A Humanistic Approach to Designing and Assessing Interactive-narrative Based Social Interventions.

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Abstract

Decolonising digital media design education requires an investigation of possible techniques that can be taught to designers as a way of approaching interactive design with an emancipatory agenda. Traditionally, interactive-media studies have been taught from a positivist or psychological stance focusing predominantly on theories of human activity and cognition. In this paper I argue that the humanities offer an additional social and ethnographic lens with which to focus on the socio-historic, political and economic context of interactive media artefacts. At a fundamental level, interactive media offers a specific type of engagement, one that combines many effective aspects of communication such as computational technology, storytelling and theatre, with the mundane world of people's everyday lived experience, and therefore demands a unique method of interrogation.

Broadly this paper merges the fields of psychology and social theory to build a robust scaffolding upon which interactive-narrative based interventions can be built upon. Interactive-narrative is a useful medium for addressing a more humanistic account of digital technology as it allows the audience an engagement with in ways that offer a high level of agency and activity. Critically, though designing interactive-narrative requires considerations that extend beyond 'usability' and 'utility' and seek to account for a more rounded interpretation of human experience. To this concern, this paper firstly presents two case studies of existing interactive-narratives that promote social change. Next a range of theories and practices from psychology and sociology related to human activity, embodied cognition and media studies are described and key concerns originating in the theory are articulated resulting in a creation of a set of conceptual tools that embody these concerns. These tools formulate a unique rubric of navigability, identification, co-creation, immersion and transformation, which are then used to reflect upon the case studies.

Keywords:

Interactive-narrative, Humanistic HCI, Audience Reception Theory, Agency, Emancipatory Design, Postcolonialism

Introduction

Calls by South African students for decolonised higher education demands an interrogation of our role as design educators in decolonising design education. This is not a simple task and cannot be achieved overnight. This paper does not necessarily answer all the complex issues expressed by student protests, however this critical investigation is an important step in the right direction.

> Postcolonialism invokes ideas of social justice, emancipation and democracy in order to oppose oppressive structures of racism, discrimination and exploitation. But it also emphasizes the formerly colonized subject's 'agency' – defined as the ability to affect her/his present conditions and future prospects (Nayar 2010, p. 4).

Decolonising design education requires a critical exploration of conceptual approaches built upon a postcolonial schema. The idea of agency is critical to an emancipatory agenda, although 'agency' is an ambiguous word, I attempt to unpack the term in this paper, using the medium of interactive-narrative to address a more humanistic account of digital technology as it allows the audience an engagement with in ways that offer a higher level of agency and activity.

I suggest my own five-layered rubric with which to evaluate agency, and perform a comparison of two case studies using my suggested methodology derived from my Masters research. The complexities of narrative based interactive-design applications with a humanistic or emancipatory agenda drive the construction of this five-layered rubric, fusing the core concepts of Human Computer Interaction and Media Studies to critically account for a more rounded interpretation of human experience extending beyond pure 'usability' and 'utility'.

Description of Case studies

Both these case studies are instances of interactive-narrative based social interventions, aimed at educating young people about HIV. These studies are USA based, and the reason I have used them is because the newness of the medium limits the instances available, and for purposes of this study I need to compare like with like. This methodology may be easily translated to any geographical or cultural audience because of its humanistic agenda.

CASE STUDY 1: WSTDtv: "You wanna do what?"

This case study is part of an HIV/STD awareness and prevention curriculum for middle and early high school learners. This takes place through an interactive platform called WSTDtv, comprising of interactive studio activities that are for classroom use. I will be looking at the module "You wanna do what?" which can be found at http://wstdtv.org/.

An animated character takes the stage, she is a woman standing in what looks like a TV studio. The placement in this environment makes sense, as it could be an exciting context for teenagers to explore the ideas and information presented. The animated woman calls herself "Geraldine O'Riley" or "Dr O" and explains the show, placing the user as a new intern in her TV studio. She explains the particular program that the intern will be working on and gives some information relating to the show's purpose, stressing the focus on communication regarding sexual health. She explains that people send in videos about friends, family or themselves engaged in communication about relationships and sex. She goes on to say that the studio's job is to broadcast and rate the videos and then get feedback from the viewers. The intern is told to watch and rate the video submissions against seven criteria:

4. Risk reduced
5. Relationship maintained
6. Participant's assertiveness
7. Negotiated well
8. Persuasive
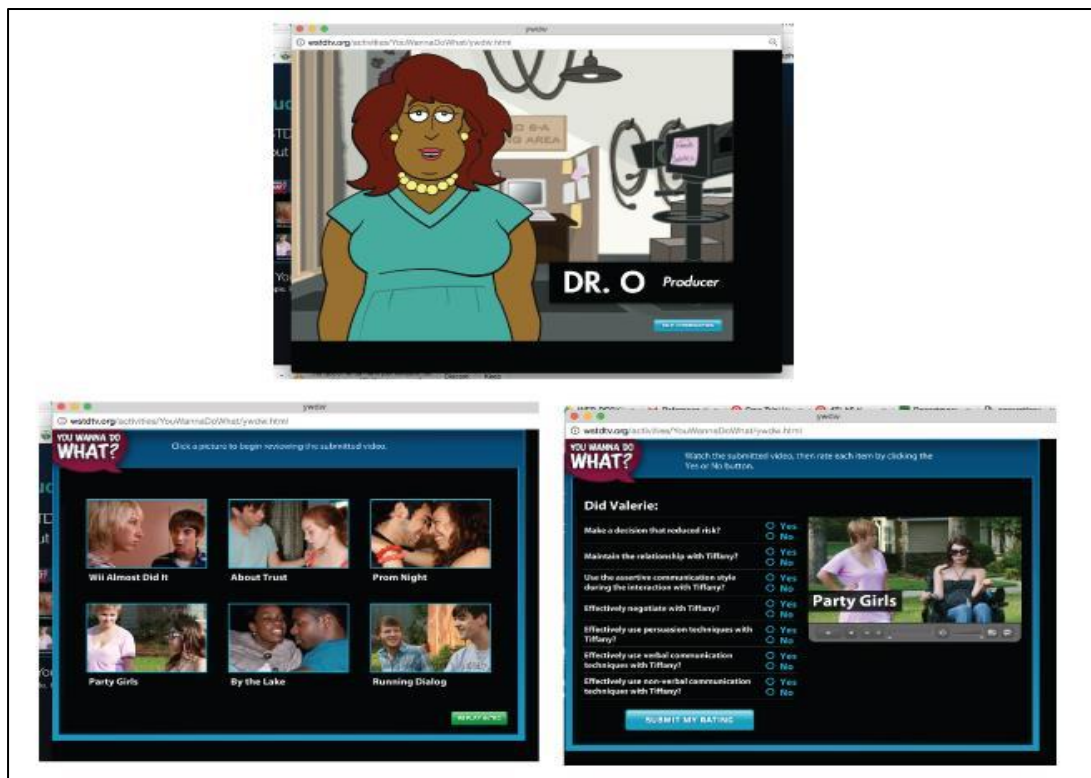9. Verbal communication
10. Non-verbal communication

Figure 3: Screenshots from the interactive- based HIV intervention "You wanna do what?"

She explains that she has assigned some more experienced staff members to review the intern's comments, and that the videos are cued up on the work station for the intern to review. When the user starts their task, six videos appear on the screen: *"wii almost did it"*, *"about trust"*, *"prom night"*, *"party girls"*, *"by the lake"* and *"running dialog"*. The first video *"wii almost did it"* features the couple Ian and Carly, engaged in a two-player game on the Wii, after which Ian broaches the subject of condoms and STDs. Carly seems reluctant to discuss the topic, but eventually agrees to talk about it. As the conversation progresses Carly gets noticeably upset, she seems to be feeling guilty about not using protection with her last boyfriend, however Ian persuades her to listen to his concerns about safe sex. The scene continues with Carly agreeing to practice safe sex, and ends with them deciding to go to purchase the condoms together. While there is a discussion and conversation that takes place, the user is not part of it. The user cannot affect the outcome of the story, and is purely an outside viewer to the narrative unfolding, with no control over the outcome. Seven questions are posed about Ian's use of communication. The user has to rate it, after which it is compared to the "expert's" rating. If there is something different in the rating, the user may click on it to find out why the expert disagreed.

The second video *"about trust"* follows the same pattern as the first video – also featuring a teenage couple talking about sex. Here the boyfriend tries to convince his girlfriend that they need to use a condom when having sex. She is not convinced, and feels like such a demand is a breach of trust. The boyfriend eventually finds a way to explain it, comparing it to wearing a seatbelt in a car, even if you trust the driver. The conversation ends with her understanding and agreement. The third video, *"prom night"*, features a teenage couple during prom making out in a private room. They seem all geared up for sex, but the girl has left her bag in a friend's car – her condoms are in the bag and she insists they stop. This begins a fight about using protection, the boyfriend insists she bend her rules once, as it is a special night, however she is adamant that she will not. He then tries to pressure her by suggesting they might not be good together, which unfortunately is a very plausible scenario. The girlfriend holds her ground and is not negotiable on this issue, she eventually walks out on him. Video four, five and six follow the same pattern: the user is introduced to a scene featuring a teenage couple in a situation where sexual health needs to be discussed. The scene unfolds, after which the user/intern is asked to rate it against the same seven criteria.

CASE STUDY 2: "I'm Positive"

The second case study is a game called "I'm Positive" and can be found at http://www.impositivegame.com/play

"I'm Positive" is an educational interactive-narrative, interspersed with quirky mini-games. The user plays as a young man, who finds out from a former partner that he may be HIV positive. The player is then presented with a series of choices to make – he can either get tested and seek treatment, or ignore the circumstances. Throughout the game, the player learns pertinent information regarding HIV: the misconceptions around it, testing, treatment, disclosure, and the consequences of not getting treatment. The game needs to be downloaded, and is available for Windows, Mac and Linux operating systems.
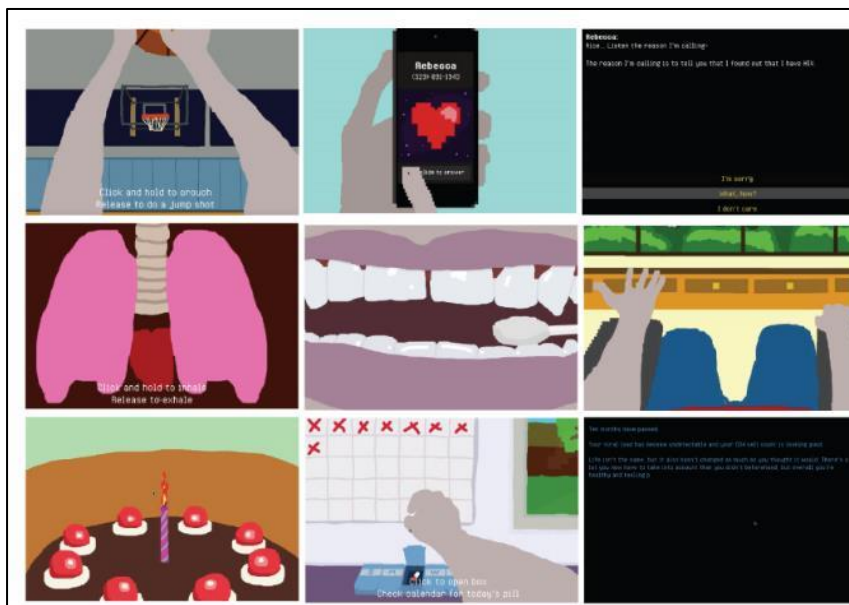

Figure 4: Storyboard of the game "I'm Positive"

Throughout the narrative, the gameplays follow this structure: the player is presented with a game requiring varying levels of skill, and after successful completion of each game, the user is presented with options which drive the story forward. The game starts with a pair of hands holding a basketball, representing a first-person point of view, the game is set in a basketball court, and from the visuals and textual prompts it is clear how the game works. After successfully completing the game, a phone starts ringing and the player, represented

as a white male character, may answer it by swiping right, text on the screen describes what is transpiring: Rebecca is calling, she is an ex-girlfriend, she calls to inform the player she is HIV positive and suggests he gets tested, after the phone call, the player is offered options for how he wants to respond. From here the interactivity opens up – there are different paths that can be chosen by the player which directly affect the way the story unfolds. Each selection causes different outcomes in the flow and direction of the narrative. Each step of the way allows options. Clearly there are branching plots that will unravel according to how the user chooses to travel. The main narrative storyline is set, and accessed via different choices. There are various gameplays scattered through the story, after the character gets the phone call from his ex girlfriend, text on the screen informs him about how anxious he is- followed by a game to calm down his breathing, there is another gameplay later on in the narrative involving an oral swab test and a blood test, these do not require particular skill, but do lighten the mood of the narrative, and remind the player that it is only a game. There is also a play involving the character's birthday celebration where he must blow out candles, and further on a more complex gameplay- where the player must select and take the correct pills for the corresponding day, this gameplay requires some skill, and has the same ludic elements present in the basketball game. The story ends in the basketball court, with the player being informed that life continues as before, or with him falling down on the court and eventually dying because he refused to seek help. The choices in the game are obviously constrained to a certain extent, as there are set choices to make, however the game endeavours to ensure the player never feels stuck or controlled. All choices are valid, and although the choice's outcome might not be desired, it is still the player's choice to make. The game lends itself to being played more than once, with different pathways. The game allows the player to go all the way down the path of not seeking help. This path ends with a screen that says: *"You die!"*- which brings in humour and the juxtaposition of reality and play in an interesting manner.

If we compare these two case studies, on a surface level "You wanna do what?" might seem to be more representative of a decolonized agenda, we are presented with an array of multi-cultural interactions- white, black, male, female and homosexual couples having conversations about sex, while the second study "I'm positive" provides only a white male avatar prompting immediate questions around representation, but if we are to break these case studies down against my rubric, the layers unravel and a more complex matrix is revealed. My rubric has evolved out of a study of the theories of humanistic human computer interaction and audience reception theory.

Humanistic HCI

Human Computer Interaction (HCI) has been described as having three waves (Bardzell & Bardzell 2015, p. 18), in its early stages, the computer was seen as a tool to accomplish specific tasks and the user simply as the operator of the computer. By the 1990's the disciplines of sociology and anthropology became an important lens in the discourse of HCI, highlighting the social context of activity in the interaction between people and technology and allowing for an appreciation of the user. Humanistic HCI started to come to the fore in 2004, foregrounding the role of interpretation in user experience (Hook 2004; Sengers et al. 2004). Humanistic questions started to feature in HCI research, interrogating experience from different perspectives, to form a more layered understanding of the facets contributing to the human experience. The user's role as active participants in interactive systems became recognised as significant. Humanistic HCI does not negate ideas presented in the earlier paradigms, rather it draws on activity theory, distributed cognition and ethnomethodology and also brings in emancipatory social science, philosophy and cultural studies to emphasise the importance of self-determination, which is an imperative factor in postcolonial thought. McCarthy addresses the interpretive nature of experience, which stretches the notion of

media simply being decoded by users. (McCarthy & Wright 2004) Humanistic HCI deploys humanistic epistemologies to critically formulate processes, theories, methods, agenda setting and practices. Emancipatory HCI is part and parcel of this methodology and demands both research and practice in addressing oppression, racism, poverty, sexism and colonialism. The present direction of emancipatory studies are "guided by a reflexive interest [in enabling] human beings to have greater autonomy and self-determination" (How 2003, p. 117).

Active Engagement

Interactive-narrative benefits dramatically by being placed within the discourse of media studies, which has also gone through an evolution of ideas, from its dark origins of naming the audience as a faceless mass, that passively receives media content- known as the Magic Bullet Theory (Lowery & De Fleur 1983, p. 97), to a more complex understanding of the active audience. The various methods in which the "active audience" respond to and engage with media, is known as Audience Reception Theory and is based on Stuart Hall's model of communication, which explains that meaning is not intrinsic in the content, but rather is constructed by the individual's engagement with the content (Hall 1980). Interactive-narrative allows the audience an engagement in ways that offer a high level of agency and activity. Influenced by the work of media scholar John Fiske, Jenkins describes an *"active audience"*. In his book Textual Poachers: Television Fans & Participatory Culture, Jenkins addresses fan culture and how audiences become "active participants" in the construction and circulation of textual meanings (1993, p. 24) . The audience- no longer seen just as a passive recipient of content enjoys taking content, mixing it up, playing with it and adapting it for their purposes so it makes sense in their worldview. In this understanding, there is not a distinction between "user" and "content" or "author" and "reader" rather media participation is a conversation between the user and the content. These theories are important as they acknowledge the power dynamics present between the "author" and "reader", from a postcolonial perspective these are important factors to consider in the design of interactive media products, as agency becomes key in creating engagements that wish to remain true to an emancipatory agenda.

Humanistic HCI and Audience Reception Theory highlight that Agency is at the core of an emancipatory agenda, and as such my methodology interrogates Agency in interactive-narrative interventions based on five specific criteria namely:

11. Navigability
12. Identification
13. Co-creation
14. Immersion
15. Transformation

This approach uses these five threads of interactivity, as the hinge between active engagement and quality of the experience. These five threads are at heart interwoven. It would be artificial to argue that one takes precedence over the other, or that they can be exclusionary or absolute, however they are useful ways of evaluating how content and platform articulate with elements of agency.

Navigability

Murray's definition of spatial navigation relates to the pleasure of exploring and discovering in an interactive environment (1997, p. 130). David Benyon highlights the element of exploration in navigation systems, and explains: "exploration is concerned with finding out about a local environment and how that environment relates to other environments" (2014,

p. 70). Principles for good navigation, set out by Shneiderman & Plaisant add a quantifying variable in my assessment of the navigability of the case studies. When a user is exploring an interface, they seek clues for the discovery of pathway possibilities. Clear high-quality links, which are relative to the specific task, will give the user a good indication of the systems pathways (2010, p. 84). He also emphasises the need for using orderly, structured patterns of HCI such as "multiple ways to navigate", "process funnel" and "internationalized and localized content" as identified by Van Duyne, Landay & Hong (2003, p. 93).

Identification

For a user to have interest in an interactive-narrative experience, they must first identify with it. Identification is a psychological process whereby a person identifies with another person to different degrees. This can be a primal identification, where the person involuntarily has an emotional attachment to another, or it can be a partial identification, where a person shares something in common with another, and therefore has an emotional attachment on that level (Freud & Strachey 1989). Jonathan Cohen looks at facets of identification and its important role in media effects. Identification is based upon the audience member's worldview, and extends to the way he or she might relate to the character in terms of attitudes and emotions. When there is a strong identification with a character, recognition allows for association that makes for easier adoption of prescribed roles and information processing. Identification causes the user/player to process information, with empathic emotions, marked by internalising the character's point of view (Cohen 2001, p. 252). In his article *Representation, Enaction, and the Ethics of Simulation,* Simon Penny notes that the embodied aspects of simulation feed back onto representation and thereby make representation not inert but interactive (Penny 2004). The nature of the characters and the interactive environments that drive the narratives in these case studies indicates the levels of identification that will occur.

Co-creation

Co-creation can mean many things, in this context it is a system allowing a user control over the arrangement and placement of the individual pieces that build an interactive-narrative. The creator leaves room for others to create their own narrative. The agency in co-creation would depend on how much control is given to the user in the creation and placement of the narrative parts. This will always need to be constrained somewhat to keep the narrative from losing meaning. Agency is strong when a user feels they can control the outcome of a story and there is intrinsic pleasure in being able to create. Caracciolo remarks on the tension between narrative progression and ludic interests (2015, p. 246). His suggestion is that the avatar/protagonist serves as the hinge between the real world in which the game play exists and the fictional world where the story exists. In this way, the avatar participates in the ludic play as an instrument of players' agency, enabling players to accomplish their competitive goals through strategic planning. The point at which the user identifies with the character and feels empowered to make decisions affecting the unravelling of the narrative needs to be central in the constructed experience.

Immersion

Immersion is linked to active engagement and the quality of the experience. When a user is actively engaged in the interaction, they feel a sense of agency. Benyon defines immersion as "the feeling of being wholly involved within something, with being taken over and transported somewhere else… immersion is not about the medium; it is a quality of the design" (2014, p. 10). In his chapter *New Directions in Intelligent Interactive Multimedia*, J. Gutiérrez-Maldonado describes the term immersion as relating to the stimulation of the different sensorial channels of the user (Lampropoulou, Lampropoulos & Tsihrintzis 2008, p.498). Similarly Alexander describes immersion, specifically in a narrative game

environment, as the feeling achieved by a reactive environment – where the environment acts as a feedback loop. He also explains immersion as being "sensual and multimedia in nature" and that a successful immersion should progress over time and not be static (2011, p. 94). Immersion is closely interwoven with active engagement. Glassner notes that active engagement requires exertion on the part of the user/player. In order to draw the user into an activity that requires work, they must be receiving something that makes it worth their while – there must be some fun and pleasure derived from the interaction (2004, p. 293). Ryan looks at the importance of active engagement in interactive-narrative instances, for both ludic and narrative based games (2009, p. 54). She suggests that immersion may take on various forms including spatial, epistemic and temporal immersion (Ryan 2009, p. 56).

Transformation

Transformation in digital media is the ability for the user to change, shift and morph throughout the journey. It is the pleasure of not being stuck in a particular role, of being able to explore a story from multiple points of view, to retrace one's steps, and re-enact the journey. One of the strategies suggested by Ferrara for using games to support learning is necessitating transformation, which means forcing the players to adopt a new way of thinking in order to succeed in the game. This can be achieved by allowing for an examination of the problem so that the player can solve puzzles and progress the story. The puzzles should be designed to have many possible combinations so that players cannot practically solve them by any other means (2012, p. 188). A transformative interactive experience will leave the user with a better-defined understanding of another perspective that leads to a new way of thinking. Once again this element is strongly linked to some of the other elements of agency. Identification and transformation will be a strong indication of the transformative experience. A user must first identify with a character before he or she can get into the role. Once the user is in the role, they might have a change of perspective. This is because they are in the head of another character, which forms another perspective, leading to a different mode of thinking. The level of immersion the user feels will also be highly influential in the transformation that occurs, because without immersion, the user cannot fully identify with the characters and stories, which will inhibit the change of perspective.

Comparative analysis

Comparing and analysing the two case studies using my rubric of navigability, identification, co-creation, immersion and transformation to extract levels and nuances of agency in these interventions, produced some interesting findings. When addressing navigability, it is clear that both these case studies have high levels of navigability based on the above-defined criteria. "You wanna do what?" is designed with sound information architecture, containing a well-defined hierarchical structure, which clearly marks the steps the user must follow. The game environment of "I'm Positive" has clearly demarcated areas for specific tasks, gameplays and choices, giving the user a good indication of the systems pathways. Both case studies have clear links describing the possible pathways of exploration. "You wanna do what?" has multiple ways to navigate, but is superficial as the navigation system allows the user to navigate easily, but only in the guided direction. "I'm Positive" has a robust process funnel whereby the player is directed through the game process with a series of mini-games and tasks with specific choices that produce the sequence of the narrative. Navigation is well considered for both case studies, with these nuances influencing the level of navigability experienced.

We saw that it is the nature of the characters and interactive environments driving the narratives, which will indicate the levels of identification that will occur. The case study "You wanna do what?" presents various characters. The target audience is middle school children, who are supposed to experience this interaction from the point of view of an intern at a

television studio. This target audience is likely to identify with that role, as it is an exciting role to play. The audience will probably also identify with the characters in the videos to various degrees, and therefore identification is reasonably high. Built into the gameplay of "I'm Positive" is the possibility for a player to explore scenarios and outcomes of someone else's story in a palpable way. The active engagement demanded by first-person play naturally cues the player to identify and therefore empathise with the character they are playing. Allowing one avatar character – a white, male young adult, does detract from the identification to a certain extent, but the mechanisms of first-person gaming counterbalance those discrepancies. The player feels like they are going through the process themselves, and the realistic choices presented do make the game more meaningful. These elements of identification shift the experience in a more accessible and relatable way.

These case studies differ in levels of co-creation, with "You wanna do what?" falling short in this area. There is no point in this particular interaction at which the user is afforded the pleasure of creation in the narrative outcome, although the user may identify strongly with the character they are playing (an intern working in a TV Studio) they are afforded little power in the unravelling, and outcome of the stories. This lack of flexibility severely compromises agency. Identification influences agency when the protagonist serves as the hinge between the game play and narrative, here the user has little effect on the narrative outcome, so while the identification is high, co-creation is low, and this it is detrimental to the agency felt. The videos feature teenage couples in relatable scenarios having feasible discussions around safe sex, giving the user many opportunities to identify with the characters and situations presented. As the point of entry into the interaction, high levels of agency are present at the outset. There are six videos to choose from, and each video is different- however, as the narrative unravels, the user is pushed into a bystander role and not offered an opportunity to affect the stories or decisions made by the characters. The user may only watch the scenarios play out by virtue of the fact that at the end of the video they are presented only with a set list of criteria to evaluate, as opposed to more open questions or alternative paths to explore. "I'm Positive" is a game and therefore the tension between narrative progression and ludic interests may agitate agency in co-creation if the elements that drive the outcome are not strong. Here the avatar participates in the play as an instrument of player's agency, which provides for a sense of agency in co-creation as the player is allowed to make choices and plan the next step in the play.

Although the case studies are constructed on different platforms and platform can have an impact on immersion, it is not the only element that will define the levels of immersion. "You wanna do what?" is a classroom intervention, and "I'm Positive" is a game, one of the problems with "You wanna do what?" is that it requires a lot of work with little payback. The user watches their chosen video, for instance "*wii almost did it*", in which the couple are engaged in a discussion about condoms. Tasking the user with the job of evaluating and rating the scenario and characters' choices, with the knowledge that their rating has no influence and will be further audited by a superior, does not induce pleasure and is not fun. It is more like a test with very little reward for doing well. This impinges on the immersion the user will feel when interacting with the interface. Immersion in this case study is very low. "I'm Positive" has balanced the elements of ludic play with the narrative well. The playful elements of the game invite the player to engage despite the heavy nature of the content. The structure of the gameplay pulls the player back into fun mode as soon as the narrative gets serious, and this decreases the resistance the player might start to feel without playful elements. Immersion is intense because of this thoughtful juggle. The somatic cues employed in the game – such as forcing the player to shoot the ball or breathe slowly when feeling stressed – produce embodied physical immersive moments quite different to the intellectual approach of "You Wanna Do What?" Instinctive process is prioritised over

abstract cognisance in "I'm Positive", resulting in a stronger stimulation of the different sensorial channels.

The level of immersion the user feels directly influences the transformation that occurs, without immersion, the user cannot fully identify with the characters and stories, inhibiting any change of worldview. Transformation must be evaluated within the context of immersion. "You wanna do what?" will not necessarily draw the user into another way of thinking, but the videos themselves have the potential to create transformation. There are characters and scenarios that users might identify with, and watching the characters deal with these situations may lend an alternative perspective, depending on the level of identification that transpires. Transformation is compromised in this instance because, although identification may occur, the user is placed as the intern, making a decision clouded by thoughts of what will impress "Dr O". There is no room to try on different perspectives or different outcomes this leads to a somewhat less transformative experience. By contrast, "I'm Positive" is transformative, and has the advantage of a gaming platform. The strong elements of story and play which are present provide the right ingredients for transformation, and the elements of choice – joined with the allowance for exploring the story, and then re-exploring it – amount to high levels of transformation.

Conclusion

Interactive-narrative based design can benefit from being constructed and analysed using multiple techniques rooted in a humanistic approach. While the medium itself affords an engagement that offers a high level of agency and activity, there are many facets of agency. The proposed rubric of navigability, identification, co-creation, immersion and transformation are useful ways of evaluating how content and platform articulate with elements of agency. Unravelling the case studies with this rubric has brought to light the weak and strong areas of these interventions. This in-depth, humanistic practice of enquiry is valuable, as it aids the endeavour of decolonising design education by illuminating the many facets of agency that designers must probe when designing interactive-narrative social interventions.

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