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Level Names in an Online Minigolf Game

1. Introduction

During the past few decades, rapid technological development has dramatically changed our everyday life. Mobile devices and the internet help us communicate with each other regardless of our physical location. They have also changed how we spend our time. One of the new pastime activities is playing video games.

Video games often consist of several separate virtual spaces. Depending on the speaker and the type of the game, these spaces are referred to as *levels, maps, tracks* or *worlds* (PICARD 2014: 99). The term *level* is used in this article. Levels share the same rules and physical laws of the game, but they have different structures and layouts. Levels usually include some type of task or mission that must be completed before the player gains access to the next level. Levels usually appear in order of their difficulty, such that the first level constitutes the easiest task and the last one is the hardest. Consequently, levels introduce variation and additional challenges to the gameplay, making the game more fascinating to the player for a longer time.

As games usually consist of several levels, levels need some type of identifiers. Some games identify levels only by ordinal numbers (*Level 1, Level 2,* etc.), but some games also use names. The naming of levels is useful for at least two reasons. Firstly, a name usually appears at the beginning of each level, giving players a first impression of that level and helping them to perceive the task and the virtual environment that they face. Secondly, names are needed to discuss the game. Members of a gaming community often share their achievements, experiences, thoughts and emotions of their gameplay with one another. When doing so, it is important to contextualise the information: *in which level did event X happen?* This is done by using level names.

Why should we onomasticians be interested in level names? Although video games are an essential part of contemporary culture, few studies have been conducted on the place names in these virtual environments. This gap in the scholarly literature needs to be addressed. Level names also offer a number of interesting viewpoints for onomastic theory. For example, previous studies have demonstrated that assigning names is predominantly based on the models and analogies established by the names that have already been given (for example, see KIVINIEMI 1977, LEINO 2007). As STEFAN BRINK (2016: 159) puts it, "name-givers are seldom adventurous and inventive". But what if we have to

create a completely new category of names, such as level names? Where do we take the models then?

The main objective of this article is to present an overview of a naming system for levels. Data for the study were collected from *Playforia Minigolf* (2002), an online minigolf video game. The game and the data are introduced in section 1.2. The analysis section 2 focuses especially on the structure and semantics of level names. Those features are subsequently compared to other name categories in section 3. But firstly, let us place the subject of this article in its academic framework.

1.1. Theoretical framework

As mentioned in the introduction, very few studies have investigated place names in video games. PAUL MARTIN (2011) has analysed place names in Grand Theft Auto IV, but to my knowledge, there are no earlier scholarly studies about level names. Due to the lack of previous research, level names are compared to other types of proper names.

Perhaps the most obvious parallel for level names are other proper names on the internet. Previous studies on that field have mainly concentrated on user names, names of registered website user accounts. User names became a subject of scholarly interest already in the early days of the internet (BECHAR-ISRAELI 1995), yet a greater volume of research has emerged only in 2010s. These studies are reviewed more thoroughly by ALEKSIEJUK (2016: 447–452, 2017) and HÄMÄLÄINEN (2018). Also worth mentioning are studies of character names in online games (HAGSTRÖM 2008, DRACHEN–SIFA–THURAU 2014, CRENSHAW–BARDI 2014).

Video game levels are virtual places, so they can be compared to places in the non-virtual world as well. Toponomastics is probably the most studied branch of onomastics, so there are plenty of knowledge concerning place names (see for example HOUGH 2016: 67–166, 395–426, 465–602). Place name systems are usually constructed somewhat differently in rural and urban environments. Playforia Minigolf can be regarded as mixture of those, using mainly natural (e.g. grass, water, sand) but also human-designed (e.g. landmines, teleports, walls) elements.

Designing game levels not only requires knowledge of the game and its culture, but also demands artistic vision and creativity. Thus, a relevant counterpart for level names are the names of various works of art, such as paintings, novels, songs or films. Artwork names have been discussed to some extent in philosophy, aesthetics and art history (for example, see LEVINSON 1985, FRANKLIN–BECKLEN–DOYLE 1993), while in central onomastic works, they have mainly

remained as a footnote (see for example, ŠRÁMEK 1996, VAN LANGENDONCK 2007: 233–234, SJÖBLOM 2016: 463). Furthermore, the growing branch of literary onomastics examines names *in*, not *of,* literary works (HOUGH 2016: 7).

In addition to onomastics, this article contributes to *game studies* (or *ludology*). This relatively new, but rapidly growing branch of science examines video games from many perspectives, bringing together scholars from arts, humanities, social and technical sciences. The topic of this article is most closely related to the area of *game design,* and more specifically to the subarea of *level design.* A distinctive feature in these areas is the great number of game design guidebooks (e.g. SALEN–ZIMMERMANN 2004, ADAMS 2014, ROGERS 2014, SCHELL 2014), with a few of them especially concentrating on level design (e.g. BYRNE 2005, FEIL–SCATTERGOOD 2005, KREMERS 2009, HULLETT–WHITEHEAD 2010, TOTTEN 2014, 2017). Perhaps surprisingly, these volumes have very little to say about names. JESSE SCHELL (2014: 351) mentions that giving names to places makes the imaginary world feel richer and deeper, while SCOTT ROGERS (2014: 220) advises game developers: "Remember, level names provide your level's first impression, so put your best foot forward!" It seems that these writers recognise the importance of names, but the lack of research prevents them from stating anything more specific.

1.2. Data

The data for the current study are from *Minigolf* (2002), an online minigolf game found on the gaming website Playforia (www.playforia.net). Playforia, developed by the Finnish company Apaja Creative Solutions Ltd in October of 2002, provides over 50 online games, which are based on well-known non-virtual games (Billiards, Chess, Yahtzee) or video game classics (Tetris, Minesweeper, Bomberman). More than 5 million user accounts have been registered on the website. Although the Finns constitute the largest user group, 60% of all users represent other nationalities.

Minigolf is one of the oldest and most popular games on Playforia. The main objective of the game is the same as in real-life minigolf, to pass various courses with as few strokes as possible. Most courses in Playforia Minigolf, however, are longer and more complicated, and most of its 20 level elements, such as ice, swamp, mud, acid or landmines, do not appear in real-life minigolf courses. For a more elaborate description of the game, see an introduction video (HÄMÄLÄINEN 2017).

There are 2,072 levels in Minigolf. Each level has a name, given by the level designer.[1] The name appears below the level in the gaming window (picture 1).[2] The research data include all the level names. They are obtained from a Minigolf level database, hosted by Taateli.com, an official Playforia fan website.[3]

I have analysed the structure and semantics of level names in Minigolf from *language community's perspective* (about the term, see SJÖBLOM 2006: 59–61 and AINIALA–SAARELMA–SJÖBLOM 2012). This means that I have estimated, what the name looks like from the perspective of an ordinary Minigolf community member. I have not tried to interview name givers (level designers) about the names' backgrounds. There are two reasons for that: Firstly, while chatting with some level designers, I have noticed that on many occasions they have forgotten ideas behind the names they created. Therefore, the original principles of naming could not be always retrieved. Secondly, many designers no longer play Minigolf, so it would be difficult to contact and interview them.

2. Level names in Minigolf

2.1. General characteristics

A vast majority (84%) of level names in Minigolf are English. From the very beginning, Playforia has been designed to serve both Finnish and foreign users, and as English is the most common lingua franca on the internet, it was an obvious choice for the language of the names[4]. 8% of the names represent other languages, such as Finnish, Latin, Italian, French and German. These names are usually based on proper names *(Dante, Moulin Rouge, Tour de France)* or other widely-known words or phrases *(Apfelstrudel, Carpe diem, Mamma mia)* that can be understood even by those players who do not speak these languages. The rest 8% of level names cannot be recognised as belonging to any known language.

By their structure, Minigolf level names are usually rather simple. A vast majority of the names are single words, compound words or clauses. Only a

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[1] Over the game's history, there have been 16 level designers. The first three designers were the founders of Playforia, but soon after the game was released, they began hiring hobbyists of the game to design new levels.

[2] This article presents several pictures of the Minigolf levels to demonstrate the connections between level names and characteristics. To access these pictures, please visit http://imgur.com/a/VuXII or http://photos.app.goo.gl/JIqaNe2pSmm6DxsS2.

[3] www.taateli.com/index.php?s=ratalista–lista=minigolf. I would like to thank Taateli.com administrator, user Wormhole, for delivering the data for this study.

[4] This was told to me via email in 2015 by Pasi "Tiikoni" Laaksonen, who is one of the three founders of Playforia and the main creator of Minigolf.

few per cent of level names include a complete sentence. The longest name in Minigolf, according to a count of both words and characters, is *It's like this and like that and…*

In Minigolf, level names are typically unique, meaning that no two levels have exactly the same name. There are only nine exceptions to that – the names *Back and Forth, Bridges, Divider, Epic Fail, Four Rooms, Hangover, Separated, There and back* and *Too easy* have been given to two different levels. These occasions are presumably accidental. Two designers may have created a level with the same name somewhat simultaneously, or a designer may have forgotten that a level with the name already exists.

2.2. Semantics

Semantically, level names in Minigolf can be divided into two main categories: names that *are* or *are not* connected to the characteristics of the level. 1,462 names (70.6% of the data) belong to the former group and 610 (29.4%) to the latter. More specifically, names can be divided into seven subcategories. Name's connection to the characteristics of the level could be based on the elements, appearance or playable characteristics. If no such connection exists, the name may be a tribute, refer to popular culture or some other object, or it might not have a visible reference to any known object. Table 1 lists the frequencies for each category. It is important to note that a name can simultaneously belong to more than one category. For instance, the name *Dangerous swamps* (picture 2) refers both to an element (swamp) and to playing the level (crossing the swamps is dangerous), while the name *Candle in the wind* (picture 3) alludes to both level's appearance (a large candle-like figure in the level) and popular culture (a song by Elton John). As a consequence, the sum of the categories (2,393) slightly exceeds the number of levels in Minigolf (2,072). Nonetheless, a clear majority of the names belong to one category only.

Semantic group	Count	%
Elements	480	23.2
Appearance	489	23.6
Playing	741	35.8
Tribute	61	2.9
Popular culture	127	6.1
Other reference	403	19.4
No visible reference	92	4.4

Table 1: Frequencies of the semantic name groups

Elements. A common way of naming a level is to describe the elements that it is comprised of. However, as Minigolf levels consist of 5.5 different elements on average, it is usually impossible to refer to all of them. For this reason, one or a few of them need to be selected. But which ones? Obviously, the name often refers to an element that is frequent on that level. For instance, the levels *Mudventure*, *Swamp Island* and *Acid Castle* (pictures 4–6) contain considerable amounts of mud, swamp and acid. The name may also refer to an element that is infrequent at that level, provided that it is important for the gameplay. For example, *Bounce Matress*[5] (picture 7) has only a small shred of a bounce wall between large areas of slope and water, but it is impossible to pass the level without using that bounce wall. Another example is the name *Acidofilic* (picture 8), which refers to a single pond of acid, even though it is surrounded by 10 similar ponds of water. This is because acid is a more unusual element than water, and it is also far more relevant in playing that level: if the ball sinks into water, it is returned to its previous location, but if it sinks into acid, it is returned to the tee of the level.

Appearance. Level elements often form recognisable shapes or figures, which can motivate naming. Sometimes they are only simple geometrical shapes, such as triangles *(Triangles, Pyramid adventure),* squares *(Ice squares, Ice Cube),* circles *(Ball road, Missing Balls),* arrows *(Green arrow, How many arrows?)* or crosses *(Basic Cross, Crisscross)* (pictures 9–18).[6] The elements can also form letters and numbers, like in the levels *2003, Alphabet, Numbers* and *Green Apaja* (pictures 19–22), or even detailed and artistic images. For example, *Leonardo's Sketch* is a naive replica of Mona Lisa, *Sonata* a piece of musical composition, *Moulin Rouge* a silhouette of a windmill and *Monaco* depicts the famous racecar circuit in Monte Carlo (pictures 23–26).

Playing. Even though levels may offer aesthetic experiences, they are primarily created for playing. Therefore, it is hardly surprising that the largest group of names are connected to playing the level. Some names generally describe what the level is like to play: *Easy road, Piece of cake, Super mysterious, Tough one.* Some names describe the route from tee to hole: *Back and forth, Clockwise, Round and Round, There and back, Up'n Down.* The name may also tell, how the level should be played: *Avoid Extra Strokes, Hit the roof, Keep on track, Let them help you.* There are also names that imply the minimum result: *Tricky hole-in-one, Par 2, Dream of Four Strokes, Guru 6, Real Pro's 7 Strokes.* These names may reveal the optimal strategy of playing the level but in some cases

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[5] The name is probably supposed to be *Bounce Mattress*. Typing errors are rare but not unprecedented in Minigolf level names.

[6] The names of three-dimensional shapes *(pyramid, cube, ball)* are also used in level names, even though the game and the shapes are two-dimensional.

mislead the player. *Real Pro's 7 Strokes,* for instance, can be played with 6 strokes at best.

Tribute. Some levels are named after respected members in the Minigolf community, either experienced players or designers. In this article, those names are referred to as *tributes.* Some of them refer to the tribute targets rather straightforwardly (*Dante* after Dante, *Tribute to Leonardo* after Leonardo), but more often the tribute names contain some twists. The reference to the person can be hidden for example by using wordplays (*Whost Griter* after Haamukirjailija 'ghost writer') or writing the name backwards (*Geoh* after Hoeg). Tribute names also include simultaneous references elsewhere: *Nico's Golf Corner* refers not only to a player named *-Nico-o,* but also to a golf equipment shop in Helsinki with the same name, and *Zwan lake* (picture 28) both to a designer called Zwan and to Swan Lake, a ballet composed by Piotr Tchaikovsky. The tribute could also be motivated by the characteristics of the level, as in the levels *Zwan lake* and *ConTrick* (picture 29).

Popular culture. A large number of level names contain intertextual references to popular culture phenomena such as movies *(Dumbo, Lost in Translation),* television programmes *(Stargate, Michael Knight),* literature *(Popeye, Society of the Spectacle),* music *(ice ice baby,*[7] *Over the hills and far away),* sports *(Grand Slam, Finnish Flash)* and other video games *(Mario vs Goomba, The Legend of Zelda).* These references are also often motivated by the characteristics of the level. For instance, in *ice ice baby* (picture 30), the ground is covered in ice, and *Over the hills and far away* (picture 31) features a long playing route that involves several uphills. However, many popular culture references, such as *Dumbo, Michael Knight* and *The Legend of Zelda,* are not connected to level characteristics.

Other references. There is also a rather large and heterogeneous leftover category of names that does not refer to level characteristics. This category includes a large variety of referents, such as places *(Copenhagen, Florence, Ouagadougou),* food and drink *(Absinth, Banana split, Pepper steak),* human conditions *(Hangover, Insomnia, Overeating),* aphorisms and phrases *(After the rain comes sun again, Carpe diem, Sleep when you're dead)* and even poker terminology *(Big Blind, Semi-Suited Connectors, Stonecold nuts).* Many of these names may somehow be connected to the designer's personal life. At the time of designing the level, the designer could have eaten pepper steak, visited Copenhagen or suffered from insomnia.

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[7] The name is exceptionally started with a lowercase letter. There are only eight such names in Minigolf.

No visible reference. As mentioned in section 2.1, 8% of the level names in Minigolf have no meaning in any language, at least to my knowledge. Some of them can be recognised as acronyms that describe the levels' characteristics. *Shoorlon* (picture 32), for example, stands for 'short or long', referring the level's two routes to a hole, a shorter but more challenging and a longer but easier one. A majority of these names, however, make no clear reference to either the level or any other object. Some of them are rather close to existing words or expressions, such as the name *Alchemea* which may have been motivated by the word *alchemy* (*alchemia* in Latin, *alkemia* in Finnish), or the name *Carusell* which resembles the word *carousel* (*karuselli* in Finnish). There are also some names that form a rhyme *(Dui-Hui, Herkimer Jerkimer, Kim-Dim, Mur Mur, WhoopShoopaLoop, Zappadappa)* which is probably not a coincidence. Many names, however, seem to be completely opaque, at least I could find no semantic or phonetic motivation for names like *Fohudaji, Garapalou, Mubbrumb, Otaoa Snau, Rah az bor* or *Wimbaloo*.

2.3. Level series

Although giving exactly the same names to levels is avoided in Minigolf, an important feature in the naming system are *level series*. The term refers to a set of levels that are somewhat similar in their architecture or playable characteristics, created by the same designer – usually consecutively – and named in a similar manner. For example, the levels *Stone Passage Race I* and *II* (pictures 33–34) have the same layout, but there are some added elements in version II. The levels *Neutralium I–IV* (pictures 35–38) have rather different structures, but they all include the same artistic patterns of stone wall. The levels *Beware water I–III* (pictures 39–41) look rather different, but they all contain an abundant amount of water, which of course should be looked out when playing the levels.

The levels of the series are differentiated predominantly by serial numbers (either Roman or Arabic): *Adventure I – Adventure II – Adventure III, Zab 1 – Zab 2 – Zab 3*. The first level of the series may be numbered, as in the previous examples, but more often it is not: *Foris – Foris II, Upwind – Upwind 2*. Differentiation can also be achieved by adding *(Speedy – Speedy Reloaded, Water Par Four – Water Par Four Edit)* or changing *(Acid Castle – Water Castle, Dream of Four Strokes – Dream of Six Strokes – Dream of Ten Strokes)* something in the original name.

66% of level series consist of only two parts, but the largest series include ten parts. In total, there are 209 level series and they contain 550 levels, 27% of all levels in Minigolf.

3. Comparing level names to other name categories

Many level names in Minigolf resemble place names in non-virtual world. When analysing level names' semantics, I realised that the three most frequent groups – reference to elements, appearance or playing the level – correspond the categories used in Finnish toponomastics. According to the *syntactic-semantic classification model,* developed by KURT ZILLIACUS (1966) and EERO KIVINIEMI (1975), the categories are: "nature or characteristics of soil, water or material", "topographic dimension or shape" and "use, activities, origin" (AINIALA et al. 2012: 80–81).

Nevertheless, the syntactic-semantic model is based on the presumption that a name is always linked to the characteristics of a place. As we have seen, this does not apply to all Minigolf level names. The names that are not connected with level's characteristics are perhaps closer to urban toponymy, especially street names. The objective of naming streets, at least in Finland, is that the name themes would be based to local toponymy, history or culture. However, as there are not always such themes (or the city planners do not always make the effort to find them), many districts use the same themes, such as national literature and mythology, or the names of trees, flowers, birds and animals. Consequently, the connection between the district and street names often seems ambiguous or even arbitrary, as does in the level names referring to popular culture, food and drink or poker terminology (AINIALA et al. 2012: 103–104).

Another feature that links level names with urban toponymy are tribute names. They can be compared with *commemorative names,* names given to streets, parks, squares, etc. after influential persons. Commemorative names are, however, given *in memory* of a person, which means that they should not be given after living persons. In Minigolf, on the other hand, most of the people who receive tributes are still active in the community (AINIALA et al. 2012: 101–102).

References to popular culture are frequent not only in level names but in internet user names as well. Users often adopt names of fictional characters, movies, television series, music bands, albums and songs (HÄMÄLÄINEN 2018). Otherwise, level names are rather different from user names. For example, they include few changes to the standard language orthographies or modifications such as numbers, special characters or additional letters that are frequently used to make the user names unique. An explanation for this may be that the Minigolf level name system is much smaller than most user name systems and modifications are therefore needed less often.

Level series are perhaps most closely connected to the names of visual artworks such as paintings, photographs and films, which are frequently named by using

ordinal numbers. Adding to or changing something in the original name is used as well in film names *(Scary Movie – Date Movie – Epic Movie, Matrix – Matrix Reloaded – Matrix Revolutions)*. As in level names, the first part of the series is sometimes numbered and sometimes not *(Kill Bill: Vol. 1 – Kill Bill: Vol. 2, The Godfather – The Godfather Part II)*. In addition to the serial number, film sequels usually also have an independent subtitle *(Police Academy 2: The First Assignment, Terminator 2: Judgment Day)*. Minigolf level names do not include these kinds of subtitles.

It is difficult to estimate whether these similarities between level names and other name categories are coincidental. Undoubtedly, many of those categories are included in the level designers' everyday life. User names are an essential part of web culture and therefore certainly familiar to the designers. Street names are seen everywhere in urban areas. Movies are a highly visible part of contemporary popular culture, and their names can be seen not only in cinemas but also on television, on the internet and in outdoor advertisements. These name categories probably have an impact on people's conception of what proper names are like, and consequently have also influenced the naming of Minigolf levels, either consciously or unconsciously.

4. Conclusion

Current developments in information technology are changing our language and culture. One of the new name categories it has evoked is level names in video games. Thus far, level names have been overlooked in academic literature. This article addresses that gap by examining the level naming system in Playforia Minigolf, an online virtual minigolf game.

In Minigolf, the designers name their levels. A majority of level names are in English. This is simply because English names are understood throughout the world and therefore best serve players from different countries. A clear majority (71%) of these names are related to level characteristics in terms of elements, appearance or playing it. The remaining 29% are an exceedingly heterogeneous category, including references to popular culture, respected players of the game, designers' personal interests and even invented words. Giving exactly the same names to levels is avoided, but one-fourth of the levels belongs to a level series, a set of similar levels named in the same manner. Parts of a series are primarily differentiated by serial numbers, but sometimes words are added to or changed from the original name.

Level names share some features with several categories of proper names, but no category is especially close to them. According to their semantics, level names resemble both rural and urban toponymy. References to popular culture bring them close to user names and serial naming to various artwork names. We can

probably assume that the existing name categories influence the development of new ones, at least on a subconscious level.

This article only offers a brief glimpse at the nature of level names. Several other studies on different types of games are needed before we can draw more general conclusions of the name category. Hopefully this article will inspire other scholars to conduct similar research. I am convinced that level names will be an interesting and fruitful research area for onomastic scholars in the years to come.

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Appendix. Pictures of Minigolf levels.

This article uses 41 pictures of Minigolf levels to demonstrate the connections between levels' names and characteristics. In order to view the pictures, please visit   http://imgur.com/a/VuXII or
http://photos.app.goo.gl/JIqaNe2pSmm6DxsS2.

Abstract

Giving names to various objects is an essential part of creating an immersive, entertaining and functional video game. However, this virtual nomenclature has mainly been overlooked in previous onomastic or game studies literature. This article addresses that gap by analysing names of game levels in *Playforia Minigolf,* an online virtual minigolf game. The data include all the 2,072 levels of the game.

Level names in Playforia Minigolf are mostly in English. A majority of them (71%) are based on either levels' elements, appearance or playable characteristics. Those names that are not linked to levels' characteristics (29%) include references to popular culture, respected players of the game, level designers' personal interests, and even self-invented words. Even though giving exactly the same names to levels is avoided, an essential part of the name system are so called *level series,* sets of levels named in a similar manner.

The article also makes comparisons between level names and other proper name categories, such as rural and urban toponymy, artwork names and internet user names. Level names seem to have something in common with all these categories but do not especially resemble any of them. Further research concerning other kinds of video games is needed to confirm the discoveries of level names presented in this study.

Keywords: level names, onomastics, video games, game studies, internet