Gamification in Social Media

University of Oulu
Department of Information Processing Science
Master's Thesis
Harri Pellikka
12.5.2014
Abstract

As social media keeps expanding and alternatives for existing services arise, the need for engaging and sustaining users increases as well. One method for engaging users is the use of gamification.

The purpose of this study was to found a basis of knowledge of the current state of gamification social media. The study was conducted as qualitative content analysis, analysing 18 social media sites of different types. The analysis concentrated on the game elements incorporated in the services, such as points and badges.

The findings of the study resulted that social media in general employs many different game elements. Gamification is used to suggest activities to the users, to encourage active participation and to reward users for wanted behavior. A common use of gamification in social media was found to be quality and appeal control over user-generated content.

Keywords
social networks, gamification, blogs, wikis, collaborative and social computing, social media, Facebook, Google, Flickr, YouTube, Wikipedia
I got fascinated about gamification when I started working on a web site project that relied heavily on game elements. As I was thinking of ways of implementing these gamified features, I started to wonder about the ways gamification was already used in social media. Thus, the topic was born, stemming from my own need for knowledge about the subject.

The writing process was a rollercoaster of motivated enthusiasm and awkward confusion. Luckily, my supervisor was there to lift me up whenever I was having problems. In the end, I feel I have done my best and am happy that I actually reached what I aimed for: knowledge of the current state of gamification in social media.

I would like to thank my supervisor, university lecturer Raija Halonen, for her comprehensive feedback and constant encouragement. Without her help, I probably would have struggled a lot more with the research – after all, she was the one who suggested the chosen research method in the first place.

Harri Pellikka

Oulu, April 20, 2014
Contents

Abstract ....................................................................................................................... 2
Foreword ...................................................................................................................... 3
Contents ...................................................................................................................... 4
1. Introduction ........................................................................................................... 6
2. Social Media ......................................................................................................... 7
3. Gamification .......................................................................................................... 9
   3.1 Definitions ........................................................................................................ 9
   3.2 Games ............................................................................................................. 10
   3.3 Game-like elements ....................................................................................... 10
      3.3.1 Game design patterns and mechanics .................................................... 12
      3.3.2 Badges .................................................................................................... 13
   3.4 Effects of gamification .................................................................................... 14
4. Gamification in social media ............................................................................... 15
5. Research method ................................................................................................ 17
   5.1 Content analysis ............................................................................................. 17
   5.2 Application of the research method ............................................................... 18
6. The sites ............................................................................................................... 20
   6.1 Blogger .......................................................................................................... 20
   6.2 Facebook ......................................................................................................... 21
   6.3 Fitocracy ......................................................................................................... 21
      6.3.1 Profiles and community ......................................................................... 22
      6.3.2 Points and levels ..................................................................................... 22
      6.3.3 Achievements ......................................................................................... 23
      6.3.4 Challenges .............................................................................................. 24
      6.3.5 Quests ...................................................................................................... 24
   6.4 Flickr ............................................................................................................... 24
   6.5 Google+ ........................................................................................................... 25
   6.6 HeiaHeia .......................................................................................................... 26
   6.7 Instagram ......................................................................................................... 27
   6.8 LinkedIn .......................................................................................................... 27
   6.9 Pinterest ........................................................................................................... 28
   6.10 Reddit .............................................................................................................. 28
   6.11 StackOverflow ............................................................................................... 30
      6.11.1 Reputation points ................................................................................... 30
      6.11.2 Bounties ................................................................................................. 31
      6.11.3 Badges ................................................................................................. 31
   6.12 Steam ............................................................................................................. 32
      6.12.1 Experience and levels .......................................................................... 32
      6.12.2 Badges and tasks .................................................................................. 33
      6.12.3 Achievements ....................................................................................... 33
      6.12.4 Items ...................................................................................................... 34
   6.13 Twitch.tv ....................................................................................................... 34
   6.14 Twitter ............................................................................................................ 35
   6.15 Wikia .............................................................................................................. 35
   6.16 Wikipedia ....................................................................................................... 37
   6.17 Yelp ................................................................................................................. 38
   6.18 YouTube ......................................................................................................... 39
7. Analysis and findings ........................................................................................... 40
   7.1 Social media features as game-like elements ................................................. 40
7.2 Game mechanics and dynamics .......................................................... 41
  7.2.1 Statistics and points ................................................................. 41
  7.2.2 Badges and tasks ...................................................................... 42
  7.2.3 Virtual goods and spaces ........................................................... 43
  7.2.4 Competition, co-operation and challenges .................................... 44
  7.2.5 Progression .............................................................................. 45
7.3 Games in social media ....................................................................... 46
7.4 Usage of gamification in social media .................................................. 47
8. Discussion and implications .................................................................. 50
  8.1 Gamification in social media ............................................................ 50
  8.2 Social media elements as gamification ............................................ 51
  8.3 Gamification as a control mechanism for quality and appeal ............ 52
  8.4 Summary ...................................................................................... 52
9. Conclusions ....................................................................................... 53
References ............................................................................................. 54
1. Introduction

As social media keeps growing and new kinds of services and applications come up, the providers are facing various challenges, for example in engaging users to use their solution instead of migrating over to use the competitor's services. The vast competition requires more efficient means of dealing with user engagement – after all, the users form the core of the business model. Thus, the purpose of this study was to create knowledge about the ways gamification is currently used in social media.

One goal of increasing user engagement is to increase the contributions made by the users. The users in online communities are usually falling into three categories: 90% of the users never produce any content, 9% contribute every now and then, and only 1% of the user base is responsible for the majority of contributions (Nielsen, 2006). According to Nielsen, some sites, such as Wikipedia, have even steeper percentages of contributors, adding up to 0.2% of the whole user base of 32 million unique visitors in U.S. alone.\(^1\)

Gamification has already been used successfully to achieve improvements in a multitude of challenges. Examples include enhancing learning by achievement badges (Hakulinen, Auvinen & Korhonen, 2013), improving employee engagement (Neeli, 2012) and encouraging users to act more securely (Kroeze & Oliver, 2012). In each of these studies, game-like elements were used to make improvements by rewarding users or encouraging certain behavior. However, while social media and gamification have been studied separately and in other contexts quite extensively, little scientific interest has yet been shown towards the combination of these. This thesis discusses the possibilities of gamifying social media services to gain improvements.

The research question of this thesis was two-fold: “what kind of game-like elements, if any, are used in social media services, and how?” The research in this study was of qualitative nature. The research was based on a literature review and content analysis that was conducted on 18 social media services. The purpose of the literature review was to found a basis of knowledge in both what was already known of gamification of social media services and what was the theoretical background of gamification. This theoretical background was used to set topics of interest for the content analysis portion. The main contribution of this thesis was to provide insight about the uses of gamification in social media services. This knowledge could be used as basis for further research about benefits and limitations of gamification in the field of social media, or to further develop gamification methods.

This thesis is structured as follows: Chapters two and three discuss the theoretical backgrounds of social media and gamification, respectively. Chapter four reviews the prior research done about gamification in social media. Chapter five discusses the research methodology used in the empirical research. Chapter six goes through the empirical research. Chapter seven goes through the findings of the study. Chapter eight discusses the relationship between the prior research and the conducted study and the implications. Finally, Chapter nine concludes the thesis.

---

\(^1\) In 2006, Nielsen (2006) stated the values to be 32 million unique visitors per month, with 0.2% of active contributors. The most recent statistics according to Wikipedia statistics page are 117 million visitors in September 2013, with ~0.0002% of active contributors, or about one out of 15,000 users.
2. Social Media

Social media is an umbrella term for a set of web-based applications and services where users create and exchange self-made content (Kaplan & Haenlein, 2010). Kaplan and Haenlein propose that social media can be categorized into six categories based on their level of social presence and self-presentation. The categories in the classification are blogs (e.g. Twitter, Blogger), collaborative projects (e.g. Wikipedia), social networking sites (e.g. Facebook), content communities (e.g. YouTube), virtual social worlds (e.g. Second Life) and virtual game worlds (e.g. World of Warcraft).

Another definition for social media is given by Ahlqvist, Bäck, Halonen and Heinonen (2008). They define social media by three elements: content, communities and Web 2.0. The authors elaborate on these elements that in social media, users create content of various types, users form communities in which the users are generally interested in the same topics, and the development of such services is based on Web 2.0 technologies.

A closely related term to social media, “social network site”, is given by Boyd and Ellison (2007). In their study, Boyd and Ellison define social network sites as web-based services that feature three properties: the users are allowed to create at least partially public profiles, articulate a list of users they share a connection and view and traverse the list of connections as well as those made by other users. Although quite similarly named, the authors note that this definition is not to be confused with “social networking sites”, which are just a type of social media as denoted by Kaplan and Haenlein (2010). Boyd and Ellison (2007) emphasize that “networking” relates to the phenomenon of relationship initiation, and while the authors note that it is possible on many social network sites, it is not usually the primary practice. This is why the authors prefer the use of the term “social network site” instead.

A different perspective to defining social media is given by Kietzmann et al. (2011). The authors propose a so-called “honeycomb of social media” which represents the building blocks of social media. According to their study, the functionality of social media is divided into seven components: identity, conversations, sharing, presence, relationships, reputation and groups. The identity is the amount of information users reveal about themselves. The conversations component denotes the extent of communication between users. Sharing is the amount of content users distribute. Presence is about users knowing whether or not other users are accessible. Relationships denotes how users are or can be related to other users. Reputation is the extent of knowing other users’ standing. Groups represent the communities and sub-communities formed by the users.

Behind the definition of social media given by Kaplan and Haenlein (2010) are two closely related concepts: Web 2.0 and user generated content (Kaplan & Haenlein, 2010). According to Kaplan and Haenlein, Web 2.0 as a term was first used in 2004 to describe the new ways of utilizing web-based technologies where users create and modify content in a collaborative fashion. Examples of Web 2.0, given by Kaplan and Haenlein, include such technologies as Adobe Flash, which enables animation and interactivity, RSS, which is a family of web feed formats, and AJAX, also known as Asynchronous Java Script, which enables asynchronous data transfer without the need of refreshing web pages or interfering with the display of the page.

The second concept related to social media according to Kaplan and Haenlein (2010) is user generated content. Organization for Economic Co-operation and Development
OECD) defines three requirements for user generated content: the content must be published on either a public web site or on a social networking site where a selected group of users can access it, it must show a certain amount of creative effort and it must be created outside of professional practices (OECD, 2007). Kaplan and Haenlein (2010) extend on these requirements, stating that e-mails, replications of existing content and content made with professional purposes are excluded of user generated content.

The notion of social capital provided by social media has been researched as well. Social capital, as summarized by Valenzuela, Park and Kee (2009), is “the resources available to people through their social interactions” (p. 877). Their research on the impact of Facebook on social capital hypothesized that social networking sites would increase social capital. However, the findings resulted that there was very little effect on the creation of social capital (Valenzuela, Park & Kee, 2009).

All in all, while the definitions of social media vary somewhat, there are many elements that are commonly accepted; social media consists of users who produce content, exchange content and form social networks (Kaplan & Haenlein, 2010; Ahlqvist, Bäck, Halonen & Heinonen, 2008; Boyd & Ellison, 2007; Kietzmann, Hermkens, McCarthy & Silvestre, 2011). As already mentioned, the core of social media are the users who form communities, surrounded by content and activities.
3. Gamification

As a phenomenon, gamification has been around for quite a long time. In academic context, gamification has been an important topic of research during the last few years. Recently, gamification has been used in many contexts to achieve various goals. It has been used in education (Huang & Soman, 2013; Hakulinen, Auvinen & Korhonen, 2013; Muntean, 2011), risk management (Bajdor & Dragolea, 2011), solving usability issues (Saha, Manna & Geetha, 2012) and marketing (Tillström, 2012), to name a few.

This chapter discusses the different aspects of gamification, starting with definitions of gamification and closely related concepts, and continuing with a closer look to games, game-like elements and the effects of gamification as found in real-life use cases.

3.1 Definitions

Deterding, Dixon, Khaled and Nacke (2011) define gamification as “the use of game design elements in non-game contexts” (p. 2). In other words, it means that in gamification, game-like elements are used in other systems than games. Other, similar terms that have been used in the same context are, among others, “applied gaming” and “playful design”. (Deterding et al., 2011) Nonetheless, when discussing gamification, it should be noted that it involves the game design elements rather than playful design, which often lacks structure, goals, or both (Groh, 2012). In terms of what the “non-game contexts” are, Deterding et al. (2011) suggest not to limit the definition any further as it does not provide any advantage to make such restrictions.

Another definition from the perspective of service marketing is given by Huotari and Hamari (2011). According to their definition, gamification is seen as a packaging for a service. The core service is enhanced by a rules-based system incorporating feedback and interaction mechanisms. This definition is more restrictive than the one given by Deterding et al. (2011), but bears a lot of resemblance to the various definitions of game and game elements as discussed later in Chapters 3.2 and 3.3.

The goal of gamification is to “support the user's overall value creation by providing gameful experiences” (Hamari & Koivisto, 2013, p. 3). In a sense, gamification bears some resemblance with more traditional marketing tools, such as customer loyalty stamp cards, leading to businesses considering their marketing more and more as games (Hamari & Eranti, 2011).

Gamification may be sometimes confused with serious games, which are games made for non-entertainment purposes (Deterding et al., 2011; Susi, Johannesson & Backlund, 2007). Whereas serious games are full-fledged games, gamified applications only use certain, suitable elements of games (Groh, 2012). Another closely related topic is persuasive technologies, which does overlap with gamification in terms of mechanisms used, although persuasive technologies aim to alter users' attitudes and behavior (Hamari & Koivisto, 2013).

Closely related term to gamification is “games with a purpose”, or GWAP. In GWAPs, users play a game to entertain themselves while simultaneously completing tasks that are either difficult or impossible for computers to do (Von Ahn & Dabbish, 2008). For example, GWAPs can be used to tag subjects in photos (Von Ahn & Dabbish, 2008) or to collect geospatial data using a location-based mobile game (Matyas et al, 2008).
In order to fully understand gamification and what it consists of, we first have to understand the definition of games and game-like elements.

### 3.2 Games

Although games are – and have always been – present in our daily lives, the definition of “game” varies. A commonly used definition is that game is structured play, with rules and goals, as denoted by Caillois (1961). To some extent, this vague description explains what a game is. However, this definition is not enough to define game-like elements in the context of gamification. Like the definition of gamification by Deterding et al. (2011), the definition of game by Caillous (1961) does not define what a “game-like element” is or when a certain expression can be considered as a game.

One of the earliest academic discussions about the definition of game was made by Wittgenstein in his book “Philosophical Investigations” (Wittgenstein, 1953). Wittgenstein approached the definition of game through comparisons between different games and the similarities and differences between them. A more recent definition for games is given by Crawford (2003). Crawford's taxonomy of creative expressions approaches the definition of games by going through various properties that these expressions may or may not have. To be a game, Crawford says that a creative expression must be created for money, be interactive, have goals, have competitors and allow attacks. According to this taxonomy, if a creative expression is made for its own beauty, it is art, not entertainment. Entertainment becomes a plaything when it is interactive – books and movies, for example, are not interactive and thus do not count as playthings. Playthings are considered to be toys if they have no goals, and if goals are present, they become challenges. If a challenge has no competitors, it is a puzzle, otherwise it is a conflict. Last, if a conflict has no possibility for attacks, it is a competition. If attacks are allowed, it is considered to be a game.

### 3.3 Game-like elements

To define game-like elements, Crawford's (2003) taxonomy can be used to say that any given game has elements that reflect its business purposes, is interactive, has goals, has competitors and allows attacks. Yet, the actual elements still remain unknown, and merely the properties of the elements are revealed by analyzing the taxonomy. Many studies have focused on the appeal and enjoyment of games (Malone, 1982; Hunicke, LeBlanc & Zubek, 2004; Sweetser & Wyeth, 2005), which in turn have been used in studies of gamification (Li, Grossman & Fitzmaurice, 2012).

A formalized approach by Avedon (1971) contains ten elements that games are composed of. These elements are (1) purpose of the game; (2) procedure for action; (3) rules governing action; (4) number of required participants; (5) roles of participants; (6) results or pay-off; (7) abilities and skills require for action; (8) interaction patterns; (9) physical setting and environmental requirements; and (10) required equipment. The first three elements are perhaps the most important elements as they define the core of the game. The first element, “purpose of the game”, defines the goals of the game. For example in the game of chess, the purpose is to checkmate one's opponent. The second element, “procedure for action” defines what players can or have to do. The third element, “rules governing action”, defines the limitations for actions.
Malone (1982) proposes a framework for analyzing the appeal of computer systems based on three categories that are challenge, fantasy and curiosity, derived from a study of a game aiming to teach fractions to students. According to Malone (1982), challenge means that there should be a clear goal in the activity and the interface should provide performance feedback of the activity. There should also be an uncertain outcome of reaching the goal. Fantasy means that there should be emotionally appealing fantasies incorporated into the interface and that there should be metaphors of systems the user already is familiar with. Curiosity means that the activity should provide “an optimal level of informational complexity” (p. 65), meaning that there should be audio and visual effects used as decoration, to enhance fantasy and as representation system. There should also be randomness involved to add variety, as well as appropriately placed humor. Finally, the interface should “capitalize on the users' desire to have 'well-formed' knowledge structures” (p. 65), meaning that users should see that their knowledge is incomplete, inconsistent or unparsimonious whenever they come across new information.

Another framework for assessing games is proposed by Hunicke, LeBlanc and Zubek (2004). Their framework, called MDA, is composed of three main components that are mechanics, dynamics and aesthetics. The mechanics component refers to the actions, behaviors and control mechanisms that are available for the player. An example given by the authors is the mechanics in card games, which include shuffling, trick-taking and betting. Dynamics, on the other hand, may emerge from these mechanics. Continuing on the example of card games, the authors state that from the card game mechanics, a game dynamic of bluffing may emerge. Another example is given of shooting games, where mechanics include weapons, ammunition and spawn points, whereas dynamics of camping and sniping may emerge. In its essence, the dynamics component “describes the run-time behavior of the mechanics acting on player inputs and each other’s' outputs over time” (p. 2).

The aesthetics component in the MDA framework (Hunicke, LeBlanc & Zubek, 2004) is composed of all the things that make a game “fun”. The authors provide an inconclusive, directed vocabulary to describe such aesthetics: sensation (“game as sense-pleasure”), fantasy (“game as make-believe”), narrative (“game as drama”), challenge (“game as obstacle course”), fellowship (“game as social framework”), discovery (“game as uncharted territory”), expression (“game as self-discovery”), and submission (“game as pastime”). Some of these overlap with the framework proposed by Malone (1982), for example both frameworks include sensation, fantasy and challenge.

A distinction between game mechanics and game dynamics is made in Bunchball’s paper “Gamification 101” (Bunchball, 2010). In this paper, game mechanics are seen as actions, process and control mechanisms, while game dynamics are seen as compelling desires and motivations. As such, the definition of a game mechanic is similar to the definition by Hunicke et al (2004). However, the definition of game dynamics differ somewhat. Example of game mechanics given in the Bunchball’s (2010) include points, challenges, leaderboards, levels, virtual goods and spaces and gifts and charity. Similarly, examples of game dynamics include rewards, achievement, competition, status, self-expression and altruism.

Sweetser and Wyeth (2005) have come up with criteria for player enjoyment in games. They propose that enjoyable elements in games include concentration (games should require concentration), challenge (match players' skill level), player skills (support skill development and mastery), control (sense of control over actions), clear goals, feedback,
immersion, and social interaction. When compared to the two frameworks by Malone (1982) and Hunicke et al. (2004), many aspects overlap in each of them.

Deterding et al. (2011) discuss the vagueness of the term “element” in the context of gamification. The authors note that neither a liberal approach – any element found in any game – nor a strict approach – elements that are specific to games – would not produce the required definition. Instead, the authors suggest that the term “gamification” should be restricted to “the description of elements that are characteristic to games”, meaning that the game-like elements are found in most games and are already associated with them. A game-like element should also play a significant role in game play.

In addition to game elements, Deterding et al. (2011) have included game design elements in their definition. Game design elements, as the term implies, are design concepts that are commonly found in games. These design elements consist of (1) game interface design patterns; (2) game design patterns and mechanics; (3) game design principles and heuristics; (4) game models; and (5) game design methods.

### 3.3.1 Game design patterns and mechanics

Defining what a game mechanic is has proven to be rather problematic (Sicart, 2008). As such, there has been numerous attempts at defining game mechanics. In some studies, there have been made distinctions between the rules of the games and the actions that players have available (Sicart, 2008). One example of this distinction is made by Avedon (1971) who suggests that game mechanics are formed of “procedures for action,” that is, “specific operations, required courses of action, method of play” (p. 422).

More informal definition of game mechanics is given by Lundgren and Björk (2003) who define them as “any part of the rule system of a game that covers one, and only one, possible kind of interaction that takes place during the game.” Examples of game mechanics given by Lundgren and Björk are trading, bidding, negotiation, story-telling, roll and move and role-playing.

Based on the previous definitions, Sicart (2008) defines a game mechanic as “methods invoked by agents, designed for interaction with the game state” (Introduction, para. 6). Examples of game design patterns and mechanics include the game of Monopoly: “Roll dice, move counter in clockwise direction around board, the number of spaces indicated on dice” (Avedon, 1971, p. 422). Other common mechanics include time constraints, limited resources and turn-based play (Groh, 2012).

Hunicke et al. (2004) define game mechanics as “the particular components of the game, at the level of data representation and algorithms” (p. 2). According to this definition, mechanics are all the actions, behaviors and control mechanisms in the game context that are available to the player.

In her paper, Muntean (2011) lists some of the various game mechanics used in gamification. These mechanics include points, levels, challenges, virtual goods, leaderboards, and gifting and charity. A larger list of examples of game mechanics is listed by Gamification.org (2014). In this list, there are mentioned such mechanics as achievements, appointments, behavioral momentum, blissful productivity, bonuses, cascading information theory, combos, community collaboration, countdown, discovery, epic meaning, free lunch, infinite gameplay, levels, loss aversion, lottery, ownership, points, progression, quests, reward schedules, status, urgent optimism and virality. While
some of these mechanics are not mentioned by other sources, many of them, such as points, achievements, levels and progression are (Muntean, 2011; Avedon, 1971; Groh, 2012).

3.3.2 Badges

A commonly used game element in gamification and one of the most discussed in the prior literature is a badge, also known as an achievement or a trophy (Antin & Churchill, 2011). Antin and Churchill define badges as “digital artifacts that have some visual representation which are awarded to users who complete specific activities,” similar to medals awarded to military heroes or merit badges used by Boy Scouts of America. Montola, Nummenmaa, Lucero, Boberg and Korhonen (2009) define achievements as optional sub-goals that are rewards in a secondary reward system, that is, the achievement system, separate from the primary reward system.

However, contrary to the definition of achievements by Montola et al. (2009), Hamari and Eranti (2011) argue that seeing achievements as optional or secondary can be problematic. They raise a point of a player explicitly trying to complete all the achievements available, thus making the achievements their primary goal. As such, Hamari and Eranti propose that achievements should be viewed as games of their own, not only as secondary reward systems to the core functionality. This view of achievements being a game of their own contradicts the definition of game, casting achievements to be puzzles rather than games, as denoted by Crawford (2003).

According to Antin and Churchill (2011), badges have five primary functions: goal setting, instruction, reputation, affirmation and group identification. Goal setting means that badges challenge users to achieve the goals set up by the badge requirements. Instruction means that badges can instruct users about the activities that are available in the system. Reputation means that badges may be used to assess users' reputation, for example expertise. Affirmation means that badges work as status symbols and provide personal affirmation by showing users' past achievements. Finally, group identification means that badges “communicate a set of shared activities that bind a group of users together” (p. 3).

Typically, achievements fall into several categories (Montola et al., 2009). These categories include tutorial achievements awarded for trying out the features of the game, completion achievements awarded for completing tasks, collection achievements awarded for obtaining items, virtuosity achievements awarded for exceeding exceptionally (e.g. not dying at all), hard mode achievements awarded for succeeding on high difficulty, special play style achievements awarded for playing the game in a certain way (e.g. against a timer), veteran achievements awarded for playing the game for prolonged amount of time, loyalty achievements awarded to players being loyal to the game and the community (e.g. subscribing for a prolonged period of time), curiosity achievements awarded for doing something abnormal (e.g. jumping from great distance without dying), luck achievements awarded for acquiring something rare (e.g. rare items), mini-game achievements awarded for succeeding in mini-games, multi-player achievements awarded for excelling in multi-player game modes, paragon achievements awarded to a few top players for accomplishing something extremely difficult or rare (e.g. being the first player in the world to complete a task), and “fandom” achievements awarded to players who perform fan activities (e.g. participate in game conventions or purchase collector's editions).
Motivation to acquire badges stems from multiple aspects. They can work as symbols for social status among players (Montola et al., 2009; Antin & Churchill, 2011), invoke “completionism”, that is, drive players to complete as much of the game as possible (Montola et al., 2009; Antin & Churchill, 2011), and they can also extend the play time by providing new ways of playing the game (Montola et al., 2009). Usually achievements are merely trophies in a sense that they do not provide new functionality, although some games do incorporate such achievements, providing more motivation to the players (Montola et al., 2009).

Based on the findings by Montola et al. (2009), achievement systems do require certain properties to function well with the players. For example, when player completes an achievement, they should be notified immediately and explicitly to reward the player, to remind the player of the existence of the achievements and to “arouse their curiosity towards achievements” (p. 4).

3.4 Effects of gamification

To support the research papers claiming the effects of gamification in various contexts, there are many reported results of real-world applications of gamification. Microsoft has applied gamification to increase both internal productivity and the productivity of end users (Jacobs, 2011). One of these projects was “Communicate Hope”, which was used to gather feedback from Lync users about usability and product design, as well as to submit bug reports. The scoreboard was linked to a variety of charities, and as the users submitted feedback and bug reports, Microsoft donated more money to the charities based on the scoreboard results. As a result, the users who opted to play the game submitted sixteen times more feedback than those users who did not play. Tens of thousands of dollars were donated to charities as well (“Facts & Figures,” 2013). Microsoft has also created two games, Ribbon Hero 1 and 2, to improve the productivity of end users. These games aim to improve the skills and practices of Microsoft Office users (Jacobs, 2011).

Research team at Autodesk has applied gamification to teach the usage of AutoCAD to first-time users (Li, Grossman & Fitzmaurice, 2012). Named “GamiCAD”, the project was built into AutoCAD software as an interactive tutorial system. The researchers behind GamiCAD argue that in the case of software applications containing hundreds or thousands of features, new users may gain little to no help from the software documentation. To overcome this problem, they incorporated GamiCAD into the AutoCAD software, with gaming elements of fantasy, clear goals, feedback and guidance, progressive disclosure, time pressure, rewards and stimuli. In GamiCAD, the user is given “missions”, or tasks, to complete. These missions are related to designing components of a spacecraft for NASA, giving a game-like context for the actions. Each mission consists of multiple levels, and after completing a level, the system displays a feedback screen of the performance.

University of Hawaii has engaged sustainability and energy conservation by reaching to change dorm residents' behavior via gamification (Brewer et al, 2011). In their study, Brewer et al. set up a competition to conserve energy. They used such game design elements as rounds, levels and prizes to encourage participation. The goals were to increase knowledge about sustainability issues, gain insight of one's behavior and how to change them, build community and create commitments. The evidence of the effectiveness of the gamification include increased energy knowledge, changes in energy behaviors, short-term energy reductions, and educational contributions (Kukui Cup, 2014).
4. Gamification in social media

The effects of gamification in the context of social media has been researched as well. Bista, Nepal, Colineau and Paris (2012) defined a model of gamification of online communities and proceeded to implement a gamified online service for welfare recipients transitioning back to work. Although the study is not about gamifying an actual social media service but an online community, it provides relevant information about how gamification is or could be conducted in such context.

According to Bista et al (2012), despite the differences between commercial portals and social communities, “engaging visitors still remains at the heart of their success” (p. 611). As such, the benefits of gamification could be harnessed to improve the user engagement in social media as well. The problems in establishing a new online community has three challenges according to Bista et al (2012) that can be engaged with gamification: bootstrapping, monitoring, and sustainability. Bootstrapping refers to the process of gathering initial members to the community and keeping them engaged during the initial phase. Monitoring refers to the process of observing the usage of the service. Finally, sustainability refers to the problem of sustaining the user engagement after the initial phase.

According to Antin and Churchill (2011), badges are commonly used in social media to engage and motivate users. For example, Wikipedia has incorporated “Barnstars”, which are badges used by users to award others for doing valued work. Other examples given by Antin and Churchill are StackOverflow and Foursquare.

Hamari and Koivisto (2013) propose that a community that shares similar goals and interests is essential in the context of gamification. According to Hamari and Koivisto, the network of users “creates chances for meaningful interaction”, “allows reciprocal activity” and “increases perceived benefits from the service” (p. 8). Furthermore, the authors propose that for creating engaging gamified services, social elements are essential, thus social media services and gamification support each other. However, Hamari and Koivisto note that the user's attitude towards a gamified service strongly determines whether or not the user will continue using the service, as well as the intentions to recommend the service to others.

Some social media services make use of the real-life contexts surrounding the services. For example, when a Foursquare user does a check-in in five different Starbucks cafes, they get a free beverage (Hamari & Eranti, 2011). Such feature is called an “out-game” component, referring to the fact that the reward is external to the game or the system itself.

MediaWiki, the open source project powering Wikipedia, Wiktionary and many other web sites, has incorporated a gamified user appreciation system to encourage users to improve content. This feature, called “WikiLove”, incorporates a heart symbol in the user profile page. By clicking this symbol, users can send various appreciative messages to others. The reason for the implementation of the WikiLove feature stems from Wikipedia editor survey from 2011, in which “being looked down on by more experienced editors” was the most likely reason for users to do fewer edits, whereas “having others compliment you on your edits/articles” was the most likely reason for users to edit more frequently. (MediaWiki, 2014)
Although not limited only to social media, CAPTCHA has been adopted by many web-based services (Yan & El Ahmad, 2008). CAPTCHAs are small tasks that are relatively easy for humans to complete while being difficult for computers to solve (Von Ahn, Blum, Hopper & Langford, 2003). CAPTCHAs typically involve a text recognition task where the user has to write down text from an image with introduced clutter, making the text more difficult to read and thus making computer-based text recognition more complicated (Yan & El Ahmad, 2008; Mori & Malik, 2003). CAPTCHAs are commonly used as means of security in authentication to tell a human user from a computer bot, or to deny automatic account creation (Yan & El Ahmad, 2008). Despite the wide usage of CAPTCHAs, various methods for de-cluttering and ultimately breaching them have been introduced (e.g. Yan & El Ahmad, 2008; Mori & Malik, 2003).

According to Bunchball (2010), gamification is at its core all about statistics. They argue that gathering statistics and its derivatives creates a continuous and extended drive for participation. Closely related, Bista et al. (2012) give examples of number of views in YouTube, Facebook likes and FourSquare check-ins as statistics related to status, achievement, competition and reward, all game dynamics listed by Bunchball (2010). As such, many social media features like the aforementioned view counts and likes can be thought of as game dynamics.
5. Research method

The research method chosen for this thesis was content analysis, with some alterations that are discussed later on. Content analysis is commonly defined as analysis of communication, whether the communication is textual, verbal or of any other form. For example, Weber (1990) defines content analysis as “a research method that uses a set of procedures to make valid inferences from text” (p. 9). A somewhat broader definition is given by Krippendorff (1989); according to him, the formal definition of content analysis is that it is “a research technique for making replicable and valid inferences from data to their context” (p. 403).

5.1 Content analysis

Although there exists a vast selection of definitions for content analysis, commonly agreed-upon requirements for the analysis are objectivity, system and generality (Holsti, 1969). Objectivity means that given the same data, other analysts should produce similar results. System means that the selection of the data should be conducted systematically to eliminate bias. Generality means that the findings must have theoretical relevance, either by itself or when compared to other data.

According to Holsti (1969), the analysis must also be quantitative and limited to the analysis of manifest content, although as already mentioned, content analysis is suitable for qualitative studies as well (e.g. Forman & Damschroder, 2008).

While the definitions like the one given by Weber (1990) are broad enough in the more traditional sense of conducting content analysis, the source data is limited to textual communication only. In the case of analyzing social media services, it is not sufficient enough to focus only on the textual content. Instead, the analysis has to cover the elements and properties of the service. For this purpose, the definition of content analysis given by Krippendorff (1989) is far more suitable. Although many sources define content analysis primarily as an analysis method for text, Marsh and White (2006) argue that content analysis can be used to analyze any data as long as the data provide useful evidence for answering research questions.

In addition, Krippendorff (1989) defined the process of content analysis by six steps: design (definition of context, what the analysts wish to know), unitizing (defining and identifying units of analysis), sampling (selection of samples), coding (description or classification of the recording units), drawing inferences (application of knowledge to the phenomena) and validation.

When content analysis is used in qualitative research, the data categories are derived at least partially from the data itself (Forman & Damschroder, 2008). This kind of content analysis is known as directed approach to content analysis, as opposed to conventional content analysis in which the categories are created of the data itself (Hsieh & Shannon, 2011). A third approach to content analysis, proposed by Hsieh and Shannon (2011) is known as a summative approach which involves counting and comparison of keywords or content. However, the summative approach is not suitable in this context as the aim is not to quantify or measure properties.

Although not a qualitative study, Semetko and Valkenburg (2000) used content analysis to assess the news frames used in print and television news about politics. In this study,
the researchers coded and categorized 4,123 news stories using a series of 20 questions with binary yes-or-no answers. Their study shows a more traditional approach to content analysis, with a combination of written text and spoken news stories.

A study with more similarities with this thesis was conducted by Wang and Gao (2004). In their study, Wang and Gao used qualitative content analysis to analyze academic libraries' web sites for technical service pages. The study consisted of 60 libraries that were randomly chosen from the list of Association of Research Libraries (ARL) member libraries. These 60 libraries were categorized into three categories based on whether they were research universities, non-research universities or four-year colleges. Although the data collection and analysis was mainly quantitative, their study shows that content analysis can be used to examine and analyze web sites as well.

Another study that used content analysis on web sites was conducted by Haas and Grams (1998). The study analyzed web pages and links contained in them in order to construct a classification of both. In their study, Haas and Grams divided the analysis into three phases, where the first phase was used to create a preliminary classification, while the second and the third phases refined both the classification and the procedures of the data collection.

As per the definition by Krippendorff (1989), content analysis is a suitable approach when analyzing gamified social media services. For the purposes of this thesis, the "communication", or the target of content analysis, was interpreted as the parts of social media services that are visible and available to users, and the purpose of the analysis was to find both implicit and explicit game-like elements that were included in these services. The data categorization was done based on the literature review while not restricting the possibility of new categories emerging during the analysis, mixing conventional and directed approaches as discussed by Hsieh and Shannon (2005).

### 5.2 Application of the research method

The content analysis conducted in this research was broken into multiple phases. The first phase was the selection and categorization of the subjects, that is, the social media sites that were scrutinized. The second phase was to make a broad overview of all the sites, writing down extensive notes while going through the basic procedures of using the web sites, for example creating a new user account, filling out the profile information and participating in the activities offered by the service. The third phase was to study each site in more detail, one by one, following the notes made in the previous phase and writing down descriptions of the sites and the methods of gamification used. The fourth phase was to summarize the findings of all the subjects and draw conclusions of the usage of game elements that were found in the second and third phases. This last phase also included the creation of a social media gamification matrix where each subject was lined up against each game element found.

When a site was scrutinized, all the available features were tested, as long as they were free to use. The features that required payments were analyzed using secondary data if possible, such as the about pages of the sites.

The selection and categorization of the subjects was the first phase of the content analysis. As per the taxonomy of social media by Kaplan and Haenlein (2010), the subjects of the subjects were categorized into four categories, excluding virtual social worlds and virtual
game worlds. These categories are blogs and microblogs, collaborative projects, social networking sites and content communities.

The subjects in the blog and microblog category are Twitter and Blogger. Of these two, Twitter represents a micro-blog where users create small, status update-like posts. Blogger represents a more traditional blogging platform.

The subjects in the collaborative projects category are Wikipedia and Wikia. Wikipedia was chosen for its popularity and size, whereas Wikia was chosen for its generic nature, allowing users to create subject-specific wikis for example for certain games, TV series and such.

Facebook, Google+, Fitocracy, HeiaHeia, LinkedIn and Steam were chosen to represent the social networking sites category. The first two, Facebook and Google+, represent the more traditional social networking sites, whereas Fitocracy and HeiaHeia are fitness-centered networking sites. LinkedIn is a social networking site for professionals of different fields. From the perspective of the social media categorization, Steam is a cross-over of a marketing and sales platform, social networking platform and a content community.

Finally, the subjects for the content communities category are YouTube, Flickr, Instagram, Pinterest, Reddit, Yelp, StackOverflow and Twitch.tv. These five sites represent a wide variety of different content communities, ranging from on-demand videos of YouTube to live streamed videos of Twitch.tv and from photo sharing of Flickr and Instagram to bookmarks of Pinterest. StackOverflow represents the questions-and-answers communities. Yelp is a community focused on reviewing shops and services. Finally, Reddit represents a generic platform where users share a wide variety of content and can create sub-communities for more specific topics.
6. The sites

The sites that were scrutinized in this portion were selected to represent the categories of social media as proposed by Kaplan and Haenlein (2010), excluding the virtual social worlds and virtual game worlds. Each category is represented by at least two services.

On the first look, many of the services included in the analysis did not seem to employ any game-like elements, while some services had explicitly advertised themselves as gamified services. In the Chapters 6.1 through 6.18, the analyzed sites are described from both general and gamification viewpoints.

6.1 Blogger

Blogger is a blogging platform owned by Google. It offers users the possibility to create blogs either alone or with other users. Blogs hosted in Blogger are readable by anyone without registration. Once registered, users can post comments on blog posts and author either their own blogs or other users’ blogs they have publishing rights to.

For blog writers, Blogger offers extensive statistics features. The overview page shows the view counts for the selected blog for the last week as a graph. Next to this graph are comments waiting for approval, published comments, page views for current day, the number of blog posts written, and the amount of subscribers. By clicking any of the aforementioned numbers, the user can view more specific statistics of the selected subject.

The posts page shows all the blog posts in the selected blog. This list includes all posts whether or not they are published, invisible or drafts. The writer of the post, the date of the post and the number of comments, views and Google+ “+1”s is shown about each post.

The statistics page lists the most popular blog posts for the current day, as well as sources of the traffic. For instance, if a blog post is shared in Facebook and gets popular, Facebook will be shown among the URL addresses. The most commonly used keywords that have used to find the blog posts are also listed. The last page in the statistics portion is a breakdown of the readers of the blog. A map of the world is shown which shows the most popular countries in dark green and the least popular countries in light green, with varying shades of green in-between. The countries are shown as a list as well, the highest ranking country first. The most popular web browsers and operating systems used to view the blog are listed as well, with a pie chart depicting the relative popularity.

When reading a blog post, the view is rather simple: at the top there is the title of the post, followed by the actual content. At the bottom of the post is the information pane containing the writer of the post, the time of the post, the number of comments made on the post and social sharing features to share the post via e-mail, Blogger, Twitter, Facebook or Pinterest. Below is the comment form used to make comments on the blog post. The comments cannot be rated or shared, but they can be commented to, resulting in chains of comments.

Besides the extensive statistics system and amount of shares, views and comments, Blogger does not seem to employ any explicit gamification in its services.
6.2 Facebook

Founded in 2004, Facebook has grown to be the biggest social networking site of all with 1.23 billion active users in December, 2013 (Facebook, 2014). The core functionality of Facebook consists of user profiles, which can be connected to each other by becoming friends with other users. Users can also create groups that can be either invite-only or open to everyone. The number of friends a user has is shown on their profile, if the user chooses to show the number. The number of friends can also be hidden or set to be visible to only the friends of the user.

The main activities of users of Facebook consist of profile updates, commenting, sharing photos and web links and “liking” other users’ activities. When a user “likes” an activity, other users can see it. Every activity has a “like” counter which shows the number of likes the activity has received, as well as a list of users who have “liked” the said activity. Users can also like items that are not necessarily posted on Facebook, if the website containing the item has incorporated a “like” button. Facebook also incorporates a chat where users can discuss with their friends, whether or not all participants are online at the same time.

In the user’s own profile page is a “quiz” panel, which is intended to collect more information about the user. This panel incorporates a question, for example “What is your favorite sports team?” with multiple choices to choose from. The user can also write their own answer underneath. The answer can then be either published or passed. A similar method of information collection is used throughout the personal profile pages.

When creating a new user profile in Facebook, the profile creation is divided into three phases. The first phase asks the user to input their e-mail addresses in order to find users who might already know the user currently registering. The second phase asks the user to input information about their education and current city. The third phase asks the user to either upload a picture of him- or herself or to take a picture via a web camera. Each of these three phases can be skipped at will.

All in all, Facebook incorporates very little gamification. The most notable is the quiz-like information gathering system used across the profile pages. Likes and the number of friends can also be thought of as a scoring system.

6.3 Fitocracy

Fitocracy is a social networking site focused around fitness, weight loss and exercising activities. Fitocracy features a web site suited for both desktop and mobile devices, as well as a mobile application to provide access to the core functionality of the server. Launched in 2011, Fitocracy had accumulated over one million active users in March 2013 (Crook, 2013).

In Fitocracy, users can post their exercise sessions on the site, and each part of the workout is scored based on the length and intensity of the exercise. These points are accumulated towards total points, which in turn grant levels. Users can therefore advance to next levels by completing workouts.

Gamification plays a great part in Fitocracy. As already mentioned, users are encouraged to exercise in order to gain points, which in turn grant new levels. Each level requires more points than the last one, further encouraging users to do lengthier ore more intense
training sessions. In addition, Fitocracy employs an achievement system, where users can achieve badges by completing certain criteria.

6.3.1 Profiles and community

In Fitocracy, the user profile is gamified as well. When a new user account is created, only the most important information such as user name, e-mail address and password are gathered. After the account is created, a progress bar is shown in the top of the site to indicate how “complete” the user's profile is, information-wise. This progress bar encourages users to fill out as many fields in their profiles as possible. The completion of the user profile is rewarded by an achievement badge.

Like Facebook's “like” feature, Fitocracy offers the possibility to “give props” to other users' activities. Giving props functions just like Facebook's likes: when a user creates a post or completes a workout, the activity shows up in the news feed of their followers. Followers can then click the “Prop” button to give props to the activity. Similarly, comments can be given props to as well. Each activity shows the total amount of props given to it since it was posted.

Fitocracy Hero is Fitocracy's premium user system. Each user can become a Fitocracy Hero by subscribing to recurring payments. By becoming a Fitocracy Hero, the user receives new features, such as weekly insights, private messaging and an exclusive badge, as well as the possibility to challenge other users to duels, to claim special titles that show up under the user's profile name, save other users' workouts, unlimited exercise routines and early access to new features.

Fitocracy has also incorporated a reward system. Existing users can invite their friends to use Fitocracy, and if they do create new accounts, the inviter receives rewards. The reward for inviting new users is free subscription time to the Fitocracy Hero system, one month for every ten users that sign up.

As already mentioned, some features are only available to users who have subscribed to a premium user account called Fitocracy Hero. One of these features is the possibility to challenge other users to a duel. When challenging other users, the participants set up a competition, for example “who can do the heaviest barbell bench press”. The workouts done after the duel has started count towards this challenge, and after the deadline of the duel is reached, the winner is chosen based on the performance during the duel. When dueling, a special duel page shows the progress of both duelers, with a progress bar that shows the overall progress of both duelers, highlighting the one who is currently winning.

Another feature exclusive to Fitocracy Hero subscribers is titles. When the user accomplishes certain milestones, they receive titles that can be shown in their profile views. Similarly to achievement badges, these titles merit the performance of the user.

6.3.2 Points and levels

In Fitocracy, users gain points by completing workouts. Each workout can be thought of as an exercise session, comprising of one or more exercises with one or more sets. For example, when user does crunches, they may do 15 crunches in the first set, 20 in the second, and 10 in the last one, thus completing three sets of the single exercise. Each of these sets, with the repetition amounts, are entered to the workout sheet. When the
workout is complete, user can submit the workout and get points based on the performance.

When user ends the workout, a breakdown of the scores acquired is shown. Each exercise is broke down into sets, and points for each set completed is shown. After the score breakdown is closed, the user may receive a level up, depending if the point requirement for the current level was reached.

When a new user account is created, the user starts from the first level. As the user submits workouts and participates in other activities, they receive points and advance to next levels. Each level requires more points than the last one, making it more difficult to advance each level.

Fitocracy incorporates a leaderboard system which enlists all the users in the community. The users are ordered by their total amount of points, from the highest to the lowest. The leaderboards can be filtered based on time frames or to show only people who the user is following. Genders can also be excluded to show only male or female users, or both.

6.3.3 Achievements

In Fitocracy, achievements are rewards given for participating in various activities. Each achievement is locked at first, showing a gray graphic, the name of the achievement and a description of the requirements to unlock the achievement. When an achievement is unlocked, the gray graphic is replaced by a colored, more detailed graphic and the date of completion is added next to the achievement to indicate when the user completed said achievement.

The achievements are categorized into five categories that are strength, running, swimming, cycling and community. In the context of the analysis, however, the strength, running, swimming and cycling achievements are merged into a single category called exercise-related achievements. The community achievements are awarded for participating in the social activities, such as posting comments, completing the user profile, receiving props and becoming a Fitocracy Hero. Both posting comments and receiving props include multiple achievements that are awarded for different amounts of comments or props. An achievement is awarded for 10, 50, 100, 500 and 1000 comments or props.

The exercise-related achievements are awarded for completing exercise-related tasks. Similarly to the community-related achievements, there exists multiple variations of the same achievement with different amounts of repetitions, weights or distances. The achievements are awarded for doing certain amount of pull-ups in a single set (5, 15 and 30 repetitions), doing dumbbell bench presses with a certain percent of bodyweight (38, 55 and 77 percent), and running a certain amount of miles in total (20, 200 and 1000 miles), to name a few.

Once an achievement is unlocked, it is automatically shown in the user’s activity feed. Like other entries in the feed, these unlock notices can also be propped, commented and shared. The dashboard showing the amount of earned achievements is also updated to reflect the total amount of unlocked achievements.
6.3.4 Challenges

The groups in Fitocracy can create challenges that are only available to the group members. Challenges are timed events, lasting for a certain amount of time, and involve an exercise task to be completed. The challenges are not mandatory to participate; each group member can select whether or not to join the challenge.

When a challenge is created, any member of the group can participate in it. The challenge may not start immediately when it is created; for example, a challenge can be created a week before it begins to offer a fair chance for everyone to notice the challenge and plan accordingly. The time until the next challenge is shown on the group’s front page. During the challenge, a leaderboard is shown that lists all the participants in order of their performance.

When creating a challenge, the type of the challenge has to be selected from a list of nineteen pre-defined activities. Each type of challenge includes different activities for the members of the group to take on, and only those activities count toward the challenge. The challenge types include “Free For All”, which is about achieving the most points in the given time, no matter which activity or exercise the points are acquire from, “Most Cycling Distance”, where participants are challenged to cycle and the winner is the one who has cycled the most, and “Most Push-ups”, where the participants have to do push-ups as much as they can.

6.3.5 Quests

The quests require the users to complete certain exercise-related tasks. Unlike challenges, quests are available to all users whether or not they are members in groups. When a quest is completed, the user is rewarded for a certain amount of points.

There are always several quests available to the user. For new users, the quests are easier and faster to complete, as they do not require much exercise. These beginner quests include such tasks as “Do 10 activities a week” or “Walk up 5 flights of stairs”. However, as the user progresses, the quests become more and more difficult and require a lot more effort and prolonged periods of time to obtain. These quests include “Run a mile in under 5 minutes” and “Do an Olympic distance triathlon”, in which the user has to swim one mile, run for 6,2 miles and bike for 24,8 miles.

When a quest is completed, the amount of points provided by the quest is added to the user’s point count. The quest is also moved to the completed quests list and cannot be completed again. As with other features, quests show up in the activity feed.

6.4 Flickr

Flickr is a web site dedicated for sharing images and videos, owned by Yahoo. The core features include uploading images, creating photo sets, and sharing and commenting pictures.

The social features of Flickr resemble much the features of Facebook. The users can form friend connections with others, and comment on other users’ pictures. Comments can also be commented. Users can also create groups, which are subcommunities that are either
public or private. Public groups may also be invite-only groups, where only the members are allowed to publish pictures while all users are allowed to view them.

When viewing a picture, the number of users who have favorited the picture is shown below the picture. Underneath the picture panel is the comments section in which the users may post comments about the picture. The number of comments posted is also shown below the picture. A small panel is shown next to the comments section, showing a summary of the user who has uploaded the picture.

Flickr features a “Flickr badge” that does not resemble badges as they are commonly defined in the context of gamification. Instead, Flickr badges are merely image links that the user can use on other web sites to create links to their Flickr profile. Badges are therefore not awarded to users for their activities.

All in all, it seems that Flickr does not employ much of gamification. Flickr incorporates only social media elements that are related to gamification.

6.5 Google+

Google+ is a social networking site and online identity service developed by Google, Inc, launched in 2011. In addition to the common social networking elements of the users’ profiles, the users can form circles where people with similar contexts or interests share content that is only visible to those who are members of the circle.

Like Facebook's feed, Google+ features a stream of updates aggregated from the circles they are part of. It also features recommendations system called “+1” similar to Facebook's “like”. As with Facebook, users can “+1” other users' activities or Google+-enabled items around the Internet. Activities can be commented, and the comments can be given “+1” to as well. Every post can also be shared, which posts the exact same post to the user’s own profile page, with an optional comment added. Google+ also offers Hangouts, a video conferencing call system for up to ten concurrent participants.

When logging in as a new user, Google+ suggests the user to add people the user may know as friends. These other users are derived from the interests, education and other information the user has input into their profile. After the friend recommendation page, Google+ asks if the user wants to follow celebrities, YouTube channels or companies. If the user uses the same account than they do in YouTube, the recommended channels to follow are partially derived from the YouTube profile.

When a new user account is created, a small progress bar panel is shown that represents the percentage of completion of the profile. This progress bar also incorporates tasks to complete which improve the completion percentage. These tasks include such activities as “add a profile picture” and “set your birthday”.

Similar to Twitter, Google+ allows users to include hashtags in their posts and comments. A hashtag is a single word that begins with a hash symbol (“#”). These hashtags are used to create ad-hoc categories of posts. Clicking on a hashtag open a page containing public posts that incorporate the selected hashtag, as well as a list of related hashtags. For example, if the user clicks on a hashtag “#art”, they will be forwarded to a page where every post has incorporated the “#art” hashtag, as well as a list of similar hashtags such as “#painting”, “#artwork” and “#photograph”.

In conclusion, Google+ implements only a few game elements. The most notable element is the progress bar and tasks to increase the information on the user’s profile page. In addition, a resemblance to scoring system can be found in the number of “+1” recommendations and numbers of circles and friends.

6.6 HeiaHeia

HeiaHeia is a social networking site targeted towards people and communities who strive to increase their amount of exercising. Users of HeiaHeia can submit exercise sessions or use a mobile phone application to track their movement. The service creates a summary of the exercises and encourages users to meet their activity targets.

After creating a user account, all the features of the service are available. HeiaHeia incorporates all the basic social media features including connections to other users, activity feeds and subcommunities, as well as “cheers” which resemble Facebook’s “like” feature. Activities can be commented and discussed as well. All the activities can be shared to Facebook and Twitter as well using cross-site sharing features.

When a user wants to submit a workout, they select the exercise from a predefined list. The exercises supported by HeiaHeia are numerous, including over 350 activities and sports. These include walking, weight exercising, horse riding and many others, categorized based on the type of training or movement involved. Exercises can be done freely, or a predefined training program can be used. When using a training program, HeiaHeia asks the user for basic information and level of activity, using the information to provide a suitable training program. If a training program is used, the upcoming activities are shown in a timeline. Each activity in the timeline is depicted with a small icon with a summary of the length and type of the training involved.

Users of HeiaHeia are encouraged to set a weekly target of activities. The weekly training target can be set in various units, for example in hours, number of exercises, kilometers or steps. After the target is set, a progress graphic is shown, depicting the progress towards the current target. Statistics of the exercises done so far are also shown. The statistics can be shown on per-week, per-month and per-year basis.

In the right panel of the site, a list of top sports in the current year are shown. These are exercises submitted by the user that are featured the most during the current year. Underneath the top sports list is a list of connected users and the amount of their workouts during the current week, ordered by the amount of exercising done. The current user is also included in the list. HeiaHeia also incorporates an extensive statistics feature. In the statistics page, a breakdown of the exercises is shown with bar graphs. A summary of sports is shown for a selected time period. A graph depicting changes in the user’s weight is also shown if the user has submitted their weight.

An achievements system is incorporated in HeiaHeia as well. The achievements are called “medals” and are awarded for reaching milestones in exercising. The exact requirements and medals are not listed, however; the medals are awarded only when the hidden requirements are met. As such, the types of achievements cannot be listed or analyzed here.

In conclusion, HeiaHeia has incorporated numerous game elements. The most visible one is the progress graphic in the top portion of the site, being visible at all times.
Leaderboards of the activities and the users are also used. The timeline of upcoming activities can be thought of as tasks or quests the user has to participate in.

6.7 Instagram

Instagram is a service aimed towards sharing pictures and short video clips to others. Founded in 2010 and acquired by Facebook in 2012, Instagram relies heavily on its mobile client applications, enabling fast and easy method of uploading photos.

As the service is heavily based on mobile applications, the browser-based portion of the service does not offer any functionality for uploading or managing content. The use of the service is impossible without a mobile device since the creation of the user account requires a mobile device; the account creation functionality is not available through other means. However, pictures can be browsed, liked and commented in the browser version. The user profile can also be modified via the browser version.

Similarly to many other social media services, content uploaded by other users can be liked, commented and shared to other services such as Facebook and Twitter. When uploading a picture, a filter can be applied to make the picture appear in different style. The filters include effects such as grayscale, “old-timey” coloring and various others. The picture can also be cropped and scaled during the upload process. The picture to be uploaded can be selected from the pictures stored on the device, or a new picture can be taken directly using the camera on the device.

Instagram features little to no game elements. The closest resemblance to games are the number of posts, followers and users following, as well as the amount of likes received by the content.

6.8 LinkedIn

LinkedIn is a social networking site specifically aimed towards professional networking. In LinkedIn, users form professional connections to both other professionals as well as companies. The core functionality of LinkedIn is about maintaining one’s own professional profile. In this profile, users can provide information about their education, work experience, hobbies and other activities.

When viewing one’s own profile, a “profile strength” meter is shown in the right panel to indicate the completeness of the profile. The meter is meant to encourage users to fill out more information about themselves. As users input missing information, the meter fills up accordingly.

The user connections in LinkedIn are categorized into “degrees” based on their relative closeness to the user. The first degree connections are other users the current user has invited to their network. The second degree connections are other users that the first degree users know of. The third degree connections are other users known by the second degree connections.

A unique feature of LinkedIn is the possibility to endorse other users. Users can list the skills they have on their profile page. The first degree connections can then endorse users for their skills. The skills that are endorsed by other users the most are shown in order in
LinkedIn features a premium subscription system as well. With multiple subscription plans, users can choose the premium features they wish to have. When seeking a job, users can subscribe to “job seeker” plan. When this plan is used, the users receive a badge to show their premium user status. Other subscription plans do not offer such a feature.

All in all, LinkedIn features very little gamification. In the user profile, a progress bar is used to collect more information about the user. A single badge system is used to denote job seekers with a premium subscription plan.

6.9 Pinterest

Pinterest is a content sharing platform, founded in 2010. In Pinterest, users create “boards” and “pins” that resemble real-life notification boards and notes pinned on it. The pins can be links, pictures, videos, or any other form of content.

Users can create boards that are used to collect similarly-themed pins into one place. The boards can be public, allowing other users to view their content, or private, allowing only invited users to view their content. A board can also be created as map-based, allowing location-based functionality such as pinning pictures to the locations where they were taken.

Pinterest’s social features resemble those of other popular social media services. Users can follow other users, receiving updates of their activities. Other users’ activities, such as posting pins, can be commented and discussed. The pins can also be “liked” the same way as in Facebook, for example. When user clicks on a small heart symbol next to a pin, it becomes “liked” and shows up in the user’s profile as a liked pin. The creator of the original pin also receives a notification that someone else has liked their pin.

All in all, Pinterest does not seem to employ any explicit game-like elements. The feature set of Pinterest is rather minimalistic, leaving very little room to gamification as such. The closest resemblance to games are the numbers of boards, pins, likes, followers and users following. Small, game-like tutorial pop-ups are used throughout the site when the features are used for the first time.

6.10 Reddit

Reddit, commonly stylized as ‘Reddit’, is a social bookmarking and entertainment site with over 112 million monthly unique visitors. Founded in 2005, Reddit serves as a platform to share links and content, as well as written text posts among other users, often called “Redditors”, a portmanteau of the words “Reddit” and “editor”.

Reddit is divided into user-created and maintained, theme or topic centered subcommunities called “subreddits”. For example, there exists subreddits for sharing funny pictures, to discuss movies, or for organizing charities, to name a few. Each user can create their own subreddits or administrate subreddits made by other users. Users can subscribe to the subreddits they want to follow. The front page of Reddit aggregates all the subreddits the user follows and shows the most popular posts from each of them.
Reddit incorporates a ranking system of posts and comments called “karma”. Users can give a positive or negative point of karma to any post or comment they have not yet ranked. These karma points accumulate and show the total amount of points the post in question has gained. Karma points are used to rank posts and to order them on the front page, as well as to hide posts and comments that have received a lot of negative points. Each subreddit may opt to hide the amount of karma points given to posts and comments for a certain period of time after they are posted.

The karma points awarded to posts and comments are cumulated towards users’ total karma points. Each user has two separate points, link karma and comment karma, which are adjusted based on the popularity of the content the user has posted. The link karma shows the total karma points the user has gathered by posting links to other sites, whereas the comment karma shows the total amount of points the user received from their comments.

In addition to the karma point system, users can also “gild” themselves, other users or comments. Giving gold to a comment makes the comment show up with a gold medal icon next to it, increasing its visibility. A single comment can be gilded multiple times; the number of gold given to the comment is shown next to the gold medal icon, given that the comment has received at least one gold. The user who has posted the comment receiving gold also gets access to features not available to standard users. Each gold given equals one month of subscription to these premium features.

The premium features granted by the premium membership system are comment highlighting, persistence among multiple computers and devices, notifications when the user handle is mentioned, the possibility to filter posts, the ability to show more posts and comments at once, the possibility to save comments and the ability to turn off ads, among others. The premium users are also able to join the “lounge”, a private subreddit reserved only for the premium users.

As the gold system is one of the few sources of income for Reddit, users are encouraged to buy gold by multiple means. Each comment has a “give gold” link located underneath the comment text. The front page incorporates a “daily Reddit gold goal” panel, which shows a progress bar and a percentage of the target amount the site tries to achieve each day. As users purchase gold, the progress bar updates to show the current status.

Badges are also used in Reddit. Called “awards” and “trophies”, badges are awarded to users for certain activities. When a user receives a badge, it appears in an award panel under the user’s profile page. Of the two badge categories, awards are more common and are achievable by standard users. These awards include submitting highly rated comments and posts, verifying the e-mail address and being an active user for a prolonged period of time.

The trophies are similar to awards in the way they show up in the user’s profile. The difference is, however, that trophies are awarded for special activities that most of the time relate to the development of the service. These trophies include “Translator”, which is awarded to users who provide translations to foreign languages, “Open Sorcerer”, which is awarded for users who have contributed source code to Reddit, and “Artisan”, given to users who have contributed graphics to the site. Some trophies are awarded to users who have participated various novelty activities held during April fool’s days.

While not a default feature, Reddit has incorporated temporary virtual goods systems in the past. During April Fools’ Day in 2013, users were awarded virtual items such as hats
and weapons. Users were also divided into two teams, “Orangered” and “Periwinkle”. During the day, users were able to give hats to other users in the same team and use weapons against users in the opposite team. When a hat was given to a user, the hat showed up next to the user’s handle in every comment they had posted. If a user was given multiple hats, the hats were stacked on top of each other. When a special type of weapon was used against a user, a special power was applied to the user. These powers included the disability to upvote or downvote and an extra “Excelsior” word added to every comment posted by the user, to name a few. When either hats or weapons were used, points were awarded accordingly.

In conclusion, Reddit seems to make some use of gamification. The game elements used in the core set of features include points (link and comment karma points), badges (awards and trophies), progress (daily gold target) and leaderboards (ordering of posts based on karma points). The premium users are also granted access to a private sub-community called “the lounge”. In addition, Reddit has used virtual items in its in-site game, “Fields of Karmic Glory”.

6.11 StackOverflow

StackOverflow is a questions-and-answers site dedicated for programming and software development-related questions. In StackOverflow, users can post questions and answers, as well as comment on questions and answers to either invoke discussion or ask for elaboration. Of all the answers a question receives, the users who posted the question is encouraged to select the answer he found the most suitable for his situation as “the correct answer”.

When registering a new user account either by using OpenID authentication or creating a new account by e-mail, the user receives a private message asking to fill out profile information. The user profile keeps track of the user's activities, including the questions, answers and comments they have posted, as well as recent reputation changes, bounties issued, tags used, badges earned and votes cast.

6.11.1 Reputation points

In StackOverflow, gamification plays a big part of encouraging users to conform to the rather strict rules and guidelines and to participate in the activities. The main game element used is the reputation point system. All users accumulate reputation points based on their actions, rated by other users. This reputation score is always visible next to the user's handle. Users can upvote or downvote other users' activities based on how well they have acted. Each upvote increases the user's reputation, whereas each downvote decreases it. User can also get reputation for accepting an answer to be the correct answer, as well as being active in other sites in Stack Exchange network.

The reputation system in StackOverflow is also used for improving the community's self-moderation. By default, users are not allowed to upvote or downvote other users' posts or to leave comments. To vote something up, user needs reputation of at least 15. Leaving comments requires 50 reputation points, and voting something down requires 125 points. By gaining reputation, users also gain moderation privileges, which include the ability to edit other users' posts to improve the quality, the ability to vote on posts being closed, reopened or migrated, and to delete or protect questions. The higher the reputation of a user is, the more powerful moderation tools they are allowed to use.
6.11.2 Bounties

The bounty system is a way of encouraging other users to answer one's questions by providing a reward. This reward is a fixed amount of reputation points that is subtracted from the points of the user who asked the question and added to the points of the user who posted the answer that was accepted. When a question incorporates a bounty, it is mentioned and highlighted in the post details, making it more visible than other questions without bounties.

6.11.3 Badges

Badges are also a major component of StackOverflow's gamification. Users can gather badges by participating in activities in such way that is especially helpful for others. The badges are categorized into three categories: bronze, silver and gold. The bronze badges are the easiest to achieve and are usually granted for users participating in an activity for the first time, for example asking a question and accepting an answer to it, or completing all fields in the user profile.

Silver badges are not as common as bronze ones, and they usually require the user to participate more actively in the community. Silver badges include “Yearling”, which requires the user to be an active member for a year and earning at least 200 reputation points, and “Civic Duty”, which requires the user to cast a vote at least 300 times.

Gold badges are the most difficult to acquire and need considerable amount of effort to achieve. Some gold badges follow the same guidelines as their bronze and silver counterparts, requiring more actions to be taken, while some are acquired by doing long-term commitments to the community. An example of the former is “Steward”, which requires the user to complete at least 1000 review tasks. The silver counterpart of this is “Reviewer”, which requires at least 250 review tasks, and the bronze badge requires only one review task to be completed. An example of the latter type of gold badges is “Sheriff”, which requires the user to serve as a community-elected moderator for at least one full year.

While the badges are categorized into these three categories, they are also categorized by theme. These theme categories are question badges, answer badges, participation badges, tag badges, moderation badges, and other badges. The question badges are acquired by asking questions that get favorited by certain amount of users, or questions that get upvoted or viewed to meet certain criteria. These badges can also be acquired by setting and awarding bounties. A special question badge is “Tumbleweed”, which is acquired by asking a question that gets little to no attention.

The answer badges are awarded for giving answers to questions. To acquire badges in this category, the answers have to get voted enough, and in some cases in timely manner. Some badges are awarded for answering one's own questions, or giving an answer that gets more upvotes than an already accepted answer.

The participation badges denote other non-moderative activities. These include filling out profile information, leaving comments, visiting the site on consecutive days, earning certain amount of reputation in timely manner, participating in meta discussion and discussing with other users in the chat.
The tag badges provide special “Bronze”, “Silver” or “Gold” badges that are awarded to users who have earned a total score of 100, 400, or 1000 in at least 20, 80, or 200 non-community wiki answers, respectively. These badges can be acquired for any tag stored in the tag database spanning over 38,000 tags. For instance, the bronze tag badge “3d” is awarded when a user acquires a total score of 100 for at least 20 answers to questions tagged with “3d”. As such, other users are able to see in which areas the user with tag badges has exceeded in.

The moderation badges are awarded to users who participate in moderative activities. These include such tasks as flagging inappropriate posts as such, voting on polls, reviewing other users’ modifications, modifying other users’ posts and various others. Generally these badges are about improving the quality and appeal of the content.

Finally, the “other” badges include miscellaneous tasks that do not fit into other categories. These include “Informed”, which is awarded for reading the entirety of the “About” page of StackOverflow, as well as “Announcer”, “Booster”, and “Publicist” which require the user to share links to questions that are then visited by 25, 300 or 1000 unique IP addresses, respectively.

Next to each badge in all the categories is a number denoting how many times the said badge has been awarded. This number correlates directly to the rareness of the badge; the badges that are unlocked more easily are awarded more often than those badges that are more difficult to acquire. The most awarded badge with over 800,000 users is “Student”, which requires the user to ask a question that gets at least one upvote. On the other hand, the rarest badges are “Constable” and “Sheriff”, both requiring the user to act as a moderator for at least one year. These badges have awarded to only 19 users.

6.12 Steam

Steam is a digital distribution and social platform developed by Valve Corporation. Originally purposed for distributing digital editions of games to players, Steam has grown into a full-fledged platform for players to buy and store games and participate in communities surrounding them.

The social media features of Steam include friends, chat features, communities and activity feeds. Like in many other social media services, users can befriend each other to follow their activity. Being friends also makes it possible to invite other users to play games or to chat with them more easily. Communities, or groups, can be formed for any purpose. Per-game discussion groups are available as well. Activity feeds share similarities with other social media services, incorporating a list of other users' activities. In the community hubs, users can like or dislike other users’ activities, as well as comment on them. Contrary to many other social media services, comments cannot be rated.

More recently, Steam has incorporated gamification into the platform. The game elements used include levels, experience points, badges, tasks, achievements and items.

6.12.1 Experience and levels

Various activities provide experience points in Steam. These points accumulate and grant level ups when the experience criteria for the next level is met. In the user profile, the
user can see their current level and the amount of experience points needed in order to level up to the next level.

The levels do not provide any additional functionality to the platform. They are used as a status symbol, as users can see other users' levels. Levels are also a rough indicator of the user's activity around the platform, since most of the activities provide more or less experience points to the user. The experience points are linked to other gamified portions of Steam as well. For example, user gains experience for completing certain badges.

### 6.12.2 Badges and tasks

Contrary to the fact that achievements and badges are commonly seen as the same thing, Steam has incorporated both achievements and badges systems. Both of these systems have different meanings and are completely separated. Badges are trophies that are shown in the user's profile page. They denote commitment to the community or to certain games.

In Steam, badges are acquired by various means: completing tasks, collecting sets of trading cards, or meeting certain criteria. An example of a badge acquired by completing tasks is “Pillar of Community” badge, consisting of 26 tasks that require the user to participate in the community in various ways. For example, the user may have to comment on a screen-shot posted by their friend or to set an avatar on their user profile page. The badge is awarded when each of the tasks are completed.

Badges can also be acquired by collecting sets of trading cards. The trading cards are non-functional items that can be acquired by either playing games that have incorporated trading cards or by trading them with other users in the Steam marketplace. To complete a badge that requires trading cards, the user has to trade with other users at least some cards, as only certain random cards are provided through playing the game. The rest of the cards that belong to the set have to be traded from other users. Once the set of cards is complete, they can be forged into a badge. Most of these badges provide bonus experience points when acquired.

The third way to acquire badges is passive participation. Badges acquired by passive participation include “Years of Service”, which is a special badge denoting the amount of years the user has been using the service, and “Collection Agent” that denotes the amount of games owned by the user. Both of these badges provide bonus experience points. When a new badge of either of these types is acquired, it replaces the old one. For example, when a user has been using the service for five years, they have a five-year badge. Once they have been using the service for six years, the five-year badge is replaced by a six-year badge.

### 6.12.3 Achievements

As already mentioned, achievements in Steam are completely separate from the badges. Achievements are per-game goals that can be completed only by playing the game in question.

Games available in Steam may or may not include achievements. Whether or not achievements are available depends usually of the game developer and their willingness to offer Steam achievements in their game. In some cases, games may have in-game achievements that are not connected to the achievement system of Steam.
If a game has Steam achievements enabled, the game page shows a field for achievements. This field shows the most recently unlocked achievement, as well as the number of unlocked and total amount of achievements in the game. A visual progress bar indicates the percentage of completed achievements as well. Beneath the progress bar, there is a list of images representing all the achievements that are still locked. At the bottom of the field is a button to list all the achievements. In this view, the achievements are shown, ordered by unlock status, with all the details visible.

6.12.4 Items

Items are virtual goods that can be acquired by various means. They are stored in the personal inventory of the user. Items may be awarded for playing games, completing certain tasks in games, randomly by Steam or by trading with other users. When trading items, users can either trade item-for-item, or they can sell and purchase items for real money.

The items available in Steam are quite various. They include weapons that are usable in games, trading cards that can either be traded with other users or crafted into badges, or sale coupons for buying games at lower prices. Some in-game goods may offer special functionality or contain rewards, while others offer purely cosmetic properties. Some items are acquired passively, for example by owning and playing a game for a prolonged period of time. These items are merely decorative and they are used to show the accomplishment to other users.

Examples of items without direct functionality in games are containers and keys. In games like Counter-Strike: Global Offensive, containers are awarded randomly to players. These containers are added to the Steam inventory and can only be opened by purchasing a key from the Steam market. These containers may contain more or less rare weapon finishes that the user can either equip in-game or trade with other users.

6.13 Twitch.tv

Twitch.tv is a platform for streaming live video. Although not restricted in any way, the majority of content is formed of streaming video games or related topics, such as video game talk shows. It has more than 45 million unique visitors every month (Twitch.tv, 2014).

In Twitch.tv, users can browse through game categories to find suitable streams to watch. The front page also suggests highlights of popular user streams. When viewing a stream, users can discuss with other users watching the same show. As the user who is streaming the video can also join the discussion and view the chat log, it provides a mechanism for interactivity. Users can follow other users, share streams and subscribe to other users. When subscribed, the user pays a certain amount of money each month, which is essentially a way to support the streamer, as they get a majority of the payments while a smaller portion goes to the service providers. When subscribing to a channel, a badge is shown next to the user’s name in the chat to indicate their subscription.

Twitch.tv employs a site-wide premium feature set called “Turbo”. When subscribing to Turbo, the ads shown on the streams are disabled. The chat is also incorporated with custom emoticons to use, as well as the chat colors are customizable when subscribing. A
badge system is used for subscribers, showing a special badge next to the user’s name to indicate the subscription to others.

As an interesting side note on the intertwining of games and social media, in February 2014, Twitch.tv was used to host a unique social experiment called “Twitch Plays Pokémon”. In this experiment, a Twitch.tv user had set up a stream for an emulated version of Pokémon Red, which was originally published on the first generation Game Boy. The channel’s owner had written a script to capture chat messages from the channel’s chat, translating keywords into commands that were input to the game. As a result, the viewers of the stream were able to play the game by sending certain chat messages, such as “up” for moving the character north, and “a” for simulating the press of the “A” button found in the original handheld console. In two weeks, the game was completed, with an estimate of 658,000 participants in total (Recode, 2014).

6.14 Twitter

Twitter is a microblogging service, founded in 2006. It has 241 million monthly active users, and 500 million tweets are sent every day (Twitter, 2014).

The core functionality of Twitter is about tweeting, that is, sending short messages of 140 characters or less. These tweets can be either public or private. Like in Facebook, users of Twitter can follow each other’s tweets and retweet them.

The user profiles in Twitter are public. The profile page shows a small information panel about the user, as well as statistics about how many tweets the user has posted, how many users they are following and how many users are following them. When viewing a user profile, the tweet list only shows tweets that either the user has tweeted or someone else has tweeted that the said user has retweeted. The profile page also features a list of photos and videos the user has shared in their tweets.

An emblematic part of Twitter is the use of hashtags. In Twitter, users can create categorize their tweets ad-hoc by adding one or more hashtags into their tweets. Hashtags are single words starting with a hash sign (‘#’). Similarly, user names starting with at sign (‘@’) are used to mention, or to reply to, other users.

As with other services such as Facebook and Google+, users of Twitter can use their Twitter account to sign up and login into other web services. This is done via the Oauth system.

All in all, Twitter is purposefully minimalistic social media service. The feature set is small and does not raise any explicit game-like elements. The closest resemblance to game elements are statistics for followers and the number of retweets.

6.15 Wikia

Wikia is a service for creating Wikipedia-like online encyclopedias of specific topics. Users of Wikia can create wikis for their favorite games, movies or bands. The topics are not limited to only entertainment; wikis may as well be about cupcakes or growing plants.

Wikia makes use of WikiMedia, an open source project targeted to power wiki portals. As WikiMedia is used and maintained by Wikimedia movement, the organization behind
Wikipedia, the look and feel of Wikia wikis is very similar to Wikipedia. Most of the features of Wikia are the same when compared to Wikipedia.

While Wikia in large portions resembles Wikipedia, there are many features that are not found in Wikipedia. In Wikia, users have other ways of participating in the community than creating or maintaining encyclopedia entries. If enabled by the wiki administrators, users can write comments on articles and reply to other users’ comments, creating discussion threads of the subject. Users also have personal blogs where they can write blog posts. These blog posts can be commented by other users as well. A message wall resembling activity feed is also incorporated. With these features, Wikia resembles a more generic social media when compared to the otherwise similar Wikipedia.

Wikia has incorporated other special features as well. For instance, users may create polls on article pages. Other users can vote on these polls, participating in the decision-making process. The social aspects are improved by the incorporation of forums and live chat features as well.

When a new wiki is created, the administrators can see a “Wiki progress” bar. This progress bar shows the percentage of completed tasks related to the wiki. The tasks include various activities aimed to improve the wiki. The tasks can be completed in any order, although the “current task” is always shown on the administrator page. This current task can be skipped to take on another activity. The skipped tasks can be reactivated when the administrators wish to do so. The default set of tasks includes 12 tasks such as “reach 10 pages”, “reach 3 categories”, “customize your theme” and “fill out your profile page”. Once all the tasks are completed, a set of bonus tasks is unlocked that expand on the previously completed tasks.

Achievements and leaderboards are also incorporated in Wikia, once the administrators have specifically enabled achievements. When enabled, users can complete achievements and receive badges by completing activities in several achievement categories. When a wiki is created, a default set of achievements is created, although the administrators are free to customize the names and the pictures of the achievements.

When a user earns an achievement, a small pop-up window is shown in the lower right corner of the screen. This pop-up notifies the user of the unlocked achievement with a congratulatory text, the description of the achievement in question and the number of points awarded to the user.

The achievements in Wikia are categorized into “tracks”. Each track features achievements that are related to one another. The tracks included are “edit track”, which features achievements related to editing articles, “pictures track”, where achievements are awarded for adding pictures to articles, “category track”, in which the achievements are related to categorizing articles, “blog post track”, with achievements for writing blog posts, “blog comment track”, which includes achievements for commenting on other users’ blog posts, “Wiki Love track”, which awards achievements for participating in community activities for consecutive days, “special achievements”, which incorporates achievements not related to the other categories such as joining the wiki or creating the wiki, and “secret achievements”, which contains achievements that are not visible until they are unlocked.

Besides categorized into tracks, achievements are also categorized into “bronze”, “silver” and “gold” categories based on their difficulty. The achievements in the bronze category are generally the easiest to unlock and award only a small number of points. Silver
category achievements extend on the activities of bronze category achievements, with requirements that are more difficult to fulfill. The achievements in the gold category are the most difficult to unlock, while awarding the most points.

When achievements are used, a leaderboard can be enabled as well. The leaderboard ranks the users based on the amount of points they have acquired by completing achievements. The rankings on the leaderboard are refreshed daily, with up and down arrows denoting the change in the order between users.

### 6.16 Wikipedia

Wikipedia is a collaborative encyclopedia, founded in 2001. In Wikipedia, everyone and create and modify encyclopedia entries of all kinds of topics. It has over 71,000 active editors, with over 20 million total accounts created and 500 million unique visitors each month.

Wikipedia is a part of Wikimedia movement. The purpose of this movement is to improve the amount and quality of free and open content of various kinds. Wikipedia is the most well-known of these projects, but a lot of other projects exist as well. Among these are Wiktionary (a free dictionary), Wikinews (a free and open news portal), Wikibooks (free online books), Wikidata (freely available data of all kinds), Wikispecies (a dictionary for species), Wikisource (a free library), Wikiversity (free learning resources and research material), and Wikivoyage (an open travel guide).

On the main page of Wikipedia, the largest language-specific sites are shown in a circle surrounding the Wikipedia logo. Below are the languages that have fewer articles written, categorized by the order of magnitude. For example, English is featured in the circle as it is among the biggest encyclopedias, whereas Finnish is in the category of over 100,000 articles.

After creating an account, the user can create new entries for topics that have not yet been covered, or they can edit existing entries to either add new information, fix errors or add sources to improve the quality of the entries. Each topic has a discussion page where the users can discuss about the topic and the possible changes needed to further improve the content. In addition, Wikipedia has a community portal for user interaction. The community portal can be used to discuss different aspects of improving Wikipedia.

When the user creates a new account, a small tutorial covers the basics of editing entries. The tutorial consists of small tips, showing how to edit either the whole article or specific parts of the article. The tutorial can be closed at any time, or it can be watched multiple times.

Wikipedia has implemented a custom feature of WikiMedia project called “WikiLove”. In WikiLove, users of Wikipedia are able to send appreciative messages to other users. These messages include a badge selected from different categories. The badge categories include “Barnstars”, which are badges generally handed to the most active Wikipedia contributors, “Food and drink”, which are food and drink-themed badges, and “Kittens”, which are kitten-themed badges. The user sending the message can also create new badges as they wish.

Badges are also used to notify users of issues on articles. When an article has an unsolved issue, such as grammatical problems or missing references, a badge is shown in the related
portion of the article page. When the issue is solved, the user can remove the badge from the article page.

6.17 Yelp

Yelp is a business review and urban guide service, providing an easy way to find restaurants, cafes and such near the user. The core functionality of Yelp consists of searching for services and events located nearby and writing reviews of said businesses. The location-based browsing is heavily supported on mobile devices.

When using the service without registration, the site defaults to a certain city and shows only the businesses in that city. In the Finnish version of the site, the default city is Helsinki, whereas the English version shows San Francisco as the default city. The front page shows a “Best of Yelp” panel, showing well-written, highly ranked reviews of businesses. These reviews are categorized under restaurants, cafes, bars and various other categories. The user can click on the reviews to show the business page where the review was posted on. If the user is logged in, the front page also shows a recent activity list with reviews, photos and other activities done by friends or other users in the area.

Of each business, there is a business page showing all the details and reviews about it. For example, when searching for coffee in Helsinki, a café-restaurant “Regatta” is shown in the results list. Clicking on the name, the business page of Regatta is shown. On this page, information is shown about Regatta, such as the location on map, hours of service, price range and various additional information including the suggested dress code and whether or not the business is suitable for children.

In the business page under the name of the business is the average number of stars given to the business. The reviews made by the users are stared from one to five stars. Next to the average number of stars is the amount of reviews made about the business. Below this is a map showing the location of the business, as well as photos uploaded by the users of the business.

Below the photo panel is the review panel, showing all the reviews made of the business, ordered by their popularity. The reviews show the name and the picture of the reviewer, the amount of friends they have, the amount of reviews they have written in total, as well as the actual review section. The review section contains the amount of stars given, a written review of the business, the number of check-ins by the reviewer in the said business, and buttons and counters for rating the review. Instead of commonly used positive and negative ratings, Yelp uses three rating options called “useful”, “funny”, and “cool”. Users can also be complimented for their reviews.

The game elements used in Yelp are quite scarce. The amount of various ratings received by the reviews can be thought of as a score system. A clear game element can be seen to the right of the review panel, where it highlights the first user to review the business in question. This works as a merit badge, as everyone can see the user as the first one to review the business, while no one can replace them – “the first to review” is a trophy that is handed only once per business.
6.18 YouTube

YouTube, founded in 2005, is a content community focused on both on-demand and live stream videos. It has over one billion unique visitors every month, with over 100 hours of video uploaded to the service every minute.

In YouTube, users can browse, watch, and comment videos, as well as give positive or negative scores by “liking” or “disliking” them. Each video shows the total count of both positive and negative points given and a graphic showing the relational amount between them, as well as total view count. Users can follow other users' channels and get notifications about new videos uploaded by them. The user channel page shows information about the channel's owner, its follower count, its most popular and most recent videos, as well as a list of all the videos uploaded by the user.

Below the video being viewed is a comment panel that lists comments made by other users, ordered by the popularity of the comments by default. Comments, like videos, can be rated positively or negatively. Users may also reply to other users' comments, creating ad-hoc discussion threads. By default, the top-rated comments are shown on the top, based on the amount of likes the comment has received, as well as the time since the comment was posted.

YouTube uses a recommendation system to recommend users videos they could be interested in. The recommended videos are shown next to the currently viewed video as well as instead of the video after it has done playing. The recommendations commonly contain videos made by the same user, or similarly themed videos made by other users. Sometimes recommendations include promoted videos that do not necessarily share the same theme with the original video.

In the user profile page, there is two statistics shown: the number of subscribers and the number of total views across all the videos uploaded by the user. The subscriber count tells the number of other users who have subscribed to the user whose profile is viewed. By clicking the subscriber number, a list of subscribed users is shown, although only those users who have enabled to show their presence in such lists are visible. By clicking the total view count, a breakdown of the views is shown with details such as the most popular videos and their views, minutes watched, gender division among the viewers and the geographical locations of the viewers.

When a new user profile is created, the site suggests activities to increase the amount of information of the user. For instance, when viewing one’s own, incomplete profile page, the top panel suggests to upload a channel picture which is shown in the top portion of the profile page for all the visitors. A small panel called “channel tips” is shown on the right side of the activity feed, listing tasks the user has yet to do.

All in all, YouTube employs a rather few game elements. Most clearly is used the ranking system of content based on the upvotes and downvotes casted by the users. The amount of subscribers and the number of views on videos can also be thought of as scores.
7. Analysis and findings

The social media services that were analyzed in the qualitative content analysis were Blogger, Facebook, Fitocracy, Flickr, Google+, HeiaHeia, Instagram, LinkedIn, Pinterest, Reddit, StackOverflow, Steam, Twitch.tv, Twitter, Wikia, Wikipedia, Yelp and YouTube. In this chapter, the findings are described and analyzed as follows: first, the role of social media features as game-like elements is discussed. Second, the found game elements and dynamics are described. Third, the relationship between games and gamification in social media is discussed. Last, the use of gamification in social media is analyzed.

7.1 Social media features as game-like elements

Almost all of the sites that were analyzed incorporated common social media features, including connections to other users, possibility to rate other users’ activities and sharing content to others. While the features are named differently from site to site and their functionality varies somewhat, they are generally working the same way in all the sites.

Connections with other users are variously named. In Facebook, a connection between two users is called becoming “friends”, while in Twitter, users are “following” others. Despite of the varying names, the connections between users work similarly: after forming a connection, users get updates of the activities of the other users they are connected with and are allowed to view more detailed information about them. For example, in Facebook, users that are friends with each other can see all the profile information, except the portions that are marked as visible only to the owner of the user profile. In Steam, users that are friends can view each other’s game collections and get notifications about which game they are currently playing.

Rating other users’ activities is a common feature as well. In almost all of the sites that were analyzed, users can rate activities or content. This rating functionality comes in two different forms: positive-only ratings and positive-and-negative ratings. The former rating system allows users to only give positive ratings or to opt out from giving a rating at all. The latter rating system allows both positive and negative ratings. Sites using positive-only rating system include Facebook, Fitocracy and Pinterest, while sites using positive-and-negative rating system include Reddit, StackOverflow and YouTube. A few of the sites, including Wikipedia, incorporate no rating of activities, but instead use more subjective and rich-text form of feedback when necessary and explicitly constructed by the users.

Sharing is a common feature in social media. Similarly to rating systems, sharing functionality is usually allowed internally, externally, or both. Internal sharing means that an activity or content can be shared in the same system. An example of this is the sharing in Facebook, where a user can share public posts to make them show up in their friends’ activity feeds where they would not otherwise appear. External sharing means that activities or content can be shared to external sites. For example, a blog post in Blogger can be shared to Facebook, where it can be accessed, commented and rated. Cross-site sharing is a common feature, found in almost all of the sites that were analyzed.

As there may be social pressure cause by the communities, users may strive to improve their number of connections and the number of positive ratings their activities receive. Without the social aspect, these numbers would probably be only of informative nature.
However, as other users can usually see these numbers, they may provide external value as well. Some Facebook users may be inclined to befriend as many users as possible, whether or not they know each other in advance, while some users may only want to connect with people they know in real life.

Similarly to the creation of connections, the ratings and the amount of content shared may be thought of as game elements. Each of these three social media features resemble scores, as they are commonly seen as goals to strive towards. In each of these, there is no explicit rewards awarded, yet Facebook’s “likes”, Google+ “+1” ratings and Reddit karma points are all pursued to. Whether or not these features are explicitly meant to be taken as game elements is debatable; they are not necessarily thought of as scores, although they do resemble scores. As these numbers are shown to incite users to use the service, these features resemble even more the point system familiar in games.

7.2 Game mechanics and dynamics

The game elements incorporated in social media services are in general quite various. The game mechanics and dynamics found in the analysis include statistics, points and scores, leaderboards, achievements and badges, tasks and quests, progression, and challenges. While many elements shared similarities, the usage of elements varied from site to site. For instance, sites employing badges and achievements used them for a multitude of different purposes. Similarly, statistics, points and progression, to name a few, were all used in different ways.

A thing worth noting about game mechanics and dynamics is that in almost all cases, multiple mechanics and dynamics are used jointly. Progression is often found together with points, and badges are commonly related to completing tasks. Competition and cooperation span over almost all other mechanics and dynamics.

7.2.1 Statistics and points

Statistics aggregated from user activities and points awarded to users were found in almost all of the analyzed sites. In the context of findings, statistics are thought of as numbers or percentages that reflect on the activities of users or the community as a whole, whereas numbers specifically awarded for making conscious choices and efforts are thought of as points.

Points and scoring were present in multiple sites. Most notable site in this regard was Fitocracy, as the core functionality in Fitocracy is to submit exercises and gain points based on the amount and intensity of the workouts. Points are in turn accumulated and counted towards reaching the next level, with more and more points required for each successive level. In this regard, the point system of Fitocracy represents those generally found in games such as soccer where score is kept about how many times the ball has reached the goal. A similar points-and-levels system is used in Steam as well. In such a scoring system, negative scores do not exist and scores cannot be taken away once they have been awarded.

The point systems found in Reddit and StackOverflow are different in this regard. In StackOverflow and Reddit, users can get negative scores or the points they have already acquired can be taken away based on their actions, or rather, the consequences of the actions. As points – both positive and negative – are awarded by other users based on the
quality of the posts, the points are used to reward high quality content, as well as to punish for low quality content.

If social media statistics features such as Facebook likes, YouTube view counts and Twitter retweets are thought of as game dynamics, the most common game element in social media is by far statistics. Based on the analysis of the sites, every site included at least some kind of statistics. For instance, Blogger has incorporated an extensive statistics system to aggregate statistics of blog readers, comments, sources of traffic and many other aspects. On the opposite side, Twitch.tv shows only the number of views and subscribers, making its statistic features a lot more scarce.

In social networking sites, the most common statistics are the number of connections between users (e.g. Facebook friends, Twitter followers, LinkedIn connections) and number of ratings (e.g. Facebook likes, LinkedIn likes, Fitocracy props). In content communities, the connections between users are notably less important, with more focus on rating content. For example in YouTube, users cannot befriend each other, only subscribe to each other’s channels. This connection is not bi-directional like in social networking sites; when a user subscribes to other user’s channel, there is no reciprocity.

As already mentioned, content communities tend to focus on rating features. In Reddit, the visibility of posts and comments is heavily influenced by the ratings which is constructed from the upvotes and downvotes casted by the users. In YouTube, videos can be liked or disliked, resembling a similar positive-and-negative rating system. StackOverflow employs a similar positive-and-negative rating system, but limits the possibility to cast negative votes; only users who have been active enough in the community can downvote content. In regard of the rating features in content communities, Flickr is an exception: while the focus of Flickr is on sharing photos, they cannot be rated.

Interestingly, rating systems that feature both positive and negative ratings are directly influencing the quality of user-generated content. For instance, when a user creates a post to Reddit, other users are immediately able to rate it positively or negatively. In the most popular subreddits, new posts are not shown on the default front page, and can be raised there by receiving enough positive ratings. Negative ratings on the other hand will cause the post to “sink” further down the list of content, making it more difficult for other users to find it. Administrator-generated posts are not always influenced by ratings, as they can be made “sticky”, making them appear in the beginning of the content list regardless of the ratings they receive.

### 7.2.2 Badges and tasks

Badges, or achievements, are employed in many sites that were analyzed. Of the X sites, Y incorporated badges. While used in so many sites, the usage of badges varied from site to site.

Common use for badges is to reward users for completing certain tasks or milestones. This kind of badge system is used in Fitocracy, HeiaHeia, Reddit, StackOverflow, Steam and Wikia. However, badges are not used only as merits for completed tasks. In Fitocracy, Twitch.tv and LinkedIn, a special badge is awarded to users who have subscribed to the service, paying monthly fees to gain access to features otherwise unattainable. In these sites, badges are used to denote premium user status. Wikipedia incorporates yet another type of badges, where users award badges to each other as merits of quality work. These badges cannot be acquired automatically like other badge types used in other sites. A
unique usage for badges is shown by Yelp, where the only badge available is “the first reviewer” badge. This badge is not given directly to the user who wrote the first review, but instead the user is shown in the right panel on the business page where they wrote the review.

When badges are used as rewards, certain tasks are usually involved. These tasks are usually ranging from arbitrarily easy to requiring constant participation in the community. In StackOverflow, for instance, the easiest badges are awarded for doing certain activities for the first time, like posting a question or accepting an answer. A badge is also awarded for reading the “About” page in its entirety, encouraging users to acknowledge the rules of the community. On the other hand, some badges are acquired only by participating actively and consistently in the community for a prolonged period of time, for example being a moderator for at least one year.

Tasks used in the sites vary from implementation to another in multiple aspects. In Fitocracy, tasks are called quests and they offer an exercising challenge to take on. The quests are easier at first and get progressively more difficult when they are completed. In Wikia, tasks are divided into two sets, normal and hidden. All the normal tasks can be completed in any order, and hidden tasks become available once all the normal tasks are completed. Wikia does suggest the next task to do, but they can be skipped at will. Steam, on the other hand, has only a single set of tasks that can be completed in any order.

The types of activities required by tasks share some similarities between sites. Commonly the easiest tasks encourage the users to try out various features available, such as joining a sub-community, submitting content or giving ratings. Some of the easier tasks may be arbitrarily easy or inherently tied to the core functionality. For example, the gaming platform Steam includes a task “Play a game”, given to all users when they play any game. The more difficult tasks either build on the premises of the easier tasks by increasing the amount of effort required, or they feature otherwise more difficult activities.

Not all tasks are related to achievements, however. Many tasks seen in the sites are used to incite action but grant no achievements or badges. CAPTCHA, a commonly used security measure across the Internet, is clearly a task, asking the user to input obfuscated text in order to grant access to the user profile. However, no site in the analysis was offering achievements or badges for completing CAPTCHA tasks. Quite commonly, tasks that award badges are entry-level tasks related to activities the user is supposed to participate in repeatedly. For example, Steam has a task “Play a game”, which awards a badge for the first time the user plays a game. Subsequent play sessions do not award any additional badges.

Sometimes, tasks may not award badges directly, but work as a part of a larger body. Completing a set of tasks is then rewarded with a badge. Again, Steam incorporates such a system where a badge is granted after the user has completed all the tasks required. As such, completion of single tasks will not result in a badge.

7.2.3 Virtual goods and spaces

Among the sites that were analyzed, virtual goods were among the most scarcely used game dynamics. Of the sites, Steam has incorporated the most extensive use of virtual items. However, Reddit used virtual goods in the past during April Fools’ Day in 2013 to incorporate a game where users were encouraged to gather points for their teams.
In Steam, the itemization is closely tied to playing games. By playing games, users may receive trading cards that can be either given, traded or sold to other users. Some games, such as Team Fortress 2, Counter-Strike: Global Offensive and Dota 2 feature in-game items that are acquired by playing the game. These items show up in the inventory in Steam and, similarly to the trading cards, can be traded with other users. Almost all virtual goods in Steam can be sold for real-world money. Some items, such as keys used to open containers, require the user to purchase them, as they are not awarded for playing. Steam also incorporates items that give a certain percentage off of game prices. These cannot be sold for real money, but can be given away or traded against other virtual goods.

In Reddit, items were awarded randomly during the April Fools’ Day in 2013, and were used to collect points for the user’s team. Two types of items, hats and weapons, were distributed. Hats were purposed to be given to users in the same team, as giving a hat to a user also added points to the team the receiver was a member of. Weapons were meant to be used on the users in the opposite team, and increased the score of the other team when applied.

While the reputation points in StackOverflow are mainly used as a score system, they incorporate a virtual currency role as well. When enough points have been acquired, users can set bounties on their unanswered questions. This means that the user sets aside a fixed amount of reputation points as a reward. When an answer is posted and it is accepted as the correct answer, the bounty is subtracted from the user asking the question and added to the points of the user who posted the answer.

All the other sites that were analyzed did not incorporate any virtual goods. The usage of virtual goods in Steam and Reddit differs as well. In Steam, items are tradable and can be sold for real money, whereas Reddit’s items were not tradable or available for purchase. In addition, the items in Steam provide varying functionality, either in Steam or in games played via Steam. The items in Reddit were one-use only and worked only during the April Fools’ day, in a specific subreddit designed for the game.

A unique finding among the sites was the use of virtual spaces. In the analysis, only Reddit was found to make use of a virtual space that works as a reward for purchasing a premium membership. When gold is either purchased or received as a gift, the user is granted access to the Reddit lounge, which is a private subreddit denoted for gilded users only.

7.2.4 Competition, co-operation and challenges

Competition between users, co-operation with others and challenges have all been used in multiple occasions and in various ways in the analyzed sites. Not all sites incorporate all these elements, and some sites incorporate none of them.

Competition is used to encourage users to perform better than other users. In some cases, the competition element is closely tied to the scoring system used. For example in YouTube, channels can be ordered based on the number of subscribers, making the more popular channels show up first. This popularity-based ordering creates competitive pressure and encourages users to gather more subscribers. Similarly, the posts and comments in Reddit are ordered by a combination of date and the karma points, making the most recent and most upvoted posts and comments show up first, encouraging users to keep up a level of quality in their posts.
The training sites Fitocracy and HeiaHeia make use of the competitive nature of sports and training. In HeiaHeia, a leaderboard shows the order of the user and their friends for the current week, based on the amount of exercising done, creating peer pressure to exercise more often, more intensively or increase the length of training sessions. Fitocracy’s leaderboard is very similar, although more focused on the whole user base rather than just the connected users.

In LinkedIn, the pressure of work life is used to encourage users to subscribe to the premium plans. Users can enlist as work seekers in LinkedIn, and by subscribing to the paid services, they can promote their visibility by showing their profile in the top of the list of workers. Some sites even use promotion as a goal for competition to induce better quality content. In Flickr, for instance, photos are selected to the “explore” portion of the site which features high-quality, manually selected photos. The criteria for getting such promotion for one’s photos is not public, however.

Challenge is a mechanic that differs from competition. While competition is an on-going state between users, a challenge is a fixed form of competition where participants have a limited set of resources to accomplish pre-defined goals. In Fitocracy, two forms of challenges are used. The first one, called “challenges”, are used in groups to encourage the group members to partake on a challenge. The second one is “dueling”, where two connected users can challenge one another to a certain exercise. In both types, a time limit is used, usually lasting from a couple of days to a couple of weeks.

Co-operation, on the other hand, is used to encourage users to work together to achieve their goals. The use of co-operation is most notable in collaborative projects, such as Wikipedia and Wikia, which rely on the users to create and maintain the core content. In Wikia, certain badges are awarded for co-operative actions, such as categorizing other user’s articles. In Wikipedia, co-operation is implied in the service, with discussion pages for each article and heavy self-moderation.

7.2.5 Progression

Progression is used quite scarcely in the sites that were analyzed. A common use for progression is a progress bar showing the status of a set of tasks the user is encouraged to perform.

In HeiaHeia, the status of the weekly exercising progress against the pre-defined goal is shown with a circular progress bar, alongside with statistics adding more information about the exercises already done. In this case, the progress bar is directly related to the core functionality of the site.

In LinkedIn and Google+, a progress graphic is used to encourage users to enter more information about themselves in their user profiles. A meter and the percentage of field filled are shown, with possible question-and-answer pop-ups used to ease the process of entering the information. In Facebook, progress graph is not shown, but information is gathered in the same way by using questions with easy-to-answer functionality.

Reddit uses progress to encourage users to spend more money on the site. As Reddit features a premium membership system where users can gild other users or themselves, Reddit has employed a progress bar that depicts the daily target of gold purchases. This progress bar shows the exact amount of dollars required for the site to stay operative, as the premium membership system is among the few monetization methods used in Reddit.
Fitocracy employs progress in a similar way it has been employed commonly in video games. Users gather points, which accumulate towards levels. In a sense, Fitocracy users are game characters trying to develop to higher levels by acquiring points. Similar progression system has been used throughout the gaming history, and it is widely used in role-playing games such as World of Warcraft.

The purpose of employing progress seems to vary somewhat. In Facebook and Google+, it is used to gather information, and in LinkedIn and Reddit it is used to encourage users to purchase paid services. In Fitocracy and HeiaHeia, the progression is directly related to the core functionality of the service, encouraging users to participate in the activities that form the focus of the site. As can be seen from these sites and types of usage, progress can be used to encourage users to use features, to purchase paid features or to gather information from the users.

7.3 Games in social media

As opposed to single game elements, full-fledged games introduced in social media can be seen as a step forward from gamification. During the analysis, multiple remarks were made of such incorporation.

For many years, Facebook has been serving applications and games. Developers can target Facebook as a specific platform for their games, and users of Facebook can play the published games inside Facebook. Many of the games make use of the social features offered by Facebook, such as playing with friends and automatically posting updates of the games. For instance, some games such as Farmville allow players to trade in-game items in Facebook.

Facebook has also been used by external games for its social features. For example, World of Warcraft has employed a Facebook connection feature. When using this feature, players of World of Warcraft post updates of their game progress automatically to Facebook. When an achievement has been unlocked in-game, the Facebook friends of the player get notified.

Started in April Fools’ Day in 2013, Reddit incorporated a game into the core functionality. By making comments and participating into discussion, users acquired items to use against either their allies or their foes. By using items, points were added or subtracted, depending whether or not the user used the item in positive or negative way. Although the initial version of the game lasted only for a day, a spin-off was launched and later developed into a complicated game, using almost exclusively the basic functions found in Reddit. In the new version of the game, users can choose their team and aim to conquer as many regions as possible. Each region is represented by a special subReddit.

Similarly, Twitch.tv featured a novelty channel where users were able to use chat messages to collaboratively play a Pokémon game. In this social experiment, an emulated version of a Game Boy game Pokémon was run on a computer streaming live video from the game. The users watching the stream were able to use the channel’s chat to post actions, for example by writing “up”, an action to press the up arrow key was posted. All the actions that were available were derived from the control buttons found in the original Game Boy handheld console. The game was completed in over two weeks with thousands of users participating.
As can be seen, the use of social media has spans further than their originally purposed use. Games can be played in Facebook, and games played outside Facebook can post updates there automatically. A simple comment system can be used to play a relatively complicated strategy game with hundreds of players as demonstrated by Reddit. Quite surprisingly, an even simpler chat messaging system can be used to collectively control a game running on a single computer. It is quite fair to say that these are far from the original purposes of the sites, and there are many more ways of use to come as sites and technology mature.

7.4 Usage of gamification in social media

As already discussed, many game elements are incorporated in social media. The findings show that a single game element may be used in multiple ways, and multiple game elements can be incorporated to support one another to achieve the same goal.

Based on the analysis, social media sites incorporate some gamification in their services, although most sites do so quite scarcely. There is also a clear division that can be seen when looking at the results from the social media perspective: certain social media types employ certain game elements more often than the other elements. Table 1 summarizes the game elements found in different types of social media.

<table>
<thead>
<tr>
<th>Social media type</th>
<th>Sites (categorized by their main function)</th>
<th>Common game elements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blogs and microblogs</td>
<td>Blogger, Twitter</td>
<td>Statistics</td>
</tr>
<tr>
<td>Social networking sites</td>
<td>Facebook, Fitocracy, Google+, HeiaHeia, LinkedIn</td>
<td>Statistics, progression, tasks, badges</td>
</tr>
<tr>
<td>Collaborative projects</td>
<td>Wikia, Wikipedia</td>
<td>Badges, co-operation</td>
</tr>
<tr>
<td>Content communities</td>
<td>Flickr, Instagram, Pinterest, Reddit, StackOverflow, Steam, Twitch.tv, Yelp, YouTube</td>
<td>Statistics, badges, competition, virtual goods, progression</td>
</tr>
</tbody>
</table>

Statistics tend to be an element spanning across almost all kinds of social media sites, with blogs showing information about the amount of views and followers, social networking sites tracking the number of connections between users, and content communities showing the ratings of content as rated by other users. It should be noted that these are not the only ways statistics are used but rather the most common uses found.

Another fairly common game element is badges, although the usage varies somewhat as already discussed. In collaborative projects, badges are awarded to users who have put a lot of effort towards the community and have been recognized by their peers. In Wikipedia, badges are awarded by other users and not by the site, making the community relations more relevant in this regard. In content communities and social networking sites, badges are used to show off accomplishment and are quite commonly related to tasks. In a few of the sites that feature premium membership, badges are also used to show off the premium membership status.
As can be seen in Table 2, some elements share similar goals, while some elements have multiple goals. For example, scores and points are used in multiple ways to denote level of commitment, the number of followers and to act as a reward for participating in activities. On the other hand, challenges such as the Fitocracy duel system and leaderboards both aim to create competition between users.

<table>
<thead>
<tr>
<th>Game mechanic / dynamic</th>
<th>Usage in social media</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Statistics, scores and points</td>
<td>Number of connections, Number of ratings, Number of shares, Activity rewards, Show off level of commitment</td>
<td>Facebook friends, Facebook likes, Twitter retweets, Fitocracy points, StackOverflow reputation points, Fitocracy points, StackOverflow reputation points</td>
</tr>
<tr>
<td>Leaderboards</td>
<td>Order of popularity, Competition</td>
<td>YouTube channels, HeiaHeia’s weekly workouts VS friends</td>
</tr>
<tr>
<td>Badges</td>
<td>Merit of participation, Merit of quality, Show off premium membership, Show off support, Reward for completed tasks</td>
<td>StackOverflow “ask a question” rewards, Reddit badges, Wikipedia Barnstars, Reddit gold, LinkedIn job seeker, Twitch.tv turbo user, Twitch.tv subscriber, Reddit gold, Wikia badges, Reddit badges and trophies</td>
</tr>
<tr>
<td>Competition</td>
<td>Encourage users to exercise more, Gather more followers, Challenge other users</td>
<td>Fitocracy, HeiaHeia, YouTube subscribers, Twitter followers, Fitocracy duels</td>
</tr>
<tr>
<td>Co-operation</td>
<td>Participation in community</td>
<td>Wikia, Wikipedia</td>
</tr>
<tr>
<td>Virtual goods</td>
<td>Tradable items, Usable items</td>
<td>Steam trading cards, Steam in-game items, Reddit hats and weapons</td>
</tr>
<tr>
<td>Tasks</td>
<td>Suggest an activity, Gather information about users</td>
<td>Steam tasks, Wikia tasks, Facebook profile, LinkedIn profile, Google+ profile</td>
</tr>
<tr>
<td>Levels</td>
<td>Show off level of commitment</td>
<td>Fitocracy levels</td>
</tr>
<tr>
<td>Charity</td>
<td>Offer paid services to other users, Give valuable virtual goods to other users</td>
<td>Reddit gold, Steam items</td>
</tr>
<tr>
<td>Progression</td>
<td>Encourage to participate in an activity, Encourage to complete tasks, Gather information about users</td>
<td>HeiaHeia weekly progress bar, Fitocracy level progress, Steam task progress, Wikia task progress, LinkedIn profile completion</td>
</tr>
</tbody>
</table>
Of the social media types, content communities and social networking sites generally employ different game elements the most, while blogs and collaborative projects tend to use little to no gamification. The most common dynamic found in almost all of the services analyzed was statistics. Services seem to incorporate statistics to show the number of recommendations, likes or ratings made by other users about the content. As such, all statistics that reflect on an activity where the user is encouraged to either increase or decrease the values could be thought of as a form of scoring.

Among the least common game elements were virtual goods and virtual spaces. Based on the analysis, only one site, Steam, employed a virtual item system. Reddit had employed such a system in the past, and is the only site featuring a virtual space. Other sites used no virtual items or virtual spaces at all. There are also game elements that were not used in any of the analyzed sites. For instance, while common in actual games, none of the sites involved story or fantasy elements.

While the game elements found in the analysis have varying goals, almost all of them share a common property. Statistics, scores, leaderboards, badges, competition, cooperation, tasks, levels and progression are all used to ensure high quality throughout the services. Each of these elements influence the actions of the users one way or another while aiming to improve the quality of the content generated by the users. For instance, many of the sites that use badges award them for high-quality actions. In StackOverflow, positively rated questions and answers are awarded with badges, encouraging users to ask better questions and to give better answers. This seems to be particularly true for sites that use positive-and-negative rating systems, but applies to positive-only rating systems as well. Of the social media types, content communities seem to be the most likely to employ such a quality control mechanism by gamification.

However, it should be noted that the word “quality” may not be the most suitable term in all the cases where some kind of encouragement is applied towards the user-generated content. For instance, in the case of submitting photos as content, quality may refer to the actual image quality and technical aspects of the shot, or it may refer to the artistic features such as the setting or the lighting. Viewers may also be attracted by the subject of the photo rather than the properties of the photo itself. Instead of “quality”, terms such as “appeal” and “attractiveness” may be more suitable in such cases to denote the difference.
8. Discussion and implications

The purpose of this study was to create knowledge about the ways gamification is currently used in social media. The research was conducted using qualitative content analysis on 18 sites representing four different types of social media as defined by Kaplan and Haenlein (2010), excluding virtual social worlds and virtual game worlds. As presented throughout the Chapter 7, all types of social media seem to incorporate at least some gamification in their services, although some sites use no gamification at all.

In this chapter, the findings of the current study and the previous research are discussed. The discussion focuses on topics of the effects of gamification in social media, the role of social media elements as means of gamification and gamification as means of quality and appeal control over user-generated content.

8.1 Gamification in social media

According to Bista et al. (2012), there are three challenges involved in online communities that can be engaged with gamification: bootstrapping (gathering the initial user base), monitoring (observing user activity) and sustainability (engaging users to continue use after initial phase). Although all the analyzed sites were past the initial phase, some notes can be made. First off, the elements that were found in the sites could be used to gather and engage the users in the initial phase of a service, and gamification as a phenomenon might also be in a key role in this phase, as argued by Hamari and Koivisto (2013). Especially elements that reward users for certain behavior could play an important role in the bootstrapping phase.

In the monitoring phase (Bista et al., 2012), gamification can be used to drive users towards certain actions. This can be seen especially in the social networking sites that were analyzed, where simple tasks were used to gather information about the users. In such gamification, the users input information about themselves, and gain a “reward” of hiding the task. Meanwhile, the provider receives more information about the users.

The current study argued that gamification offers the most tools for engaging users after the initial phase. As noted by Bista et al. (2012), in the challenge of sustainability, gamification is used to keep the users engaged to the service by offering challenges and rewards for participation. In this regard, the findings of the current study are in line with the claims made by Bista et al. (2012), as there were many sites involved in the current study that used tasks and badges to both offer challenges and reward users for participation, respectively.

Antin and Churchill (2011) note that badges are a common element found in social media and they are used to engage and motivate users. Many of the sites that were analyzed in the current study support this claim; many of the sites included badges that were used to both engage users and to motivate them. Badges were commonly awarded for participating in activities or for reaching towards high quality content. In some cases, such as LinkedIn and Fitocracy, badges were used to engage users towards subscribing to premium membership features. In each case where badges were used, they were clearly aimed to engage and motivate users.

Hamari and Koivisto (2013) argue that gamification increases the perceived benefits of social media services. If looking at how Fitocracy and HeiaHeia are using game elements,
the findings do support this claim. For example, if Fitocracy or HeiaHeia were stripped from the game elements, they would be little more than applications to log exercise activities. By using gamification, these services incite users to actually log their workouts into these services and to exercise in the first place. Compared to a more traditional way of keeping track of exercises with a notebook, these services reward the user for submitting workout information and may incite users to exercise more often.

According to Hamari and Eranti (2011), gamification in social media may also mean that there are some real-life contexts surrounding the services, giving an example of Starbucks which provides cheaper beverages to users who perform a Foursquare check-in in their cafes. As Foursquare was analyzed in this research as well, the findings comply in that regard. However, there were other real-life contexts involved as well in other sites that were studied. Fitocracy and HeiaHeia are exercising-centered services, requiring users to perform workouts and log them into the services. These sites clearly have a real-life context surrounding the service: users have to perform real-life exercises before logging them into the service. Of course, these activities are not verifiable; users may log in exercises they have not completed.

Bista et al. (2012) point out in their paper that game elements can be connected to each other, for example in the paper badges are linked to points. In the current study, many sites used similar linkage between game elements. For example, Steam uses a progress bar to depict the number of unlocked achievements, as well as the percentage of the total number of achievements available. This kind of linkage uses progress element in combination with achievements.

### 8.2 Social media elements as gamification

When analyzing social media, an interesting issue of whether or not the common features of social media are game elements. This issue is noteworthy since in almost all the sites analyzed, common social media elements such as connections and sharing were incorporated. While there has been very little research conducted on the gamefulness of social media elements, some discussion exists.

Both Bunchball (2010) and Bista et al. (2012) argue that social media elements such as Facebook likes and YouTube views relate to status, achievement, competition and reward as statistics. As such, social media features can be thought of as game dynamics. In the current study, practically all of the analyzed sites contained at least some statistics. When the statistics were directly related to the social aspects, it can be argued that they contributed to the status and competition dynamics presented by Bunchball (2010).

A somewhat opposing view is given by Huotari and Hamari (2011), who argue that gamification is seen as a packaging for a service. In the case of social media, this would mean that the social media service is the core, which is enhanced by game elements. Now, whether or not a social media service is gamified, the social media features still exist, meaning that functionality related to connections and sharing, for instance, belong to the core of the service. In this case, these core elements would not be a part of the gamification. Once gamified, the game elements should be enhancing the service. In this regard, it could be argued that the number of connections between users is not, in fact, a game element by itself. Once it is somehow enhanced, for example by implementing a leaderboard of the most connected users, it will become a part of gamification.
8.3 Gamification as a control mechanism for quality and appeal

Interestingly, the reviewed literature did not mention the use of gamification as means of quality and appeal control over user-generated content. However, the findings of the current study suggested that many sites actually have a strong focus on improving the quality, appeal or attractiveness of content made by users.

This kind of gamification was used in many ways. For instance, Facebook’s “like” feature and other sites with similar positive-only ratings incite users to make posts with content that would gain as many ratings as possible. On the other hand, in positive-and-negative rating systems such as the one used in StackOverflow, the reputation points system is used to encourage users to write well-defined questions and informative answers. Community projects such as Wikipedia use the community itself to drive peer pressure, leading towards better quality content. Aside from rating systems, badges were also found to incite users to post high-quality content. In some cases such as Reddit, badges were closely related to ratings and were given to users with multiple posts with high positive ratings.

While so many social media sites used gamification as means of quality and appeal control, the notion of previous research on the subject was surprising. The user-generated content plays a major role in many types of social media, especially in content communities, and as such, both social media and other areas where gamification can be applied could benefit from research focusing on this topic.

8.4 Summary

Based on the findings of the current study, the majority of the game elements used in social media focus on the sustainability of the user base. However, it is only one aspect of online communities that can be engaged with gamification, according to Bista et al. (2012). As such, there seems to be greater focus on sustaining the current user base with gamification, while less gamification is used to engage users in the beginning.

The role of social media elements in gamification is noteworthy. In the findings of the current study, many of the social media elements are closely tied to the game elements. As argued by Bunchball (2010) and Bista et al. (2012), social media elements may be thought of as game elements as-is, without the need of extra gamification.

All in all, the prior literature and the findings of the current study seem to line up on most cases. However, the use of gamification as a control mechanism of quality, appeal and attraction is a topic not discussed in the literature that were reviewed. Research may exist on the topic, however the literature review showed no evidence of such studies.
9. Conclusions

In this thesis the current state of gamification in social media was analyzed and represented. The main result was that although gamification has been incorporated somewhat widely in social media, there seems to be a clear division of what kind of game elements are used in certain type of social media. Social networking sites are the most common to incorporate statistics, whereas content communities are more often using badges and competition to engage their users.

The results indicate that in social media, there is still room for gamification. Currently, the majority of social media sites seem to employ little to no gamification, while a few of the sites use a variety of game mechanics and dynamics. When developing a new social media, these findings and uses of gamification can be used as a baseline to further develop a gamified service.

The most interesting finding was that gamification is widely used in social media to ensure appeal, attraction or quality of user-generated content. This was found to be especially true in content communities, but was found in other social media types as well. The literature review did not suggest such usage for gamification, which could indicate that previous research has not yet made similar observations.

There were some limitations involved in the research. As the sites were analyzed during a two-month period, seasonal and temporal gamification may have been impossible to identify. If for example a certain badge is granted only during night-time or certain game elements are used only during holiday season, there would have been no way to take note of such features in the process of analyzing the sites involved.

Another limitation stemmed from a similar aspect called “hidden gamification”, that is, game elements that are not always visible to users. During the analysis it was identified that HeiaHeia features achievements, however there is no list of achievements shown anywhere on the site. The achievements are revealed at the same time they are unlocked, making it very time-consuming to reveal all the possible achievements. As such, there was no way to identify the exact way the achievements are used and awarded. Other sites could incorporate such hidden game elements as well.

The possible game elements offered only to paid customers of the services were not included in the analysis. There may be some sites that incorporate gamification only in their premium features, although based on the sites that were analyzed, such features were usually advertised to users without premium subscriptions.

As this thesis was about preliminary analysis of the current state of gamification in social media, many future research questions arise. The results of this thesis showed that certain types of social media tend to use only certain game elements, and so the question of whether or not these social media services could benefit from incorporating also other game elements is left for future research. The possible benefits and drawback of gamification of social media should also be researched thoroughly.

In future research, the use of gamification in quality control or means of improving appeal and attractiveness should be a worthwhile subject of study. This holds especially true in the context of social media and other possible applications of gamification as well, where the aspect of quality, either objective or subjective, is a major concern.
References


