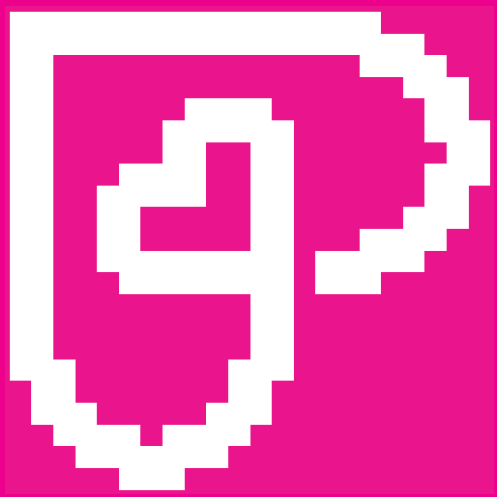
The Public

AN INTRODUCTION TO:

# VIDEOGAMES



The Public is an activist design studio specializing in changing the world.

This zine, a part of our *Creative Resistance How-to Series*, is designed to make our skill sets accessible to the communities with whom we work. We encourage you to copy, share, and adapt it to fit your needs as you change the world for the better, and to share your work with us along the way.

Special thanks to Connor Campbell from OCADU's Digital Futures program in Toronto for developing this zine on behalf of The Public.

For more information, please visit thepublicstudio.ca.

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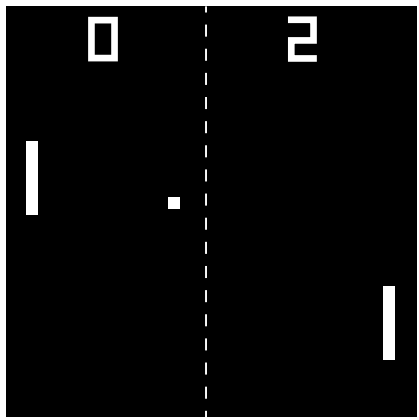
# Introduction

Games are a powerful medium for expressing ideas and personal stories in an engaging way. Videogames, however, have been given a bad rap by their seemingly ubiquitous obsession with violence and perpetuation of sexist, racist and heterosexist behaviours. With the emergence of videogame design programs that are more accessible and user-friendly, videogames are finally in the hands of hobbyists, artists and activists. The purpose of this zine is to reframe videogames as personal and inclusive, and to give you the confidence to start creating your own videogames by describing their history, their current state, their abilities and their issues. This zine will also outline the process of making games, from brainstorming ideas to sharing your game with others. While this zine does describe various free game-making software, it does not offer tutorials on specific game design programs (though there are many great tutorials online! There are links on page 12).

## WHAT ARE GAMES?

In Western culture, we often think about games as being physical or visual. When you ask someone to give an example of a game, most of the time their response will be a board game, a videogame or a card game. The seemingly inherent *thing-ness* games have developed, however, doesn't speak to the true nature of games. Games like *Tag* and *Hide-and-Seek* have no *thing-ness* whatsoever—these games exist simply as rules that players agree upon beforehand. Usually there is no score, no one wins and no one loses; the players play until they run out of time. So what do games boil down to? Rules. Games are just a set of rules that the player(s) must follow.




PONG (1972)

# History of mainstream games

## EARLY GAMES

Games have been central to virtually every culture—some dating back to 3500BCE. Almost every ancient culture had game-based sports and versions of dice-based and card-based-games. The history of games is rather neat because games, as with other media, accurately reflect the ideas and behaviours of the cultures that played them. While many games were invented as learning tools to teach children basic skills like counting, colours, shapes, and so on, games designed for adults expressed more political ideologies—often inadvertently. *Chaturanga*, the ancestor of Western society's *Chess*, originated in India. It's essentially a game about war and social hierarchies played by a society that was immersed in war and social hierarchies. It remains popular today likely because, you guessed it, our culture is seeped in war and social hierarchies. War-heavy societies all have their own variations of *Chaturanga*, all of which look nearly identical to what we would call *Chess*; from China's *Xiangqi* to Japan's *Shogi* to Thailand's *Makruk* to Korea's *Janggi*.

## EARLY VIDEOGAMES

In the '40s and '50s computer scientists started experimenting with the idea of computer-based gameplay. The goal here was to program a computer to be able to play games against human players. Most of the experiments used *Chess, Checkers, Tick-tack-toe, Blackjack* and other pre-existing Western games.

### Chess programs

The history of human vs. computer chess games accurately reflects the processing capacity of computers at any given time. In the '70s and '80s computer scientists weren't sure whether computers would ever be able to beat the top human players every time. Currently, computer chess programs are capable of beating all the top human players. This is based, however, on trials. The question now is whether or not chess is "solvable," in other words, does a certain procedural strategy exist that could *guarantee* victory no matter what. *Zermelo's Theorem* claims that such a solution is out there, and that scientists have yet to find it.

## THE SPREAD OF VIDEOGAMES

The '60s saw games finally being created for computers, rather than being *adapted* for computers. They began to spread to computers across the world. Of course, computers were still largely inaccessible to the general public, so these games remained a sort of "inside joke" among computer people. Mid-decade, slightly more accessible programming languages started popping up, leading to more and more videogame development (still made by privileged and educated computer programmers, mind you).

### Commercialized games

The '70s marked a period where videogames started to become public. Not only were videogames public, but they were entering social spaces. Game arcades started to become predominantly digital and led to the "golden age of arcade games" of the '70s and early-'80s. At the same time, companies started selling the first game consoles, letting people play games from home on their televisions. Similarly, computers started to make their way into homes, but they were still extremely expensive and very hard to use. The home computer was also marketed *exclusively* to men, often using sexualized women in their ads, halting women's involvement with computer culture and resulting in fewer and fewer women entering computer science fields, which further solidified the sexist marketing of computers. By the mid-80s, the popularity of videogames in Western society began to flop until the game consoles being made in Japan started to make their way over, eventually making Japan the videogame capital of the world.

**Racism in games**

As we saw with *Chess*, games and war go way back. As a result, games have a long history of being used to promote racist ideologies. The United States (especially) has a long history of using racist arcade games as war propaganda, portraying racialized "enemies" in dehumanizing and antagonistic ways. This remains a serious issue today, too. Most war videogames today rely on narratives that paint Iraqi, Korean and other nationalities as unquestioned enemies. These racialized groups are deliberately represented in ways that minimize empathy in order to elicit violent responses from the player.

By the late '80s videogames had become an integral part of pop culture (e.g. *Tron*). And by the '90s, videogames had become a middle-class living room staple. That being said, videogame development was still highly exclusive; most people still needed to have had formal computer programming education to be involved in videogame-making. Because computer programmers were (and still are, to an alarming degree) mostly straight, cisgender* men, the ideas and values expressed in most videogames, similarly, reflected the interests of straight, cisgender men.

It's no wonder that "gamer" culture in the '90s had become exclusively male. As game theorist/artist Anna Anthropy points out in her book *Rise of the Videogame Zinester,* mainstream videogames became trapped in a "vicious cycle where this small group of mostly straight cisgender white dudes are making games for other straight cis* white dudes who will grow up... to make the next generation of games". Suddenly it's 2014 and the term *videogame* invokes mental images of muscular white dudes killing (often racialized) folk.

*** CISGENDER:** a gender identity where one's gender matches the sex they were assigned at birth. "Cis" is often used as shorthand.

**Toxic Gamer Culture**

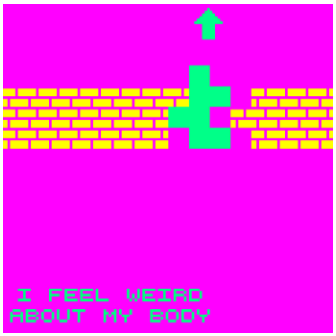
While the young, straight, cisgender, male-dominated Gamer Culture that became cohesive over the past few decades is *slowly* (slowly!) being faced with more criticism and opposition, the effect it has had on videogame production is still profound. The cycle described above has turned most mainstream videogames into self-referential, exclusive, inaccessible artifacts. Anna notes that we went from the four buttons and four arrows of Nintendo's controller to the current Xbox controller, which has thirteen buttons, an eight-arrow directional pad and two joysticks (which are also buttons!) This speaks to how quickly gamer culture became inaccessible to newcomers, who were now expected to become comfortable using such an elaborate control scheme. Ask someone who's never touched a videogame before to play *Halo* and see what happens.

One major issue with the current state of the gamer community is that videogames, in general, take way more labour (and therefore more money) to create than other types of media. *Destiny,* a game by the company that made *Halo,* cost 500 million dollars to make! Because of the significant cost to make games, game companies cater to the

desires of their self-perpetuating target market: straight, white, teen boys. In other words, they want their games to relate to and appeal to as many people within this market as possible. This effectively eliminates the value of new ideas and personal narratives from marginalized folk. To be clear: the intention here isn't to shame these big-budget games; it's to show that these games are not *more valuable* than lower-budget, personal videogames. In fact, as a reflection of the human experience, big-budget games are way less valuable than outsider games in that they fail to reflect any degree of diversity.

The highly exclusive nature of mainstream videogame culture has bred a league of gamers who defend this exclusivity at all costs in fear that inclusivity will threaten the production of the games they love. People who criticize this gamer culture are often met with outrage and harassment (do an internet search for "Gamergate controversy of 2014"). On a more hopeful note, the degree of aggressiveness with which mainstream gamers seek to defend their toxic culture is probably (and hopefully) an indicator of the culture's vulnerability.

## Anna Anthropy




SCREENSHOT FROM DYS4IA

newgrounds.com/portal/view/591565

Anna Anthropy is one of the most exciting game theorists and artists of today, specifically surrounding discussions about DIY videogames and marginalized persons. Her book *Rise of the Videogame Zinesters: How Freaks, Normals, Amateurs, Artists, Dreamers, Drop-outs, Queers, Housewives, and People Like You Are Taking Back an Art Form* is one of the main source texts for this zine, and for much of the conversations regarding personal games. She made a game called *Dys4ia* about her experience going through hormone replacement therapy which sparked an important conversation about personal games, player failure and empathy.

Check out her twitter: @auntiepixelante

# Personal games

## WHAT GAMES DO

As with other art mediums like music, film, painting, sculpture, and so on, games express ideas in their own unique way. Many games, however, were not intended to express ideas; they were intended solely for entertainment. These games totally still communicate strong messages, though.

Let's think about *Tetris*. We can assume *Tetris* was made simply to entertain and challenge the player and the designers likely had no intention to showcase ideas/feelings/stories. But *Tetris* is still super expressive! *Tetris* totally has a story! The player is trying to manage and organize endless chaos literally raining down from the sky. You try and try to keep things in check but you can't change the shape of the pieces—you can only rotate them and move them around. Every so often a piece falls that helps you out, sometimes a piece appears that ruins everything. Eventually the chaos becomes unmanageable and piles up until you lose. Is that not a compelling story? (It's like life!) Instead of *telling* you "life is chaos" *Tetris* lets you *experience* chaos while highlighting how its rules *create* chaos. This reflects the way videogames communicate with the player differently than all other artistic mediums: they facilitate individual experiences using a system of rules.

## GAMES & EMPATHY

The beauty of the relationship games have with players is that they invoke a very meaningful sense of empathy. This ties back to the fact that the player is *experiencing* the narratives and ideas being presented rather than being *shown* or *told about* them; they are often faced with the challenges first hand. Games lend players varying degrees of agency allowing the game to hold players responsible for their own actions; you can't lose/fail when looking at a painting, watching a film, and so on. And while many games don't have win/lose states, most games have a degree of interactivity that ties to the game's narrative. Keep this in mind while designing your games: what do you want the player to experience and how do you want to shape that experience? Is the player being set up to lose? If so, how does this failure alter the game's message?

## GAMES & ACTIVISM

Games invoke empathy through lent agency by letting players navigate a designed system of rules, and activism often seeks to highlight how systematic (legal, social, etc.) factors are negatively affecting lives. See a connection? Artists, activists, hobbyists, etc. etc., have been cluing into this idea somewhat recently and have been making games that highlight oppression in their lives.

### Monopoly

While most of the games being made throughout history were driven by a need for socialization, entertainment and play, many games began to pop up in the late 19th century that were politically charged.

One of the neatest examples is *Monopoly*. Originally titled *The Landlords' Game, Monopoly* was designed by Elizabeth Magie circa 1904 with the intention to illustrate the consequences of capitalism.

What's sad is that Magie's version was not the one that was mass-manufactured by Parker Brothers; the original Monopoly was actually based on a plagiarized version by a man who heard about *The Landlords' Game* from his wife, who was connected to Magie.

Despite its political origins, Monopoly was such a good representation of capitalism that it has ironically become understood as completely pro-capitalist (e.g. McDonald's *Monopoly*), despite being one of the most frustrating and endless board games in existence.

**Games & free time**

One of the factors that are affecting diversity in games is that most mainstream story-based videogames require a significant investment of your time, giving people with a lot of free time (mostly white, male teens) privilege because they're able to participate in gaming culture more fully. Because marginalized people are more commonly faced with barriers that lead to financial issues, they are less likely to have free time. This is one of the many ways marginalized people are systematically excluded from gaming culture. Keep time investment in mind when making your games: the shorter the game, the more people can play it.

## 'OUTSIDER' VIDEOGAMES

While the videogame mainstream became totally exclusive and narrow, the '90s saw those being excluded claiming space in the videogame world. For the purposes of this zine, we will refer to these types of games as "outsider". While the term can be seen as othering, it speaks well to the strict gatekeeping seen in mainstream gamer culture. Because of the exclusive nature of computer programming itself, the majority of these outsider games relied on subverting pre-existing gaming tools. A great example is the game *ZZT*, as highlighted in Anna Anthropy's book of the same title. Released in 1991, *ZZT* was a 2D computer game where you could move your player around a map and shoot monsters (essentially). The gameplay, however, became the game's least important feature. *ZZT* went down in history because it facilitated one of the first DIY videogame communities by giving its players access to the simplified programming language and game editor, called *ZZT-OOP*, which was designed and used to make *ZZT* itself. It's like buying a book and getting a printing-press thrown in. It allowed *ZZT*'s players to not only make their own games but to learn super basic computer programming concepts in a remarkably accessible way, for the time. The result was a community that began creating an incredibly diverse array of videogames that spoke to the interests of diverse individuals. Queer people, especially, were major contributors to the *ZZT* community.

Folks have been taking ZZT-like tactics in recent years, too, as more user-friendly game design programs emerge. Some modern videogames even offer game-making tools, like *Little Big Planet*. User-oriented programs like PuzzleScript, Game Maker, Twine, Unity 3D, Flash, and many more have enabled non-programmers to make games.

forestambassador.com

Toronto-based game designer Merritt Kopas runs a blog account called *Forest Ambassador* where she curates outsider games. Her mandate is to only feature games that are free and that don't require: significant time commitment, familiarity with common game conventions, and gaming equipment beyond a keyboard and mouse. Not only is this a great place to find games, but it's a great place to submit your own games considering its significant audience.

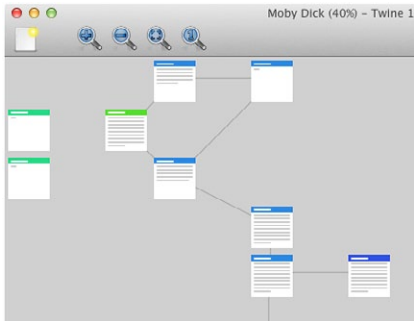
# Current state

## THE OUTSIDER COMMUNITY

The prevalence of free and/or open-source game design programs has led to a fairly tangible online, outsider gamer community. Twitter is a great way to access these communities. If you're new to Twitter, I'd advise you to get an account, find an "outsider" game designer that you like (or just one that you know about), check who they're following and follow all of those people. Twitter is a great way to find out about online and offline resources, new games, news, events, and other goings-on.

## FREE, USER-FRIENDLY* GAME-MAKING PROGRAMS

**Twine**
auntiepixelante.com/twine/




TWINE'S INTERFACE

Twine is a super-simple text-based game (think: choose your own adventure books) design program that is a great way to make your first game. It uses a spiderweb-like visualization to show you the ways your game's pages are connected. Because of this, it's also useful for sketching out complicated non-linear game narratives. The beauty of Twine is that it lets you export to HTML, meaning that you can easily post your game online somewhere. The site philome.la hosts Twine games for free, letting you share your work with people around the world. Once you get the hang of Twine there are ways you can customize the appearance of the game beyond the default using fairly simple code you can find online.

**PuzzleScript**
puzzlescript.net/documentation/rules101.html

PuzzleScript is a game design software that uses simple, modular, square tiles and runs in your browser. Note that it's

* RELATIVELY SPEAKING: While game tools are becoming more and more accessible, they're still not quite in the hands of the general public. Look forward to more innovation in upcoming years.

not only used to make puzzles, it's great for making flat-looking, pixel-y 2D games (you could make *Snake* super easily). When you first see the interface you might be terrified as it looks kind of tech-y. Don't worry, it's remarkably easy to learn.

**Construct 2**
scirra.com/tutorials

Very similar to GameMaker but more accessible and with less features. The best part is that it uses straightforward terminology, making it easier to learn. It also gracefully exports to HTML5, meaning that you can easily upload it to websites and play it from your browser!

**GameMaker**
yoyogames.com/learn

GameMaker is slightly higher-level than PuzzleScript and you can pretty much make any 2D game with it, in theory. Its interface allows you to make a game without writing a line of code, but you can write code if you want. GameMaker does have a learning curve and uses confusing game design lingo but it's an ideal choice if you want to commit to learning a program that lets you do almost anything. GameMaker games export to .exe files by default so it's only playable on PCs, but it has other exporting options on the paid versions (the cheapest are $20-$40).

**Stencyl**
stencyl.com/help/view/crash-course

Stencyl isn't the most accessible platform because it requires a knowledge of programming logic—that is, the way computers *think*. What it does great, however, is represent this logic visually using drag-and-drop and dropdown menus. This is a great way to learn basic programming concepts in a hands-on way while making games. Keep in mind that its free version lets you publish to the web, but nothing else.

**Unity 3D**
unity3d.com/learn

Unity 3D is arguably the most unbound of the free programs. It pretty much does everything, from iOS apps to Xbox games. This is your first (and only choice, really) if you're making 3D games, too. The best part of Unity is that it has its own *Unity Library* where you can download models, environments, code, and even interface extensions that make Unity more usable. Many of these are free, too. Its latest release even features a visual state machine (see page 29) to make

VECTOR FESTIVAL (INNERSPACE, TORONTO, 2013)

programming a relative breeze. Its level design interface is also very user-friendly (it's like *The Sims!*). The downside of Unity is that it's so open-ended that it's hard to start a project if you don't have a very specific end product in mind. Unity's free version can export to web and desktop applications (Mac and Windows). There are ways to export to iOS and Android devices for free, too.

## FRIENDLY GAMING RESOURCES*

### Game jams

Game jams are essentially planned meet-ups where groups start and finish games in a short period of time. These are great ways to learn game design and to meet people. Don't be scared! You don't have to know anything about game design to participate. Usually when you get there everyone meets each other and discusses their skills and interests to help form smaller groups. The great thing about videogames is that they're so interdisciplinary; people enter game design through so many different disciplines like graphic design, writing, art, computer programming, or even simply a passion for games. Search the web for "game jam" followed by your city/town, find a welcoming jam and just show up! Seriously, just go, don't be scared.

* NOTE: This list has a rather obvious Toronto bias but a few notable North American resources are listed, too.

**Dames Making Games—Toronto**
dmg.to

Dames Making Games facilitates game design education for women, trans* folk and queer people but they welcome allies as well. They offer free events, workshops, resources and services. They also have many game jams that are usually free or pay-what-you-can. These game jams are among the most friendly and welcoming of game jams and are a great place to start if you're terrified.

**Ladies Learning Code—Canada**
learninglabs.org

Ladies Learning Code is a Canadian not-for-profit group that offers technology workshops for women.

**Vector Festival—Toronto**
vectorfestival.org

Vector is a new multi-venue game festival that curates games in gallery settings. It features *mostly* outsider, experimental, political and art-driven games. It's a great resource for getting your game(s) out there in the world. (Hint: if you volunteer for Vector you get a pass to all the paid events and workshops, plus it's great way to get into Toronto's alternative gaming scene.)

**Different Games Conference—New York, New York**
differentgames.org

DGC is an annual conference at NYU that focuses on diversity and inclusivity in games.

FANCY VIDEOGAME PARTY (AGO) HOSTED BY HAND EYE SOCIETY

LADIES LEARNING CODE MEET UP

**The Queerness and Games Conference (GQCon) —Berkeley, California**
ggcon.com

GQCon in a free weekend conference discussing videogames and LGBTQ culture.

**Bento Miso—Toronto**
bentomiso.com

Bento Miso is a workspace that grants its members space and resources to make games (and other stuff too). It also serves as a space for game-related events, game jams, meet-ups and parties, many of which are free.

**Important tweeters**

Here's a quick, (somewhat randomly selected) list of the most active "outsider" gamers. These accounts also function as hubs for all things games. Admittedly this list has a Western, English bias.

@m_kopas
@auntipixelante
@xMattieBrice
@torahhorse
@LorenSchmidt
@TRONMAXIMUM
@pippinbarr
@mechapoetic
@sokareemie
@hentaiphd
@christinelove
@a_antonellis
@whatisian

**Skill-swaps**
meetup.com

Skill-swaps are events where people (often of diverse disciplines) come together to share their practical skills and knowledge. The best resource right now is meetup.com, a site where you can search for or create local meetups. There are usually several upcoming videogame meetups at any given time.

Start your own! While meetup.com is great, you may already be part of a community that could use a skill swap meetup. Colleges and universities are great for these because they often offer spaces and small grants for registered groups!

Don't be insecure about your skill set (or lack thereof)! No one would be at the meetup if they knew everything.

**Hand Eye Society—Toronto**
handeyesociety.com

Hand Eye Society is a not-for-profit group that runs events relating to videogames and creative expression.

**Black Girls Code**
**—San Francisco, California**
blackgirlscode.com

Black Girls Code is a group that facilitates computer science education for black girls.

**Toronto Gaymers—Toronto**
torontogaymers.ca

Toronto Gaymers is a videogame-focused social group for queer and trans* folk.

**HTMlles—Montreal**
htmlles.net

The HTMlles is a yearly festival celebrating feminism and digital media.

### Working in teams

Because videogames are among the most interdisciplinary art forms, working in teams can be ideal. Play up your strengths! Maybe you stink at computer logic, maybe you want animations that are beyond your skill level, maybe you want an original song but you don't like writing music. Try finding help! Start going to game jams and other game-related events (see game jams on page 14) and pitching your ideas. Ask people online. If you intend to sell your game, offer a percent of the profits. And always (always!) credit them for their work.

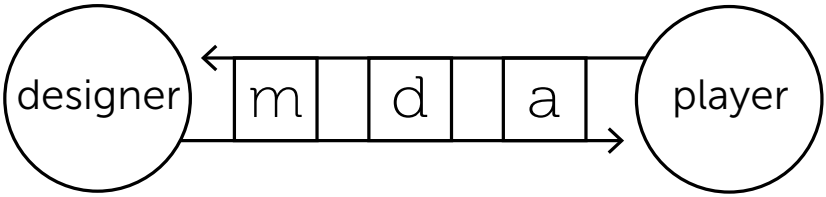
# How to make a game

## WHERE TO START

Try thinking about games as a *system* rather than a story. Of course, you *can* totally think of it as a story instead, but generating a game to tell a specific linear story is way more difficult than you'd think.

## MDA: MECHANICS, DYNAMICS, AESTHETICS

MDA is a framework proposed by Robin Hunicke, Marc LeBlanc and Robert Zubek for understanding game design and the relationship between the designer and the player.




### Mechanics

*Mechanics* refers to the rules, basically. This is what the designer controls. It's the game's level design, controls, player abilities, and so on. A game's mechanics generate its dynamics.

### Dynamics

*Dynamics* refers to the way a game's rules affect and interact with each other and with the player. You can change the dynamics by changing the mechanics. A game's dynamics generate its aesthetics.

### Aesthetics

This refers to the player's experience, emotional or otherwise. This is the most player-dependant aspect of a game and therefore the hardest to control. It's important to understand that players will always have a degree of authorship over their own game experience.

# REMIX A BOARD GAME

Remixing is the most efficient way to make your first game since your understanding of game mechanics is likely limited at this point.

For your first game, it's better to make a board game or a card game. This process will really help you learn the challenges faced while making games without having to struggle with the technology simultaneously.

Here's how you can get started. This is partially inspired by the Up The River prototyping exercise in Tracy Fullerton's *Game Design Workshop.** This works best with a group of people so that you can playtest the game easily.

| **Original game title** |
| --- |
| |

**1** Pick your favourite or least favourite board game.

| **Old rules** | **New rule(s)** |
| --- | --- |
| | |

**2** Write down the major rules and/or rules that you find interesting.

**3** Pick one that stands out to you (for whatever reason) and change it, remove it, or add to it.

***** NOTE: While this text has some great content, I don't necessarily recommend it for the purposes of personal games—it has a somewhat narrow scope of game design and frames videogames as consumer products rather than expressive artworks.

**4** Test the game with the required amount of players (preferably). If the game calls for 4 players but you only have 2, try playing as two players each. You're going to need at least one other player though, unless it's a single player game.

**5** What worked? What didn't work? Did the game move too slowly or too quickly? Were certain players given advantages? How and why?

| **Playtest no. 1** | |
|---|---|
| ☐ Was the game too hard or too easy? | |
| What rules are causing this? | How can you adapt them? |
| ☐ Were some players over-advantaged? | |
| What rules are causing this? | How can you adapt them? |
| ☐ Did the game move too quickly or too slowly? | |
| What rules are causing this? | How can you adapt them? |

**6** Adapt. Add, remove and/or change the elements that caused problems. Keep in mind that often the smallest change to the most insignificant rule can greatly affect the game.

**7** Repeat steps 4-6 over and over again until you have a great game. 99% of the time the game will be completely unique.

| **Playtest no. 2** | |
|---|---|
| ☐ Was the game too hard or too easy? | |
| What rules are causing this? | How can you adapt them? |
| ☐ Were some players over-advantaged? | |
| What rules are causing this? | How can you adapt them? |
| ☐ Did the game move too quickly or too slowly? | |
| What rules are causing this? | How can you adapt them? |

**8** Try to decipher the messages and ideas embedded in the game's rules, regardless of intention. Remember that every game has a message and that it's subjective and dependant on each player's personal experiences. Try to compare the game's messages to your own experiences and stories.

**Playtest no. 3**

☐ Was the game too hard or too easy?

| What rules are causing this? | How can you adapt them? |
|---|---|
| | |

☐ Were some players over-advantaged?

| What rules are causing this? | How can you adapt them? |
|---|---|
| | |

☐ Did the game move too quickly or too slowly?

| What rules are causing this? | How can you adapt them? |
|---|---|
| | |

**Does the game tell a story?**

**New title**

**9** Maybe the themes you discovered in step 8 can help inform the visual aesthetic of the game, and its title.

# Inventing a videogame

## QUICK START

### Mistakes/adaptations/limitations

Try making a pre-existing game exactly as it is—when faced with a technological limitation (you will face many), be creative! Just go for it and embrace mistakes and shortcuts. Most of the time you will end up with something truly original (and often hilarious, in a good way). Towards the end of the project, try thinking about the game's messages and aesthetics and try to let that inform your remaining creative decisions.

**Ask yourself:**

1. How can your game's rules shape and control the player's experience?
2. How do these rules reflect the game's message?
3. How will the player's agency affect the message(s)?
4. Can the player lose? What does this failure add to the game's concept?

### Your board game

If you remixed a board game using the worksheet provided (page 19), try making it into a videogame. It's a great exercise to help you understand the limitations and advantages of videogames.

### Remixing

Most of the design programs listed have forums online where people post their game files. Find one that stands out to you and mess with it! Make it your own. Turn all the enemies into friendly rabbits. Or maybe try applying the board game remixing exercise to a videogame.

## SKETCHING IDEAS

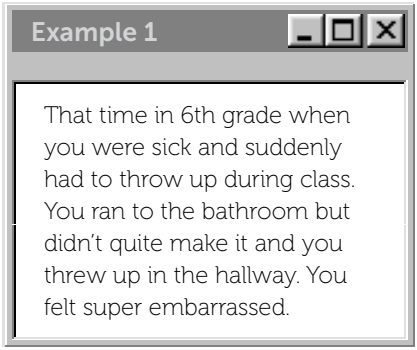
Just because you're making a digital game doesn't mean the process must be totally digital. It's usually quickest to map your ideas out on paper, especially level design. If your game is going to have branching story lines, try drawing these out on paper. Or for more of a challenge, try prototyping on Twine! You might end up with a pretty cool Twine game. Whatever you do, don't edit or over-think. Just get everything out. Check out the next page for a mind-mapping exercise.

## MIND-MAPPING

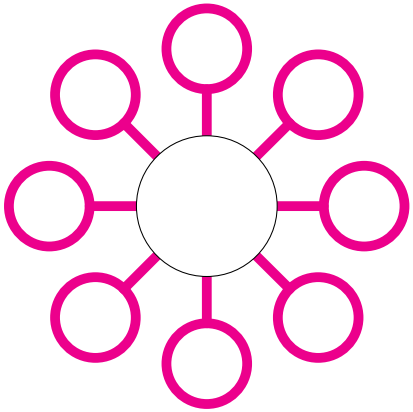
The best way to start making a videogame *from scratch* is to have some sort of idea in mind; not necessarily an idea for a game, just an idea. Try not to think about any type of end result here, think more about the weight behind the idea.

**Here's one ideation process that works well:**

**1** Grab a piece of paper. Think back on your own experiences and struggles, or maybe current situations, and pick one that stands out to you. Write it in the center of the paper. (Example 1)

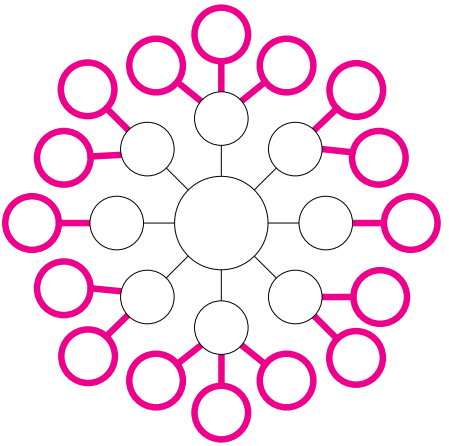

**2** Think about the experience and consider all the major elements at play. Don't forget about your own emotions. Do you have and anxieties or insecurities? What frustrated you about the experience? What satisfaction, if any, resulted? Was luck involved? Did anyone help you? Did anyone make the situation worse? Write these down all around the central idea. (Example 2)



**Example 2**

You felt ashamed but looking back, you shouldn't have been. Our society considers vomit to be disgusting and shameful. Classrooms and schools are structured in a way that promotes strict surveillance; finding privacy is based on luck. You feel pressured by your peers to act "normal". Maybe you want your game to show how society promotes the shaming of uncontrolled difference. Maybe your experience with trying to stealthily vomit represents the way marginalized people are pressured to hide their differences and to blend in. Maybe your vomit represents your concealed identity. Or maybe it's just vomit! Maybe it's just a fun and silly game about nostalgia and school and throwing up! It's your game.

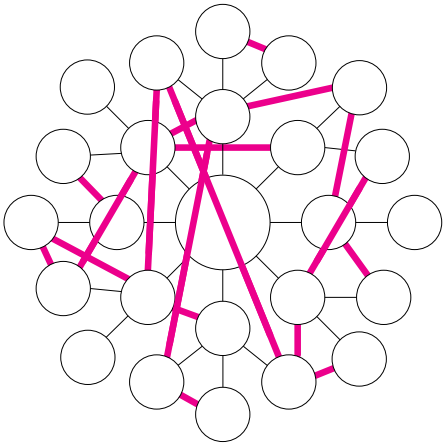
**3** For each element of your idea/experience, note all of the factors that affect it. Write these down around each branching element. Try to avoid envisioning a final game at this point, but if you come up with something this early on, that's great! (Example 3)



**Example 3**

Vomit grosses people out, you hate being the center of attention, teachers have authority over you, many of your classmates are judgmental and cruel, you get embarrassed rather easily, the bathrooms are at the end of the hallway, running makes your stomach queasy, and so on.

**4** Now try to think about how these factors affect each other. Draw lines between them with a brief note describing their relationship. (Example 4)



**Example 4**

Access to the bathrooms (to throw up) requires permission from your teacher. Your vomit might gross out your classmates and they might bully you. If you don't make it to the bathroom in time you might vomit in the hallway. If you run too fast you might upset your stomach and vomit in the hallway. If you vomit in the hallway you'll likely get unwanted attention.

**5** Try to imagine each of these factors as a rule in a game, keeping in mind the message(s) you want to express. Maybe try to think abstractly! Vomit doesn't have to be represented as vomit, classmates don't have to be classmates, but they can if you want. Keep in mind that rules can be environmental limitations (a wall, a maze, fire, a hole in the floor). Also keep in mind that you don't have to include everything; simplicity and refinement might work better for your idea. Write these rules down around the factors they reflect and pertain to. (Example 5)

**Example 5**

There's a timer and when it's up you vomit. There's a bar that depletes as you run and when it's empty you vomit from queasiness. Maybe running into students and/or teachers causes you to throw up. Maybe you have to make an excuse to your teacher to leave the classroom; maybe there's a list of excuses and only one works. The longer you take to find the right one the less time you have to run to the bathroom. Maybe you can represent this task abstractly? Maybe instead of a list of excuses you're navigating a maze that represents the way you navigate troubling conversations?

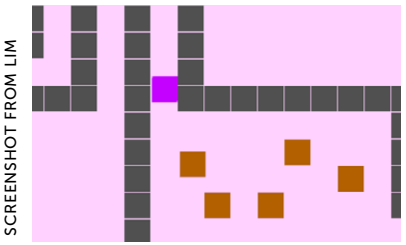
**6** Once you have written down everything you can think of, skim through your ideas and relate each one to your original experience AND the message you want to express. Make sure you're considering how these rules will affect the player and how it will affect other rules. You now have a fairly solid framework for a game. Don't obsess too much about how these will become a finished game, it's nearly impossible to determine whether the game works without actually playing it. (Example 6)

**Example 6**

Throwing up upon running into students works nicely for your message because it shows how vomit-shame and/or marginalization limits social interactions. The relationship between the timer and the queasiness bar speaks well to your experience because it forces the player to strictly monitor their behaviour, which reflects the pressures faced by oppressed individuals to police themselves.

**You now have a basic framework for a videogame.**

**LIM — mkopas.net/files/Lim**



SCREENSHOT FROM LIM

Check out Merritt Kopas's game LIM, an abstract game about the artist's experiences interacting with the public as a trans woman, and the pressure to "pass" as a cisgender woman. You travel through the game as a multicoloured square, encountering other squares along the way. You have the ability to "blend in" with the other squares but this forces you to travel super slowly and you can't see very far. If you don't blend in, the other squares act aggressively towards you, stopping you from progressing through the level.

Merritt has created a game system that tells an important story and highlights oppression using rules and squares. It's a great example of the expressive ability that game rules have.

# Prototyping

## LOGIC AND SCRIPTING

In the computer world, *logic* refers to the way computers think, essentially. Scripting is a manner in which humans give computers instructions using logic. Scripting is done in hundreds of different scripting languages, each designed for a specific application.

All you need to know about scripting languages is that they're basically shorthand for complicated computer stuff. It's like asking a friend (politely) to "go make a sandwich". There's an understanding that they know how make a sandwich. Your friend would follow a series of steps to make the sandwich without you having to walk them through it. Eventually, if everything works out, you get a sandwich. Here, "go make a sandwich" is the scripting language: it's a simplified instruction that's understood by both parties.

The way we interact with computers and the way computers show us stuff is completely different than the way computers process and store information. In other words, the way computers make sandwiches is completely different than the way we make sandwiches. In the end, though, the computer (hopefully) will give you the exact sandwich you asked for, if you know how to ask for it. Don't worry too much about understanding or learning these topics in-depth if you don't want to; the important thing to take away from this is that computers and humans think in very different ways, requiring constant translation between the two.

For all of the game design programs listed, you won't need to learn actual scripting. For many, however, it would be useful to understand a bit about how scripting works. The easiest way to do this is to experiment with the more user-friendly programs. The great thing about these programs is that they come with very helpful online tutorials. Just pick one of the easier programs (avoid Unity and GameMaker for now), watch or read the tutorials and make a game.

To learn more about scripting, check out Code Academy's tutorials at codecademy.com

## Pseudocode: thinking about logic

You will likely reach a point where you have to tell the game design program some instructions. The best way to do this is using plain language on paper. We call this "pseudocode". Think cause-and-effect, working backwards from the desired effect. Consider "if this happens, then this must happen".

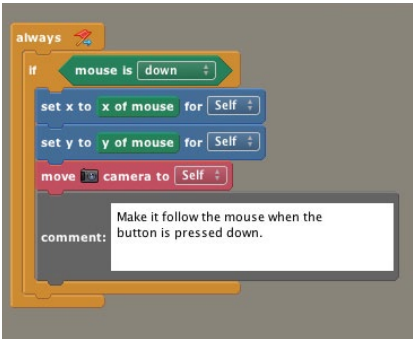
Let's say you want a door to open for the player. Get super specific. Consider exactly what the door will react to, and what it will do. Then write it out in the order it must happen, including states of the elements involved before and after the interaction. Your pseudocode might look something like this:

**Pseudocode**

```
player's distance from
door is greater than 4
feet

   door is closed

player's distance from
door is less than 4 feet

   door opens

player leaves area

   door stays open
```

## Visual state machines

State machines are visual representations of actual scripting, which is happening behind the scenes. State machines are great because (relatively speaking) they're easy to learn, easy to use, and they teach you a great deal about scripting basics. Construct 2 and Stencyl have great state machines and are great programs to start with.




STENCYL'S VISUAL STATE MACHINE

## What type of game speaks well to your concept?

What aesthetic do you picture your game having? Why? Try reimagining it in a completely different way. What would the game be like as a text-based game? As a board game? As a shooting game? What could work and what couldn't? Why?

After considering these questions, select the ideal game design program (page 12).

### Assets

In videogames, an asset is basically a fancy way of saying "a thing in the game" A board game's assets might be the player pieces, the board and all its drawings, the dice and play money. A videogame's assets might be the player's character (which might be animated), the enemies (maybe animated), the game's level, in-game text, music and sound effects.

Don't let asset production slow you down! The goal for your skeleton game should be to finish the game with as few assets as possible. Remember: it's very likely your game will change a lot during development, and too-early asset production is the #1 time-waster for novice game makers. It would be a devastating waste of time to spend hours drawing an underwater castle only to realize later on that the game should take place in a volcano. Also remember: if you do end up cornering yourself by making assets too early, just go with it! How can you make that underwater castle work after all? Often these limitations, mistakes and adaptations make for some interesting gameplay.

### Programming notes

It's important to note that no one just sits down and learns a programming language. It's exactly like learning a spoken language; you have to use it constantly and practice.

Search the web for everything you need. For coding stuff, check out Stack Overflow. stackoverflow.com

In general, human-computer interaction is getting easier and more intuitive every day.

## MAKE A GAME SKELETON

Your skeleton game (fancy game designers call this the *Alpha*) should include all the basic rules of your game. Ask yourself: how can you finish your game with the *least* amount of effort, detail, text, and/or information.

## PLACEHOLDER ASSETS

At some point while making your skeleton game you will need assets. Don't worry, the *No Assets Yet* rule still applies!

*Placeholder assets* are assets that you use during game development in place of final graphics. Your player character,

if your game has one, will likely need to a placeholder asset (instead of spending hours drawing and animating Super Mario just add a blue rectangle). If your game has enemies, these can be placeholder assets (instead of spending hours drawing evil ladybugs just add some red circles).

However, if your game has a lot of assets, things might get confusing if you use a bunch of abstract placeholder assets. Try searching the web whatever you need. Maybe use small images of ladybugs instead of red circles.

**Placeholder textures**

In game design, a texture is basically how something is coloured in. Textures are usually images, patterns or solid colours.

For early level design, you might want to use placeholder textures. Check out cgtextures.com for some great free texture tiles.

**Placeholder models**

If you're making a 3D game, the Internet will be especially useful for 3D placeholder models. The site turbosquid.com has some good free 3D models.

**Placeholder text**

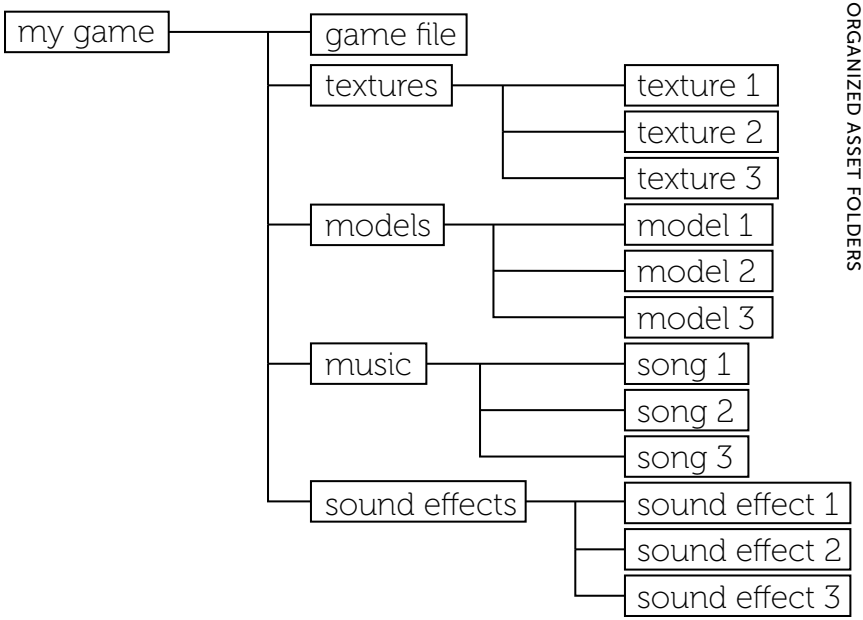
If your game uses text you'll probably need placeholder text. *Lorem Ipsum* is the most common placeholder for English text and there are many great generators online, like lipsum.com, that give you specific word or paragraph counts.

**Saving and organizing assets**

In most game engines, assets are merely linked to the game rather than copied into the game. This basically means that the engine will remember where on your computer that a certain asset (an image, let's say) is located.

Because of this, it's super important to keep your files organized and to avoid moving used assets into other folders at all costs!

Every time you start a new game, make a new folder for it. Save, move or copy everything you will use in the game to this folder and don't move anything around! Knowing this will save you a lot of frustration.




**Updating assets**

Another benefit to keeping all your assets organized in one folder is that it's easier to replace placeholder assets with final assets.

Here's an easy way to swap old assets for new ones:

**1** If any of the placeholder asset files are important to you, you'll want to copy them to another folder because they're getting deleted.

**2** Open the final asset file and click Save As.

**3** Save the file to the same folder as its placeholder.

**4** Name the file *exactly* the same as the file you want it to replace. If a window pops up asking if you want to replace the file, click Yes!

**5** Your asset should now be updated!

## PLAYTESTING

Playtesting is exactly what it sounds like: it's testing your game by playing it, and it's a big thing in game design (videogame playtesting is a career in itself). Most of the games you make will benefit from playtesting so make sure you do it as many times during the development process as possible. At the very least, make sure you playtest at least once before you start making your final assets. It's nearly impossible to guess how others will understand your game without playtesting.

gamasutra.com/view/feature/185258/best_practices_five_tips_for_.php?print=1

## FINAL GAME

While you're working towards finishing your game, you might want to consider its ideal context. In other words: where, when, how, why, etc., do you want people to encounter your game? This might help inform some design decisions. Currently (2014), diversification in the gaming industry is leading to more diverse types of game curation. Keep in mind that your game's setting and context will affect its message to some degree. A game about loneliness with have a different impact on someone who's alone than someone at a party.

### "Finished" games

Even among many independent game-makers, there exists an annoying pressure to frame all games as products and to evaluate their production value foremost. Many artists face criticism that their games "aren't finished" or are "merely" experimental. Don't let these attitudes weigh you down! Your game, your rules (pun intended, sort of).

### Tips

Don't compare your game's level of "polish" to other for-sale indie games. Remember that the industry right now is really messed up and confused; what you're making is relatively new and radical.

Note that you don't have to charge much! Many personal games online go for just one dollar. This is a great way to earn money while keeping your game somewhat accessible to people with financial difficulties.

# Where to put it

## GALLERIES

Believe it or not, gallery-style game curation is becoming a thing (see: Vector Game+Art Festival).

**Pros:**

- Virtually all of these galleries cater to artist-made, concept-driven games so do consider submitting your game(s)!
- You have more control over the player's experience (screen size, tech, volume).
- Galleries (in general) seem to insist that its visitors think deeply and critically about the pieces being presented, so it feels really nice seeing your game curated in a space that requires.
- Galleries detract traditional Gamers to higher degrees. In other words, there's a smaller chance your game about depression will be criticized for not being "fun".

**Cons:**

- Curators will expect a certain level of polish that your game might not meet.
- Curators usually want games that are extremely unique.
- Galleries are often crowded, which might not be the ideal setting for more personal games.
- Most galleries will require headphones for your game's audio. This could be a pro in that it kind of isolates the player from their surrounding, but there's a good chance that the player won't even use the headset.

## THE WORLD WIDE WEB

There are many spaces on the web that curate games, many of which cater to more personal games (listed on the next page).

**Pros:**

- A more personal player experience: online players are usually alone and have a degree of privacy. It might help to consider how this affects your game's message and experience.
- It can be free.
- It's the easiest way to share your game across the globe.
- Your game has access to online communities. If your game is about your experience living with a learning disability, for example, your game can be easily shared with online communities of folk with learning disabilities.

**Cons:**

- You have no control over your audience's tech (beyond recommending certain tech be used). What might work well on your browser might not work on someone else's browser. Some people use their laptop's trackpad rather than a mouse. You definitely shouldn't stress about this stuff, but keep it in the back of your mind when considering, for example, how important it is for the player to interact with your game using a mouse and not a trackpad: maybe you'll want to have instructions at the beginning of the game telling insisting on mouse-usage.
- Harassment. The net is a hostile place and it's especially hostile towards attempts to diversify games (see: Zoe Quinn, #gamergate, etc). In some cases it might be wise to post your game anonymously, but just know that if a hacker wants to figure out who you are and where you live, they can and will. Please do be careful.

### Web hosting

Free online resources for hosting games seem to come and go these days, so this list sticks to the safer, common websites that will likely be around for a while. It's more of a *What's Hot Right Now* thing.

itch.io

Itch is amazing because it handles everything from payment to hosting and storage to downloads. itch.io lets you upload your games for free, and lets you set a minimum price (which can be $0). If you set a price, itch.io takes 10% of what you make as a hosting fee (although apparently this fee is somewhat negotiable). It also lets you design your own webpage, monitor views and downloads, and it never puts ads on your page.

patreon.com

Patreon is a site that lets people support artists they like on a monthly basis. If you plan on making content regularly, you could promise patrons that you'll send them all your upcoming games if they pledge, let's say, $5 per month?

philome.la

Philomela is specifically for Twine games, and it works great.

## FOR SALE

Never feel weird about trying to make money from your game! You worked hard on it and you're contributing to efforts to diversify games.

Because of their empathy-inducing nature, games can be a great way to raise funds.

**Pros:**

- You get paid for your hard work!
- Selling your personal game is kind of political, if you think about it. Your game could help prove to the games industry that personal games can have market value, too!

**Cons:**

- You will be held responsible for ensuring your game meets "customer" expectations, to some degree. If your game doesn't work properly on someone's computer, you'll be expected to fix the bug or to refund the money.
- Your game will miss out on audiences that are unwilling to pay. You might want to consider setting your price low ($1-$5), or making it pay-what-you-can.

### Hard copies

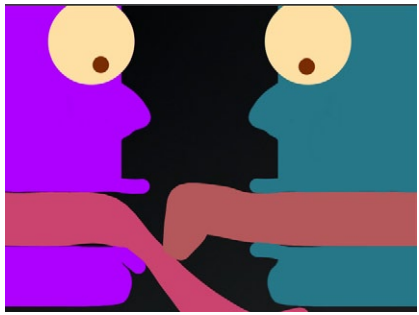
Maybe your game includes analog components (a map? A controller? Scratch-n-sniff?) or maybe your game just makes sense as a physical artifact? Straight-up hard copies are still a thing, and their tangibility is really endearing. Try uploading your game to a USB or a CD and sell it at gaming events, zine fairs, and so on.

If you're interested in making a stationary arcade-style videogame, try checking out Makey-Makey (makeymakey.com) or Arduino (arduino.cc).

## CHECK OUT THESE GAMES

Some recent games (chosen somewhat randomly) for inspiration


*Mainichi by Mattie Brice*
*mattiebrice.com/mainichi*

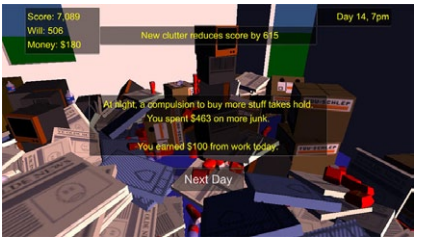


*Realistic Kissing Simulator by Loren Schmidt and Jimmy Andrews*
*jimmylands.com/experiments/kissing*

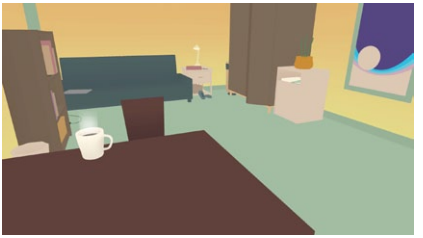

*Art Game by Pippin Barr*
*pippinbarr.com/games/artgame/ArtGame.html*


*HUGPUNX by Merritt Kopas*
*mkopas.net/files/hugpunx*

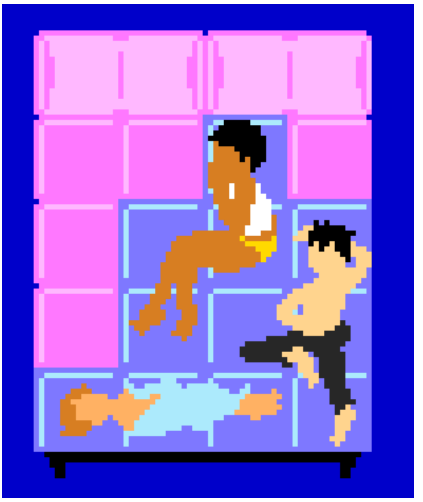

*Martian Middle School Dance by Benedict Fritz*
*freeindiegam.es/2013/04/martian-middle-school-dance-benedict-fritz*
*dehoarder*




*Dehoarder by Smiling Cat*
*kongregate.com/games/smilingcat/*

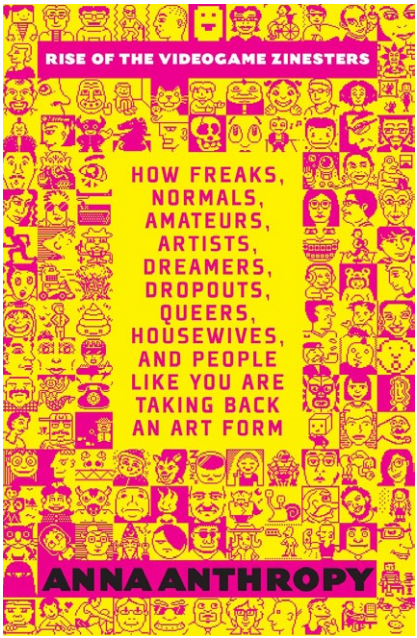


*Morning Coffee by Animal Phase*
*gamejolt.com/games/other/morning-coffee/25552*



*Triad by Anna Anthropy*
*auntiepixelante.com/triad*

# References and further reading




***Rise of the Videogame Zinesters: How Freaks, Normals, Amateurs, Artists, Dreamers, Drop-outs, Queers, Housewives, and People Like You Are Taking Back an Art Form* by Anna Anthropy**

Highly recommended text! This zine wouldn't exist without it.

***ZZT* by Anna Anthropy**

This text discusses the history surrounding ZZT and the gamer subculture it facilitated

**Various lectures by Merritt Kopas**

Do check out her website for upcoming talks.

mkopas.net/speak

***Critical Play* by Mary Flanagan**

This text discusses the inherently political nature of play and games.

**Twitter**

So many of the topics and opinions addressed in this zine were inspired by discussions on Twitter.

***Rules of Play: Game Design Fundamentals* by Eric Zimmerman and Katie Salen**

This text is basically a crash course about more general game theory

***TIFF Nexus: Feminism and Games (lecture)* by Emma Westecott**

youtube.com/watch?v=BkM2fNhi3tQ