

Repair Rampage

Game Design Document

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Overview

Repair Rampage is a free-roam platformer based inside a broken down high-tech facility. You control a small robot with the task of restoring all the different functions of the facility, but while doing so you are activating the different defenses of the facility which see you as a threat. Restore all functionality to the facility by visiting and hacking into all of its mainframe interfaces without getting destroyed to complete your task.

Unique Features

- Free-roam platformer that gives an open space for the player to explore freely.
- Natural exponential difficulty curve that scales with how well the player is doing.
- Replayability thanks to the many ways a player can complete the game.
- Simple to pick up and understand mechanics but leave a lot of room for improvement and expression by the player.

MVP

Giving the player true freedom in choosing the order in which to activate the defences and making it balanced for all possible combinations was a must. Three different areas to explore tied to three distinct enemy types the player would have to activate are the minimum I was willing to deliver.

Target Audience

PC gamers who enjoy platformers and/or games with replayability value and enjoy a challenging experience. Players who enjoy speedrunning are also a primary target audience, since the game will leave a lot of room for mastery, finding the optimal strategy, and finding all possible shortcuts.

Genre

2.5D Platformer with nonlinear gameplay.

Story

Setting

The player will find himself in a high-tech, almost futuristic and sci-fi facility that's made almost exclusively in metal. It should feel like a space not made for humans, because that's the reason a human doesn't come in to fix any problems that might arise, instead controlling a small robot from afar to navigate the space. Also the mainframe interfaces shouldn't feel operable by a human, instead being designed specifically for a machine to machine interaction.

The hacking screen should also give off that same feeling of high-tech sci-fi and not have been created as a human interface but as a representation of a computer trying to communicate with another computer.

Narrative

To make the experience of taking control of a robot from afar to enter this facility feel real, the first thing the player has to do is "hack" into the facility to gain control of the robot.

Once inside, the first thing he should see is a map of the facility in the background, numbers indicating the different areas present inside the facility, as well as an open space around him giving him freedom of movement in whichever direction he chooses.

Once an area's mainframe terminal has been hacked into, the lights of that area will turn on as well as the associated defenses. Once all the areas have been brought online, the final task is to bring the robot back to his stand-by station at the center of the map.

Gameplay

Design Pillars

- **Freedom:** The player should feel free to approach the areas however he wishes to and in whichever order he wishes too. He shouldn't feel one was as better than the other.
- **Easy to learn, hard to master:** The mechanics of the game should feel intuitive and not leave any room for misunderstanding, making the player feel completely in control, while at the same time leaving a lot of room for improvement for players like those who enjoy speed running a game.
- **Exponential difficulty curve:** It's important for the difficulty to not just be linear but exponential. A player should get the opportunity to try out different strategies and getting far enough with each, with the real challenge always coming at the end.

Core Loop

1. **Explore** - scout out the area to gain information of layout, position and state of the defences
2. **Evade defences** - move through the area you entered while evading the defence systems
3. **Hack terminal** - minigame to hack into the mainframe terminal of a given area
4. **Activate more defences** - one of the defence system gets activated

Mechanics

Player movement

The player will have the ability to move horizontally (left and right) freely both on the ground and in mid-air to make the controls feel tight while giving more agency to the player.

The player will also have a jump which can only be done while on the ground with one exception. After grabbing on to a surface with the grappling hook, the player will have the ability to jump off that surface.

Gameplay

Abilities

The only ability the player will have is a grappling hook which he has since the start of the game. The grappling hook will allow the player to shoot an energy beam from his character to any surface (walls, ceilings, floor, even moving platforms).

Once a surface has been hit, the playable character will start moving towards the target as if magnetically attracted. Once arrived at the surface he'll grab on to the surface for a brief period of time (1-2 seconds), giving the player enough time to wait out one of the defence's attacks or a moving platform and decide his next move. He'll also have the option to jump before the time runs out, causing him to fall if he was attached upside down or jump vertically up if attached to a floor or wall.

The grappling hook will have less range than the amount of space a player can jump vertically, to emphasize the importance of good positioning and control of the player character even in mid-air to land his grappling hooks.

Objectives

The objectives consist in the terminals situated at the far end away from the hub area inside each of the three levels. Once reached, a hacking minigame will commence to reactivate them. Once all three have been reactivated, the last objective will be to reach the hub area once more to bring back the robot to his stand-by station.

Play Flow

The game flow of a single run should consist in the player entering the map with a safe hub area to explore while getting accustomed with his controls. He'll decide which of the three separate levels to enter and explore getting an idea of the whole layout of it. Once he reaches and reactivates that area's terminal, he'll notice that area's defences have been turned on and he'll have to head back towards the hub to reach the other terminals, while avoiding the defences. He already had a chance to pass through an easier version of this area, so he'll be prepared to face that level with an added difficulty this time around.

This will repeat itself in the other two levels, creating an exponential difficulty curve caused by the addition of defences and new combinations they cause, amplifying the difficulty each time.

The player will get breaks from this game flow and the fast-paced platforming levels during the hacking minigames. Those as well will get harder each time though, scaling in difficulty linearly each time the player completes one.

Gameplay

Hacking

The hacking minigame consists in a central sphere that appears to be shut down/offline which represents that given area's mainframe being offline, a player controlled indicator which rotates in a 2D circle around the mainframe with a variable number of rotating gates in between the two.

The objective consists in shooting an energy beam from the player indicator to the mainframe to power it up. The beam has to pass through each of the rotating gates to be effective though, meaning that the player has to rotate around the mainframe to find the correct spot where the gates line up as well as time his shot precisely to pass through each of the moving gates.

Each time the player completes a hacking minigame correctly, the next will add another rotating gate, making it slightly harder for the player to predict where the gates will line up.

Defences

There are three distinct defences tied to the three levels which will only activate once that levels terminal has been hacked into:

- **Energy turrets:**

The turrets will aim at the player character with a laser pointer indicator that turns off right before shooting an energy bullet at the player's position.

Once shot the bullet doesn't correct to where the character is moving, giving the player a chance to dodge it. The bullets won't be able to pass through platforms though, making them a perfect cover for the player. It will shoot after it has locked on to the player for a couple of seconds.

The indicator will let the player know when an energy turret has him in it's sights even when the turret is off-screen. The disappearance of the indicator will happen with a shooting sound, which indicates to the player that a shot has been fired and the direction it's coming from. They have infinite range and can track the player through platforms but not walls.

Once hit by the energy bullet, the player character will lose a hit point.

Gameplay

- **Laser turrets:**

These turrets will always point in the same direction. They will fire a laser in a straight line in front of them, going through platforms and only stopping when it reaches a wall or another laser turret.

The laser will shoot every 5-7 seconds repeatedly. Before the laser fires, the air along its trajectory will appear getting warmer, as well as the turret emitting a wind up sound effect.

Getting hit by the laser will cause the player to lose a hit point.

- **Platforms:**

The platforms will be still until activated. They don't let the player pass through horizontally, nor fall through nor jump through. The player will be able to use the grappling hook on the platform with it acting like any other surface.

Once activated, the platforms will move along a designated path which will be indicated in the background of the stage thanks to a lit up track. The track will light up only after the platforms have been turned on.

If a platform would push the player character into a wall/ceiling/floor, this will cause the player character to die.

Levels

World Map



Synopsis

There are three distinct and separated levels connected seamlessly to each other through a central hub.

All three obstacle types will have to be present in all three levels, though each level is constructed with one obstacle is mind as the “theme” of the level. This obstacle will be the one activated once the terminal is reached, giving the player an opportunity to scope out the level before the main difficulty of the level is activated.

This means the level still has to be challenging with either or both of the other obstacles being activated as well as being a fun platforming challenge in case no obstacles have been activated. All jumps have to be doable with static and moving platforms.

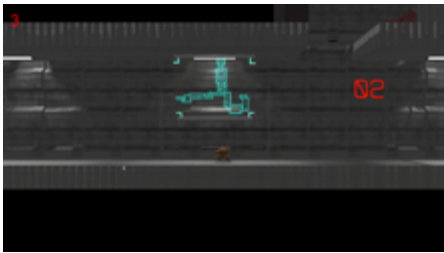
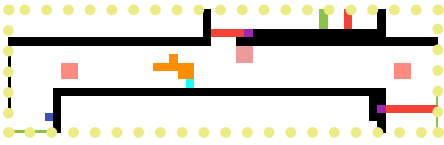
The central hub will have working lights as soon as the game starts, while the three levels will have the lights turned off but they will have emergency lights turned on. Once that levels terminal has been hacked into, the emergency lights will be turned off and the main lights will be turned on.

Each level will have an identification number as well as color, which will be the same as the associated obstacle. This is done to create an association in the players mind right away (three obstacles types, three levels, three colors) as well as indicating which level will activate which obstacle.

Monitors with the World Map present in them will be located in every level as well as the hub to help the player orient themselves while indicating with a light for each zone if that zone’s terminal has been activated or not.

Levels

Hub

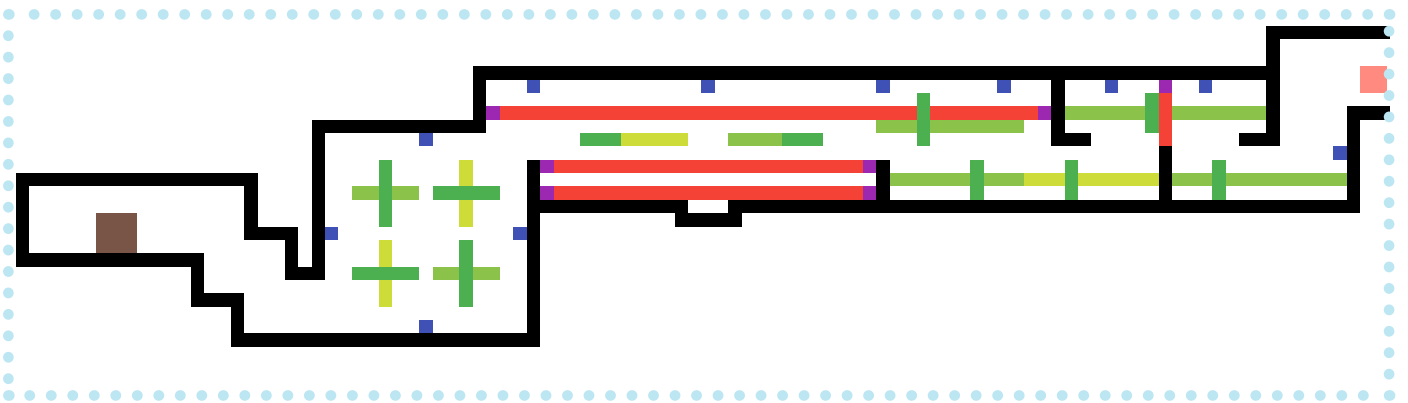


The hub will be the spawn point and the first area seen by the player.

He'll find himself in the center of a corridor, with an opening above him as well as an indicator for the zone 02. A lack of wall in either direction will encourage him to explore both directions. If the first direction chosen is to the right, he'll come across a big drop with the indicator "03". This will lead him to presume zone 01 is located to the left of the corridor.

A map will also be located at the center of the corridor. Being the closest object to the player character, as well as close to the center of the screen, it will be the first thing a player pays attention to and will help him understand his surroundings.

Zone 01 - Energy Turrets



Zone 01 is entered by the player from the right side. The first object he'll be able to see is an energy turret located on the right wall, from the direction he's coming. This with the zone indicator will help the player realize that the energy turrets will be activated here and are the "theme" for this level.

At the start of the level there are present some horizontal moving platforms, with the purpose of adding a platforming challenge to the player if both activated or not. More importantly, they will act as cover for the player from the bullets of the energy turrets placed along the ceiling of this whole level.

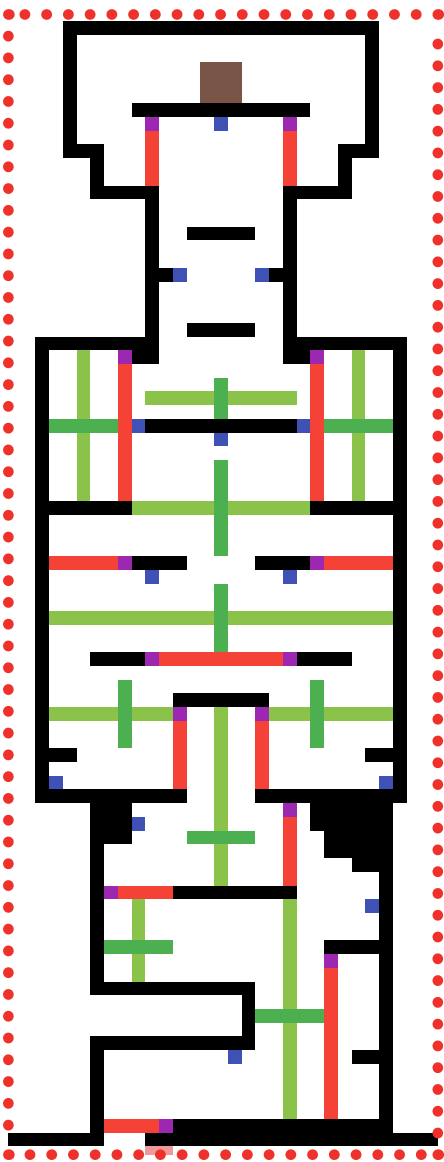
The first area is meant to have a lot of cover with walls, creating an enclosed space that is difficult to navigate while the energy turrets will be shooting on the way out of the zone, as a last challenge. The laser turret placed above an obligatory jump will create an even tougher challenge if activated. Being the first area into this zone, it's meant to convey a level with a lot of horizontal movement and tight jumps.

Levels

In the center, an open space will leave the player with more freedom of movement but also leaving him open to the turret's fire. Quick movement and being able to read where the turret's bullets are headed will be put to the test in this area. If the laser are activated, they will limit the player's movements, obligating him to time his every movement and jump, hoping from cover to cover evading both bullets and laser beams.

To the left, the first area encountered after activating the turrets, is present a square room with platforms moving through-out the center of it. Energy turrets will be present on all sides of the square. This creates a platforming challenge for the player which has to use the platforms as cover as well as footholds to reach the top right of the square to exit it.

Zone 02 - Laser Turret



Zone 02's theme is the Laser Turret. To compliment the Laser Turret, it was also thought as a vertical stage, within which you climb up the first time around and fall down after activating the Laser Turrets. This adds more challenge though, just rushing through the level, trying to fall back down will potentially land you in an activated laser beam. Moving down will challenge the player's timing and memory of the level seen during his climb up.

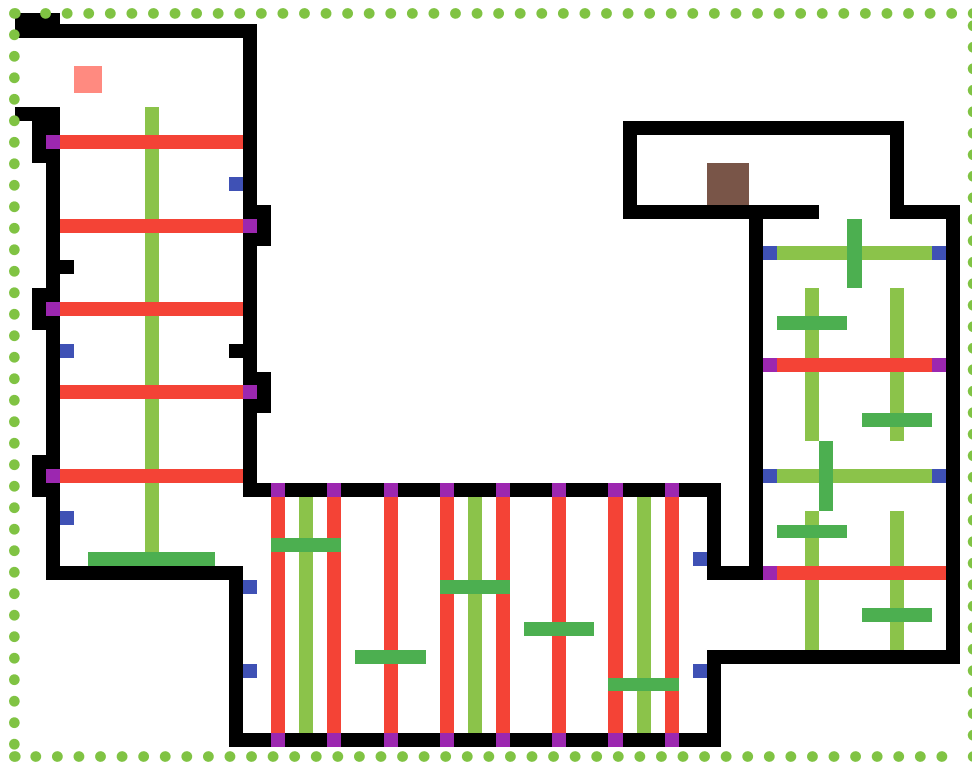
To enter the level, the grappling hook has to be used from the hub area. This is setting up the verticality of the level, as well as seeing the laser turret guarding the entrance which will block the player's exit from the zone having to wait for it to deactivate while evading the turrets shots in an open area with no cover.

The whole zone is designed with multiple routes in mind. At the bottom, laser beams force the player to wait to progress through the area leaving no room to sneak past them. Energy turrets are placed in positions that leave almost no blind spots where the player can hide, forcing him to dodge incoming shots.

The middle rest of the level is mirrored along the center y-axis, creating a multitude of different routes for the player to take. Energy turrets leave a few blind spots where the player can rest along his climb/descent, while horizontally moving platforms force the player to keep moving or risk being pushed into a laser beam. Reaching the top, three energy turrets will force the player to duck and weave through the shots to move through that tight area.

Levels

Zone 03 - Platform



Zone 03 is entered from the hub area with the player falling down a deep shaft which can only be climbed back up once the platforms have been activated. This sets up the theme of this level, the platform obstacle. The jump will have to be timed to not get hit by the laser beams on the way down, while on the way up two small platforms are available for the player to wait out the laser beams on the way up if they have been activated. All while evading the shots from the energy turrets.

The central area has a lot of vertical room for platforms to move within. On the way to the terminal the player will have to time his jumps with the laser beams and dodge shots while doing it, while on the way back he'll also have to time his jumps with the moving platforms. If he waits too long, he'll end up squashed by them, but a pre-emptive jump will land him at on the floor surrounded by lasers and energy shots while trying to get a ride back up.

The final room requires tight jumps and precise use of the grappling hook to climb all the way to the top. On the way down, platforms won't be safe to stand on, bringing the player to his death towards the laser beams present in the area, so he'll have to hang on to the walls with his grappling hook to time his decent with the laser beams.

Interface

HUD

- **Hit Points:** An indicator for how many hit points the player has before the robot he's controlling dies.
- **Timer:** A timer indicating how much time the player has left to complete his task before the robot runs out of power.

Diegetic UI

- **Maps:** Maps around the world will have a light in each of the three zones, indicating if they have been activated or are still offline, as well as helping the player navigate his environment.

Menus

- **Main menu:**

On start the available options given to the player are:

- Start: launches the gameplay.
- Options: contains options for graphics, audio, and controls.
- Credits: shows the credits of the game.
- Exit: to exit out of the game.

- **Pause screen:**

During gameplay, a player will be free to pause at any time. During the pause screen he'll be given the options to:

- Resume: resume his gameplay.
- Restart: restarts the run from the beginning.
- Options: contains options for graphics, audio, and controls.
- Back to main menu: bring the player back to the main menu.
- Exit Game: to exit out of the game.

Camera

The camera will follow the player keeping him centered on the screen, giving ample room for the player to see what's both above and beneath him, to his right and behind him at all times.

Interface

Control System

- **Platform gameplay:**
 - Space: jump
 - A: move left
 - D: move right
 - E: hack
 - Mouse: aim grappling hook
 - LMB: shoot grappling hook
- **Hacking gameplay:**
 - A: move counterclockwise
 - D: move clockwise
 - Space: shoot energy beam

Music

The game will have a looping OST that's separated into four overlapping tracks. One base track will be playing since the beginning of the game, this will set the atmosphere being a very calm and almost sci-fi beat.

Each of the three levels will have an associated track that has the same feeling of the obstacle attached to it. Platforms will be associated to a very bassy and rhythmic track, Laser turrets to a high pitched energetic track, while Energy turrets to a track that conveys danger and has strong beats.

Every new obstacle activated should add to the chaos and up the ante for the player, this should be conveyed not just through gameplay and visuals but also through the music.

Sound Effects

- Player walking
- Player jump
- Player landing
- Grappling hook being shot
- Grappling hook landing
- Energy turrets shot
- Energy bullet hitting player
- Laser turret charging
- Laser turret firing
- Player getting hit by laser
- Platform moving
- Hacking energy beam
- Hover/press on menu buttons