

Third Person Controller - Shooter Template

(v1.1.0 15/08/2017)

Thank you for support this asset, we develop this template because a lot of developers have good ideas for a Third Person Game, but build a Controller is really hard and takes too much time.

The goal on this project was always to deliver a top quality controller that can help those who wants to make a Third Person Game but are stuck trying to make a controller.

With this template, you can setup a 3D Model in just a few seconds, without the need of knowing hardcore code or wasting time dragging and drop gameobjects to the inspector, instead you can just focus on making your game.

--- Invector Team ---

Ps* This Documentation is for the **Shooter Features**, there is another for the Basic Locomotion and Melee Combat in their respective folders.

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FIRST RUN

IMPORTANT

This is a Complete Project , and as every complete project it includes a custom InputManager, Tags , I etc Make sure that you import on a Clean Project.	.ayers,
Importing Complete Project	
Importing a complete project will overwrite your current project settings. If you're not sure what this means, you should switch to an empty project before importing this package	
Cancel Import	

- Importing on an existent project

If you want to import into another project, you can UNCHECK some project settings to avoid conflicts or replace your project settings like the TagManager (which includes all the Layers), and add later the tags and layers that we use. We recommend to import the InputManager because it's kind of painful to add manually later (lots of inputs).



*Updates also need to be imported into a Clean Project, so MAKE SURE TO BACKUP your previous project and transfer the necessary files to your new project. *

CREATING A NEW SHOOTER CONTROLLER

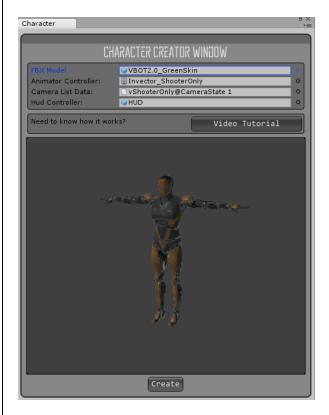
Make sure that your fbx character is set up as Humanoid



To setup a new character, go to the tab Invector > Shooter > Create Shooter Controller

t Invector	Tools	Mobile	Input	Window	Help	
< Basic	Basic Locomotion		>			
Inve	ntory		>			
Shoo	oter		>	Creat	te Shooter Controller	4
Melee Combat Help		oat	>	Creat	te Shooter Weapon	
			>	Creat	te new AmmoListData	
Reso	Resources		>			

Make sure your Character is **Fully Rigged** and set up the FBX as a **Humanoid**, then assign the FBX to the field "FBX Model" and click on the button "Create".



Ps* Make sure to select the **Invector_ShooterOnly or Invector_ShooterMelee** if you want to use both shooter and melee as your Animator Controller, you can find the file at the folder: Shooter > Animator, or just click on the little circle icon.

The **Character Creator** window will take care of all the hard work automatically and set up components such as capsule collider, layers, tags, rigibody, etc... It will create the **ThirdPersonController**, **ThirdPersonCamera** and a UI Canvas with a **HUD** to display health, stamina and other information's.

≔ Hierarchy	*=
Create * Q*All	
▶ 3rdPersonController	
3rdPersonCamera	
▼ UI	
▶ HUD	
Directional Light	

Your Capsule Collider settings will be based on your model proportions, if the capsule gets the wrong size, make sure that you rig is correct, and that your **model is using the correct Scale Factor** the same goes if the ragdoll **gets** weird.

Hit Play and enjoy $\ensuremath{\textcircled{}}$

ITEM MANAGER (INVENTORY)

- Add the ItemManager into your Player from the menu Invector > Inventory > ItemManager

Invector Window Help		
Basic Locomotion	>	
Inventory	>	ltemManager (Player Only)
Shooter	>	ItemEnums >
Melee Combat	>	Create New ItemListData
Help	>	
Resources	>	

- Select the Inventory Prefab from the Project > ItemManager > Prefabs
- and a ItemListData > vShooterMelee_ItemListData

Inventory Syst	Project E Console 🔒 📲
ITEMMANAGER CREATOR WINDOW	Create * C. Add-ons Add-ons Basic Locomotion Basic Locomotion Basic Locomotion Basic Locomotion Comment ItemManager Jons Verifield V

- You can use the ItemFilter to filter the items that you want to show

🚺 ITEM MANAGER			
	Close		
Script	💽 vItemManager 🛛 💿		
Collectable Tag	Collectable		
Drop Items When Dead			
USE	Action Input		
Inventory Prefab	ⓒ Inventory_ShooterMelee (vInvento ◎		
Item List Data	🗋 vShooterMelee_ItemListData (vIter 💿		
Items Filter			
V Items Filter			
Size	2		
Element 0	Shooter \$		
Element 1	Ammo +		
	OPEN ITEM LIST		
	Start Items 0		
	Add Item		
	Open Equip Points		
•	pen Attribute Events		
	Open Events		

We also added **Events** that are very useful, for example if you want to lock the input of the character while the Inventory is Open, just assign the Character and call the method LockInput from the vMeleeCombatInput.

Close Events			
On Open Close Inventory (Boolean)			
Runtime Only # vMeleeCombatInput.LockInput #			
+ -			

You also have the option to Drop all your items when you die, it will instantiate the Prefab that you select to be the Collectable of your item.

Click in the **Open Item List** button, to manage or create new items

ItemList Editor		•
📢 ITEM LIST		
ItemListData	vShooter	Melee_ItemListDat
	CREATE NEW ITEM	I
0	PEN ITEMENUMS EDI	TOR
	00.11	
	20 Items	
ID 00 - vAxe - MeleeWeap	on	
ID 01 - vShortKatai - MeleeWeap		
ID 02 - Health Potic - Consumable		
ID 03 - vShortSwor - MeleeWeap		

You can create new items or duplicate a current one, keep in mind that each item has a unique ID.

When creating a Weapon Item, you need to assign the **Original Object** (that instantiate into the Player with a vMeleeWeapon or vShooterWeapon) and a **DropObject** which we have a prefab called "**CollectableEquipment**" that you can use and it will automatically drop the item you assign or create a unique collectable with a mesh that matchs your item.

ID 12 - Shotgun - Shooter	
Shotgun	EditName
Description	
Tactical Shotgun	
Item Type	Shooter ‡
Stackable	
Icon 🔟 shotgunIcon	° 🖍
Original Object	Drop Object
♥ Shotgun	 ♥ VCollectableShotc ○
Att	tributes
bbA	Attribute
Damage	50 X
(Amman Caumt	
AmmoCount	8 X
)
Custo	m Settings
Script	© vItem ⊙
Two Hand Weapon	
Equipable Settings	
Equip ID	3
Custom Equip Point	defaultPoint
Equip Delay Time	0.5

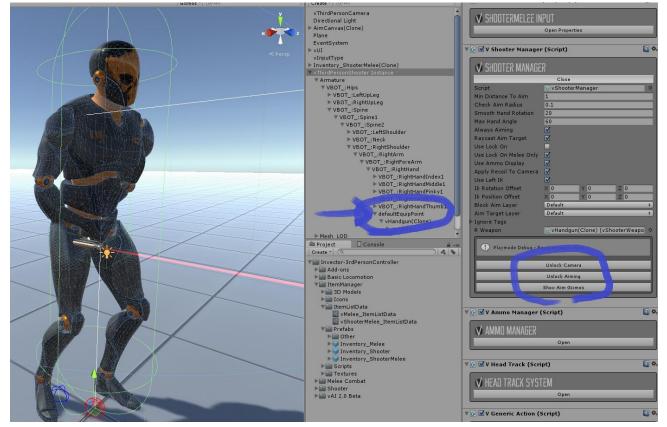
Don't forget to add the attribute Damage & AmmoCount of your weapon, this will allow you to drop and collect your weapon with the same ammount of weapon, making it into a unique weapon.

This Inventory Example goes further and further into options to customize, like consumable itens, if is stackable or not, and much more that is better explained on video tutorials that you can watch on our <u>Youtube Channel</u>.

HOW TO ALIGN A SHOOTER WEAPON AND LEFTHAND IK

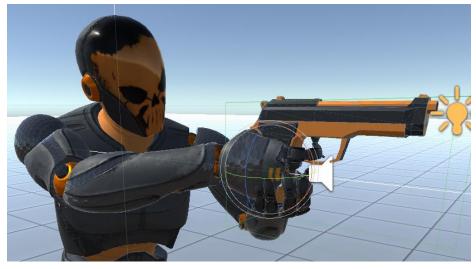
- try add a weapon into the inventory, hit play, equip the weapon and aim (you will see that the character will aim down)

- go to the inspector and find the ShooterManager, hit the button LockCamera and LockAiming



- to fix the position of the weapon and arms, you need to **ROTATE** the transform of the **defaultEquipPoint** and not the weapon itself or the renderer inside, rotate to make the IK aim forward, then position the weapon into the hand.

- copy the transform component of the defaultEquipPoint and paste the values after exiting PlayMode, now all the weapons should be align correctly.



- Now to adjust the **LeftHandlK Rotation and Position OffSet** go to the **ShooterManager** and insert values until you get the results you need (each character rig will use different values). Don't forget to copy and paste this values after exiting PlayMode.

	OBC LOCK OF MORECOMY			
	Use Ammo Display			
	Apply Recoil To Camera			
	Use Left IK	\checkmark		
1	Ik Rotation Offset	X 5.76	Y -2.15	Z 6.1
	Ik Position Offset	X -0.05	Y 0.06	Z -0.03
	Block Aim Layer	Default		
	Aim Target Layer			÷
	Tenero Tener			

- to create new **ShooterWeapons**, it's easier to just modify the prefab of one already setup by draging and drop into the scene and replace the model/values.

There is a crazy amount of options to customize your weapon, what projectile will shot, sounds, effects, offsets for IK, type of damage based on distance, events and much more...

You can also make your Shooter Weapon be a MeleeWeapon by attaching the vMeleeWeapon Component with a hitbox just like a MeleeWeapon, we have several examples.

COLLECTABLE STANDALONE (NO INVENTORY)

If you don't want to use the ItemManager to manage your items, we have another solution for 'on demand' collecatables, notice that you can only equip 1 item, once you try to equip another the current item will drop.

Take a look into the Demo Scene call "vShooterMelee_NOInventory", instead of adding the ItemManager component, now you will add the "vCollectShooterMeleeControl" component to automatically collect and equip weapons.

You need to create the defaultEquipPoint to equip weapons and assign inputs to drop them.

V COLLECTMELEECONTROL				
Close Properties				
Script 🕞 vCollectShooterMeleeControl				
Handlers				
	Right Handler			
Default Handler	🙏 defaultEquipPoint (Tra	nsform) 💿		
Custom Handlers				
	Left Handler			
Default Handler	🙏 defaultEquipPoint (Tra	nsform) ⊙		
Custom Handlers				
Unequip Inputs				
USE	USE Unequip Right Input			
Keyboard	RightArrow	Axis 1		
Joystick	D-Pad Horizontal	Axis 1		
Mobile	D-Pad Horizontal	Axis •1		
	Unequip Left Input			
Keyboard	LeftArrow	Axis -1		
Joystick	Joystick D-Pad Horizontal Axis 1			
Mobile D-Pad Horizontal Axis 1				
Control Display Prefab 💽 vShooterDisplayWeapon_Standalor 📀				

We also have a pretty simple example of a Display HUD to show what weapons you're equipped with, it's call "vShooterDisplayWeapon", search in the project folder and drag and drop the prefab into the scene.



For the ItemManager we need a prefab for the actual weapon that goes into the Player and another to be the Collectable, but in this case the CollectableStandalone is both. Take a look into one of the several example of collectables we have for both melee and shooter weapons.

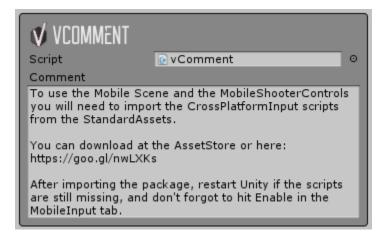
VCOLLECTABLES	ΓΑΝΠΑΙ ΠΝΕ
Script	© vCollectableStandalone O
Disable Collision	
Disable Gravity	
Reset Player Settings	
Play Animation	
End Exit Time Animation	0.8
Avatar Target	Root ‡
Match Target Mask	X 0 Y 0 Z 0
Match Target	None (Transform) O
Start Match Target	0
End Match Target	0
Active From Forward	
Use Trigger Rotation	
Destroy After	
Destroy Delay	0
On Do Action Delay	0
Target Equip Point	defaultEquipPoint
Weapon	♥vShotgun_NoInventory ♥
Weapon Icon	🔯 shotgunIcon 🛛 💿
Weapon Text	Shotgun
	OPEN EVENTS

It's important to assign the correct gameobjects into the Events, we turn off the collision and gravity of the weapons when equipped and turn on when you drop them.

MOBILE CONTROLS

Since the release of the Shooter Template, we have to remove all content of the **StandardAssets** from our project, and since we need some files from the **CrossPlatformInput** in order to the Mobile Controls work, we have to separated those files into a package, you can [DOWNLOAD HERE]

This information is also available in the Mobile Demo Scene, in the hierarchy we add the gameObject "____README FIRST!!!"



After importing the package, change your platform to **Android** or **iOS** on the **Build Settings** and make sure you have the **SDK** installed and don't forget to **Enable** the Mobile Input after change the platform, it should work right on the Editor.



In order to have a **stable performance** on mobile devices, we recommend **compress all your textures**, set the **Quality Settings to Good or Simple**, and remove any **Camera Effects**.

HEAD TRACK

ADD V2.0 - Now the Headtrack is a separated component and you need to add manually: ***Shooter** - automatically add's the headtrack in order to aim up/down

	Invector	Mobile Input	Window	Help		
10.0	Basi	c Locomotion	>	Create Basic Controller	_	
I	Mel	ee Combat	>	Components	>	Ragdoll
1	Reso	ources	> 4			HitDamageParticle
I	Help)	>			HeadTrack
ŀ			_			Culling Fade
						FootStep

Now we have a lot of more options and we can use the LookAt feature as well.

HEAD TRACK SYSTEM Script ♥ HeadTrack ♥ Head ♥ VBOT_:Head (Transform) ♥ Head Weight 0.5 Body Weight 0.25 Distance To Detect 10 Smooth 1 Update Target Interati 1 Update Target Interati ♥ Obstacle Layer Default # * Gameobjects Tags to detect Tags To Detect \$ Size 1 1 1 Element 0 LookAt * * Animator State Tag to ignore the HeadTrack Animator Tags \$ Size 3 \$ \$ Element 0 Attack \$ \$ Element 1 LockMovement \$ \$ Follow Camera ♥ \$ \$	健 🗹 V Head Track (S	cript)	() 🔅
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Element 2 CustomAction			-
Follow Camera 🗹			-
_			
Angle Range X	Angle Range X		
-90 90	-90) <u>90</u>	
Angle Range Y	Angle Range Y		
-90 90 90	-90	90	

If you don't want the HeadTrack in a specific animation, you can add the Tag CustomAction into the animationState and the headtrack will turn off while this animation is playing.

To make the character look at an object, you need to add the component vLookTarget into the object, you can take a look at several examples in the DemoScenes.

	t (Script)	[] * ,
	LOOK TARGET	
Script	₢ vLookTarget	•
and check the T with the vHeadT	: works with the vHeadTrack. Create rigger option to limit the area range t 'rack if this object can be look at. Ma ie tagsToDetect list	to detect
Visible check type	Single Cast	+
LookPointTarget	↓lookPoint (Transform)	○
The LookPointT look at.	arget is actual position that your cha	iracter will
A	rea to check if is visible	
Center Area	X 0 Y 1.45 Z	0
(1) The center are See the green	ea is usage for single raycast 1 sphere gizmo	
Is Hide		
		5-28

LOCK-ON TARGET

You can add a Lock-on component into the Camera by opening the 3rd Person Controller menu > Components > Lock-On. The component will be ready to use, you can set up the input that activate the Lock-on in the **ThirdPersonController** script, at the method **LockOnInput**.

LOCX-	ON BY INVECTOR	
Script	C Lock On Target Control	0
Tags To Find		
Layer Of Obstacles	Default	\$
Screen Margin X	0.8	
Screen Margin Y	0.1	
Range	10	
Sprite Height	0.25	
Show Debug		
Time To Change Ta	r 0.1	
Aim Image	LockOnTarget (Rect Tran	0
Aim Canvas	UI (Canvas)	0
Hide Sprite		

You can also display a **Sprite Image** into the Target by assigning an Image and Canvas.

Hide Sprite will hide the sprite if the target if lock-on is false. Set off-set Y by changing the value of the **Sprite Height**.

This Lock-On currently works exclusively with our AI, it will not work out of the box with Non-Invector Characters because it need's the **vCharacter** interface to know if the target is alive. You can assign a **vCharacterStandalone** script into your gameobject, it contains health and a **TakeDamage** method to receive damage.

Shooter - You can use the Lock-On by checking the "Use Lock-On" option on the ShooterManager.

THROW OBJECT

The Throw System is pretty **Plug & Play**, just add the component into your character and follow the example of the **vShooterMelee & ShooterTopDown** Demo Scenes. Don't forget to use the **Throw_End & vThrowUI prefabs**.

We call the **SetLockMeleeInput** and **SetLockShooterInput** methods using events, to lock all the shooter and melee inputs to not interfer while using the throw action.

🔚 Hierarchy 🔒 📲	Inspector	g 🔀 Navigation	<u></u> =
Create + QrAll	🔻 健 🗹 V Throw Object (S	cript)	💽 🗘,
GameController ThirdPersonCamera			
ThirdPersonCamera 😤 ▼ Shooter2.5D V	🗸 THROW OBJECT		
▼ Armature	·	Close Properties	
▶ VBOT_:Hips Throw_Start ▶ Mesh_LOD	Don't forget to unche HeadTrack componen DemoScenes	ck the option 'follow camera' into the nt, and follow the examples of the	
▶ ragdollAudioSource ▶ Throw_End ▼ UI	Script Camera Style	🖻 vThrowObject Side Scroll	⊙ ‡
► HUD	USE	Throw Input	
► ChangeSceneButtons	USE	Aim Throw Input	
▶ vThrowUI ▶ Level	Throw Start Point	LThrow_Start (Transform)	
▶ AimCanvas	Throw End	Throw_End	0
	Object To Throw	🔺 vGrenade (Rigidbody)	•
	Obstacles	Default	¢
	Throw Max Force	10	
	Throw Delay Time	0.25	_
	Line Step Per Time Line Max Time	0.1 10	_
	Exit Strafe Mode Delav	0.5	_
	Throw Animation	ThrowObject	
	Holding Animation	HoldingObject	
	Cancel Animation	CancelThrow	
	Max Throw Objects		
	Current Throw Object		
Project	Debug	-	
DemoScenes		CLOSE EVENTS	
▶ 💼 Prefabs	On Enable Aim ()		
▶ 🔤 Resources		meObject.SetActive	÷
V	🔹 defaultEquip 💿 📄		
► Examples ► Generic	Runtime Only ≠ v2_ is Shooter2.5D ○ ✓	_5DShooterInput.SetLockMeleeInput	¢
▶ 🚍 Shooter	Runtime Only 🛊 v2_	5DShooterInput.SetLockShooterInput	÷
▶ SimpleIK ThrowSystem ▼ Prefabs	🖻 Shooter2.5D o 🗸	+	
► ♥ Throw_End	On Cancel Aim ()		
▶ 👽 vGrenade	Runtime Only 🛊 Gar	meObject.SetActive	÷
► 💙 vGrenadeCollectable ► 🜍 vThrowUI	💿 defaultEquip 💿 🗸		
🔻 🚝 Scripts	Runtime Only # v2_	_5DShooterInput.SetLockMeleeInput	÷
🕞 vThrowCollectable	🖸 Shooter2.5D 💿 🦳		
🕼 vThrowObject 🚱 vThrowUI	Runtime Only + v2	_5DShooterInput.SetLockShooterInput	÷
► ThrowAnimations	Shooter2.5D O		
► 🖿 UI		+	-
▶ 🚔 Weapon ໑ Documentation_Shooter	On Throw Object ()		
README_Shooter	List is Empty		
▶ 🚔 vAI 2.0 Beta			