Newsgames –
Typological approach, re-contextualization and potential of an underestimated emerging genre

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Abstract:

In its constant transformation process, news journalism has been embracing digital media, remediatizing the whole bundle of journalistic practices – from classic print, infographics, audio to video. New practices of online media – such as e.g. interactivity – however, offer more options than simply revisiting 'old' forms of news production. One emerging genre in this context is newsgames – a wide spectrum of digital artefacts produced at the intersection of journalism, play, simulation and participatory action.

Taking factual issues as point of departure, these games offer a hybrid representation of original research combining real-world based sources with virtual interactive experience and procedural rhetoric thus opening space for dynamic experimentation, stimulating further in-depth analysis and discussion.

This paper offers to approach this issue in a threefold way: First, we sketch a 'typological map' of the emerging genre – which will lead us to come up with a differentiated spectrum of several sub-types, reaching from editorial games, current events, interactive infographics, puzzle and quiz games, documentaries, simulations of systems, news-literacy games and community games. Hereby, the evolution of genres will be diachronically contextualized in the history of news practices as well as relocated in the context of games studies. In a second step, we will discuss an analytical-interpretive model for a news-games wizard. And last but not least, we address the main opportunities and challenges of journalistic games – both in terms of production, distribution and reception and as to their cultural, political and ethical dimensions.

Keywords: news games, interactivity, new media, remediation, procedural rhetorics.

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> *"Tell me and I'll forget; show me and I may remember; involve me and I'll understand."*
> *Chinese Proverb*

I.   "New + Games = News-games?" – In Place of a Definition

'News is about actual, topical facts and arguments; video games are for amusement, leisure and entertainment. News is the medial agora to discuss issues of relevance and to incite critical reflection; games are for kids and never-grown-up nerds.' Or in short: News is considered as culturally valuable and important in democratic society, whereas games are usually not considered serious occupation for adults.

In the following paper, we would like to approach the issue from a diametrical position. Bringing together theories and models of both media and communicational sciences as well as game studies, we would like to argue that digital games *do* have the potential to serve as a mode for exploring intricate interdependencies, to adequately present complex facts, to make qualified arguments and to stimulate critical thought. In our eyes, the emerging genre of newsgames *can very well* be used for expository, explanatory and persuasive matters as well as for making differentiated comment.

Newsgames as audiovisual media artefacts employ verbal, visual and procedural rhetoric (*sensu* Bogost). Accordingly, they try to synergetically combine classical journalistic practices – from print, infographics, audio to video – with typical practices of 'digital' media – namely *encyclopedic scope, spatiality, procedurality, interactivity* and *participation.* From this follows that newsgames – at least potentially - offer *more* options of informing, sense-making, storytelling and persuasion than simply remediating 'old' forms of news production.
Yet, with regard to a clear-cut definition, one faces the problem that the term 'newsgames' is often used as an umbrella-term – a 'label' that is attached to a wide and rather heterogeneous spectrum of digital artefacts falling in between journalism, play, simulation and participatory action.

Instead of a proper definition, let us thus propose a definitorial *approach*:
Following Frasca, one could cut it down to a simple formula: Newsgames is when "simulation meets political cartoons" (quoted by Bogost et al., 2010: 13) – or, in a border sense: "Newsgames are *any* intersection of journalism and gaming" (Bogost et al., 2010: 13), thus enlarging the scope to *all* journalistic formats such as reports, editorial, comments, features and so on. Decisive, however, is that the game content and/or its dynamics are based on *facts* – although these may get mixed with fictional elements or rather probable scenarios (as it is the case in docugames).

With regard to the genre's *mediality* and its modes of representation, one can state that most recently, more or less *any* form of so called 'digital media' has been used – i.e. computer, tablets, smart-phones etc. – either as prominent medium or as auxiliary 'second screens'.
Even though, the variety of newsgames is more or less infinite as to their design, there is one significant characteristics that newsgames have in common: The way the topic is dealt with is less of narrative but rather of *procedural* character: This means that players 'unpack' the arguments entailed in newsgames by *play*, i.e. by exploring (different) possible configurations

within the set of rules of the game. Thus, the user *experiences* the dynamics of systems at large, gaining experiential insight into interdependencies beyond singular events or stories.

II.   "Play the news! – Play *any* news?!"

1.   Genres and sub-genres – a typological approach and re-contextualization

Although the scope of our issue has at least roughly been outlined, the still rather large field of research calls for systematization. The following typological approach, which is based on a historical and genre-theoretical re-contextualization of the emerging formats of newsgames,[1] might help us to delineate (possible) (sub-)genres of newsgames; and – from a practical point of views – it might provide answers to the question in how far the formula for developing newsgames can be really cut down to a simple "Play the news!" or even "Play *any* news".

Even if at first sight, *interactive infographics* might not be initially associated with *games*, this widely spread sub-genre in fact relies on (simulation-)game mechanics. Due to the modularity, variability and procedurality of digital media (cf. Manovich: 2001), these interactive infographics offer surplus-modes of representing data beyond the possibilities of their 'print-based counterpart': They are *operable* and *dynamic*.
Altering one or more parameters, the users can play through different scenarios – even personalized ones. Placing data into context, they cannot only assess cause and effects – they can also interactively reveal details otherwise obscured. Thus, interactive infographics allow quantitative comparison, they experientially present condensed information and they make complex issues and relationships understandable.
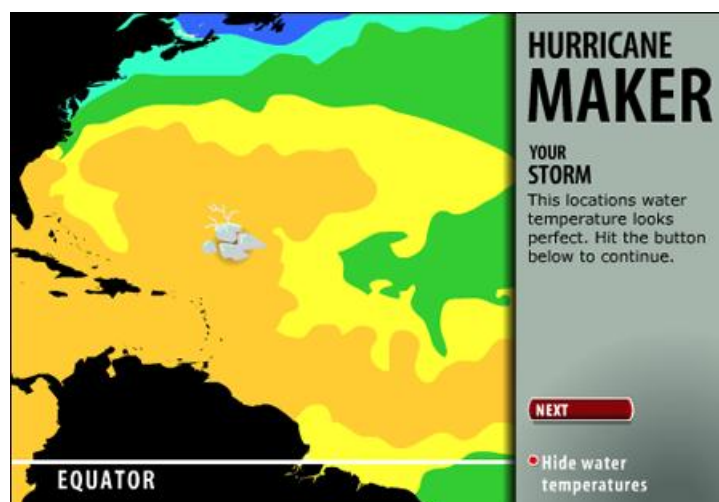

Illustration 1: Interactive infographics – *South Florida Sun Sentinel's Hurricane Maker*

South Florida Sun Sentinel's Hurricane Maker,[2] for example, invites the player to explore the correlation between some of the many factors that cause hurricanes. Adjusting the interdependent factors such as water temperature, humidity and wind shares in different altitudes of the atmosphere, the user gains insight into this complex meteorological system – and he/she does so by playfully attempting to achieve a goal: By positioning the eye of the

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[1] Hereby I follow Schweitzer, Bogost et al. who approach the issue from a similar position. Cf. Bogost et al. 2010.

[2] Cf. http://www.sun-sentinel.com/broadband/theedge/sfl-edge-t-canemaker,0,4142989.flash

storm on a map of the Atlantic and coastal regions of the Americas, the player can test whether his settings 'make it' for a real hurricane. However, if required conditions have not been met, the storm loses force and fades away. In this case, the infographic explains reasons for the player's 'failure' and gives him the opportunity to modify parameters, i.e. to replay the short game.

A further sub-genre of newsgames are so-called *current event games*. Functionally equalling the editorial of a newspaper, a letter from the editor or a feature-story, they are supposed to convey an opinion on a *topical* event. As to their formal, visual realization, they often resemble the political cartoon.

If the newsgame is to be used as an equivalent to a column or a letter from the editor, journalists/designers most often opt for short 'bite-sized' formats, conveying small bits of information and opinion. These graphically rather simple *editorial games* (e.g. *September 12th; Kabul Kaboom!; Layouff!; Shame Gas*) rely on easy-to-grasp game mechanics that one intuitively understands or that almost everybody is familiar with. Thus, they most often borrow from simple arcade, console or casual games such as *PacMan, Kaboom!, Tetris* or *Bejeweled*. This makes them appealing, easily playable and understandable for people who do not play regularly – and those who are more familiar with the matter probably get the reference with a wink of the eye.

Illustration 2: Editorial newsgames – *Bejeweled* as 'blue-print' for *Layouff!*

As in *Bejeweled*, in playing *Layouff!* the user is required to click on adjacent elements – here symbolizing employees – and align them in groups of three or more to 'lay them off' – i.e. to get a row complete and – on the signifying level of the game – to save the company money. Bonus-points are gained when a player achieves to initiate a bank takeover – i.e. when he succeeds in firing five workers at once. The now unemployed former members if the staff fall to the unemployment office at the bottom of the screen. But – as in *Bejeweled* – there are also elements that cannot be extinguished: In *Layouff!*, it is the small men with a suit: they are the bankers – the only professional group exempt from layoffs.

The purpose of such games is to persuade the player to reconsider his/her position and to (critically) engage with the ideas enclosed in the game design and mechanism – in this example the fact that employees have to pay for the bankers' mismanagement and risky financial transactions – and are yet paradoxically less affected by the consequences or even profit from downsizing and outsourcing.

Illustration 3: Reportage games – *New York Times' Food Import Folly*

If the newsgames take the function of a reportage or a feature, media companies most often call them ***reportage games***. These carefully researched programs are more complex than editorial games and emulate factual *reporting*. However, in contrast to documentary games (which we address later), they are less encyclopedic and do not allow for multi-online playing (implying participation) or even creative user-content contribution. The reason for this is that – as a sub-genre of current event games – they have to be quickly produced and released because the issues they address must still be topical.

An example of such reportage games is *Food Import Folly*, a game produced by the US company *Persuasive Games* for the *New York Times*. *Food Import Folly* deals with the inadequately small number of inspection personnel that are supposed to prevent food contamination outbreaks. The game challenges players to inspect agricultural imports at ports nationwide. From level to level – standing for the years from 1997 to 2007 – the imports mounted from 2 million to more than 9 million (these numbers are officially confirmed data). However, while the imports rose, the FDA staff was even cut down. By experiencing the resulting increasing mismatch between imported goods and inspection resources, the player develops a feeling for the unmanageable risks.

For even more complex and comprehensive account of real events, journalists lately rely more and more often on the transmedial (or purely 'digital') genre of **docugames**, respectively so-

called web-documentaries, multi-media documentaries or interactive documentaries. From a genre-theoretical perspective, one can re-frame these hybrid media-artefacts within the context of the (print) feature, the (investigative) documentary (film), interactive cinema and so-called cut-scenes in video games.

As they are based on complex databases (that are in many cases up-dated online), they allow a thorough exploration of issues, often presenting different points of view, providing multiple 'branches' or 'paths' of narration and combining various different types of 'documents': from filmic statements in form of classic 'set interviews' to more private confessions; from factual texts, pictures, infographics and maps to audio-visual archive-material, *semi*-fictional scenes of re-enactment or animations; from short entertaining ludic intermezzi to more reflective passages.

Thus, they are prone to present complex topics 'customized' by special interests as well as individual attention 'types' of users: 'visual types' who prefer reading texts or watching films, 'audial types' who favour the spoken word, or 'kinesthetic types' who like experiencing issues by using their (physical) skills.

Illustration 4: Docugames – *JFK Reloaded*

Again, the range of topics and formal realizations is very broad: On the one end of the spectrum, we find alternative history games like *JFK Reloaded* which recreates the last few moments of J.F. Kennedy's life before he is assassinated on November 22nd 1963 in downtown Dallas. The game challenges participants to help disprove any conspiracy theory by recreating the three shots that Lee Harvey Oswald (presumably) fired on the American President – simulating accurately the scene of crime.[3]

On the other end of the docugame-spectrum, one can locate web-documentaries such as *Fort McMoney, Prison Valley, Bielutine* or G*aza/Sderot.*

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[3] In this context, many scholars raise the question whether a docugame which allows the user to alter events (such as in *JFK Reloaded*) can be still considered as *factual* and whether it does qualify as historical documentation. Although this issue certainly deserves more thorough consideration, in the framework of this paper we will only mention issue. Rests just to mention that similar critical discussions are also regularly led with regard to alternative history documentaries or semi-fictional documentaries (and, at least at its beginnings, to New Journalism). These sub-genres are – generally – counted among factual texts and the 'documentary ensemble' figuring as artefacts that establish a different 'contract' with the 'reader' than purely fictional oeuvres.

Illustration 5: Docugames – *Gaza/Sderot*

The latter gives an impressive and highly emotional insight into the day-to-day experiences of men, women and children on both sides of the Palestinian-Israeli border – in Gaza (Palestine) and Sderot (Israel). Over the course of two months, two two-minute films were being placed on the site each day – one from Israel, one from Palestine. The whole corpus of videos-accounts could then be accessed either chronologically or by character – i.e. by 'accompanying' one protagonist from day to day, or by place – following the events that occurred in one certain location.

This multi-linear, pluri-vocal outset allows a highly nuanced character- as well as topic-related engagement with the fragile sociopolitical situation in the Near East and the intricate, multi-causal conflict which – otherwise, i.e. in linear documentaries or features – would be difficult to be dealt with in an adequate, un-biased way.

Moreover, many interactive documentaries are accompanied by forums, blogs and chats that are moderated by the authors of the documentary, or by professionally administrated *facebook* groups. *Prison Valley*, for example, an interactive transmedia documentary experience about the US 'Prison Industry' and about what it feels like to live in a valley whose main economic wealth comes from prisons and the adjoined 'businesses', invites the users/players to get into contact with the producers and other users as well as some of the protagonists – residents of

Canon City alias Prison Valley, prison staff, local journalists as well as civil-rights activists and relatives of the imprisoned inmates.

Thus, they are able ask additional individual questions that come up when engaging with the provided material – and it stimulates further discussion of issues presented in the interactive documentary as well as comments, e.g. comparing the situation in US prisons with European penal institutions.

To complete this – certainly neither all-comprehensive nor one-and-only-true – typology, let us last but not least touch upon further types of newsgames or borderline cases that might fall into this category. The most obvious case of ludic engagement with news content is certainly (online) **puzzles** such as for example *Scoop!*. Standing in the tradition of puzzles (especially the crossword puzzle) we are familiar with from print newspapers – the interactive online-version's main purpose is to arouse attention by involving the 'reader'/user. However, as most often these puzzle-games do not hold features specific of either digital media or news-practices, they are of less interest in the context of our discussion.

Bogost et al. moreover define two further sub-genres of newsgames: **news literacy games** (i.e. games that are either designed to teach journalism[4] or to show why journalism is important in (democratic) societies and how it is respectively *should* be done[5]) and **community newsgames**. This (disputable) sub-genre can be re-contextualized within the context of Augmented Reality Games that are combining factual (geo-located) data, online media representation, media communication and physical real-world action with the purpose of building or fostering (local) communities or (global) interest- and activist-groups.[6]

2.   Making playful sense – discussion of a systematic analytical-interpretive model for a news-games wizard

This short typological *tour d'horizon* of newsgames gives us an impression of how manifold the emerging genre really is – and how it can be used for a great variety of journalistic purposes, depending on form, design, scope and game logics.

Nevertheless, programmers, game designers and journalists keep trying to develop models that help them to create a kind of 'newsgame wizard' – i.e. an application that enables producers to transform their news *story* into an expressive news*game*.

One promising approach is a two-fold model – comprising a systematical analytical analysis of game mechanics and combining its findings with a reflection on possible modes of 'reading' or interpretation – meaning sense-making by playing.

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[4] Cf. the online journalism education hub *NewsU,* offering online courses for journalists, bloggers, freelance writers and students of journalism who would like to improve their professional skills.

[5] Cf. *Tabloid Tycoon,* the *Global Conflicts* series (*Global Conflicts Palestine*; *Global Conflicts Latin America*) or *Pictures for Truth,* a co-production with Amnesty International challenging the player to un-biasedly report from the Olympics Games in Beijing 2008).

[6] A paradigmatic case is *World Without Oil* that via its design and 'logics' animated the users to change their every-day behaviours to save fuel – e.g. by inviting online users from one neighbourhood to organize private ride-sharing.

According to Treanor et al. (Treanor et al.: 2010), almost *any* video game[7] can serve as an initial basis for deconstruction and 'reassemblage' if one relies on a systematic analytical-interpretive model.

The first step thereby is a thematic analysis of the *game's* content – what they call 'thematic mapping'. In a second step, all these *game*-specific thematic elements – i.e. elements that are 'merely' part of the audio-visual design or the narrative of the game including all its inherent notions of evaluation – are removed. This leaves us with the game's algorithmic-driven, rule-based framework that can then be expressed in logical formula.
This first abstraction allows an interpretative analysis in which the deep structure of these rules and mechanisms can be detected and possible interpretations deduced. These may differ considerably in complexity, expressiveness and implicit messages – thus presenting us with a wide range of 'blue-prints' or 'models'.

As a next step, most models propose turning to one's *newsstory* – the 'content' that ought to be implemented on the game framework. Therefore, one has to take 'message' and segment it into a formula, too – i.e. to form meaning-classes or roles, such as 'villain' or 'threat', and to figure out possible actions.
Finally, one has to choose the matching *game*-formula for one's *message*-formula – and develop a design that is congruent with the game mechanics and that supports one's 'message' – i.e. for example to find signifying images to 'stage' roles.
As dangling as such a 'game wizard' might be – especially with regard to the permanent pressure of time in news business – , there are certain reservations to be made: First of all, if this method is employed in an all too mechanistic way, newsgames run the risk of stimulating 'subversive play' or 'oppositional reading' (*sensu* Stuart Hall).

Moreover, 'serially' produced newsgames following 'mainstream' formula tend to become dull and to discredit this otherwise – if adopted in a well-considered way – powerful experiential genre.

Apart from that, one surplus-feature of 'digital media' is their mobility, ubiquity and networking-capacity – including the deriving socio-cultural practices. One further and so far only rudimentarily realized option lies in including geolocation data if for example smartphones are employed; this enables the player to discover the news on-site. Likewise, it is conceivable to extend the possibilities for integrating user-generated material, thus combining concepts of ludology with crowd-reporting.[8]

And, last but not least, in our opinion, such abstracting 'blue-prints' – as complex they might be – are not transferrable to more intricate issues – at least, if multifaceted and controversially discussed topics are to be made 'playable'. In such cases, more elaborated, topic- and research-specifically designed reportage or documentary games such as presented above seem be a preferable option.

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[7] In their analysis, Treanor, Mateas et al. mainly focus on 2D video games. Their approach and methodology, however, should be also applicable to 3D-games. Nevertheless, their "interpretation and design methodology for message-driven games using graphical logics" and their call for a more or less universal rule-set for a game wizard cannot be unreservedly acceded to as is exposed in the discussion of possible challenges.
[8] Hereby, one has of course to follow certain basic rules of conduction as well as ethical codes. To discuss these, however, would surpass the scope of this paper.

III. "Journalism@play?" – Challenges and opportunities for journalistic games

These theoretical-typological reflections as well as the more practical (design)-methodological considerations bring us to the discussion of the potential as well as the challenges that news games have to meet.

As already touched upon, from the **producer's[9] perspective**, the most obvious challenges are of organizational nature. Especially current event games need to be produced as fast as possible, and nevertheless, they must be well researched, be informed by confirmed data *and* be procedurally realized in a well-chosen game mechanics. Although with regard to the programming side of this venture [10], this might not be difficult – at least for rather straightforward arguments – it nevertheless takes some time to express thoroughly researched subjects in a self-explicatory, entertaining, stimulating and informative newsgame with a still not *over*-simplistic argument. Apart from that, the introduction of newsgames on a regular basis requires the extension of the production unit. This might either result in the direct integration of software-engineers and game designers into the newsroom-team; or this may be realized in form a (close!) collaboration with specialized companies – a suitable solution especially if one thinks of more complex issues that are best covered by ideally multi-linear docugames and rather elaborate graphic design and complex audio-visual material.

From the **recipient's perspective**, the major problem probably consists in a lack of 'procedural literacy' –"the skill to read, write and critique system of rules". (Bogost et al., 2010: 125). As comments on and critique of newsgames such as *Madrid* or *Kaboom!* prove, especially the generation of digital *non*-natives tends to hold reservations as to this form of news coverage or are prone to misinterpretation or lack of interpretation at all. This, probably, is due to still false expectations as to games such as provocatively stated right at the beginning.

A possible solution hereby could lie in publishing newsgames first as *supplements* to 'conventional' formats of coverage (i.e. within in the context of auxiliary texts, videos or infographics). Thus, the still emerging (sub-)genres of newsgames could keep experimentally unfolding and refining themselves – with a view to establish themselves as independent media for doing quality journalism.

And thirdly: From a **research perspective,** one has to face similar challenges as addressed in the other papers presented – i.e. the problems posed by the ephemeral nature of online-based digital artefacts and the efforts of digital news preservation.

Moreover, as our typological approach has proved, we are dealing with a very heterogeneous corpus of material that requires *interdisciplinary* approaches including methodologies and theories of software studies, applied technology studies, game development, design and art, (new-)media studies, communication studies, sociological, psychology, political sciences and

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[9] Although being well aware that the sender-receiver-model is not undisputed – especially in the so called 'Era of Convergence' and 'Participatory Culture' (*sensu* Manovich), we will – at least for the purpose of this paper – orientate our discussion according to this model still often referred to in communicational studies. In this context, we consider as 'producer' the whole news-room-team (comprising journalists, programmers, graphical designers, game designers, …).

[10] At least as long as we stick to current event games in their present form – i.e. short 'bite-sized' 2D-games with low system requirements.

economics. However, at least in Continental European countries, we still lack comprehensive systematic academic analysis.

Among others, the research teams around Mike Treanor and Michael Mateas (University of California at Santa Cruz) and Ian Bogost (*Georgia Institute of Technology; Persuasive Games*) have contributed to founding academic discourse with regard to 'procedural rhetorics' and newsgames in the Americas, thus promoting research. Apart from that, they also launched cooperatives with renowned newspapers, e.g. the *New York Time*, the *Huffington Post,* the *Wire* and others.

As the British *Guardian*, too, started taking news games seriously already more than five years ago, some research institutes in Great Britain as well as joint ventures (e.g. *Game the News,* a sub-project of *Auroch Digital Ltd.*) have estimated the emerging genre from an analytical perspective as well as with regard to questions of development and marketing.

However, by and large, newsgames seem to be still considered as a rather minor or exotic field of research and are often regarded as inappropriate or immature approach to serious topics. Thus, so far mainly hacker-culture embraces newsgames as the Europe's first newsgames hackathon (Cologne, May 6-7, 2014) proved.[11]

In this context, scholars as well as professional journalists regularly raise questions whether games and playful involvement are really appropriate approaches for a mediatization of serious matters. Although understanding through experience certainly contributes to a more engaged examination and exploration of issues, many critics of newsgames put forward that reflection and critical distance suffer if users/players are absorbed in an immersive 'flow' of game-experience and enjoyment.

While there is certainly much truth to this objection, the challenge of gaming-flow in my opinion must be addressed in a more differentiated way: Sociological and (media-)psychological research in the field of interactivity, agency and involvement have proved that there exist various ways of involvement with media artefacts: immersive involvement (i.e. diegetic involvement), character involvement (via identification) and ludic involvement, involvement via excitement (i.e. thrill and suspense) and via spectacle (i.e. audiovisual effects), immersion via analysis, inspiration and via agency (cf. Eichner: 2014; Askwith: 2007; Suckfüll: 2004; Odin: 2011).

Depending on the *kind* of engagement, the risk of (unintended) uncritical 'mere' absorption in ludic enjoyment and gaming-thrill as well as the risk of massive subversive gameplay can be minimized: First of all, the fact that in most docugames or web-docus, the 'characters' are neither mere virtual avatars nor fictional characters but rather 'protagonists', most users regard them rather as *witnesses* giving even more immediate first-hand account than 'virtual' characters. In this sense, they are very close to interview-partners or the protagonists of documentaries – with the enormous surplus that due to the interactive environment, the user can directly interact with them – either through taking over the role of the journalist in the

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[11] The 48-hour game-jam during which teams of journalists, hackers, coders and graphic designers produced a prototype newsgame covering a topical issue, was organized by the game studio *The Good Evil* and the *Cologne Game Lab.* The fact that some 'quality papers' like the *Süddeutsche Zeitung* and the broadcaster *Deutsche Welle* sent teams to the hackathon, might be interpreted as the first sign of a change of mind.
Cf. http://newsgames-hackathon.tumblr.com/.

game surroundings and by individually navigating through (prerecorded) interviews or −
which is becoming more and more popular − by offering to *personally* contact protagonists
via additional blogs or *live* chat.

Moreover, the most often extreme stylization in current event games (as well as their most
often quite simple 2D graphics) prevents unthoughtful immersion into 'virtual worlds' (cf.
Layouff!). Likewise, the rather high degree of abstraction (especially in the case of simulation
games and infographics, e.g. *Hurricane Maker*) leads to a *playful* and at the same time
reflected engagement with even intricate issues. As games are rule- based artefacts and
therefore *presuppose* a thorough consideration of possible actions within this restricted
framework, they are naturally reflexive; and they invite the user/player to explore and
critically question underlying mechanisms and dynamics − not only within in the game, but
the underlying dynamics in the 'real world' as well.

 Last but not least, this takes us back to our initial statement − that digital games *do* have the
potential to serve as a mode for presenting actual, topical and even intricate issues.

As we have tried to outline, if employed within in the framework of journalistic 'ethics', the
manifold emerging genre(s) of newsgames cannot only be innovatively employed for
differentiated comment, multi-linear factual storytelling and 'customized' information, but
also for stimulating further engagement with issues and maybe even real-world action.

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