# From interaction to post-participation: the disappearing role of the active participant. Introducing research framework of post-participation.

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#### Abstract

This paper analyses and contextualises passive audience interaction through the lens of post-participation. It argues that the concept of post-participation helps to address the shift from an active to a passive spectator in the complex age of dataveillance, an age in which humans are continuously tracked, traced, monitored and surveilled without their consent.

By exploring interactive art history and the discourse of identity within the field, this article investigates how artworks that demonstrate no audience involvement, but still incorporate an internal system interaction with a data source, are addressed. In other words, the research tracks down the interest shift from human-machine to system-to-system interaction, and explores the reasons behind this.

Paper introduces direct and indirect post-participation, which are research tools developed for the practice-based investigation. Two case studies illustrate how the research framework of post-participation can be applied for analysing a complex relationship between an interactive system, a participative input and audience.

#### Keywords

Interactive art, post-participation, surveillance, interactive systems, hybrid art, practice-based research, post-digital.

#### Introduction

At the beginning of the 1980s, the artists were eager to involve the audience in dialog with an interactive system. Interactive art gained recognition in 1990, when Prix Art Electronica introduced a dedicated category for the discipline. [1] The pivot point took place in 2004 when Golden Nica was awarded to "Listening Post" (2001) by Mark Hansen and Ben Rubin, which had no interactive element concerning audience involvement. This occasion triggered discussion around the definition and identity of interactive art. In the end, the history of Prix Ars Electronica demonstrates how the concept of interaction has been challenged and expanded. For example, the statement of Prix Ars Electronica from 2016 regarding Interactive Art+ category, is expanding beyond direct interaction stating that the artistic interests have gone social and political, and interactivity has become pervasive. The bare excitement of novel interfaces is no longer actual. [2]

Philosophically speaking, it is clear that the audience is engaged with an artwork in mental level, too. At this point, I can agree with Ranciere and Norwich that perception is an active process. [3][4] Practically speaking as a practicebased researcher, this evaluation criteria does not leave me many research tools. For instance, Ernest Edmonds states that the principal aesthetic value of interactive art lays on the interactive experience, which is a criterion for a such art piece that has to respond to audience interaction with it.[5] Katja Kwastek makes a similar point regarding the level of engagement, when defining the discipline: "Digital artworks that require the viewer to engage in some activity that goes beyond purely mental reception are commonly designated as 'interactive art'." [1] To put it clearly and simply, an interactive artwork contains some interactive or reactive element(s) that a viewer can interact with. The in-teraction is mediated by a computer or electronic system, which is responsive to audience interaction to the extent that an artist has designed it to be. In short, the audience completes the work, which is performed by a technological medium.

Now, what happens if an artwork contains no interactive elements for an audience, but an interactive system which takes interest group behaviour or activity without their knowledge or control as an input. Can we still analyse these works as interactive ones?

Several researchers have addressed this question and different terminology has been suggested, like unaware and passive participants, along with meta-interaction by Erkki Huhtamo, Strategy of System by Ryszard Kluszczynski, and subliminal interaction by Pau Waelder. [6][7][8] In addition to conscious approaches towards updating the terminology of interactive art, there are a number of artists and theorists, who demonstrate in their description of artworks, the absence of the active audience. For example, James Coupe names his audience as an "unwilling actor" and Madescribes the spectators "Surface ciej Ozog of Tension" (1992) by Lozano-Hemmer as the "helpless audience". [9][10] In short, there are different proposals available on how to address this shift, which also shows that there is no clear understanding how to approach artworks that have changed their focus from an active participant to a system.

In order to analyse the paradoxical situation in interactive art, where the artworks that demonstrate no direct audience

# Gwangju, Korea

interaction are addressed as interactive, the term of postparticipation is introduced and discussed in this paper. Hence, the research framework of post-participation helps to describe, analyse and ultimately contextualise artistic practice from the perspective of audience involvement and the participative input of interactive systems.

In addition to that, the term is politically loaded, and thus, enables artists to address the problematics of privacy in the age of dataveillance. In large extent, post-participation is connected to the surveillance age, where the society has accepted constant camera and algorithm gazes.

#### From interaction to post-participation

In 1996, Söke Dinkle noticed a shift from participation to interaction. In her article, she explores the roots of interactive art from the perspective of audience engagement. [11] It is interesting to see how the role of a spectator has been shifting throughout the time. With the introduction of interactive technology into arts, the human-to-human interaction has been transformed into a machine-to-human one.

When it comes to the yet another shift in the role of the audience today, to the dialog between system and user has been added a dialog between two systems where the user(s) serve not an active, but a passive role of input. An art piece can be completed by the data we are generating, sensor data, and more indirect inputs that the public has no control over. Hence, it is appropriate to state that there is a tendency to move from interaction to post-participation in art and also in general. This situation is profoundly social and political, and not merely technological as Dinkla stated in 1996. [9]

The modern times of surveillance capitalism introduce new artistic concepts and materials. Talking about the first ones, the interest of participating and creative user has shifted to monitored and passive one. Contemporary surveillance culture dictates voyeurism and exhibitionism, which have converted into a normality today. "Surveillance has become a common experience and practice of everyday life at the edge of the twenty-first century." [10] According to Haggerty and Ericson, "[w]hile surveillance is now ubiquitous, it is also diverse, multi-faceted, and employed in such a panoply of projects that it is almost impossible to speak coherently about surveillance." [12] Hence, Ozog sees a particular importance in the role of artists working with technology, who are able to "deconstruct and subvert the strategies, politics, and ideologies of modern electronic surveillance." [10] In other words, the artists applying and conceptualising surveillance technologies, are the ones, who help us to realise the level and nature of surveillance today. Creatives explore and hack surveillance technology and apply real-time data sources as artistic material.

If in the 1990s and 2000s artists were mainly concerned about creating as responsive installations as possible and also novel interfaces for a spectator to interact with, then in the information age the interest has moved to the world of data. As I have stated elsewhere, post-participation goes beyond the interface; it embeds real-life elements and unaware or passive participation into an artwork. The every-day activity becomes a score of artwork; it completes the open process of the piece. The direct interaction of audi-ence is not needed anymore, the data that each of us gener-ates being in physical or cyberspace can act as a post-par-ticipative input for an interactive system. [14] Hence, a postparticipative artwork does not ask for interaction from its audience; it makes use of real-time data generated by social media users, CCTV camera video feed, or other data source that we do not have control over or have no clue about. In short, such artworks are not open for direct inter-action, but for a real-time data source that makes a work of art alive. In this article, such real-time data source is named postparticipative input. Similarly to an interactive work, a postparticipative piece changes along with new input, only the cause for the change is not a beholder, but a selected data source - a post-participative input. A spectator is placed in a position to be surveilled or be an observer while the system tracks others or also him/herself. It con-stitutes the duality of spectator: being observed and an ob-server at the same time.

Often the term of post-participation can be applied for the works that fail to be categories as interactive ones, for example, "Listening Post" by Hansen and Rubin, which of-fers no interaction to its audience. However, the artwork is open and never the same, since the messages that appear on the 231 small displays and that are read out loud by the computer system come from the chat rooms and forums on the Internet. [13] According to Kluszczynski, "Listening Post" can also be described as the Strategy of System. He has introduced this term in order to explain artworks that demonstrate system interaction and leave the audience without any interaction element. Kluszczynski refers to two types of Strategy of System: first, is a group of people online unaware of their input role as a data source for the interactive system. The work's output system is connected with the audience, though, which is a radical difference with an interactive artwork in the classical sense. In the case of interactive work, spectators act as an input and ex-perience the output of the work. The second type of Strat-egy of System that Kluszczynski introduces is described as "total autonomy of technological order." [7] It constitutes, there are no unaware or passive participants, but the work is completed by automatic data sources, like meteorologi-cal measures, which correspond or make a change in the artistic spectacle that is offered for the contemplation to the audience. In the words of Kluszczynski: "[e]ach change of meteorological parameters results in transformations of the system in the gallery installation attributed to it. Its audi-ence, with no exceptions, comes down to the role of a spectacle's observers." [7] Kluszczynski makes valid points and underlines once again the fact that interaction has traveled to the system level. Definitely, the ideas and understanding of Kluszczynski However. with post-partici-pation. resonate postparticipation is not about solely sys-tem interaction, but it investigates the role of the participa-tive component in the work and distinguishes several cate-gories of it.

# Proceedings of the 25th International Symposium on Electronic Art

#### ISEA2019, Lux Aeterna

In short, I see that post-participation opens a new space for the artworks that do not fall under the interactive art cate-gory and is more descriptive in respect to the role of the audience than suggested database or net art in Erkki Huh-tamo's article or Strategy of System by Kluszczynski. [6][7] Moreover, post-participation is a useful term for me as a researcher and artist, because it helps me understand the evolution of my practice from the perspective of audience involvement. Also, post-participation enables artists to ad-dress the problematics of privacy in the age of dataveil-lance.

# Research tools: direct and indirect postparticipation

When analysing my own and related artworks regarding post-participation, I have noticed either an artwork's connection or disconnection with an exhibition space concern-ing the origin of post-participative input. Hence, I propose using two categories of post-participation - direct and indi-rect one when discussing the post-participative art prac-tice.

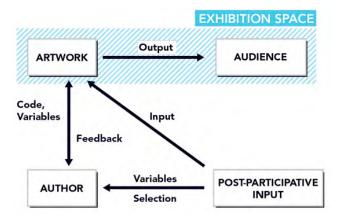


Figure 1. relationships in the indirect post-participative artwork.

An indirect post-participative artwork has no connection with the physical space where it is displayed. The figure 1 above demonstrates relationships within an indirect postparticipative artwork. In the schema is shown that the audience in the exhibition space are offered to perceive only the output of the interactive system, which results in the postparticipative input responsive artwork. The post-par-ticipative input itself is separated from the exhibition space and is located outside of it. For example, such input could be unaware of their participation online users or passersby registered by a tracking system, which is located in differ-ent place from the artwork. In other words, a presence, movement or any other action performed by the audience in the exhibition space is irrelevant. The artwork is com-posed of an internal computer system that is open to the postparticipative data source that is located either online or outside the exhibition space. Therefore, an indirect postparticipative installation does not look for any input from the audience but scans the dedicated area of interest con-stantly. At the same time, it has a connection to a real-life element.

In short, the figures visualise the passive role of the audience and post-participative input: the first, perceiving the output from the artwork, and the second, acting as input for the artwork. The only dialogue here is between the artwork and author, which mostly happens during the creation period and when customising the installation for a certain location or new input. The difference is in the origin of postparticipative input, which the figures 1 and 2 aim to communicate.

In terms of contrast, a direct post-participative piece has a connection with its physical location (see Figure 2). It means that the artwork, audience and post-participative input share the same space and time. Other relationships are the same compared to the figure of indirect post-participation. The schema below demonstrates that all three components are located in the same space and the audience without its knowledge or will becomes the input of the artwork. It is important to mention that in the case of direct postparticipation the audience does not always form part of the input. The post-participative input can also be an animal one, if they are part of the artwork.

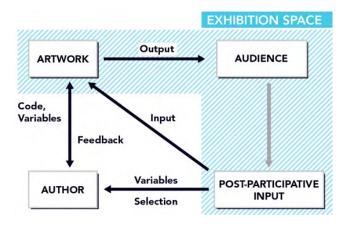


Figure 2: relationships in the direct post-participative artwork.

Moving further, a direct post-participative installation looks for audience participation whether it is voluntary or not, conscious or not. However, active participation is not the aim of the work. By entering the exhibition space, a spectator becomes the interest of the artwork by default. Like Maciej Ozog explains when analysing Rafael Lozano-Hemmer's work: "The viewer-interactor cannot influence the system; she can only refrain from interacting by avoiding a meeting with the digital gaze." [10] Or Erkki Huhtamo refers to a beholder as an unaware participant when analysing David Rokeby's artworks that deal with surveillance and an observing camera image. [15] In other words, there is no need to be an active participant. Just the act of entering into the scanning territory of installation constitutes the acceptance of participation in the artwork as an input.

### Gwangju, Korea

# Indirect post-participation case study: The Rhythm of City

"The Rhythm of City" (2010) demonstrates indirect postparticipation by applying real-time geo-locative social me-dia data of Twitter, Flickr, Youtube, Foursquare, and Insta-gram as a score of 10 modified metronomes (see figure 3). Online users of certain cities are participating in the art-work through their everyday virtual communication with-out being aware of the fact that they have a significant role in the installation. They are taking part in composing the artwork's score that updates its rhythm every other minute. As a result, the audience is confronted with a unique, un-predictable and continuous performance.

The work is in a constant flux mirroring the digital pace of life, and thus, the digital inhabitants of social media postparticipating in composing the rhythm of each metronome. At the same time, the work has no responsive connection with the exhibition space and its audience. Hence, by bene-fiting from contemporary personal data and metadata ag-gregation possibilities, indirect post-participation draws on the strategies of dataveillance. User-generated big data do not stand for the data anymore, but rather for constant and involuntary participation, which in this paper is describe as postparticipation. In the case of "The Rhythm of City", the realtime geo-located activity of social media users is translated into the tempo of a metronome, which indicates that the installation is post-participative.



Figure 3. Rhythm of City (2010) by Varvara & Mar in Elektronika festival, Belo Horizonte, Brazil (2011).

With this art project, the idea was to explore a different method of interaction that goes beyond the audience clicking on a menu bar, pushing a button or contributing to any content. I am talking about an artistic interpretation of the virtual social activity and underlining the fact of post-participation and dataveillance in the digital age. Thus, the intention is to translate the post-participation of target groups on the internet to the physical motion of a metronome, and therefore, through this to describe the urban landscape in a novel way. In addition, my concerns revolve around the malleability of the digital world in relation to the physical one, and the interpretation of digital social data for artistic purposes.

Concerning the inspiration for this piece, several cultural studies have demonstrated that a city and its culture can be described by the speed of inhabitants and services, and its location. [16][17] These findings, like a positive correla-tion between the walking speed and the size of the city by Bornstein & Bornstein in 1976, inspired me to research what would be the pace of life in a city, not on its streets but rather in its digital dimension.

Technically speaking, social media services have their APIs that allow specific access to their users' data to third parties (so-called developers category). The fact is that this technology opens a door for various applications to make use of these data. Most of the business models of startups are based on the users' data acquired from different appli-cations by mostly using APIs. Of course, the ones who pro-duce data have no idea where and how the data are applied. Shoshana Zuboff describes such a paradigm as surveillance capitalism. In her words, "big-data is both a condition and expression." [18]

Talking from an artist perspective, social media data are fascinating, political, and concept-rich artistic material. What is more important, they also allow to look at and highlight a different participation model, which in this case is indirectly post-participative, since the users have no longer control over it and often have no knowledge about their participation. The indirect category is expressed by the fact that the artwork is not bound to the physical loca-tion of the exhibition but takes place on the territory of so-cial media in the selected areas. To be more precise, since the postparticipative input of "The Rhythm of City" does not share the exhibition space with the installation and its audience, it represents indirect post-participation.

When it comes to related artistic practices, Hansen and Ru-bin introduced in their artwork "Listening Post" an early approach in culling data from the forums for an artistic purpose. The input for the interactive system of "Listening Post" are the users of 5,000 forums and blogs, who are not physically present in the exhibition at the same time. Hence, the artwork demonstrates a disconnection between its input and the audience, which is the precondition for the indirect post-participation. In other words, a spectator can-not influence the artwork in any way.

Another well-known artist in interactive art is David Rokeby, who has been using video as a creative medium and voyeurism as a conceptual departure point from the early 1990s in works such as "Watch" (1995–2008). [19] By separating moving from still parts in the camera image, the artist is able to play with the image layers and filter out humans, which enables him to confront the audience with the problematics of surveillance. In the words of the artist: "In 'Watch', public sections of the exhibition gallery or of exterior public space, separate from my installation, are watched by surveillance cameras. These images are pro-cessed in realtime and projected onto the wall of the in-stallation space." [19] The duality of a spectator: observing

and being observed, are the conceptual parts of the art in-

# Proceedings of the 25th International Symposium on Electronic Art

stallation. "Watch" demonstrates the separation between the space that is watched and the gallery space where the other is observed by the audience, which is one of the char-acteristics of indirect post-participation. Of course, people, who are monitored, and thus, integrated into the artwork have no idea about their role, which is another requirement of the term introduced. Hence, "Watch" (1995–2008) by David Rokeby can be described as indirectly post-partici-pative artwork.

In the end, artists are also very much aware of the dark side of the online world and aim to tackle this issue in their practices. In particular, audience's post-participation in an art installation is often used to underline the paradigms of the surveillance age. To be more precise, indirect post-participative artworks highlight, in significant extent, dataveillance and the application of contemporary complex surveillance strategies online.

# Direct post-participation case study: Budgie Waltz

"Budgie Waltz" (2012) introduces an animal component to the discourse of post-participation. As mentioned previ-ously, a post-participative input can also be animal one, and thus, the following artwork illustrates this claim. With this art project I feel and test the borders of the conceptual term; however, I believe it also represents a research evolu-tion. Here, with the example of budgerigars, I explore what happens if the artwork is completed by the post-participa-tive input of birds instead of humans, leaving the audience only in the passive role of observer.



Figure 4. Budgie Waltz (2012) by Varvara & Mar at the Verbeke Foundation.

The art project consists of budgies creating a piano play by entering and leaving their birdhouses. Each entrance to a birdhouse is equipped with a light sensor, which is triggered by a bird entering or leaving the house. The sensor activates the correspondent solenoid, which pushes down a specific key on the Berlin piano, and thus, produces a note. In other words, "Budgie Waltz" draws on the budgerigars' life pace and converts it into a piano play using a real musical instrument. "Budgie Waltz" registers every entry to the birdhouse by budgies. In a way "Budgie Waltz" aims to come as close as possible to the post-participative input and embrace it into the artistic process. Thus, without knowing and continuing their normal life, the birds become a part of the art installation.

In "Budgie Waltz" was simulated smart home situation by equipping the birdhouse with the sensors that registered each entry and exit of a bird and translated it into a piano play. In this artwork, the role of post-participant has been transferred to the birds, and thus, a spectator becomes a witness of direct post-participation instead. If in the case of indirect post-participation the participation process can be felt abstract because of its disconnection from the exhibi-tion space, then direct post-participation brings the process much closer to the audience.

The topic of surveillance is one part of the concept, which is surprisingly translated into a piano play as a reference of not knowing what happens with these data subsequently. In this art project, the monitoring and tracking have travelled from a street and social media to home. As an ironical metaphor, the budgerigars become the actors of humans. Every time a bird enters or leaves the birdhouse, the piano key goes down and produces a sound. Like in a smart home, every time one asks to make a coffee, brushes teeth, vacuums the home or watches TV, he or she leaves a data trace behind. In the article "The House That Spies on Me", Kashmir Hill and Surya Mattu discuss in detail what kinds of data get sent out constantly from their smartened-up home as an experiment. In their words, "[g]etting a smart home means that everyone who lives or comes inside it is part of your personal panopticon." [20] And this personal panopticon is used for spying by many parties, like ven-dors, third parties and intelligence agencies of several states, the USA for example. [21] Hence, my idea is to ap-proach this problematics and paradigm of today with a non-linear artistic expression involving budgerigars, or more precisely, making artwork from existing birds living in their huge cage. I believe budgies forward the metaphor of being spied on at home and the surveillance state per-fectly.

In addition to monitoring, an unpredictable score, which follows the everydayness of birds, is a part of the artistic thinking. Hence, the birds dictate the rhythm and pitch of the piano performance. Since coming in and going out of their houses is a part of the standard behaviour of budgies, it also allows me to discuss their rhythm of being. The use of the pace of life concept, which began with "The Rhythm of City", refers to my continuous interest towards the tempo of everyday life, like in all my artworks described so far. "Budgie Waltz" is an art installation that invades the cage of budgies and translates the life of birds into a musi-cal score, which has a reference to "Baltic Sea Radio" (2012) that is also concerned with a sound score in flux. Ultimately, with "Budgie Waltz" I aim to go beyond hu-man-based or humangenerated data and activities and use the birds' behaviour instead.

What is more important, apart from converting a birdcage into an artwork, is that I have also applied it as a research lab. Since I worked for the first time with birds, there were

Gwangju, Korea

many things to discover. First of all, I have understood with "Budgie Waltz" that the birds not only become an art-work but the whole of their existence converts into it. It was a novel experience for me that I had not felt in my pre-vious artworks. Second, in the "Budgie Waltz" project I managed to get closer, as an artist and researcher, to the postparticipative input than I could ever have achieved with humans, I believe. Moreover, the whole post-partici-pation concept is elevated to the stage-like scenario: the everydayness of birds is right there and observable for the audience. The post-participative input shares the same space as the artwork, and therefore, I am talking about di-rect post-participation in the case of "Budgie Waltz". In the end, I think with this artwork I have succeeded in underlin-ing the core of post-participation in the brightest colours: a natural and undisturbed behaviour of a subject is embedded into an artwork as a direct post-participative input. Of course, the sensor system was noticed by the birds when it was installed in the birdhouse. But after a certain time, the upgraded living facilities became normality for them.

Concerning the audience experience, the role of observer is offered to a spectator, who is able to sense the connection between the ever-changing piano play and budgies' behaviour, and thus, discover the post-participation mode in the artwork. Obviously, the presence of people, especially if we talk about a large number of visitors, can affect the birds' behaviour. But again, it is something that is out of my research interest range, and it is part of the game: the artwork follows the budgies' pace of life. Moreover, in the foundation, there are always visitors, and the budgerigars are used to that. However, what is more important is that the audience members are not simply observers, but rather witnesses of the direct post-participative process, which is brought as close as possible to them. I would like here to borrow Juha-Heikki Tihinen's words when he analysed Uku Sepsivart's artwork "Michelangelo's Assignment" (2017) where the birds were gradually destroying a replica of Michelangelo's sculpture made of fat: "The viewer can have the experience of becoming animal. Become animal, just for a moment, it's worth it!" [22] Drawing on Jacques Derrida's thoughts on how humans try to differ from ani-mals, by confronting the audience with the animals in the direct post-participation process inside the artwork, the metaphor is actually turned into recognition. [23]

To sum up, "Budgie Waltz" illustrates my exploration towards the integration of animal direct post-participation into the artwork. I have reduced the distance between the direct post-participative input and the interactive system so drastically that it is difficult to distinguish whether the birds are part of the artwork or the artwork is a part of the birds' life. In other words, there are no physical or mental borders between the artwork and its scanning area. I am saying this because from the audience's point of view, the scanning area, which is the bird's cage, is located in the territory of the artwork, and thus, perceived as a part of it. In the end, this was the reason and research interest behind using birds as a direct post-participative component.

The helplessness of audience to master their interaction with a direct post-participative artwork is definitely a com-

mon characteristic among the artworks discussed here. It means, the emphasis is on the system and not on the audience. Some artworks, like "Zoom Pavilion" (2015) by Lozano-Hemmer, "Desire of Codes" (2005) by Seiko Mikami and "Watched and Measured" (2000) by David Rokeby, demonstrate the dominance of the system over a spectator very vividly. I can see artists using surveillance technology in the gallery and also in public space. Mostly are applied various cameras, which act as an image input for increasingly powerful algorithms that are able to track and recognise. The societies of control that was described by Deleuze is our reality, and it is supported and encouraged by the development of technology greatly. [24]

### Conclusions

The solution to the identity crisis of interactive art has been offered by extending the field name, like adding hybrid and +. However, the unsolved question remains: how do we define these kinds of works that are not interactive towards their audience, but still incorporate an internal system interaction with a data source?

The paper has discussed current problematics of interactive art, which have started from 2004 already, and offers a possible solution to address the artworks that incorporate passive audience participation as post-participative ones. What is more important, the term proposed resonates strongly with the post-digital and surveillance age, which help the artists to conceptualise, and also, contextualise their works that undergo post-participation description. Post-participation occurs at a time when interactivity in itself ceases to be novel, and the focus has shifted from the spectator to the data being processed by the artwork as a self-sufficient system.

As case studies have demonstrated, post-participation is a research tool for understanding the evolution of artistic practice from the perspective of audience involvement. Also, the notion of post-participation helps to describe, analyse, and in the end contextualise, artistic practice from the perspective of audience involvement and the participative input of interactive systems.

In conclusion, it is possible to say that the technological age has had a strong influence on the audience participation in art. With the advent of digital technology, the interactivity has been explored. And today, in the age of dataveillance, active audience participation has been converted to passive one. There is a shift from human-computer to system-to-system interaction. In the foreground is the dominance of the system and in the background, helpless audience. Such transformation is obviously socially and politically loaded. Therefore, I believe post-participation is a new kind of participation that has been introduced by post-digital times we are living in.

# Proceedings of the 25th International Symposium on Electronic Art

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