

# ‘What’s in a Game?’

Analyzing MobyGames.com to predict video game critic scores

## Client - Slappy Games

- New third-party game developer
- Needs big hit with the critics
- What factors will get them noticed?

## Client - Slappy Games

- New third-party game developer
- Needs big hit with the critics
- What factors will get them noticed?

## Objective


### **What game(s) should they develop?**

- Which console?
- What genres?
- What target ages?

# The Tools



# The Data - MobyGames.com




[Sign in](#) [Register](#)

[Games](#) | [Forums](#) | [Contribute](#) | [🔗](#) | [❤️](#)

## Super Mario Odyssey (Nintendo Switch)

[Discuss](#) [Review](#) [+ Want](#) [+ Have](#) [Contribute](#)

[Main](#) | [Credits](#) | [Screenshots](#) | [Reviews](#) | [Cover Art](#) | [Promo Art](#) | [Releases](#) | [Trivia](#) | [Hints](#) | [Specs](#) | [Ad Blurb](#)  
[Rating Systems](#) | [Buy/Trade](#)



**Published by**  
Nintendo of America Inc.

**Developed by**  
Nintendo EPD

**Released**  
Oct 27, 2017

**Official Site**  
[Super Mario Odyssey](#)

**Platform**  
Nintendo Switch

**ESRB Rating**  
Everyone  
10+

**Genre**  
Action

**Perspective**  
Behind view

**Gameplay**  
Platform

**Setting**  
Fantasy

**Critic Score**  
100 point score based on reviews from various critics.

**96**

[\[view reviews\]](#) | [\[add review\]](#)

---

**User Score**  
5 point score based on user ratings.

[\[score detail\]](#) | [\[rate game\]](#)

# The Data - MobyGames.com

Game Browser » Nintendo Switch <sup>[x]</sup> (437 games)

Viewing Page 1 of 18

(items 1-25 of 437)

[Next](#)

[1 - b](#) [c](#) [d](#) [e - f](#) [g - h](#) [i - k](#) [l](#) [m](#) [n](#) [o](#) [p](#) [q - r](#) [s](#) [t](#) [u](#) [v - w](#) [x - z](#)

▲ Game Title	Year	Publisher	Genre
10 Second Run	2017	Blue Print Inc, KaeruPanda Inc.	Action
1-2-Switch	2017	Nintendo of America Inc.	Action
36 Fragments of Midnight	2017	Rainy Frog LLC, Ratalaika Games S.L.	Action
3D Mini Golf	2018	Joindots GmbH	Sports
60 Seconds!	2017	Robot Gentleman	Action, Adventure
88 Heroes	2017	Rising Star Games Inc.	Action
Aces of the Luftwaffe: Squadron	2017	Handy-Games GmbH	Action
Acorn Tactics	2017	TACS Games	Strategy/Tactics
Aero Fighters 2	2017	HAMSTER Corporation	Action
AeternoBlade	2018	Corecell Technology Co., Ltd.	Action
Alpha Mission II	2017	HAMSTER Corporation	Action
Ambition of the Slimes	2017	CIRCLE Entertainment Ltd.	Role-Playing (RPG)
Antiqua Lost	2017	Kemco America, Inc.	Role-Playing (RPG)
Arms	2017	Nintendo of America Inc.	Action
Art of Fighting	2017	HAMSTER Corporation	Action
Art of Fighting 3: The Path of The Warrior	2017	HAMSTER Corporation	Action
Astro Bears Party	2017	QubicGames S.A.	Action
Astro Duel: Deluxe	2017	Panic Button, LLC	Action
Atomik: RunGunJumpGun	2018	Good Shepherd Entertainment	Action
Axiom Verge	2017	BadLandGames S.L., Thomas Happ Games LLC	Action
Axiom Verge (Multiverse Edition)	2017	BadLandGames S.L.	Special Edition
Azkend 2: The World Beneath	2018	10tons Ltd.	Puzzle
Azure Striker Gunvolt: Striker Pack	2017	Inti Creates Co., Ltd.	Compilation
Baseball Riot	2018	10tons Ltd.	Action, Strategy/Tactics
Batman: The Telltale Series	2017	Telltale, Inc.	Adventure, Compilation

Goto Page: [1](#) | [2](#) | [3](#) | [4](#) | [5](#) | [6](#) | [7](#) | [8](#) | [9](#) | [10](#) | [11](#) | [12](#) | [13](#) | [14](#) | [15](#)

# Target: Critic Score

## Critic Score

100 point score based on  
reviews from various critics.

96

[\[view reviews\]](#) | [add review](#)

# Target: Critic Score

## Critic Score

100 point score based on reviews from various critics.

96

[\[view reviews\]](#) | [\[add review\]](#)

Max: 96

Min: 38

Mean: 77.5

Median: 78.0

Std Dev: 10.0



# Characteristics

**Published by**

Nintendo of America Inc.

**Developed by**

Nintendo EPD

**Released**

Oct 27, 2017

**Official Site**

Super Mario Odyssey

**Platform**

Nintendo Switch

**ESRB Rating**

Everyone  
10+

**Genre**

Action

**Perspective**

Behind view

**Gameplay**

Platform

**Setting**

Fantasy



# Characteristics

<b>Published by</b> Nintendo of America Inc.	<b>ESRB Rating</b> Everyone 10+
<b>Developed by</b> Nintendo EPD	<b>Genre</b> Action
<b>Released</b> Oct 27, 2017	<b>Perspective</b> Behind view
<b>Official Site</b> Super Mario Odyssey	<b>Gameplay</b> Platform
<b>Platform</b> Nintendo Switch	<b>Setting</b> Fantasy

- Platform
  - Switch
  - XBox One
  - PS4

# Characteristics

<b>Published by</b> Nintendo of America Inc.	<b>ESRB Rating</b> Everyone 10+
<b>Developed by</b> Nintendo EPD	<b>Genre</b> Action
<b>Released</b> Oct 27, 2017	<b>Perspective</b> Behind view
<b>Official Site</b> Super Mario Odyssey	<b>Gameplay</b> Platform
<b>Platform</b> Nintendo Switch	<b>Setting</b> Fantasy

- Platform
- Game Type
  - Genre + Gameplay

# Characteristics

**Published by**

Nintendo of America Inc.

**Developed by**

Nintendo EPD

**Released**

Oct 27, 2017

**Official Site**

Super Mario Odyssey

**Platform**

Nintendo Switch

**ESRB Rating**

Everyone  
10+

**Genre**

Action

**Perspective**

Behind view

**Gameplay**

Platform

**Setting**

Fantasy



- Platform
- Game Type
- ESRB Rating

# Characteristics

<b>Published by</b> Nintendo of America Inc.	<b>ESRB Rating</b> Everyone 10+
<b>Developed by</b> Nintendo EPD	<b>Genre</b> Action
<b>Released</b> Oct 27, 2017	<b>Perspective</b> Behind view
<b>Official Site</b> Super Mario Odyssey	<b>Gameplay</b> Platform
<b>Platform</b> Nintendo Switch	<b>Setting</b> Fantasy

- Platform
- Game Type
- ESRB Rating
- Release Date

# Characteristics









<b>Published by</b> Nintendo of America Inc.	<b>ESRB Rating</b> Everyone 10+
<b>Developed by</b> Nintendo EPD	<b>Genre</b> Action
<b>Released</b> Oct 27, 2017	<b>Perspective</b> Behind view
<b>Official Site</b> Super Mario Odyssey	<b>Gameplay</b> Platform
<b>Platform</b> Nintendo Switch	<b>Setting</b> Fantasy

- Platform
- Game Type
- ESRB Rating
- ◆ ~~Release Date~~

# What is this ESRB business?









ESRB Rating		
		
		
		
		

# What is this ESRB business?

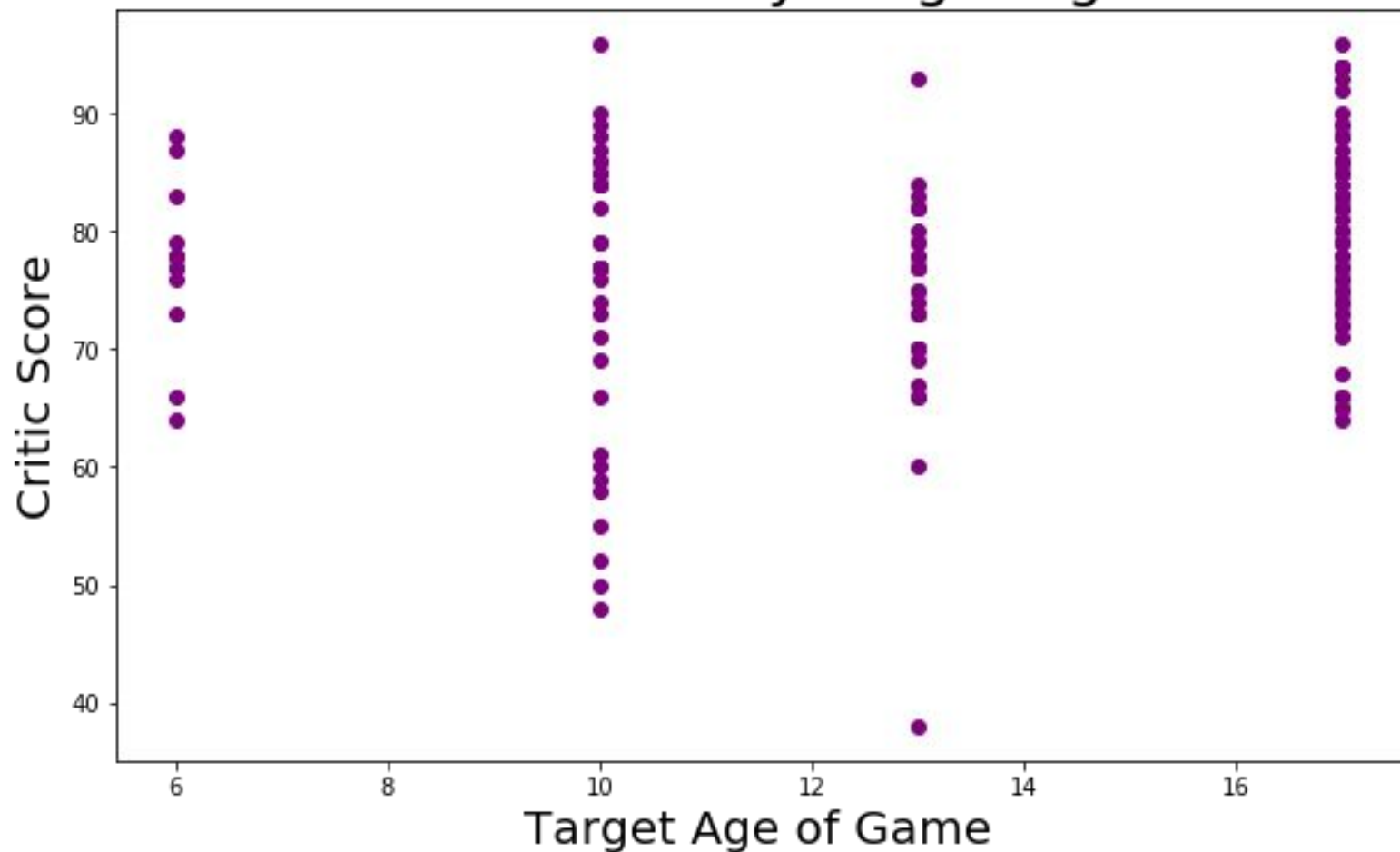
ESRB Rating	MPAA Equivalent	
		
		
		
		



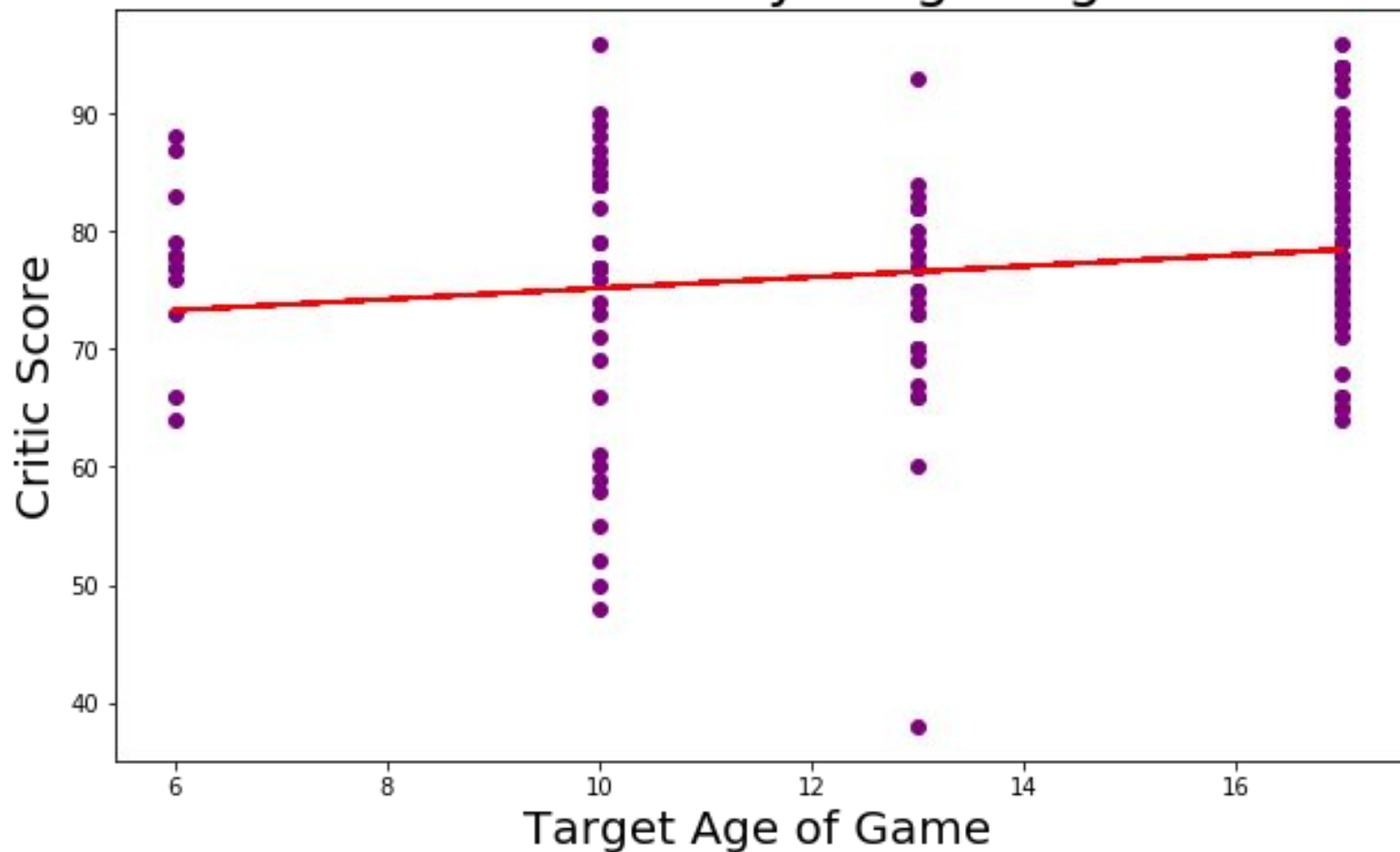
# What is this ESRB business?

ESRB Rating	MPAA Equivalent	Target Age
		6
		10
		13
		17

# Critic Score by Target Age



# Critic Score by Target Age



$$\text{score} = [0.468717] * \text{Target Age} + 70.47902$$

$$\text{score} = [0.468717] * \text{Target Age} + 70.47902$$

Train error: 9.76075

Validation error: 9.72251

$$\text{score} = [0.468717] * \text{Target Age} + 70.47902$$

Train error: 9.76075

**Validation error: 9.72251**

Dummy Error: **9.92580**

# Actionable Insights?

What does this data tell us?

Make games rated



---

# Going Forward...

Further exploration

- More data: **MetaCritic**
  - Model each ESRB category
- Different models!

---



# Appendix

Other analysis

90  
80  
70  
60  
50  
40

2013-12	2014-06	2014-12	2015-06	2015-12	2016-06	2016-12	2017-06	2017-12
---------	---------	---------	---------	---------	---------	---------	---------	---------

# Correlations with critic scores: E-rated

score	1.000000
console_Xbox One	0.614909
game_type_Platformer	0.282790
game_type_Racing	-0.023228
game_type_Shooter	-0.053642
game_type_Sports	-0.304556
console_PlayStation 4	-0.349862
target_age	NaN
game_type_Fighting	NaN
game_type_Misc Action/Other	NaN
game_type_Puzzle/Strategy	NaN
game_type_RPG	NaN

Name: score, dtype: float64

---

## Correlations with critic scores: E10+-rated

score	1.000000
console_Xbox One	0.194344
game_type_Shooter	0.183117
console_PlayStation 4	0.047098
game_type_Fighting	0.045149
game_type_RPG	0.028229
game_type_Puzzle/Strategy	-0.034779
game_type_Platformer	-0.043584
game_type_Racing	-0.079616
game_type_Misc Action/Other	-0.150191
target_age	NaN
game_type_Sports	NaN

Name: score, dtype: float64

# Correlations with critic scores: T-rated

score	1.000000
game_type_RPG	0.208309
game_type_Misc Action/Other	0.172526
game_type_Shooter	0.151661
console_PlayStation 4	0.128131
game_type_Fighting	0.100960
game_type_Platformer	-0.121407
console_Xbox One	-0.218791
game_type_Sports	-0.719213
target_age	NaN
game_type_Puzzle/Strategy	NaN
game_type_Racing	NaN

Name: score, dtype: float64

# Correlations with critic scores: M-rated

score	1.000000
game_type_RPG	0.333277
console_Xbox One	0.267734
game_type_Puzzle/Strategy	0.057635
game_type_Shooter	0.040348
game_type_Racing	0.004883
game_type_Fighting	-0.010646
console_PlayStation 4	-0.215305
game_type_Platformer	-0.230928
game_type_Misc Action/Other	-0.286595
target_age	NaN
game_type_Sports	NaN

Name: score, dtype: float64