



SQUARED MUFFIN

Bipolar Demo

Daniela Nunes

Squared Muffin.
danielanunes.1990@gmail.com

Hugo Gonçalves

Squared Muffin.
hugo.v.goncalves@ist.utl.pt

Ivo Capelo

Squared Muffin.
ivo.capelo@ist.utl.pt

Melanie Guerreiro

Squared Muffin.
melanieguerreiro19@gmail.com

Pedro Engana

Squared Muffin.
pedro.a.f.engana@ist.utl.pt

Pedro Lousada

Squared Muffin.
pedro.lousada@ist.utl.pt

Rui Dias

Squared Muffin.
rui.moraes.dias@ist.utl.pt

Tiago Alves

Squared Muffin.
tiagoandreteixeiraalves@gmail.com

Abstract

This document presents *Bipolar*, a video game demo made for the 26th Ludum Dare competition, themed by *Minimalism*. It explains the context of game jams as important tools of game development and describes the level design and *Minimalism* presented in *Bipolar*.

Author Keywords

Video Games; Minimalism; Game Jam;

ACM Classification Keywords

K.8.0 [Personal Computing]: Games---Game Jam

Introduction

In recent years the video game industry has come to encourage game jams. These time-limited events ask young and veteran developers to start and finish a game around a central theme.

The competitions have evolved to being more than events for the improvement of skills. Some studios have found game jams as being great tools for brainstorming [1][2]. And some movements use game jams as a means of communicating social issues, such as *iamagamer* arose from the need for strong female protagonists in games [3].

Permission to make digital or hard copies of all or part of this work for personal or classroom use is granted without fee provided that copies are not made or distributed for profit or commercial advantage and that copies bear this notice and the full citation on the first page. To copy otherwise, or republish, to post on servers or to redistribute to lists, requires prior specific permission and/or a fee.

Ludum Dare is one of the most acclaimed international and “perhaps the best-known game jam in the world”[4]. Its 26th edition, whose theme was *Minimalism*, saw over 2000 teams, one of which was the Portuguese *Squared Muffin* team. This team would spend the next 72h developing *Bipolar*, the game that ranked 5th in the *Innovation* category and 49th *Overall* best game[5].

Bipolar

Bipolar is a PC puzzle-platformer made for the 26th *Ludum Dare* competition using the *Unity* game engine. It tackles the theme of *Minimalism*.

One of the team’s goals was to achieve a high rank in the *Innovation* category. The game uses magnets as a recurrent mechanic, due to its lack of use inside the genre to create a fresh new take on platforming.

The plot revolves around a robot whose magnet hands have changed polarity. He must now return to his factory to be repaired only to find it difficult to traverse in his current state.

The player controls the robot from a first person camera using the W A S and D keys. Additionally the left and right mouse buttons activate the left and right robotic hands respectively.

Using his hands, players are able to interact with magnets. Same polarity magnets repel while different polarity magnets attract. This mechanic of attraction and repulsion forms the basis of the games puzzle elements. As the game progresses the mechanic is augmented by different structures that contain magnets, such as generators or rotating platforms.

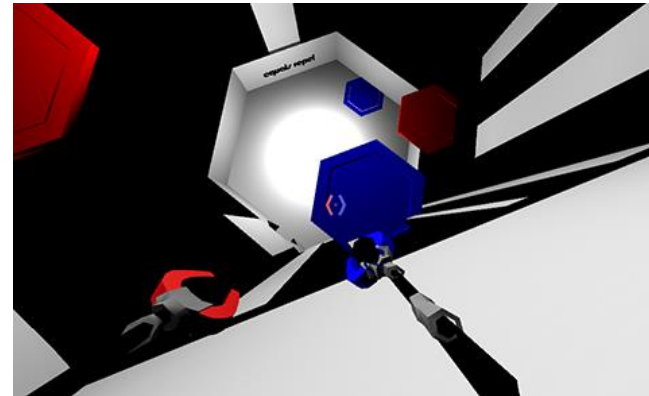


Figure 1: Hovering on the air using the repelling mechanic. The player is able to repel using same polarized magnets. Red magnets have positive polarity and blue magnets have negative polarity.

Level Design in *Bipolar*

The *Bipolar* demo is composed of three levels, an introductory level, an intermediate level and an advanced level. Each level is divided into different rooms; these are an individual puzzle whose completion implies a specific sequence of interactions. The introductory level starts by teaching the player how to moved, followed by how to interact with magnets, first attraction then repulsion. The level ends with a room that tests the player on the mechanics he learned, then allowing passage to the intermediate level.

The intermediate level intends to introduce the player to moving magnets as well as increase the challenge of each room. It teaches him how to grab onto a rotating

platform to cross chasms and how to time his attractions in order to climb walls.

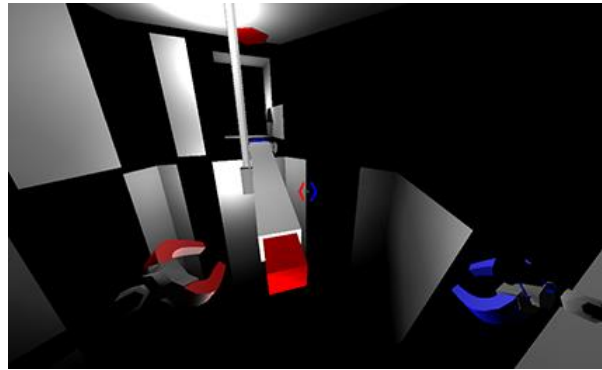


Figure 2: A rotating platform. As the game progresses magnets come connected to different structures increasing the challenges and mechanics available.

The final level introduces generators, doors and coils. This level is considerably larger than the previous and takes the player on a mission to activate a series of generators. Once the next generator is activated a door opens and the player is dropped at the beginning of the level. The puzzles of this level are more complex and include the activation of hidden switches, a dark room with chasms and coils that launch the player fast into the air.

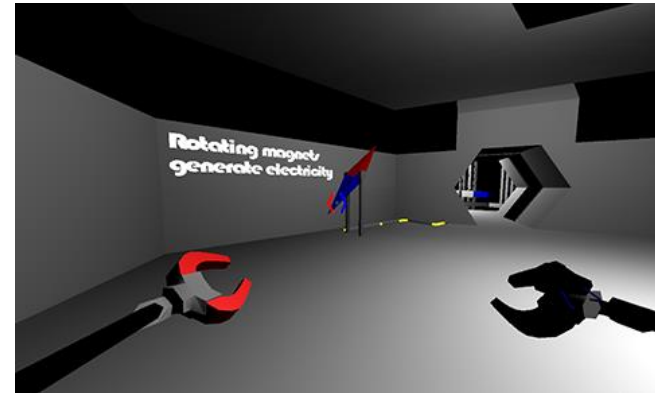


Figure 3: An activated generator. The simple mechanic is augmented by presenting different magnets to the player, in this case a generator that can activate doors when rotating.

Minimalism in *Bipolar*

The game tries to tackle the theme of *Minimalism* as requested by the *Ludum Dare* rules. It does so on two fronts, one of aesthetic minimalism and one of control minimalism.

Aesthetic minimalism was created by increasing the contrasts of all game elements and creating motifs centered on the hexagon shape. The black and white of the walls creates a sharp contrast that is broken by the strong blue and red of magnets. These elements are easily distinguishable and have simple geometries spread across hexagonal rooms.

The aspect where minimalism shines on *Bipolar* is the control scheme. Instead of providing complicated key bindings the player can move and use their hands. Mapping the hands to the two main mouse buttons

created a natural and immediately understood metaphor that allows a simple interaction with the game.

The future of Bipolar

After *Ludum Dare* the Squared Muffin team decided to continue the development of bipolar and has ran several playtesting sessions to better understand the flaws of the game.

A full version of the game is being developed. This new version will move away from the theme of minimalism to focus and explore *bipolarism* as a pacing mechanic. The different levels will also suffer change as they become spread out across a free-roaming world.

The game is expected to be well into development by next year, aiming for a *steam greenlight* release for *PC*.

Links

The original Ludum Dare entry page can be found at [5]. This page includes the non-altered jam version of the game, final ratings and community feedback. The most recent Bipolar Demo can be downloaded from the following link at [6].

Acknowledgements

We thank the organizers of Ludum Dare for creating the venue where *Bipolar* was born. We would also like to thank Melanie Guerreiro who although having left the team will always be a part of the *Bipolar* family.

References

[1] How Double Fine's 'Amnesia Fortnight' turned terror into triumph
<http://www.gamasutra.com/view/news/175298/Video>

[How Double Fines Amnesia Fortnight turned terror into triumph.php](#)

[2] Game Jams and the Romance of the Last Minute
http://gamasutra.com/blogs/BenServiss/20130314/188509/Game_Jams_and_the_Romance_of_the_Last_Minute.php

[3] iamagamer event Homepage
<http://iamagamer.ca/>

[4] From Ludum Dare to Molyjam, how game jams became part of game development
<http://www.edge-online.com/features/from-ludum-dare-to-molyjam-how-game-jams-became-part-of-game-development/>

[5] Bipolar Jam Entry Page
<http://www.ludumdare.com/compo/ludum-dare-26/?action=preview&uid=22969>

[6] Bipolar Demo
<https://dl.dropboxusercontent.com/u/2602918/Bipolar2.0%20Demo/Bipolar2.0.html>