SKAZKA

Exploring Empathy Through Cooperative Mechanics and Narrative

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ABSTRACT

Video games like *Journey* (thatgamecompany, 2013), *Shadow of the Colossus* (Team Ico, 2011), and *Undertale* (Fox, 2015) have proven that empathetic experiences can be commercially successful, even as academic studies demonstrate how cooperative play increases empathy. In order to explore play and narrative mechanics that foster cooperation and empathy, I created a game design document for my video game, *Skazka*. *Skazka* is a two-player cooperative and exploration-based game featuring playable characters Katya, a girl, and Volk, a wolf, as they navigate a fairytale Siberian landscape in search of Katya's brother. Over the course of their journey, they overcome the beautiful but treacherous terrain and survive encounters with the animal-like lords of the land. *Skazka*'s design goals are to encourage cooperative problem-solving between players, reward group discovery, and foster empathy between players. Drawing from traditional puzzle and exploration game mechanics as well as cooperative online play, *Skazka* deemphasizes the precision of movement and actions in favor of communication and coordinated effort between players. The puzzle segments and world exploration are designed to foster cognitive empathy, or rational understanding of another person's feelings. The narrative themes of mutual interdependence, loss and grief, and

courage in the face of adversity are intended to foster emotional empathy, or emotional understanding of another person's feelings. As an indie game built on cognitive research, *Skazka* bridges the gap between commercial design and research related to empathy-building.

BACKGROUND

Video games are a widespread entertainment medium within society. In the United States alone 65% of households have at least one member playing video games 3 or more hours a week with a total consumer spending of more than 30 billion dollars (ESA, 2017). The ESA (2017) also reports that 53% of gamers are playing online and multiplayer titles, suggesting games have a profound impact on society and the way people relate to each other. While the most played multiplayer games are divided between the shooter, casual, and action genres, there is a great deal of growth in the independent (indie) game space (Gril, 2008) as well as market interest and recognition of these games.

Games like *Papers, Please* (Pope, 2012), *This War of Mine* (11 Bit Studios, 2015), and *Papo & Yo* (Minority Media, 2012) center around discussion and emotional investment in issues of immigration and bureaucracy, the human cost of war, and domestic abuse respectively. Each takes a non-traditional approach to storytelling and game design to tackle these difficult issues. *Papers, Please* puts the player in the role of an immigration officer who must evaluate the paperwork of immigrants and returning citizens according to a totalitarian state's complex and increasingly arbitrary rules and regulations. *This War of Mine* was inspired by the events of the Siege of Sarajevo during the Bosnian War, but rather than play as a solider, as is the typical video game experience, players are besieged citizens doing their best to survive the chaos. In *Papo & Yo* the player's avatar is a Brazilian boy who escapes his abusive father by entering a dreamlike and magical favela; but, the gentle, helpful monster

the boy befriends turns violent when it eats poisonous frogs (a metaphor for alcoholism).

Player desire for emotionally driven experiences continues to grow, as does an interest in games that feature non-violent mechanics or twists on the usual game mechanics (Donnelly, 2014). In 2013, *Journey* broke PlayStation Network sales and won numerous awards for its wordless retelling of the hero's journey across a desolate landscape with simple, online play (Osborn, 2012). In 2015, *Undertale* received awards, including PC Game of the Year (IGN, 2015), for its subversive story and game mechanics that center around non-violent negotiation with in-game enemies rather than overcoming them with violence.

This interaction between games and violence is also of interest in academic circles, and much research has been done in the area of gameplay and psychology to understand the relationship between violent video games and aggressive tendencies, including the work by Anderson and Bushman (2001). While their study identifies a correlation between video game violence and increased aggression in children, Greitemeyer, Traut-Mattausch, and Osswald (2012) show that the game *Lemmings*, which centers around the player helping a group of creatures reach safety, reduces aggression cognition. While the play of *Lemmings* is not violent it is not necessarily intended to be a prosocial experience. The game features comedic gore and dark humor related to the often-grisly fate of wayward lemmings, but in order to progress players must help (rather than torment) the lemmings. This suggests choices in game mechanics and goals, as well as the framing of a player's role in the game, affect how players behave both during and after play.

This idea of a player's role and how it affects aggressive response is supported by additional research into video game violence within cooperative games. Greitemeyer and Osswald (2012) observed that team-based games increased cooperative behavior

despite violent gameplay. They analyzed player behavior during tit-for-tat games after playing *Halo* (Microsoft, 2001-2007) in the context of direct competition against other players, indirect competition to make more progress than other players, and cooperation to make progress as a team. Playing *Halo* cooperatively led to more cooperative tit-for-tat behaviors in players, despite the violence inherent to *Halo*'s shooter-style gameplay.

EMPATHY

Zaki and Ochsner (2016) define empathy as "the ability and tendency to share and understand others' internal states" (p. 871). As a complex and multifaceted concept, empathy can further be broken down into a cognitive and emotional component (Hodges & Myers, 2007). Hodges and Myers (2007) describe cognitive empathy, or empathetic accuracy, as the ability to understand another person's feelings. Using cognitive empathy a person can predict someone's reaction to those feelings which allows that person to react appropriately. This notably does not require a person to care about another person's welfare, but it does require sensitivity and understanding of emotions.

Emotional empathy is the understanding of another person's feelings on an emotional level. Hodges and Myers (2007) describe emotional empathy as involving three components: "feeling the same emotion as another person (sometimes attributed to emotional contagion) … feelings of distress in response to perceiving another's plight … feeling compassion for another person" (p. 296). While this third component, or empathic concern, is more sophisticated developmentally the first two components help lay the ground work for it.

Given the complexity of empathy as a whole there is much debate over not only what it is but its role in guiding human behavior. Bloom (2014) points out that empathy does not

necessarily lead to better human behavior, particularly on a policy level. Feeling emotional empathy for victims in crisis can be paralyzing, which causes inaction as a person is overwhelmed by another's feelings of pain and distress. Empathy can also be deceptive, as irrational reactions to a situation may soothe a person's own feelings without initiating positive action in the world. High cognitive empathy does not ensure someone will act in (or even care about) another's best interests—only that this person can manage the other's emotional reactions. On the other hand, Zaki (2017) argues that empathy, while flawed and by no means a comprehensive tool for action, can function as an initial guide to moral behavior (a kind of "moral compass") that ultimately leads to prosocial actions and outcomes.

Given this complex space, video games must not only consider how they can foster cognitive and emotional empathy within players but also how these sentiments affect player behavior inside of, and beyond, the game itself. The design of *Skazka* builds on mechanics and narrative of existing games that promote cognitive and emotional empathy; but its deeper goal is to combine these reactions with critical reasoning and a more universal perspective so that player compassion extends beyond the immediate target of empathy to the greater community and world. While this goal may be beyond the scope of a design document, *Skazka* still presents an approach for designing video games that foster prosocial behaviors in players as well as acts a bridge between the academic discussion of empathy and the game development community's creation of positive and entertaining experiences for players.

EMPATHY IN GAMES

Cognitive empathy is an important aspect of multiplayer games, whether competitive or cooperative, as it helps players understand and react to teammate and competitor actions. One genre that features collaborative problem-solving are networked,

team-based shooters such as the *Battlefield* franchise (Electronic Arts, 2016), *Team Fortress 2* (Valve, 2007), and *Overwatch* (Blizzard, 2016). These popular games require multiple players to engage in squad-based combat against an opposing team, where each player takes on a different role to support the mission objective. While all of these games require technical execution, and understanding of game and character mechanics, a player's success also hinges on her ability to understand what teammates and opponents want and need at any given time so she can react accordingly.

While multiplayer games require cognitive empathy, narrative games demonstrate a powerful avenue for fostering emotional empathy. Narrative-centric games have an inherent roleplaying aspect (i.e. taking on the persona of an in-game avatar to complete the game's goals), and the act of roleplaying correlates to higher levels of empathy on Davis's Interpersonal Reactivity Index (Rivers, Wickramasekera II, Pekala, & Rivers, 2016). Since the Interpersonal Reactivity Index includes empathy metrics for perspective-taking, fantasy, empathetic concern, and personal distress this indicates that the act of taking on another role, even in the imaginary context of a game, can lead to significant increases of emotional empathy.

The idea of roleplaying varies between games. Sometimes games provide extensive customization so players can "recreate" themselves, such as in the life simulator *Second Life* (Linden Lab, 2015), while other games allow players to take on the "role" of an existing character. In these games, player choice varies with games like *Mass Effect* (BioWare, 2017) allowing a variety of actions and narrative choices and games like *Final Fantasy* (Square Enix, 2016) presenting the player with a relatively linear narrative but a range of characters with whom to identify. In both of these games, the narrative is dramatic and emotionally driven to elicit empathetic concern from the player for both playable and non-playable characters.

Another way to encourage empathy is by creating a narrative experience centered around companionship. The Amiga/Atari ST puzzle and exploration game, *Another World* (Chahi, 1991) highlights the friendship and dependence between the playable main character and the non-playable alien, Buddy. With its cinematic puzzles and action-packed, but emotionally-driven, story, *Another World* had a profound influence on a number of modern developers and the use of a "companion" AI (Carle, 2014). Similar to *Another World* is the cult-classic *Ico* (Team Ico, 2001) where the player takes on the role of a young boy helping a mysterious princess escape a cursed castle.

In both *Another World* and *Ico* the emotional core is the friendship between the player's avatar and an AI-controlled character. This core creates a moving story dynamic, but these games lack true cooperative mechanics since they are single-player experiences. *Skazka* incorporates the ways these games foster a sense of empathy between player and character and extends them to foster empathy between player and player.

This idea is not unique to *Skazka*. Several single-player games feature cooperative modes as extra stages or levels including *LittleBigPlanet* (Media Molecule, 2014), *Portal 2* (Valve, 2011), and *Never Alone* (Upper One Games, 2014). While *LittleBigPlanet* can be played as a single player game, up to four players can play in any level and certain optional puzzles require multiple players to solve them. *Never Alone* is also a single player game but it allows for a second player to handle the extra character (also a feature in the Japanese release of *Ico*). *Portal 2* has a fully featured cooperative mode in addition to the single player mode, making it one of the only games that emphasizes co-op play as much as single player play.

Portal 2 gameplay centers around complex puzzles that require tight coordination and execution. This makes playing online without voice chat difficult, even if using the game's "emote"

system that lets players communicate non-verbally through character animations. In contrast, *Journey* is designed as a networked experience with fairly simplistic navigation and puzzle-solving that does not require direct cooperation. The matchmaking system seamlessly swaps players into other players' games over the course of a playthrough. Players can only communicate through in-game sound effects, and they don't have access to their companions' information until the end of the game, but this limited network experience emphasizes the world's loneliness and makes every playthrough different but generally positive (Borda, 2013). The sense of companionship and emotional connection comes from the story and aesthetics rather than a core dependency on the other player.

As a hybrid approach of *Portal 2* and *Journey*, *Skazka*'s puzzles require cooperation to solve but the actual technical execution of movement and actions are deemphasized in favor of a more exploratory, narrative-driven experience. This makes the gameplay accessible for networked play between unevenly skilled players and therefore widens the target audience beyond core gamers to reach casual players interested in the game's narrative and social aspects. The goal of *Skazka* is to integrate empathy research into a game designed for commercial release, so *Skazka* also draws on lessons learned from other commercial games centered around empathy. For example, *Journey* was a critical success due to its unique way of promoting connection between online players (Borda, 2013) whereas the reception of *Never Alone* was mixed due to its control issues and lack of satisfying gameplay challenges (Hindes, 2014).

Skazka's design focuses on blending tight, satisfying controls and play experience with core cooperative mechanics and empathy-based narrative.

EMPATHY IN *SKAZKA*

Skazka, which is Russian for "tale," develops the friendship between Katya, a girl without a family, and Volk, a wolf without a pack. Together they navigate the Siberian landscape in search of Katya's brother, who was abducted by the forest. *Skazka*'s game design document proposes the use of cooperative mechanics and design built around both cognitive and emotional empathy. To accomplish this, *Skazka* uses team-based gameplay mechanics within the context of the narrative and exploratory-based game genres. This is intended to create a play experience that focuses on critical-reasoning and puzzle-solving in the context of an emotional and dramatic narrative.

Skazka's model of play is similar to *Portal 2*, which uses purely cooperative mechanics in the puzzle genre. In *Portal 2* the co-op mode requires both players to work together in order to navigate a research facility. The two playable characters have the same abilities, which makes the game mechanics and play symmetric between teammates. *Skazka* blends this style of play with the style of squad-based games by featuring puzzles that require asymmetric character classes to complete. Since players do not share abilities each puzzle requires different actions from each character. This allows players of differing skill level and play-styles to make progress as a team while remaining reliant on each other.

The idea of reliance ties in to *Skazka*'s story, which is centered around mutual dependence and cooperation between Katya and Volk as well as the inter-connected nature of the world around them. While mutual dependence is the goal, as in any multiplayer experience, it is essential to limit player motivation and ability to "troll," or deliberately provoke/harm the other player. This is particularly difficult when puzzles require direct interaction and coordination between players, so *Skazka* must consider numerous kinds of "defector" behaviors and limit these actions

as much as possible. Some of the ways *Skazka* does this is by featuring in-game mechanics and designs that reward positive interactions between players while omitting mechanisms for one player to harm the other without harming themselves (either in-game or socially).

The play and narrative designs, intended to promote cognitive and emotional empathy while limiting trolling, are: cooperation as a problem-solving mechanic, cooperation as an exploratory mechanic, cognitive empathy through puzzle design, emotional empathy through narrative, and diverse design.

COOPERATION AS A PROBLEM-SOLVING MECHANIC

Skazka has modes for local play and networked play. In both cases players are on a shared screen, rather than a split screen, to emphasize the intrinsic link between characters. Players are therefore always aware of what the other player is doing and they must work in a coordinated effort. By coordinating movement, special actions, and team-up actions the two players overcome obstacles and open new segments within the game's world. Since the puzzle emphasis is on the coordination between players, rather than critical reasoning or skill of each individual player, *Skazka* defines a form of play where mutual interdependence and cooperation are the central game mechanic.

In terms of abilities, Volk can double jump, long jump, ram objects, and dig. Katya's abilities focus on environmental manipulation such as growing plants, breaking objects, and using a vine whip to swing between locations. The divergence in abilities allows players to select a character based on play preference. Action-oriented players may prefer the movement-oriented role of Volk, while more tactical players can strategize using Katya's abilities.

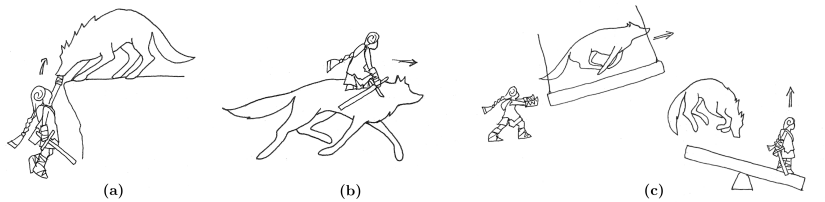

Figure 1. Team-ups require player cooperation and interdependence to find new areas and solve problems based on environmental reasoning. Three of the initial team-ups are (a) Assist, (b) Mount, and (c) Launch.

Beyond each character's unique abilities, *Skazka* has team-up abilities, which require the players to interact and cooperate directly. "Mount" allows Katya to ride on Volk, combining his speed with her magical powers. "Launch" allows opportunities for Katya to push a log swing, or Volk to jump on a teeter-totter, giving the other character a boost toward inaccessible areas. Volk can use "Assist" when Katya is dangling from a ledge to pull her to safety. Later team-ups are introduced as the game progress, but these initial three are illustrated in Figure 1.

Since players must coordinate during team-ups to solve level puzzles, successful cooperation contributes to the level's flow and therefore player sense of accomplishment. For example, during Mount the two players operate as a single unit. Since the duo moves at Volk's higher running speed and can overcome obstacles using Katya's break and grow abilities the speed of progression also increases. This, in turn, increases the pacing of the game, which gives both players a sense of level mastery and further incentive to work together.

Should a player troll by refusing to participate in the puzzle-solving or not assisting the other player, this behavior can be tracked via the networking matchmaker algorithm. This algorithm then tries to pair adversarial players with other adversarial players, so that cooperative players can more easily find cooperative matches. The matchmaker can also seamlessly

swap in new partners at a player's request using similar techniques to *Journey*'s matchmaker.

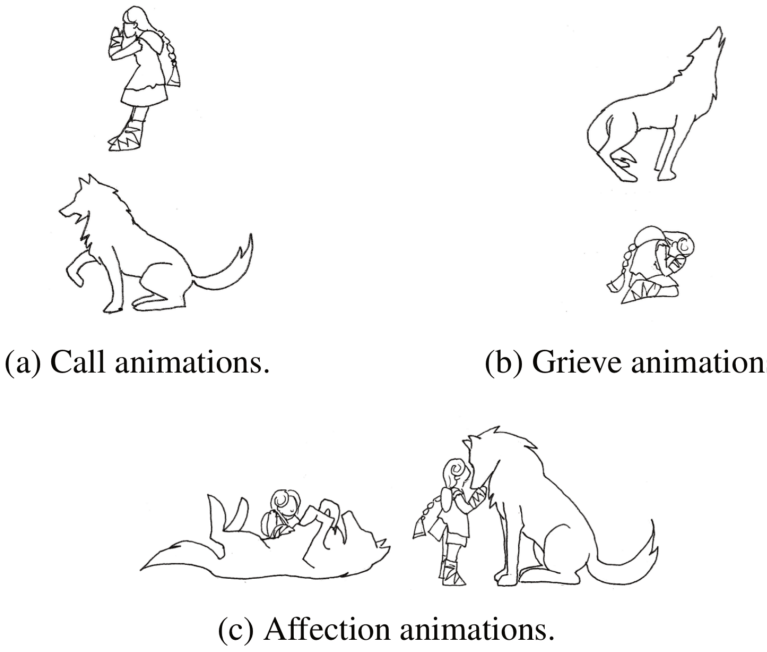

Figure 2. Animation concepts used to reinforce notions of interpersonal dependency and friendship.

Some of the interactions between Katya and Volk incorporate animations (illustrated in Figure 2), which are intended to facilitate communication between players. A player can direct the other player's attention using the "Call" action, while "Affection" triggers non-critical animations that indicate a player's happiness and approval. There is no way to taunt or provide negative feedback using these character animations. The sounds and animations are designed to be cheerful, friendly, and varied so that "spamming" the button, or pushing it repeatedly, will neither annoy the other player nor effectively convey negative sentiment. This is similar to the call mechanic used in

Journey, which gives players a non-verbal way to connect with their partner.

Both Call and Affection are player-controlled, but "Grieve" is triggered upon the other character's death. Death of one character ends the game, re-spawning both playable characters to the previous checkpoint. Although character death does not incur large penalties, in terms of time or affect in-game content (similar to *Portal 2*), it connects the character "life bars" so that performing an action that negatively impacts the other player will in turn negatively impact the player that instigated it.

COOPERATION AS AN EXPLORATORY MECHANIC

To encourage world exploration the levels are designed with side paths that are not readily visible or accessible from the main path. In some cases, one character might easily discover a potential "entrance" to a hidden section of the map but that section may require the other character to access it. In this case, the first player must signal to his partner that she should join him in that region.

In local co-op, where players are in close proximity to each other and share the same physical screen, this is as simple as asking, but communication becomes more challenging in a networked game. Since *Skazka* only allows players to communicate with the other player using in-game actions, Call provides an immediate signal to focus the other player's attention, but the exact steps required to access the new region cannot be conveyed directly. The challenge is therefore related to the communication and cooperation required for accessing additional world sections and narrative interludes.

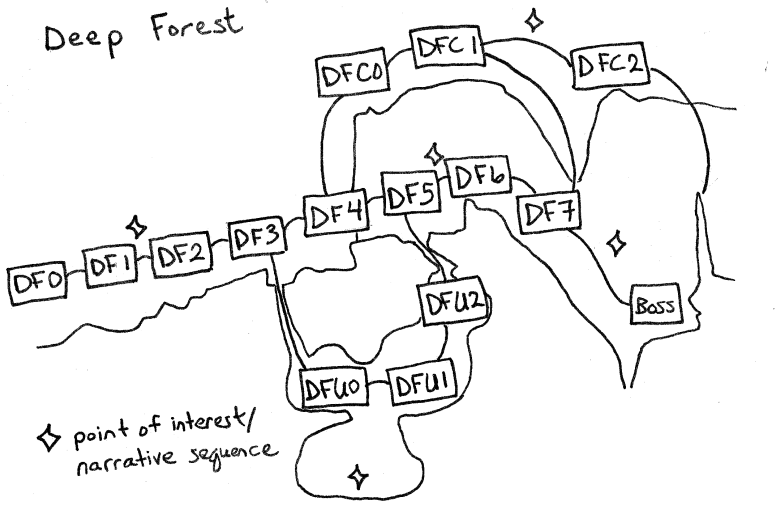

Figure 3. The taiga biome in Skazka consists of eight linear levels with unique puzzle mechanics, as well as two "optional" routes that reward players with in-game cut scene and narrative segments.

The level layout map in Figure 3 shows the different paths and puzzles available based on player decisions and interactions within the taiga (or coniferous forest) levels. Players are given the opportunity to explore different sections of the game, which in turn uncover optional narrative segments. There are also unique visuals in hidden areas as well as collection-based rewards to encourage exploration. *Skazka* takes cues from *Journey* where players can share their own discoveries with new partners to keep each playthrough fresh and exciting, while also encouraging cooperation with, and empathy for, the other player.

COGNITIVE EMPATHY THROUGH PUZZLE DESIGN

As previously discussed, cognitive empathy is the rational understanding of another person's wants or needs. While the cooperative mechanics associated with both problem-solving and exploration require cognitive empathy between players to effectively work as a team, *Skazka* further encourages cognitive

empathy by designing puzzles that expressly require empathetic understanding to complete.

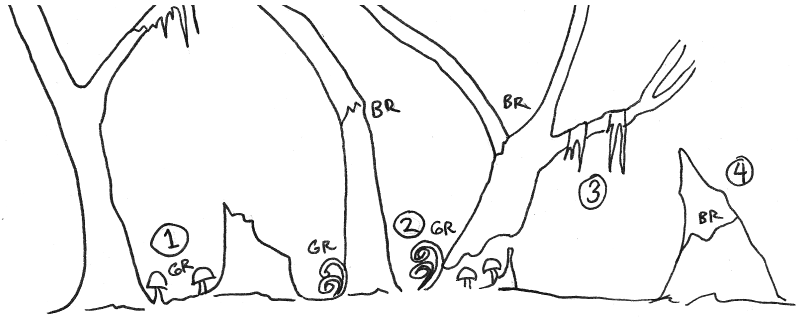

Figure 4. One of the puzzles designed for Skazka. Step 1) Katya grows mushrooms. Volk uses these as bounce pads, while carrying Katya with the Mount team up. Step 2) Katya and Volk split up. Katya grows vines to scale a tree, while Volk enters the tree's hollow and jumps along the mushrooms within it. Step 3) Katya swings along the vines and breaks off the top of a dead tree trunk, which falls to the ground. Katya hangs from the ledge. Volk jumps along the broken tree trunk to reach the top. Step 4) Volk assists Katya before she falls. Together they proceed to the next section.

Skazka does this by utilizing the design flow of other exploratory puzzle games, such as *Shadow of the Colossus* and *Journey*. These games allow a great deal of freedom when exploring the world, but the puzzles themselves adhere to strict guidelines for solving. In *Skazka*'s case, solving a puzzle requires working with the other player. At the beginning of each level players start together, and though they may separate to accomplish their individual tasks, they must both reach the end of the puzzle before the next segment opens. Alternate routes and hidden areas need both players to have accessed them before they unlock (the example puzzle in Figure 4 shows how players must coordinate their actions to open up new levels).

The general flow patterns for puzzle-solving are:

1. Katya action > Volk action > Team action

2. Volk action > Katya action > Team action
3. Team action > Team action > Team action

This ensures that players are either coordinating their actions and movements or providing each other assistance through the level. This means players must analyze how the other player is progressing and potential challenges they may encounter while monitoring their own progress. A direct example of this is the Assist team up, since Volk must position himself to help Katya before she loses her grip, but players can provide assistance in other ways and circumstances.

In all cases it is impossible to leave the other player's character behind and progress without them. This makes understanding of the other player's situation, and likely actions, essential. *Skazka* also de-incentivizes players from actively harming the other player's character. While it is possible to passively harm the other player's character (e.g. not providing assistance at a critical moment or refusing to cooperate with that player), these trolling tactics negatively impact the instigator as much as the victim as both players must restart. As mentioned earlier, data on such behaviors are also collected for future matches these players may have.

EMOTIONAL EMPATHY THROUGH NARRATIVE

The goal of *Skazka* is connection rather than division, but games are often competitive and winning-focused. This can be true even in cooperative games, where points or rewards are given to the "better" player. Mechanics for this include leaderboards, difference in experience distribution, individual player achievements, and other related systems that distinguish players—whether by singling out failures or accomplishments. *Skazka* avoids this by treating Volk and Katya as a unit with rewards distributed evenly between players. Art and design decisions, such as a Grieve animation when the other character

dies, or Affection when one of the characters is pleased, also serve to reinforce this sense of dependency and suggest an emotional response to the players.

Further, the narrative of *Skazka* avoids the "good/evil" dichotomy where the player and her character are depicted as a hero with all adversaries and opponents acting as villains. Most good-versus-evil narrative in video games resolve when the player completes the game, giving him satisfaction at both beating the game and overcoming opponents, who have no redeeming qualities. This is a common trope in first-person shooter games, most notably in World War II games, that works against historic understanding and empathy-building (Fisher, 2012). This sort of narrative might bring together players as a unified team facing a common enemy, but such simplistic story-telling encourages othering, or the act of classifying a group of individuals as something outside of someone's personal identity. In this context, players need not concern themselves with the impact their actions bring on the non-playable (or other) characters.

Some criticisms of empathy as a mechanism for building prosocial behavior are that empathy for an "ingroup" member can promote aggression toward someone in the "outgroup" (Zaki, 2017), and that appealing to emotion can lead to selfish and shortsighted actions (Bloom, 2014). Both of these outcomes are counter to *Skazka*'s greater goals of promoting prosocial behaviors and compassionate actions toward people with whom the player may not immediately identify or recognize as in need.

To address this, *Skazka* adversaries are "boss" characters that players defeat to progress, but these bosses are not evil. Instead they are sentient creatures and spirits. As in *Shadow of the Colossus*, the "enemies" have sympathetic qualities and unique personalities, so as Katya and Volk defeat the land's inhabitants, the victory is bittersweet. Katya gets closer to rescuing her

brother, but the world itself pays the price. Katya is selfless in her quest to save her brother, but selfish in using any means necessary to find him. Volk is selflessly devoted to orphaned Katya, but this leads him to disregard the consequences he has on the creatures of the land.

Rather than only appeal to a player's initial sympathetic feelings toward Katya and Volk, *Skazka* challenges player notions of hero and villain archetypes and raises questions of human impact on the natural world. Players must reconcile their initial emotional reaction to a seemingly simplistic fairytale with thoughts on inevitable conflict between sentient, sympathetic creatures. By portraying the complexities and difficult choices of life, *Skazka* tries to encourage critical thinking and deeper analysis—elements that empathy as a sole tool is often criticized for lacking (Bloom, 2014; Zaki, 2017).

Thus, *Skazka*'s cooperation-based play exists within a subversive narrative that questions standard game mechanics centered around violence. *Skazka* both reaches a wide player audience, who are expecting the usual puzzle/exploration experience, and provides opportunity for discussion and introspection, which is one of the draws of indie games. A widely recognized game that does this in the context of a cover-based shooter is the cult classic *Spec Ops: The Line*, which explores the ethics of military-style games, personal loss and duty, and actions in uncertain moral situations (Pitts, 2012). *Undertale* is an indie game that is similarly subversive in its treatment of violence, but presented within the roleplaying game (RPG) genre.

Skazka's narrative uses similar themes to explore how empathy-driven design can promote self-reflection and a broader view of the world. Not only are these essential qualities for building prosocial behaviors in players, they are important qualities and considerations when discussing how game developers can harness empathy effectively.

DIVERSE DESIGN

Since *Skazka* focuses on a cooperative and empathetic experience, the world and characters within it are designed to be relatable while celebrating diversity. Numerous games assume a Western audience and thus focus on depictions of European characters and setting, but *Skazka* tries to foster an appreciation of cultures and experiences that might differ from the player's own. The goal is to discourage othering while presenting another world view to help broaden player perspective.

Figure 5. Initial concept art capturing the feel of Russian illustrative art and setting Skazka's *tone.*

The chosen setting in *Skazka* is the Siberian countryside that historically is a mix of Western and Eastern cultures and architecture. This setting provides an atmosphere familiar to Western players while potentially exposing them to something outside their area of experience. As Siberia is a vast geologic area with a diverse range of ethnic groups and ecosystems, Katya's journey is intended to encourage interest in, and sensitivity toward, a unique part of the world. Initial art for the world and

game art-style is shown in Figure 5, and the game draws from the mythology and folktales of Siberian peoples including the Russians, the Buryat, and the Tyuvan clans.

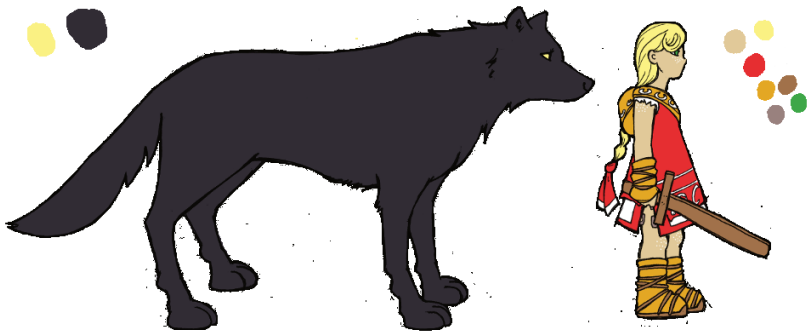

Figure 6. Initial character designs for Katya and Volk.

Katya herself is a girl of mixed Buryat, Turkic, and Russian descent. She is designed as a role model for younger female players as well as biracial players. She possesses the "heroic" qualities of bravery, determination, and loyalty. Volk, her wolf companion, possesses similar qualities, but his design incorporates the fierce power of a wild animal. Initial designs of the characters are shown in Figure 6.

Since players can choose their character, players who might be less inclined to play a female protagonist still have an opportunity to enjoy *Skazka*'s gameplay and narrative. This relates to one of *Skazka*'s secondary goals, which is contributing to the normalization of non-male, non-white protagonists in video games. To accomplish this, *Skazka* tries to overcome potential biases of a "mainstream" audience by presenting something accessible and familiar yet compelling enough to raise awareness.

FUTURE WORK

Skazka is still in development at Akula Games, but once a vertical slice is completed, we will use standard playtest practices developed by companies such as Valve, Bungie, and Epic (Parker, 2012) to analyze its potential for success as a commercial game experience. This process includes recruiting playtesters and recording video and audio data of player reaction and concurrent in-game events during the play session to understand how players interact with the game on a moment by moment basis. While not a formal analysis for measuring empathy levels in players, this data is helpful for understanding parts of the game that promote (and potentially de-incentivize) cooperation, as well as a way to gauge player mood and sentiment as they interact with other players and the levels.

After a play session we will formalize player thoughts and feelings using an exit survey to understand player likes and dislikes and their overall impression of the gameplay and story. We will also use these participants to examine how well *Skazka* succeeds in terms of fostering empathy by comparing player responses to the Toronto Empathy Survey (Spreng, McKinnon, Mar, & Levine, 2009) before and after the play session. Other techniques used for measuring Theory of the Mind, or cognitive empathy, in relation to literary fiction include reading the mind in the eye, diagnostic analysis of non-verbal accuracy, the Positive Affect Negative Affect Scale (PANAS; Watson, Clark, & Tellegen, 1988), and the Yoni test (Kidd & Castano, 2013), which is similar to analyzing response to video game narrative and interaction.

CONCLUSIONS

While the game itself is in early phases of development, *Skazka*'s game design document provides a synthesis of commercial game design with academic research incorporating both cognitive and emotional empathy. Both the game design document and the

eventual finished product are intended to spark discussion around the design of prosocial games as well as contribute to the formal techniques game designers use for fostering empathy.

On a more personal note, I believe it is our duty as game developers to think beyond mere entertainment or profits and consider what potential games have, as a play and story-telling medium, for creating positive, powerful experiences in players' lives. As film director Andrei Tarkovsky (1987) said:

> The allotted function of art is not, as is often assumed, to put across ideas, to propagate thoughts, to serve as an example. The aim of art is to prepare a person for death, to plough and harrow his soul, rendering it capable of turning to good. (p. 43)

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