# Hero Character specifications

## Model

The character should perform well on a relatively recent mobile device.

Number of polygons: 5K to 7K

Number of bones: 37 to 45 maximum

Blend weights: 2 bones

Single skinned Mesh Renderer

Mecanim Humanoid. There should be no import warnings.

Supports ragdoll with no vertex tearing. Please use Unity naming convention for bones. Normally this comes for free when doing a well-designed character.

Supports look-IK as the head turns to look at interest points (normally this comes for free when doing a well-designed Mecanim character).

Texture size: 2048x2048

Texture types: To be discussed. This depends on whether the art direction decides on Physical Based Rendering or not. As we are in the future, there are definitively some skin elements that will glow or be brighter. So I’m thinking minimally one diffuse and one emission texture for the hero and the same for the omni-tool.

Number of materials: 2 (Hero body and Omni-tool)

The rig must work for multiple skins for the same character (much like in Overwatch).

**Important**: I’m not an expert in character modeling. Please feel free to make suggestions to these specifications ☺

## Animations

In general, the code moves the character. There might be a few exceptions where root motion is needed.

Sharing animations. Core package shared among many heroes plus a hero-specific package would be best to reduce build size.

Characters are **heroic** and have **over-the-top** animations.

Characters have facial expressions (eyes, smiles, frowns).

The characters have voice lines. Blend shapes should be present to allow lip-sync with Salsa (<https://www.assetstore.unity3d.com/en/#!/content/16944>)

**Main Animations**

|  |  |  |  |
| --- | --- | --- | --- |
| Animation | Loops | Description | Blends |
| Idle neutral | Yes | All-purpose gentle idle | Blends to idle 2 or idle 3 or run |
| Idle 2 | No | A funny animation that shows the hero’s personality. It plays before the race starts. | Blends to idle neutral or run |
| Victory 1 | No | A cool animation that plays when the hero has won the race. Shows personality and attitude. | Blends to idle neutral |
| Lose 1 | No | An animation that plays when the player loses the race. | Blends to idle neutral |
| Run | Yes | The running animation. It reflects the personality, gender, and weight of the hero. | Blends to a whole bunch of animations such as sprint, jump, fall, etc. |
| Sprint | Yes | A faster run where the player leans more forward. | Blends to a whole bunch of animations such as sprint, jump, fall, etc. |
| Zipline attach | No | Player jumps up a little to grab the zipline. See <https://www.youtube.com/watch?v=NHwaCFPc4gk> | Blends to zipline loop |
| Zipline loop | Yes | Player is going down the zipline | Blends into zipline detach |
| Zipline detach | No | Player lets go of zipline | Blends into fall |
| Use Omni-tool 1 | No | Omni-tool is on left arm. Player types a few commands to trigger a card. | Blends with a whole bunch of animations such as sprint, jump, fall, etc. |
| Fall start | No | Player starts falling | Blends to fall loop |
| Fall loop | Yes | Fall loop | Blends to land and run (could be interrupted) |
| Land (after fall or jump) | No | Land animation that plays when landing after either falling or jumping | Blends to run or slide |
| Jump | No | Player jumps up. | Blends to land |
| Double-jump | No | Player does a higher, more spectacular double-jump | Blends to land |
| Slide down | No | Player lies on the ground and slides | Blends to slide loop |
| Slide loop | Yes | Player sliding | Blends to slide up |
| Slide up | No | Player gets back up to the running position | Blends to run and jump |
| Death fall backwards | No | Player dies and falls backwards. The player could have his ragdoll activated at the end of this animation. | From any state |
| Death fall forward | No | Player dies and falls forward. The player could have his ragdoll activated at the end of this animation. | From any state |
| Stumble |  | Player stumbles while running but recovers. He does not stop moving forward as he stumbles. | Blends to run |
| Land after respawn | No | When a player dies, he respawns in the sky, falls, and lands on the road. The Land-after-respawn animation is a slightly longer animation that shows the hero’s weight and resolve in winning the race. | Blends to run |
| Turn left and right |  | Plays when the player turns a 90-degree corner | Blends with run and slide |
| Change lane |  | Plays when the player changes lane while running. A lane is 2 meters wide. | Blends with run |

**Secondary Animations (for the future)**

|  |  |  |  |
| --- | --- | --- | --- |
| Animation | Loops | Description | Blends |
| Idle 3 |  | A funny animation that shows the hero’s personality. It plays before the race starts. | Blends to idle neutral or run |
| Victory 2 | No | A cool animation that plays when the hero has won the race. Shows personality and attitude. | Blends to idle neutral |
| Lose 2 | No | An animation that plays when the player loses the race. | Blends to idle neutral |
| Use Omni-tool 2 | No | Omni-tool is on left arm. Player types a few commands to trigger a card. | Blends to a whole bunch of animations such as sprint, jump, fall, etc. |
| Vault |  | Player places hand using IK on obstacle and vaults over it while running | Blends with run |
| Throw |  | Player grabs with his right hand a generic object attached to a belt pouch and throws the object in front of him. | Blends with a whole bunch of animations such as sprint, jump, fall, etc. |
| Stasis |  | Player is stuck in a stasis sphere. Animation plays in slow motion. | Blends with fall |
| Health boost |  | Player grabs with his right hand a futuristic syringe attached to his belt pouch and jams the syringe in his right leg while running. | Blends with a whole bunch of animations such as sprint, jump, fall, etc. |