For the Records – Understanding Mental Illness Through Metaphorical Games

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Abstract:
For the Records is an interactive transmedia documentary project about the lived experience of mental illness conceived by game designer Doris C. Rusch and documentary filmmaker Anuradha Rana. It includes short films, interviews, photo romans, animation and games which revolve around four mental health issues – Obsessive Compulsive Disorder (OCD), Attention Deficit Disorder (ADD), Bipolar Disorder and Eating Disorder (anorexia nervosa). The project was produced at DePaul University with students and recent alumni. All pieces complement and provide context to each other and are embedded into the website www.fortherecords.org. This paper discusses the design of the four games, including a description of our collaborations with people who have lived experience with the portrayed disorders, how we identified the metaphors to capture what these disorders "feel like", as well as an account of our playtesters' gameplay experiences, particularly in regard to cognitive and emotional game comprehension.

Introduction

The interactive transmedia documentary project *For the Records* is inspired by research on the phenomenology of mental illness conducted by Mona Shattell and Barbara Harris at DePaul's School of Nursing (Jones, Shattell, Harris, Sonido, Kaliski-Martinez, Mull, & Gomez, 2014; Jones & Shattell, 2013; Schrader, Jones, & Shattell, 2013; Shattell, 2014). The goal of *For the Records* is to capture what living with mental illness feels like in order to foster dialogue and promote understanding. Many social problems surrounding mental health issues are founded in insufficient understanding of the fullness of experience, not merely the cognitive understanding of symptoms or physio-psychological mechanisms. Lack of experiential understanding often burdens relationships between people with mental health issues and their social environment. To accurately portray what living with mental illness is like, we worked closely with people with lived experience and involved them actively into the design process of all media pieces. We identified our five subject matter experts by conducting interviews during the annual NAMI Walk in the Fall 2013, and drawing on our personal network. Their expertise included Obsessive-Compulsive Disorder (OCD), Attention Deficit Disorder (ADD), Bipolar and Eating Disorder (anorexia nervosa), which is why we chose to focus on these issues. To create the various media pieces, we split into a game development and a film group. The games group was further divided into four teams of 3-8 members, each team working in parallel under faculty supervision. The film group similarly formed four teams, each responsible for the production of one film. Pre-production and development of games and films spanned Summer 2013 to Spring 2014.

The four *For the Records* games are: *Into Darkness* (OCD); *It's for the Best* (ADD); *FLUCTuation* (bipolar disorder); and *Perfection* (eating disorder). The following starts off by sharing the four game synopses. Then, the discussion will be split into two parts: the first part is concerned with the question whether the games have been well designed. By that we mean how well they reflect the portrayed disorders with the games' rules, mechanics and fictional components. We will explore the roles of our subject matter experts in each of the games before going into detail about how we identified and implemented the core metaphor for a single game, *FLUCTuation*. The second part of the paper focuses on insights gained from playtesting about players' experiences of playing the games, and how those playtesting results informed design iterations as well as our contextual considerations for how to integrate the games into the bigger *For the Records* website in order to promote game comprehension and post-game reflection.

These playtesting observations are preliminary. A rigorous, in-depth user study with therapists [N=30] and patients [N=40] is under way. Its results will be published at a later date in another article.

Game Synopses
All four games are single-player, browser-based experiences that require between 5-15minutes of playtime. They are best played in Google Chrome.

Into Darkness (Fig.1) (http://fortherecords.org/into_darkness.html) is a game about OCD and focuses on the compulsion to perform rituals in order to fend off anxiety. The player navigates a maze without exit, a metaphorical representation of the disorder itself. As the player aims to find the exit (i.e., leave the disorder behind), darkness encroaches from all sides accompanied by scary music. Performing a ritual – walking in circles several times by pressing the arrow keys – staves off the darkness. This provides temporary relief from anxiety, but at the same time prevents the maze's exit from appearing. This models one of the core conflicts of OCD: the desire to escape the compulsion, but dreading the anxiety that comes with it. Once the player resists the compulsion to perform the ritual, an exit appears, allowing the player to escape and win the game. OCD is a mental illness that can be overcome, which is why this game has a win state. Other mental issues, such as ADD or Bipolar Disorder can be effectively dealt with, but the affliction will always remain, which is why the games tackling these experiences have no win state.

[Figure 1. Into Darkness]

It's for the Best (Fig. 2) (http://fortherecords.org/for_the_best.html) is a game about ADD. According to the experience of our subject matter expert, ADD is usually considered "not a big deal" as far as mental health issues go. This under-acknowledges the troubling feelings of worthlessness ADD can bring with it and the self-doubt that accompanies the need for medication to function. By modeling the ADD experience, the game aims to promote a mindful way of communicating the need for medication to ADD patients. In the game, players try to keep up with assignments represented by papers that flutter onto the screen with increasing speed. Clicking on papers makes them disappear and is accompanied by a satisfying sound effect, but the onslaught of papers is so heavy that one cannot possibly keep up. Unfinished assignments start to pile up in the background and to clutter up the screen. Choosing to click the pill featured prominently in the middle of the screen clears off the papers, but diminishes the experience of agency and self-reliance. The game is accompanied by unnerving whispers of "you're not good enough". The experience ends after a certain in-game date has been reached. There is no win state, since ADD is a life-long disorder that can only be dealt with but not "won".

[Figure 2. It's for the Best]

FLUCTuation (http://fortherecords.org/fluctuation.html) intends to communicate incomprehensible behavior of people with bipolar disorder to their friends and families in order to alleviate alienation from loved ones. The game consists of three phases that have been modeled after three phrases our subject matter expert used to capture his experience with the different states of the disorder:

Phase I: The onset of mania: "Why can't they [e.g. friends] keep up?" This phase is briefly represented by an introductory party scene in which the player character starts out as "the heart of the party" who is first imitated by others, but then shoots off through the ceiling into the sky, leaving everyone else behind.

Phase II: Mania: (Fig. 3) "It feels like architecting a divine plan. Everything is in sync and coming together in perfect unison". This phase has been implemented as a platformer in which the player character is catapulted higher and higher up by jumping onto glass platforms that shatter underneath his feet. The shattering glass represents the damage done due to bad decisions made in mania (e.g., irresponsible relations, overspending, etc.). Some platforms carry people. Jumping on those platforms is accompanied by rainbow sparkles, representing the intense gratification of social interactions during mania, but also the potential damage done to the people one interacts with in that state. Game control decreases over time. Simultaneously, a fractal image grows in the background, which represents the feeling of being part of a bigger whole. Mania ends suddenly and plunges the player into depression.

Figure 3. FLUCTuation: Mania

Phase III: Depression: (Fig. 4) "It feels like wading through mud, lost in the company of others." The player finds herself in the deep, dark ocean of depression, where the broken shards from the manic phase platforms conglomerate to block her path to the surface. The player's agency is restricted to painfully slow up, left and right movement (like wading through mud). The people positioned to the sides of the screen send out lights that gravitate towards the player character. These lights stand for well-meant but overwhelming questions such as "How can I help you?" A depth meter shoes how far one is from the surface, but it is unreliable and cannot be trusted. There is no way of knowing when depression will be over. This last phase of the game transitions into an ending cut scene that represents the end of a manic-depressive cycle and return to normality. Each part of the game is timed to decouple it from player skill. It does not have a win state, since bipolar disorder can only be managed, not "won".

[Figure 4. FLUCTuation: Depression]

Perfection (Fig. 5) (http://fortherecords.org/perfection.html) is a game about the eating disorder anorexia nervosa, a phenomenon that is often highly incomprehensible to people without first hand experience and freight with misconceptions (e.g., persons with anorexia do not eat simply to look better). It aims to align the player's mindset with that of a person with anorexia by suggesting a (false) win state (i.e., perfection) whose pursuit has devastating side-effects. The game's core metaphor is the body as garden. The game suggests that a perfect garden is devoid of slugs and weeds. To achieve perfection, the player is asked to eliminate these unwanted elements until only the main plant in the middle is left. The conflict of the game revolves around garden saturation. Watering the garden increases its saturation, the main plant flourishes, but so do the weeds and the numbers of slugs rise (i.e., representations of unwanted emotions). Eliminating slugs by moving the mouse over them in a scrubbing motion (i.e., a metaphor for exercising) decreases saturation, as does parching the garden. De-saturation further kills the weeds, but it also damages the main plant. The game is structured in three stages in which an increasing number of weeds must be eradicated (i.e., representing increasingly higher weight-loss goals). At the end of stage three, when no more weeds are left, the *Perfection* ending is reached. This ending, though, has come at the cost of a healthy main plant and equals "starvation". It turns out that the Perfection ending is not a true win state after all. There is another ending, though – Imperfection – hidden in the game. This ending represents the true win state and encourages the player to challenge her previous assumptions and change her behavior. To reach it, players have to consistently keep their garden within an ideal saturation

range, learn to accept the slugs and weeds and nurse it back to health. While the eating disorder may never fully be "forgotten", there are good chances to overcome it, which is why this game has a win state.

[Figure 5. Perfection]

Collaboration with Subject Matter Experts
We were lucky that two of our subject matter experts were game development students/alumni and they took leading roles in *Into Darkness* and *It's for the Best*. *Perfection* and *FLUCTuation* did not have a person with lived experience on the development team, but we conducted extensive interviews with our experts, showed them every draft of the game design document and had them playtest all our prototypes. Their continuous feedback was crucial to our design iterations, particularly for the identification and evolution of the game's visual, procedural and experiential metaphors. Experts also had last say in regard to the game's rule structure. If a rule did not correspond with their experience, we scratched it and asked them to help us understand the relationships between system elements better. E.g., it is really hard for someone without an eating disorder to gage what the emotional effects of eating are. What does the intake of food mean for an anorexic? We learnt that it is about opening the door to unwanted emotions and that all emotions – bad and good – are unwanted, because they seem incontrollable. To feel means to discover needs and there is always the danger that needs are not being met, so it is better to suppress feelings altogether and strive for total control.
We further learnt that exercising is not just a means to lose weight, but to regain control over one's feelings. Since these mechanisms differ so much from an outside view of anorexia, we had to make sure we captured the interdependencies of system elements (e.g., eating, emotions, exercising, control) as perceived by the person with lived experience. Playtestings with people without lived experience primarily served the purpose to ensure that system interdependencies were clear, that we gave enough and the right feedback to help players understand the game's if-then relations. Without the players' ability to make these connections between elements, it would have been impossible to capture the experience of "what it's like" to live with a disorder (and even with the most accurate systemic representation, it is hard to predict or control player's emotional and cognitive response to a game, as Mitgutsch and Weise (2011) pointed out).

The Role of Metaphors in Understanding and Designing The Experience of Mental Illness
Metaphors played an essential role in the process of understanding and representing the experience of mental illness. After all, we were trying to make inner processes tangible and since inner processes are abstract (i.e. they cannot be directly observed or delineated from a physical reality), metaphors are a great way to make them concrete. We follow Johnson and Lakoff's definition of metaphor: "The essence of metaphor is understanding and experiencing one kind of thing in terms of another." (1988, p. 5). We distinguished between three types of metaphors in the design process: visual, procedural and experiential. A visual metaphor is defined here as an image that shares certain salient characteristics with the concept it represents, but without possessing significant in-game behavior. Procedural and experiential metaphors, while having a visual component, are more strongly intertwined with the game's rules and mechanics and are experienced by the player through moment-to-moment gameplay. A procedural metaphor represents a complex, abstract concept through game rules to illustrate "how it works", while an experiential metaphor models a complex abstract concept through game rules to evoke an experience of "what it feels like". For an elaboration on these different types of metaphors in game design see Rusch & Weise 2008; Rusch 2009 and Begy 2011.

Metaphors naturally came up when our subject matter experts described how certain aspects of the disorder made them feel. We paid special attention to their figurative speech, exploring the usefulness of their images for game design. The metaphors employed ranged from very specific snapshots of emotional states (e.g., feeling like a gutted fish in the down-phase of the bipolar cycle)) to bigger, multi-dimensional structures with several related elements that encompassed the dynamics of the disorder itself (e.g., OCD as a maze without an exit in which one remains stuck unless the compulsion to perform a ritual is broken). Due to space constraints, the following focuses on an exemplary discussion of the design process of *FLUCTuation,* which started with an in-depth interview with our expert on June 21st 2013:

> Manic phase feels like there is a purpose, like one is architecting a divine plan. It involves a loss of control, an inability to exercise free will in an effort to calm down. It's the meteoric rise of a solitary runner. You're alone in your mania, propelled forward. There's an intoxication that comes with operating at great heights. There is a multi-sensory perception of shit coming together as if planned by God, like erratic cacophonous sounds shaping themselves into a symphony. The fall from manic is a jagged descent. You're trying to hold on to it when you feel it is about to end. The inability to do so reminds me of a child's futile mid-summer's attempt to sustain the glow of lightning bugs trapped in a jar. No matter how vigilant the stewardship, no matter how many air holes you drill into the jar's lid, the light burns out in a dishearteningly desultory fashion.

The highly metaphorical description of depression phase focuses first on the experience of social relationships:

> Everyone is staring, hoping something will change. I am a dead, empty, gutted fish. People ask how you're doing and it feels so freight with obligation. Like a chorus of a thousand screeching prayers amplified through an electric bullhorn. There is an intense feeling of isolation as one realizes the pain one has caused others during mania. Interventions from other people are not received the way they are intended. You cannot respond to them the way you should, because the realization of this pain that you caused fuels an increased sense of isolation / detachment as well as anger and resentment toward the ones who've been harmed during mania.

The interview then shifts to the distorted sense of proportion in depression phase:

> A pile of three dishes becomes a pile of 3000 dishes. The individual problems you created for yourself in manic form a huge heap of problems that seems insurmountable in depression. Whatever you need to tackle you can't tackle because it's too big and has spiraled out of control. It feels like wading through mud or quicksand. There is a sense of suffocation when stuck in depression and there is no way of knowing when it is going to end.

From this interview, we identified the main themes for *FLUCTuation*: a sense of loss of control in both mania and depression, as well as alienation from self and others. We also identified the gameplay experiences we were aiming for in the various phases of the disorder: an addictive and incontrollable exuberance in manic phase and a feeling of being overwhelmed and avoiding other people in depression. As with all *For the Records* games, we translated this into concrete game mechanics by first figuring out the game's *core metaphor*. The function of a core metaphor is to provide a conceptual framework, a larger metaphorical structure, into which all other game elements can be embedded. This helps to keep all aspects of the game coherent, in line with one possible reading, thus promoting interpretation and sense-making. Finding the right core metaphor is the key to the whole design and needs to consider gameplay experience (i.e., the actions the player can take and what emotions they might evoke). Without

a solid core metaphor, there are always bits and pieces of the concept and or experience that do not quite fit. Most of our design iterations focused around identifying the core metaphor, which proved to be most difficult for *Perfection*.

Informed by our subject matter expert's reference to the "intoxication of operating at great heights" as a salient element of mania, *FLUCTuation's* core metaphor is spatial and leverages the "up is good, down is bad" dichotomy. The interview further emphasized physical movement as a metaphor for the emotional experience in manic and depressive state: being propelled forward in mania and wading through mud or quicksand in depression. This already implies gameplay variables to tinker with: movement speed and sensitivity to player input. The quality of movement in each state further determined the metaphor for the game-space in mania and depression: the sky is limitless and thus lends itself to be the scenery for the unstoppable ascent in mania. We wanted to capture the "devil-may-care" aspect of mania, which is why we used glass platforms to jump on that shatter in a gratifying way upon impact. This further enabled us to tie mania and depression together by reusing the shards of the broken glass platforms as obstacles in the "down" phase: what was done without consideration of consequences in mania comes back to haunt you in depression. We further introduced the visual metaphor of the growing fractal to illustrate the sense of purpose and synchronicity described by our expert.

The lightning bug metaphor that was mentioned to explain the jagged descent into depression could not be as easily integrated into our core metaphor and was thus left out. The same was true for the "gutted fish" analogy to capture the mental state of depression. We kept our focus on space and movement as pillars of the core metaphor in the depression phase, plunged the character into a deep, dark ocean of despair and reduced the formerly hyper-sensitive, exaggerated controls to hardly responsive, slow, sluggish up, left and right movements. This, in combination with the conglomerating glass shards from the manic phase that create blockades on the way back up to the surface (representing having to deal with the aftermath of bad decisions made in mania), aimed to capture the experience of being overwhelmed by simple tasks and feelings of remorse. It was important to us to also include the sense of alienation from others and create a dynamic of "social avoidance" in this phase. Hence, the friends that once sat on the glass platforms in mania reappear on the left and right of the screen in depression. The lights they send out towards you are metaphors for well-meant questions that are fraught with obligation and only intensify feelings of guilt, resentment and isolation. Whether you come in contact with the glass shards or the lights that gravitate towards you, you are being sent further down into despair, farther away from the goal of reaching the ocean's surface. Consequently, players avoid both of these elements and start to perceive the other characters in the space and the lights they emit as hindrance. To capture the gnawing question of how long this state is going to last, we included the "depth meter", an interface element that starts out by signaling the avatar's progress towards the surface, but soon becomes unreliable.

Well Designed?
According to the standards we set for ourselves above – i.e., to derive all aspects of the design from the lived experience of our subject matter experts – all four *For the Records* games can be considered well-designed. No game contains even a single element, no rule, no mechanic, no procedural, experiential or visual metaphor that is not meaningful in regard to the portrayed issues. According to our experts, not only do all game elements make sense on a cognitive level, they also evoke an emotional resonance through moment-to-moment gameplay. Our experts, however, already know what each element means. The big question thus is: what is the gameplay experience for people who lack first hand experience with the portrayed disorder and/or who have not been involved in the design process and are coming to these games "cold"?

Gameplay Experience

As powerful as metaphors can be to communicate abstract aspects of subjective experience, they can also be hard to understand. Further, players' expectations vis à vis the experiential structure of the game as medium (i.e., that there is a goal, a clear win or lose state) can conflict with the experiential structure of the portrayed disorder. Since promoting understanding about mental illness was our declared goal for *For the Records,* we had to design and test for maximum game comprehension. We did four "open house" playtests during the development process in Fall 2013. Each attracted about 15 testers (students and faculty) from different schools at DePaul. We noted two kinds of game comprehension: an emotional comprehension tied to what game elements and the bigger game structure made players feel like during gameplay, and a cognitive comprehension that was needed to interpret the gameplay experience in the context of the game's theme (e.g., ADD, OCD). It turned out that emotional comprehension corresponded well with our design intentions, while cognitive comprehension sometimes lagged behind. Before we investigated how the game as a whole promoted understanding of the portrayed mental health issue, we first focused on a much more fundamental understanding of the game's rules and mechanics: were players able to discern how game elements related to each other to form the underlying system? E.g., the questionnaire to an early *Perfection* prototype asked: "Was it clear to you what effect scrubbing had in the game apart from scrubbing away objects?" This basic understanding of the game's rule structure is key to both emotional as well as cognitive comprehension.

We then asked about how certain game elements and mechanics made players feel. The responses to this, even when we tested very early prototypes with abstract concept art, were encouraging. The first version of *Perfection* featured a laboratory (not a garden) as its core metaphor. The goal was to make the lab as sterile as possible. For that purpose, the lab's temperature had to be carefully monitored. If it got too cold, a red button signaled alarm (this was an early attempt at modeling the body's cue for hunger). Pressing the button (i.e., eating) increased the lab's temperature (later replaced by increased garden saturation) and flooded it with abstract objects signifying "contamination" (later replaced by the slugs in the garden metaphor). We asked players how the increase of objects after pressing the button, made them feel. Across the board, players' emotional disposition towards the objects were negative: "They must be eradicated." "Uneasy, I didn't want to get overrun by them." "Frustrated / annoyed. I need to get rid of them." We then asked how scrubbing away objects made players feel: "Pretty good. When screen was clear, I felt good"; "It felt like I was rubbing away something bad"; "Good, like a kid torching an anthill with a looking glass." Reading these emotional reactions to game elements in the light of their metaphorical meaning indicated that we were indeed capturing the experience we were going for and that our planned alignment of the players' mindset with that of an anorexic was successful. It was thus really surprising to us that some players, while having the reactions to individual game elements we intended them to have, had difficulties to cognitively interpret them. They knew the objects that appeared in the lab after pressing the button were "bad", but they didn't know what these objects represented in the context of eating disorders. In retrospect it seems obvious that one could only know what these objects meant, if one already had an intimate understanding of the mechanisms of eating disorders! Most of the players, however, got the "big picture" and understood the games' core metaphors (e.g., garden as body; watering as eating; jumping higher as mania; struggling to the surface as depression). Only the visual metaphors we used to represent the less well-known (and possibly more idiosyncratic) aspects of the issue were lost in translation: the oil puddles in *Into Darkness*; the slugs, weeds, growing garden box in *Perfection*; the fractal, depth meter and floating lights in *FLUCTuation*; and the calendar in *It's for the Best.* With explanation of these elements, though, players' experiences really seemed to gain depth and provide valuable insights into the disorders the game portrayed.

Another aspect that hindered game comprehension for some players' was their preconceived notions of what games are as media. While we told players upfront that the games they were about to play aimed to model what certain mental illnesses "felt like", players frequently just played to win. They had a hard time

adopting the mindset of exploring the game as a means of understanding the portrayed issue; they wanted to beat the game and when it was not obvious how to do so, they got frustrated and confused. From all of this feedback we learnt that while principally the games had clear strengths as tools to foster an experiential comprehension of mental illness, we needed to give players more context and explicit clues to guide their gameplay experiences and interpretations thereof. We added a "what it all means" page to *Perfection* that spells out the meaning of every game element and asks the player to reflect on their gameplay in the light of this meaning. We added quotes from our subject matter expert in between the different phases of *FLUCTuation* to facilitate decoding of each phase's metaphorical content. We also discovered that people who watched the film-clips we made as part of the bigger *For the Records* project before they played the thematically corresponding games had much better game comprehension. The *For the Records* website that includes all media pieces is thus designed in a way that suggests viewing the films or animations first. Additionally, each game description on the website aims to prepare players for the experience they are about to explore, reminds them that these games are "different", that winning them is not the point and that players should not worry about "doing it right" and rather pay attention to what they see on screen, what they can do, how it makes them feel and to reflect on what that might tell them about the portrayed mental illness.

Conclusion

Games, like no other medium, enable embodied experiences and can thus provide a first hand understanding of "what it's like" to live with mental illness. Metaphors play a huge role as inter-subjective transformations of subjective experience. They were used both by our subject matter experts to explain their experiences to us verbally, and by the design team to make those experiences tangible to players through gameplay. Making metaphorical games to facilitate a deep, experiential understanding of mental illness, however, is anything but easy. While dialogue allows for mixing and matching of metaphors to highlight various salient aspects of the experience, a game's metaphorical set up needs to be simpler to avoid confusion. There needs to be one, core metaphor into which all relevant elements can be embedded and that lends itself to a coherent interpretation and experience of what it represents. While our procedural and experiential metaphors that constituted the game's core metaphors proved to be successful in evoking the intended emotional experiences, the visual metaphors often remained opaque to players and required further explanation. This confirms that using a game's structures, rules and mechanics as main vehicles for meaning is most promising to get ideas across and that finding the right visuals to supplement that meaning is an art form in itself. We further found that the complementary use of different media is most powerful in increasing understanding and fostering empathy. Games are only one piece to the puzzle. A game designer's pride of wanting to "say it all" with a game might prevent more effective ways of communicating complex issues to a broader audience. Creating *For the Records* as an interactive, transmedia documentary project shed light on the potentials and pitfalls of each medium and the strength that comes from a well-orchestrated integration of film, games, animations, photo romans (i.e. a form of digital storytelling using photographs and voice over) and written interviews.

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