

## **Exploring Video Game Genres: A Brief Breakdown**

In an attempt to breakdown the ever expanding amount of genres in gaming, and how each genre appeals to its playerbase, five games have been chosen for analysis. Rocket League, Super Smash Bros Melee, Starcraft, Shovel Knight, and Undertale are examined. The breakdown will examine their playerbase, technologies, genres, and features.

Games cover many different mediums - physical games, board games, writing games, and most recently video games. Each of these mediums allow for different genres of games to exist within them, but few of the mediums cover the diversity allowed by the video games genre. A game can be classified as a strategy game, action game, fighting game, RPG, puzzle game, arcade game - the list is expansive, and constantly growing. New genres appear as the creativity and technology of developers improve. This is the beauty of software as an industry - the building blocks of software are improving as fast as they can be used to build.

Games are primarily a form of entertainment, and because of this people will grow a tendency to like certain kinds of games over others. The best way to analyze the breadth of design and features of games is to examine a subset of the games available - for this purpose, I have picked five games to break down. These games represent both historically significant games, modern award winning games, and personal favourites. The discussion for each game will include who made the game and when, and which platforms the game was developed for. An overview of the target audience will be provided, as well as a discussion of the features for each game. There will also be a brief analysis / mention of the technologies involved in the creation of the game.

### **Rocket League**

Rocket League is a game developed and published by the company Psyonix. The original design for the game was done by Corey Davis, the design director of Psyonix with over ten years of game development experience. It was originally released for Microsoft Windows and Sony PS4 system in July 2015 after two years of development and \$2M in costs. After the initial success, Rocket League was ported to OS X, Linux, and Xbox One.

The game is a combination of racing, bumper cars, and soccer. Players control a vehicle and drive around a large arena, attempting to hit a comically large soccer ball into the oppositions net. Players have the option to jump, flip, boost, and more in the attempt to outmaneuver their opponent and score.

Rocket League targets both casual and competitive players who are looking to maximize their time spent gaming. Rounds of Rocket League are self contained, and the results of one game session do not impact the next. This is an appealing system, because it allows a player to gain a sense of completion in a short time - if only 10 minutes can be spared gaming, Rocket League will work to provide a fuller experience than a game which requires more time investment (such as an RPG). The game is group friendly and encourages coordination and practice with friends, and implements a ranking system to allow for more serious play.

There are a number of features which have helped the game grow into a modern success. Rocket League's online interactivity is seamless - creating a match is as simple as pressing a button. The matchmaking is broken into a series of 'matchmaking queues' for One vs One, Two vs Two, Three vs Three, and Four vs Four matches. For each queue, there is a normal and competitive option - in competitive, the game balances a player(s)

matchmaking scores and finds teams which are relatively close in skill level. As a player completes rounds, they will unlock customizable options for their vehicle in game, including accessory and colour options. This pairs well with the customizable soundtrack available for the game, giving a very player focused experience. The biggest piece of Rocket League's features though is its customized physics engine. The physics of the game are entirely unique and must be learned through practice in order to excel, but don't provide a barrier to entry for newer players. Finally, there are mutator modes which are occasionally released for the game, such as Basketball, no gravity, and more - this helps keep the base game fresh and players interested.

Because Rocket League is a newer game, the finer details of its implementation are not fully known. The game was created in Unreal Engine 3 and utilizes both controllers and keyboard/mouse configurations, and the engine used for the physics was custom made by Psyonix.

Website: <https://rocketleaguegame.com/>

### **Super Smash Bros: Melee**

Super Smash Bros: Melee (SSBM) was a game developed by Hal Laboratories and produced by Nintendo. The driving force behind the design of the game is Masahiro Sakurai, a man who is well loved by Nintendo fans for his game design. The game was released originally in Japan in 2001 for the GameCube console, and eventually brought over to international markets.

SSBM is a fighter game which brings together a broad amount of Nintendo's franchises into one place and battle. The game has a single player campaign, but uses it mostly as a tool to unlock further characters and stages for players to choose from. Supporting up to four players, battles are played through with variable win conditions, and a victory screen with player statistics is shown at the end of the match.

The player base for melee has mutated since the game was originally released. Advertised as a fun party-esque game to play with friends, melee was originally intended for a young and casual audience. Characters that were current in children's animation and other games were available as the player, and allowed the novelty of having characters from different franchises interact. However, as the game aged, its player base began to change - melee mutated into a highly competitive game, with a tournament scene that has a presence internationally. The game became a phenomenon and that players which excelled began to become celebrities in their own right, known around the world by their performances in large scale tournaments. Today, new players to the game are often inspired by the competitive culture of the game, rather than the casual appeal.

The features consist of two subgroups - on the one hand, the initial features of the game upon release, designed to attract customers. These features included references to other franchises, colourful stages and mechanics, and mutator modes for the game in order to keep it entertaining. On the other hand, the depth of skill and mechanics of the game are

what drive the player base now. The developers of SSBM included a few advanced mechanics to the game for players to find and master, and to create an edge for skilled players. While these mechanics to help a player, it's SSBM's *unintentional* mechanics which drive the competitive scene now. Players have manipulated input timing and frame data of the game to master to the game to such an extent that custom 'house rules' have been implemented to keep the game as close to balanced as possible for the competitive scene. This increased learning curve is balanced out by the high amount of tutorials and information available in almost all formats online, allowing players to quickly practice techniques they otherwise would have to find out about on their own.

SSBM, like most games made after the early 90's, is primarily coded in C and C++. The game utilized the GameCube console's built in support of OpenGL to help draw and render the game, and relies exclusively on controller input from the GameCube controller.

Website: The SSBM melee exclusive website is no longer hosted. The franchise website is: <http://www.smashbros.com/us/>

## **Starcraft**

Starcraft was a game developed and published by Blizzard Entertainment. The main designers of the game were Chris Metzen and James Phinney. It was released in North America on March 31, 1998 for the Windows platform. Ports were eventually released for the classic Mac OS and the Nintendo 64 console system.

Starcraft is a real-time strategy game which requires gathering resources, building an army, and defeating your opponent all at the same time as your opponent is doing the same to you. The game includes single player campaigns and story writing, but was intended for the multiplayer aspect of the game

The intended player base for Starcraft is very broad - the game was intended for all skill levels and abilities to play, but caters more to strategic and intelligent players who attempt to learn the nuances of the game. The competitive scene was always intended for Starcraft, and the game shipped with a very clear ladder and ranking system. This led to the rise of pro players and pro regions for the game, and a competitive international scene with international tournaments.

The game features three distinct playable races, which all play very differently with varied strength and weaknesses. Each race has a storyline experience in the campaign, with robust character development and unique challenges for the player to overcome. There are many different solutions to the challenges in Starcraft, and there is no single 'right' answer for the player. This helps increase replayability not only of the single player campaign, but also the multiplayer campaign. For the multiplayer, has been lauded as the chess of real time strategy games as players and critics alike all agree that the balance is well done. This lets players feel a sense of achievement as they improve and climb in rank.

Starcraft was written primarily in C and C++. The game offered matchmaking and network connectivity through Blizzard's proprietary network Battle.net, and stands out from other games in this paper by including the technology for an end user programming language through the Starcraft Level Editor.

Website: The original Starcraft website is no longer available.

### **Shovel Knight**

Shovel Knight was developed and published by Yacht Club Games, with the chief designer being Sean Velasco. It was released for PC on Steam on June 26, 2014 and was made widely available through ports to all major consoles. The game received its funding through a Kickstarter campaign, exceeding its initial goals and reaching many of its funding stretch goals.

Shovel Knight is a tribute game to the old Nintendo style platformers, built as a 2D sidescroller. The player plays a protagonist running through a fantasy world, fighting through levels and defeating enemies as they go through the storyline.

Primarily, Shovel Knight is a single player game with many single player elements. The story and dialogue is meant to be explored as the player goes through the game and makes choice, encouraging multiple playthroughs. It isn't a large game, and was meant to be played and enjoyed in a smaller span of time than most triple-A titles. There is a multiplayer features, but it is not the main focus of the game. DLC content allows more story time for the players, exploring the world from new perspectives and new characters.

The game acts as a tribute to the old Nintendo platformers, with 8-Bit music, level design, and sprite design all reflecting this design choice. The game features an upgrade system with penalties for dying, so smart play and exploration are encouraged in order to ease the players passage through the game. The bosses are unique and interesting, and the DLC available lets you play through the boss's own personal stories. A new game plus mode was implemented for fans of the game to increase the difficulty, as well as tools for speed running the game to compare the fastest completion time. As a reward for meeting their Kickstarter funding goals, Yacht Club Games included a 4 player battle mode for players to interact with each other.

Under the hood, Shovel Knight has some interesting design choices. It runs on a custom C++ engine utilizing DirectX on Windows machines and OpenGL on Linux and OS X systems. The soundtrack is true to the old 8-bit chiptunes of Nintendo games, but uses a special VRC6 sound chip that provides three channels more than the original Nintendo. The colour palette for the game is also restricted to what was available for the Nintendo, as well as the animation count for sprites on the screen at any one time. Finally, there was some advanced work done between background and foreground animations to make the game as true as possible to the old Nintendo style.

Website: <http://yachtclubgames.com/shovel-knight/>

## Undertale

Undertale was released on July 15, 2015 for Windows platforms through the Steam Marketplace. It was designed, developed, produced, composed, and written by Toby Fox. The game received much of its funding through Kickstarter.

The game is a single player RPG taking the player on a journey as the non-speaking protagonist introduced at the start of the game. You play a child who has fallen into a world of monsters, and must navigate your way through the world to survive while dealing with a wide variety of encounters.

Undertale was written by Fox as a tribute to the RPG genre, but also a twist. Citing personal grievances with RPG games as his motivation, Fox created an RPG with a combination of elements found nowhere else in the genre. The game is 100% completely oriented around its story and character development - the difficulty is fairly easy, and there is no need to grind or travel back through the game at any point. Instead, the choice and interactions of the player heavily influence the story and encourage multiple playthroughs. Because of all these elements, the target player is one who wants to explore and try new options, to uncover everything the game has to offer.

The game stands alone for its writing style and character development. A blend of humor, sombre themes, love, and aggression all blend into its story in a way that feels natural and engaging. The combat system is very unique, combining bullet hell elements with RPG menu choices (such as Items, Rest, Run, etc). Consequence of choice begins from the very first encounter the player has, and a single choice at the beginning of the game can have effects all the way at the end. Finally, the soundtrack is all custom made by Fox, and has won awards for its effect on the game.

The game was created in the GameMaker development studio, which acts as an end user programming language for the player and is open to all skill levels to develop in. Additionally, all the music for undertale was composed and remixed by Fox himself using computer synth.

Website: <http://undertale.com/>

The games above are a very small representation of what is actually available and appeals to gamers. Variables such as replayability, game length, multiplayer, mechanics, music, and more all help carve out niches for certain games. What makes a game a success within its genre is not a simple question, because new ideas are still evolving. Whether it's a company with a team of developers and a private engine, or a man with experience using GameMaker, listening to what people want and putting in the work to make a quality product will give any game a chance to develop the player base it needs to be a success.

## References

1. Rocket League  
[https://en.wikipedia.org/wiki/Rocket\\_League](https://en.wikipedia.org/wiki/Rocket_League)  
<https://www.linkedin.com/in/coreymdavis>
2. Super Smash Bros: Melee  
[https://en.wikipedia.org/wiki/Super\\_Smash\\_Bros.\\_Melee](https://en.wikipedia.org/wiki/Super_Smash_Bros._Melee)  
<http://www.rahilpatel.com/blog/a-critical-analysis-of-super-smash-bros-melee>
3. Starcraft  
[https://en.wikipedia.org/wiki/StarCraft\\_\(video\\_game\)](https://en.wikipedia.org/wiki/StarCraft_(video_game))
4. Shovel Knight  
[https://en.wikipedia.org/wiki/Shovel\\_Knight](https://en.wikipedia.org/wiki/Shovel_Knight)  
<https://www.gamedev.net/topic/658779-what-did-they-used-to-develop-shovel-knight/>
5. Undertale  
<http://www.themarysue.com/interview-undertale-game-creator-toby-fox/>