



Teaching Core Disciplines Through Game Development

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Class Summary

Games and applications, especially those on continually evolving mobile devices, now occupy an increasing percentage of a student's day. At the same time, performance in math and engineering for that same demographic is dwindling at an alarming rate. To compete in the future and secure promising opportunities, the latter (but not necessarily the former) must change. This class will offer ways to increase class engagement while building the types of games and applications almost certainly found in nearly every student's pocket.

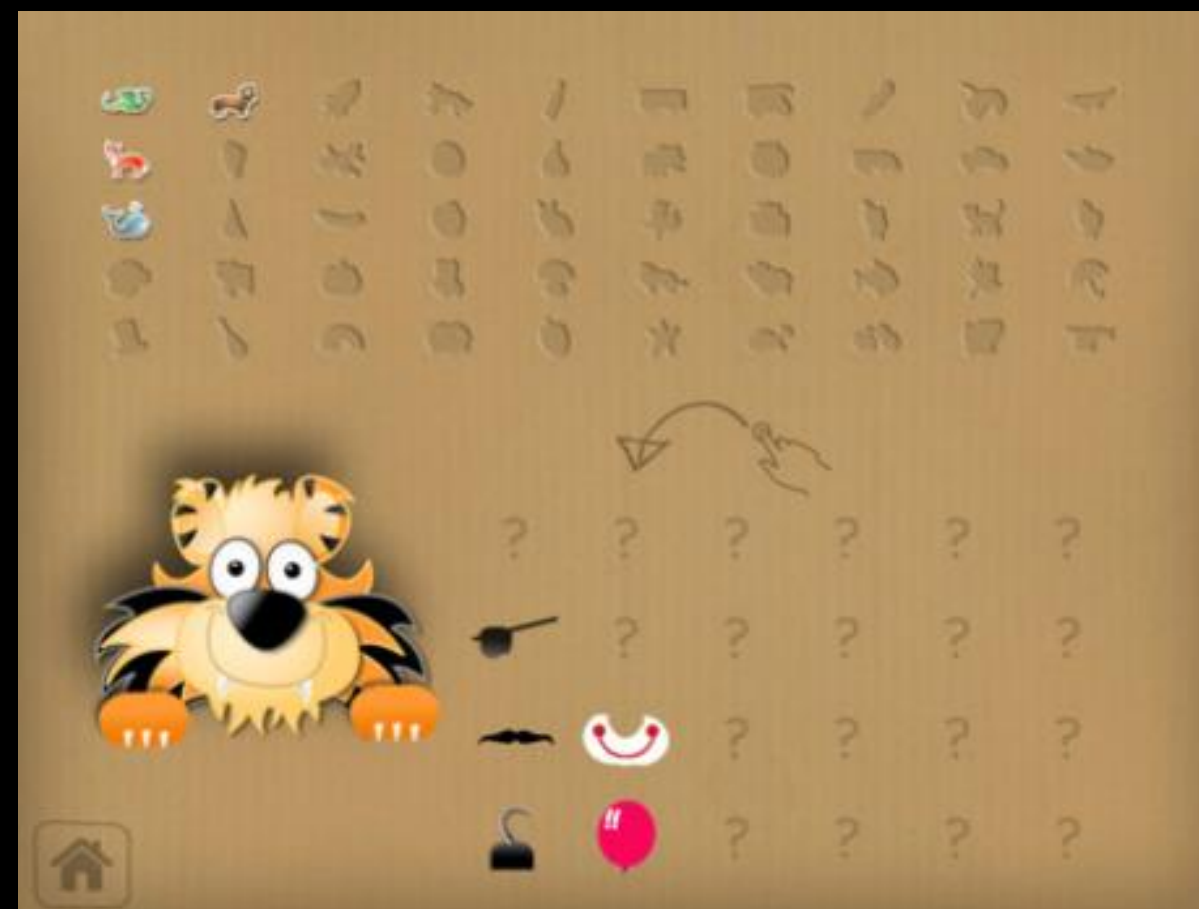
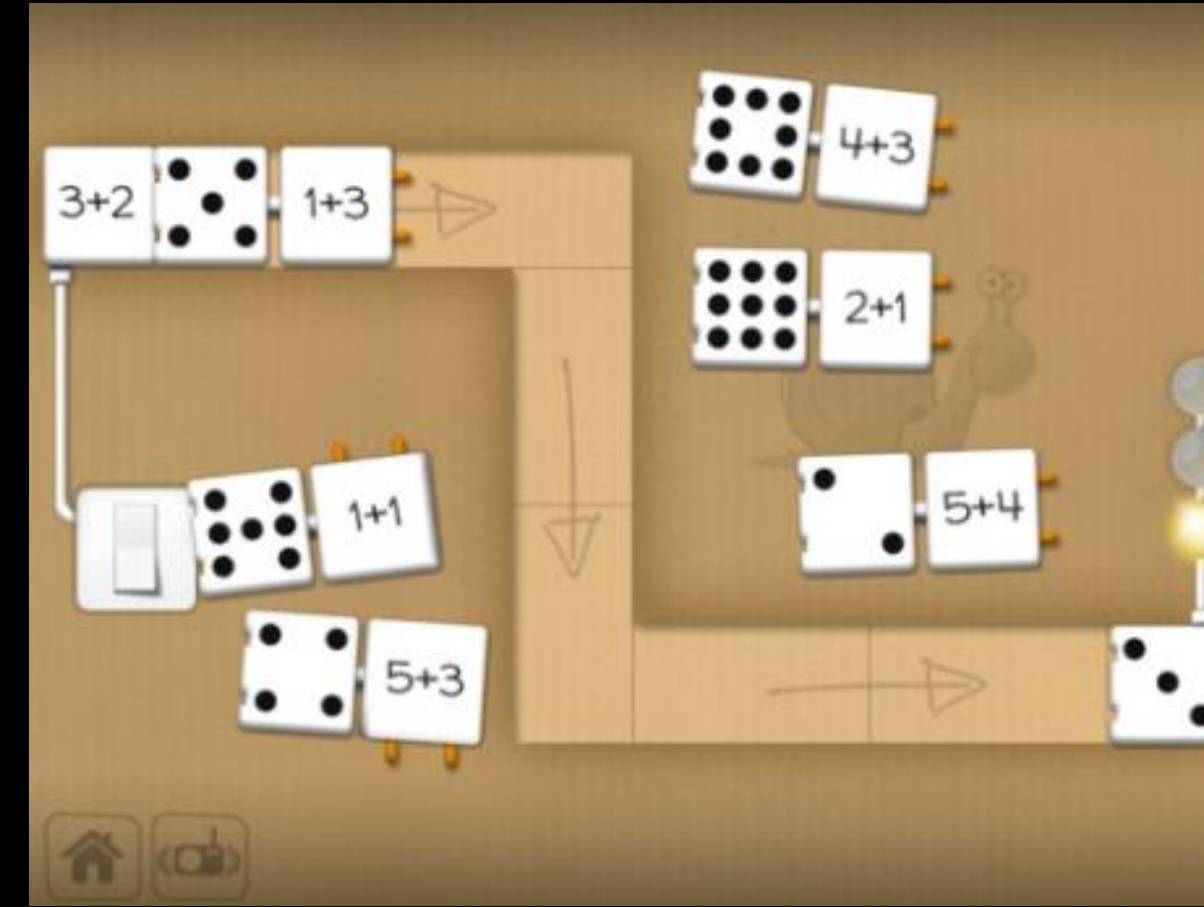
Learning Objectives

At the end of this class, you will be able to:

- Explain the content game development process for in STE(A)M curriculum
- List the step to create interactive content for STEAM curriculum
- Recall examples of succesful STEAM students projects
- Identify the power of each Autodesk and Unity tool to use in STE(AM) curriculum

Examples of Teaching Core Disciplines Through Game Development

Examples



Examples

Band Together – Backflip Studios



What is Unity

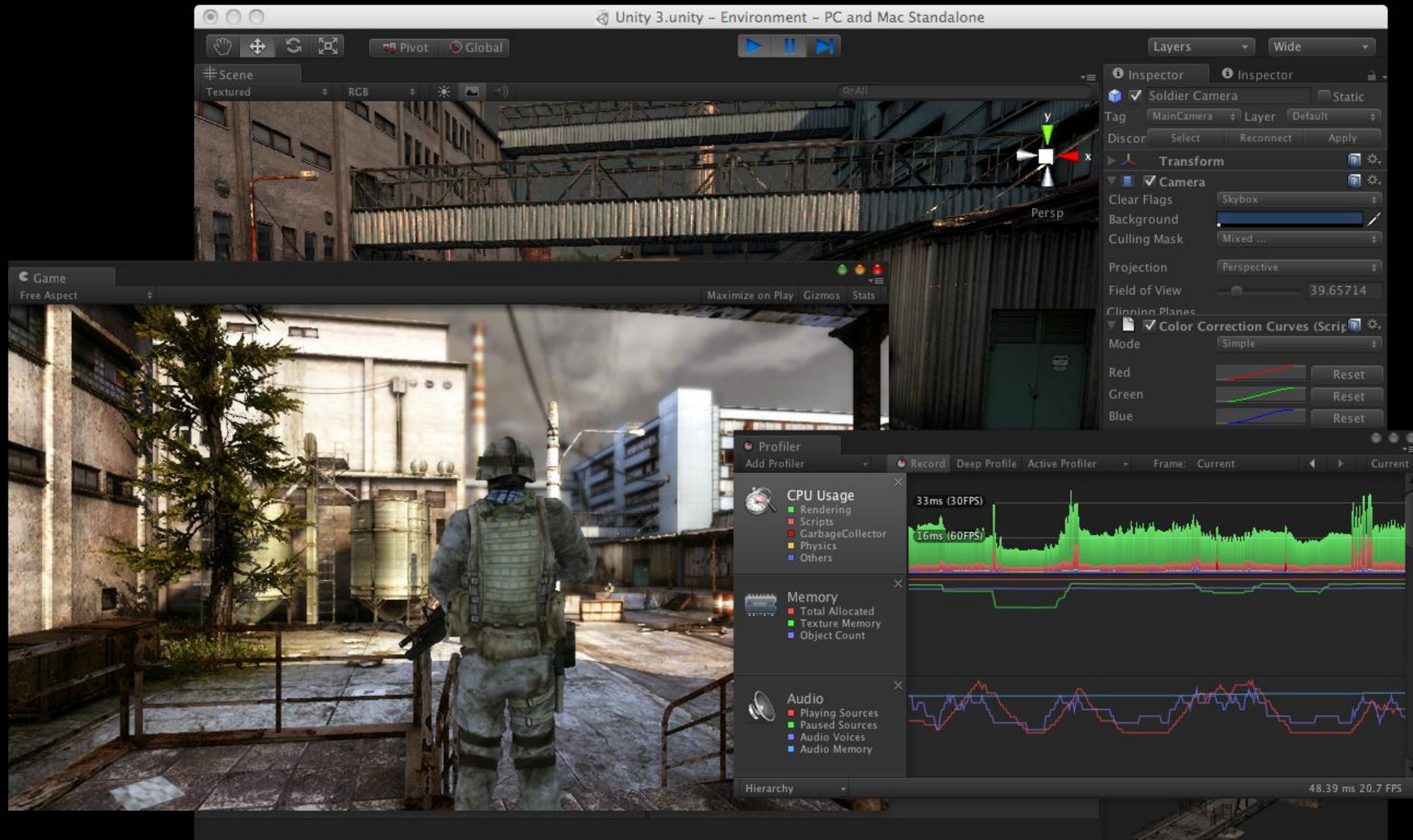
What is Unity



What is Unity



What is Unity



What is Unity



What is Unity



Developers!!!

1,200,000 developers
300,000 monthly active
53% of mobile game developers
2% of developers of any kind

Develop Award: Best Engine

What is Unity



Shadowgun



Dead Trigger



CSR Racing



Kingdoms of
Camelot



Ski Safari



Triple Town



Beat Sneak
Bandit



Road Warrior
Racing

What is Unity



Captain Antarctica



Jelly Defense



Temple Run



Heroes Call



Frontline Commando



Subway Surfers



Blood & Glory

What is Unity



mikamobile



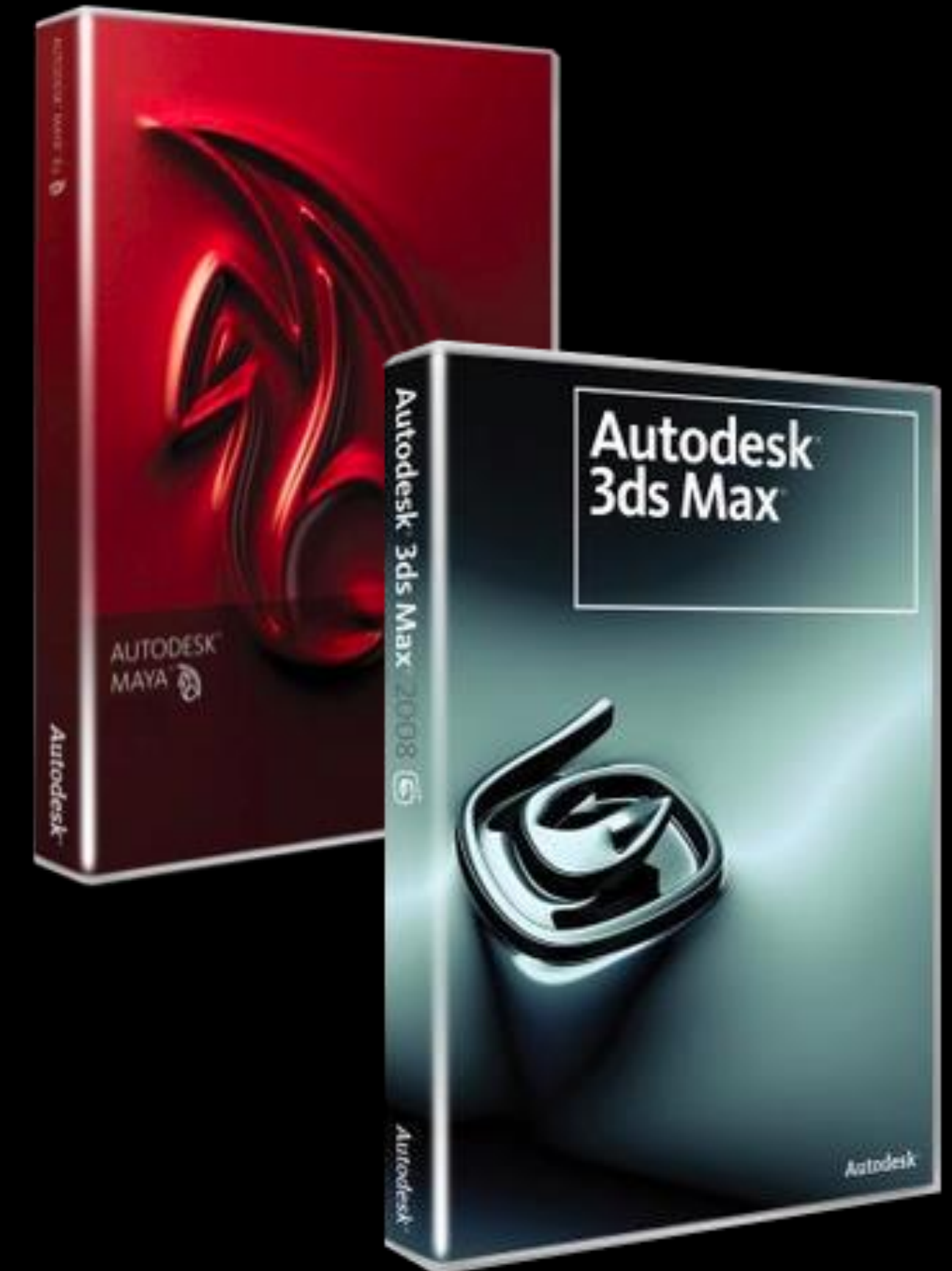
What is Unity



Unity & Autodesk

Unity & Autodesk

- Streamed lined Asset Pipeline
- Drag and drop Pipeline with Revit, 3dsMax and Maya
- Live-link to content tools (auto updates)
- Support of animation, riggings, mesh,...
- Assets Server gives teams the ability to
 - collaborate on project while maintaining
 - Version control and asset history



Unity & Autodesk

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Education Community

NEW Maya Vehicle for Games Curriculum

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<http://students.autodesk.com>


Unity & Autodesk


Autodesk

ANIMATION ACADEMY

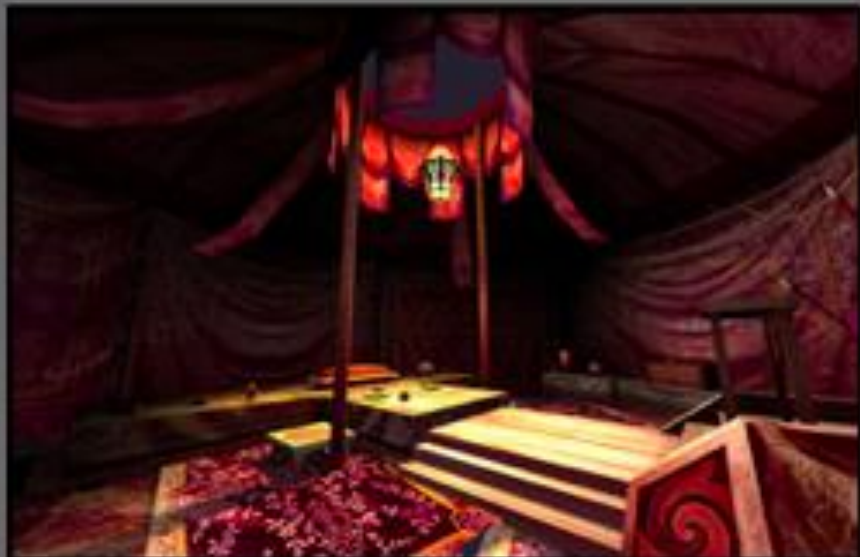
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Animation Academy New Modules





Environmental Storytelling Module
In the **Environmental Storytelling** module you will learn to model an environment inspired by a historical event and in the **Game Creation** you will use the **Unity Game Development Tool** to create a game using your 3D models. A character is included with an overview of the pipeline for production and you can use the **Anatomy module** to learn how to model and animate your own character.





Game Creation
You will learn how to create a 3D game with the assets you created in the **Environmental Storytelling Module**. You will export your level and props directly to the **Unity3D** game engine in which you will create game play. Before you export your character to the game engine you will learn how to apply first motion capture data to your character for his/her in-game animations such as walking.
At the end of the project you will export you game as a standalone version.


Unity & Autodesk

Autodesk

ANIMATION ACADEMY

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[Game Creation](#) [Video Tutorials](#)



Overview of the Project


You will learn how to create a 3D game with the 3D assets you have created in the previous class. You will export your level and props directly to the Unity3D game engine in which you will create the game play. Before you export your character to the game engine you will learn how to apply first motion capture data to your character for in-game animations such as walking. Then you will import your character in the game engine and apply instructions to your character to be able to walk around and pick up object to collect points. On the end of the project you will export you game as a standalone version.

[Download All Videos](#)



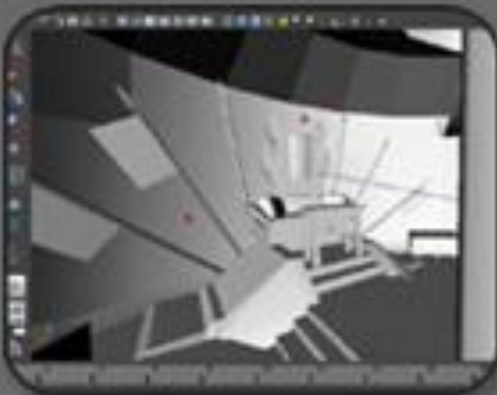
Movie 01 - [Play](#)

This movie files shows the overview and the final result of the project and what you will be learning to achieve the final result.



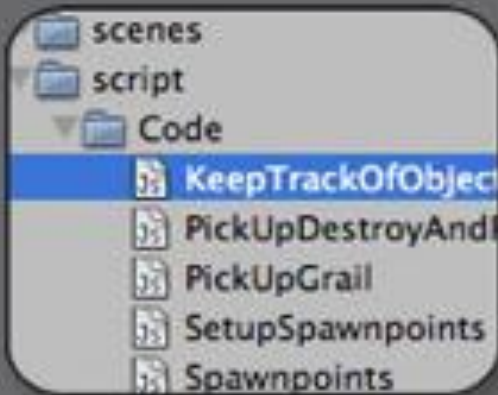
Movie 07 - [Play](#)

This movie file explains the steps to make the 3D character move in the 3D level.



Movie 02 - [Play](#)

This movie file explain the process of exporting the 3D models (the character, level and props) to file format that can be later on imported in the game engine.



Movie 08 - [Play](#)

This movie file explains how to create the game play for Attila the Hun.

Unity & Autodesk



Dinner with Attila
Student Example

Unity & Autodesk

Dinner with Attila: Dev Stats

- 3 students
- Maya, 3ds Max, Mudbox, MotionBuilder
- Unity
- 1 month
- No programming background
- Mocap by Mixamo & Measurand

Unity & Autodesk: STEAM

- 3ds Max
- Maya
- MotionBuilder



Unity & Autodesk: STEAM



700



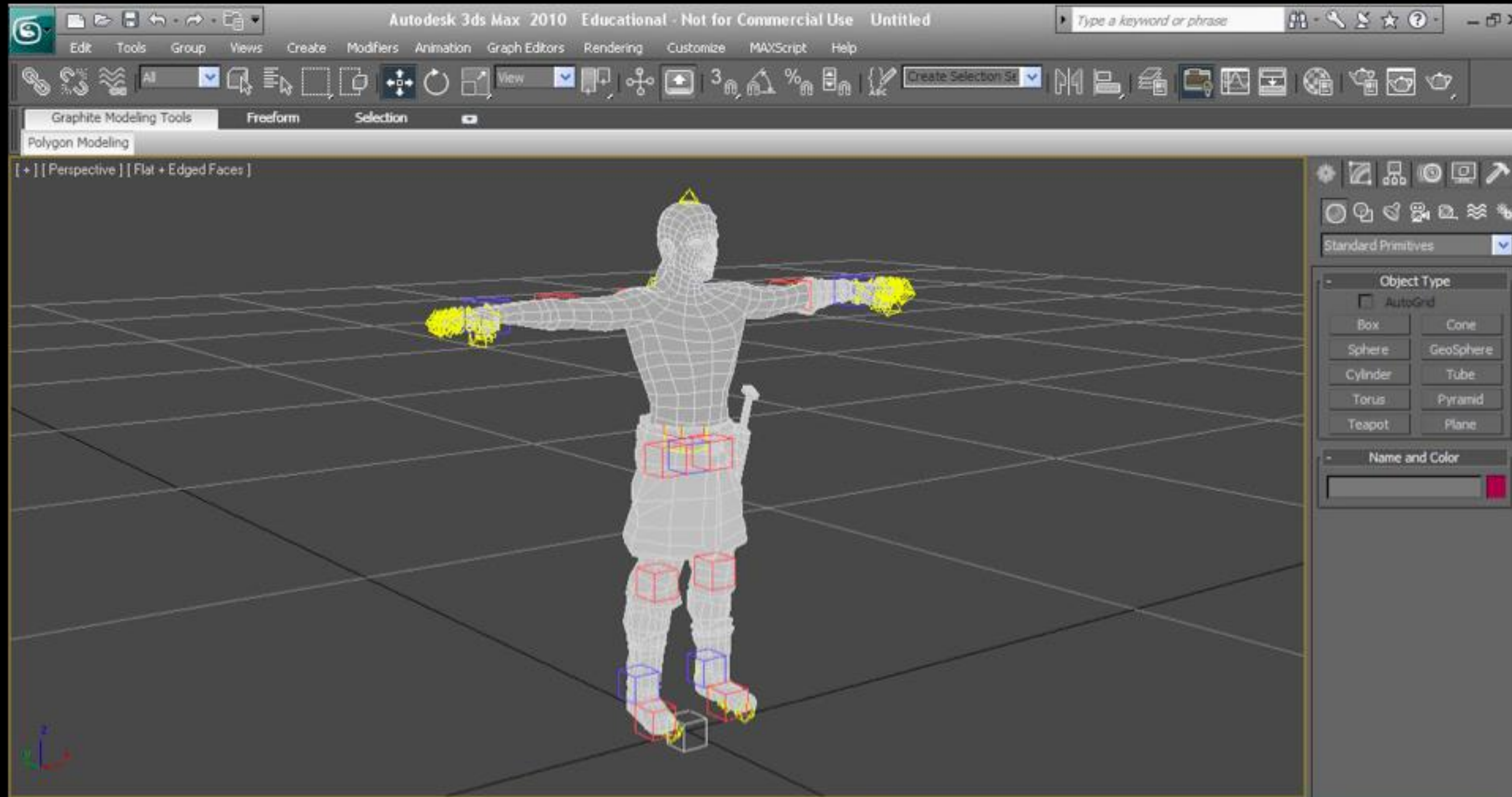
Unity & Autodesk: STEAM



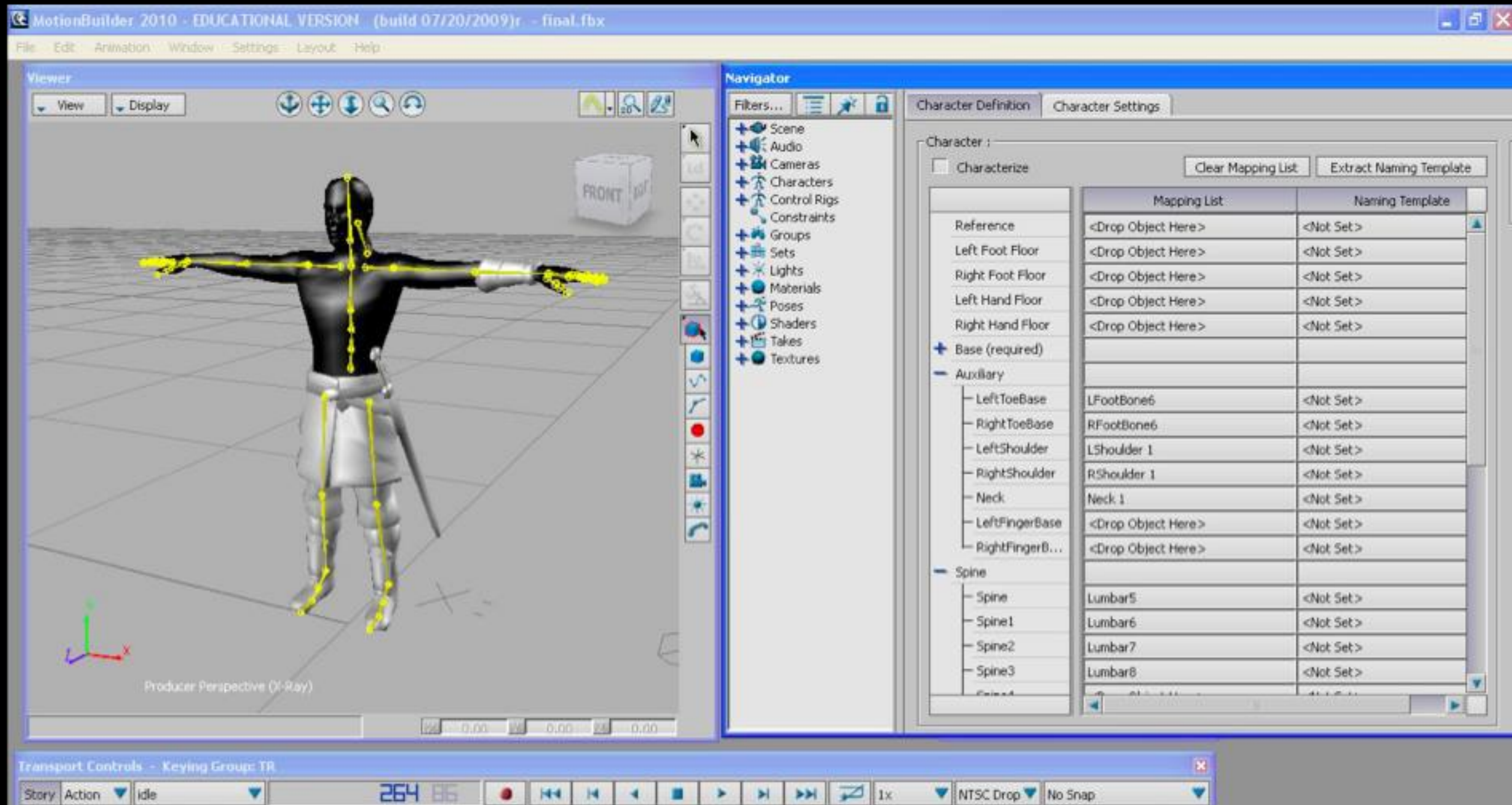
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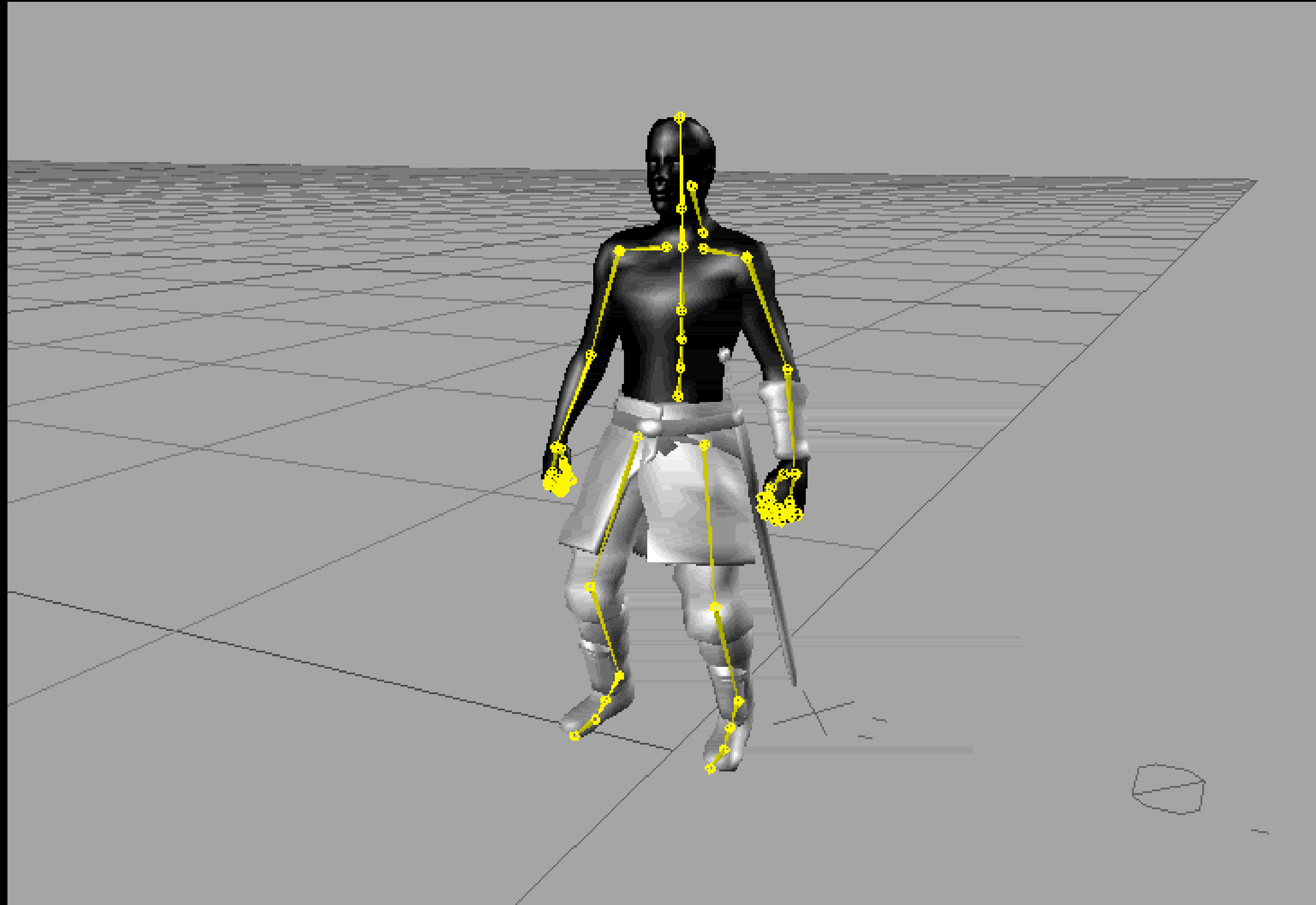
Unity & Autodesk: STEAM



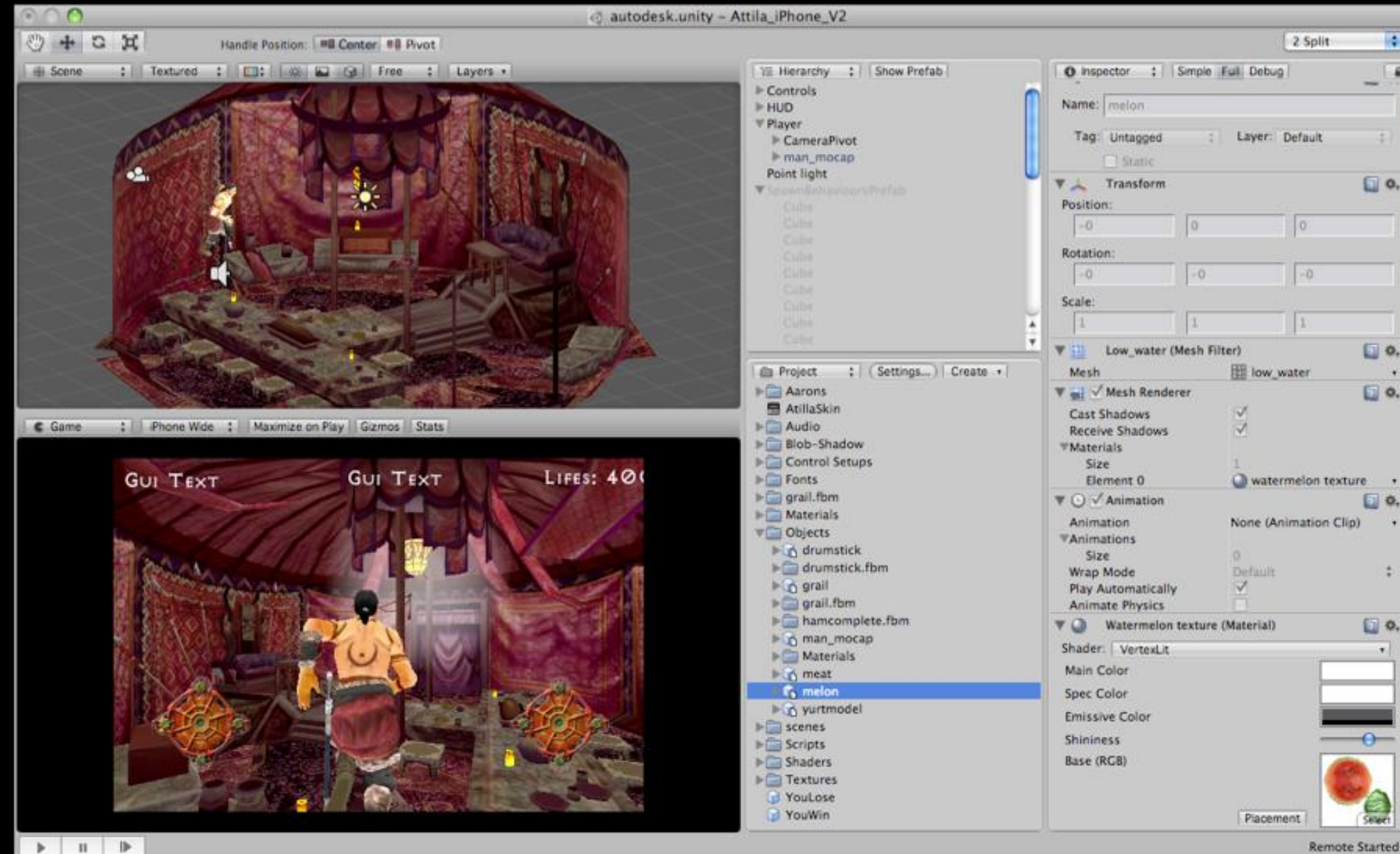
Unity & Autodesk: STEAM



Unity & Autodesk: STEAM



Unity & Autodesk: STEAM



Unity & Autodesk: STEAM

```
var h : float= Input.GetAxis("Horizontal");  
var v : float= Input.GetAxis("Vertical");  
  
animator.SetFloat("Speed", h*h+v*v);  
animator.SetFloat("Direction", h, DirectionDampTime, Time.deltaTime);
```


Hand's on example: teaching STE(A)M

Hand's on example: teaching STE(A)M



Q&A

