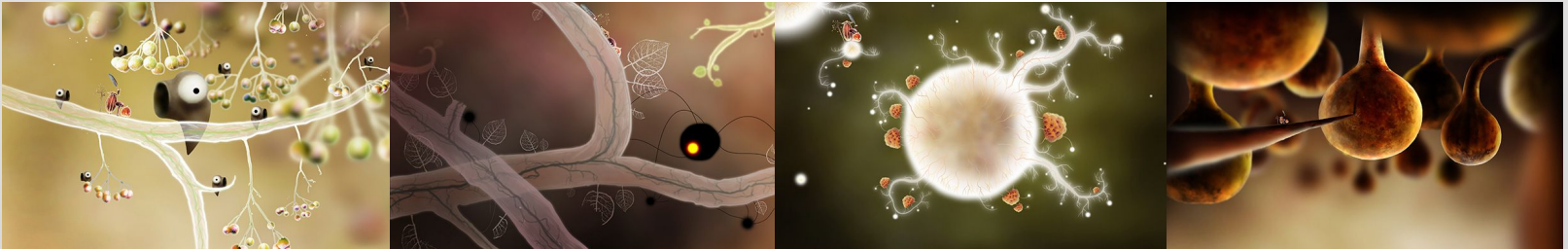
## Amanita Design

Game studio responsible for a range of games featuring frame by frame animation and photo manipulation.

Machinarium (PC - 2009)



Botanicula (PC - 2012)



# Simplifying the Stop Motion

Challenges met

# Simplifying the Stop Motion

Challenges met



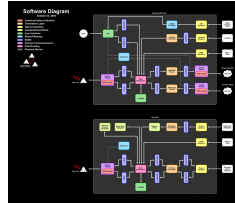
Simplify a green screen animation studio that could be set up anywhere

# Simplifying the Stop Motion

Challenges met



Simplify a green screen animation studio that could be set up anywhere



Simplify the software used, letting students focus on the creation and animation aspects

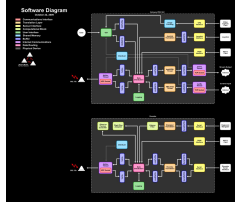


# Simplifying the Stop Motion

Challenges met



Simplify a green screen animation studio that could be set up anywhere



Simplify the software used, letting students focus on the creation and animation aspects



Limit complicated builds by pre-constructing various puppet elements

# Simplifying the Stop Motion

Green screen Stop Motion studio...simplified



Fluro lights - Hardwood Green screen backdrop - Stop Motion Rig - Canon EOS 1100D - Tripod

# Simplifying the Stop Motion

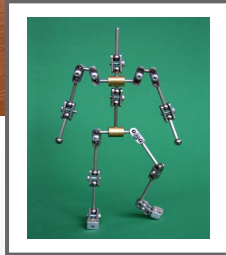
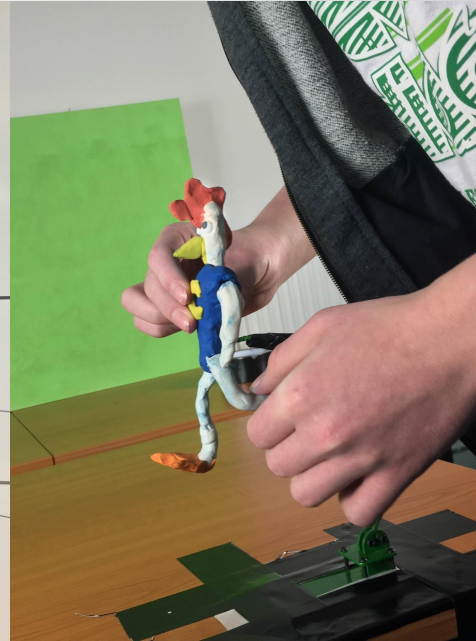
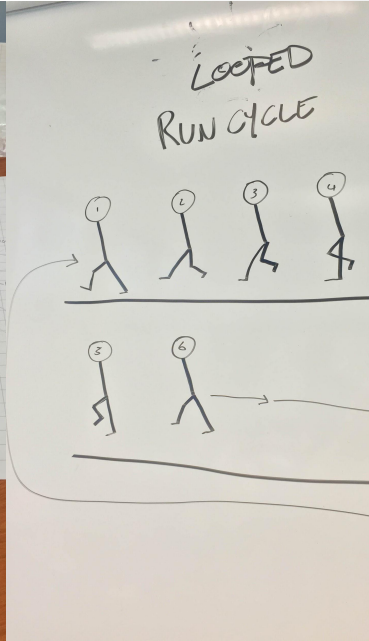
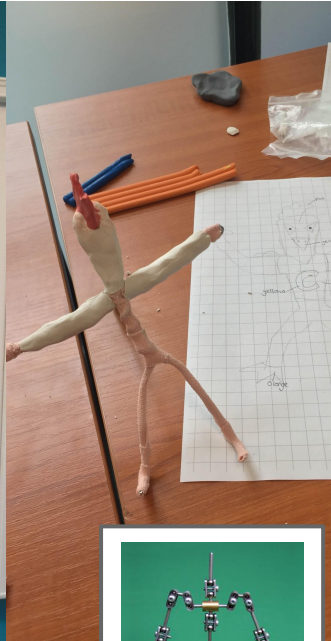
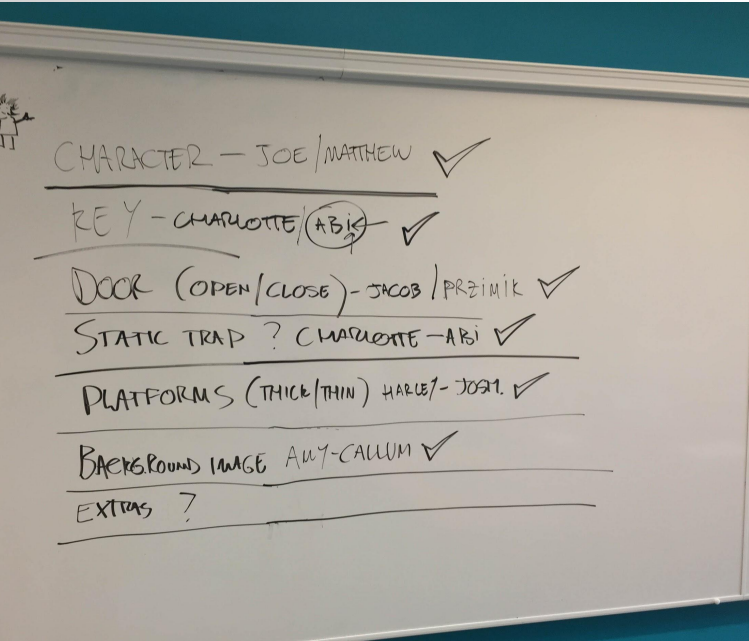
Stop Motion Software



DragonFrame - Short 12 frame loops - Post production by tutor

# Simplifying the Stop Motion

Pre-constructing & Limiting elements



Limited item set - Pre-built Armature - Animation cheat sheet

# Simplifying the Stop Motion

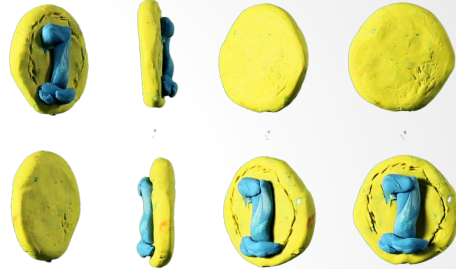
Handing over



background



Buttons



Coin rotate



Trap



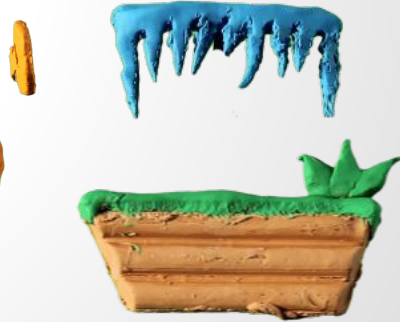
Exit shut



Exit open



Key rotate



Platforms



Danny receives a set of folders each containing a static or animated stop motion piece for the game

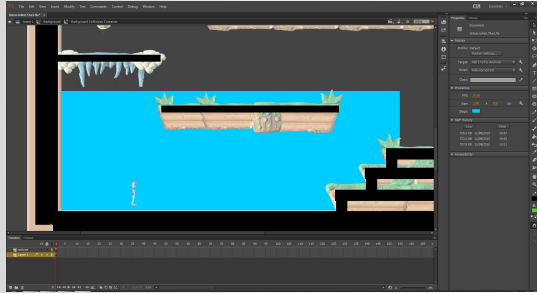
# Level Design

The game was made using Adobe Flash CC; an easy to use and intuitive platform for making apps for a variety of platforms.

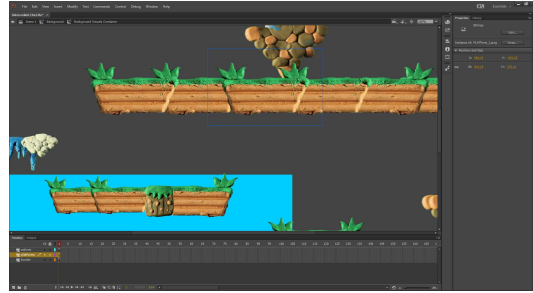


# Level Design

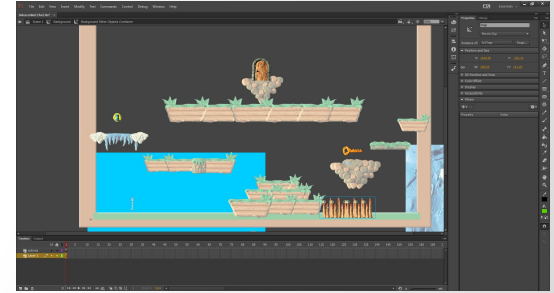
Project was pre-prepared for students to customise / create levels with assets made in previous session.



Create collision layer



Add visuals



Place interactive elements

Project also allowed for additional levels to be added (time permitting).

# Level Design

Students were introduced to the script to understand how the game works with fundamental scripting basics (variables, logic, functions, event listeners...)

```
22  var scrollX:Number = 0;
23  var scrollY:Number = 500;
24
25  var xSpeed:Number = 0;
26  var ySpeed:Number = 0;
27
28  var speedConstant:Number = 4;
29  var frictionConstant:Number = 0.9;
30  var gravityConstant:Number = 1.8;
31  var jumpConstant:Number = -35;
32  var maxSpeedConstant:Number = 18;
```

```
168
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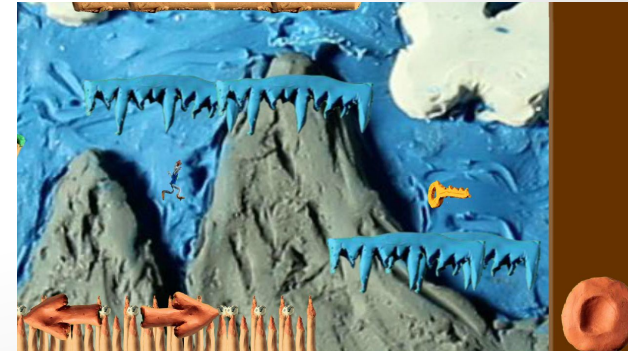
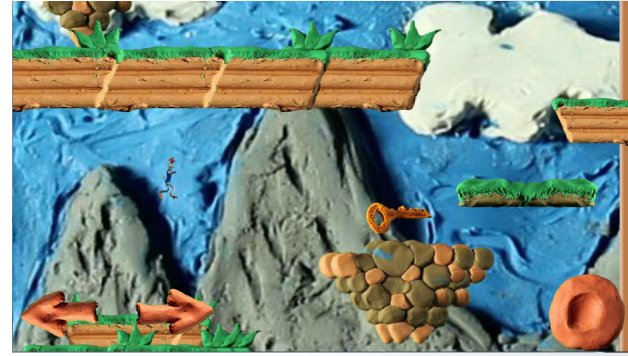
    if (player.hitTestObject(back.other.doorKey))
    {
        back.other.doorKey.visible = false;
        back.other.lockedDoor.gotoAndStop(2);
        keyCollected = true;
        trace("key collected");
    }

var winTimer:Timer = new Timer(2000,1);
winTimer.addEventListener(TimerEvent.TIMER, winDelay);
function winDelay(e:TimerEvent):void
{
    stage.removeChild(playerWinSprite);
    nextLevel();
}
```

Script could be edited to change how the character behaves and game mechanics.

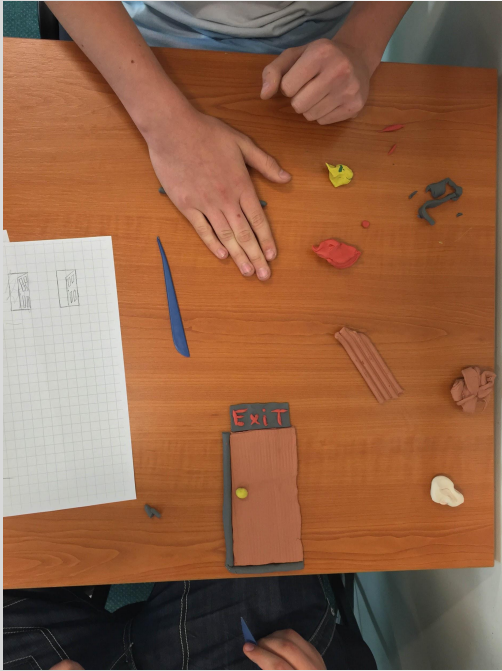


# The Final Product

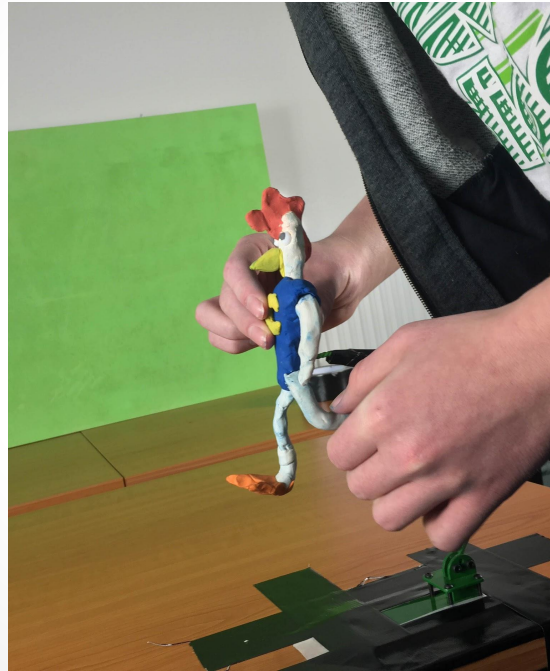


# Benefit for Students

## Stop Motion Animation



"Hands-on Visual Development"



"Hands-on Animating"



"Team work"

# Benefit for Students

## App Development

Students are introduced to basic scripting fundamentals and mechanics of mobile app design. Skills can be transferred to a variety of different development platforms and scripting languages. (javascript, C#, Unity...)

With additional time these skills can be greatly enhanced and developed:

- Students could write script themselves
- Add additional interactive objects or game elements (score, timer, health-bar, enemies, sound etc.)
- Animate game objects
- Added material on implementing unique mobile user input and functionality



A black and white photograph of three students in a classroom. One student in the foreground is using a tablet, another is typing on a laptop, and a third is looking at a smartphone. The scene is overlaid with large red text.

# Questions -after which- Answers