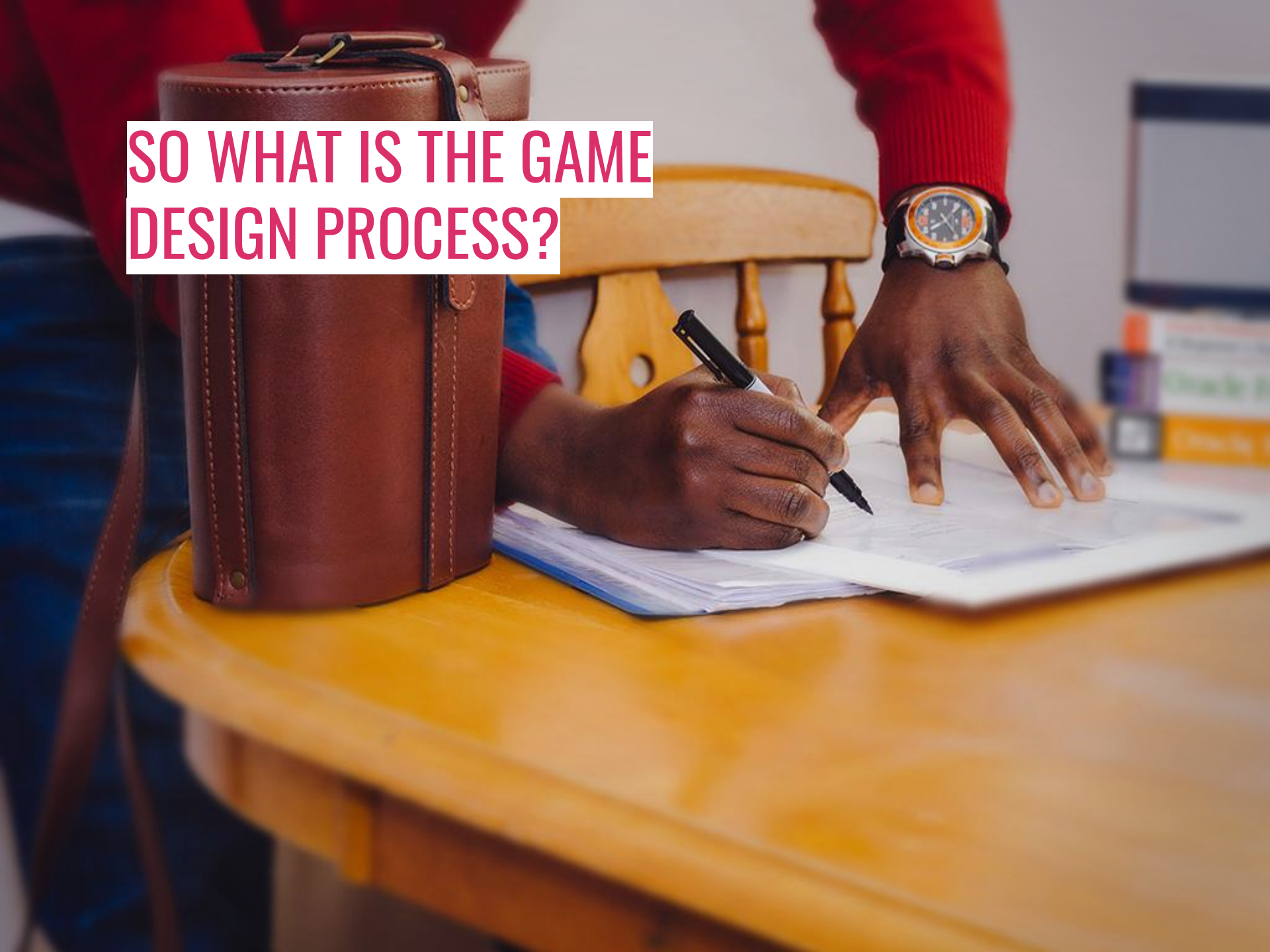
Game Design Process

Iterative Game Design

is the process by which a video game is repeatedly proposed, prototyped, play tested and re-evaluated prior to working product release.

Iterative game design operates on the following principle:

It is unrealistic to create an ideal product on the first try.


SO WHAT IS THE GAME
DESIGN PROCESS?

The game design process can be divided into 3 stages (similar to filmmaking) - pre-production, production, post production.

Pre-production will take up around 20% of the game design process.

Pre-production

- Concept Development
- Storyboarding
- Research and Development
- Game Development Document
- Mapping
- Prototyping

Pre-production

It involves planning, mapping, scheduling, research and gathering of resources for the production process ahead.

1

Concept Development

Concept of the game is refined and expanded to articulate key elements such as the scope of the world, the mechanics of gameplay, the mapping of levels, character bios, complete storyline, etc.

Brainstorming sessions are an important part of fleshing out the main idea of the game.

The storyline is fleshed out, with plot points, characters, story arcs, action sequences, climactic scenes, etc.

2

Storyboarding

Each scene is sketched out showing character action, shot selection, the sequence of action and cinematic direction.

The script is pre-visualized via a storyboard.

Research and Developement

is conducted into three areas.

3

Research and Development

Demographics

who is the target audience, how to design to their playing style, how to market to the intended audience

Resources

software/engine to be used, staffing requirements are established, budgets are fixed

Execution

what real-life resources will assist in creating the product, will motion capture be required to assist in animation, etc.

Game Development Document

is the blueprint for the production process.

4

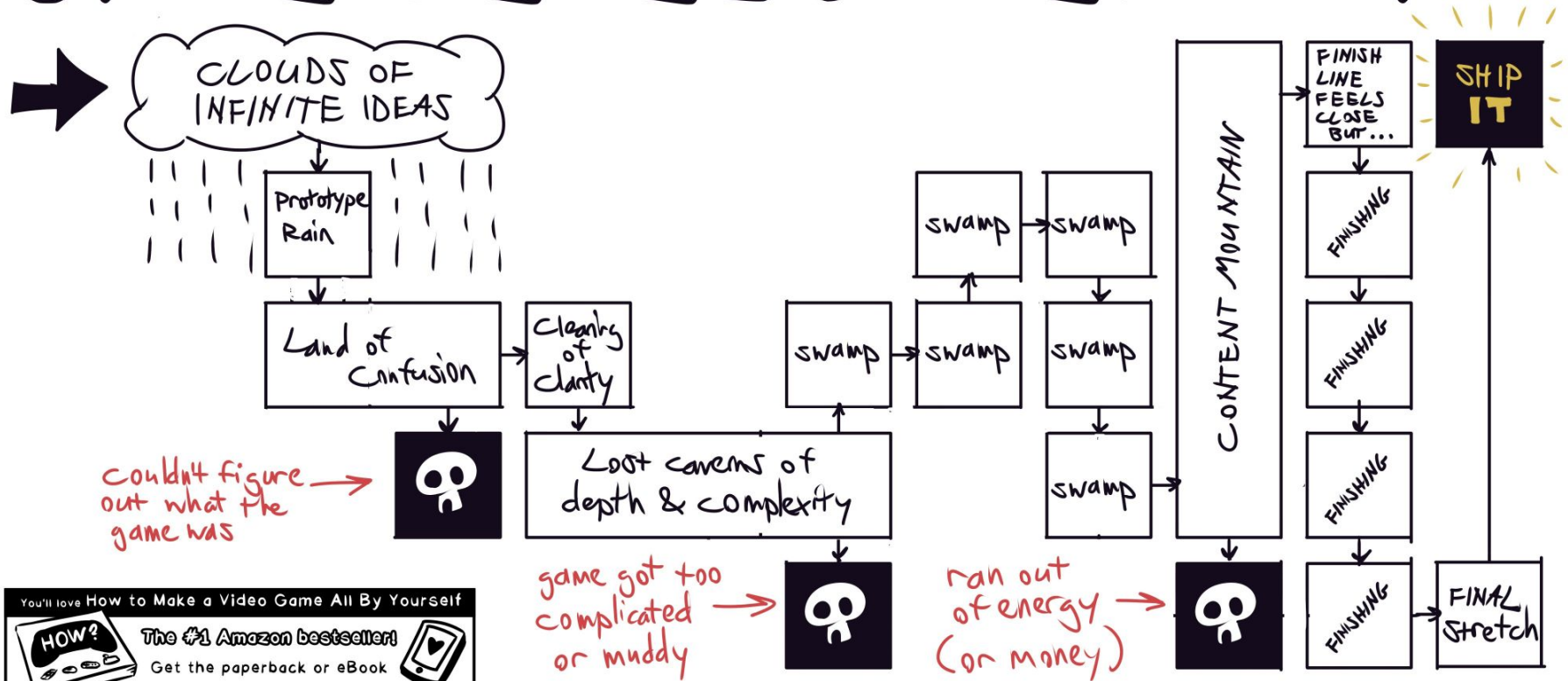
This is the plan from which all departments will work, outlining the key elements - what is the game and what is the point of it, what are the programming building blocks, what are the stages of the design process, etc.

5

Mapping

The levels are mapped out across the course of the game.

GAME DEVELOPMENT MAP



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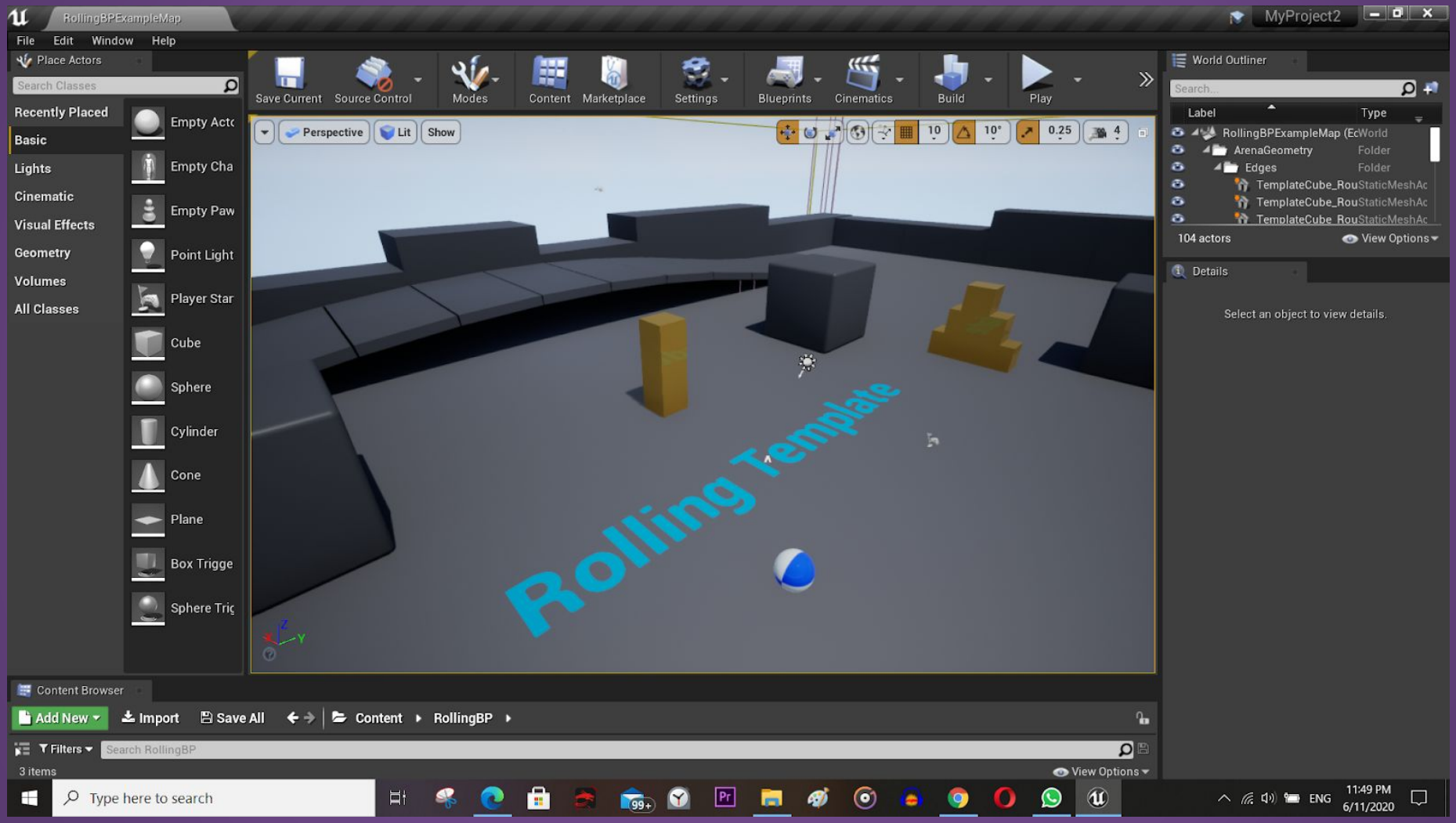
This is macro mapping, defining where the game is going, how the player is led through it, etc.

6

Prototyping

One or more rudimentary prototypes will be produced to see what works and what doesn't, if there are any bugs and if the concept has legs.


RollingBPExampleMap
MyProject2
File Edit Window Help
Place Actors
Search Classes
Recently Placed
Basic
Lights
Cinematic
Visual Effects
Geometry
Volumes
All Classes
Empty Acto
Empty Cha
Empty Paw
Point Light
Player Star
Cube
Sphere
Cylinder
Cone
Plane
Box Trigge
Sphere Trig
Save Current
Source Control
Modes
Content
Marketplace
Settings
Blueprints
Cinematics
Build
Play
Perspective
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World
ArenaGeometry
Folder
Edges
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StaticMeshAc
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StaticMeshAc
104 actors
View Options
Details
Select an object to view details.
Content Browser
Add New
Import
Save All
Content
RollingBP
Filters
Search RollingBP
3 items
View Options
Type here to search
ENG
11:49 PM
6/11/2020

The testers give feedback on the gameplay to improve the final product.

Production

It is when the bulk of the work is done. It’s all systems go! Animation, 3D modeling, programming teams all begin working in tandem.

Production will take up about 60% of the design process.

Production

- Modeling
- Level Action
- Animation
- Texturing
- Lighting
- Artificial Intelligence
- Cinematics
- HUDs and Menus

1

Modeling

All the elements of the game are mapped.

AP
1
Vile Official
Throwing Axe
Tanglevine
Incite Revolt
Life's Blanket
Forest
Provides Stealth at Night.
captured a settlement.
Our King creeps closer to death.
All heroes have received dawn income from Settlements.
END TURN
4
5/5
4
3
4
3
0
0

This is a complex and time-consuming process.

Level Action

is blocked out on how the action on each level plays out.

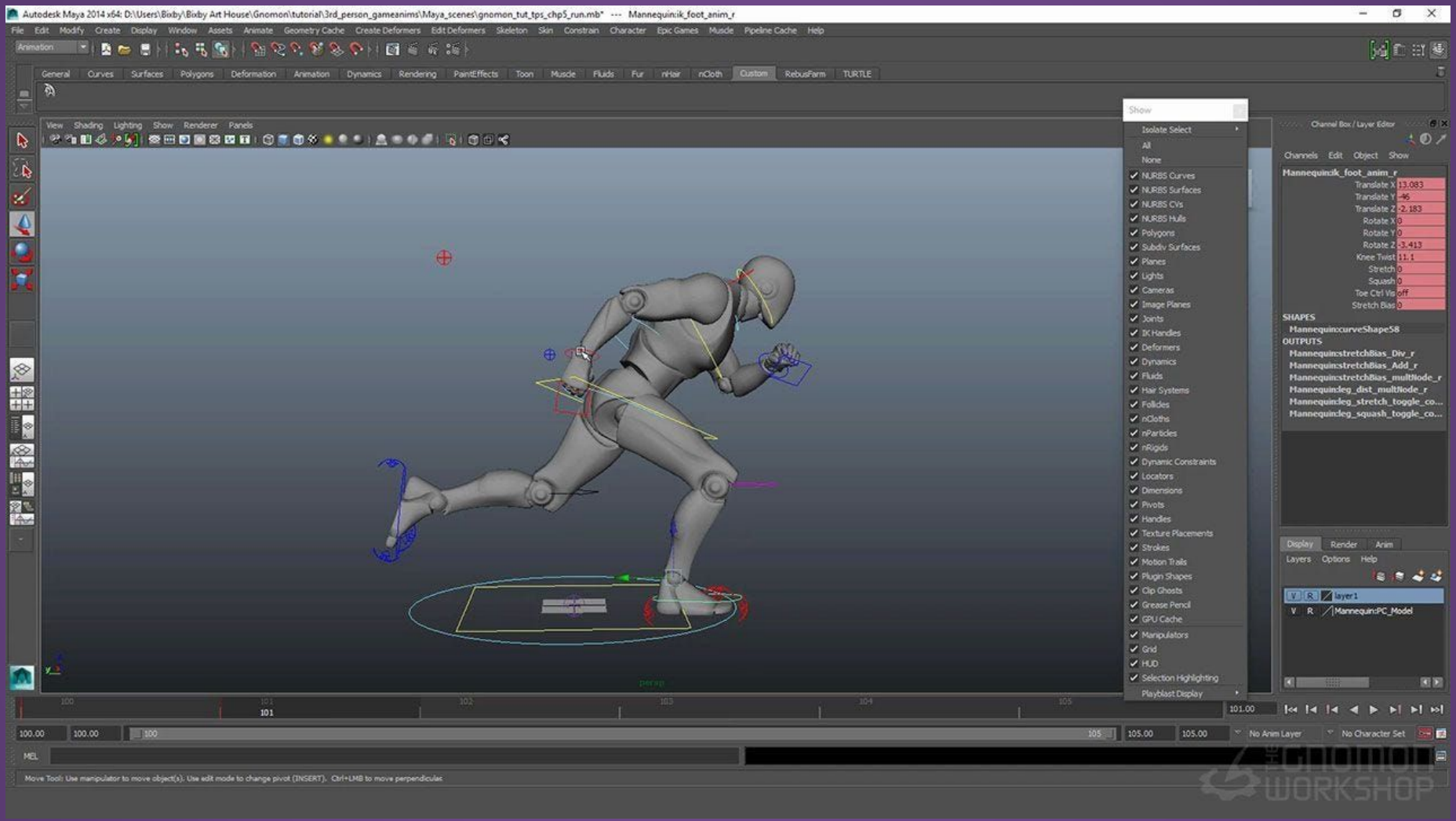
2

Micro detailing of the action sequences and objectives of each level, how the player is guided towards the next level.

3

Animation

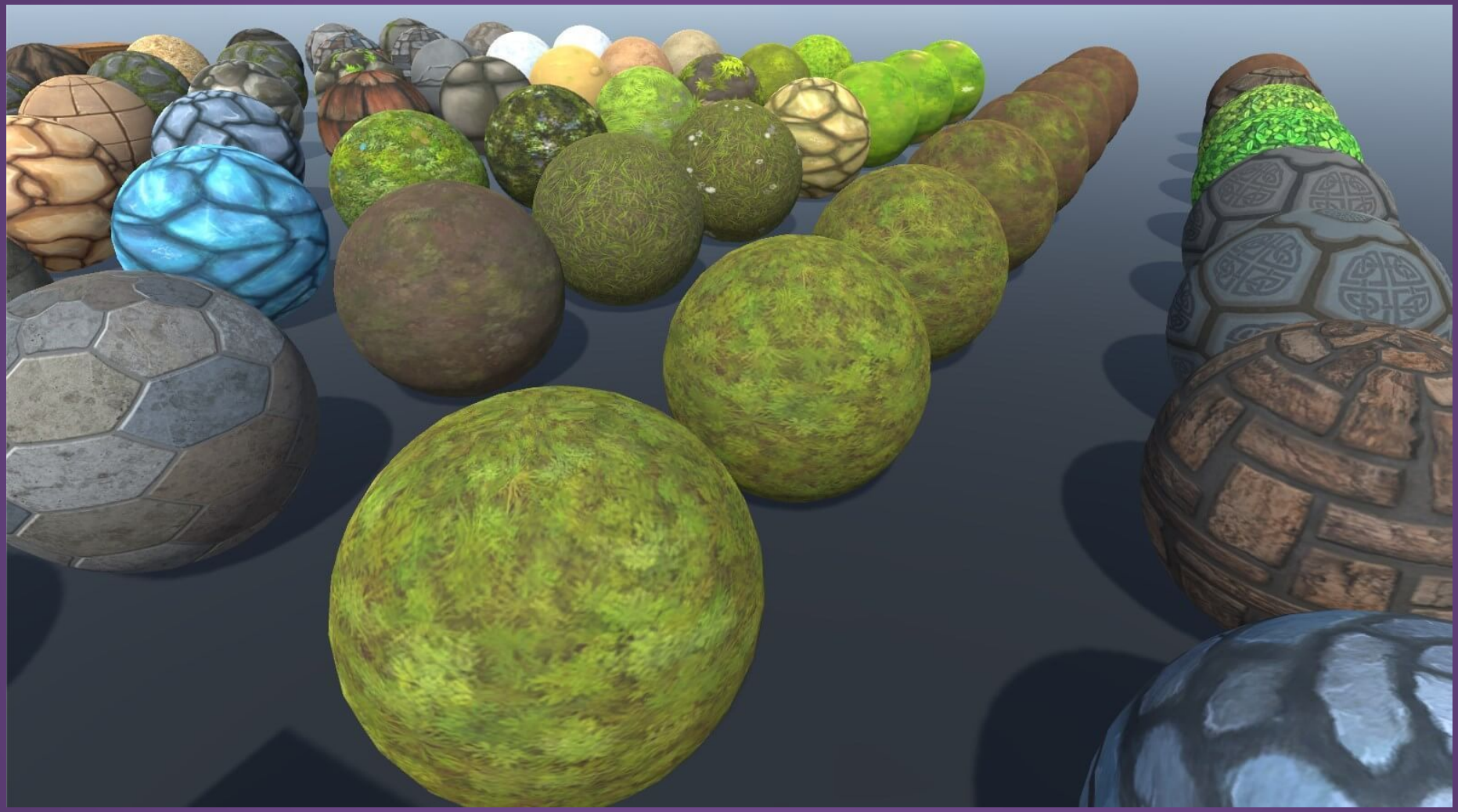
All elements are then animated through a sequence of movements or through a scene.


Autodesk Maya 2014 x64: D:\Users\Bixby\Bixby Art House\Gnomon\tutorial\3rd_person_gameanims\Maya_scenes\gnomon_tut_tps_chp5_run.mb* --- Mannequin:ik_foot_anim_r
File Edit Modify Create Display Window Assets Animate Geometry Cache Create Deformers Edit Deformers Skeleton Skin Constrain Character Epic Games Muscle Pipeline Cache Help
General Curves Surfaces Polygons Deformation Animation Dynamics Rendering PaintEffects Toon Muscle Fluids Fur nHair nCloth Custom RebusFarm TURTLE
View Shading Lighting Show Renderer Panels
Show
Isolate Select
All
None
NURBS Curves
NURBS Surfaces
NURBS CVs
NURBS Hulls
Polygons
Subdiv Surfaces
Planes
Lights
Cameras
Image Planes
Joints
IK Handles
Deformers
Dynamics
Fluids
Hair Systems
Follicles
nCloths
nParticles
nRigids
Dynamic Constraints
Locators
Dimensions
Pivots
Handles
Texture Placements
Strokes
Motion Trails
Plugin Shapes
Clip Ghosts
Grease Pencil
GPU Cache
Manipulators
Grid
HUD
Selection Highlighting
Playblast Display
Channel Box / Layer Editor
Channels Edit Object Show
Mannequin:ik_foot_anim_r
Translate X 13.083
Translate Y -46
Translate Z -2.183
Rotate X 0
Rotate Y 0
Rotate Z -3.413
Knee Twist 11.1
Stretch 0
Squash 0
Toe Ctrl Vis off
Stretch Bias 0
SHAPES
Mannequin:curveShape58
OUTPUTS
Mannequin:stretchBias_Div_r
Mannequin:stretchBias_Add_r
Mannequin:stretchBias_multNode_r
Mannequin:leg_dist_multNode_r
Mannequin:leg_stretch_toggle_co...
Mannequin:leg_squash_toggle_co...
Display Render Anim
Layers Options Help
layer1
Mannequin:PC_Model
persp
100 101 102 103 104 105
101.00
100.00 100.00 100 105 105.00 105.00
No Anim Layer
No Character Set
MEL
Move Tool: Use manipulator to move object(s). Use edit mode to change pivot (INSERT). Ctrl+LMB to move perpendicular

4

Texturing

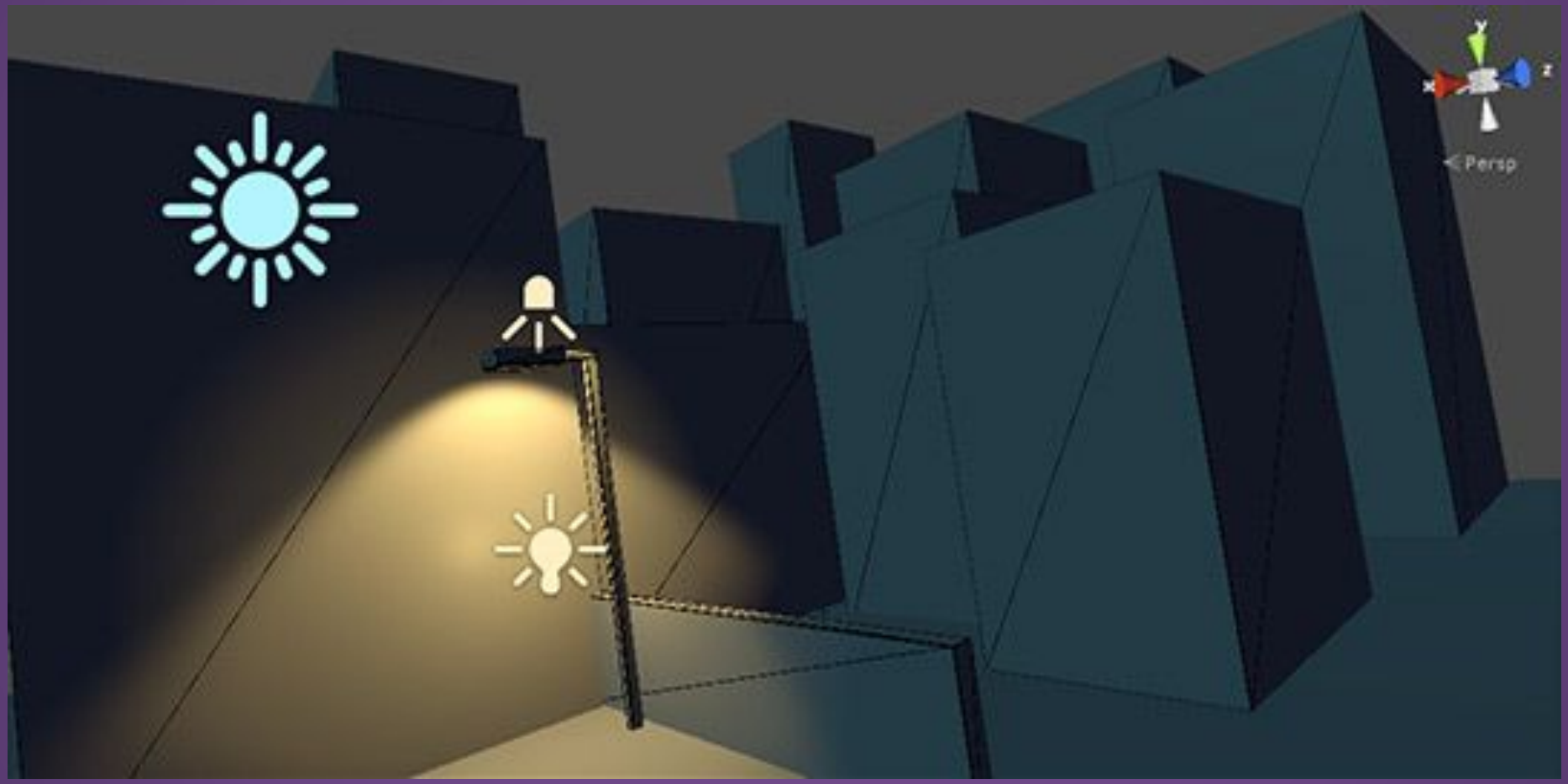
Texturing is added to all the static meshes on the 3D models.



5

Lighting

Lighting is an important element of design, it adds depth to the feel of the game, creating the 3D effect.


Persp

It is used to create atmosphere, to build tension and replicate the real world.

Interactivity

Elements of function and interactivity are added.

6

7

Artificial Intelligence

AI is used to react to the actions or decisions the player makes.

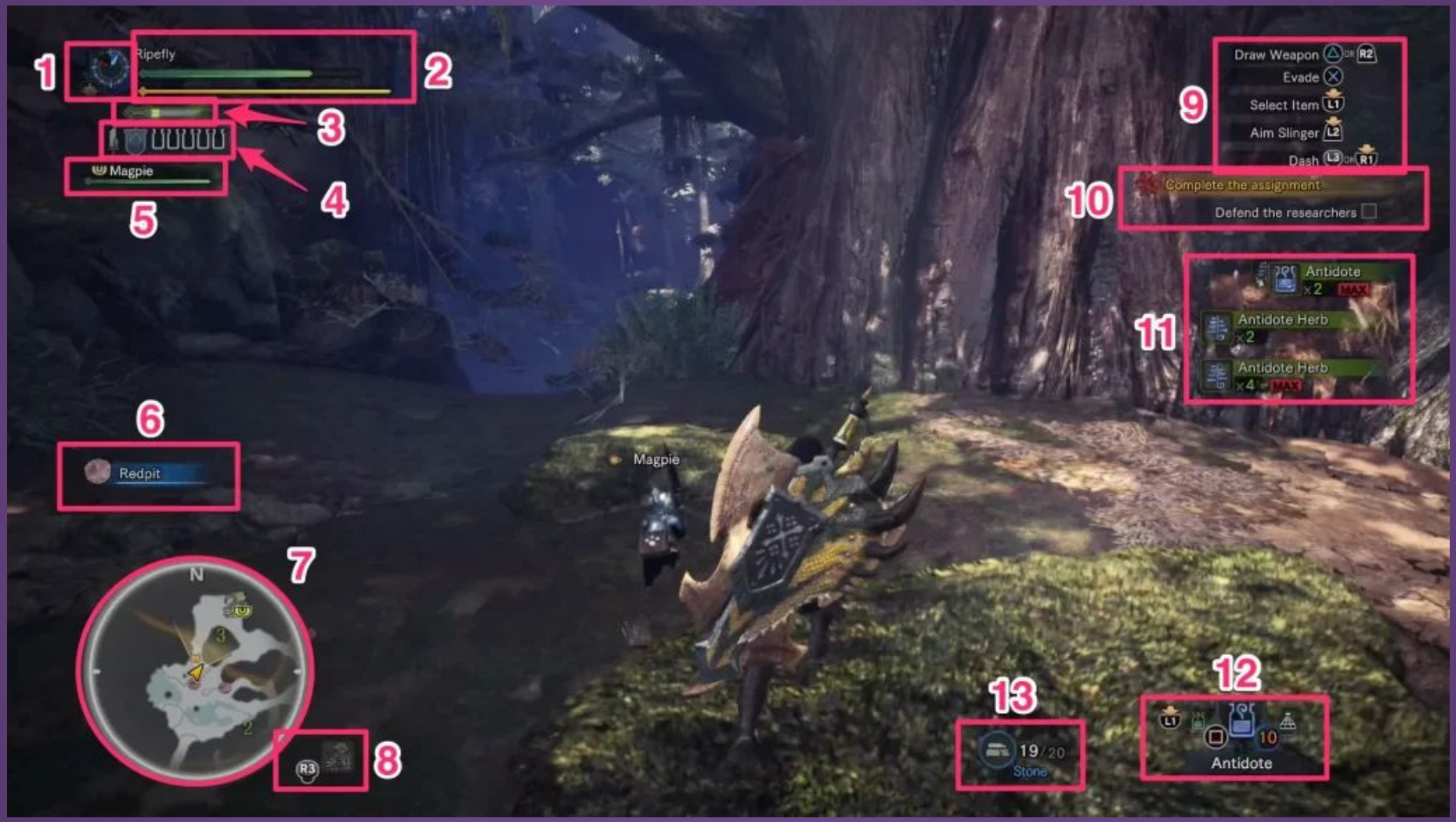
8

Cinematics

They are usually an interlude from the game where the player is given extra information to assist them in their progress.

HUDs and Menus

HUDs can provide information such as points/rewards status, timings, position on the map, etc.


1
Ripefly
2
3
4
Magpie
5
6
Redpit
7
N
8
R3
9
Draw Weapon
Evade
Select Item
Aim Slinger
Dash
10
Complete the assignment
Defend the researchers
11
Antidote
Antidote Herb
Antidote Herb
Magpie
12
Antidote
13
19/20
Stone

The menus instruct the player on the objectives, available elements, in-game purchase info, etc.

Post Production

Then comes the final stage of the game.

Post Production

- Sound Design and Visual Effects
- QA
- Refining
- Packaging and Marketing

1

Sound Design and Visual Effects

Sound design brings together all the dialogue, score, foley and sound effects required for the game's soundscape.

Visual effects, or special effects, are added to the sequences to enhance the visuals.

2

QA

Quality assurance testers are brought in again to test the rough draft of the final game.

Refining

The feedback from the testers is applied.

3

4

Packaging and Marketing

Artwork from the game is used for creating packaging as well as marketing materials such as posters, online advertising, trailers, etc.

The Game Design Process

is a complex one requiring many iterations of the overall aesthetic of the game.

To be part of a game design team will test your abilities and expand your skills. But it is an exceptionally rewarding journey!