

Brett Moody

[Ratchet and Clank](#): Spec Level Design and Game Design Document

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Overview

Purpose of this Document

In this Game Design Document and the accompanying Level Design Document, I hope to demonstrate my ability to communicate gameplay and level design ideas at a AAA level. I will be laying out a plan for a level-segment within [Ratchet and Clank \(2016\)](#)'s [Quartu](#) planet. Within this plan, I will detail the challenges that the player will face in each of the segment's four areas. I have also designed two new enemy types that the player will face in this level-segment, which I detail at the end of this document.

Introduction to Ratchet and Clank

The following Game Design Document has been written for [Ratchet and Clank \(2016\)](#). If you are not familiar with the game, [Ratchet](#) and [Clank](#) are a [Lombax](#) (cat-like alien) mechanic and a tiny, solemn robot respectively. The duo travels through exotic galaxies, where they battle a diverse cast of bizarre aliens. The series is known for its mix of third-person platforming and shooter gameplay. For simplicity, I have limited R&C to their starting weapons (the [Combuster](#) and [Wrench](#)) for this GDD.

Gameplay Description

Goal

An [Infobot](#) with critical information about [Chairman DreK's](#) plot to build a machine that can destroy planets has been abducted by a [Drek Industries](#) Scrap Collector. ***Ratchet and Clank must save this Infobot from the center of the facility before it is melted down.***

Level Theme

This segment introduces the player to a new section of [Quartu's robot factories](#): the [Drek Industries](#) Repurposing Department, a euphemistically named recycling area where stolen goods are turned into raw materials for [Warbots](#).

Target Player Experience

For this segment, I took inspiration from this [airport/baggage-sorting scene from the end of Toy Story 2](#). By recreating that scene's crisscrossing webs of conveyor belts, I wanted to evoke that scene's sense of mechanical chaos and momentum.

New Gameplay Elements

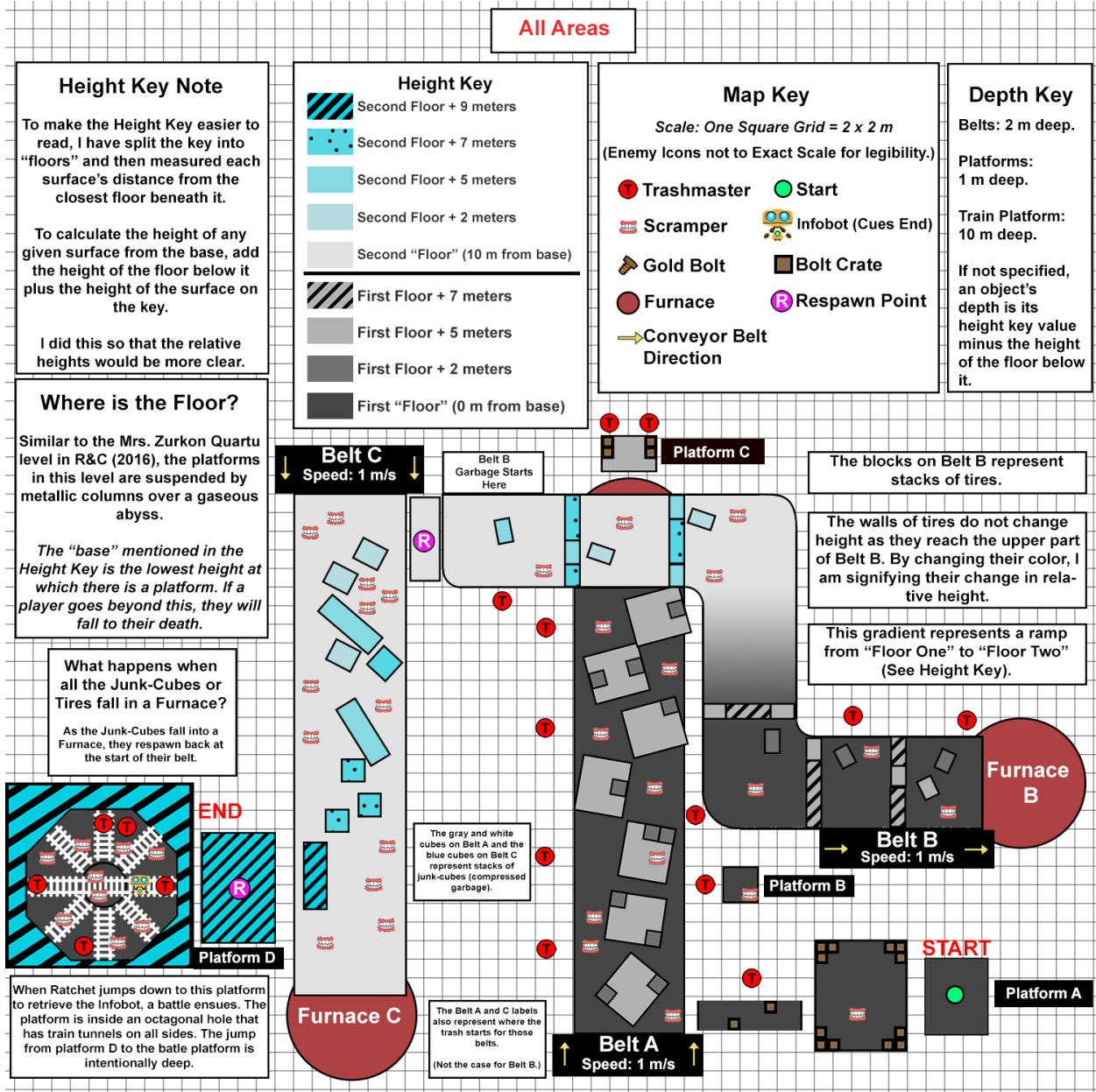
Furnace: The conveyor belts transport goods into giant Furnaces, which are large pots of molten magma. Ratchet will die instantly if he touches these.



Areas

This level-segment is made up of four distinct areas, each of which tests the player's mastery of a specific mechanic.

Overall Map (All Areas)



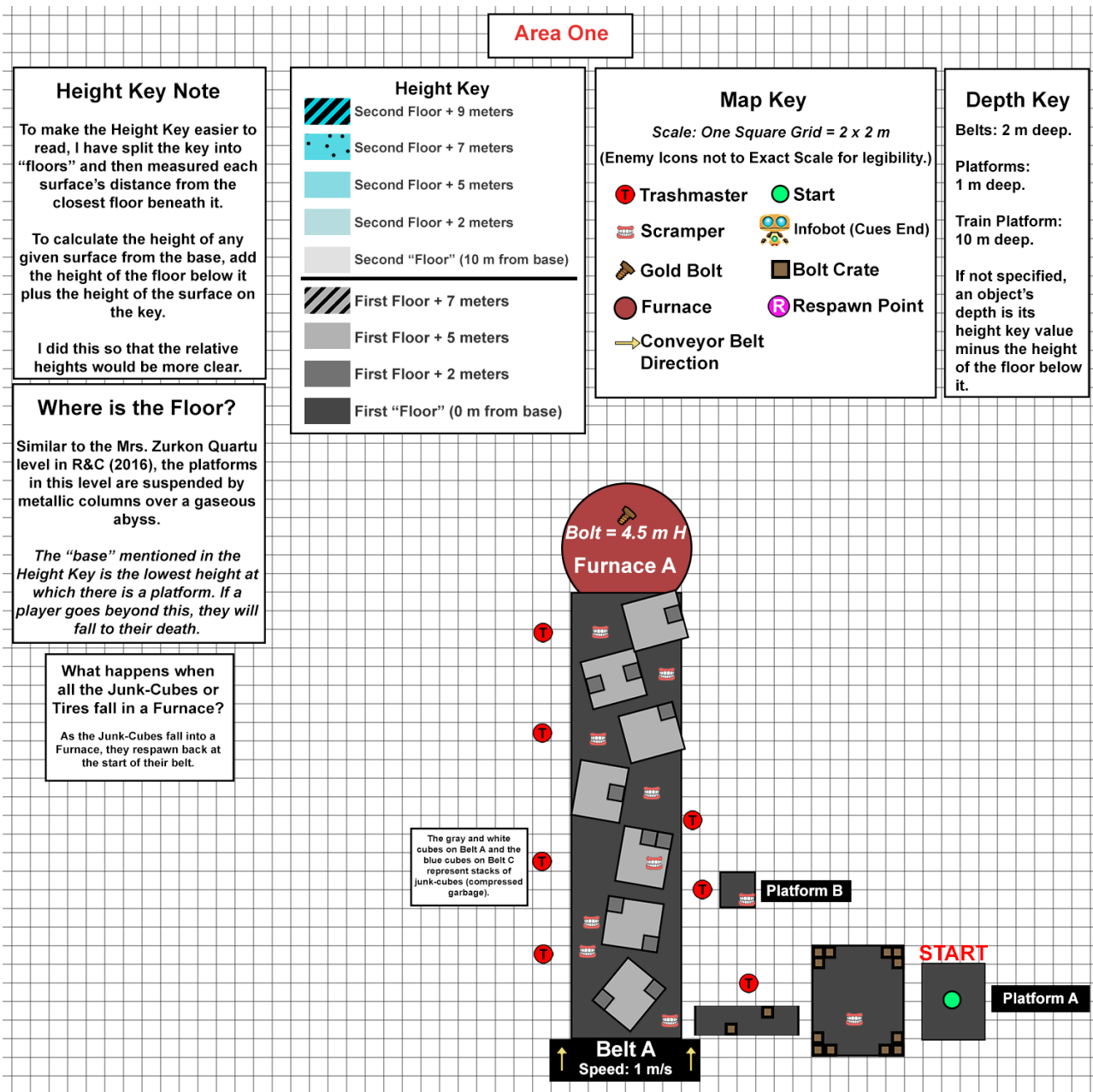
Area One / Introduction to Conveyor Belts and Enemies

Description: A large conveyor belt moves tall stacks of **junk-cubes** (pictured right) towards a furnace to be dumped. **Trashmasters** patrol the perimeter while **Scrampers** idle on the conveyor belt. A **Gold Bolt** hangs above the furnace, out of reach from Belt A.



Player Experience: The player has three options in this section. They can either:

1. Jump along the tops of the stacks of junk-cubes but be vulnerable to fire from the **Trashmasters**.
2. Run along the base of the junk-cube stacks but be vulnerable to the **Scrampers** on Belt A.
3. Attempt a **heli-pak glide** to Platform B and then to Belt B but be vulnerable to **Trashmasters** that can shoot you out of the air.



Area Two / Walls of Tires

Description: Belt B, an s-shaped conveyor belt, starts above Furnace A. Its middle section slopes down until its end section is the same height as Belt A. The conveyor belt transports walls of tires towards Furnace B. This section introduces Platform C, which you need to obtain the Gold Bolt.

Player Experience: Belt B has walls of tires on it that are the width of Belt B, so players will have to jump between gaps in these tire-walls to proceed. If a player is trapped behind these walls, they can fall into Furnace B.



How to Get the Gold Bolt:

Description: [A Gold Bolt](#) hangs over Furnace A. Ratchet cannot reach the Gold Bolt by double-jumping from Belt A.

Player Experience: The player can jump off the north end of the upper section of Belt B onto Platform C, which is slightly below Belt B. The player can then **heli-pak glide** across Furnace A and grab the **Gold Bolt** mid-air.

Area Two

Height Key Note

To make the Height Key easier to read, I have split the key into "floors" and then measured each surface's distance from the closest floor beneath it.

To calculate the height of any given surface from the base, add the height of the floor below it plus the height of the surface on the key.

I did this so that the relative heights would be more clear.

Where is the Floor?

Similar to the Mrs. Zurkon Quartu level in R&C (2016), the platforms in this level are suspended by metallic columns over a gaseous abyss.

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As the Junk-Cubes fall into a Furnace, they respawn back at the start of their belt.

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Map Key

Scale: One Square Grid = 2 x 2 m
(Enemy Icons not to Exact Scale for legibility.)

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	Scramper		Infobot (Cues End)
	Gold Bolt		Bolt Crate
	Furnace		Respawn Point
	Conveyor Belt Direction		

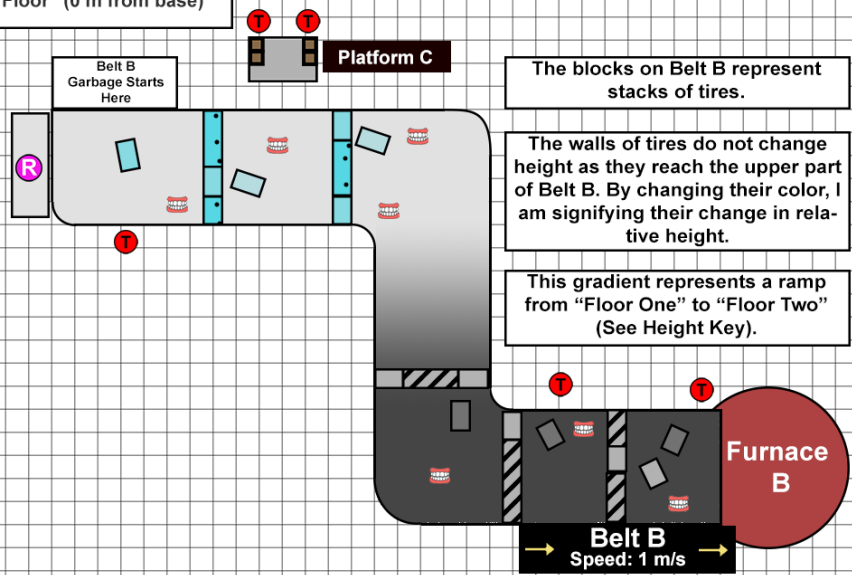
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The blocks on Belt B represent stacks of tires.

The walls of tires do not change height as they reach the upper part of Belt B. By changing their color, I am signifying their change in relative height.

This gradient represents a ramp from "Floor One" to "Floor Two" (See Height Key).

Belt B
Speed: 1 m/s

Furnace B

Area Three / Towers of Trash

Description: Belt C, a linear belt, is covered with tall towers of crushed garbage cubes. Platform D is located near the end of the belt by the furnace, but Ratchet cannot directly jump from the base of Belt C to Platform D because Platform D is very high.



Player Experience: To reach platform D, Ratchet must jump to the top of one of the **junk-towers** on Belt C and **heli-pak glide** to **Platform D** just before the tower reaches **Furnace C**.

Area Three

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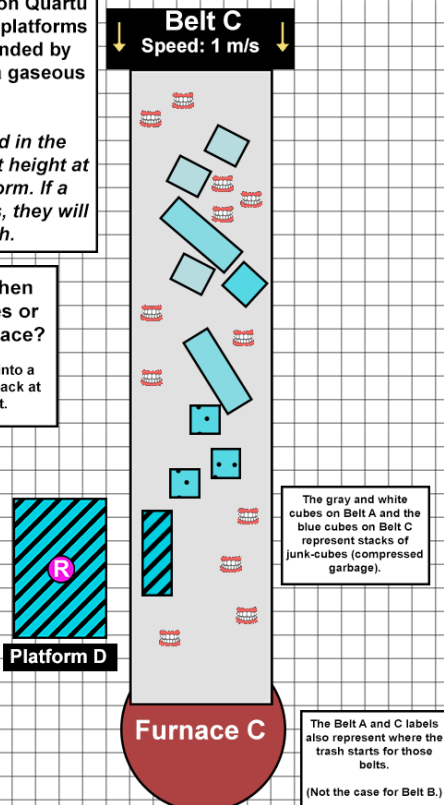
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What happens when all the Junk-Cubes or Tires fall in a Furnace?

As the Junk-Cubes fall into a Furnace, they respawn back at the start of their belt.



The gray and white cubes on Belt A and the blue cubes on Belt C represent stacks of junk-cubes (compressed garbage).

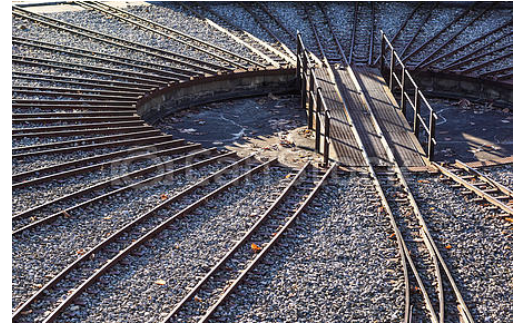
The Belt A and C labels also represent where the trash starts for those belts.
(Not the case for Belt B.)

Area Four / Rotating Train Junction (Combat Segment)

Description: R&C jump from **Platform D** onto a circular train junction surrounded by train tunnels. This is the junction where mine-carts transport raw materials from one part of the facility to another. R&C pick up the lost, whimpering **Infobot** and a battle begins.

During the battle, the center piece of the junction will spin until it lines up with a set of tracks. Once it stops, a train-crossing sound will play for five seconds then **a fast-moving train of mine carts** will barrel through the junction, crushing anything in its path (instant death for Ratchet and enemies.)

Player Experience: The **Scrampers** will not pause once they are dashing, so Ratchet can lure them into the path of the train. Ratchet must defeat all the enemies to **complete the level**. When the level completes, **a cutscene plays with the Infobot**.



Area Four

Height Key Note

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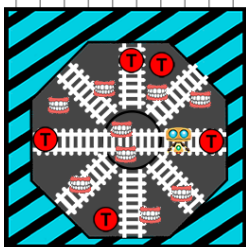
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When Ratchet jumps down to this platform to retrieve the Infobot, a battle ensues. The platform is inside an octagonal hole that has train tunnels on all sides. The jump from platform D to the battle platform is intentionally deep.

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	Conveyor Belt Direction		

Depth Key

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Ratchet and Clank's Stats (Simplified)

[Combuster](#) Damage: 1pt on successful hit.

[OmniWrench](#) Damage: 1pt on successful hit.

Ratchet's Health: 50pts.

Enemies

Trashmaster



Dimensions: .5 m L X .5 m W X 2 m H.

Theme: Trashmasters are the desk-jockeys of Drek Industries. As disgraced Warbots, they have been rebuilt to eliminate any resistance from creatures that have accidentally ended up on the conveyor belts in the Repurposing Center. This job blows!

Weight: Heavy. Minimal knockback from Ratchet's weapons.

Health: 20 points (main chassis). Jetpack: 5 points. **Damage:** 20 points per Refuser shot.

Strategy: These disgraced WarBots seem tough, but if you can get hit their jetpack from behind, they will fall to the ground or even better, into the abyss below!

Danger: The Trashmaster's gun (the Refuser) packs a punch (puts Ratchet on his back and knocks him back one meter), so it can knock Ratchet off the platform and into the abyss. The Refuser fires bits of garbage.

Behavior (States for Finite State Machine): Idle, Chase, Rotate, Fire at Ratchet.

Scramper (Scrap-Chomper)



Dimensions: 1 m L X 1 m W X 1.25m H

Theme: The Scramper is a bizarre, termite-like robot with a huge pair of chompers (teeth). They are not a Drek Industries creation, but they are tolerated as a useful pest because they chew up some of the tougher metals that come into the facility. Scrampers have a few screws loose, so they often ride the facility's conveyor belts and fall into the facility's furnaces.

Weight: Very light. Ratchet's wrench will fling them one meter.

Health: 10 points. **Damage:** 15 points per chomp.

Strategy: Scrampers have a great deal of health, so the best strategy is to knock them off the platforms and into the abyss below. Ratchet can do this in one of two ways: he can either use the wrench to bat them one meter or try to get the Scramper to **Dash** off the platform and into the abyss below.

Danger: Scrampers can be lethal on the conveyor belts as they can trap R&C in their chompers and cause them to fall in the furnaces at the end of the belts.

Behavior: The Scramper has a finite state machine similar to the [Cataquacks \(brightly-colored ducks\) in Super Mario Sunshine](#).

- **Idle:** The Scramper wanders from side to side. Its animation shows it lazily chomping its teeth.
- **Spotted Ratchet:** The Scramper has spotted Ratchet. It jumps and rotates to face Ratchet. This state leads into the **Dash** state.
- **Dash:** The Scramper opens its jaw wide and runs at Ratchet at 3 m/second speed. It runs in a straight line and cannot turn.
- **Chomp:** If the Scramper collides with Ratchet while in the Dash state, it will chomp down on Ratchet and Clank, ensnaring them in its jaws until the player frees Ratchet by shaking the PS controller or wiggling the joysticks. This is strategically significant because:
 - Ratchet can take damage from other enemies while being chomped (but cannot be Chomped by other Scrampers.)
 - Scrampers mostly appear on conveyor belts, so if Ratchet becomes trapped by a Scramper, he might also fall off conveyor belt with the Scramper as it reaches the end of the belt.

Full-Page Level Designs

Below, you can find full-page versions of the level-design documents shown in the previous sections.

All Areas

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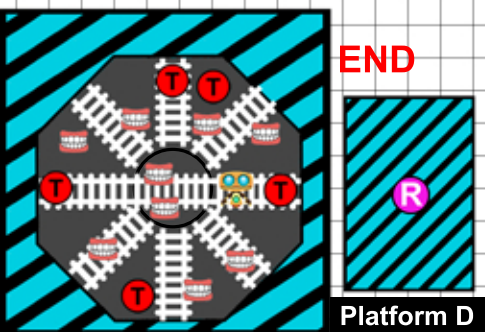
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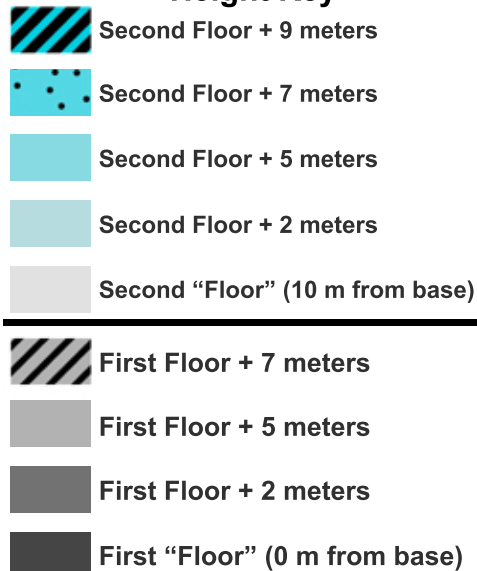
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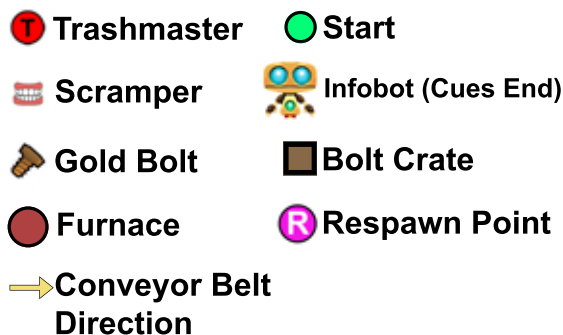
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Height Key



Map Key

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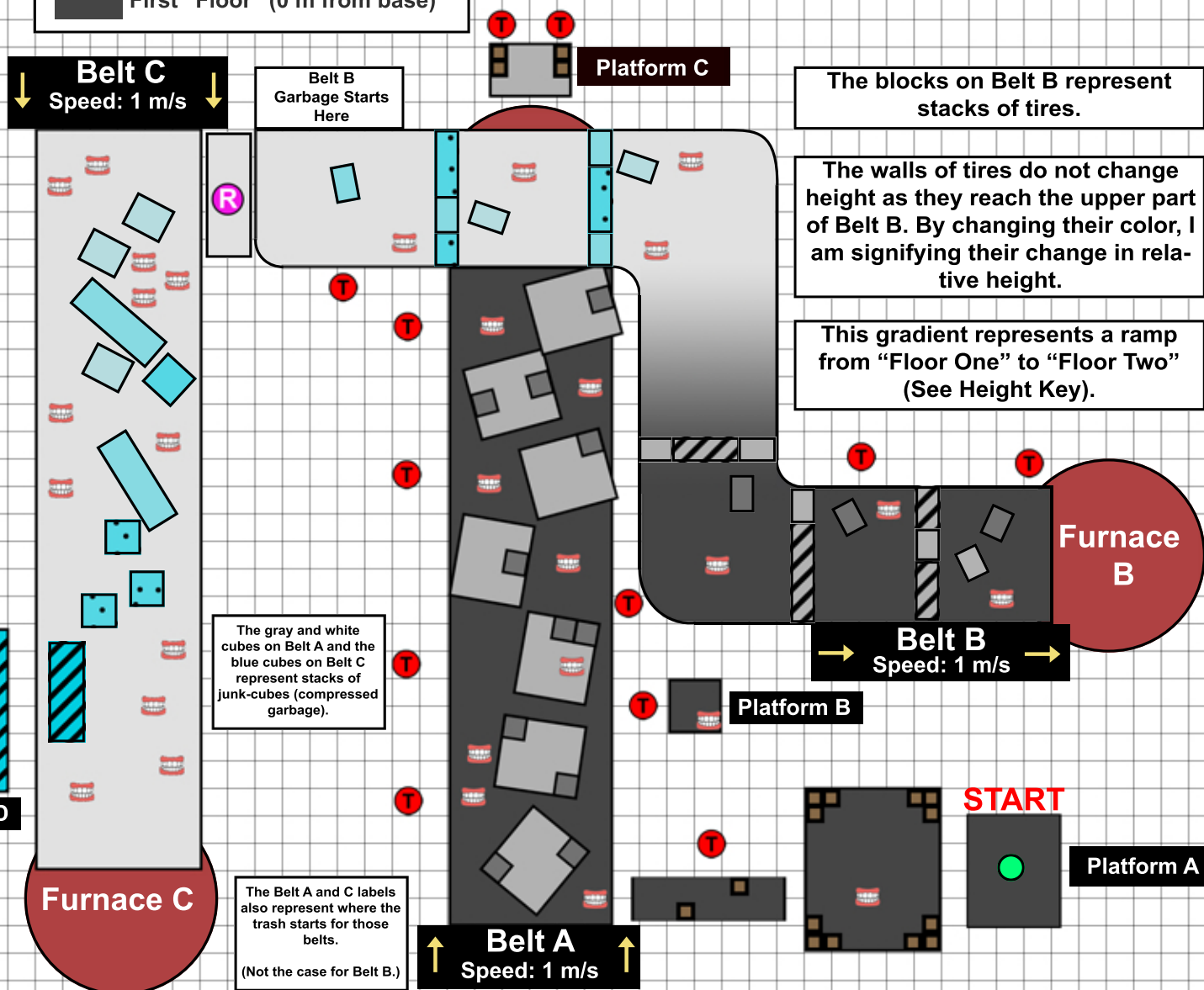
Depth Key

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Area One

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



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	Conveyor Belt Direction		

Depth Key

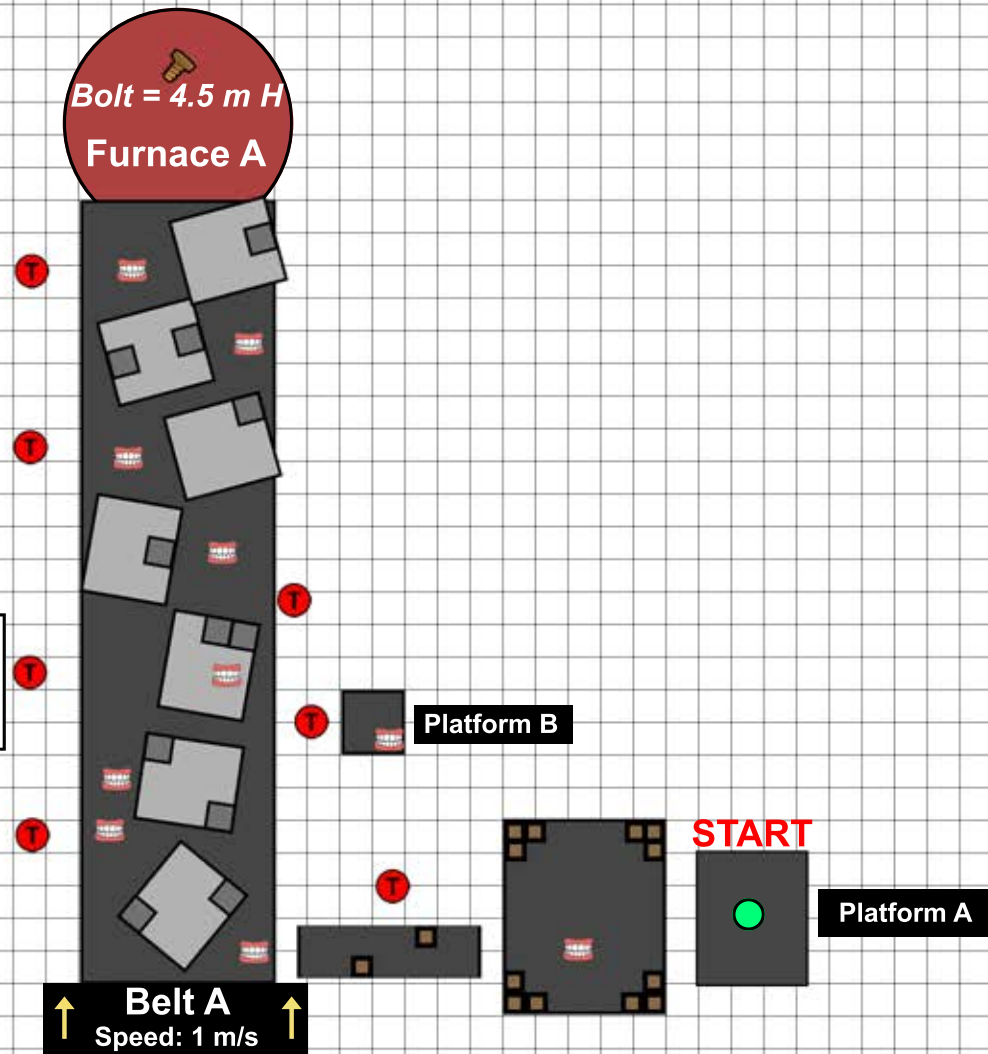
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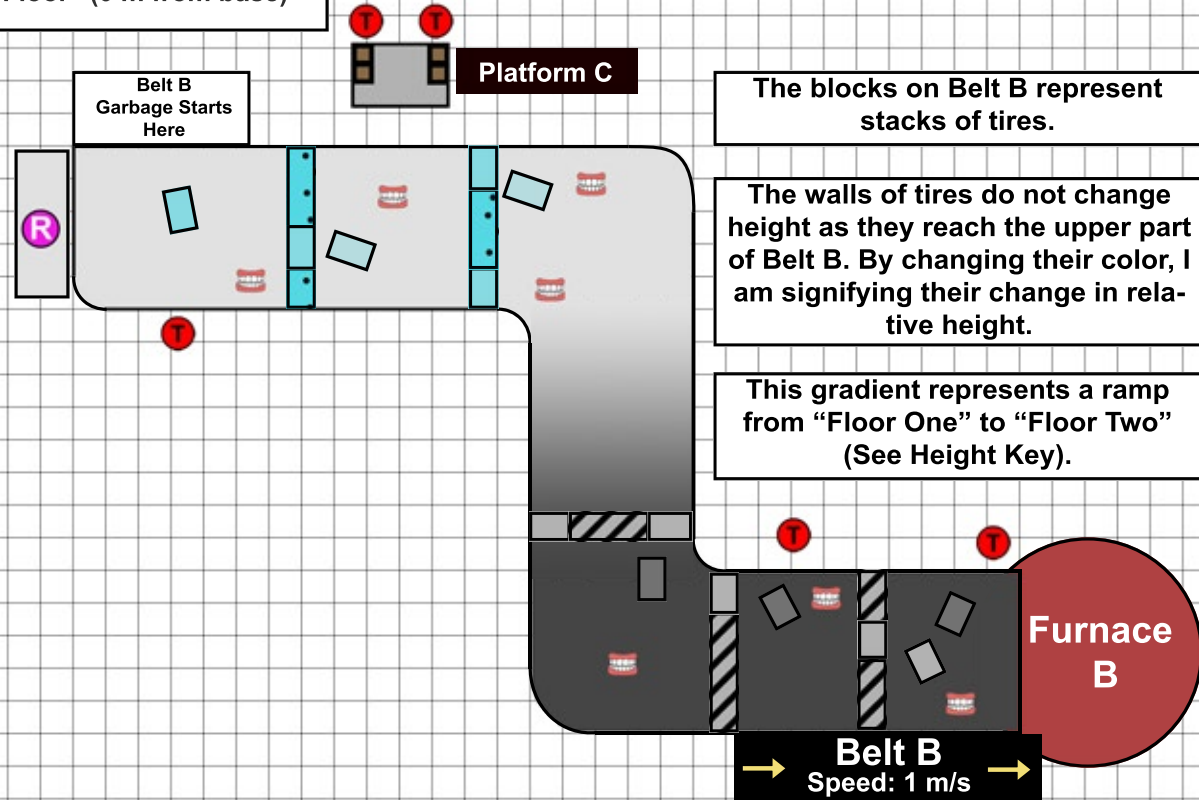
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The blocks on Belt B represent stacks of tires.

The walls of tires do not change height as they reach the upper part of Belt B. By changing their color, I am signifying their change in relative height.

This gradient represents a ramp from “Floor One” to “Floor Two” (See Height Key).

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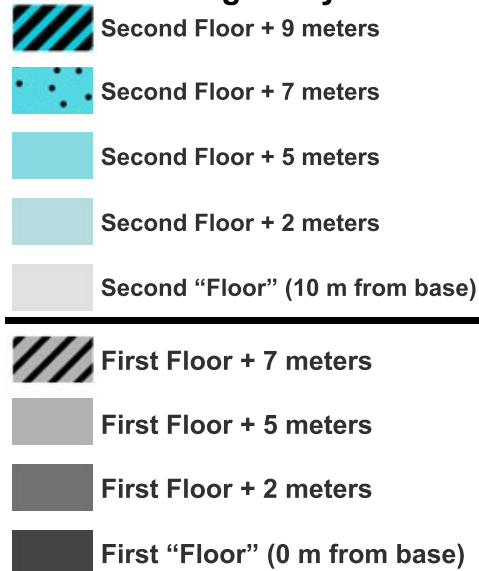
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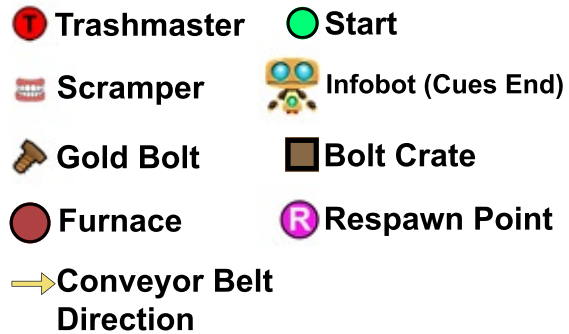
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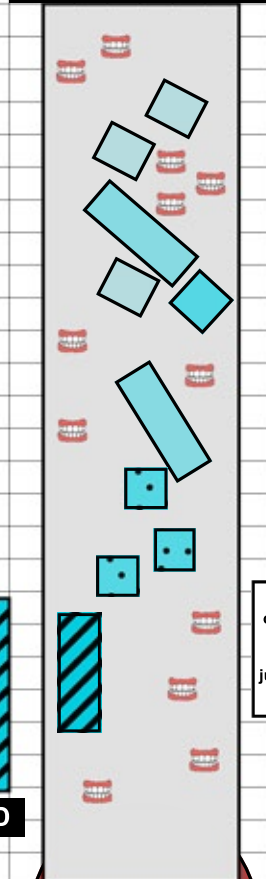
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Belt C
Speed: 1 m/s



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Platform D

Furnace C

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(Not the case for Belt B.)

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