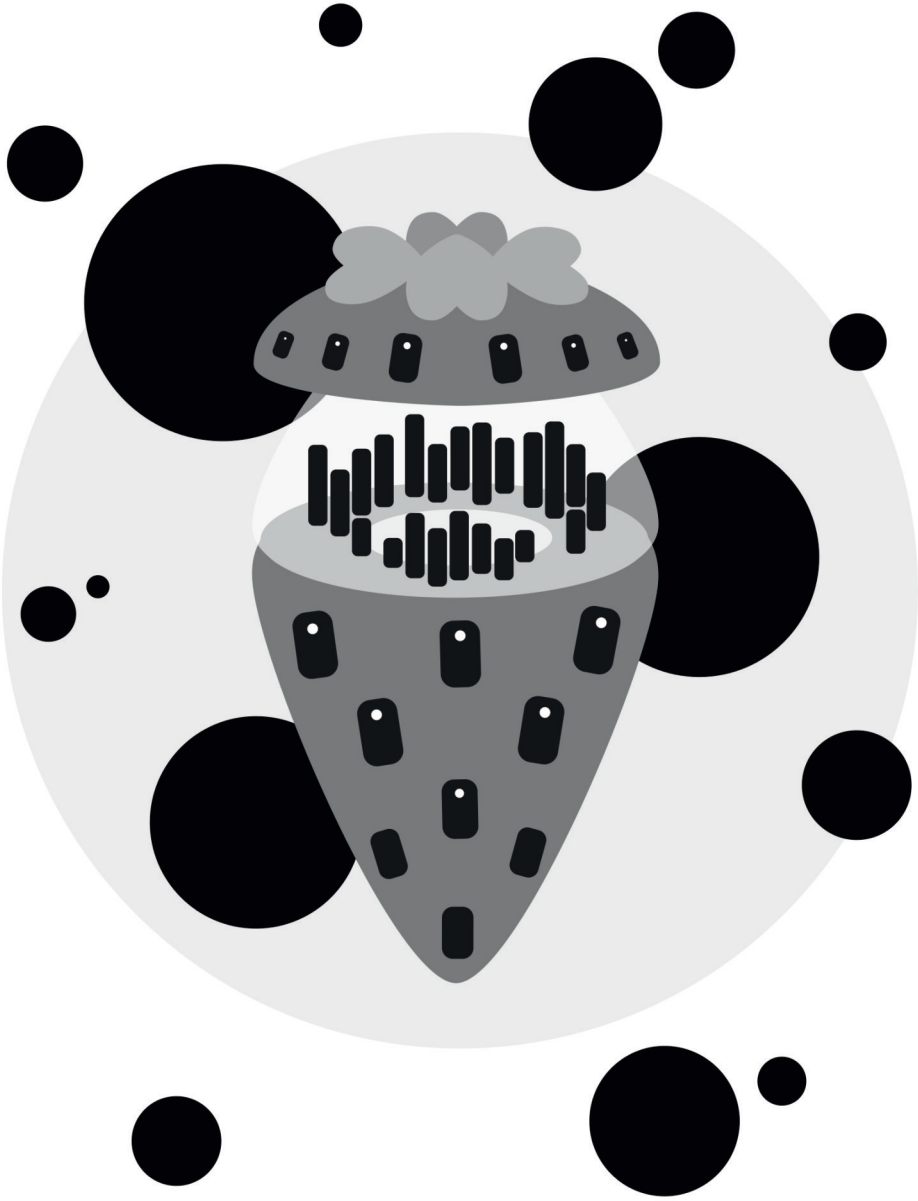
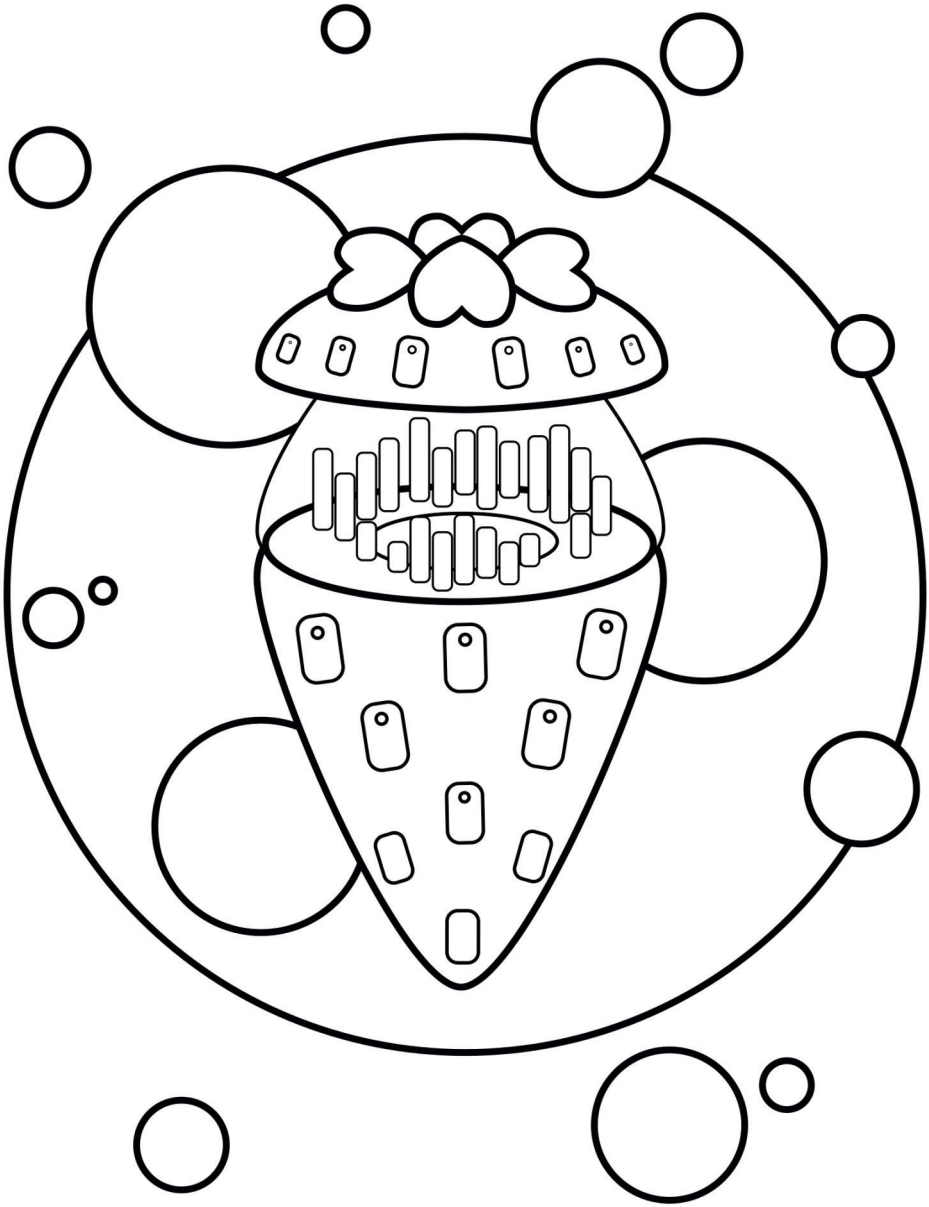


tildetown 6



tildetown #6

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More info: https://tilde.town/~zine/

Welcome, novice horse trainer, to the lucrative and rewarding world of HORSE SPORTS! Within these pages you will find everything you need to fill your fledgling stables with your very own sports horses, to compete in horse sports and win notoriety and great prizes, and even try your hand at sport horse hustrandry! But wait, I hear you ask. What is all this then, really? Why, you mean to tell me you don't already know, my little sugar cube? Just read on and you will be walked through creating and naming your first horse, and then entering your first competition. You need merely 1 - 5 six sided dice and a 20 sided one. (Or the ability to search online or in your app store for a virtual dice roller.) Come now! The wide world of horse sports awaits!

Introduction

This short story is dedicated to ~dozens.

Several months ago he spoke of a tabletop game that involved growing cats from beans, inviting others to try it and share their actual plays.[1] As it happened, someone read the message and played the game, but the narrative that was supposed to accompany the results never materialised, having fizzled out in a desolate post-apocalyptic landscape before it had barely started.

Here instead is a story about growing, cats and beans, not necessarily in that order. Discerning readers will observe its setting is loosely based in a different game, the wonderful Basement Quest[2] of which ~dozens is the amazing author and thoroughly adept game host. He has also kindly given permission to reproduce my tiny tale of tomfoolery under the CC BY-SA license.[3] The story would not have existed without his support and the patience of fellow players, though any lapses in judgement for churning out complete drivel are mine alone. *Gratias maximas.*

~mio

1. https://dozensanddragons.neocities.org/30.html
2. https://tilde.town/~dozens/quest/
3. https://creativecommons.org/licenses/by-sa/4.0/

Bean

Deep within the bowels of the bustling city of Vay'Nullar was a building like every other and none other. The unassuming brick structure stood to one side of Cofe Street, so named after a giant automaton that had once occupied an empty plot of land for the sole purpose of selling coffee and the wonders of mechanical ingenuity before it broke down one day and the lot, overrun by weeds, was turned into an apothecary. There was no sign above the entrance to announce itself to the world, the windows shuttered and the wooden door bolted from within. It could be said that there was nothing remarkable about the building except for a colourful row of marching kidney-shaped beans painted in bas-relief than ran along the base of the tiled roof. The beans' faces were contorted in various expressions of merriment, from hopping up and down with silly grins to flipping on their backs, eyes screwed tight and mouths wide open in laughter.

No one actually knew for sure if it was a shop, or what it sold, because the doors had never opened for business. Passers-by can be forgiven for thinking it was probably an ill-fated foray into fame and fortune by some enterprising young upstart that had floundered at the last moment, and the place had long since been abandoned to the cobwebs of aurs and dust bunnies. However, the neighbourhood's residents knew differently. If anyone had cared to ask, they would have recounted in tense, hushed voices of eerie sounds emanating from the building at night. Some said they heard loud whooshing noises; others swore someone or something was lighting crackling bonfires inside, though they had neither seen light nor smoke from a fire. Still more spoke of a sound — the more musically-inclined might liken it to a note blown from a long horn, lowered then abruptly dampened. The children — the ones who were old enough or secretly sneaked out past their bedtime — would have simply described it as if a crowd had gotten together in a room and farted at the same time.

None of the residents had ever heard nor seen the landlord; as far as the eldest grannies could remember, the building had

always appeared the way it did. When the city finally sent an inspector to assess the property after multiple complaints from the most vocal residents, the man had returned so shocked by whatever he had seen that to this day he could not utter a syllable, his entire body frozen in fear whenever the subject of the bean building was brought up. Cursed, was the conclusion of a guild of wizards three districts over, though one that seemed to evade their scanners. A few of the bravest and more curious among their ranks offered to investigate, but never returned with their findings. Children were sternly warned by their parents to stay away and behave, or they would be snatched up and eaten by the monster that lived within its walls.

One afternoon, a young girl who was studying the painted relief along one side of the building heard scratching, mewls, then a whimper coming from somewhere nearby. Following the sounds, she rounded the back of the building and spotted a grey kitten with light charcoal stripes slumped against the wall, paws on their furry tummy, with a pinched expression on their face. As she came closer, she could hear a low gurgling sound coming from somewhere near its tummy. "Oh!" She exclaimed, her face lit up in understanding. "Stay here, kitty." she told the kitten.

She returned from a nearby shop with a glass bottle of oat milk, two small dishes and three skewers of tofuna balls. She set the items in front of the kitten, removed the skewers from the first dish and filled the other with milk. "Go on, it's for you." The girl smiled encouragingly at the kitten, who stared at her with wide eyes before pouncing on the tofuna balls. When the kitten had emptied the plates, they licked their face and paws, then looked up at the girl and mewed once before disappearing into a small hole in the wall of the building partially covered by a loose board. The girl tried to peer into the hole but it was too dark within to see anything.

The next day and the day after, the girl returned to the same spot with food for the kitten, who seemed to be expecting her, mewing once again before retreating back inside the hole in the wall after the meal. On the fourth day, the kitten was nowhere

to be seen when the young girl arrived. She bent down to fill a saucer with more milk, and found a single brown bean in it slightly smaller than a cherry potato. She waited but there was no sign of the kitten. Eventually she left the offering of food near the hole and went home.

As the girl lay in bed that night, she examined the bean by the light of her bedside lamp. She held it up between her thumb and forefinger, rubbed a thumb against its smooth contours, then clasped it gently between her palms, gradually warming it as she peeked at it from between her fingers. After whispering to the bean for some time, she carefully tucked it under one end of her pillow, and yawning, turned down the lamp and went to sleep.

When she next opened her eyes, it was to find herself inside a gigantic storehouse with a high ceiling that seemed to stretch on and on into the horizon. One side was lined with glass partitions, some of which were obscured with thick curtains, while others had curtains parted aside to reveal the activities of the occupants within. On another side, separated by a path the width of two streets, was an open grassy area dotted with large translucent domes, like hazy soap bubbles on a summer day. The entire area was bright and well-lit even though she couldn't make out any significant source of light aside from the little caddy lamps twinkling from the desks inside the partitions, or the campers' lamps inside and around the domed tents.

A cat wearing bright yellow boots, blue overalls and a construction hat was beckoning her over. She recognised them as the kitten she had met in the alley earlier, though now they appeared as tall as her. Just as she was about to call out and ask where they were, the cat suddenly appeared in front of her and said eagerly, "There you are! Come along now!"

Everywhere she turned, there were now cats in all shapes, colours and sizes — short, large, skinny, tiny, chubby, striped, spotted, black, calico, white, brown, grey, and so on. Many were patting rectangular panels with various tiny buttons

on the desks. Some were on all fours or sitting in various positions in front of stools with small boxes that made whirring, clicking sounds. After each click, the cats would shift positions, as if striking poses for some invisible audience. One cat was mixing and matching several new outfits in light colours. Another was hugging stuffed toy chipmunk while sorting mushrooms at a picnic table. A few were holding a burger with an oversized cheese wedge between their paws.

Some who were walking around the partitions were also holding mugs, the aroma of coffee wafting through the air as they passed — except for one cat whose paws were wrapped around a glass of a clear brown drink topped with cherries. A cat sped by on a contraption with a handle and two thin wheels, which emitted tinkling sounds from a tiny, nondescript box attached to a basket in front of the contraption. They passed a group of six cats gesturing to a black board covered in numbers and symbols; one of them chanted something that confused the girl and pushed a button on one edge of the board, which sprayed water over the surface, erasing the chalk writing. After wiping the board dry, the cat began rapidly filling the board with more symbols. When the girl looked over her shoulder, the board had already washed out the writing, and another cat had taken up position in front of the board.

Outside one domed tent, a metal arm was mixing a vat of pink and yellow cream while a cat sat beside it reading aloud from a scroll. At the next tent, two cats huddled over a thin, grey bulbous metal stump placed on a tiny wooden table. The cats seemed to be engaged in a serious conversation at first; then the girl blinked and they abruptly dissolved into laughs, thumping the table with a paw and barely grappling onto the table edge with the other to keep themselves from tumbling and knocking over the metal rod. A cat reclined against the frame of a bubble opening and seemed to be intently listening to something, while a stockpot bubbled merrily on a stove and spewed out dumplings into a large crusty bread bowl behind them.

A few steps from the path, a cat hung up pictures onto a pie-

shaped box under the glow of a lamp affixed to their tent. The lamp slowly changed colours, each new colour followed by strings of words floating and fading in mid-air like intangible poetry. Behind them, half-hidden by big rows of vertical posts made of paper tubes, a cat perched atop a stack of ten thick black writing pads and was writing in a notebook at a furious pace, only occasionally stopping to bite into a slice of pie with a light yellow filling. A blue panel displaying several lines of indecipherable characters flickered occasionally from below. Remotely she could barely make out another cat stacking containers of different sizes neatly as they spoke to a sliding black case on a table covered in tools and fossils. Inside another tent, a cat was moving a small stack of old boxes with lights blinking blearily through the tent walls and shuffling them inside an animated green cabinet in the shape of a possum. As the girl stared, some of the cats grinned at her, and others waved.

At random intervals, a group would gather around a large pipe made of dark grey metal at the base, which gave way to a translucent material at knee height, towering up before disappearing into an opening in the ceiling. Venturing closer, she realised the translucent pipe was actually made of many transparent small pipes with beads of light passing through them at impossibly fast speeds. As the lights spun faster, a low purr emanated from the pipe, which became louder and louder in a roaring crescendo as the group fixed their gazes upwards at a spot where pipe met ceiling, some clapping their paws to a soundless rhythm that was nonetheless familiar to them all, until the noise was abruptly cut off to barely a whine and a chuff once more. The crowd of cats dispersed as if nothing had happened.

Further on, another group wielding oversized sporks was shovelling piles of pea-sized, dark brown beans at a glass pane the size of a large smoke screen, behind which an ornate fireplace was set over a well-used hearth. The beans seem to pass through the glass, to be devoured by the giant blaze that flared and snapped briefly each time it received more tinder. Some of the cats looked on with somber expressions, and the

girl had the feeling that whatever the fire did was as important — if not more so — than the stream of lights in the pipes. As the flames gradually changed colour from blood orange to pale lavender, the group seemed to relax into relieved smiles and slowed their shovelling, only halting when the fire had turned a vibrant purple. Her guide gave the group a thumbs-up before ushering her along the path.

When they had walked a few score feet onward, the young girl suddenly noticed almost all the cats in their immediate vicinity had a small rectangular apparatus on them — whether held in their paws, hanging from a waist pouch, jutting out from a back pocket, strapped to their caps or arms, or placed within reach on a nearby desk or table. In that instant, a resounding chime like a bell rolled across the area where they were standing. The cats glanced down at their apparatus, which were lit in varying levels of brightness. Some of the cats looked up at one another and sported identical grins on their faces. Then, as though following an unannounced but practised cue, the cats applied light pressure on their apparatus. For a moment it was quiet, before the hall erupted into a very loud raspberry. It was as though a giant balloon had deflated over their heads and air was coming out of it in one big gush, only there was no strong burst of wind to blow them all off their feet. Distantly she heard the answering giggling of babies and children somewhere around her, though there were no infants or other children in sight. The cat with the yellow hat turned to her with a chuckle and said, "Snazzy, huh? Let's keep this a little secret between us, okay?"

Before the girl could reply, she awoke with a start in her own room. It took a moment for her to ascertain where she was as her eyes focused on the shelf by the wall filled with toys and books, and the morning sunlight streaming in from the bedroom window. Recalling the cat in boots, she felt around her pillow for the bean, but her hand only met soft bedsheets. She shook out her pillow while pushing aside her blankets, checked the floor and peeked under the bed, but the bean had disappeared. As she looked around her room, she noticed the mug adorned with tiny butterflies that she used as a brush holder had been moved

from its usual spot on her desk. She got out of bed and padded barefoot over to the desk. Instead of one baby potato-sized bean, the mug was filled with a number of small red beans. Shaking them out in handfuls at a time, she counted 43 in total.

The girl smiled. When the time came, she and the beans will be ready.

---
from: ~rogbeer
for: zine of tilde.town, issue 6
date: 6 September 2022, GMT +8

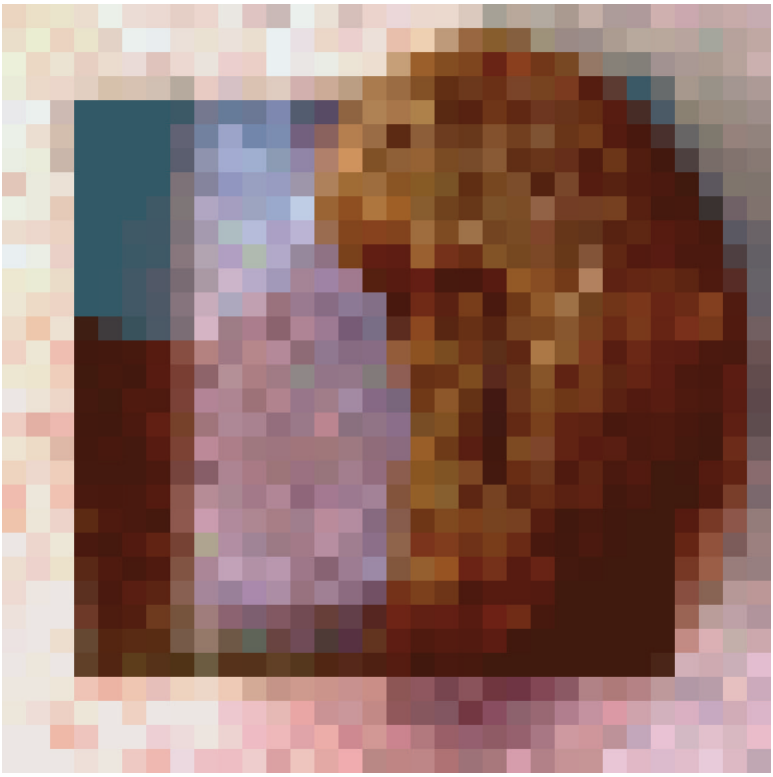
Give me the smile
That disarms

And forget the guns

But- Alas! Aleck!
Few are the
Peaceful peace-makers

Even so, I pray for more

TSS-001 - The Pearled Gates



The Pearled Gates are a B55 TSS-class SYNTHETIC PICTURE. The Pearled Gates are a fabled gateway to a mystical land where the sky always shines blue. Strange cybercreatures dwell there, including standing manatees. They use their hypnotizing shroud-daemons to catch weakly-protected programs. Then they use the entropy of their preys to feed their favourite food : the rare iridescent netmoss.

What?

Another set of pretty landscapes and such what from Maine. This time specifically Monhegan Island which is about 20 NMI off the coast. You can take a ferry out of Winter Harbor, ME which is a pleasant and quick trip if the weather's nice. (It was rough as hell when I went, but worth it all the same).

The island itself is home to a small year round community, mostly supported by lobster fishing. But during the off season the community hosts guests in lots of quaint little inns and bed and breakfasts. There's even a brewery and a pizzaria on the island which is amusing. And you're able to find some of the best crab sandwiches I've had yet, sadly I appear to not have take any photos of said sandwhich, so I'll just have to go back next year just to contribute that to the zine.

I'll let the photos speak for themselves this year, these are really just a couple of highlights from a single day hike in the middle of spring. Hopefully I've adequately captured just how pretty Monhegan is.

From a technical standpoint all of the conversion and info gathering was done with simple tools. I converted the RAFs to JPG with dcraw and GraphicsMagick. I wrote a little script this year to bulk convert the photos since I have about 250GB in this set alone.

```
#!/bin/ash

for RAF in $(ls | grep RAF); do
    name=$(echo "$RAF" | awk -F'.' '{print $1}')
    gm convert $RAF $name.jpg
done

rtot=$(find $(pwd) -type f -name '*.RAF' -exec du -ch {} + |
grep total$ | awk -F'\t' '{print $1}')
jtot=$(find $(pwd) -type f -name '*.jpg' -exec du -ch {} + |
grep total$ | awk -F'\t' '{print $1}')
```

```
echo "raf: $rtot | jpg: $jtot"
```

And then gathering information from the RAF files is pretty easy, you just need to grep some info from exiftool.

```
exiftool DSCF3736.RAF  grep "Shutter Speed\|Aperture\|ISO\|Film Mode"
```

The only hiccup in all of this is that dcraw isn't packaged for alpine, but it's pretty easy to compile and maintain as an Esper package.

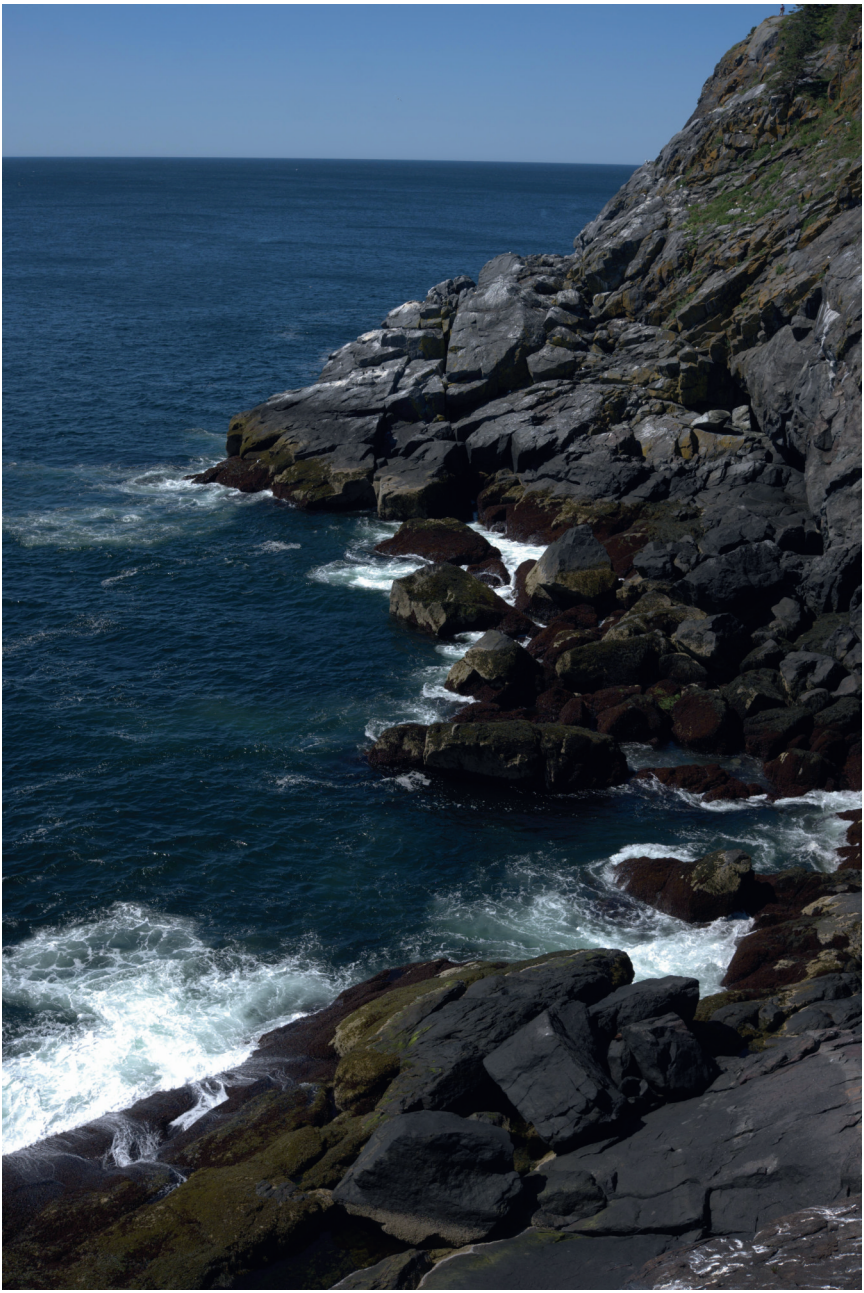
```
{
   fetch={url="https://www.dechifro.org/dcraw/dcraw.c",
          git=false,
          outf="dcraw.c"},
   builddir="",
   depends={
          alpine="gcc musl-dev libraw graphicsmagick" --last two aren't build deps, just useful
   },
   build={
          --This requires additional deps, TODO
          --"gcc -o dcraw -O4 dcraw.c -lm -ljasper -ljpeg -llcms2"
          "gcc -o dcraw -O4 dcraw.c -lm -DNODEPS"
   },
   inst={{perms=755, {"dcraw"}, out="/usr/local/bin/"}}
}
```

Anyways, all of that is less interesting than the actual photos! So enjoy!

Farside

f11 1/250 200 Astia

f11 1/250 200 Astia



f11 1/250 200 Astia

Flowers

f2.8 1/250 200 Velvia

Gulls

f7.2 1/250 200 Astia

f7.2 1/250 200 Astia

A (small) guide to indie internet radios

You're back home from a tiring day out. You want to relax listening to some music. You have acquired lots of music along your journey throughout the Internet. However, you don't want to listen to any of it right now. You don't want to deal with the decision paralysis of youtube or bandcamp either. Furthermore, spotify and friends are out of the question. Lastly, your old radio doesn't catch any frequency that's interesting to you.

But there's hope. While your old radio can't catch much more than what's physically near it, the internet radios got you covered.

Internet radios come in many varieties. Some of them are just the internet version of old-school radios, and many of those are mostly available to be listened through their website only, so they can track you, show you ads, or cut the streaming after you haven't been engaged to their website for some time. Worst case scenario, they require you to get their android/ios app that's riddled with who knows what.

I won't bother with those. I will focus on just a few Internet radios that are available both through a webfront and a direct streaming link, so you can tune in using a browser, or a media player when the former is inconvenient.

Tilderadio

Link: tilderadio.org

I can't start without mentioning tilderadio. Tilderadio is the online radio of the tildeverse. Members of the tildeverse request time slots and stream things to their liking. There are shows dedicated to music playlists and talk shows. Highly recommended.

Link for media player

- https://azuracast.tilderadio.org/radio/8000/radio.ogg

Anonradio

Link: anonradio.net

One of oldest pubnixes is is the Super Dimension Fortress Public Access UNIX system, or SDF for short. The folks at sdf maintain anonradio.net. Like tilderadio, anonradio operates on a volunteer basis, with DJs being members of the sdf. There's a wide selection of music shows. Rock, synthpop, metal, electronic, dubiousness, partying, languages, old and new. There's something for almost everybody.

Link for media player

- https://anonradio.net:8443/anonradio

SOMA FM

Link: somafm.com

Soma fm is an entirely listener-supported independent radio with as many as 30 channels dedicated to different music genres.

- Do you like a mysterious sountrack in the background? The secret agent channel might be of interest to you.

- Are you hacking together that project that has been keeping you awake for many nights? Check out the DEF CON radio channel.

- You haven't had enough of 70s style rock and wish you could hear more of it? Here's Left Coast 70s.

- You prefer the synthpop of the 80s? Here's some more too at Underground 80s.

And many more channels for you to explore, playing obscure and popular tracks within the genre of the station.

Link for media player

There are too many channels to list all of them, see the webpage for the other channels for more ways to listen to them.

- http://ice.somafm.com/secretagent
- http://ice.somafm.com/defcon
- http://ice.somafm.com/u80s

Lainchan radio

Link: lainon.life

While lainchan is itself an anonymous image board, with all the controversy that entails, their radio project has given me many hours of enjoyment and i believe it should be treated seperately from the place it comes from. It has 4 channels.

- Cyberia, for electronic music in the style of the popular japanese anime series Serial Experiments Lain's Cyberia Club.

- Cafe, for touhou arrangements, relaxing soundtracks and mellow pop-rock songs. This is my favorite channel and the radio i listen to the most.

- Swing, for swing, jazz and blues music. Very soothing, energizing or both!

- Everything, a combination of all previous channels.

Link for media player

- https://lainon.life/radio/cyberia.ogg

- https://lainon.life/radio/cafe.ogg
- https://lainon.life/radio/swing.ogg
- https://lainon.life/radio/everything.ogg

KMFA 89.5

Link: www.kmfa.org

This is an old-school radio station located in Austin, Texas, that happens to have an online streaming channel that fits within the constraints of this guide.

Their focus is classical music. Their offer ranges from Baroque, to the Modern period, including classical arrangements of contemporary pop songs. Chamber, Cantata, Concerto, Mass, Opera, and so on, you can find all of those here. This is the single best radio for all of you classical music fans.

Link for media player

- https://kmfa.streamguys1.com/KMFA-mp3

R/a/dio

Link: r-a-d.io

This radio station is also part of the community of an anonymous image board, but it can be safely ignored.

They focus mostly on anime and game soundtracks, if that's your jam, you will probably like this. It's also possible to request songs, but i haven't used this feature, so i don't know if it works.

Link for media player

- https://relay0.r-a-d.io/main.mp3

Hackers.town radio

Link: hackers.town

Hackers.town is a fediverse instance that also happens to have an radio stream that i discovered by chance. Their music selection is very eclectic, so whatever label i might throw will probably be too narrow. I can't recommend it enough, very nice tunes there!

Link for media player

- https://radio.hackers.town:8000/

Wrapping up

These are only a handful of the hundreds, if not thousands, of online radios that you can find online, and they were subject to my own tastes and technical preferences. But surely there's a radio out there that's more suited to your own likes. If you feel like exploring this world, i would be thrilled to know your findings and get to know more radios. If you'd like to do so, please mail me to tsui@sdf.org.

Happy listening!

thermal printers!

some townies like to play with typewriters and s
ubmit to the zine with them. i play with a therm
al printer, so here's a submission with it.

thermal printers are also known as receipt print
ers. they use thermal paper, which reacts to hea
t and darkens, so ink/toner is not needed. most
paper is 58mm or 80mm wide, but i have seen an A
5 printer in a french metro station. some printe
rs and papers support two-color printing, where
the second color is usually red. bluetooth, ethe
rnet, wifi, USB, serial and parallel are all com
monly found. my printer has a CUPS driver, which
 lets me print pretty much anything, but you can
 control most printers without a driver just usi
ng printf:

```
echo lucidiot rocks | sudo tee /dev/usb/lp0
```

thermal printers speak ESC/POS, a protocol desig
ned by epson for its own printers that everyone
else followed. there are many manuals out there,
 just look for `esc/pos reference`. you can also
 use `python-escpos`, `escpos-php` or `node-escp
os`, `Windows.Devices.PointOfService.POSPrinter`
, etc.

esc/pos cheat sheet

ASCII 1B ESCAPE followed by...

@	Reset
-0	Underline off
-1	Underline on
-2	Underline, very
E0	Bold off
E1	**Bold on**
G0	Bold off (alias)

G1 Bold on (alias)
M0 Use 12x24dots font
M1 Use 8x24dots font
0x7b 0 Upside down off
0x7b 1 Upside down on
! <x> Set formatting bit flags:
!0x00 Reset
!0x01 Use 8x24dots font
!0x08 Bold
!0x10 Tall
!0x20 Thicc
!0x30 Lorge
d <x> Skip <x> lines

ASCII 1D GROUP SEPARATOR followed by...

B0 Inverted off
B1 Inverted on
V 0x00 Cut completely
V 0x01 Cut, leave one point uncut

there are a lot more commands depending on your printer model. some printers can beep, open cash drawers, control customer displays, read magnetic stripes on checks, generate barcodes and QR codes, print sideways, print images, define macros and run them, etc.

encoding

text encoding is a mess. thermal printers do not know unicode! you can either render your text into an image and print that, switch between the supported codepages depending on your printer model/firmware, or define your own custom characters. here is the default codepage for my SII RP-F10:

```
0123456789abcdef
0
```

the creator of escpos-php started a database of thermal printer capabilities, including codepages, which can help in troubleshooting: https://mike42.me/escpos-printer-db/

secret beep!

there are multiple documented commands for beeps on different models. some printers will just accept the ASCII BEL character, 0x07. some want ESC BEL (0x1B07). some want 0x1B2841040030 followed by the sound type, beep count and beep duration. i tried them all, but couldn't get anything to work on my SII RP-F10. i used wireshark to capture the SMB packets sent by the windows driver to my samba server while it printed something, because the driver has an option to beep when a print job starts and ends. so here is the hidden beep command available on SII RP-D10, RP-E10, RP-F10 and maybe others:

ESC RS <duration> <unknown>

ESC is ASCII 1B ESCAPE

RS is ASCII 1E RECORD SEPARATOR
<duration> specifies the beep duration, in multi
ples of 2ms: 0-255 maps to 0-510ms.
<unknown> is, well, unknown, because it has no i
mpact on how the beep sounds.
the windows driver sends ESC RS 0x80 0x80.

a machine that beeps and slices paper over USB a
nd LAN, what else could i possibly ask for?

some examples of random transparent PNG images p
rinted using CUPS!

colophon

everything in this submission was originally printed using a Seiko SII RP-F10 thermal printer on 80mm thermal paper. the prints were then scanned on a Canon MF643Cdw at 300dpi using xsane, and edited into the final JPEG images in this submission using Jasc Paint Shop Pro 9 on Windows XP Pro SP3.

while the few demo prints of a lemon pie, coffee cup and ramen bowl were printed using `lp something.png` via CUPS, all the text was written in Vim, painstakingly inserting raw ESC/POS commands using `^V x <hex>`. The codepage table was generated by an example script from the python-escpos project, then slightly altered. The raw ESC/POS commands sent to the printer to print all the text are in `escpos_raw.bin`.

Cardwords

Cardwords is a solo word game using playing cards as a letter pool. The player draws cards and form words based on the available letters represented by individual cards. It is inspired by Sebastien Spirit's Secret Message and SCRABBLEgrams.

Cardwords is licensed under the Creative Commons Attribution (CC BY 4.0) license.

Requirements

You will need:

- A deck of playing cards without jokers
- Something to write with, e.g. pen and paper
- (Optional) A dictionary to validate words

How to Play

Shuffle the deck of cards and set aside 4 cards, face up.

Deal a set of 8 cards in a row facing up.

Each card in the deck represents two letters of the alphabet, starting with the Ace as A or N, 2 as B or O, and up to K as M or Z (see the **Letter Table**). The aim is to form a word based on each set of cards drawn. For each card, only one of the two possible letters can be used, e.g. if the set has only 1 Ace, pick either A or N, not both. If there are 2 Aces in the row, the available letters can include 2 A, 2 N, or 1 A and N each.

The 4 extra cards set aside at the start are additional letter choices that can be used to replace another card's letters, which could be useful for making longer words. Multiple cards can be used on a word, but each card can only be used once during the game.

A dictionary can optionally be used to check whether a word played is valid.

Add up the score for the word (see the **Scoring Words** section). Place the set of cards in a discard pile along with any of the extra cards if they were used, and deal a new set of cards to form the next word.

Dispense 6 sets of cards in total, then add up the word scores for the final score. Try to get a total score of 200 or higher to win.

Letter Table

Card	Letters
A	A N
2	B O
3	C P
4	D Q
5	E R
6	F S
7	G T
8	H U
9	I V
10	J W
J	K X
Q	L Y
K	M Z

Scoring Words

Score words by adding up letter values from their assigned cards:

- Number cards have a value of 4 points
- Court cards (J, Q and K) are worth 8 points

Bonus multipliers are activated in certain scenarios:

- Using cards of the same colour or suit: x2 the total word value
- Using all letters, i.e. 8-letter words: x3 the total word value

At the end of the game, if no extra cards were used, add 32 points to the total.

Example Gameplay

```
Extra cards:          KD QD 2C 4S
Available letters:    MZ LY BO DQ

Set 1
Cards drawn:          QH 8D 3D 9S 3S 10H 10C 9H
Available letters:    LY HU CP IV CP JW  JW  IV
Word:                 WHIPPY
Score:                8 + (4 * 5) = 28

Set 2
Cards drawn:          KS 7S 7D KH 9D 8H 2S 4D
Available letters:    MZ GT GT MZ IV HU BO DQ
Word:                 BUZZ
Score:                (4 * 2) + (8 * 2) = 24

Set 3
Cards drawn:          2H 7H 4C JH 4H 9C 5D AD
Available letters:    BO GT DQ KX DQ IV ER AN
Word:                 BEDDING
Score:                4 * 7 = 28

Set 4
Cards drawn:          3H 5H 6S 6D JS JD 3C KC
Available letters:    CP ER FS FS KX KX CP MZ
Word:                 MEX
Score:                4 + (8 * 2) = 20
```

```
Set 5
Cards drawn:          AC AH 6H 2D 8C 7C QC 5C
Available letters:    AN AN FS BO HU GT LY ER
Word:                 BANGLES
Score:                (4 * 6) + 8 = 32

Set 6
Cards drawn:          8S 10S 5S JC 6C QS AS 10D
Available letters:    HU JW  ER KX FS LY AN JW
Word:                 WHALE
Score:                ((4 * 4) + 8) * 2 (same suit bonus) = 48


Total score:          28 + 24 + 28 + 20 + 32 + 48 + 32
                       (unused cards bonus)
                      = 212 points
```

An Affordable Portable Homelab

If you're anything like me then you probably love to tinker with Linux things right? Spin up a server, configure it to do something cool, maybe host something at your home for your family to use. It's an expansive world of topics that's as deep or as shallow as you care to delve! At least that's how I think about Home Labbing.

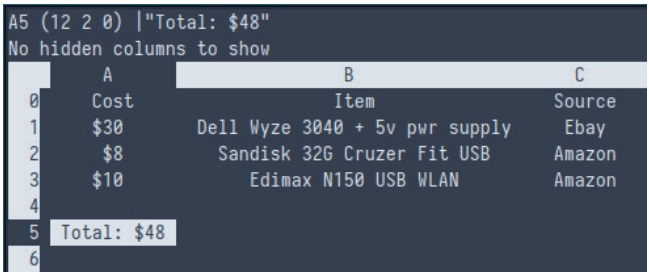
The only real problem is that it can be an awfully expensive hobby to get into. You need a server right? One of those massive noisy jet engine machines with Xeon CPUs and fist fulls of ram, and discs on discs on discs! And you need to fill up an entire server rack with those boxes to really do it right, right? What if we just didn't? It's awfully expensive to purchase all that gear, and the power bill is unfathomably painful. Plus when was the last time you got a 1u server through airport security? "Oh yes Mr. TSA Agent, this Dell R620 is my carry on.", nobody is allowing that, ever.

That's why I've built a tiny, affordable, & portable homelab on a Dell Wyze 3040!

That's right, that tiny box is a homelab! Spec wise it's not particularly impressive, but inclusive of all the little add on parts it's more affordable than a raspberry pi, and has an x86_64 cpu so it ends up being very easy to work with.

```
CPU......: Intel(R) Atom(TM) x5-Z8350  CPU @ 1.44GHz
MEM......: 2G (1.8G usable)
EMMC.....: 8GB
```

The quad core Atom cpu is capable enough to run a light weight headless Linux OS like Alpine, you're just somewhat limited due to the itty bitty amount of ram it has. You also get a full gigabit NIC, and a few USB ports, so it ends up being easy to throw in an external hard drive, or a USB adapter to make up for what it lacks. I use mine as an LXD node (we'll talk a little more about that further down), so I included the cost of an external USB for those containers in my costs, and since I travel there's also a wireless USB adapter too.



I managed to get a really good deal on Ebay for my Wyze, but if you can find one on the lower side you probably only need to worry about purchasing a 5v power supply for it, which can be gotten off of Newegg for about $10. Everything else is just odds and ends you probably already have. And honestly the only piece you truly need is some USB compatible storage to make up for the woefully small EMMC that the system comes with.

Right, enough about that, lets talk about that LXD setup. If you're not familiar with what LXD is, I highly suggest you take a quick jaunt over to Canonical's website where they have a

bunch of detailed documents about it. Since this is a zine and it makes no sense to hyperlink that here I'll just explain it in brief. LXD is an orchestration tool built on top of the LXC container technology. LXC lets you spin up itty bitty Linux containers that share the hosts kernel, but are isolated from the rest of the system. Using this you spin up little Linux systems, configure them however you want, and then destroy them when you're done, or keep them around for hosting. That's kind of the ethos of homelabbing in my mind, you try something hands on, if you mess it up you throw it away and start over. What you do when it succeeds is kind of a personal choice. Perhaps you leave whatever you built running, or document the process for a personal/public wiki, or you could be like me and automate every little experiment with Ansible or something. The world is your oyster! And that oyster fits inside of your carry on!

Setup LXD on Alpine

Here's a little script I wrote to setup LXD on an Alpine system. It's just a base, but it's good enough to go from the initial installation directly to using LXD.

```
#!/bin/ash
#Setup clusterable lxd on alpine linux
ymdhms=$(date +%Y-%m-%d_%H:%M:%S)

install_apks() {
        printf "Install apks..\n"
        apk update
        apk add linux-lts-dev lxd-feature lxc lxc-lvm lxcfs
bridge lxc-templates lxc-download xz gnupg rsync debootstrap
grep zfs zfs-lts zfs-scripts zfs-libs zfs-udev eudev eudev-
hwids hwdata dbus shadow util-linux util-linux-misc coreutils
iproute2 findutils usbutils pciutils sysfsutils gawk procps
grep binutils wget curl syslog-ng acpid awall haveged logrotate
qemu qemu-img qemu-tools qemu-system-x86_64 qemu-ui-spice-core
qemu-chardev-spice qemu-audio-spice qemu-ui-spice-app qemu-hw-
usb-host qemu-hw-usb-redirect qemu-hw-display-virtio-gpu qemu-
```

```
hw-display-virtio-vga libvirt ovmf swtpm distrobuilder
distrobuilder-lxd make go git zram-init iptables ip6tables
aufs-util e2fsprogs fennel lshw lua5.3-libs mosh openssl sudo
tmux
}

setup_lxc() {
        printf "overlay\nip_tablesexifuse\n" | tee -a /etc/
modules
        modprobe overlay ip_tables fuse

        if [ -f /etc/lxc/default.conf ]; then
                printf "Previous lxc config moved to /etc/lxc/
default.conf.bak-$ymdhms\n"
                mv /etc/lxc/default.conf /etc/lxc/
default.conf.bak-$ymdhms
        fi

        if [ -f /etc/conf.d/lxc ]; then
                printf "Previous lxc generic configuration moved
to /etc/conf.d/lxc.bak-$ymdhms\n"
                mv /etc/conf.d/lxc /etc/conf.d/lxc.bak-$ymdhms
        fi

        #This allows for unprivileged docker container execution
in the lxc containers
        printf "lxc.idmap = u 0 1000000 65536
lxc.idmap = g 0 1000000 65536
lxc.cgroup.devices.allow = a
lxc.mount.auto = sys
lxc.cap.drop =
security.nesting = true\n" > /etc/lxc/default.conf

        printf '# Configuration for /etc/init.d/lxc[.*]

# Enable cgroup for systemd-based containers.
systemd_container=yes

# autostart groups (comma separated)
#lxc_group="onboot"
```

```
# Directory for container logs (used for symlinked runscripts
lxc.*).
logdir="/var/log/lxc"' > /etc/conf.d/lxc
}

unprivilege() {
        if [ -d /etc/subuid ]; then
                touch /etc/subuid
        fi

        if [ -d /etc/subgid ]; then
                touch /etc/subgid
        fi

        sugid="root:1000000:65536"

        if grep -q $sugid /etc/subuid; then
                printf "subuid exists, skipping...\n"
        else
                printf "$sugid\n" | tee -a /etc/subuid
        fi

        if grep -q $sugid /etc/subgid; then
                printf "subgid eists, skipping...\n"
        else
                printf "$sugid\n" | tee -a /etc/subgid
        fi

        #Enable cgfs in pam
        printf "session optional pam_cgfs.so -c
freezer,memory,name=systemd,unified\n" | tee -a /etc/pam.d/
system-login
}

set_services() {
        for service in cgroups lxd lxc lxcfs dbus zram-init; do
                rc-update add $service default
        done
```

```
        for service in dbus cgroups lxd lxcfs; do
                rc-service $service start
        done
}

examples() {
        printf "
================================================
Getting Started:
lxd init

Launch a container:
lxc launch images:alpine/edge containername

Restrict Memory, CPU, etc:
lxc set containername limits.memory 100MB
lxc set containername limits.cpu 1
lxc config device override containername size=2GB

Jump into a container:
lxc exec containername /bin/ash

Move files between host & container:
lxc file push /path/on/host containername/path/in/container
lxc file pull containername/path/in/container /path/on/host

Nestable containers:
-> On the lxc host
lxc config set containername security.nesting=1
-> Inside the container
apk add fuse-overlayfs
printf '{ \"storage-driver\": \"fuse-overlayfs\"}' > /etc/
docker/daemon.json
for service in cgroups cgroup-patch docker do;
        rc-update add $service default
done

Privileged containers:
lxc config set containername security.privileged=1
```

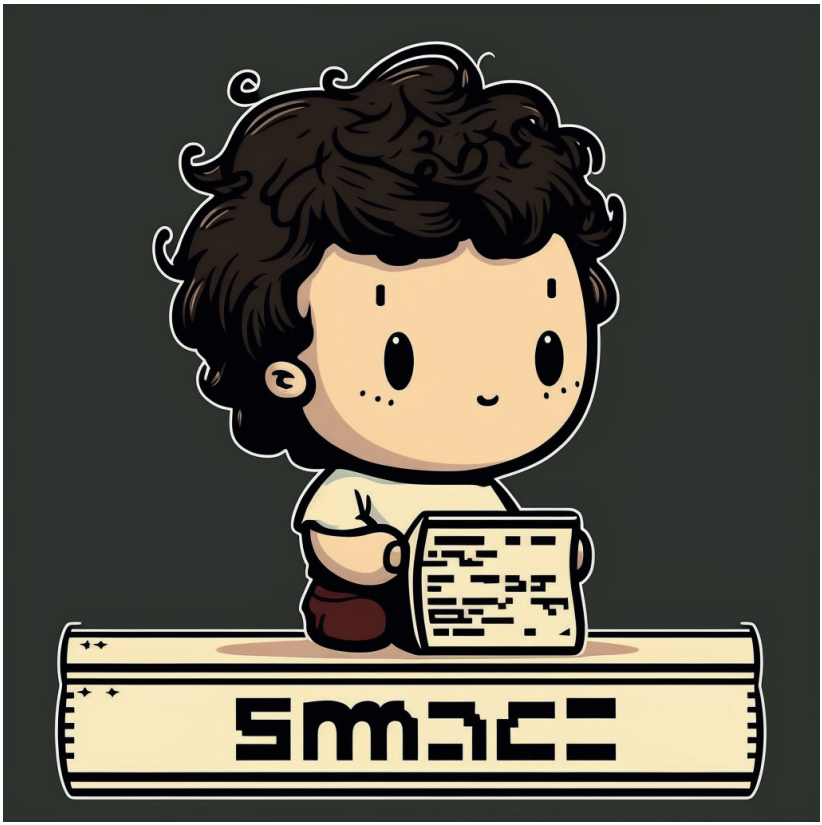
```
================================================\n"
}

install_apks
unprivilege
setup_lxc
set_services
examples
```

Really the only thing left for you to do to take one of these nifty little boxes and get yourself an itty bitty container lab, is to run through the LXD init process. It's fairly self explanatory, but make sure that you pass it the full name of your USB thumb drive when your setup your ZFS pool. To do that all you need to do is run fdisk -l, find the USB device in the output, and then pass the /dev/sdx name to the lxd pool argument. Everything else you can setup as defaults!

Have fun tinkering townies!

Standard Emacs



Standard Vim

"Ed is the standard text editor."