

THE SIRENS OF OUR TIME

The psychology of engagement and
retention in Match-3



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ABSTRACT

As the games industry moves further into free-to-play and games-as-service business models, pressure is placed on developers to focus on monetisation rather than other elements of the development process. Successful game products must differentiate themselves from other competing products, and for this the game must have its own distinctive feel, as well as offering an experience that can enthrall players for a sustained amount of time. These considerations should be central to the development philosophy of any successful game, evidenced in the visuals, mechanics, longevity systems, as well as marketing and pricing models.

This dissertation considers these issues from the specific context of match 3 games in general, as well as providing a critical reflection upon a specific match 3 project, *Swivel Go*, providing arguments against the focus on microtransactions that has become prevalent.

INTRODUCTION

Akin to sirens of yore; videogames are designed to lure us in, to experience them, usually under the premise of enrapturement. Furthermore, if the call of a videogame does not receive players, *or purchases*, it is often deemed unsuccessful; This can lead to the loss of finances and, like sirens, to the death of the game and in even that of the developers' jobs. However, if the game does apprehend players, often the only death is that of the players spare time for a fee. Videogames can promise enrapturement in various ways, with appealing visuals, engaging mechanics, longevity of the game and even how much it costs to experience. One particular genre that must tackle all these is the Match-3 type videogame, therefore *Swivel-Go* (Tyler, 2019) was developed to delve deeper and fathom how to increase the call of videogames to both lure and retain players respectively.

DELVING INTO PLAYER RETENTION

One of the key goals for all games is to get people to purchase them; often developers look further than this and try to work out how they can retain the player for longer, leading to the sales of downloadable content, microtransactions or even sequels within the intellectual property. This can be seen in the world of business at large, with research stating increasing customer retention rates by 5% increases profits by 25% to 95% (Reichheld, 2001).

There are many examples of games that utilise player retention for profit, but perhaps none so much as the FIFA series by Electronic Arts, which started in *FIFA 09* (EA Canada, 2008) to put forth its “Ultimate Team” mode. Ultimate Team started as a side game mode, which was downloadable content, covered by a pay wall to play the mode. This proved to be very popular over the next five years and the mode itself began being integrated directly into the game as EA could see how profitable and popular it was, rising from an initial just over one million players to a staggering 21,849,017 (EA Sports, 2014). Looking deeper into the financial revenue this mode alone produces, over \$800 million annually (Handrahan, 2017) as of two years ago, it’s hard to state that player retention ahead of that initial purchase of the game is not beneficial to publishers and developers.

However, the FIFA series has come under fire for this approach to player retention, heralding the term ‘gambling’ by many countries around the world even leading to some banning the mode completely. Belgium, taking this approach is due to their ‘loot box ban’ which defines the practice as an “illegal game of chance” (Gartenberg, 2018, np) with EA taking the stance of them being “developed and implemented ethically and lawfully around the world” (ibid) later conceding defeat and stopping the sale of FIFA points in Belgium.



Figure 1 - Fifa Ultimate Team Purchase Example

As seen above in Figure.1 the player can buy packs of players in Ultimate Team with only the notion of that they will receive 10 gold cards and a minimum of 3 rare cards.

Taking this consideration to FIFA Ultimate Team and its player retention, if the fact the player is purchasing points and playing longer to open 'packs of players' with various percentage chances of a 'rare' or 'top player' is indeed gambling, then it is not so hard to see why players are retained. The link between gambling and addiction is well documented, even to the point that it is a mental health issue. Dissecting the common reasons why people gamble such as: -

1. The buzz, excitement and high adrenaline release.
2. Competitive element (beating other players, etc.).
3. Thrill of placing large bets.
4. Solve financial problems
5. Escaping stress or worries

(MentalHealth.org.uk, 2019)

Each can be directly linked to Ultimate Team, starting with the first.

1. Each player competing in Ultimate Team feels a rush of adrenaline when they receive a new rare or top player in Ultimate Team, especially

seen in the finding of a team of the week or team of the year player. This is directly correlated to the fact dopamine releases in pleasure reward seeking behavior, which is doubled up in addiction related situations. (Mandel, 2019)

2. The players are directly competing either with the AI (artificial intelligence) teams they face or with other real players when on the 'online' multiplayer aspects of the game. Thus, wanting to compete to beat the other teams they will play more and try to get better players, via money transactions or winning coins.

3. If a player spends £15 to buy FIFA point's they are effectively spending 20% of the total price of the base game to have chances on earning more top players for their team, thus this can be classified as placing bets in order to attain winnings, especially as its real currency exchanged.

4. Solving financial problems are not often thought of in terms of Ultimate Team, however there are ways in the real world to attain real currency by being good at the game and competing, such as online tournaments with cash prizes, streaming revenue, earning and trading in-game currency for real currency and finally playing for esports teams (rechaaarge.com, 2019).

All of the previously mentioned links lean toward FIFA Ultimate Team, mores specifically buying and earning 'packs' of players, to be a form of gambling and that leads to addiction which could be a major cause of the player retention and the large profit margins EA sees returned on this mode. The brain becomes conditioned into wanting more and more to trigger its reward system (Burton, 2016). Like the sirens of past mythos, they are there to draw the player in and not let them go until they have captured their desired essence, in this case, their money.

On the other side however, there are plenty of game developers producing games who add different ways of player retention into their software. One such example could be *The Witcher 3* (CD Projekt Red,

2015), which instead of trying to give players microtransactions, they give the player an astoundingly large area of play throughout the adventure, with the average player racking up more than 200 hours of play in one playthrough alone (Gera, 2015). Extended even further with two bouts of downloadable content expansions, *Heart of Stone* and *Blood & Wine*, which add around 10 hours and 20 hours of playtime respectively, however that's just for completing the main story of each and not the additional quests and events (Purchase, 2015).

Delving deeper, mobile games often utilise a similar system to EA's with FIFA Ultimate Team, however, often taking away the gambling element. This is done by telling the player exactly what they are receiving for purchasing extra content, akin to the downloadable content mentioned with the Witcher 3, the players are buying extra content where they know the projected hours it will extend their gameplay for, or token boosts which they can directly see what the impact will be in-game. These microtransactions are the main way developers who produce free-to-play or mobile games recoup their development costs and continue to support and produce new games, especially seen in the popular match-three style of mobile game.

DECIPHERING MATCH-3

Match-three video games are a prominent mobile game, often distributed under free-to-play methods, which is where the players can play a significant portion of the content without paying, but often include microtransactions, to recoup the developer's production costs and to turn a profit. Match-3 directly correlates to what the player must do within the game in order to fulfil a levels requirement, matching three (or more) objects to earn a reward, be it score, progression or otherwise. According to the design pattern theory advanced by Jesper Juul (2016), Match-3 can be looked as an evolution from games such as *Tetris*

(Pajitnov, 1984). New match-3 games emulate older games, whilst adding particular design changes; Juul includes a family Tree visualization which includes ideas forgotten only to be reused or 'reinvented' decades later.



Figure 2 - Bejeweled Stars - Example of Match3

Looking at some prominent match-three style games, such as *Bejeweled* (PopCap Games, 2016) and *Disney Emoji Blitz* (Disney Mobile, 2016), the goal is to move items around on the screen to create groupings of three or more. This type of game has been vastly popular amongst consumers since mid-2001 when the original *Bejeweled* (PopCap Games, 2001) released; This game had various modes of play, including a normal mode where the player fills a progress bar via matching gems on screen, moving from level to level and the game ends if there is no more moves available. Another mode of play was the time trial mode where the game starts the bar around half way filled and as the player levels up the bar requires more and more gem matches in order to stay alive. These different modes of play increased the number of hours players would spend with the product as well as giving them different styles of play.

Number of hours played with mobile games is a prominent thought for the developer producing the product. Looking at the figures just from 2001-2012 the developers of *Bejeweled* stated their game had been “played by more than 500 million people around the world and consumed an estimated 10 billion hours of play since 2000” and that they had “once offered to sell their company to Microsoft for \$50,000 with it rejected, before selling to Electronic Arts ten years later for a deal worth around \$1.3 billion” (Edwards, 2013, np). These statistics show the value in retaining and having players play mobile games.

Match-Three type games have become that popular that games that are of different genre are also moving over to produce Match-Three variants on their Intellectual Properties (IP). For example, the Pokémon series which originally started as *Pokémon Red* (Game Freak, 1996) as a role-playing game, spread to other formats such as trading cards, augmented reality and more, before tackling the Match-Three genre with *Pokémon Shuffle* (Genius Sonority, 2015). However, *Pokémon Shuffle* was heavily criticized on launch due to its heart system and heavy reliance on microtransactions, the most vocal criticisms coming from Chris Carter from Destructoid, giving it a 3.5 out of 10; One of the most prominent complaints during Carter’s review is that the mechanics are built in order to make the player buy the microtransactions, stating that a heart is required to play the game and that they take 30mins to rejuvenate, whilst a level is played in around 30seconds to one minute. Thus, the five-heart limit means after playing 5 levels the player must either wait an exorbitant amount of time or buy extra hearts via microtransactions (Carter, 2015). This did not stop the games popularity although, garnering over 6.5 million downloads between release and that of July 2017.

Like Carter, there are many people around the world who find a disdain for microtransactions and free-to-play models that heavily rely on them (PC Gamer, 2013), this can be exacerbated when currencies in the game are different from real-life currencies and require a different exchange rate. For example a player will spend £20 for Facebook credits and then

convert them to coins in a free-to-play software, where the game will ask for say 1000 Coins for an item in the game, where the player does not know directly the worth of the item they are buying without some calculations on their part, this can be seen in the game *FarmVille* (Zynga, 2011).

However, due to the fact most mobile games are designed as free-to-play models it is hard to argue that monetization of the game in this way is not just needed but a first consideration in producing these types of games. This is usually done based on monetizing on time played, which mobile games are usually pickup and play for bursts of time type games, compared to console and PC software. The monetization here comes from allowing the skipping of timer-driven mechanics, such as the heart mechanic in *Pokémon Shuffle* mentioned earlier; Players purchasing boosts in order to progress easier and faster; Finally players purchasing loot boxes which have a percentage chance of unlocking rare elements within the game, leading back to the discussion around FIFA Ultimate Team and how profitable but diverse the addition can be.

Taking all these factors into consideration when producing a Match-3 type videogame should be prime in the developer's conceptualization. If the developer does not produce the game around trying to make a profit, it would be hard to see a future for that developer, whilst if they lean too much on the monetization then they can earn a lot of disregard within the gaming community. Therefore, like the siren atop the rock, if they do not lure enough players with the promises of riches, they will fall to redundancy in myth; Yet they do not also want the reputation for luring people and not giving a just reward as this can be just as devastating to a company.

CONCEPTUALIZING A SIREN: POST-MORTEM OF SWIVEL GO

Taking into consideration all the knowledge on both player retention and what a Match-3 is defined to be, the conceptualization of the team's own Match-3 project covered a few definitive areas of development.

These aspects are not unlike the sirens of myth, like the bosoms of the stories, the visual appeal must be considered as if the players, like the drunk sea dogs of yore, are not attracted to the game then an initial meeting of the two will not happen.

Furthermore, if the promise of an enjoyable experience is not entertained then the players will not stay long with the product before turning tail, which can be done in two ways, either through entertaining and addictive mechanics throughout the game or by increasing the longevity of the product.

Finally, as the sailors had to adjudge if the cost was worth the experience the game also must allow people to weigh up if they would like to step into the depths of the product via apt pricing, so it could be a pay-once and play system (Juul, 2016) or a free-to-play with monetization.

Each one of these aspects would need testing and iterative development to refine them to the optimum desired lure and retention of players. For if there is no testing, one aspect could be redundant leading to a loss of players, profits or even force a studio closure.

The Visual Appeal – Art Style

The visual appeal of the game is a first and foremost priority for most developers, this will affect all other aspects of development. For example, if a video game is to have 2D sprite-based art then the game mechanics will have to work around this, working in a 2D plane of

existence. Art is often seen as a promise of gameplay within a video game, if the potential player sees pictures of the game they get an idea of what the gameplay will be before they even pick the product up (Paitre, 2018). This can be both great and a hindrance, if say the key art for a game shows an action-adventure looking scene and the video game is a management simulation then potential players can become confused when trying the product as seen at Gamescom 2019 during the presentation of *Project Shelter* (Atomicom, 2019).

Another core consideration of this aspect of development is the need for standing out amongst the crowd of other mobile games. It is easy enough to look like another generic match-3 game but hard to make consumers look at the game knowing it is trying something new. This can be seen from the early DOS game *Shariki* (Alemzhin, 1994) and how modern games like *Bejeweled* still look similar aesthetically at a glance, especially as the main core mechanic has not really changed just how it is shown visually. In 2014 alone there was over 2,200 match-3 type games on the iTunes App Store, with the market dubbed as saturated and frequently facing criticism for a seemingly lack of innovation (Lien, 2014).

Some of the initial ideas from the team revolved around trying to tackle genres that had not seen prominent Match-3 releases, such as Egyptian, Mayan and Science-Fiction based games. However, due to advice from overseer tutors on this project the team conceded to working on a science-fiction based game in 3D with a 2D look due to time-constraints and previous game history. The art style was determined to take inspiration from films such as *Tron: Legacy* (Tron: Legacy, 2010), due to the use of neon and abstract visuals.

Another core consideration for the art and visual appeal was the use of colours within the game. In previous games the team had utilised the colour wheel theory for complementary and monochromatic styles. This game started by utilizing a more triadic system with the items on the

screen to be matched and an analogous system for the background and UI of the game.

Firstly, triadic is the use of colours that provides a high contrast colour scheme, which is exactly what the team wanted for the different panels to be matched. This means there would be easier deciphering for the player between sections of the game, knowing that one section is. However, this looked very cartoony at first in concept images, thus leading to the use of a more analogous system (see figure 3 below) to be utilised, especially in earlier levels where purple, dark blue and cyan are used. Later levels after the introduction of a fourth colour section started to use a more broadened analogous system reaching further around the colour wheel to pink. This kept the visuals in line with one another and also let the team have standout colours such as the red countdown in the center of the screen during play.



Figure 3 - Example of Analogous Colour System



Figure 4 - Swivel Go - Gameplay Screen

Next, tackling the UI and menus, the team incorporated a more monochromatic system often keeping to three different shades of blue with accents of red for a focal point. This system allows a more subtle and conservative approach to colour combination, giving the menus a more harmonious look compared to the gameplay levels. This was by design to let the player feel calmer in the menus and UI whilst more excitable during gameplay.



Figure 5 - Swivel Go - Example of Main Menu

The colours chosen during the game were aptly chosen based on common science-fiction trends, which head towards blue colour palettes as seen in games such as *Mass Effect* (BioWare, 2007) and cult films such as *Alien* (1979) and *Tron: Legacy* (2010). However, to bring a more psychological aspect to the development of the colours the team looked into the perceived meaning behind certain colours, especially the use of red within the game.

In modern society, red is often seen as the colour of danger, wrath, blood, fire and passion (Bourn, 2011). Taking into consideration the very first of these, 'danger', the team started to use red within the game to show that something was going wrong with the players actions, with the countdown turn timer in the middle of gameplay levels being red and symbolizing danger. This is extrapolated to when the player loses points (or rather gains – as their goal in game is to get to zero) and is shown in red to show this is an ill-advised progression.

Another interesting point of note is that red is often perceived to be closer than it actually is, hence its effectiveness in traffic lights the world

over (Wright, 2019), giving people an instant point of attention when used on a screen. The team used this to highlight key parts of the menus such as what stage they are on and the logo of the game, amongst others. The colour red in effect became the alluring eyes of the siren for *Swivel Go* (Tyler, 2019), being both attractive yet a sign of danger.

On the other hand, blue is often seen as an intellectual colour, giving off the thoughts of trust, duty, logic yet coldness, lack of emotion and unfriendliness (Cherry, 2019). This was another reason the team chose this as the main colours of the game, as the games setting was that you are working the cybernetic systems of a computer in cyberspace stopping it from exploding, almost like a futuristic ticking bomb. Another by-product of utilizing blue heavily within the product however is that it's often been seen as soothing colour, affecting people mentally stimulating clear thoughts, calmness and concentration (Birren, 2013); Which is the emotions that the player needs to complete each level.

The Core of the Experience – Mechanics

As noted earlier in this documentation, mechanics from early Match-3 games such as *Shariki* (Alemzhin, 1994) to more modern iterations of the genre such as *Bejeweled Stars* (PopCap Games, 2016) have largely remained unchanged, with players tasked with matching the different tiles on the screen in correlation to icons or colours.

A breakdown on the game design behind match-3 is provided by Juul (2007), which also looks into how matching tile games are often timed, offering different visual rewards for the player and have different ways in manipulating the tiles within the game. However, there are games that try to break the mould of tile-matching games such as *Zuma* (Oberon Media, 2003) which did away with the staple grid tiling system.

This type of breakout game which utilised the basic staples of the match-3 genre whilst incorporating new unique gameplay was the main priority of the team. Looking further at the aforementioned *Zuma* and *Bejeweled Stars*, the team initially had ideas for a grid-based matching game and a shooting tiles matching game respectively however these are the two most common match-3 style games on the market, thus, they were explicitly given rejection from the team.

Looking outside the figurative box of the games industry, the team found other inspirations from popular toys such as a Rubik's cube (Rubik, 1977). This small puzzle-based toy has sold over 350 million around the globe making it the world's bestselling toy (Davidson, 2015). Harnessing some of this selling power would go a long way to creating a successful video game, it would also lend itself to the team's art style of being science-fiction as the team could treat matching the sides as part of disarming a technological bomb, whilst also making the game look distinctly different from an actual Rubik's cube.

The core gameplay of the game became:

Rotating

Switching

Scoring

These three simple pillars would be the foundation for all the mechanics in the game, from the need to rotate and switch tiles within the game to the scores accumulating from those decisions. To further the game away from traditional Match-3 and more in line with a Rubik's cube, rotating would rotate not only one or two tiles but one third of the tiles on the screen at a time, affording more thorough thought to be needed in line with a Rubik's cube. Furthermore, unlike more traditional match-3 style games *Swivel Go* would not end when there are no more moves, thus needed a way of always being able to carry on playing, this birthed the switching mechanic. Finally, to keep the game feeling familiar to other match-3 players, the team decided to keep the scoring system

similar to those of *Bejeweled* and other tile matching games, giving higher scores based on the more technical and advanced matches the player attains. For example, a simple match-3 colours is rewarded with a low base sum, however if the player matches three sets at once it is more than tripled which makes the player want to attain those to complete the more complicated levels.

One complication that comes from taking a lot of inspiration from a Rubik's cube however, is that of frustration. Massachusetts Institute of Technology researchers found that a Rubik's cube is comparable to a problem known as the Hamiltonian path problem (Lamb, 2017), which is inherently confusing and frustrating. This frustration can put off mobile players. As Juul states: one of the core gameplay features is 'allowing short playing sessions', which would mean players would be unlikely to come back to another bout of frustration. This can also be seen in Mihaly Csikszentmihalyi's (1990) concept of Flow, where the optimal experience is one that players skill meets the frustration they encounter on par with their own will furthered upon in Theory Of Fun (Koster, 2004). To alleviate this, the team decided to make earlier levels in the game more easily completed, giving the players instant gratification before eventually moving into more challenging but fair levels. This means the player will be engaged for a suitable length of time, easing into the game whilst getting more and more familiar and comfortable with the product.

Delving deeper into the consequences of instant gratification, which is common in mobile games, the players feel instead of grinding through a game for the satisfaction of completing it, as the new generation of gamers dislike grinding (Smalls, 2018), they are receiving mini-rewards such as level unlocks or reward screens such as the star system within *Swivel Go*. The star system alone is popular in other mobile games, such as *Angry Birds* (Rovio Entertainment, 2009), offering a scale of gratification for the player based on their performance in the level. This then gives them a target to come back to a level and replay trying to

attain a higher reward, leading to increasing player retention and longevity of the game.

The Length of Experience – Longevity

The longevity of a videogame, or indeed how long the player will endeavour to play and give up their free time toward the product, is always on the minds of developers. There have been many ways over the last few decades where developers have come up with new ways to extend their products lifespan, starting with games with long completion lengths for their core game like the *Final Fantasy* series (Sakaguchi, 1987 onwards), moving into the realms of downloadable content and then consistent updates to games like the MMO approach or games as service model.

Looking firstly to how the game could be extended via its own inbuilt gameplay, the team conceptualized a few different ways which are popular throughout the games industry. One such way was the addition of levels and stages within the game, allowing the player to progress from one stage to another whilst raising in difficulty based on how many levels the player had proceeded to complete with a minimum of a bronze star attained. This system means that players can progress through the game even if they are not skilled enough to receive the higher gratification rewards of silver and gold, whilst giving players credence to why they should go back and replay older levels in order to receive the higher rankings.

These star systems are seen through the very popular *Angry Birds* series (Rovio Entertainment, 2009), however they can be seen throughout history in other disciplines that reward the top three participants in an event. Since the eighteenth century, gold medals have been awarded in the arts, usually a symbol of award for outstanding contribution. The meaning behind the metals used could be attributed to the rarity of

each, Bronze (or Copper as it is made from) is the most frequent of the three metals to be found, with silver slightly less common and gold being the rarest (Staughton, 2016); This transcribes to performance for people attaining these metals in events, with the person earning bronze being a more common performance than someone who would earn gold, giving credence to why the person should try harder to attain the more sought after medal. It is this very need to receive the higher reward that drives players to persist with video games increasing the longevity of the game and the player retention.

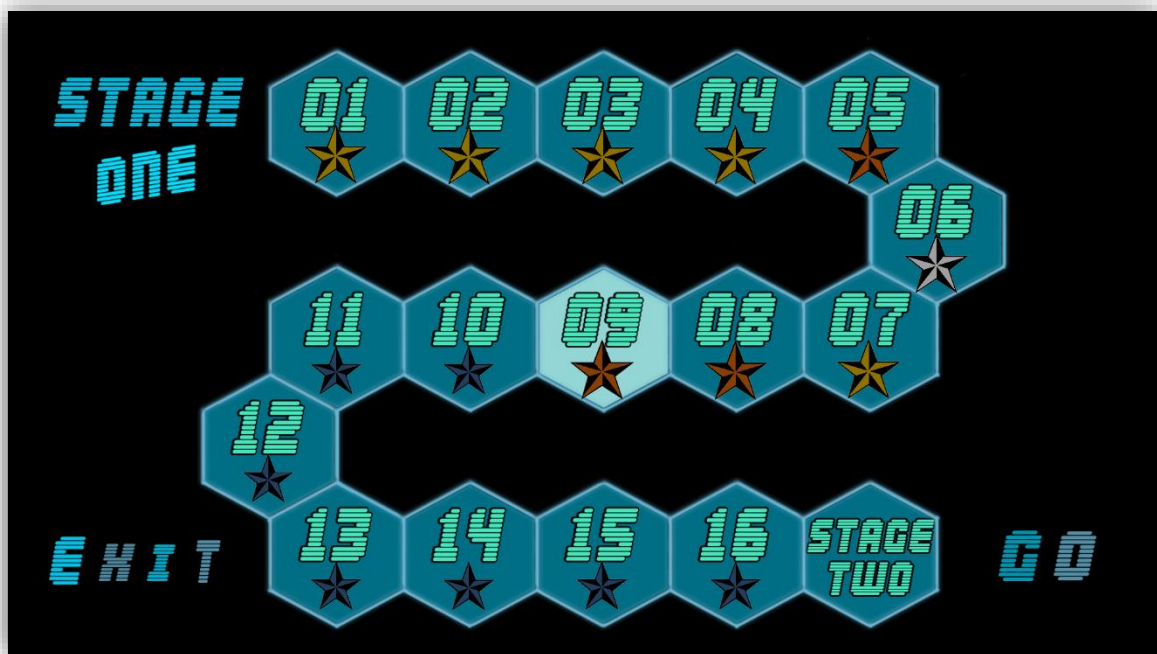


Figure 6 - Swivel Go - Example of Level Select & Stars

Another form of longevity within the game comes from the increasing difficulty throughout the game, given at the moment in level increments of four, the game adds additional elements into the gameplay which constantly change how the player must approach the game. This difficulty style means that the player can get to the point where the game is rather challenging to them, but they still have the option to

persist and overcome the challenge or even play earlier levels which suit them.

These new elements appearing as the player progresses is common through many games, if the player has nothing new to see then they will start to become bored with the product and end their experience with it, however the consistent promise of new elements on the next verge ahead keeps them wanting to see what's past the next challenge. Nathan Lovato covers this by stating grinding through levels with no intrinsic rewards makes players stop playing the game (Lovato, 2015), in which case *Swivel Go* stops this by giving the star rewards as well as new elements appearing in new levels, hiding the fact that players are grinding through levels.

However, with rising difficulties comes the need for developers to consistently test that the difficulty does not spike too much, as this can also put players off continuing to use the product. If the game gives an unfair and punishing first experience the player will likely turn off the product and not return, this is why the levels in *Swivel Go* start extremely easy to complete (and with a gold reward), almost playing themselves to completion, before ramping up over an even progression to needing to take skill and determination to complete the most challenging levels of a stage. This approach allows casual and more hardcore gamers to both enjoy the product effectively improving the player retention than if it was aimed directly at one of those demographics of player (Knoll, 2012).

The Costs of Admission – Pricing

Just as the men aboard the boats judged whether they should even contemplate hearing a sirens voice of the myths, the potential players must weigh up if the product that is ahead of them is worth their personal free time. This can lead to a variety of factors, from the games

visual appeal and mechanics mentioned earlier to how long it will keep them engaged, but no factor is more on the minds of the consumer than that of the pricing of the product.

The mobile market in general often runs off a free-to-play business model or a games-as-service system (Thomas, 2016). These two ideologies behind the pricing of a video game is that the player can taste the core gameplay, almost like a demo, but with the full game ahead mostly locked behind devised mechanics that stop them experiencing the whole game at their own desired pace (Makuch, 2018). The way that companies profit on this methodology however is that the player will want to play the game at their own desired pace, with mechanics stopping them, therefore the developer introduces microtransactions that allow the player to pay a small fee to bypass these hold-back mechanics (Tassi, 2018). This approach also helps the potential player pick up and try the product before committing their spare time to the game, effectively immediately building a rapport with the player by giving them something for free and asking for nothing in return, which can lead to player retention if the player feels they can utilise the product without feeling pressured to take part in the monetization.

On the other hand, this approach can see people put off by the mechanics as they are literally designed to frustrate the player in order to be paid to alleviate the frustration via microtransactions. An example of this would be the Heart system in Pokémon Shuffle as mentioned earlier in this documentation, where the player has five life's and can play a level per heart, yet must wait for thirty minutes in real time for these to replenish or buy them via real world currency (Carter, 2015). This approach has a loud voice of critics including some of the team members behind *Swivel Go* thus was decided early on to not be a part of the products design.

Looking at the advantages to development teams it is not hard to see why many look at this methodology however, the best bonus is to increase the games lifespan, especially when looking at the games-as-

service model, for an indefinite amount of time. This is often seen in MMO (massively multiplayer online) games but has been moving to standard video games slowly over the years and invading the mobile video game market on the back of Free-to-play games. Games-As-Service also has the benefit of a consistent revenue for the publisher/developer after the initial sale of the product (if not free-to-play), which helps fund the development and support of the game as well as new projects and sequels.

An example of a successful game via this model of game design is *Rainbow Six Siege* (Ubisoft Montreal, 2015), which was released in 2015 and recently reported to maintain an active player base of over twenty-five million on PC, PS4 and Xbox One (Ferreira, 2018). Initially R6V started as a standalone game with a season pass, proving extremely popular that the developers now support the game with a second season pass and microtransactions for extra content and time-saving unlocks.

The other option for *Swivel Go* would be that of selling the game on a mobile app store for a fee and having no microtransactions within the game at all. This would alleviate all the aggravation that comes with a games-as-service or free-to-play model but also lose all the benefits such as an income from the game from retained players who consistently play the software. This approach can also put off potential players who do not like the visual appeal of the game or feel that particular game does not suit their needs at this moment. Another downside is that this initial cost to play the game might not be adjudged to be worth the player's free time, especially in a market saturated by other games which are often free-to-play for the potential player to delve into at ease in comparison.

After taking into consideration both approaches to how *Swivel Go* could be released in order to recoup development costs and sustain the developers potential future products the team decided to go ahead with a free-to-play model with advertisements to fund revenue from the game, although to appease those that might not want the game to have

advertises in or that would like to give back to the developers if they like the game the software would have the option to allow players to pay 99p to get rid of advertisements from the game. Another methodology behind producing a revenue from the game was devised to have downloadable content expansion packs, offering new gameplay and stages to the game, at a small price. This was because it would be optional content that if the players like the base game, they can help support the development team via purchasing extra content.

These approaches are almost a middle ground to the different pricing models seen in video games today, firstly offering players a chance to play the entire game for free albeit with adverts that produce revenue, then extra content that either personalizes the players experience by eliminating adverts or extends their game by expansions of stages and more. It also eliminates a lot of the hatred behind mechanics that are aimed to frustrate players in order for them to purchase microtransactions, due to the fact the player never has to experience a devised block to progress in the game (to be passed via microtransaction) and they can play at their own pace.

CRITICAL REFLECTION

Looking back at the development of *Swivel Go*, the entire game was built around initially luring players to play the product and then enrapturing them whilst they played with both the mechanics and longevity of the product. Coming from various testing and direct feedback from players however, some aspects worked more than others in getting the goal of player retention.

Firstly, players mentioned that, whilst being avid Match-3 players, the visuals were initially confusing as to what the player would do during the game, discombobulated further by the fact that the controls on screen in the gameplay sections were initially overwhelming without a default tutorial. These could be overcome by adding a tutorial at the

start of the game and better key art and description on the games store page. However, this would do a lot of damage to the games initial player base as people can easily turn off the game when confused.

On the other hand, players, once playing the game for a short amount of time, gave favourable feedback to how the game built upon the base Match-3 game design and made something unique but that also felt familiar. This was a testament to the games mechanics and in game feedback systems. Visual observation of players saw them move from frustration to a more triumph reaction once they garnered what they are meant to do within the game's levels; Furthermore, their skill within the levels vastly increased as they progressed, moving from random rotations to see how the game worked to carefully contemplating moves before proceeding.

This was exactly what the team wanted to see from the players on their product, the move from frustration and random movement to a well thought out process of play. Akin to first players playing *Tetris* (Pajitnov, 1984), a player can easily align layers to score points, but the more the player thoughtfully thinks of the placement of the blocks the better the player will score in latter more challenging levels. This was evident in *Swivel Go*, especially in latter levels where there was an additional fourth colour in play or blocker mechanics coupled with less available moves before game over.

The feedback garnered from players who had played with the product for a short duration was vastly superior to those that just viewed the product in motion. This leads to changes needed to firstly entice the players to sit down with the product and give it a chance to enthrall them; but gives good credence to the game working as intended in retaining the players once they had been ensnared.

Thus, it could be stated that *Swivel Go* as a product is a siren without a great call. Its voice is broken to an extent but once the player is within its grasp it holds tight and does not let go, to the enrapturement of the participant.

CONCLUSION

All games in the modern age must have a voice, via art style and pricing, that calls to participants making them want to step into the depths of its worlds and give up their spare time and often hard-earned currency. They must be the siren on the rock luring players to their location. However, all games must also attempt to keep players enthralled for an extended time, via mechanics and longevity, leading to the eventuality of more players and more profit for the developers that produced the product. They must keep the player retained, or they will escape to other sirens.

There are many ways of both luring and retaining players, as stated throughout this documentation, with the two sides of each coin giving advantages and disadvantages of each. Often one side of the argument is that player retention is great for profits, keeping a game running and planning for sequels. But the other side of that very same coin is that if you utilise mechanics designed to increase profitability players (and critics) will see the truth that they are deliberately being frustrated in order to bypass the frustration by paying the developer to rescind it. To walk a line between, is hard, especially for developers with no financial stability and they often need to take the punt to more deviant mechanics and microtransaction systems to turn a profit, but in a world when more and more large corporations and publishers are forcing these aspects into games such as FIFA Ultimate Team (Handrahan, 2017) it is hard for gamers and critics to ignore the downside to these systems.

It is incredibly hard to put down the notion that without a strong song and a reason to stay, a game would be profitable and successful. The two are not mutually exclusive however as seen with *Swivel/ Go* when one aspect is weak, the product can still receive players whilst not the optimum amount.

This can be seen in games such as *Dragon Age: Origins* which is heralded for its mechanics but scorned for its visuals, at the time of release (Roberts, 2017); effectively one could state *Dragon Age: Origins* (BioWare, 2009) had great player retention once players actually played the game. On the other hand, a game that had an amazing 'song' was *Aliens: Colonial Marines* (Gearbox Software, 2013), with great visuals and a game based on an amazing franchise the game sold well but the mechanics and longevity in the game let down the players that gave it their spare time (Good, 2018). Both *Origins* and *Colonial Marines* were successful games, with over 3.2 million for *Origins* and over 1.31 million for *Colonial Marines* sales respectively.

As the world of gaming moves more into free-to-play and games-as-service models, the developers must not forget the key thoughts behind the game's success in a sea full of different products is that the game needs to sing loud, luring players to its vicinity before enthralling them for a sustained amount of time. These two considerations should be through the DNA of the game, from the visuals, mechanics, longevity systems and even the marketing and pricing models.

Make the Siren that calls to the players and retains their service in return for a memorable experience, without destroying their faith in the industry.

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