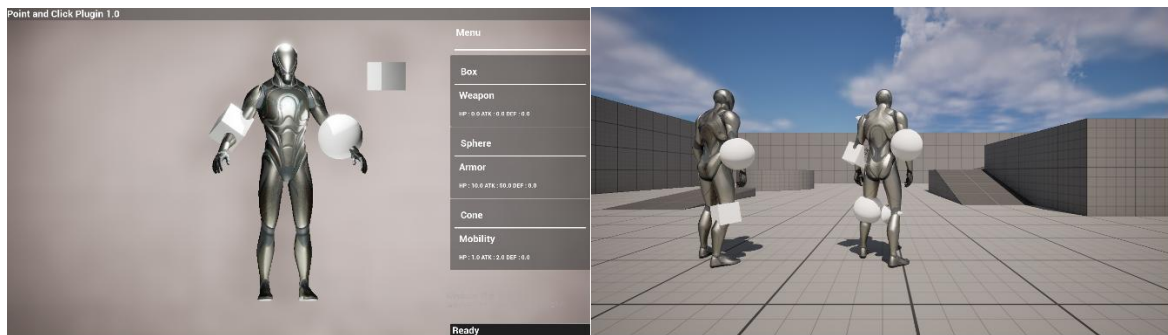


PointAndClickCustomizing Plugin V1.0

This Plugin Uses

- Mannequins from the Third Person Plugin
- Input mappings from the Enhanced Input Plugin
- Multiplayer functionality via Unreal's OnlineSubsystem

Introduction



The **PointAndClickCustomizing** plugin is an Unreal Engine extension that provides point-and-click character customization using attachable actors and a state machine. Players can attach items to their character with the mouse, adjust position and rotation, then press the "Ready" button to finalize customization. Once every client is ready, the game automatically transitions to the next level. This plugin manages customization steps via a dedicated state machine component and supports server-client synchronization in multiplayer (listen server) setups.

Features

- **Ready Button**

When pressed after finishing customization, signals the server that the player is ready. (Featured in CustomizingGameMode in Content/BP/GameMode)

- **Game Mode Transition**

Using ReadyGameMode, once all players are ready, smoothly switches from the customization phase to the main game mode.

- **Mesh Pivot Rotation**

Precisely rotate attached items around their pivot via mouse drag controls.

- **Preview & Finalize Attachment**

Spawn an item in preview mode to adjust its position, then call `FinalizeAttachment()` to attach it permanently.

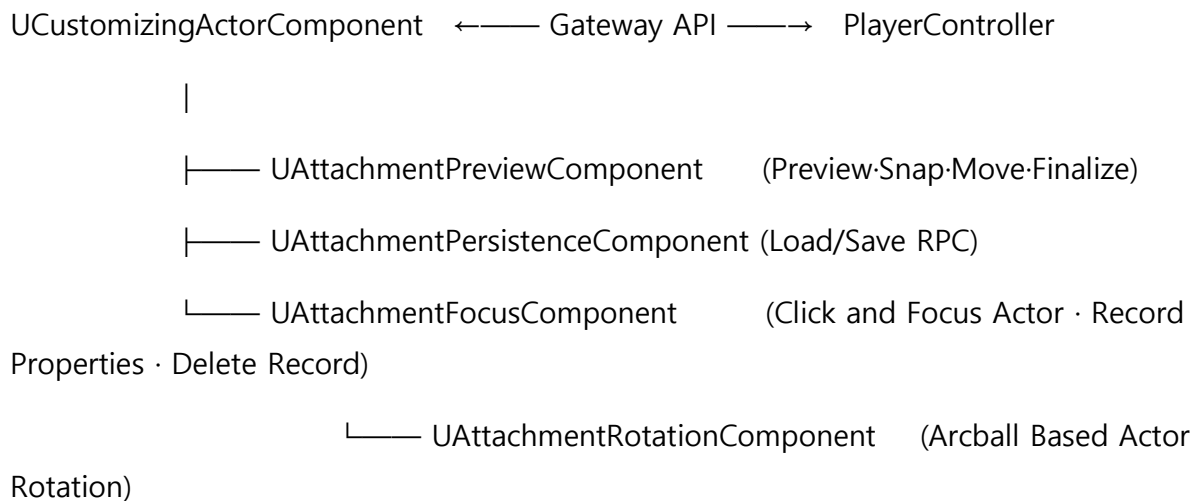
- **Server-Client Synchronization**

All attachment logic runs on the server, and final results are saved server-side and replicated to clients.

- **Modular Design**

Separation of concerns via a gateway component and multiple sub-components for clear responsibility division.

Main Structure of Customizing System (In `BP_CustomizingPlayer`)



(Base) `UCustomizingSubBaseComponent`

└─ lazy-cache: `StateMachine` / `Character` / `Mesh` / `FocusComp` / `DataTable` / `CurrentRecord`

Details

- **Preview Spawn & Snap**

- `RequestSpawnByID(ID)` → Spawns a preview actor at the mouse location

- Snaps to the nearest bone/socket
 - **Item Rotation (Arcball)**
 - RotateFocusedActor(prev, curr, viewport, speed)
 - Precisely rotate the focused actor with mouse drag
 - **Focus & Delete**
 - In Idle state: TryFocusAttachedActor()
 - In Focused state: DeleteFocusedActor(PlayerID)
 - **Finalize & Cancel**
 - In Snapped state: FinalizeAttachment() → permanent attach + server save
 - Cancel operations: CancelPreview(), CancelFocus()
 - **Load / Save**
 - LoadExistingAttachments(PlayerID)
 - Synchronizes all attachment records between server and clients
 - **Ready Button**
 - PressReadyButton() → Server_SendReady RPC → triggers ReadyGameMode transition
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Installation

1. Create a **Plugins** folder at your project root and copy the PointAndClickCustomizing folder into it.
 2. In Unreal Editor, go to **Edit > Plugins**, enable **PointAndClickCustomizing**, then restart the editor.
 3. Ensure **EnhancedInput** and **OnlineSubsystem** modules are listed in your Build.cs or .uplugin dependencies.
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How to Use

1. **Character Setup:**

- Add UCustomizingActorComponent to your ACustomCharacter.

2. **Controller Setup:**

- In your customization GameMode, set the PlayerController class to ACustomizingPlayerController.
- Assign CustomizingMappingContext, IA_Look, IA_Zoom, and other InputAction assets.

3. **Prepare Item DataTable:**

- Create a DataTable based on FActorDataRow and assign it to ActorDataTable.

4. **Spawn Preview:**

- Call TrySpawningAttachableActor(FName ID) to spawn the preview actor.

5. **Rotate / Cancel / Finalize:**

- Use RotateFocusedActor(), CancelPreview(), and FinalizeAttachment() to control attachments.

6. **Edit / Delete:**

- Focus an attached item with TryFocusAttachedActor(), then delete with DeleteFocusedActor().

7. **Ready Up:**

- Call PressReadyButton() to send the Ready RPC.
- When all clients are ready, ReadyGameMode will detect and call ServerTravel().

Contribution & Future Plans

- **Contributions Welcome:** Open PRs and issues! Please follow code style (logging, comments, memory management).
- **Future Plans:**

- Additional UI widgets
- Persistent SaveGame support
- Extended customization options (color, scale)
- Enhanced Ready system
- Performance and engine updates compatibility

If you have any questions feel free to contact : devhanghae@gmail.com
