



Pierre: Insanity Inspired

Game Design Documentation

Version 4.3

a game production by



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DESIGN HISTORY

Version 1.0

June 15, 2009

Version 1.0 is the creation of this game design documentation (GDD). The basic framework of the documentation is created so that more information can be included more efficiently, with each section labeled. The content page is created as well.

Version 1.1

June 17, 2009

Version 1.1 is the updated version of the design document with the following segments filled in: the Game Overview, the Story and the Core Game Mechanics. A new segment is added in; the Core Game Sequence which outlines the typical flow of the game so that visualization is easier. Basic attributes are added to serve as a rough guideline.

Version 1.2

June 18, 2009

Version 1.2 includes the updates of some of the core game mechanics as well as in the inclusion of the interface flowchart. The story and game overview is also updated.

Version 1.3

June 19, 2009

Version 1.3 contains the updated Appendix with the pre-conception and conception art works. The Character section is also filled in with descriptions and the concept art. Minor updates to the Core Game Mechanics.

Version 1.4

June 22, 2009

Version 1.4 includes the updated version of the Core Game Mechanics with some minor amendments made, as well as the update of the “Objects list” with the attributes of the objects stated. The “World” section is removed for the time being due to its current insignificance in the documentation, as the issues are added elsewhere. Updated interface flowchart to include Achievements, as well as Core Game Mechanics.

Version 1.5

June 23, 2009

Version 1.5 includes the update of the game overview with the resolution size edited.

Version 2.0

June 25, 2009

Version 2.0 is a major update because of the change of the theme, style and game play of the game. The Game Overview, Story and Core Game Mechanics are all edited to address the new game design. More mechanics are added and some removed. The interface flowchart as well as mock out are updated and included in this revision of the documentation.

Version 2.1

June 26, 2009

Version 2.1 contains the updates of the Core Mechanics, which includes the score mechanism, and some minor additions to firm up the concept of the design. The Objects section is updated with the new list of objects, though not fully complete. Attributes are assigned to the objects as well. The plot points of the story are changed to the updated one as well.

Version 2.2

June 29, 2009

Version 2.2 includes the minor updates to the documentation where the timing of the collection of items is addressed, as well as the inclusion of the Trigger of Failure communication modes. The means of communication of failure is addressed as well. Minor tweaks are done within the main documentation.

Version 2.3

June 30, 2009

Version 2.3 adjusts the minor tweaks in naming conventions and small updates to the core game mechanics (e.g. Countdown before game starts). Terminology of the Difficulty mode is edited.

Characters section updated with the information of the Side Character as well as the inclusion of the concept art of the characters. Attributes of where the falling objects will be falling is added.

Version 2.4

July 1, 2009

Updated the Character section with latest arts as well as included a diagram to explain how the falling of objects should work. Updated the control scheme of the game.

Version 2.5

July 6, 2009

Updated interface flowchart.

Version 2.6

July 7, 2009

Updated Game Overview and core game mechanics according to the new headbutt (kick) mechanism. Information of the headbutt is found in the Core Game Mechanics. Control scheme updated. Interface flowchart updated. Objects section updated with latest objects' attributes. Different game states are described in the core game mechanics.

Version 2.7

July 8, 2009

Updated Core Game Mechanics on how to collect art pieces and edited the Difficulty mode is edited. A diagram of how the collection of art pieces and description is added too. Object section updated with list of objects that the player has to collect through the 3 stages.

Version 2.8

July 9, 2009

Updated interface flowchart and made minor amendments to attributes. Updated Failure communications and trigger and included the new flowchart of failure trigger and communication. Minor amendments to the objects' attributes and score. Updated game name and game logo on front page. Added the dialogues for the failure feedback.

Version 2.9

July 10, 2009

Included the expanded version of the interface flowchart, depicting the flow of the main game itself (e.g. the screens after player completes the screen). Changed stamina to health and edited the mechanic.

Version 3.0

July 13, 2009

Updated the scoring mechanism and removed everything regarding the fish and edited the documentation accordingly. Chaining and combos of collecting of art pieces documented. Health section is updated. Attributes slightly changed. Objects spawning (level progression) included. Minor changes to failure trigger.

Version 3.1

July 14, 2009

Updated interface flowchart to remove difficulties. Removed difficulty and added replenishing health under core game mechanics. Updated extended gameplay flowchart. Updated combo/chaining system and included high score descriptions.

Version 3.2

July 15, 2009

Edited the attributes based on actual game's XML file. Updated character concept art and failure feedback chart.

Version 3.3

July 16, 2009

Updated control scheme and replaced control scheme image. Included win/lose statistics to display when the player completes/loses the game. Included Pierre's attributes under the "Character" section. Updated game logo.

Version 3.4

July 17, 2009

Updated control scheme and replaced control scheme image.

Version 3.5

July 20, 2009

Updated target audience and language of Game Overview. New section, "Stage" is included to address the difference between in stage and the attribute changes. Removed tables from Objects and put them under the "Stage" section. Updated core game mechanics to address the stages. Changed the in-game elements diagram to a screenshot of the game and updated list. Removed outdated information. Amended same-type bonus issue.

Version 3.6

July 21, 2009

Updated the Stage Attribute table and the win/lose screen statistics.

Version 3.7

July 22, 2009

Updated stage attributes table with latest revision according to XML. Included the story cutscene and story synopsis under Story and removed plot points. Control scheme updated. Core game mechanics updated with new “removal of art pieces if the player gets the wrong one” feature as well as updated the properties of the spiky ball and headbutt.

Version 3.8

July 23, 2009

Updated statistics to show when the player wins the game. Stage Attributes table updated. Included sequential falling dangerous objects into core game mechanics.

Version 3.9

July 27, 2009

Patterns included under “Stage” with descriptions to describe patterns and in which stage they will be spawned. Failure feedback trigger edited to latest one to match product owner’s description. Added information about objects’ timers and changed headbutting to “Roar”. Updated everything to do with stages/levels to 6. Included grading system.

Version 4.0

July 28, 2009

Added Temporary Invincibility into core game mechanics and edited damage for the art pieces. Added patterns’ attributes and updated the stage attributes table.

Version 4.1

July 29, 2009

Updated Interface flowchart, high score and grading system into core game mechanics. Added some missing attributes in the stage attributes table and edited some values. Updated scoring system.

Version 4.2

July 30, 2009

Removed some outdated information (e.g. stage descriptions) and added text for the ending scene. Updated grading system. Changed failure communication description.

Version 4.3

July 31, 2009

Updated Game Overview to the final design. Minor updates to the grading system. Edited all the attributes in the stage attributes table to the latest version.

GAME OVERVIEW

Introduction

In this 2D game, the player controls an artist cat, Pierre, who is uninspired one day and goes out to the world to collect inspiration for his next magnum opus. Throughout his journey, he meets with motivating feedback and sometimes really mean ones. Pierre has to collect all his inspiration under tough conditions of not just verbal abuse but also obstacles that falls in his path.

Objective of the Game

The objective of the game is to collect the art pieces in the correct segment of the inner wheel and surviving the spiky balls that comes falling onto the character. To win the game, the player has to complete all 6 stages of the game, fulfilling the number of art pieces required per stage.

Genre

Action-Puzzle game

Features

- 2D game
- Third person view
- Single player
- Fixed camera view
- Rotating circular platform
- 800 x 600 screen
- Dynamic music and feedback
- Visual Feedback

Platform

This game will be a web-based game in a .swf format. Therefore, it can be supported by most operating systems (e.g. Windows, Mac).

Intended Audience

The intended audience of this game is primarily for casual or non-gamers of both genders from the age range of 12 and above. The language of the game might be harsh and insulting and therefore, the audience should be slightly more matured.

Language

The game will only be in English. Some aggressive language may be used.

Sound Consideration

The game play experience of this game depends very much on the music. In this game, we will be including sounds such as the main music for the levels, soundscaping, audio feedbacks, cutscene sounds, and interface and in-game sound effects.

STORY

Outline

The story revolves around Pierre, the artist cat, who one day, ran out of inspiration and goes out to the world to collect inspiration for his grand masterpiece. Throughout his journey, he meets obstacles in which he must avoid, as well as the sometimes-menacing-sometimes-nice André who criticizes him.

Story Synopsis

Pierre is a cat. Pierre is an artist.

On the verge of creating his greatest masterpiece, this maniacal cat suddenly ran out of inspiration and decided to set out to the world to recover his creativity juices back to forge his noble sculpture. The path to creating his magnum opus is treacherous though but will he survive the challenge? Will he survive the obstacles and the people around to see the light of his grand masterpiece? Who knows? The only thing undeniable is that Pierre is one strong-headed feline.

Cut scene screens

Opening Cut Scenes



1. The Atelier of Magnificence where masterpieces are created...
2. Pierre, the great artiste, unleashes his creativity!
3. One day, Pierre's genius flees away. Can he complete his magnum opus?
4. YES! Out to the world, Pierre ventures to bring back his inspiration...

Ending Screens



1. Pierre added his final touch to the artwork...
2. In awe, he watches his masterpiece bloom...
3. And viola~ The world surrenders to his genius.

CORE GAME MECHANICS

Camera

There will be a stationary camera with the whole wheel as well as the main character in sight, in a third person perspective, during game play. The camera does not move at all throughout the game.

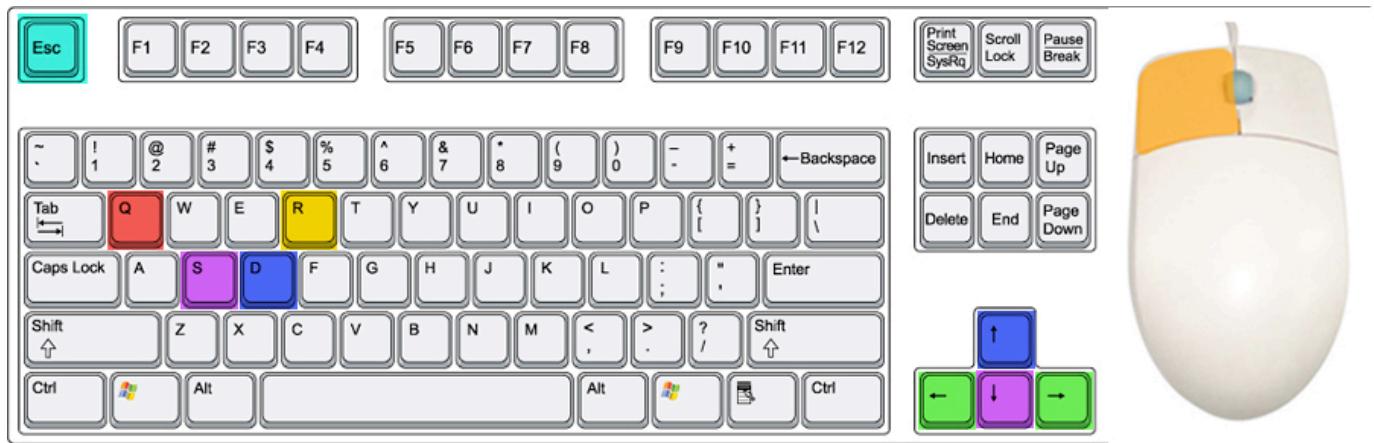
Single Player

In this game, the player controls the main character only as this game is meant for a single player playing experience.

General Movement

The player may choose to either move or jump within the game. The wheel is always spinning in a constant speed in the anti-clockwise direction and if the player does not move the character, the character will remain on the wheel and rotate along with the rotation of the wheel. To move, the player has to either hit the \leftarrow or \rightarrow key, which moves the character anti-clockwise along with the flow of the wheel and against the flow of the wheel in the clockwise direction respectively. To jump, the player hits the D / \uparrow key to jump upwards. To roar, the player presses the S or \downarrow key. Refer to the Control Summary below for a more detailed listing of the control scheme.

Control Summary



Keyboard diagram: <http://www.seoconsultants.com/windows/keyboard/>

Mouse diagram: http://www.germes-online.com/direct/dbimage/50305292/Computer_Mouse.jpg

Left Mouse click	To select options on the menu
← & →	Move left (anti-clockwise) and right (clockwise) respectively
↑ / D	To jump
↓ / S	To roar
Esc	Pause/Resume game
Q	Quit to Main Menu (in pause screen)
R	Restart Level (in pause screen)

Initial Set Up

The character starts at the top of the wheel and the wheel starts to turn clockwise at a constant speed. Depending on the difficulty level as seen in the table in the previous section, the speed of the wheel, the amount of objects and food objects varies. Depending on the stage, the inner wheel might turn as well.

Countdown before Stage Starts

The game will “countdown” before the game starts to prepare the player.

Rotating Wheel

Throughout the entire level, the wheel will rotate in the clockwise direction at a constant speed at 30. In stages 2 and 3, the inner circle will rotate as well.

Moving the Character Anti-clockwise (Left)

In order to move the character anti-clockwise, the player may either hit the \leftarrow key, which moves the character anti-clockwise in speed x2 due to the flow of the rotation of the wheel. Otherwise, the player may choose not to hit any keys and allow the rotation of the wheel to carry the character in the anti-clockwise direction.

Moving the Character Clockwise (Right)

If the player wants to move the character clockwise, the player has to hit the \rightarrow key to move the character against the flow of the rotating wheel. Due to the opposite force of the rotation, the character moves at speed x1.

Jumping

The player can make the character jump upwards to avoid dangerous objects. The height of the jump should be high enough to dodge objects. To jump, the player has to hit the D / \uparrow key. The player may jump towards the anti-clockwise or clockwise direction, depending on whether either \leftarrow or \rightarrow key is held down respectively.

Health

The character has a health bar which decreases when he hits the dangerous objects. When the health bar reaches zero, the character dies and the game ends. In this game, health cannot be replenished. The following table shows how much health is deducted when the character hits the respective objects:

Objects Collided with	Amount of Health Lost
Spiky Ball	15%
Wrong Art Piece	5%

Low / Critical Health

When the character's health reaches 25% and below, a pulsing red border appears around the screen and the sound of heart beats is played. This signals to the player that the character is in low health. When the character's health reaches 10% and below, the pulsing red border speeds up in pulsing and the heart beat goes faster, to signify to the player that the health has reached a critical stage.

The character dies when its health reaches 0% and depending on which failure mode the player is in, a respective animation will be displayed.

Temporary Invincibility

When the character gets hit by a dangerous object or wrong art piece, the character will be invulnerable for 1 second. During this one second, no harmful objects can damage the character but the character may still collect correct art pieces and is able to roar.

Falling Objects and types

There are 3 kinds of objects that will fall within the game. They are namely the:

1. Art pieces
→ Collect in order to accomplish the stage
2. Spiky Ball (Blue)
→ Fixed objects that lowers the health of the character
3. Spiky Ball (Red / Sequential falling object)
→ Falls at timed intervals in a fixed pattern

Being Hit by Spiky Balls

If the character is hit by the spiky ball, the player will lose 15% of its health. It will also remove all the art pieces from the screen, whether falling or those already on the wheel.

Roar Objects

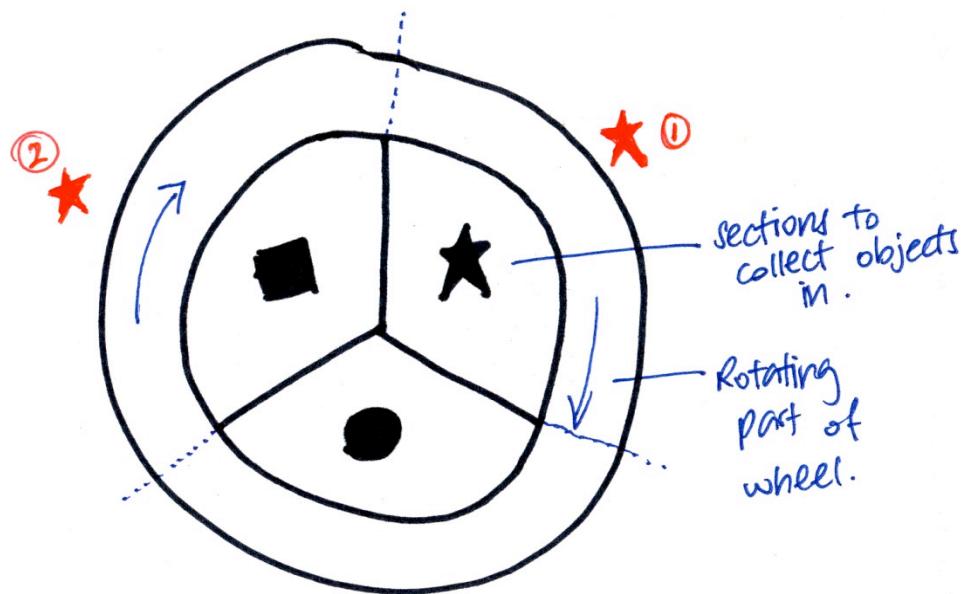
The character has the ability to roar objects to hit art pieces to the segment that the player wants it to be at. To roar, the player has to hit the S / ↓ key near any object. The spiky ball cannot be roared.

Objects' Friction and Distance Moved

Different objects have different friction which in turn results in varying distance in which the objects can travel when being roared. Refer to the Stage section for detailed attributes.

Collection of Art Pieces

The following diagram shows how the wheel will look like and depict how collection of art objects work.



To collect an art object, the player has to make sure that the art pieces are above its respective segment of the wheel. To collect, the player moves the character over to the art pieces and collides to collect. Each art piece will have a certain number that the player needs to collect (e.g. 3 stars, 3 circles, 3 squares).

In the above diagram, the star labeled 1 is correctly placed above the correct segment and getting it means that the star is collected successfully.

However, the star labeled 2 is incorrect because it's in the square's segment and therefore, the collection is invalid.

Collecting Wrong Art Pieces

If the player collects a wrong art piece in the wrong segment, 10% of the character's health is lost.

In Stage 3, if the player collects a wrong art piece, the type of that art piece disappears from the gauge. For instance, if the player collects an apple over a wrong segment, all the collected apples are removed from the gauge and the player has to start over.

Combo and Chaining System of Collecting Art Pieces

The following table shows how the combo for collection of consecutive correct art pieces work (does not have to be of the same type):

Method	Score
When the player collects item (1)	300
When player collects 2 nd item (1)	300 \times 2 = 600, total score now = 900
When player collects 3 rd item (1)	300 \times 3 = 900, total score now = 1800

Therefore, from the above demonstration, we see that for every successful combo that the player performs, the amount of score the player is awarded is:

$$\text{Score for Combo} = \text{Score of Object} \times n, \text{ where } n \text{ is the no. of combos accumulated}$$

If the player collects a wrong art piece in the wrong segment, the combo is broken.

The players may chain collection of the art pieces to gain more score. To do so, the player has to collect 3 of the same type of art pieces consecutively (e.g. apple, apple and apple). This may be achieved while the player is collecting combos.

Method	Score
Collecting Correct Art Piece (Ground)	300
Collecting Correct Art Piece (Air)	400

The following table demonstrates how scoring works when the player collects consecutive correct art pieces of the same type.

Method	Scoring System
Same-type chain (e.g. stage 1)	$\{(300 + 600 + 900) [\text{combos}]\} \times 2 = 3600$ When the player completes the chain, they are awarded x 2 of the score.

Using the demonstration above, the following formula shows how the chain is being calculated:

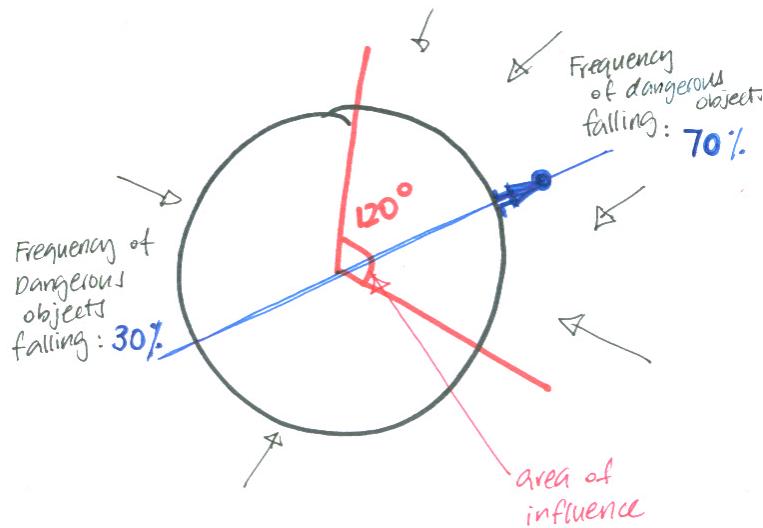
$$\text{Score for Chain} = [\text{Score of Combo}] \times 2, \text{ where } n \text{ represents the no. of chains}$$

So long as the player completes the Same-type chain by completing the art piece consecutively, the player will be awarded with the score.

i.e. Score for Chain in Stage 3 = (Score of Combo for the 5 objects) $\times 2$

Rate and Position of Falling Dangerous Objects

Whenever the player moves, dangerous objects will fall from above the player so that it ensures that the player is not staying at a single spot. An angle projected from the middle of the wheel depicts the primary area in which the objects will be falling from. The following values are the attributes of where the objects will be falling from and the diagram demonstrates how it should be executed:



Angle of Primary Influence of Falling Objects	Dangerous = 120° Art = 180°
Skew	0

Falling of Objects onto the Wheel

When an object hits the surface of the wheel, they stay there for a period of time before it disappears. The object will, like the character, rotate along with the rotation of the wheel. It is not possible for objects to stack onto of each other. The maximum number of objects on screen depends on the stage the player is playing. All objects should be upright when it lands to prevent complications when it comes to collision detection.

Disappearing of Objects from the Wheel

Each different kind of object will disappear off the surface of the wheel at different timings, be it art pieces or dangerous objects. Refer to the “Stage” section of the documentation for the exact attributes and disappearance timing for the different objects.

Timer of Objects (Time to Live) & Roaring Factor

Each object has a specific time-span that it will stay on the screen. The timing varies from levels to levels. When the character roars at the objects, the objects are moved but depending on what kind of objects is being roared at, the timer of the objects is affected.

Type of Objects	Effect(s)
Dangerous (Spiky balls)	Timer remains, the timing for the dangerous objects are not reset.
Art Pieces	The timer of the art piece is restarted to the original timing of the art piece.

Dodging Dangerous Objects

In order to dodge dangerous objects, the character has to move out of the path in which the object will land on the wheel. This can be achieved by either allowing the wheel to carry the character out of the path of the falling object or by hitting either the A / ← key or D / → key to move the character out of the way or jump away.

Pattern Falling Objects

During timed interval, red spiky balls, also known as the pattern falling objects, will fall. These red spiky balls fall and disappears straightaway and therefore, cannot be roared. Depending on the stage, the amount of this object and the pattern in which it's spawned differs. Refer to the "Stage" section for more information.

Non-Gravity Objects

During timed intervals, yellow spiky balls, also known as the non-gravity objects, will fly tangent to the surface of the wheel. They occur from Woods 2 onwards. Refer to the "Stage" section for more information.

Stage Progression

There are a total 6 stages in the game. When the player completes a stage by collecting all the required art pieces, the player will be showed a victory screen and from which, the player may choose to continue the game or go back to the main menu. If the player continues on to the next stage, the player's scores are brought over. When the player moves to the next stage, they are showed the world map with the grades of the completed stages.

Refer to "Stage" section for the differences in each of the level.

Progression of Number of Art Pieces to Collect

In each stage, the player will have to collect 3 different kinds of art pieces. Depending on the stage, the number of art pieces per art piece that needs to be collected changes. The following table shows the increment of the number of art pieces per art piece that the player has to collect during the stages.

Level	Stage	No. of Art Pieces to Collect
1	Woods 1	2
2	Woods 2	3
3	Mountains 1	4
4	Mountains 2	5
5	City 1	6
6	City 2	7

Scoring System

A score system will be implemented within the game and the table shows the ways in which the player may gain score.

Method of Gaining Score	Score Awarded
Collecting Art Piece (Ground)	30
Collecting Art Piece (Air)	40

Grading System

The following table shows the amount of grading points the player will earn under different circumstances. These grading points will be tabulated into an alphabetical grading system which will ultimately be displayed for the player. The grading points are not made available to the players.

Time (x = player's time)	No. of times player gets damaged	Remaining Art Pieces	Grading Points
0:30 ≤ x	0	100 % complete	5
1:00 ≤ x	1 – 2	80% complete	4
1:30 ≤ x	3 – 4	60% complete	3
2:00 ≤ x	5 – 6	40% complete	2
2:30 ≤ x	7 – 8	20% complete	1
2:30 ≥ x	9 and above	0% complete	0

The following table shows the grades that the player will get if they win, regardless of what mode they get:

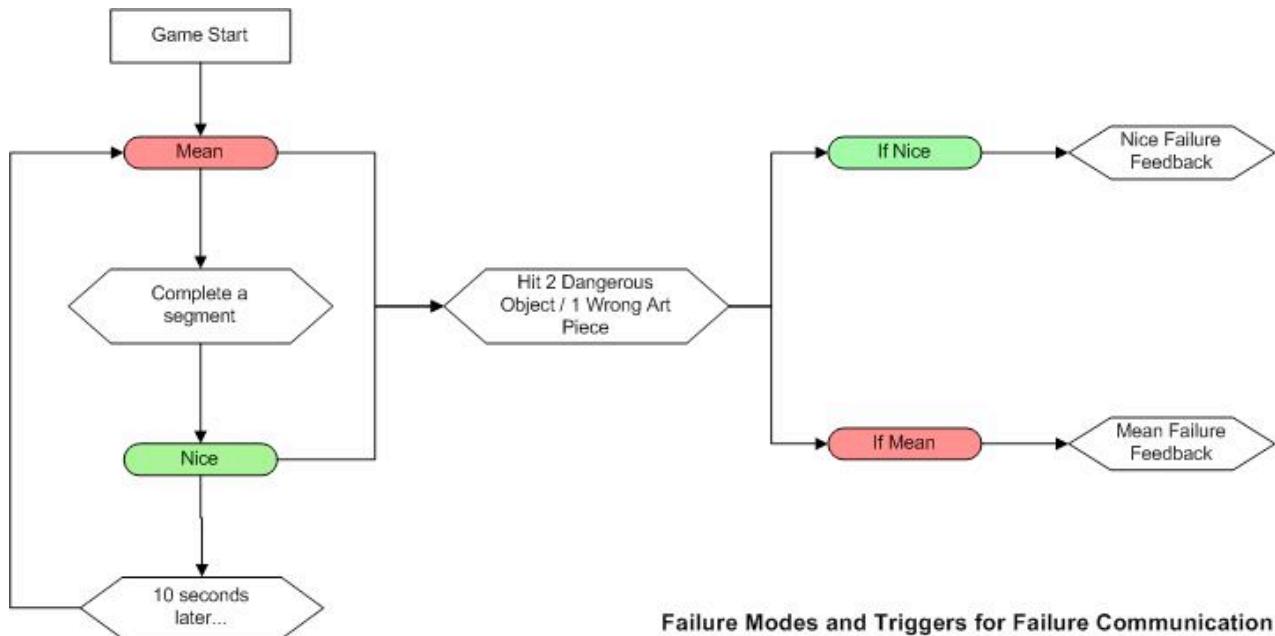
Grading Points	Grade
13 and above	A
10 – 12	B
7 – 9	C
5 – 6	D
4 and below	F

The grading system is slightly different if the player loses in the Mean/Nice modes.

Mode	Special Effects	Example
Mean	Minus 4 overall grading points	If the player loses in mean mode and gets a grading point of 9, using the table above, the ultimate grading point that the player gets is: $9 - 4 = 5 = \text{Grade F}$
Nice	Plus 3 overall grading points	If the player loses in nice mode and gets a grading point of 9, using the table above, the ultimate grading point that the player gets is: $9 + 3 = 12 = \text{Grade S}$

Failure States Trigger

Throughout the game, the failure states (be it “Nice” or “Mean”) changes according to whether the player completes a task. The game starts out as a “Nice” mode and depending on the actions taken by the player, the states change accordingly. The following chart shows the flow of the change of the failure states as well as trigger for the communication.



Description:

- The game starts out in the “Mean” mode
- If the player manages to complete a segment of the art pieces, the game switches to “Nice”.
- After 10 seconds in the nice mode, the game switches back to “Mean”.

For every 2 dangerous/ 1 wrong art piece that the character hits, the feedback, depending on the mode, is communicated to the player

Failure Communication Triggers

When the player does something wrong, the game will communicate failure to the player by having a side character pop out from either one of the top two corners of the game screen. The side character will display visual and audio feedbacks to the player in terms of failure, either positive or negative ones depending on the failure state (see above section). The term “failure” does not mean immediate termination of the game but rather, a way of telling the player how well / poorly they have been performing throughout the game on a regular basis.

The following list shows the triggers to the failure communications. The failure communication trigger happens for both when the game is in the “Nice” state or “Mean” state. (See chart in above section)

- If the player hits 2 dangerous objects / 1 art pieces, depending on the mode of the game, a feedback is given. This does not have to be consecutive.

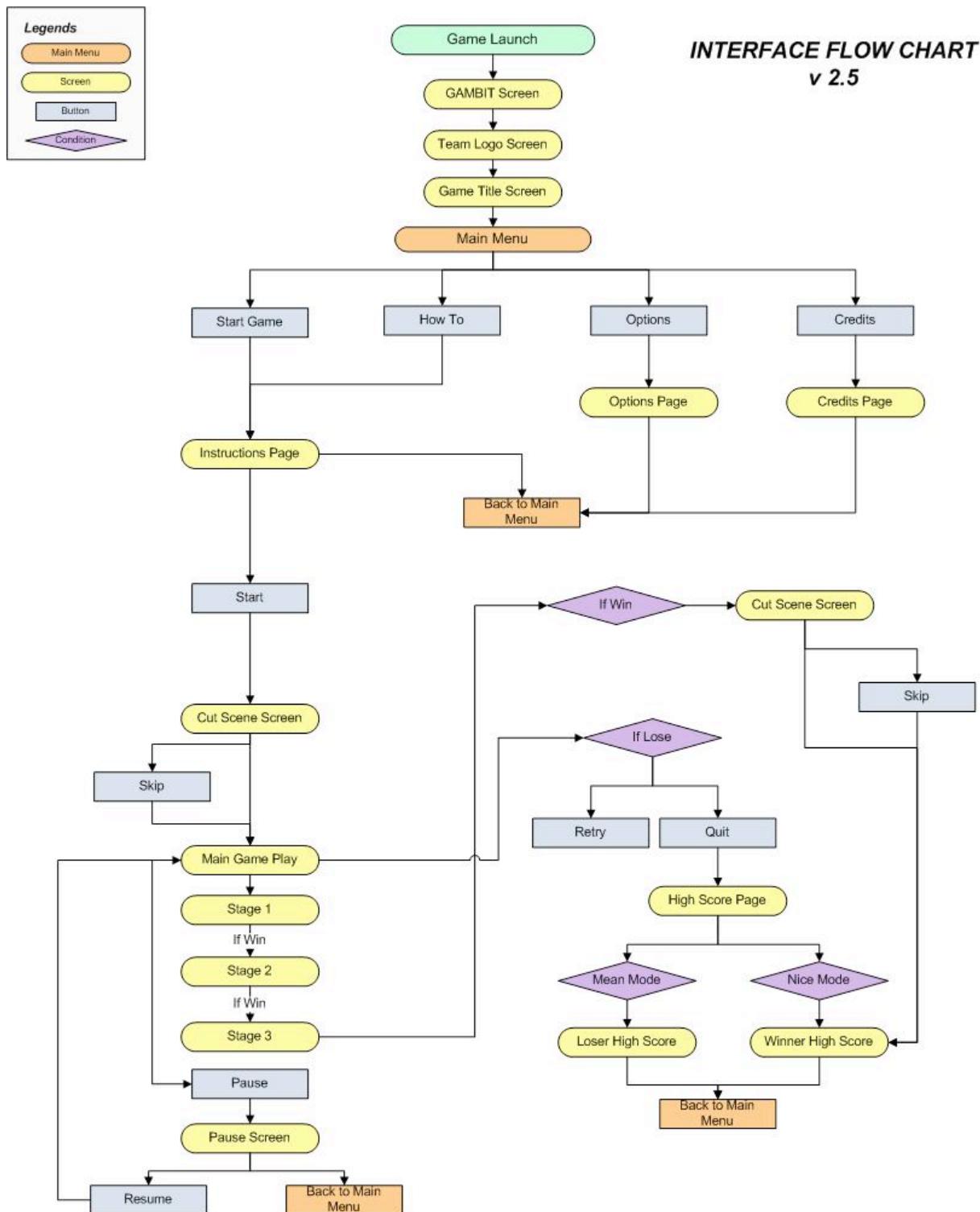
Win / Lose Screen Statistics

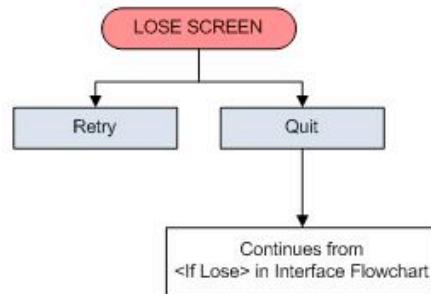
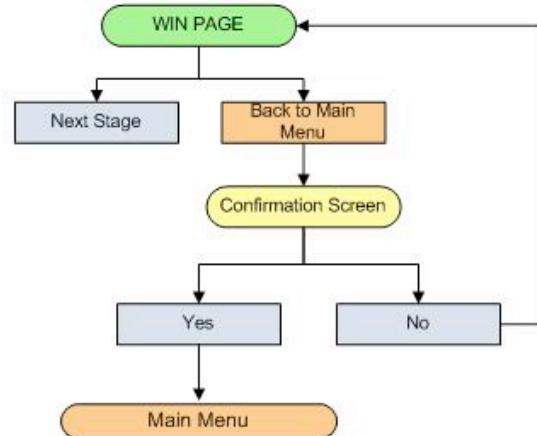
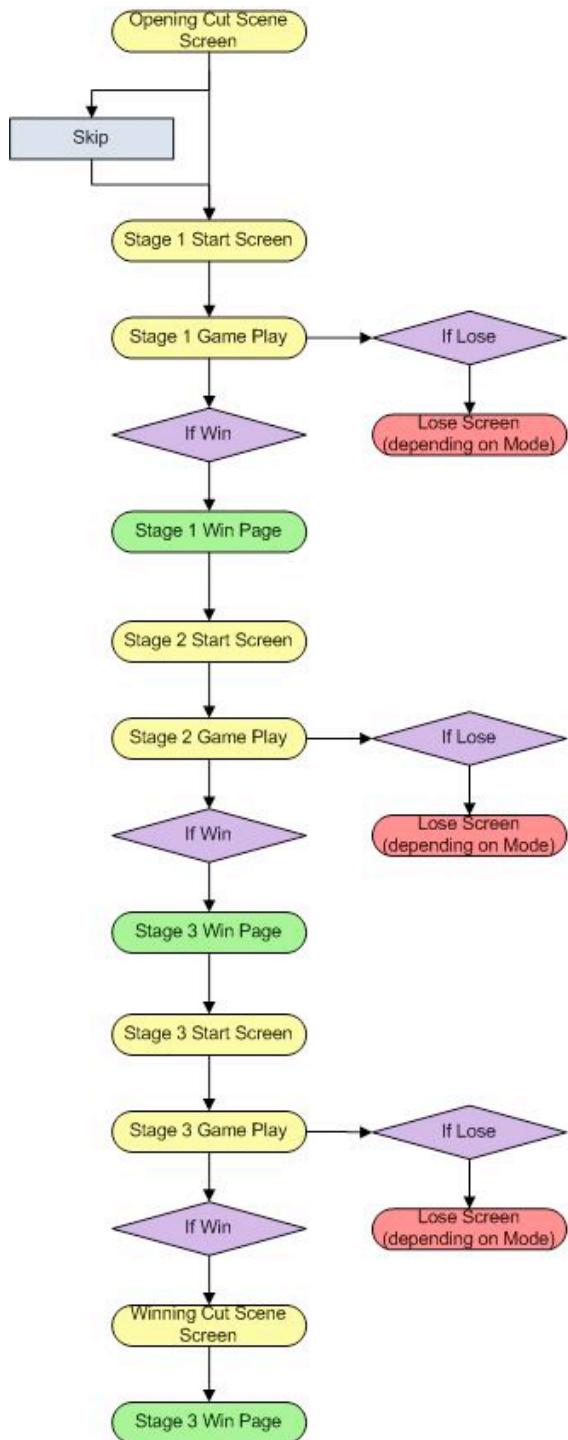
When the player wins/loses a stage, they will be brought to a Win/Lose screen. If the player wins in any mode, they will be brought to the same winning screen. If the player loses, depending on the mode, the player will be brought to the respective losing screens.

The following is a list of statistics to be displayed on the screen in the Win/Lose screen. Depending on which mode the player is in, the statistics shown is different.

Nice	Mean
<ul style="list-style-type: none">• Score• Largest Combo accumulated• Total play time	<ul style="list-style-type: none">• Score• Wrong items collected• Number of times character gets hit by dangerous objects• Total play time
Win	
<ul style="list-style-type: none">• Score• Largest Combo accumulated• Number of times character gets hit by dangerous objects• Total Play time	

Interface Flowchart





This is the expanded flowchart from the Main Game Play screen to the end of stage 3, showing the in-between screens that are missed out in the previous one.

In-Game Elements



The above screenshot shows the elements that the interface essentially has.

- Game Screen
→ Where all the game play takes place in
- Character
→ The player's avatar
- Wheel
→ The platform of the game
- Exterior wheel
→ Rotates all the time; platform player runs on
- Inner wheel
→ Holds the silhouette of the items that the character has to collect; rotates in stages 2 and 3
- Silhouette of art pieces
→ Shows the player what items are to be collected; how many items left to collect

- Falling art pieces
→ To collect in the correct sector
- Falling spiky balls
→ To avoid
- Glowing art piece
→ Indicates that the piece is in the correct sector and can be obtained
- Failure feedback NPC
→ Gives feedback to the player
- Subtitle
→ Enforces what the NPC said
- Health bar
→ Depicts how much health the character is left
- Score
→ Shows the score of the player

CHARACTERS

Pierre the Cat

Background Story

Pierre the Cat has always wanted to strike big with his talents of a sculptor. He enjoys sculpting so much that there is nothing that will stop him from doing what he is most passionate about. However, even though he is so passionate, somehow, some of his artworks do not *feel* right. He gets frustrated and in a sudden outburst of madness, he decided to travel the world to get the essential pieces to his greatest masterpiece.

Role

The player plays as Pierre the Cat throughout the game as the main protagonist.



Audré

Description

He is the first outside person that Pierre will meet during the first stage who will give feedback to the player/character on failure. He is portrayed as a French-inspired guy with a moustache. Ranging around his 30s, Audré is an artist as well and has a temper at times.

Role

Failure feedback NPC of Stage 1



Audré Nice mode



Audré Mean mode

OBJECTS

As previously mentioned in the previous section of the documentation, there are 3 kinds of items, namely the:

1. Art pieces
→ Collect to complete the stage
2. Hostile / Dangerous object
→ Fixed objects that lowers the health of the character

3. Sequential falling object
- Falls sequentially in timed intervals

Art Pieces

Art pieces are what the players collect in order to proceed on to the next stages. To collect, the player has to collect the art piece at the correct segment.

Woods 1 Woods 2	1. Easter Island Stone head 2. Exotic leaf 3. Nut/fruit
Mountains 1 Mountains 2	1. Fossil 2. Tribal Pot 3. Blue Flower
City 1 City 2	1. Mask 2. Hat 3. Eiffel tower

Refer to the “Stage” section, under “Stage Attribute table” for the detailed attributes of these items based on the stage.

Hostile/Dangerous Objects (Spiky Ball)

Dangerous objects (the spiky ball, for now) are objects that decrease the health of the character. If the character collides with the dangerous object that is falling, the character’s health decreases. When the object lands on the ground and if the character touches it, the health bar decreases as well. It will also remove all the art pieces off the screen. Refer to the “Stage” section under the “Stage Attributes table” for detailed attributes of the spiky ball.

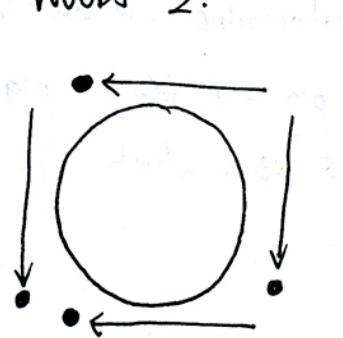
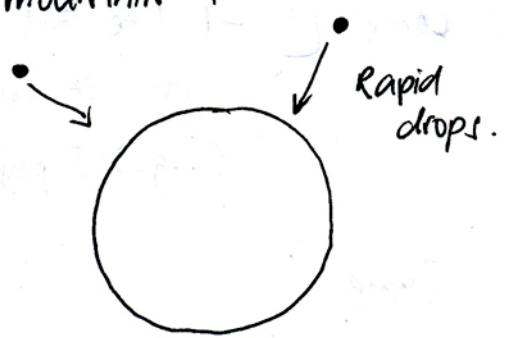
STAGE

Overview

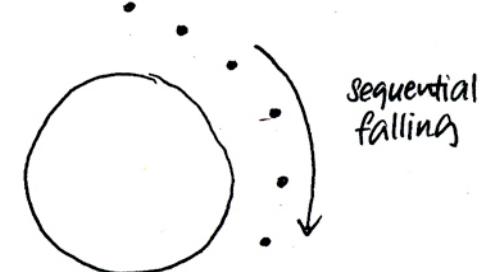
The “Stage” section of the GDD will address the attributes and the differences of the 6 different stages that will be implemented. The 2D world of Pierre signifies the journey of him going around the world collecting art pieces for his masterpiece.

Sequential Falling Objects’ Patterns

The following table shows the different patterns that will be used throughout the game and the description of each of the patterns.

Pattern	Description
 <p>WOODS 2.</p> <p>Pattern A</p>	<p>Spiky balls will be spawned to the tangent of the wheel to make players jump over it.</p> <p>The top and bottom will spawn together first, followed by the left and right.</p>
 <p>MOUNTAIN 1</p> <p>Rapid drops.</p> <p>+ WOODS 2</p> <p>Pattern B</p>	<p>Spiky balls will spawn rapidly at a spot to create a wall of spiky balls to limit access to a certain area for a period of time.</p>

MOUNTAIN 2



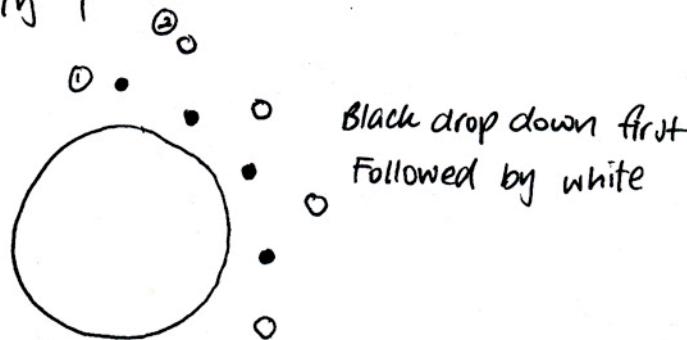
+ WOODS 2

+ MOUNTAIN 1

Pattern C

Spiky balls will fall one after another sequentially in an arc to chase the player away. This pattern will affect half of the wheel.

CITY 1



+ WOODS 2

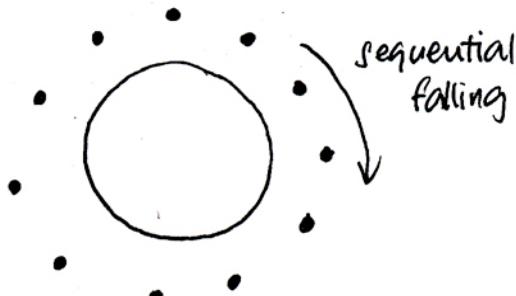
+ MOUNTAIN 1

+ MOUNTAIN 2

Pattern D

Spiky balls will drop in a rain-like pattern. In the diagram, the black balls fall first, followed by the white ones which will fall in between the gaps of the black ones.

CITY 2



+ MOUNTAIN 1

+ MOUNTAIN 2

+ CITY 1

Pattern E

Spiky balls will fall like in Pattern C, just that in this case, it covers the entire wheel.

Patterns in Stages

Aside from random falling spiky balls, each stage has a pre-defined pattern assigned to it. The following table will show the patterns that will spawn in the 6 different stages.

Stage	Pattern(s)
Woods 1	<ul style="list-style-type: none">• No patterns
Woods 2	<ul style="list-style-type: none">• Pattern A
Mountains 1	<ul style="list-style-type: none">• Pattern A• Pattern B
Mountains 2	<ul style="list-style-type: none">• Pattern A• Pattern B• Pattern C
City 1	<ul style="list-style-type: none">• Pattern A• Pattern B• Pattern C• Pattern D
City 2	<ul style="list-style-type: none">• Pattern A• Pattern B• Pattern D• Pattern E

Stage Attributes Table

This table will summarize in detail the stats used in each of the three levels.

Global Options

Attribute	Value	Description
Game Mode	Normal (default)	Defines whether the game is mean/nice
WORLD		
World Speed	30.0	The speed of the outer wheel
World Direction	1	1 = Clockwise / -1 = Anti-clockwise
CHARACTER		
Jump Height	170.0	The height Pierre can jump
Jump Duration	-330.0	The lower the value, the faster the fall
Move Clockwise	2.5	Pierre's clockwise movement speed
Move Anti-Clockwise	-1.25	Pierre's anti-clockwise movement speed
Roar Speed	90.0	Degrees hit per second
Health at Start	100.0	Health at the start
Low Health	25.0	Triggers low health pulsing screen
Critical Health	10.0	Triggers critical health pulsing screen
FAILURE FEEDBACK		
Damage Count	3	No. of damage received to change mode
Time to Mean	10.0	No. of seconds to trigger Mean mode
Feedback Trigger	2	No. of hits received to trigger feedback

Stage

Attributes	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5	Stage 6
DANGEROUS OBJECT						
Probability of Drop	32.0	42.0	50.0	55.0	60.0	60.0
Falling Speed	35.0	35.0	90.0	110.0	110.0	115.0
Angle Range	120.0	120.0	120.0	120.0	120.0	120.0
Frequency within angle	0.0	60.0	65.0	65.0	70.0	70.0
Disappearance time	10.0	10.0	12.0	14.0	12.0	13.0
Kick Speed	90.0	90.0	90.0	90.0	90.0	90.0
Kick Friction	40.0	40.0	40.0	40.0	40.0	40.0
Damage	15.0	15.0	15.0	15.0	15.0	15.0
Maximum on Screen	10	10	15	15	15	18
ART PIECES						
Probability of Drop / piece	22.6	19.3	16.6	15.0	13.3	13.3
Falling Speed	15.0	15.0	75.0	85.0	100.0	110.0
Angle Range	180.0	180.0	120.0	120.0	240.0	240.0
Frequency within angle	10.0	10.0	0.0	0.0	0.0	0.0

Interval (fail-safe drop)	50.0	50.0	10.0	10.0	20.0	20.0
Disappearance time	20.0	16.0	10.0	10.0	8.0	8.0
No. to collect to pass stage	2	3	4	5	6	7
Kick Speed	90.0	90.0	90.0	90.0	90.0	90.0
Kick Friction	60.0	60.0	60.0	60.0	60.0	60.0
Damage	5.0	5.0	5.0	5.0	5.0	5.0
Maximum on Screen	30	30	30	30	18	18
STAGE'S ATTRIBUTES						
Objects generation time	2.0	2.0	1.5	1.5	1.2	1.0
Counter Player's Strategy	N.A.	10	10	8	8	8
No. of falling object to counter	N.A.	3	4	4	5	5
PATTERN ATTRIBUTES						
Sequential Falling	No	No	No	Yes	Yes	Yes
Damage	N.A.	N.A.	N.A.	10.0	10.0	10.0
Falling Interval	N.A.	N.A.	N.A.	25.0	23.0	20.0
Maximum Sequence Falling	N.A.	N.A.	N.A.	8	8	20
Non-Gravity Falling	No	Yes	Yes	Yes	Yes	Yes
Non-Gravity Speed	N.A.	200.0	200.0	250.0	250.0	250.0
Non-Gravity Damage	N.A.	3.0	3.0	3.0	3.0	3.0
Non-Gravity Interval	N.A.	15.0	15.0	15.0	12.0	10.0
Rain Falling	No	No	100.0	100.0	100.0	100.0
Rain Falling Interval	N.A.	N.A.	20.0	20.0	20.0	20.0
Rain Falling Repeat Time	N.A.	N.A.	15	15	20	20
Rain Falling In-Type Interval	N.A.	N.A.	0.3	0.3	0.22	0.22
Raining Falling Pattern D	No	No	No	No	Yes	Yes
Pattern D Repeat Time	N.A.	N.A.	N.A.	N.A.	3	3
Pattern D In-Type Interval	N.A.	N.A.	N.A.	N.A.	2.0	2.0
STAGE GAME PLAY						
Rotation of Inner Wheel	No	No	Yes	Yes	Yes	Yes
Speed of Inner Wheel	N.A.	N.A.	3.0	3.0	3.0	3.0
Removing Collected Art Pieces	No	No	No	No	Yes	Yes