Cobble Systems List

Judah Avery | Ball n' Socket

PLAYER	DESCRIPTION
Movement	• Pressing **A** will move the player left and pressing **D** will move them right • Pressing **W** or **Spacebar** will cause the player to jump

Death	• The player can **die** from:
	  ○ Heavy **physics objects** falling on top of them
	  ○ Colliding with **hazards** (generic ex: spikes)
	  ○ **Falling** off screen
	  ○ Objects **crushing** them (ex: pistons from above)
	• **Player death sequence:**
	  1. Player controls are locked
	  2. Death animation and sound will play
	  3. Level will fade to black and sound fades out
	  4. Level will restart
	  5. Level will fade from black and sound fades in
	  6. Player controls are unlocked

Interactable Gears	• Interactable gears can be placed and removed from mechanisms by pressing **E** when the player is within range • The player can only hold a **single** gear at a time • When holding a gear, the player's jump height becomes much shorter
Switching Levers	• The player can switch levers left or right by **pressing E** • Levers have **hoses** on both the left and right side
Plugging and Unplugging Hoses	• The player can grab a hose from one side of a lever or a steam box by **holding E** • The player can also plug hoses into **steam boxes** by **holding E** • When holding a hose end, the hose will attach to the **character's waist** *(this is likely subject to change)* • When **plugged** into a steam box, the hose end will snap from the player's waist to the socket's position • The opposite happens when a hose is **unplugged** from a steam box
Hose Restrictions	• Hoses have a fixed length that they can extend from levers • If the player carries the hose too far, the hose will **stop extending** from the lever • If the player tries to carry the hose **past it's max length** the hose will be **released** • While holding a hose, the player can voluntarily **release** that hose by **holding E** • When a hose is released, it will **retract** back into the **lever** it was grabbed from • The player can hold **one hose end** at a time and can also **carry one gear** along with it

Pushing and Pulling Boxes	● There will be specific boxes that the player can **push and pull** from either side by holding **E** and **moving** in the left or right direction ● These boxes will have **physics** and behave like a heavy box would in reality ● If a box falls on top of the player, they will **die** ● If the player grabs a box while holding a **hose**, the hose will be released and they will hold onto the box instead ● The player can also **hold one gear** on their back while grabbing boxes
Restrictions of Boxes	● While **holding** onto a box: ○ Player **cannot jump** and will **move slower** ○ **Cannot interact** with any other objects (gears, levers, hoses, etc.) ● If the player pushes a box to a point where it **collides** and cannot move any further, the character will stop moving ● If the player is moved upward or downward (ex: standing on a vertical moving platform) but the box stays at the same elevation, after a short **delay,** the character will **let go** of the box ● If the box moves upward or downward (ex: pushing a box off a ledge) but the player stays at the same elevation, after a short **delay,** the character will **let go** of the box

STEAM POWER	**DESCRIPTION**
Levers	● When a lever is switched left, the **left hose or pipes get steam power** ● When the lever is switched right, the **right hose or pipes get steam power**

Hoses	● When **plugged** into a steam box, the hose will **transmit steam power** to that steam box
Steam Boxes	● Steam boxes connect **hoses** to **pipes** ● For a steam box to transmit steam power to pipes, a hose must be plugged in ● Steam boxes have a socket for hoses to plug into and pipes on the other side outputting steam power to a mechanism
Pipes	● Pipes are fixed in place within the level and cannot be adjusted by the player ● Pipes act as the path of travel for **moving mechanisms** ● **Stationary mechanisms** will not have pipes, unless they are connected to a **steam box** (ex: piston) ● Pipes will automatically provide steam power to mechanisms if they are not connected to a steam box or lever ● If pipes are connected to a steam box, mechanisms will only function if the steam box is transmitting steam power

LEVEL MECHANISMS	**DESCRIPTION**
Functionality For All Mechanisms	● Mechanisms can have any number of gear holders ● When a mechanism **does not** have a gear in **each** gear holder it **will not function** ● If a mechanism **does have** a gear in **each** gear holder it **will function** ● Mechanisms may also require **external steam power** to function ○ Mechanisms may be attached to a **steam box,** meaning that if the steam box is not being steam powered, the

	mechanism won't function ○ Mechanisms may also be directly attached to a lever by **pipes**, meaning if the lever isn't switched to the correct side, the mechanism won't function ○ Mechanisms **not attached** to a **steam box** or **lever** will automatically function
Moving Platforms	● Moving platforms have an adjustable **number of points** to travel between (ex: A, B, C) ● When **functioning**, the platform will move in a straight line from point to point **in order** ● When the platform reaches an ending or starting point, it will **reverse** ● Moving platforms also have a set **delay time** to stop before move again when they reach each specific point ● When a platform's **missing** a gear(s) it will **return to its starting position** ● If a platform has **no** steam power, it will **freeze in place**
Rotating Platforms	● When **functioning**, rotating platforms will rotate constantly at a set speed from their starting rotation ● Rotating platforms **missing** gear(s) will **return to their original rotation** ● Rotating platforms without power will **freeze in place**
Pistons	● Pistons have a bottom piece, and top platform piece ● When **functioning:** ○ The top platform will **shoot up** into the air at a set speed to a **set height** ○ Afterward, the top platform piece will

	slowly retract back into the bottom piece and have a **delay time** until it shoots up again ● When **not functioning:** ○ The top platform will not move ○ If the top platform is at all raised it will **quickly** retract down to the bottom piece, then stop moving ● The top platform will shoot upward at the rotation of the object ○ If the object is rotated in engine, the top platform will shoot in the direction that the piston was rotated
Doors	● When the player walks through a door and they leave the camera's view, the following occurs in order: 1. The player's movement will be **locked** 2. The door will **close** behind them 3. The screen will **fade out** to black 4. The next level will open and **fade in** from black 5. The player's movement will be **unlocked** ● When **functioning:** ○ Door will open by moving upward into ceiling at a set speed ○ Allows the player to walk off the edge of the camera's view and enter the next level ● When **not functioning:** ○ The door will not move and block the player from entering the next level ○ If the door is open, it will quickly shut at a set speed by moving down and hitting the floor

PLAYER FEEDBACK	DESCRIPTION
Gears	● When a gear is on a mechanism that is functioning, the gear will **rotate** ● When the player can pick up a gear, a glowing gear icon will appear **above the character's head** ● When the player can place a gear into a mechanism, a glowing gear icon will appear where the **gear will be placed** ● While the character is **holding** the gear, it will appear their back
Levers	● When the player can switch a lever, the lever handle will slightly **glow** a golden color ● When the player switches a lever it will **rotate** to the opposite side (left or right) ● Switching the lever plays a switch sound
Hose & Pipe Glow	● When a hose or pipe is provided **steam power**, it will **glow** an emissive gold color ● If a hose or pipe **loses steam power**, it will return to its original, **non-emissive** material
Steam Boxes	● When provided with **steam power** from hoses**:** ○ The block will emit steam particles from the top ○ A subtle steam sound will loop
Hose Interaction	● Plugging and unplugging plays a plug sound
Mechanisms	● When the mechanism **starts functioning** it will **fade in** a looping mechanism sound and continue to loop the audio ● When the mechanism **stops functioning** it will **fade out** the mechanism sound and stop playing

ENGINE TOOLS	DESCRIPTION
Object and Sprite Rendering/Hiding	● **In game**, the only objects and sprites rendered are the ones visible inside of the camera's view ● When an objects or sprite **leaves** a certain distance from being within the camera's view, that object or **sprite will be hidden** (turned off) ● When the object or sprite **returns** to a certain distance from the camera's view the object or **sprite will be shown** (turned back on) ● This should not affect any of the gameplay and should be invisible to the player
Camera Clamping	● The level will have **set boundaries** on the X and Y axis ● The camera **will not** be able move outside of those boundaries ○ Think of the all the area outside of the boundaries as collision boxes that collide with the camera's view ○ When the edge of the camera's view reaches a boundary, the camera will not move any further in that direction, even if the player does
Dynamic Camera	● When the **player moves** left or right, after a certain threshold, the **camera** will compensate by **moving in front** of the player in that direction ○ **Example:** If the player is moving rightward for more than 1 second, the camera will move to the right, in front of the character, viewing what is in the direction they are moving ● The camera's **spring arm length** needs to be adjustable for each level

	● When transitioning to a level with a different camera zoom, the camera will **zoom in** or **out** to adjust, after the screen has faded in from black ○ This will be done by changing the **spring arm length**