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UNIVERSITY OF CALIFORNIA
SANTA CRUZ

Buddytale

An Exploration of Virtual Pets and Our Relationships to Them

A thesis paper submitted in partial satisfaction
of the requirements for the degree of

MASTER OF FINE ARTS
in
DIGITAL ARTS AND NEW MEDIA

By
Evie Chang
December 2020

This Thesis of Evie Chang
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ABSTRACT

Evie Chang: *Buddytale* – An Exploration of Virtual Pets and Our Relationships to Them

This thesis explores the development of a digital game, *Buddytale*, which is itself an exploration of our attachments to virtual pets, our responsibilities as their caretakers, and the way digital mortality effects the value we place on our relationships to computational entities. *Buddytale* attempts to build an empathetic connection between the player and their virtual pet, and use that connection to drive feelings of care, nostalgia, and grief. This paper engages in conversation about the moral implications of virtual pet ownership as we consider the different lenses through which we can view them. It attempts to answer questions surrounding the usefulness of mortality in a digital context and examines the implicit death uniquely available to virtual entities. This thesis leaves open questions about what we owe to our digital companions, the authenticity of digital connections, and whether or not that matters in the first place. I hope to see these explored by future pieces, building off of what we have made here.

DEDICATION

To the best boy, Leo, who sat on my lap for 80% of the time I wrote this paper.

Who's a good boy?? Yeah, it's you, silly.

ACKNOWLEDGEMENT

I would like to start by acknowledging that this project was developed over the course of a rather intense year, full of unexpected power outages, raging state-wide wildfires, nation-wide graduate student labor strikes, and global pandemic. That being said, this project would not have been possible without the diverse great efforts of many amazing people. My project advisors, Elizabeth Swensen, Robin Hunicke, and Susana Ruiz offered incredible support, inspiration, and expertise, which has saved me from melting into a sad puddle of stress and anxiety many times. I am eternally grateful for the hard work and support of my programmer and dear friend, the brilliant Izzy Fox, without which none of this would have happened. Thanks to Holly Cheng for your gorgeous drawings, and to Miriam Perez for your excellent rigging and animations. Thank you to the lovely Ty Burnham for your undying love and support, and to Beth Oliver, for convincing me to go to grad school in the first place (and struggling along with me). Thank you to all my friends at the Merrill Pottery Co-op, playing with clay in our little studio in the woods helped me get through the moments that felt impossible. Finally, thank you to all my fellow DANM students, it's been a wild ride and I'm so glad I got to do it with you all.

Buddytale: What and Why

Buddytale is a digital game that explores our attachment to virtual pets, and the nature of our relationships to them. It is a portrait in parts of the relationship between an owner and their pet, from the day they meet until they must say goodbye. *Buddytale* does not aim to be “fun” in the traditional game-y sense, although aspects of it are quite cute and entertaining to interact with. It aims instead to offer a compelling emotional experience to anyone who has ever loved a pet, virtual or otherwise.

Buddytale is intended to be played in gallery or home settings and it takes roughly 10-15 minutes for players to experience the game in full. Players pick out and care for a “buddy”, a round and adoring 3D creature, and play through interactions with buddy throughout snapshots of their life together: first meeting, picking out their favorite toy at the pet shop, comforting them during a particularly bad storm, and so on. Playing through each chapter populates a photo album with memories, which serves both to suggest the passing of time as well as frame the experience nostalgically. By playing through these selected frames in the context of nostalgic reminiscing, my goal was to encourage players to form a strong emotional attachment to their buddy and use that attachment to drive an impactful affective experience at the end of the game, where players must say goodbye before their buddy passes away. Ultimately, I hope the experience invites players to consider their own attachments to virtual entities,

our responsibilities as their caretakers, and reflect on the ways we think about mortality in a digital context.



Figure 1: Players can choose between three buddies at the start of the game



Figure 2: A buddy hides under the table during a lightning storm.



Figure 3: Picnic scene

The MDA framework (standing for mechanics, dynamics, and aesthetics) was developed by Robin Hunicke, Marc LeBlanc, and Robert Zubek as a formal iterative approach to designing and understanding games. Using this framework, I will now outline the mechanics, dynamics, and aesthetics of *Buddytale*.

Buddytale can be played using a mouse and keyboard, or optionally with a controller. When using a controller, it will vibrate to mimic buddy's heartbeat. Each chapter of the game can be interacted with in one of two ways: players can either move around and interact with objects in 3D space, or they are confined to one camera perspective and can interact with the scene like a traditional 2D point and click game. Players progress through each chapter by completing one or a series of short tasks, which can be accomplished by interacting with key items in each scene. Other than the key items, the rest of the scene is not

interactable. Narratively, time progresses as each chapter is finished. After completing the final chapter, the game ends and can be replayed from the beginning.

The simplicity of the scenes and associated tasks encourages players to direct their full attention to their buddy. Buddy's liveness is a stark contrast to what is otherwise a very still world. Those familiar with the genre of virtual pets already know to attempt the basics: feeding, exercising, and playing. First time players will often wander, clicking around to figure out what actions have been afforded to them. I think there is a kind of poetic parallel here to first time owners of real pets, who must feel out the ways their new pet requires care.

The aesthetic goals of *Buddytale* were attachment, care/responsibility, and nostalgia. The aesthetics of attachment and responsibility are pretty standard among virtual pet simulators, where the main actions in the game can easily be described as either caretaking or bonding activities. I think this is particularly true during *Buddytale's* fourth scene, where players can see the direct effect of their actions towards comforting their buddy and coaxing them out of their hiding place during a bad storm. Giving players the option to pick out and name their buddy encourages them to perceive them as a creature of their own creation, inspiring deeper feelings of attachment (Kusahara, 2001). The progression of time throughout the game and the framing of each scene as a memory help build up a nostalgic tone, but this is mostly felt towards the end, when players realize their time with buddy is drawing to a close.

The final chapter of Buddytale aims for slightly different aesthetic goals than the rest of the experience, although it is built on and foreshadowed by what comes before it. I wanted to encourage a sense of anxious helplessness and grief, as one might feel watching their beloved pet deteriorate and knowing there is little that can be done about it. I think this is greatly aided by the heartbeat feature, which affords players the ability to sense subtle changes in buddy's emotional state and physiology, whether that awareness is subconscious or not.

I started this project alone, and so drawing from my background as a traditional sculptor who specializes in cute and simple, yet evocative creatures, the first element to come out of this process was the character design for buddy. I wanted the design to be reminiscent of old Tamagotchi pet designs, who needed to be simple enough to be displayed on tiny LCD screens. I experimented with clay and 3D printing to prototype designs I liked and settled on one for simplicity.

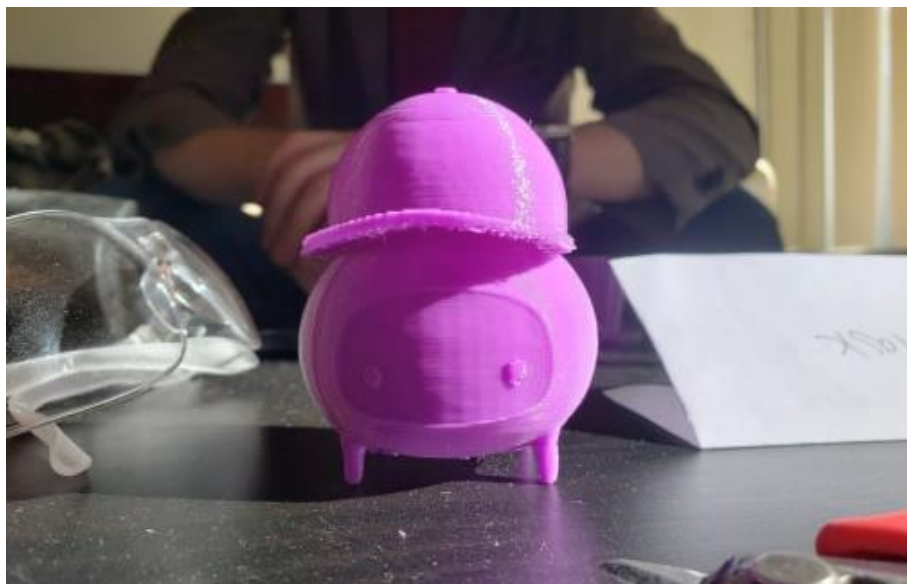


Figure 4: A buddy prototype, 3D printed



Figure 5: A buddy prototype, ceramic

Buddytale was built using the Unity engine, and the 3D models were made and rigged in Blender. A pixel shader was added onto the game by my programmer as a fun experiment, and we enjoyed the aesthetic so much that we decided to keep it. I think it effectively supports the nostalgic tone and framing and is a fun call back to the early virtual pet simulators.

Buddytale has changed a lot since its initial conception, which I will expand on further on in the prototype reflection section of this paper. One concept that I had intended to execute and ultimately cut was a custom controller, which would be a hybrid digital/plush buddy that the player could hold, pet, and use to interact with the game world. The plush buddy would have a mechanical heartbeat, which would react to player actions and would beat faster or slower if buddy were scared, excited, relaxed, etc. I thought players

might have a particularly strong reaction feeling their buddy's heart stop at the end of the experience if they were able to hold them. Unfortunately, this idea could not be realized, in large part due to global pandemic (in which in-person gallery shows and installations that are meant to be touched and handled by many people are a bad idea). Elements of this feature live on in the current project, however. Players who use a controller can feel their buddy's heartbeat through their controller's vibrations when they are standing close to him in game. A heartbeat indicator pulses in time to buddy's heart in the bottom corner and is present for either keyboard or controller inputs.

Prototype Reflection

When I began my thesis research, I wanted to explore the ways that games encouraged players to form emotional attachments to companion characters, and the way those attachments were used to amplify the emotional aspect of the play experience. My mind immediately jumped to examples from popular AAA games, specifically the companion cube from Valve's *Portal* series.

In *Portal*, about midway through the game players are given a "weighted companion cube", which is similar to other items in the game except for the pink heart decal on each of its sides. This is a stark contrast to the cold and clinical design of the rest of Aperture Science's facilities and equipment. Additionally the game actively encourages players to form an emotional attachment to the cube,

calling it your “friend”, prompting you “please take care of it”, and reminding players that the companion cube will “never stab you”. The companion cube is the only friendly thing in a world where every other entity has either been cold and impartial, or openly hostile. After completing the sequence, players are told they must euthanize the cube to move forward in the game.

The emotional effects of this sequence on the game’s fan base is clear. The companion cube has an almost cult-like following and has become one of the most recognizable icons from the game. While most of the sadness over companion cube’s loss is likely playful over-exaggeration, the fact that we are even compelled to role play our grief over its death is compelling.

Drawing inspiration heavily from *Portal*’s companion cube sequence, I thought it might be interesting to present the player with a companion whose abilities were required to progress further, and then force the player to sacrifice their companion to see the ending of the experience.

Another part of my inspiration in creating this project initially stems from my own practice in ceramic arts. I started creating clay “buddies” in 2018 as a response to my own feelings of isolation and loneliness at the time. I started leaving them around my pottery studio, encouraging members to take them to their work areas and look to them for inspiration when they were feeling frustrated with their clay. In this way, the buddies functioned similarly to worry dolls originating from Guatemala. I noticed they could often elicit a strong emotional reaction from the studio members, many feeling protective of the

buddies' well-being in the studio (being very careful in handling them, placing them in safe locations to ensure they would not break), with many being emotionally devastated when they would get damaged. I thought adding the element of held objects to the experience could be very interesting, and I was curious to see if the perceived craftsmanship and physicality of the pieces would effect the way players engaged with and attached to the character, or understood its importance or liveness.



Figures 6 and 7: Two of the original ceramic buddies

The initial proposal for this project was a physical installation very similar to escape rooms, with hybrid physical and digital puzzles that could only be solved with the help of a “buddy” represented by avatars in both physical and digital space. The installation would consist of several rooms, each with a puzzle that required players to “scan” their buddy into virtual space to complete it.

Scanned buddies would appear on a screen and participants would be able to control their buddy avatar through the typical means (controller, or keyboard and mouse) or interact with it through Microsoft Kinect and motion controls. Completing each room's puzzle allowed participants and their buddies to move forward. The last puzzle would require the buddy be "sacrificed" by destroying the physical avatar to access some information or item stored inside, thus also destroying the ability for the buddy to be scanned into virtual space and rendering them effectively "dead". Players would be given the option walk out of the last room without completing the puzzle if their emotional attachment to their companion overpowered their desire to see the experience through.

The prototype of this idea consisted of a series of taped off squares, representing rooms, each requiring participants to complete a predefined task before moving onto the next. Each of the tasks represented a "bonding activity", which at this stage of the prototype were on the nose placeholders. Players were asked to pick out a name and outfits for their buddy, take selfies together, and share their secrets or insecurities. The final task required players to smash their buddy open (hammer and safety goggles provided) to obtain the key to the final chest.

I ran a few playtests of this prototype, and although the final project does not resemble this proposal in the slightest, I learned some important things from it. I quickly realized I was not interested in building an escape room, and that I wanted to refocus my research on the relationships between players and their

companion characters. This prototype showed me that participants were very willing to project emotions and form attachments to even lifeless plastic figurines. Several participants even asked if they could take their broken buddy home. This encouraged me to look deeper into the nuance of our relationships to companion characters, specifically at the way we develop a sense of responsibility for digital entities.



Figures 8, 9, and 10: Photos of original prototype

I have always been enamored by virtual pets, and it seemed like an obvious next step in examining our relationships to digital companions. I knew my goal was for the experience to encourage an emotional attachment to a companion character and use that to inform a sense of grief or loss at the end, so I figured I needed some sense of temporal progression. Reflecting on my own experience with virtual pets left me deeply nostalgic, which inspired me to tie the aesthetics of the game back to this feeling.

The early digital prototype of what would eventually become *Buddytale* was very simple. Players could choose one of three buddies, and then could walk around a simple, somewhat barren house as buddy followed them around. Players could engage with buddy by playing fetch and filling his food bowl. Although the interactions were limited and the world was largely placeholder, players were pleasantly surprised by buddy's cuteness and perceived affection.



Figure 11: A scene from first digital prototype

Prior Art: Games I Thought About a Lot

The following is a list of some of the games that inspired me in some way during the design and development of *Buddytale*.

That Dragon, Cancer

That Dragon, Cancer is an autobiographical game by Ryan and Amy Green, Josh Larson, and Numinous Games. It follows the Green's experience raising their son Joel, who was diagnosed with terminal cancer at twelve months old. We embody Ryan and Amy in both third- and first-person perspective through abstracted scenes, small vignettes capturing emotional moments from Joel's life from his diagnosis until his passing.

I thought about this game a lot as I was considering games about mortality. I was heavily inspired by the structure of the game as little snapshots from Joel's life, and this is reflected in the structuring of *Buddytale*. Although *Buddytale* is less engaged with death, it is influenced by the way *That Dragon, Cancer* acts as a memorial, immortalizing the emotional moments and reflecting on the day to day of Joel's life. I aimed for a similar tone with *Buddytale* and was inspired to frame the experience as a series of memories to encourage reflectiveness and nostalgia.

The Walking Dead: Season 1

I realize *The Walking Dead* seems like a far departure from the context of my project, but it came to mind early on as I was thinking about caregiver relationships to companion characters. *The Walking Dead* is also an excellent example of the way games can use player's attachments to drive a strong emotional experience. Early in the game, players stumble upon and take charge of a young girl named Clementine. Clem is obviously not a pet, but the game positions us as her caretaker resulting in similar feelings of responsibility and attachment that I wanted to engage with in my project. The game does an excellent job encouraging this attachment; over and over again players are motivated to act with Clementine's safety, well-being, and respect in mind. Clementine, for her part, is charming, bright, and helpful. Your dialogue options when speaking to her are parental and affectionate. As the game progresses, Lee's narrative becomes that of one man risking everything to protect one child, and as we embody Lee his motivations become our own.

All of this comes to a head in the intensely emotional and heartbreaking finale. Lee succumbs to the zombie infection as he and Clementine share a tearful last exchange. The player, having embodied Lee for the entire experience, are presented with the pain of leaving their child, now all alone in an unforgiving world. As the game shifts us away from Lee to follow Clementine through the final scenes, we also feel the anxious helplessness of a child grieving the loss of their parent.

Thinking about *The Walking Dead* was my original jumping off point for considering caretaker relationships in games. It, combined with the Portal Companion Cube, inspired me to pursue grief as an aesthetic goal of *Buddytale*.

Can Your Pet?

Can Your Pet? Is a short Flash game made by Korean developer GameAde, in which players adopt and care for a little yellow baby chick. Players can engage in the usual caretaking actions to unlock further activities: feeding, bathing, accessorizing, and so on. Finally, players unlock a “bicycle” icon. Clicking on this will reveal it is actually a cleverly hidden pair of saw blades, and instead of exercising their pet players have condemned them to a fate as canned chunk chicken.

This game obviously aims to be cheeky and evocative. I was inspired by the way it subverts typical virtual pet tropes to create what can only be described as a shocking and disturbing experience. The intense guilt that players feel once they realize the consequences of their actions speaks to how strongly we come to feel responsible for our digital pets even only within the span of minutes. *Can Your Pet?* was part of my inspiration for choosing to explore the player’s sense of responsibility to their virtual pets and the emotional weight of digital mortality, though in a less morbid way.



Figure 12: A screenshot from *Can Your Pet?* (GameAde, 2010)

Plaything

Plaything is a joyful, intimate game by Will Anderson and Niall Tessier-Lavigne about your relationship to a small creature you help to create, and how you learn to live alongside each other. Players stitch together colorful geometric shapes and bring their *Plaything* to life, and then explore its character development and sense of self. Over a few personal vignettes, you feel out each other's boundaries, learn to navigate each other's spaces, and bond.

Plaything also touches on ideas about virtual mortality and disposability. "*Plaything* and is as much about fun and sweetness as it is about emotional connection and loss" (Dornan, 2019). Inevitably, we must say goodbye to our *Plaything*, and the sound design brilliantly drives the emotional element of this scene home. As they fade away from us, waving goodbye with a tearful

expression on their face, they leave behind a small piece of themselves, a memory of your moments together.

I discovered *Plaything* at a games event early on in my thesis process. I was absolutely charmed by this game. I love its bright, simple, cutesy aesthetic, something I pursued in *Buddytale's* visual direction. "Empathy is the beating heart of what Will and Niall are trying to achieve" (Dornan, 2019). It is very effective at this. Through the animation style and various evocative beats, the emotional connection to our *Plaything* feels authentic. It's a brilliant exploration of our relationships to digital entities, and the weight of our connection to them. *Plaything* engages with questions about what we owe our virtual companions, especially as they evolve into autonomous beings with boundaries and emotional needs. These questions are tangential to my research but exist outside of the scope of what I'm exploring in my current work. Still, I think *Plaything* is an excellent dive into these topics and absolutely worth mentioning as we explore these ideas.



Figure 13: Several creatures from *Plaything*. (Dornan, 2019)

Old School Virtual Pets: From Tamagotchi to Nintendogs, and More

In November 1996 Bandai introduced the Tamagotchi, what many would consider to be the first virtual pet. Tamagotchi became an overnight sensation, selling out stores so quickly that Bandai ran ads in major Japanese newspapers, apologizing for being unable to keep up with demand. At the peak of their popularity, Tamagotchi became so prevalent that they became the source of several press stories and cultural phenomena, including a highly publicized incident in which Japanese police employed several patrol cars and a helicopter to retrieve a schoolboy's stolen device from a group of high school bullies. (Samp, 1997).

Tamagotchi can be described briefly as small, handheld LCD game devices attached to a keychain. There are three buttons on the plastic shell, which allow players to perform all the necessary caretaking activities: feeding, playing, scolding, medicating, and cleaning up after your digital pet. I think the most compelling aspect of Tamagotchi is the way they demand care in real time, crying out with mechanical beeps regardless of the real-life obligations of their owners. According to the Bandai instruction booklet, Tamagotchi who are well cared for will grow into a "cute, happy cyber creature", while poor care will cause them to grow into an "unattractive alien". Tamagotchi whose needs are completely neglected will simply perish, though even a well-cared for pet will eventually pass of old age. Players can restart the game with a new egg, and in

some iterations even the offspring of the former pet, but while they are identical in appearance, each individual Tamagotchi's life is individual and finite.



Figure 14: Assorted Tamagotchi devices (Elephant Magazine, 2020)

There is a lot to unpack with Tamagotchi, and I think it would be valuable to step back and consider the conceptual frame with which we are approaching them. In a web essay titled “Critical Thoughts About Tamagotchi”, Jef Samp describes the aspectual shape of an object as the conceptual context we bring to any object or event we encounter, built from our previous interactions with them. The essay considers three aspectual shapes of Tamagotchi. First, we can take Tamagotchi, and virtual pets as a whole, at face value and consider them

games or toys. However, we can also consider them an educational tool, as much of the marketing for them would suggest. Mary Woodsworth, spokesperson for Bandai Co. U.S. has been quoted,

"It is more than a toy, it is a learning device. It teaches people to be responsible."

Furthermore, spokesperson for Bandai Co. Japan, Tomio Motofu, states,

"It is not a game. You're looking after a space creature whose lifespan depends on how you care for it."

Here we can see the metaphorical extension of Tamagotchi as living creatures.

I think there is yet another aspectual shape we can use to analyze to Tamagotchi, and virtual pets as a whole. In "Free Creatures: The Role of Uselessness in the Design of Artificial Pets", Frédéric Kaplan writes, "The primary purpose of an artificial pet is to establish and maintain a relationship with its owner". This combined with the knowledge that they are man-made, designed with this purpose in mind, supports the lens of the Tamagotchi as an emotional tool. Virtual pets allow us low-stakes interactive alternatives to traditional means of connection. We can project our need to care and be cared for onto them without fearing long term commitments or the weight of real dependency. They are the unlikely solution to lives increasingly alienated by technology, longing for a framework of care and connection.

Each of these contexts provides vastly different social and moral implications and allows us interesting lenses through which to analyze our relationships and responsibilities to virtual companions.

There are a number of anecdotal reports of Tamagotchi ownership resulting in seemingly bizarre behavior. Reports of Japanese businessmen postponing or ending meetings early in order to care for their virtual pet are littered across the internet. Additional stories include the case of a woman who, while driving, is distracted by her Tamagotchi's cries for attention and causes a car accident, and an incident aboard a plane in which a woman refuses to turn off her device before takeoff, resulting in her exiting the plane and refusing to fly with that airline again (Samp, 1997) . Many American public and private schools have banned Tamagotchi from the classroom, because of the distractions they cause and the potential for theft, leaving many children distraught about the well-being of their virtual companions (Baranowski, 2019).

If we consider the Tamagotchi as just a game, these incidents seem particularly bizarre, even selfish, or irresponsible at times. This seems to go against the framing of Tamagotchi as a learning tool, but I think one could argue that the aforementioned scenarios certainly teach a lesson about how much time it takes to care for something on a day to day basis. If we consider the context of the Tamagotchi as an emotional tool, it paints a rather bleak image of how disconnected we feel from other humans, so much so that we prioritize our care and connection to our digital companions over the relationships we share with

other people. I personally think it is most interesting to approach these scenarios when we consider the Tamagotchi as a living creature, where the implications of ignoring their cries for help could be compared to animal neglect or cruelty. When we consider the case of the woman on the plane asked to shut her device off (remember Tamagotchi are always on and can only be turned off by removing the battery, resetting the device) we can see the implications of doing so are analogous to killing a living creature. Understanding this, we might be able to look at these scenarios with a little more compassion. After all, I think few would find these scenarios so bizarre if they involved a real dog instead of a virtual one.

The moral implications of Tamagotchi care go even further beyond simply keeping them alive. It's no secret that a well-cared for Tamagotchi will evolve into a healthier, friendlier adult whilst neglected pets (who are fortunate enough not to simply perish) will evolve to be selfish, ill mannered, and unhealthy. Healthy adults will naturally live longer before succumbing to old age. The instruction booklet provided suggests that 0-10 days is below average, while anything more than 17 days is exceptional. The current world record is 26 days. Tamagotchi are far from independent and must rely on their owners to tend to every need. We are thus directly responsible for every detail of our Tamagotchi's quality of life, and through our actions, consciously define whether they will live long, healthy lives or short miserable ones. This "affective blackmail" gives us a

reason to keep coming back. The more time we spend caring for our pet, the more invested we become (Kaplan, 2001).

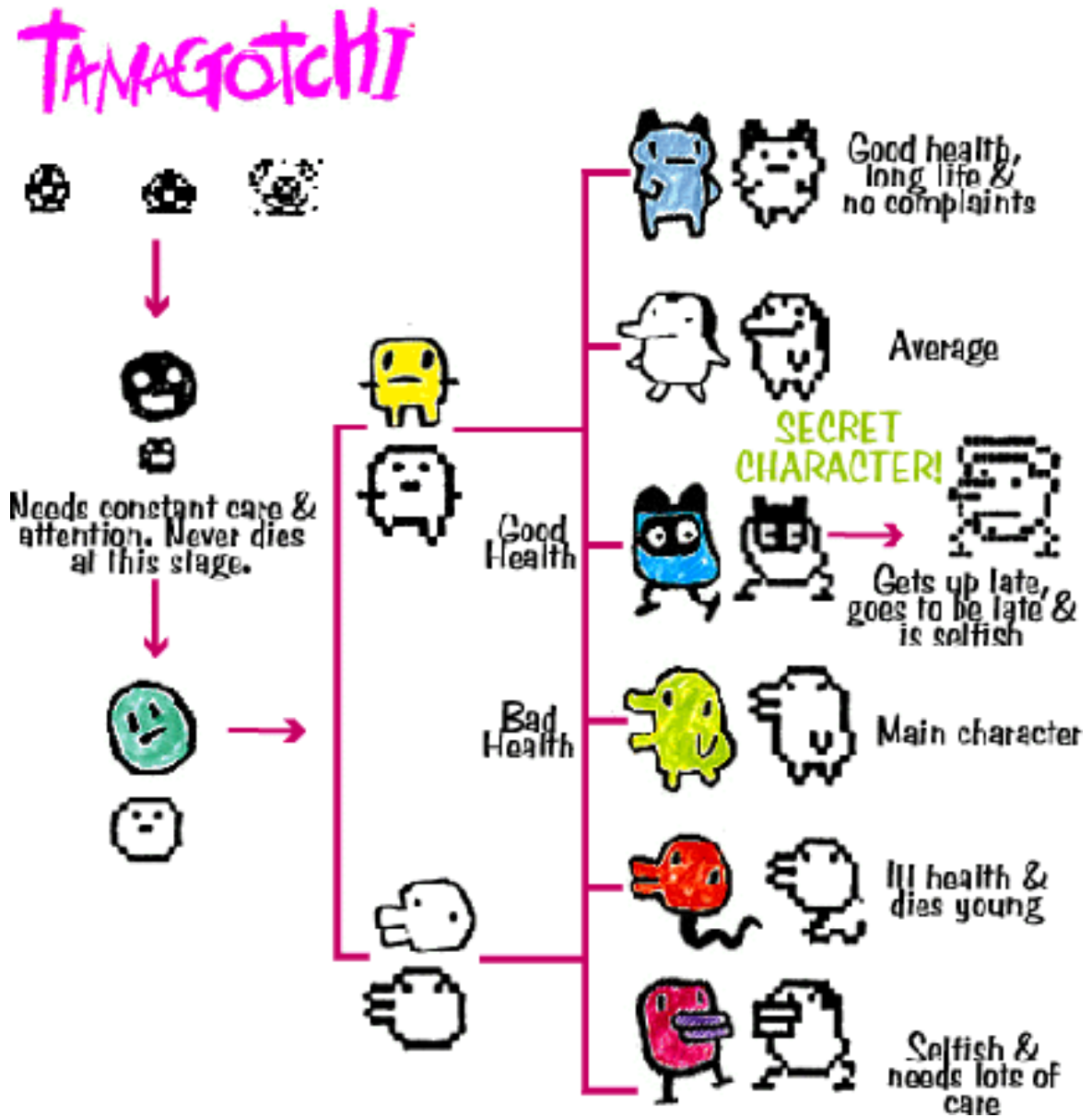


Figure 15: A chart explaining the evolutionary significance of each Tamagotchi form (Samp, 1997)

Bandai also provides us with a chart outlining the evolutionary forms of Tamagotchi and their significance. This has interesting implications in the “Tamagotchi as a game” lens, in which successful play means putting in the time and dedication towards raising a happy, healthy pet. Players who do not recognize Tamagotchi to be living creatures may not consider their pet’s wellbeing to be their motivation to play, but the dynamics work out such that their prosperity is inherent to success. Unsuccessful play is analogous to irresponsibility.

The popularity of Tamagotchi gave rise to a whole generation of virtual pets, many of which attempt to simulate as close as possible the liveness of a real animal. Soon virtual pets were moving out of the realm of handheld, portable devices and back into more permanent fixtures at home. Developer PF Magic released the PC series *Petz* in 1995 (making it older than Tamagotchi, though most virtual pet experts still seem to consider Tamagotchi the originator of the genre). *Petz* were designed to be “highly believable synthetic agents” and are described by the developer team as “socially intelligent autonomous characters” (Frank et al., 1997). Their goal was to foster attachment and intimacy with the user, Frank et al. writing that their primary motivation is to receive attention and affection. Their personalities could be shaped by the way they were interacted with. *Petz* aged, progressing from infants to adulthood, but once fully matured remained adults indefinitely.

With the arrival of dial-up internet, huge online communities began to spring up around virtual pet ownership. Soon virtual pets were living on the web itself, as sites like Neopets, Moshi Monsters, Marapets, and more exploded in popularity. These platforms allowed for far more complex play than previous virtual pet sims, affording users the ability to clothe, recolor, and otherwise drastically customize their pets in addition to the usual actions of feeding, grooming, and playing. These sites often also featured pet themed digital arcade games, in-world currencies and economies, home/base building elements, and whole worlds to explore. Unlike other virtual pet titles, which push realism, the focus of web based virtual pet sims seems to be on the fantasy of virtual life and the self-expression of the user, and less on capturing the realism of pet ownership. In a way, web pets function more as an extension of the self.

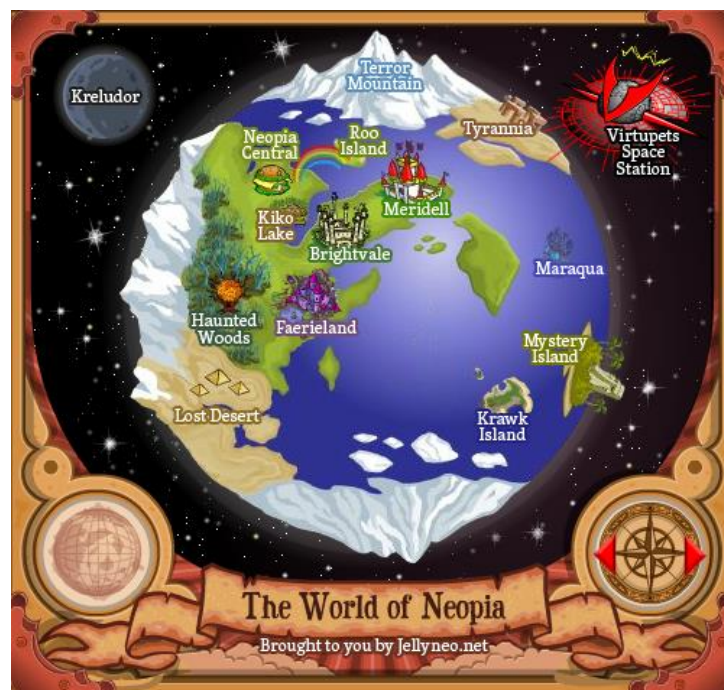


Figure 16: A map of the explorable Neopets world (Neopets, 2012)

In 2005 Nintendo launched the original Nintendo DS alongside a line of *Nintendogs* games, bringing virtual pets back into the realm of hand-held gaming. *Nintendogs* pushed the realism of virtual pet sims to a new level, with revolutionary graphics for the time. These digital dogs could also learn and respond to voice commands and beg for belly rubs, which players could do via stylus and touch screen. The portability of the console was an important element in its success, allowing us to take our pets with us and thus changing the way we engaged with them socially. In a paper titled “Disposable Love: The rise and fall of a virtual pet”, authors Linda-Renée Bloch and Dafna Lemish discuss physicality as it relates to Tamagotchi:

“The fact that the Tamagotchi is a miniaturized toy and can therefore easily be held and transported seems to be of great importance in its ability to elicit feelings of affection... As a result of this tactile or mobile element, children can stand in clusters each holding their own Tamagotchi, comparing qualities... as well as their own caretaking behavior... Moreover its small size permits them to hold it in the palm of a hand, cuddle it, to take it to bed with them and to hide it in a pocket. In other words, Tamagotchi allows for a relative sense of intimacy in relation to its owner.”

Nintendogs might not be small enough to fit in one’s palm, but I think the nature of hand held consoles as well as the physicality of the actions afforded to

us in the game support the idea of heightened intimacy and attachment Bloch and Lemish discuss.

As we think about physicality, we should consider yet another subgenre of virtual pets, robotic toys. Nintendogs pushed realism within the formats of traditional games, but robotic pets further attempt to push the illusion that one is engaging with a living creature. Sony's AIBO and the wildly popular Furby toys are two of the most recognizable examples.

Furbies were first released in 1998 by Tiger Electronics and exploded in popularity due to holiday demand, the first successful attempt to produce and sell a domestically aimed robot. Newly purchased Furbies start out only speaking "Furbish", a gibberish language consisting mostly of random sounds, but are programmed to start using English words over time. This crafts the illusion that Furbies learn English through engagement with their owners, further feeding into the realism of Furby as living creatures. In a 2004 study conducted by Sherry Turkle on human-machine interactions, Turkle recounts one girl's description of her relationship to Furby:

"When Katherine, five, considers Furby's aliveness, she, too, speaks of her love for her Furby and her confidence that it loves her back: "It likes to sleep with me." Jen, nine, admits how much she likes to take care of her Furby, how comforting it is to talk to it."

The other example is that of Sony's line of robotic dogs, AIBO. The name AIBO comes from "Artificial Intelligence roBOt" and is also the Japanese word

for “companion” or “pal”. AIBO were built on state-of-the-art (for the time) speech recognition and vision technology, with touch sensors on their heads for non-verbal communication, stereo microphones for hearing, cameras for vision, and distance detectors to keep them from running into your furniture. AIBO can recognize their own names and could emit musical tones to communicate with their owners. They are capable of expressing a wide range of emotions, including happiness, sadness, anger, surprise, fear, and dislike. Their personalities could be shaped by their interactions with their owners and surroundings, Sony’s AIBO site claiming that “No two AIBO are the same”.

“Your approach to raising your AIBO shapes its personality, behavior, and knowledge, creating a unique environment for growth. Over time, your AIBO will continue to learn and develop as your approach to nurturing gradually shapes its personality.”

The newest iteration of the toy, released in 2018, goes even further, able to learn custom tricks, respond to over 50 voice commands, and recognize up to 100 faces. Sony’s marketing for the newest model claims that it would be “capable of forming an emotional bond with users.” As far as virtual pets becoming reasonable stand-ins for real pets, AIBO certainly comes close.



Figure 17: A line up of different generations of AIBO (*PhoneIsMobile*, 2019)

Virtual pets in general are leaning more towards realism as the genre grows. Many believe that virtual pets will fail to engage adults if it cannot evoke a certain sense of reality in the user (Kusahara, 2001). I personally disagree with this as a general statement as far as it is concerned with the realism of the pet themselves. When designing the buddies of *Buddytale*, realism was not a priority for me. While I did want to suggest a sense of liveness with the buddies, I was not concerned about polishing their actions to be more realistic, but I am content with how their less realistic attributes accentuates their digital-ness. I think the closest *Buddytale* comes to realism is in its setting, as I wanted each memory to feel familiar or relatable to players who have experience owning a pet.

[Virtual] Pet Cemetery: Mortality in a Digital Context

The most curious thing about the shift in virtual pets to be as “real” as possible, is that many abandon the only real given in life: death. Although many

virtual pets age, progressing through different developmental stages, death is a noticeably absent feature in modern virtual pet games. Neglected pets instead contract mild illnesses or “run-away” briefly, a kind of metaphorical tease to players to remind them to do better. A neglected Nintendog will even return with a gift after running away, strangely seeming to reward the player for their negligence.

It might seem like an obvious design choice to leave death out, after all one of the major benefits of a virtual companion is that they don't *have* to die. My questions are, does immortality make the time we share with our virtual pets somehow less important, or precious? By removing the consequence of death, do we devalue the actions of the player, and the relationship as a whole? Is the digital death in itself meaningful given that, more often than not, we have the option to simply replay from the beginning with an identical copy? Lastly, what are the moral implications of choosing to engage, or stop engaging, with a creature whose survival depends entirely on your interactions with it?

Buddytale was designed with death in mind. One could say that I started at the end and worked backwards. I think the above questions are difficult to answer concretely and might be easier to tackle if we address the inverse. I don't think that removing the element of death devalues the relationships we have to digital entities, as my 8 years spent hanging out on Neopets would support, but I think the inclusion of death greatly highlights the attachments we form to our virtual companions. Since my goal with this piece was to highlight how easily we

form attachments to virtual entities, the element of death was vital to this project. The acts of care we perform for our buddies might not keep them alive, but they are points of connection and intimacy that we share with them, and we feel the pain of that connection when we have to say goodbye. I think this alone is proof that they are valuable.

I think the absence of death in virtual pet simulators speaks to the value of digital mortality more than anything else. The majority of developers choose to leave it out not because it is an ineffective method of assigning value to an entity, but because it is often too effective and could be stressful or disturbing for young players. In a paper titled “Socially Intelligent Virtual Petz”, the *Petz* developer team discusses their decision to keep *Petz* immortal:

“This has been an issue which our design team has fought over back and forth. Some argued that if the pet eventually dies it makes the lifecycle more important. Immortality may devalue the experience by making the user's time with their pet less precious.

On our website we recently conducted an informal poll asking users if they thought virtual Petz should die. 65% of the responses said they should not die. 30% said they would like to be able choose if their Petz should die. Only 5% said they wanted their Petz to eventually die. After long discussions with our marketing department, it was decided that the disadvantages of death outweighed the advantages.”

The “disadvantage of death” referring to the very real emotional upset players experience at the death of our virtual companions. This attachment was first dubbed “The Tamagotchi effect”, and now includes any emotional entanglements we experience with machines, robots, or digital entities (Jovi, 2017).

What stops us from simply starting over from the beginning with an identical pet? *Buddytale* can be replayed as many times as you’d like to experience it, and each time it is almost identical. Players can pick the same colored buddy and name it an identical name, but each experience is subtly different just due to the unpredictability of the buddies themselves. One can never relive the original experience exactly, both as a function of the software and a function of our experience. Future playthroughs are informed by the earlier ones. The emotions that come with experiencing these moments hold a different context for us each time around.

I think these are the same reasons people grow so attached to particular instances of Tamagotchi. This, combined with the belief that Tamagotchi are living creatures, makes each fresh reset feel like an insensitive replacement. Several online forums and virtual graveyards exist to honor the memory of player’s beloved pets. Forum users share memories and sweet anecdotes from the lives of their former virtual pets, and there are even spaces to offer support to those who have recently lost their Tamagotchi. Even more extreme is the real-life Tamagotchi cemetery in the UK, where the physical devices are laid to rest after the death of their virtual denizen. In a CNN article about the curious

graveyard, a 14-year-old girl comments how she “wanted to remember her pet as it was and not as it would be if she had reset the gadget”.



Figure 18: The Tamagotchi cemetery (Polak, 1997)



Figure 19: A Tamagotchi being laid to rest (Polak, 1997)

In the case of robotic pets, owners do not even have the option to reset. Although well cared for hardware might last through the years, they will eventually wear down, causing pets to malfunction or shut down entirely. In this case, if the proper replacement parts are unavailable, this “death” is as real as any other. Sherry Turkle describes an instance during her research on children’s relationships to Furbies, where a distraught parent calls her over in the middle of the night when their child’s Furby breaks. She arrives with a replacement which the child rejects. Instead, they want their own Furby “cured” (Turkle, 2011). Further accounts tell of AIBO owners going to many lengths to keep their robotic companions alive. After discontinuing the original line of products in 2006, Sony ended customer support for AIBO altogether in 2014, cranking the aforementioned “Tamagotchi effect” up to extreme levels for a number of dedicated owners and resulting in the emergence of a lucrative second-hand parts market (Jovi, 2017).

I’d like to jump back to my previous question: what are the moral implications of choosing to stop engaging with a digital entity whose existence depends solely on your engagement with it? Tamagotchi can die explicit, canonical deaths, but the digital nature of virtual pets affords us another option: that of implicit death. What happens to a Tamagotchi who has simply lost the attention of their caretaker?

“The primary purpose of an artificial pet is to establish and maintain a relationship with its owner” (Kaplan, 2001). Without an owner with which to

engage with, I would argue a virtual pet cannot perform their primary function, or even manifest as a “living” entity. Without engagement they exist only as dormant lines of code, it is our interactions that allowed them to act, and thus give them life. An abandoned Tamagotchi is preprogrammed to eventually die explicitly, but I’d argue that an implicit death comes the moment we stepped away for the last time.

So, what are the moral implications of walking away? It is grim to consider this in the context of virtual pets as living creatures, but it is further complicated by the fact that virtual pets simply do not play by the same rules of mortality as other living things. This ties back to a much earlier question I posed about our responsibilities as caretakers to our digital companions.

As we actively engage with our virtual pets, we owe them the fruits of successful play. We are responsible for keeping them well-fed, content, and in good health, whatever that means in their individual contexts. We also owe them our emotions. If the goal of a virtual pet is to form a relationship with their owner, we owe it to them to feel the emotions that come with that connection, whether they be moments of joy or sadness. That being said, I think the point of a virtual pet is that our responsibility to them is never meant to become a burden. If we fall out of love with them, we are allowed to say goodbye. If the primary goal of the virtual pet is to form and maintain a connection, the dissipation of our attachment to them might be a metaphor for the natural ending of their life. Perhaps a virtual pet can be handed down or adopted out to

someone who will continue to engage them, but then that is a different relationship, and a different life.

These questions make more sense to engage with considering the traditional, open-ended nature of virtual pet simulators. *Buddytale*, which has a defined beginning and end, is not particularly well suited to engage with my questions about implicit death.

Disposability and Authenticity in Simulated Relationships

The implicit death afforded to virtual pets prompts us to consider another element of their design: disposability. Virtual life is designed to be low stakes. If we neglect our Tamagotchi, we can always try again. Sick Neopets never die. A Tamagotchi's battery could, and often does, last longer than the interest of their owner. If a virtual pet becomes a distraction or a burden, most owners will abandon it without ever considering the moral implications of doing so. "Tamagotchi represents the postmodern notion of transience." (Bloch & Lemish, 1999), nothing is everlasting, even our relationships to beings we bring to life and bear full responsibility for.

Bloch and Lemish claim that we have "become accustomed to a 'culture of disposable'", not only materially, but also in our interpersonal relationships and attachments. In this scenario, simulated relationships become indistinguishable from real ones. Sherry Turkle discusses this "crisis in authenticity" in her

research on relational artifacts, computational objects designed specifically to engage the user in a relationship (Turkle, 2011). She presents the example of Eliza, a natural language processing program created to demonstrate the superficiality of communication between humans and machines. Eliza simulates conversation by using pattern matching and substitution methodology, creating an effective illusion that she is actively listening and engaging the user.

“Eliza was designed to mirror users’ thoughts and thus seemed consistently supportive... To the comment, “My mother is making me angry,” Eliza might respond, “Tell me more about your family,” or “Why do you feel so negatively about your mother?” Despite the simplicity of how the program works – by string matching and substitution – Eliza had a strong emotional effect on many who used it.” (Turkle, 2011)

Eliza could not understand the stories she was told, nor was she capable of caring for the people who told them. Knowing this did not change how eager participants were to engage with her or the emotional effect Eliza had on them. Many even asked to be alone as they chatted with the program, speaking to their willingness to share vulnerability with machines and not with other humans. “[P]eople did not care if their life narratives were really understood. The act of telling them created enough meaning on its own.” (Turkle, 2011).

Before technology and affective computing became commonplace, humans have never had to distinguish between real and simulated relationships. We are empathetic creatures, however, and are eager to form relationships to entities that show an interest in us. As the first generation of children raised alongside emotional machines is now coming of age, it seems we are becoming less concerned between differentiating the two. We have welcomed relational artifacts into all of our spaces, they exist on our cell phones, desktops, and in our homes. Robotic companions, like Embodied's *Moxie*, have been designed as tools to teach kids kindness and social emotional skills. What does it say that we trust a robot to teach us the foundations of successful human interaction?

Ultimately, I believe our interactions with digital entities should be measured from the self, outward. When we find ourselves moved by them, those emotions are real for us. I am personally not concerned with their capacity to understand my feelings towards them, the same way I do not expect my pet fish to understand that I care about him. We engage in these relationships because they are meaningful to us, not because we need reciprocation. Virtual pets offer us the "illusion" of reciprocation through preprogrammed responses, but this is for our comfort. Still, digital relationships remain a low stakes investment. Because of their disposable nature, we can relieve ourselves of the guilt of needing a break, losing interest, or irresponsibility. They are this way by our design, affording us the ability to feel connected in a society where connection is often fleeting.

Conclusion

I made *Buddytale* to explore our attachment to virtual pets, our responsibilities as their caretakers, and reflect on mortality in a digital context. The feedback I have received since launching the game has been overwhelmingly positive and leads me to believe I have succeeded in my goals. A day after *Buddytale's* release, a let's play video was uploaded to YouTube by user AlphaBetaGamer, and currently has over 24,000 views. The comments have been very positive about the game, and speak to the emotional effect that even just viewing the experience can have.



Marek Bykowy 4 days ago

[SPOILERS]

Im a vet, and putting down pets is part of the job.

Once you make the injection you have to listen to the heart to make sure the procedure is complete. Listening to the beating going slower. And slower.

Is it a right thing to do? Its the only right thing to so in most cases. Still doesnt make it much easier.

Show less

392 [REPLY](#)



IllusionistsBane 4 days ago (edited)

The pulsating heart icon on the bottom right is basically your pet's heart, and the heart stops pulsating when it passed away in the end.

It did make me cry in the end, the feeling is less like losing your pet and more like losing someone you ...

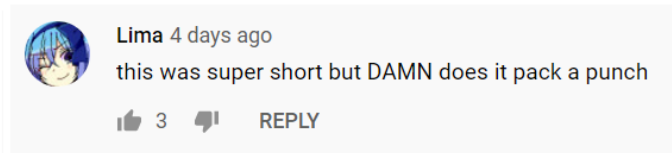
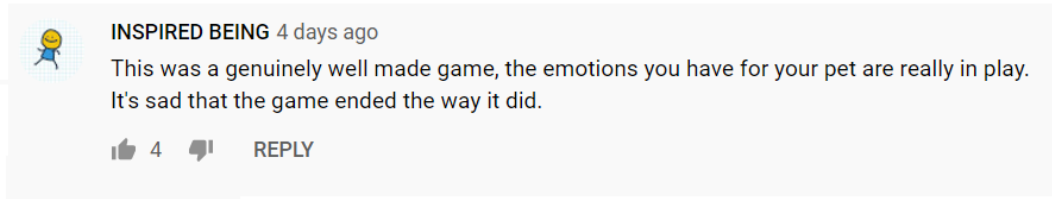
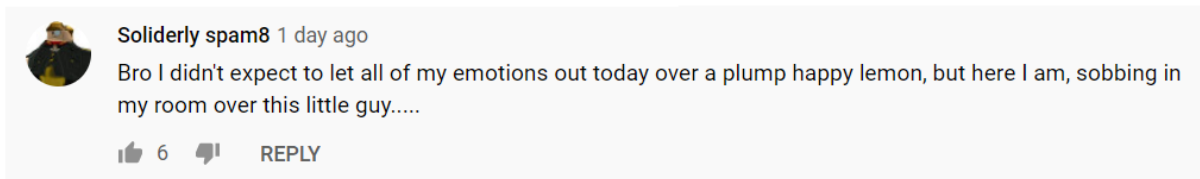
32 [REPLY](#)



anormalman 1 day ago

Out of all the things that have tried to make me emotional this one hits a lot right in the heart. Good job game devs you've made me cry the first time in a while.

1 [REPLY](#)



Figures 20 and 21: YouTube comments on AlphaBetaGamer's playthrough of *Buddytale*

Working on this project taught me countless lessons about game design, teamwork, connection, and life, both real and virtual. The game could be much more polished, but I think given the circumstances I am content with the result. My goal was to inspire genuine emotion, which this game manages for me. Working on *Buddytale* has been an emotional exercise for myself, reflecting on beloved pets I've lost and the inevitability of the losses that will come. I personally find it very easy to extend these emotions to the buddies, despite being deeply acquainted with their synthetic nature. I am not sure if *Buddytale* will inspire players to consider the questions I've posed for myself and in this paper, but I only hope they find some joy interacting with their buddy and feel a connection, if only briefly.

I think *Buddytale* and my research into virtual pets leaves a lot of room for further exploration. I would love to see future pieces that explore what we owe to our virtual pets and the disposability of digital life. Digital entities in general are becoming more autonomous, and as they develop their own emotional needs and desires it will become much harder to separate our simulated relationships from our real ones. I think this could lead to a crisis in disposability, as it will become impossible to ignore the moral implications of our traditionally “low-stakes” commitments to them. The developing autonomy and “live-mess” of virtual beings will certainly raise more questions regarding the authenticity of their emotions, and our relationships to them. As virtual pets, and digital entities in general, continue to evolve, it will be valuable to step back and examine how our relationships have evolved along with them. I am excited to see what kind of questions they pose, and the work they will inspire.

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