

Towards a Definition of Sportification with Generative Power Beyond Sports

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1 INTRODUCTION AND INDUSTRY ORIGINS OF SPORTIFICATION

CHIPLAY sees many works on Sports Interaction Technology [17], movement-based games [7], exergames [5], and other work inspired by elements of *sports*. Similarly, many CHIPLAY works concern gamification, defined as "using design elements characteristic for games in non-game context" [4, p9], to make non-game activities more interesting (168 search results up to 2022, many on user type modelling [20]). Given the ease and success with which gamification practice has been applied [8], we discuss here a parallel in the use of *sports*-elements in a non-*sport* context, translating an existing definition of Sportification from the field of sports organisation into HCI and showing that *Sportification* is its own design strategy suitable for our playful HCI field.

Heere [9, p4] introduced Sportification from a sports management perspective, in two ways. One, "view, organize or regulate a non-sport activity in such a way that it resembles a sport and allows a fair, pleasurable, and safe environment for individuals to compete and cooperate and compare their performances to each other and future and past performances". Two, "(to) add a sport component to an existing activity in order to make it more attractive to its audiences".

However, this does not yet sufficiently explain which *specific elements* make for the Sportification of non-sport activities. Furthermore, although Heere mention examples outside sports: 'the Eurovision song festival', 'The Voice', and 'You've got Talent', their work focuses more on the first part of the definition, non-sport contexts that are made into sport (e.g., play becomes sports with skateboarding [1] or games become sports with esports).

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Carlsson and Svensson [3], instead, do look at non-sport contexts, reviewing current cultural practices from a sociology and sport science-based perspective. They discuss how reality TV shows, such as Masterchef, heavily build on sports elements: referees overlook activities, instructions are given, activities require skills and tactics, there are start and end signals, pauses, match reviews, qualifications, and many more. Here indeed the resulting activity of cooking is clearly not a sports-context itself, but is *enhanced* with elements that are recognised as sports-related rather than games. Carlsson and Svensson also separate those *sports elements* from their underlying/resulting 'sporting characteristics' such as fair play, peak performance, or uncertainty of outcome. Building on this, in this paper we distill an easy access overview of sportification elements in relation to definitions of sportss.

2 TOWARDS A DEFINITION - PRECURSORS AND PARALLELS - TO SITUATE SPORTIFICATION

Sportification has generative power, separate from play- and gamefulness, and play- and gameful interaction as elements such as training and coaching are not prominently present in either play or games. Building on [4, 9, 15], we define Sportification as "the use of design elements that are characteristic for sports, within a non-sport context".

Elements of sports: We *play* sports and it relates to—but also has distinct elements from—play and games [2, 6, 10, 11, 13, 18, 19, 21]. Consensus in definition or delineation is lacking and perhaps it is even pointless to try to define sports [13]. Many of the definitions on sports do share qualities that could fuel design. Based on these definitions (ibid.) and general public resources (including Oxford dictionary, Council of Europe, Wikipedia, and the Oxford learner's dictionary), we identified the following key qualities to which we add sportification-related features: *physicality* (e.g. exertion, whole-body movements, and expression); *regulation* (e.g. rules, referees, and cheating); *competition* (e.g. jury, leagues (draw, match-making, relegation/promotion), and teams (team-making, apparel, cooperative competition)); *skilfulness* (e.g. quantified self, training, and coaching); and *performances* (e.g. showmanship, audience, media coverage(match reviews, interviews, descriptions, live streaming)). This list of characteristic qualities is non-exhaustive and we only highlighted three elements per quality. It could be expanded with less prevalent features from sports, such as: outside play, stability in

rules, and having a wide following. Some qualities, such as volition, could remain excluded from sportification because they yield little generative power beyond gamification. Similar to gamification, such a list with (more) qualities also does not imply that all sports need to include each sportslike quality.

Design: We can design based on characteristics (fair play, peak performance), qualities or elements (see above), but also the experiential level can be used as a design lens [14] (cf. PLayerful Experiences (PLEX) Cards regarding play [12]).

Non-sports context: It is important to clarify that the resulting activity should not be a sport itself, as is arguably the case for the sportification of computer games into (physical) esports [16]. This would be the already existing “organisational evolution of activities into sports”. Rather here we focus on adding game elements [4] to make a non-sports activity more pleasurable or to stimulate behavior change in preferred directions.

Situating ‘Sportification’ In analogy to gamification [4], “Sportification” refers to the *Use* (rather than stretching the boundaries of sports) of, *Design* (rather than technology or other sport-related practices), *Elements* (rather than full-fledged sports), *Characteristic for sports* (rather than game- or play-(fulness)), in *Non-sport contexts* (regardless of specific usage intentions, contexts, or media of implementation). Through this analogy we also clearly distinguish Sportification from serious sports, where there are full-fledged sports activities but the focus is on a non-sports outcome such as team building or rehabilitation.

3 DISCUSSION AND CONCLUSION

There is almost [15] no ‘sportification’ in the HCI-related literature. Like gamification implementations the resulting implementations are simple and familiar but together could provide that additional bit of motivation, quality in execution, or pleasurable experiences. Although, sportification concepts will typically be more structured and organisationally focused compared to games, they can provide many new applications (from TV shows to health and science) that could benefit from our shared interactive play view of how technology can enrich (sports-)play experiences (e.g. [14–16]).

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REFERENCES

- [1] Mikhail Batuev and Leigh Robinson. 2018. What influences organisational evolution of modern sport: the case of skateboarding. *Sport, Business and Management: An International Journal* 8, 5 (2018), 492–510. <https://doi.org/10.1108/SBM-10-2017-0052>
- [2] Steffen Borge. 2021. What is sport? *Sport, Ethics and Philosophy* 15, 3 (2021), 308–330.
- [3] Bo Carlsson and Martin Svensson. 2015. Masterchef and the ‘sportification’ of popular culture... and society. In *Idrottsforum.org/Nordic sport science forum*. Malmö högskola, Idrottsvetenskap, Malmö University, Malmö, Sweden, 26 pages.
- [4] Sebastian Deterding, Dan Dixon, Rilla Khaled, and Lennart E. Nacke. 2011. From Game Design Elements to Gamefulness: Defining “Gamification”. In *Proceedings of the 15th International Academic MindTrek Conference: Envisioning Future Media Environments* (Tampere, Finland) (*MindTrek '11*). ACM, New York, NY, USA, 9–15. <https://doi.org/10.1145/2181037.2181040>
- [5] Roland Graf, Pallavi Benawri, Amy E. Whitesall, Dashiell Carichner, Zixuan Li, Michael Nebeling, and Hun Seok Kim. 2019. IGYM: An Interactive Floor Projection System for Inclusive Exergame Environments. In *Proceedings of the Annual Symposium on Computer-Human Interaction in Play* (Barcelona, Spain) (*CHI PLAY '19*). Association for Computing Machinery, New York, NY, USA, 31–43. <https://doi.org/10.1145/3311350.3347161>
- [6] Kirstin Hallmann and Thomas Giel. 2018. eSports–Competitive sports or recreational activity? *Sport management review* 21, 1 (2018), 14–20.
- [7] Perttu Hämäläinen, Joe Marshall, Raine Kajastila, Richard Byrne, and Floyd Mueller. 2015. Utilizing gravity in movement-based games and play. In *Proceedings of the 2015 Annual Symposium on Computer-Human Interaction in Play* (*CHIPLAY'15*). Association for Computing Machinery, New York, NY, USA, 67–77. <https://doi.org/10.1145/2793107.2793110>
- [8] Juho Hamari, Jonna Koivisto, and Harri Sarsa. 2014. Does gamification work?—a literature review of empirical studies on gamification. In *2014 47th Hawaii international conference on system sciences*. IEEE, 3025–3034. <https://doi.org/10.1109/HICSS.2014.377>
- [9] Bob Heere. 2017. Embracing the sportification of society: Defining e-sports through a polymorphic view on sport. *Sport Management Review* 21, 1 (2017), 21–24. <https://doi.org/10.1016/j.smr.2017.07.002>
- [10] Seth E. Jenny, R. Douglas Manning, Margaret C. Keiper, and Tracy W. Olrich. 2017. Virtual(ly) Athletes: Where eSports Fit Within the Definition of “Sport”. *Quest* 69, 1 (2017), 1–18. <https://doi.org/10.1080/00336297.2016.1144517>
- [11] Bernard Jeu. 1972. What is sport? *Diogenes* 20, 80 (1972), 150–163.
- [12] Andrés Lucero, Evangelos Karapanos, Juha Arrasvuori, and Hannu Korhonen. 2014. Playful or gameful? Creating delightful user experiences. *interactions* 21, 3 (2014), 34–39. <https://doi.org/10.1145/2590973>
- [13] Frank McBride. 1975. Toward a non-definition of sport. *Journal of the Philosophy of Sport* 2, 1 (1975), 4–11.
- [14] Floyd Mueller and Damon Young. 2018. 10 Lenses to Design Sports-HCI. *Foundations and Trends® in Human–Computer Interaction* 12, 3 (2018), 172–237. <https://doi.org/10.1561/11000000076>
- [15] Dees Postma, Robby W. van Delden, Jeroen H. Koekoek, Wytse W. Walinga, Ivo van Hilvoorde, Bert Jan F. van Beijnum, Fahim A. Salim, and Dennis Reidsma. 2022. A Design Space of Sports Interaction Technology. *Foundations and Trends® in Human–Computer Interaction* 15, 3-4 (2022), 249–433. <https://doi.org/10.1561/11000000076>
- [16] Dees B.W. Postma, Robby W. van Delden, and Ivo M. van Hilvoorde. 2022. “Dear IOC”: Considerations for the Governance, Valuation and Evaluation of Trends and Developments in eSports. *Frontiers in Sports and Active Living* 4 (2022), 1–14. <https://doi.org/10.3389/fspor.2022.899613>
- [17] Dees B.W. Postma, Robby W. van Delden, Wytse Walinga, Jeroen Koekoek, Bert-Jan F. van Beijnum, Fahim A. Salim, Ivo M. van Hilvoorde, and Dennis Reidsma. 2019. Towards Smart Sports Exercises: First Designs. In *Extended Abstracts of the Annual Symposium on Computer-Human Interaction in Play Companion Extended Abstracts* (Barcelona, Spain) (*CHI PLAY '19 Extended Abstracts*). Association for Computing Machinery, New York, NY, USA, 619–630. <https://doi.org/10.1145/3341215.3356306>
- [18] Bernard Suits. 1988. Tricky triad: Games, play, and sport. *Journal of the Philosophy of Sport* 15, 1 (1988), 1–9.
- [19] Bernard Suits and Thomas Hurka. 1978. *The Grasshopper: Games, Life and Utopia*. University of Toronto Press, Toronto Buffalo.
- [20] Gustavo F. Tondello, Rina R. Wehbe, Lisa Diamond, Marc Busch, Andrzej Marczewski, and Lennart E. Nacke. 2016. The Gamification User Types Hexad Scale. In *Proceedings of the 2016 Annual Symposium on Computer-Human Interaction in Play* (Austin, Texas, USA) (*CHI PLAY '16*). Association for Computing Machinery, New York, NY, USA, 229–243. <https://doi.org/10.1145/2967934.2968082>
- [21] Deborah P. Vossen. 2004. The nature and classification of games. *Avante* 10, 1 (2004), 53–68.