



계명대학교
KEIMYUNG UNIVERSITY

{EPITECH.}
L'ECOLE DE L'INNOVATION ET DE
L'EXPERTISE INFORMATIQUE

Mifushi3D 3D Game Applications

Submitted to the Department of Game and Mobile Contents
at Keimyung University, Korea

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Chapter 1: Introduction

The game is a 3rd person 3D Platformer. The goal is to cross all the level by successfully going through several obstacles. The character evolves in a lane like crash bandicoot game on playstation. The character's special ability is that he can change himself into 3 different colors. He can interact only with parts of the environment that have the same color, or that have neutral color.



Figure 1: Screenshot crash bandicoot

1.1 Gameplay

The player will face several obstacles in order to finish a level. The player has no life point and each time he falls on the ground or touch a deadly object he respawns at the last checkpoint. To cross the obstacles he will use his changing color ability. Interacting with same color object is not only used to reach platforms, it can also be used to avoid obstacles or thing that would kill you. For example, you can change to color red in order to go through a green wall. Also, if you switch to a certain color while being inside an element of this color, it will kill you.

1.2 The lane gameplay

The character can move in any direction, but the camera can only look forward. This kind of camera force the player to go forward and the level design must be created this way, the player must not need to go backward during his progression in the level.

1.3 Skill

The player is going to need good reflex to choose the right color at the right time. He will also need good coordination, because sometimes he will have to jump, choose direction, and choose a color at the same time.

Chapter 2: Game control

2.1 Available control

- Move forward
- Move backward
- Strafe right
- Strafe left
- Jump
- Take/drop object
- Change to color1
- Change to color2
- Change to color3

2.2 default keyboard configuration

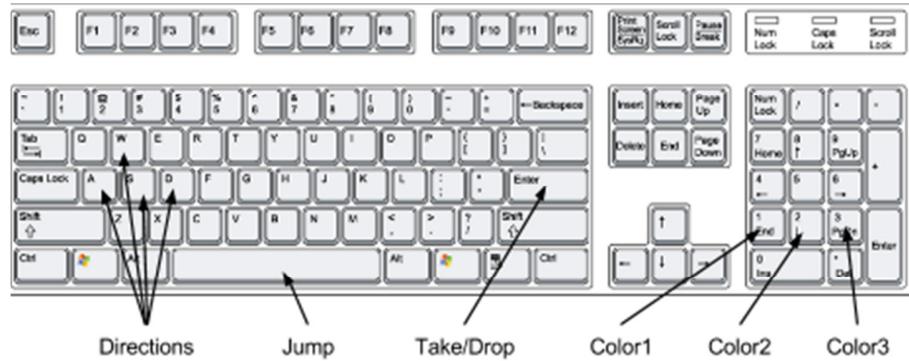


Figure 2: Keyboard configuration 1

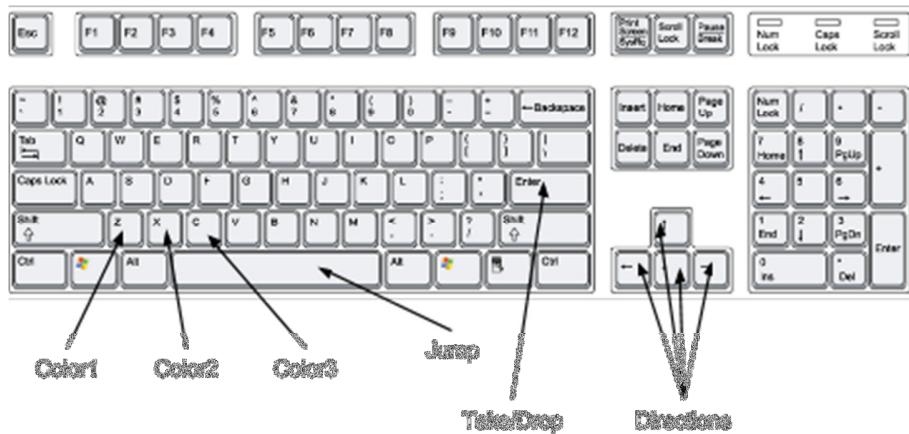


Figure 3: Keyboard configuration 2

Chapter 3: Screen

3.1 Main Screen

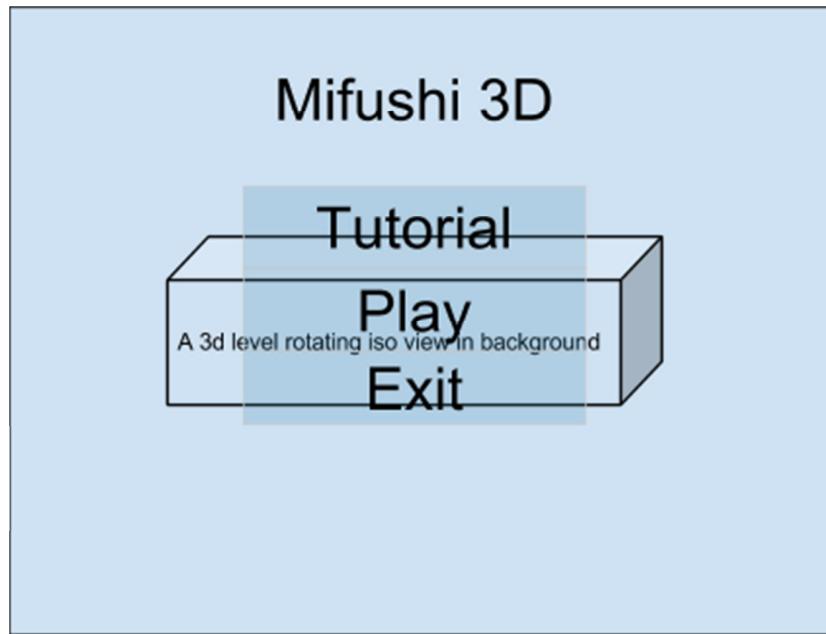


Figure 4: Main Screen

We can navigate in the menu with arrows and validate selection with *ENTER* key.

Tutorial	Load Tutorial level
Play	Load Challenging Level
Exit	exit the application

Table 1: Action main screen

3.2 Pause Screen

Access: press *ESCAPE* from InGame screen

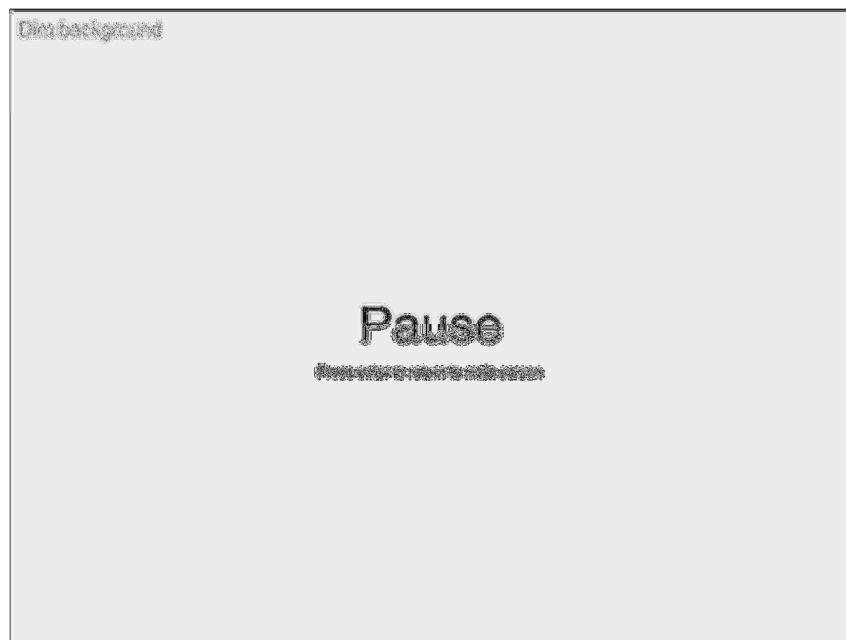


Figure 5: Pause Screen

Escape	Resume game
Enter	Return to main screen

Table 2: Action pause screen

3.3 End Screen

Access: Arrive to the end of a level



Figure 6: End Screen

Enter	Return to main screen
-------	-----------------------

Table 3: Action end screen

3.4 In game

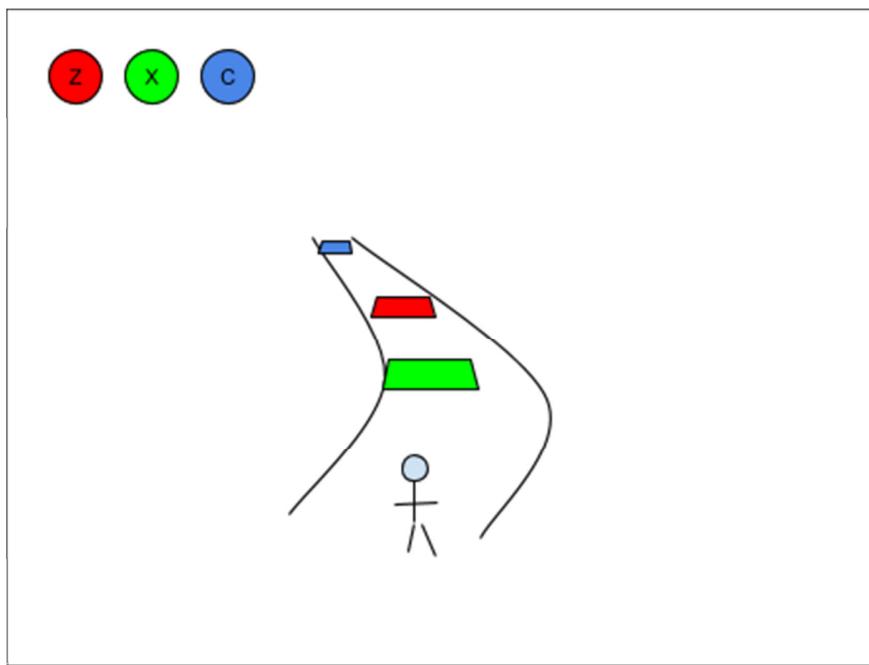


Figure 7: In game

On the screen 3 circles will display which color is active and on which key you need to press to activate a color.

Escape	Pause menu
--------	------------

Table 4: Action in game

Chapter 4: Game asset

4.1 Theme and shader

Theme color:

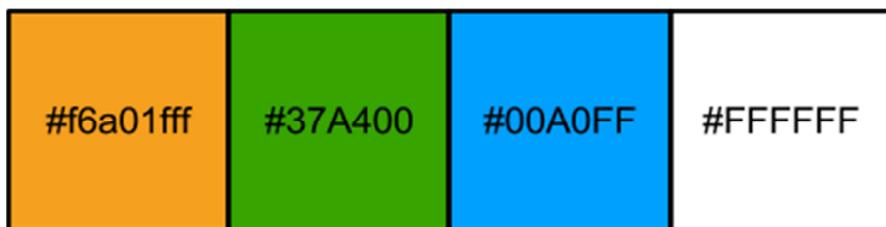


Figure 8: Theme color

We will use cell shading shader

4.2 Scene

3 scenes are available:

- Menu to display the main menu en select the level
- TutorialLevel an easy level to learn basic control
- ChallengingLevel an hard level to test your skill

4.3 Gameplay element

4.3.1 Character

The character is a human male model that is rendered in cell shading. He can be colored with one of the three game colors.

The character has the following animations:

- Walking forward
- Walking backward
- Jumping
- Standing

4.3.2 Block

All block are designed to be easily reused, resized, to build new level faster
Depending on the current activated color the transparency of the block will change.
Inactivated blocks are faded and activated blocks are fully opaque.

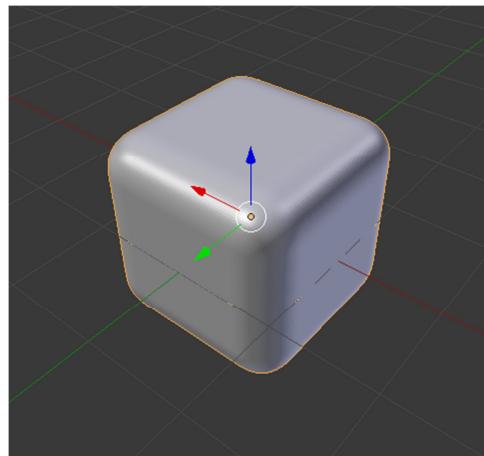


Figure 9: Block design

Blocks can have several properties like:

- The color: A block can be neutral, or one of the 3 colors
- Moving: A block can be a moving platform
- Deadly: A block can kill the player
- Color changing: A block can change its color over time or by activating a trigger

4.3.3 Key and slot

Sometimes the player will have to take a key and put it into the appropriate slot to activate some element and continue the game.

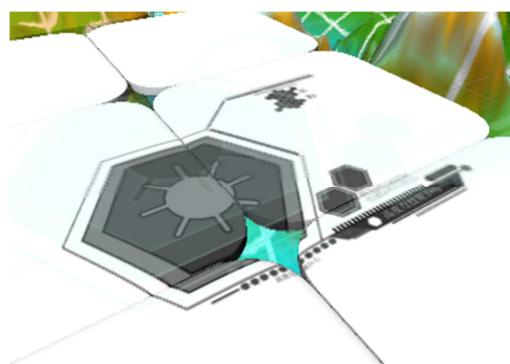


Figure 10: Slot design

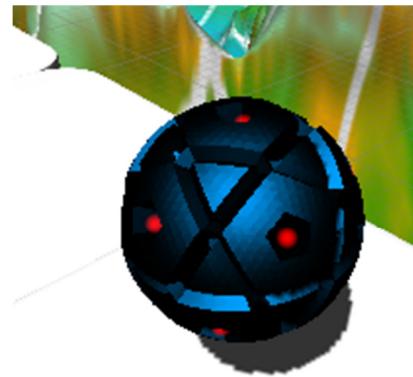


Figure 11: Key design

The slot is a particle system that looks like a hologram, when the key is dropped it is put on levitation on top of the hologram.

4.3.4 Checkpoint

Classical check point, when the player dies he comes back to the last checkpoint he went through.

The checkpoint is also a hologram particle system with a different shape

4.3.5 Arrival

It is the trigger for the end screen.

The arrival is also a hologram particle system with a different shape

4.4 Sound:

Ambient sound:

- In game: [kalimba - mr. scruff](#)
- Menu: [Jazz potato - mr. scruff](#)

Chapter 5: Level design

5.1 Learning - the very basis

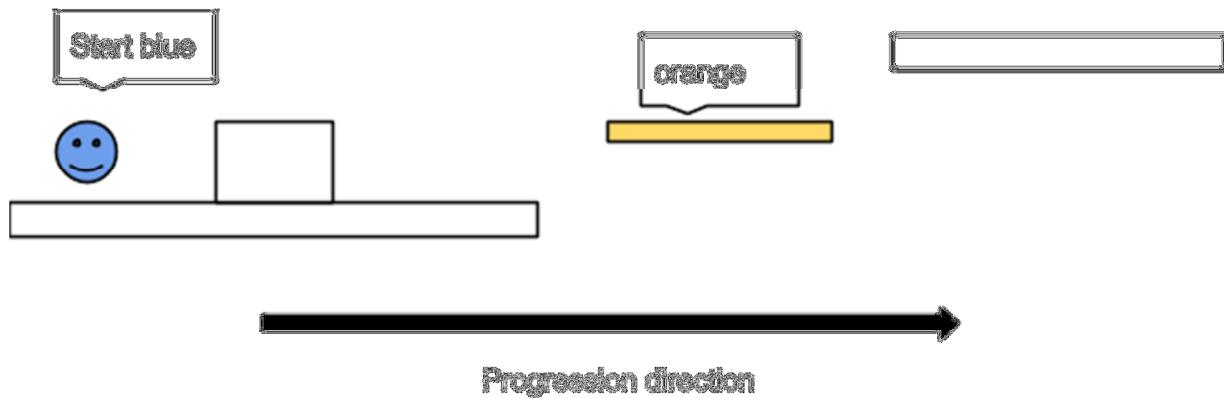


Figure 12: Learning – the very basis

- The player start with a specific color
- He encounters the obstacle 1 he need to find out how to jump to go through
- Then he face a platform of a different color than him, he will certainly jump a first time trying to reach the platform but he can't because it's not the same color as him, so a hint show him the control.
- Now he knows the control he will change his color to match the platform
- He can now go through the platform

5.2 Learning - Trigger change block color



Figure 13: Learning – Trigger change block color

- the player start orange
- the player jump on the orang platform
- the first time he see a trigger he will take it and fall from the platform and die
- the second time he will try to avoid the trigger to cross the level

5.3 Learning - Being stuck in same color block kills you

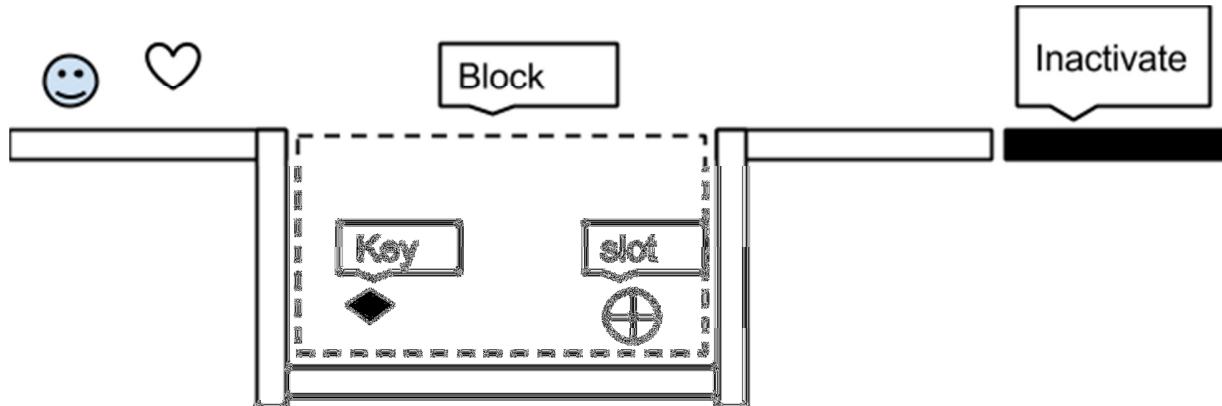


Figure 14: Learning – Being stuck in same color block kills you

1. The player save to the checkpoint
2. The player fall inside the block of different color to activate the platform
3. The player can't jump to go back on the floor, he has to kill himself by changing to the same color as the block and respawn to the checkpoint
4. then he can cross he gap and use the activated platform

5.4 Challenging - Sliding

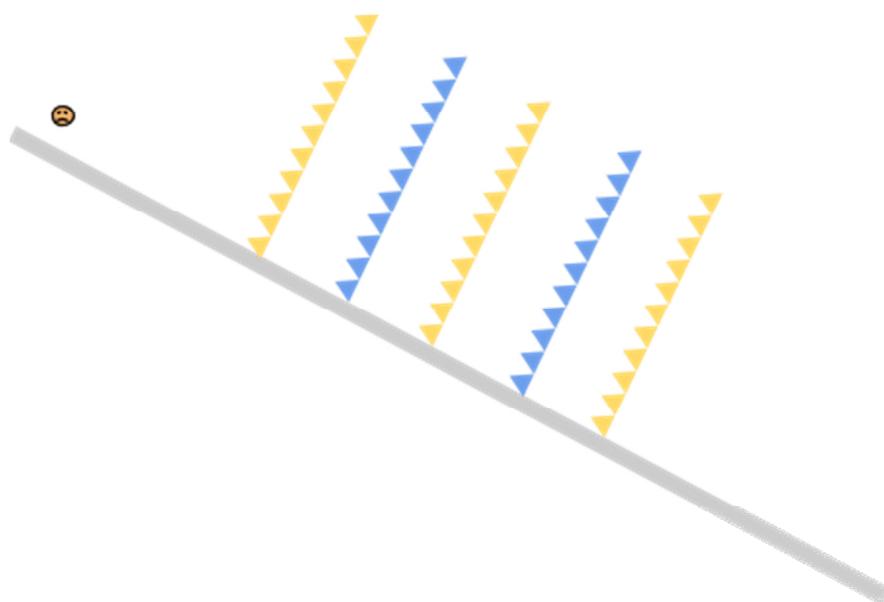


Figure 15: Challenging - Sliding

The player can't control his speed while sliding; he has to switch color at the right time to survive.

5.5 Challenging - Switch color

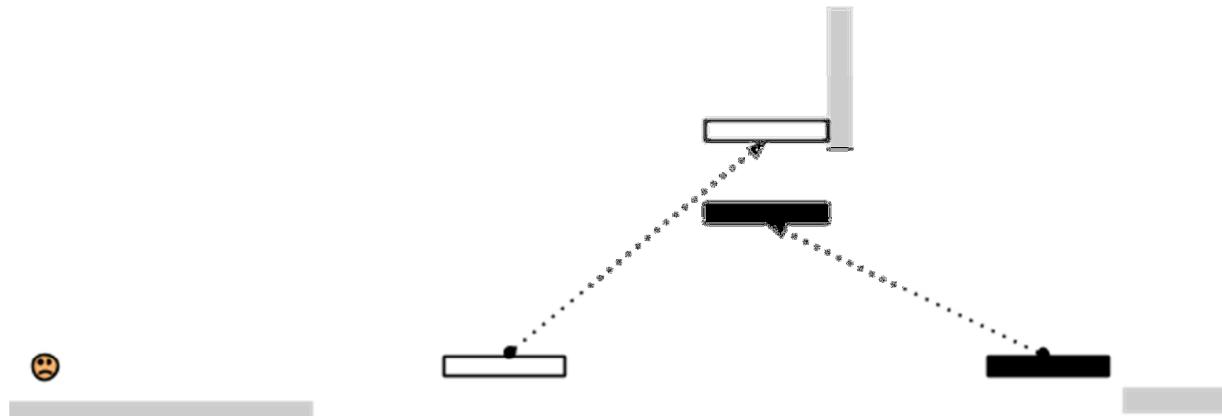


Figure 16: Challenging - Switch color

The player has to switch color when the two platforms are aligned

Chapter 6: Planning

	Clément	Alexis	Nicolas
04/17/2014	Brainstorming	Brainstorming	Brainstorming
04/18/2014	find gameplay	Find main color theme / material shading	thinking on design propose environment element
04/19/2014	Find how to fade/fade out texture	Find special texture	Looking for character asset
04/20/2014	Implementation Prototype	Writing first spec	Looking for block asset
04/21/2014	Check first spec	task/planning	Looking for decoration asset
04/22/2014	Find sound sfx Jump move checkpoint die	find sfx menu + background music	Check first spec

04/23/2014	Share project on github	Script switch color	Script Fade in / fade out block
4/24/2014	Character switch color Check point	Design Element	Adapt character for our design.
4/25/2014	Death/Moving platform	Evolution on character controller camera	Add animations to the character controller.
4/26/2014	Moving platform/Trigger	Screen (Start pause end)	Merge camera + animation Integration into game engine
4/27/2014	Trigger/Pick up	Challenging Level Design	Tree meshes
4/28/2014	Learning level	Redaction Test form/Challenging Level Design	Meshes for terrain
4/29/2014	Learning level	Sound Manager	Other meshes
4/30/2014	Play test Evolution due to test	Play test Evolution due to test	Play test Evolution due to test
5/1/2014	Challenging Level Design	Challenging Level Design	Place call Sound Manager
5/2/2014	More play test if necessary Challenging Level Design	More play test if necessary Challenging Level Design	More play test if necessary Play test
5/3/2014	Last adjustments	writing game documentation	Last adjustments
5/4/2014	Error margin	Error margin	Error margin
5/5/2014	Deadline	Deadline	Deadline

Table 5: Task planning

FORGERY OF THIS DOCUMENT WILL RESULT IN AUTOMATIC FAILURE

Declaration

I declare that the work presented is to the best of my knowledge and belief, original and my own work, except as otherwise acknowledged in the text. The material has not been submitted, either in whole or in part, for another degree at Keimyung University or at any other educational institute.



Alexis Brissard



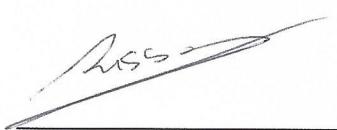
Nicolas Ricard



Clément Petit

International Lounge Attendance

I have attended the International Lounge in order to playtest the prototype game on students outside the Engineering Department and to gather feedback. I acknowledge that not having this document signed will result in a penalty.



Signature of Students



Stamp or Signature of the International Lounge

(Students must present photo ID)

02/05/2014

Date

FORGERY OF THIS DOCUMENT WILL RESULT IN AUTOMATIC FAILURE

Subject : Collect feedback for Mid-term exam game

Question 1: How much time do you spend playing video game ?

- less than 5h a week
- 5h~15h a week
- more than 15h a week

Question 2: How much did you enjoy the game? (rate from 1 to 5)

- 5 - Really fun
- 4
- 3
- 2
- 1 - Not fun at all

Question 3: What do you think of the changing color concept ?

- 1. Good concept
- 2. Good concept but not well used
- 3. Not a good concept

Explain your answer:

I haven't seen games like this, built around the color changing concept. Well there's Portal, but it's different

Question 4: Is there anything you misunderstood during tutorial ?

No

Question 5: How difficult is the game according to you ?

- 1. Easy
- 2. Normal
- 3. Hard

Question 6: How beautiful do you think the graphism are ? (rate from 1 to 5)

- 5 - Beautiful
- 4
- 3
- 2
- 1 - Awful

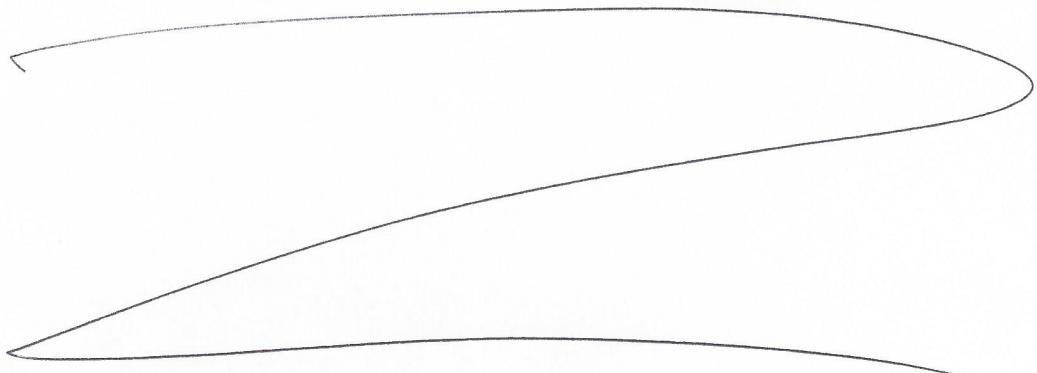
Explain what to you find beautiful/awful:

Colors - they look
Movement of the character - Smooth
Point of view - very fresh, new approach

Question 7: What is the major problem you encounter with our game ?

Development. It's good game but what's the goal? What can you add into it?

Question 8: If you have any extra comment to help us improve our game please let us know



All the data collected in this document will be only used under this project, no data will be published, the Student id has for only purpose to proof the genuineness of this test to our professor

First Name:

Han
Doranta

Date:

02/05/2014

Last Name:

Signature

Student ID:

7015691

Han Doranta

Subject : Collect feedback for Mid-term exam game

Question 1: How much time do you spend playing video game ?

- less than 5h a week
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- 4
- 3
- 2
- 1 - Not fun at all

Question 3: What do you think of the changing color concept ?

- 1. Good concept
- 2. Good concept but not well used
- 3. Not a good concept

Explain your answer:

easy to understand, has potential for a lot of different puzzles

Question 4: Is there anything you misunderstood during tutorial ?

nope

Question 5: How difficult is the game according to you ?

- 1. Easy
- 2. Normal
- 3. Hard

Question 6: How beautiful do you think the graphism are ? (rate from 1 to 5)

- 5 - Beautiful
- 4
- 3
- 2
- 1 - Awful

Explain what to you find beautiful/awful:

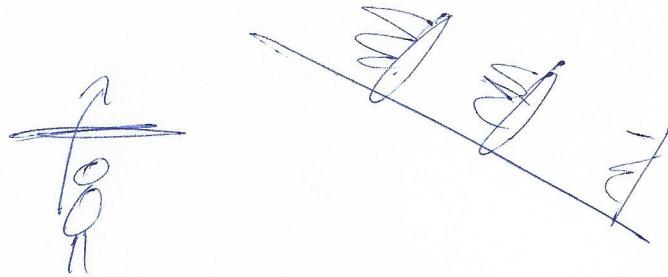
at the end the grey pillar blocked the view

Question 7: What is the major problem you encounter with our game ?

none

Question 8: If you have any extra comment to help us improve our game please let us know

more puzzles,



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First Name: *Lauras*
LastName: *Bistavels*
Student ID: *F005430*

Date:

Signature

2/May/2014

A handwritten signature in blue ink, consisting of a stylized letter 'L' followed by a long horizontal line.

Subject : Collect feedback for Mid-term exam game

Question 1: How much time do you spend playing video game ?

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- more than 15h a week

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- 4
- 3
- 2
- 1 - Not fun at all

Question 3: What do you think of the changing color concept ?

- 1. Good concept
- 2. Good concept but not well used
- 3. Not a good concept

Explain your answer:

it's something new and different

Question 4: Is there anything you misunderstood during tutorial ?

no

Question 5: How difficult is the game according to you ?

- 1. Easy
- 2. Normal
- 3. Hard

Question 6: How beautiful do you think the graphism are ? (rate from 1 to 5)

- 5 - Beautiful
- 4
- 3
- 2
- 1 - Awful

Explain what to you find beautiful/awful:

the concept and design of the game is good
but it still requires more.

Question 7: What is the major problem you encounter with our game ?

the character in the game is still to robot like.

Question 8: If you have any extra comment to help us improve our game please let us know

zelda , temple run like

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First Name: johan chou

Date: 02/05/2014

Last Name: chou

Signature 

Student ID: 701 5964

Subject : Collect feedback for Mid-term exam game

Question 1: How much time do you spend playing video game ?

- less than 5h a week
- 5h~15h a week
- more than 15h a week

Question 2: How much did you enjoy the game? (rate from 1 to 5)

- 5 - Really fun
- 4
- 3
- 2
- 1 - Not fun at all

Question 3: What do you think of the changing color concept ?

- 1. Good concept
- 2. Good concept but not well used
- 3. Not a good concept

Explain your answer: Good idea, because just jumping will be boring.

Question 4: Is there anything you misunderstood during tutorial ?

No .

Question 5: How difficult is the game according to you ?

- 1. Easy
- 2. Normal
- 3. Hard

Question 6: How beautiful do you think the graphism are ? (rate from 1 to 5)

- 5 - Beautiful
- 4
- 3
- 2
- 1 - Awful

Explain what to you find beautiful/awful:

Question 7: What is the major problem you encounter with our game ?

Changing of color. Sometimes when I was in plat form I changed the color and fall.

Question 8: If you have any extra comment to help us improve our game please let us know

To make much more difficult. But if this game for children the difficulties is normal.

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First Name: Khushruz

Date: 02.05.2014,

Last Name: Jazimov

Signature

Student ID: 7015842

Subject : Collect feedback for Mid-term exam game

Question 1: How much time do you spend playing video game ?

- less than 5h a week
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- more than 15h a week

Question 2: How much did you enjoy the game? (rate from 1 to 5)

- 5 - Really fun
- 4
- 3
- 2
- 1 - Not fun at all

Question 3: What do you think of the changing color concept ?

1. Good concept
2. Good concept but not well used
3. Not a good concept

Explain your answer:

I think there should be more decorations...

Question 4: Is there anything you misunderstood during tutorial ?

There was some misunderstanding because it was first time.

Question 5: How difficult is the game according to you ?

1. Easy
2. Normal
3. Hard

Question 6: How beautiful do you think the graphism are ? (rate from 1 to 5)

- 5 - Beautiful
- 4
- 3
- 2
- 1 - Awful

Explain what to you find beautiful/awful:

The game is quite well and beautiful because it's easy but complicated in the same time.

Question 7: What is the major problem you encounter with our game ?

Graphics

Question 8: If you have any extra comment to help us improve our game please let us know

maybe it will be better to do it more complicated

All the data collected in this document will be only used under this project, no data will be published, the Student id has for only purpose to proof the genuineness of this test to our professor

First Name: Behruz

Date: 02. 05. 2014

Last Name: Binvi

Signature



Student ID: 7014389