

# **Game Design Document for:**

## *Donkey Kong*

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Written by Nintendo

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# 1.0 Revision History

*<As you revise the document, list what was changed and when it was changed>*

| Version | Description   |
|---------|---|
| 1.0     | Initial document  |
| 1.1     | Copied over sections doubled up in TDD                                |
| 1.2     | Added 2.0: High Concept, Synopsis, Pillars, Genre, Target Demographic |

## 2.0 Game Overview

### 2.1 High Concept

*<A two or three sentence description of your game>*

Donkey Kong is a simple, addictive coin-muncher arcade game that hooks players in with an innovative presentation & gameplay style to match. The player takes control of Jump Man to save his girlfriend from the titular giant ape, Donkey Kong, avoiding Kong's devious traps as they aim to reach him.

### 2.2 Synopsis

*<This section should be approx. 1 page, and describe what the core gameplay loop is without detail, and emphasize the unique selling points of the game>*

The core of Donkey Kong's gameplay is a simple loop. The player inserts their coin, begins the level after the game loads, and assumes the role of Jump Man, climbing construction pillars to catch the dastardly gorilla whos stolen his girlfriend. Donkey Kong continues throwing barrels down at Jump Man as he climbs ladders and walks across perilous bridges, in an attempt to halt his progress. Falling off or being hit by a barrel results in a loss of a life, and losing all lives results in a game over. The unique gameplay, emphasizing jumping and momentum over the repetitive, overdone archetype of "spaceship shoots aliens" invented by Space Invaders and Missile Command, thus giving us a unique appeal on the market for a more action oriented experience where the player controls the game's pace, as opposed to the AI controlling the pace. Completing levels will advance the player a stage, as the game slowly speeds up and grows in challenge. We want to emphasize a style of game not yet seen before in the Arcades, by emphasizing upward and left/right movement, instead of one or the other in other popular games, providing a more dynamic experience than the often pre-set experience provided by other machines. Our unique setting, with defined characters fulfilling defined roles also sets us apart from other games on the market, which usually lack a true story or incentive for players to grow attached to.

### 2.3 Pillars

*<Simple key phrases for what the core game experience should be>*

Fun for all, Simple to learn difficult to master, A unique experience amongst arcade gamers, Coin munchingly addictive.

## 2.4 Genre

*<This is a body of text and should be elaborated>*

With no other game existing, at time of proposal, fulfilling the same general gameplay style as Donkey Kong, this genre would be an all-new experience for players accustomed to space shooters and racers, emphasizing the movement between platforms, obstacles and foes to reach a location as opposed to defeating all enemies on screen or collecting items. The emphasis on Jumpman's limited mobility, compared to other games like Galaga, Space Invaders and Pac Man, also allows for challenging gameplay in ways that aren't just related to "if i touch an enemy, i lose". We coin this genre as a "Platform Game".

## 2.5 Target Demographic

*<Age, gender, casual/serious/competition etc.>*

We are aiming for the teenage and child audiences, specifically male, as those are generally the audiences that attend Arcades and places our machines will be placed at, in the highest quantity. We want to draw in casual appeal with our simple mechanics, and inviting graphical style, but we also want to allow players to get more serious or competitive, with the high score system.

# 3.0 Mechanics

## 3.1 Dying

if Jumpman collides with a barrel, fireball or falls any significant distance he dies losing a life and restarting the current level, he only has 3 lives and when he runs out the game is over and returns to the title screen.

## 3.2 Gaining lives

Jumpman can gain lives by scoring multiples of 7000 points allowing him to die more times and still pass the level.

## 3.3 Barrels

donkey kong will throw barrels which roll down the level following a semi-random pattern sometimes dropping down ladders instead of continuing along the platforms.

## 3.4 Sandpile

Sand piles are another obstacle which don't move on their own but are pushed around by conveyers and also kill the player on contact.

## 3.5 Fireballs

occasionally when a barrel is thrown it may be a fire barrel, when a fire barrel reaches the oil barrel (this barrel is in a different predetermined spot for each level)

it will transform into a fireball which will slowly move in an erratic pattern towards the player.

### 3.6 Conveyers

some platforms in the game will push anything on them (including Jumpman) in a direction for as long as they are on them.

### 3.7 Points

the player can score points by completing a level, picking up score increasing items, jumping over an obstacle or destroying an obstacle.

### 3.8 Levels

Jumpman can progress to the next level via reaching the princess at the top of the level.

### 3.9 Bonus

there is also a bonus timer that functions both a level completion incentive and a timer to stop players just staying on one level for more score, this starts as a number based on your current level and then counts down 100 points at a time when you complete the level you get the remaining amount as score and if it hits 0 the player dies.

### 3.10 Movement

moving left and right, jumping allows you to go over obstacles although you can't change direction in the air, and climb up and down ladders to get between floors.

## 4.0 Items

*<Things you can 'pick up' to improve an attribute (health, armour etc.) or bestow new or different abilities, gun, bomb, shield etc.>*

### Hammer

Picking up the *Hammer* gives *Jumpman* the *Hammer Power-up*. *Jumpman* will swing the *Hammer* up and down for a total of 32 swings. During this time, if the *Hammer* hits *Fire*, a *Barrel*, or a *Cement Tub*, it will be destroyed. *Jumpman* is still vulnerable to hazards if they hit a part of his body. *Jumpman* cannot jump or climb ladders while using the *Hammer*.

### Hats/Parasols/Purses

Picking up these items are all for the sake of points, and belong to Princess. Picking them up awards Jump Man points for his high score.

# 5.0 Game Flow

INSERT FLOW CHART

## 5.1 'Mission' / 'Level' structure

*This is a body of text and should be elaborated, how do you progress? Open world? Sequential? Pick-a-path?*

Each level (represented as a tower) is made up of multiple single-screen stages, each representing a 25 metre section of said tower. At the start of each stage, the game displays the height the player needs to reach, which increments by 25m each time. Order of stages in each level will be different for Japanese and American audiences. (Note: although the stages have names that represent heights, these don't always match up to the player's height, eg. in Level 1, the 100m stage is used at the 50m height mark.)

Stages:

- 25m
- 50m
- 75m
- 100m

Level Structure (Japan Version):

- 25m, 50m, 75m, 100m for every level

Level Structure (American Version):

Level 1: 25m, 100m

Level 2: 25m, 50m, 100m

Level 3: 25m, 50m, 75m, 100m

Level 4: 25m, 50m, 25m, 75m, 100m

Level 5: 25m, 50m, 25m, 75m, 25m, 100m

Level 6 and up: Level 5 is repeated with increasing difficulty

## 5.2 Objectives

*What does the player try to accomplish on each level/mission?*

The overall goal of the game is to achieve the highest score. There are multiple ways to gain points (defined in Technical Design Document).

The completion of an individual stage is determined by different objectives:

25m: reach *Lady*

50m: reach the top platform

75m: reach *Lady*

100m: remove all *Rivets*

The completion of a level is determined when a certain set of stages is completed (defined in section .

### 5.3 Multiplayer support

*This is a body of text and should be elaborated*

Donkey Kong is a single player game, and does not have multiplayer support, in this version

## 6.0 Story and Characters

### 6.1 Characters

Jump Man (later known as Mario)

-player character

Lady (later known as Paula)

-princess (player objective)

Donkey Kong

-antagonist

### 6.2 Storyline

Donkey Kong is considered to be the first video game with a story that occurs during the gameplay. Donkey kong is the villain and Jumpman is the games main character and protagonist. Jumpman was a carpenter and Lady was his girlfriend who has been kidnapped by donkey kong. the game makes good use of animations and expressions considering the sprite limitations, Donkey kong grins if the player dies, Lady regularly asks for help via a speech bubble and a love heart appears upon level completion (and then breaks as Donkey kong kidnaps the princess again. the narrative is assisted by cutscenes the game begins with donkey kong carrying the princess up a set of ladders and then jumping to vend the metal construction beams to create the first level, and at the end of each level as Jumpman rescues the princess there is a cutscene in which donkey kong kidnaps the princess and goes to the next level. although the game has no ending the storyline loops after Jumpman defeats Donkey kong on every 4th level.

## 7.0 Levels

*Describe the levels, draw a sketch of the level and indicate important features/behaviours/goals/objects*

There are four levels, which are alternated between. Entitled the Barrel Level, Conveyer Level, Elevator Level and Rivet Level.

### 7.1 Level 1

The Barrel Stage is the stage players will begin on. This is the simplest of the stages, and has Jump Man climbing ladders & girders to reach the top of the stage. He can jump over the barrels thrown by Donkey Kong, but will have to time his jump correctly.

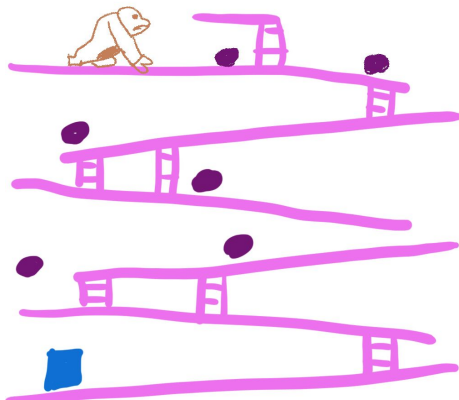


### 7.1.1 Features

The player starts in the bottom left corner. Donkey Kong is at the top left, guarding the princess on top of the platform. He routinely throws barrels which randomly travel down ladders or slopes, and the oil barrel at the bottom left sends out fires to attack Jump Man.

### 7.1.2 Aesthetic/setting

A nondescript industrial area or workplace. Generally cartoony, bright, vibrant aesthetic.



*Also diagram of level*

## 7.2 Level 2

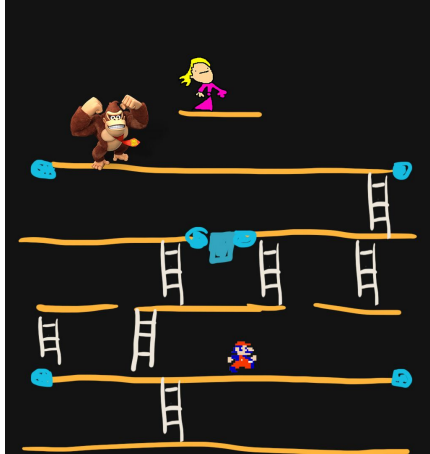
The Conveyor Stage features a much more vertical design, with more platforms and ladders, in addition to a very different layout, including Conveyor Belts on the second/third/fifth floors. The player starts on the bottom floor, and aims to reach the top floor.

### 7.2.1 Features

Primary additions are the conveyers on the floors above the first, which push the player in a direction, affecting the momentum of barrels and the player. The oil drum is in the centre this time. Additionally, the sand bowls will be on the conveyor, and will act as a hazard for players to avoid as the conveyor moves.

### 7.2.2 Aesthetic/Setting

Similarly industrial setting, though with a yellow palette as opposed to primarily red.



### 7.3 Level 3

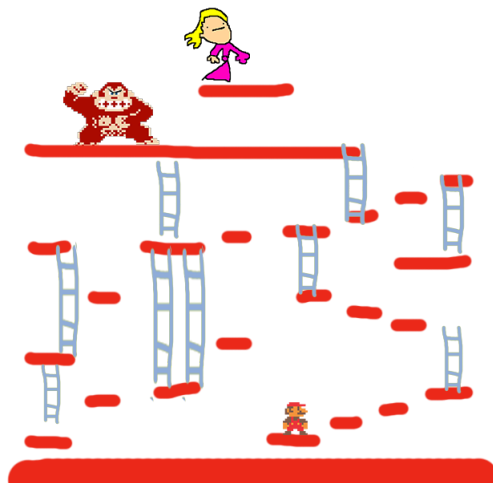
The Elevator stage is much more focused on jumping and timing, with the defining feature of the stage being it's elevators which move up and down. Again, the player starts at the bottom left and needs to reach Lady's platform at the top of the screen. This time, there are far more platforms but each is reduced in size tremendously.

#### 7.3.1 Features

Much smaller platforms, all three items as pickups, the addition of elevators. The fall distance in this level is great enough that Jump Man cannot survive the falls at any height. Donkey Kong also starts throwing the Spings in this level.

#### 7.3.2 Aesthetic/Setting

Aesthetic is similar to the Barrel Stage, with the exact same Red/Blue palette and style of girders.



### 7.4 Level 4

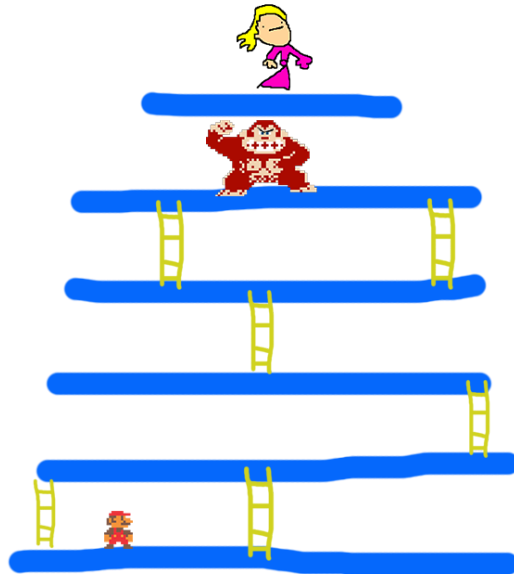
This is the final level, and titled the Rivet Stage. This stage has a different win condition from previous stages, instead the player must walk over each rivet to undo them, and cause Donkey Kong to fall. There are no enemies initially, but Donkey Kong can summon fires by beating his chest. Due to this however, the fires have increased size to compensate.

### 7.4.1 Features

Introduction of a different win condition, and an effective “breathing room” stage before the action begins again. Introduces a larger flame enemy and all three of Lady’s collectable items. No hammer is in this level.

### 7.4.2 Aesthetic/Setting

This stage has a new color palette of blue for the girders and yellow for the ladders. Otherwise, it retains the same aesthetics.



## 8.0 Interface

*Menu system will be outlined in the following flowchart.  
<draw flowchart for any menus/screens>*

## 8.1 GUI Elements

### 8.1.1 HUD



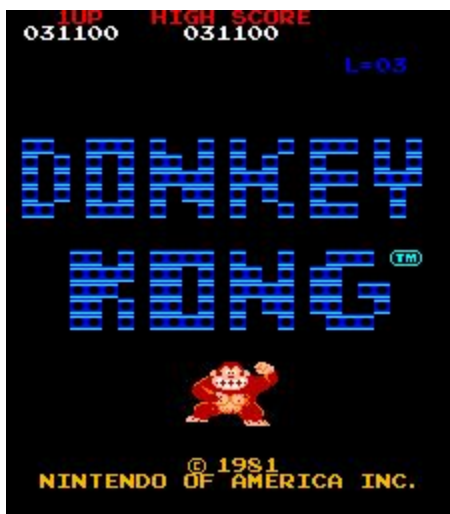
at the middle of the top of the screen **HIGH SCORE 007650** is a high score readout to tell you the score you need to beat in order to get the high score for the current machine.

on the left at the top of the screen **LIVES 003700** is a display to inform the player of their current score and current lives.

just below the top on the right **L=00** is a current level readout.

just below the level readout **BONUS 3900** is the bonus readout which is both the bonus points for beating the level and timer until the player automatically dies.

### 8.1.2 Menu



The game lacks any real menu instead taking you straight from the title screen (pictured above) into the gameplay when you insert a coin, controls and instructions were printed physically on the machine.

## 8.2 Camera

The camera is orthographic and doesn't move. Levels are made of multiple single-screen stages, each representing 25m of the building being climbed. The top 4 rows of the screen display the HUD (detailed in **8.1.1 HUD**).

## 8.3 Controls

The *Donkey Kong* arcade cabinet has 3 buttons (*1-PLAYER*, *2-PLAYER*, and *JUMP*) and a *Joystick*.

The *Joystick* is used to move *Jumpman* left and right when on the ground, and up and down when vertically aligned with a ladder. Pressing *JUMP* makes *Jumpman* jump; either on the spot if there was no directional input upon press, or in the direction of the *Joystick* if there was. The *1-PLAYER* and *2-PLAYER* buttons are used to select number of players.

# 9.0 Art Style and Aesthetic

*Refer to the Art Style Guide*

## 9.1 References

[!!!] Placeholder text

# 11.0 Sound

Background music is handled by a MB8884 microcontroller, a clone of the i8035, which has 64 bytes of RAM. The MB8884 has no native sound capabilities, but a DAC (digital-to-analogue converter) can be connected to one of the MB8884's output ports, enabling it to output arbitrary waveforms (triangle waves and digital samples).

## 11.1 Music

*List music clips and where they're used. Title screen/Level 1/Loading etc.*

*intro* - Played when *Donkey Kong* climbs the *Ladder* at the start of the game

*how\_high* - Played on the *How high can you get?* screen

*dk\_roar* - *Donkey Kong*'s roar played at the beginning of a stage

*dk\_fall* - Played when *Donkey Kong* falls in *100m*

*25m* - Music for the *25m* stage

*50m* - Music for the *50m* stage

*100m* - Music for the *100m* stage

*hammer* - *Hammer Power-up* music

*hammer\_hit* - Fanfare played on defeating an enemy with the *Hammer Power-up*

*rivet* - Played when the player removes a *Rivet*

*timer* - Played when player is running out of time

*ending1* - Played after beating any stage that isn't *100m*

*ending2* - Played after beating *100m* on an even-numbered level

*ending3* - Played after beating *100m* on an odd-numbered level

## **11.2 SFX list**

*List all sound effects and where they're used*

*walk* - Played when *Jumpman* is walking

*jump* - Played when *Jumpman* jumps

*boom* - Played when *Donkey Kong* pounds the ground or a *Barrel* hits *Jumpman*

*bounce* - Played when a *Spring* jumps across the stage

*fall* - Played when a *Spring* falls off the stage

*points* - Played when player earns points