

Game Design & Development

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Materials and UMG

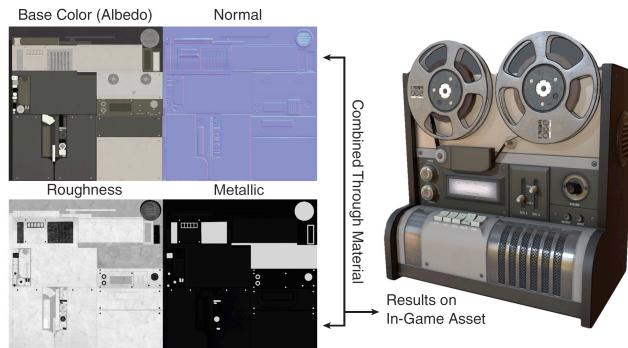
Week-11

Topics and Objectives

1. Materials ពីរក្សាម៉ានីរុយនៅ Materials editor
2. UMG (Unreal Motion Graphics) ទិន្នន័យ progress Bar UI នៃ
3. FPS Template

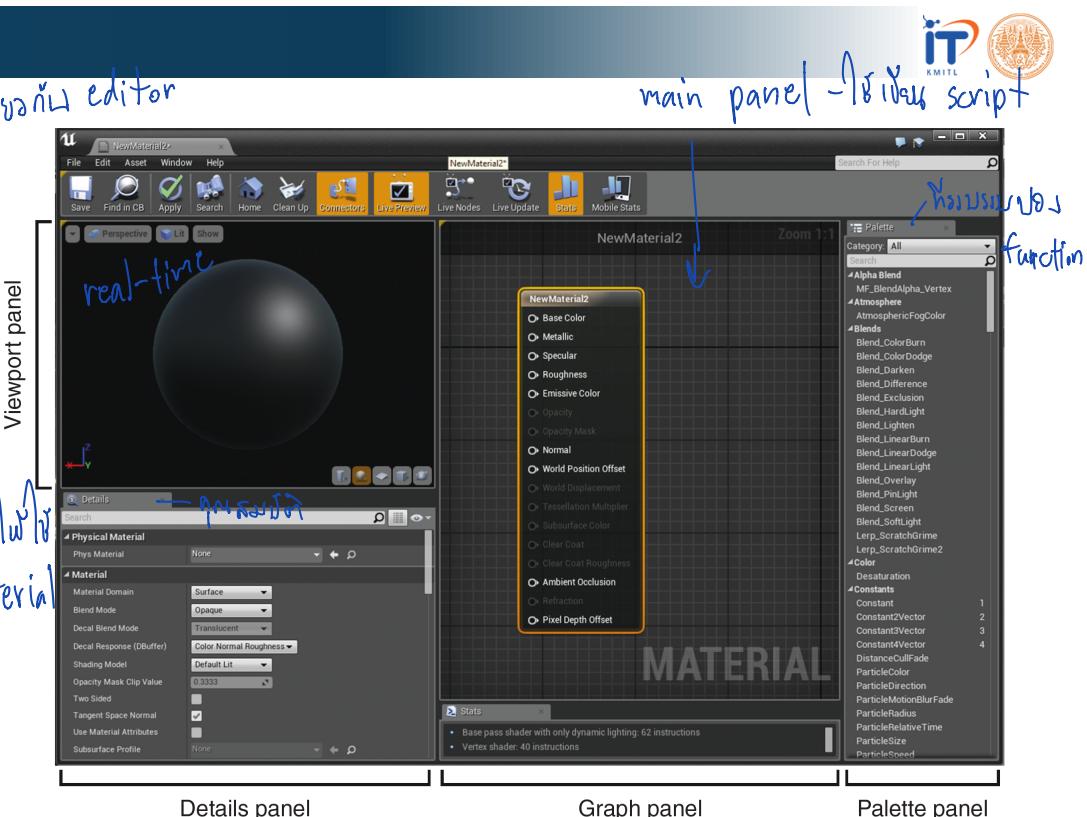
Materials — ສໍາງ ໂວຍເວັນໃນ simulate ວິທີນິຫຼາມວາດໂລ ດາວໂຫຼວດຂອງເກີນ
ແກ່ຕະຫຼາມ ໂດຍໃຫ້ເກີນກັບປະຈຸບັນ

- Light reflection on the surface by combining textures and mathematical calculation
- UE4 material rendering system applies a physically based rendering (PBR) technique for real-time rendering.



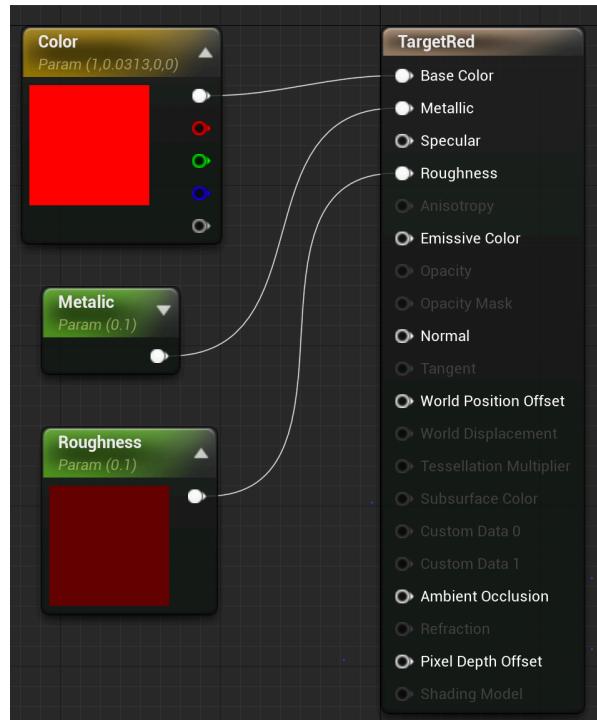
Material Editor

- Viewport
- Real-time preview
- Details — នគរណែនកម្មវិធី
សម្រាប់ពីរ
- Properties management
- Pallette — សមតុល្យនៃទម្រង់
- Available functions for Material
- Graph — បន្ថូរ script
- Scripting all nodes



Material Common Nodes

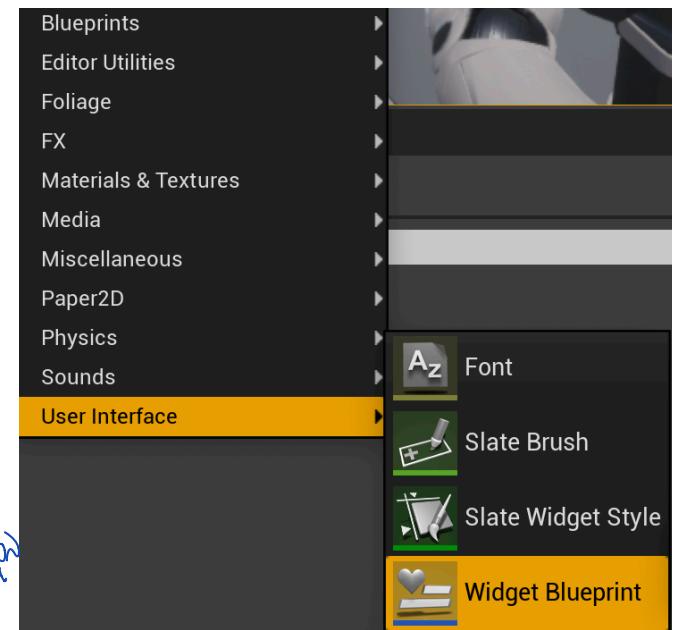
- Base Color
ສະບັບ material ຕີ່ໃຫຍ້ທີ່ມີຂອງຂໍ້ມູນ
 - Surface base-color; also called *albedo* or *diffuse*
 - Metallic — ແມ່ນຕິ່ງວ່າ ມີລົງທຶນ
 - 0 (off – not metallic) – 1 (on)
 - Roughness
ມີການຫຼາຍ
 - 0 (smooth) – 1 (rough)
 - Specular — ລົມຮັດກົດໆນຸ້ມ (ຄວາມປົກກົດໆນຸ້ມ)
 - 0 (not reflect) – 1 (full reflect)
- ຄວາມປົກກົດໆນຸ້ມ ດັ່ງນີ້ແມ່ນເປົ້າໄວ້



UMG Concept

- UI Designer
 - Creating user interface elements
 - Widget Blueprint 
 - Designer and Graph panel 

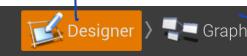




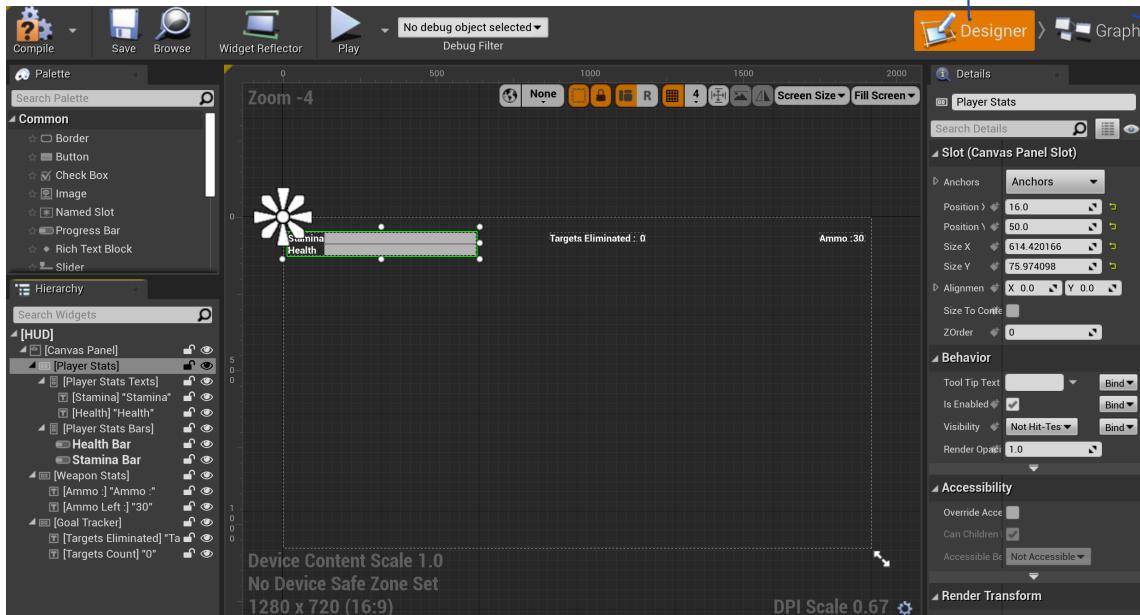
Widget Blueprint

Widget editor

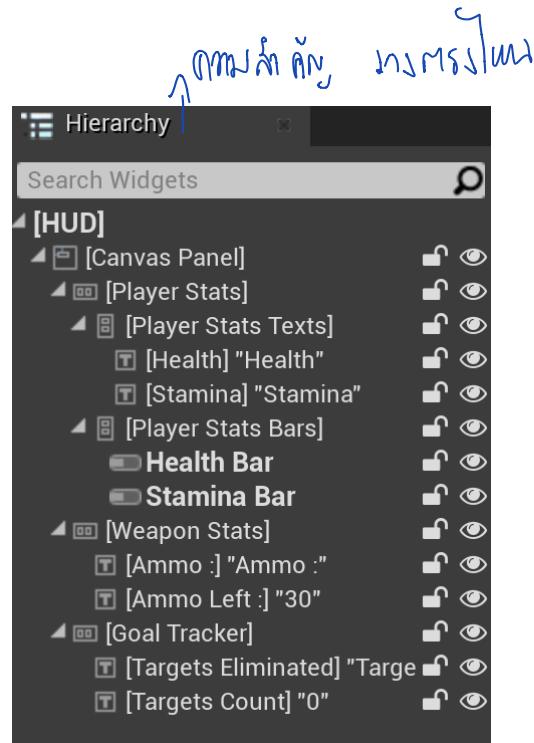
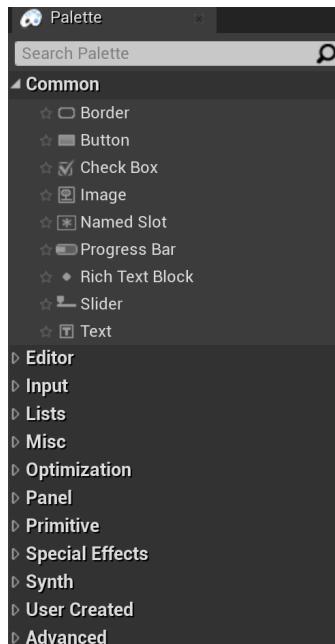
default visualization component view



move view
script



Widgets



First Person Template *(ຫຼັກສິນເປົ້າ)*

- FirstPersonCharacter Blueprint
 - Control first person character
- FirstPersonHUD Blueprint
 - Control game HUD
- FirstPersonProjectile Blueprint
 - Control shooting projectile

