

The Comprehensive Guide to

PACK MENTALITY



By Adrian Frichitthavong

A phone-controlled, real-time multiplayer art installation where a crowd opens gacha packs to populate and inhabit a living, projected world.

TEAMS POSTS:

[Week 5: TAMAC1DE]

[Week 6: Road Bumps]

[Week 7: Environment Final Reskin]

[Week 8: Pack Updates]

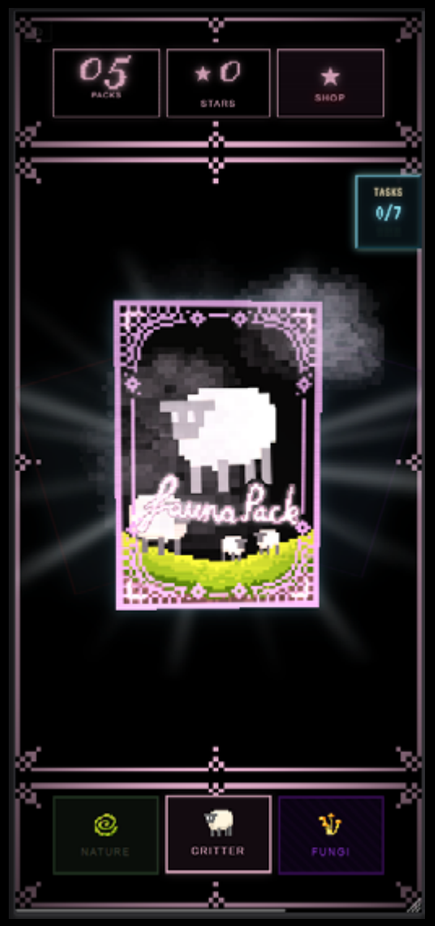
[Week 9: Two-Phase System]

[Week 10: Pack Mechanics]

[Week 11: Pack Mentality]



PLAYTEST VID LINK: https://youtu.be/5fYNkQwJM9Q



DESIGN ITERATIONS

same tech stack, different veils

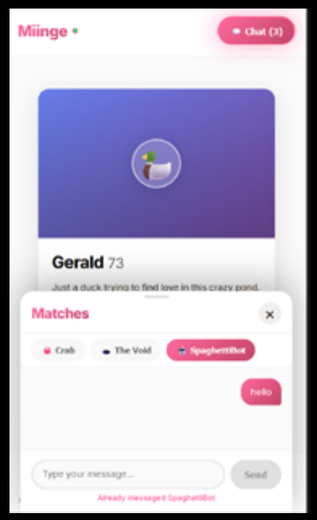


PRE-STUDIO 3

- created foundations of tech stack in CPS.

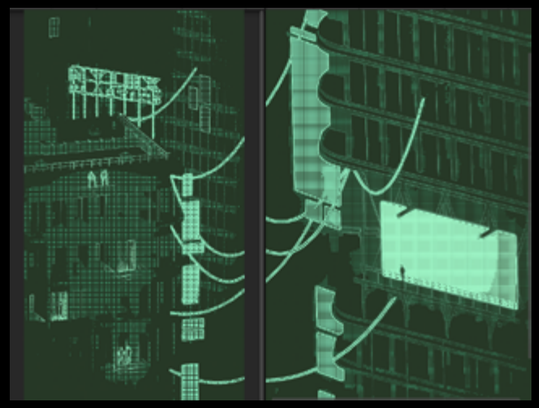
- commissioned to do a piece at Abbotsford Convent.

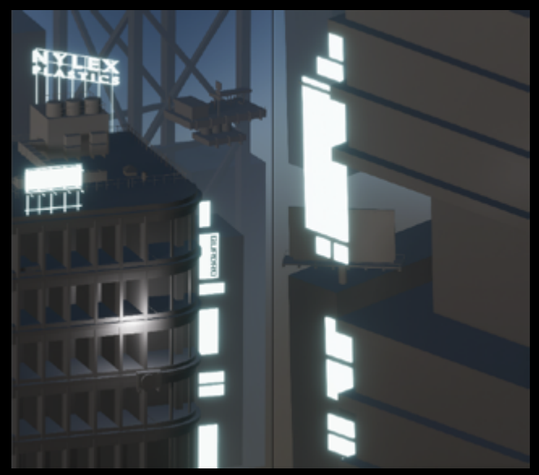
- first documented stress test. (2/11/25)





- use of websocket, back-end server to connect to Unity.







SEM START

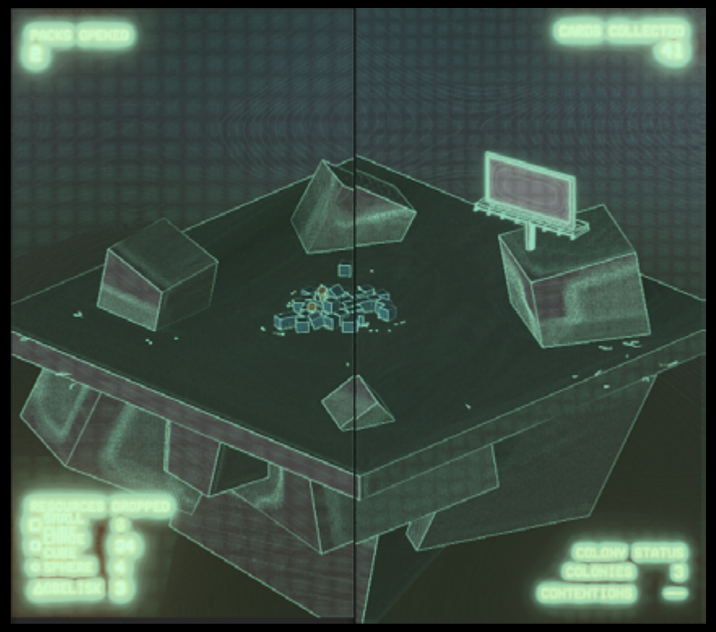
- creation of new environment (veil).

- wanted to focus more on narrative story-telling but was struggling to anchor anything compelling.

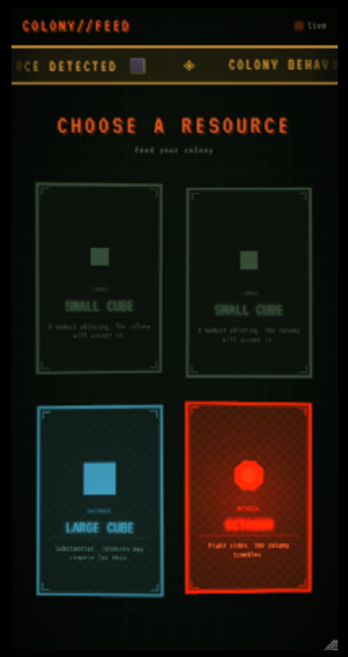
- was able to stress test a version of the tech stack outdoors

WEEK 4

- environment overhaul, wanted to go back to the npc-style interactions, Ant colonies weren't quite cutting it in terms of impact.





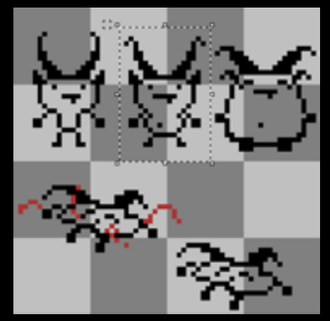


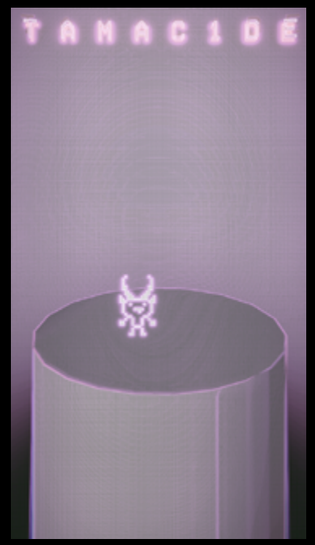
- Phone website established, was going to focus on gacha games, like pack opening, TCG style games which we're predatory in nature in terms of making soft-gambling even more accessible.

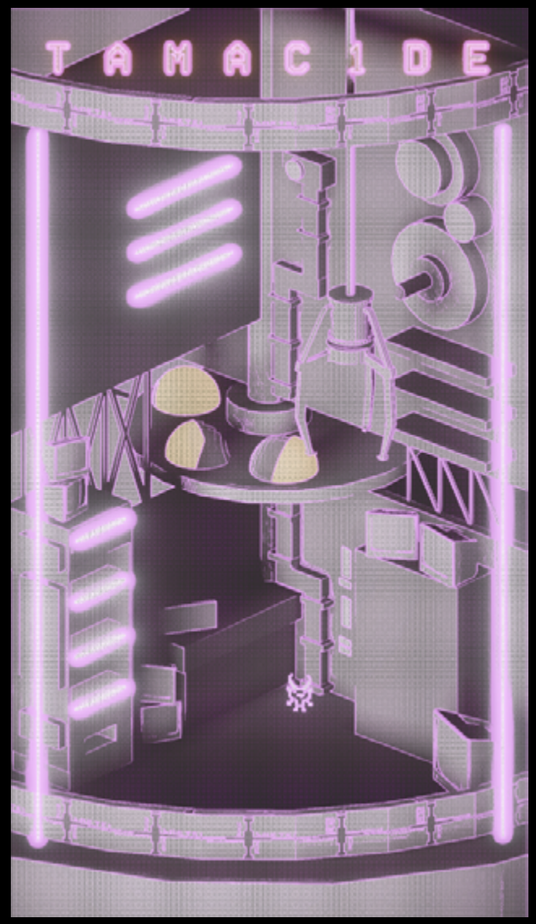
WEEK 5 to 6

TAMACIDE was created in response to the player "not having an impact" on what they're interacting with.

From colony to character





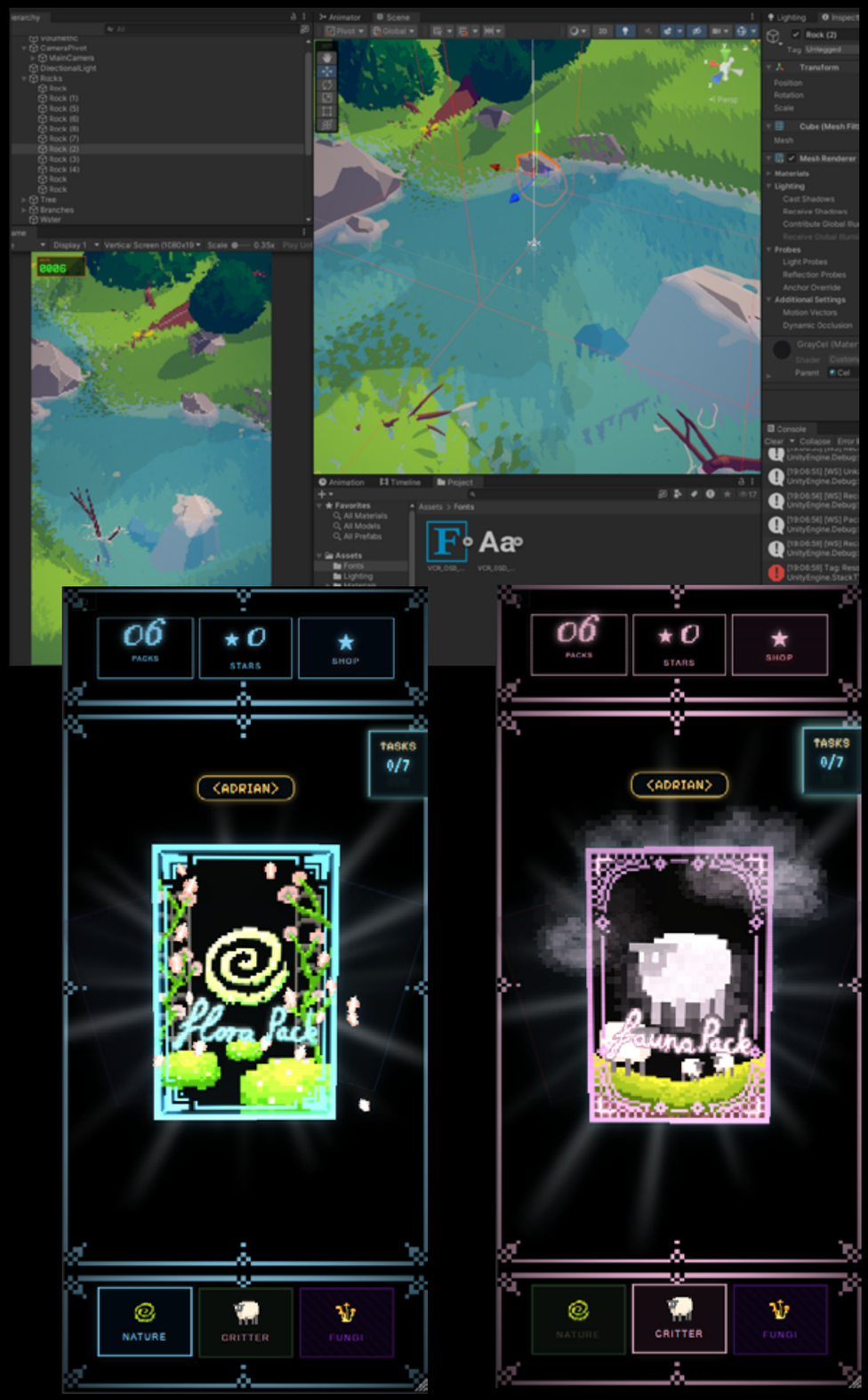


This is where I started leaning into more of the pixel-art style. I had been using pre-made assets until now, and creating these sprites felt like my creative agency was being restored in the project

This was where the idea of the environment being impacted simultaneously was implemented.

FINAL ITERATION

we got there, in week 7.



WEEK 7

Marks the real starting point of development. Once the environment and conceptual staging was established, the web app soon followed in the following weeks.

What was rewarding about this experience was when we found a common ground between unity and web. Before creating these packs there wasn't a real incentive to engage with the web app.

three.js packs means you can spin/rotate these around for a protruding layered effect with particles

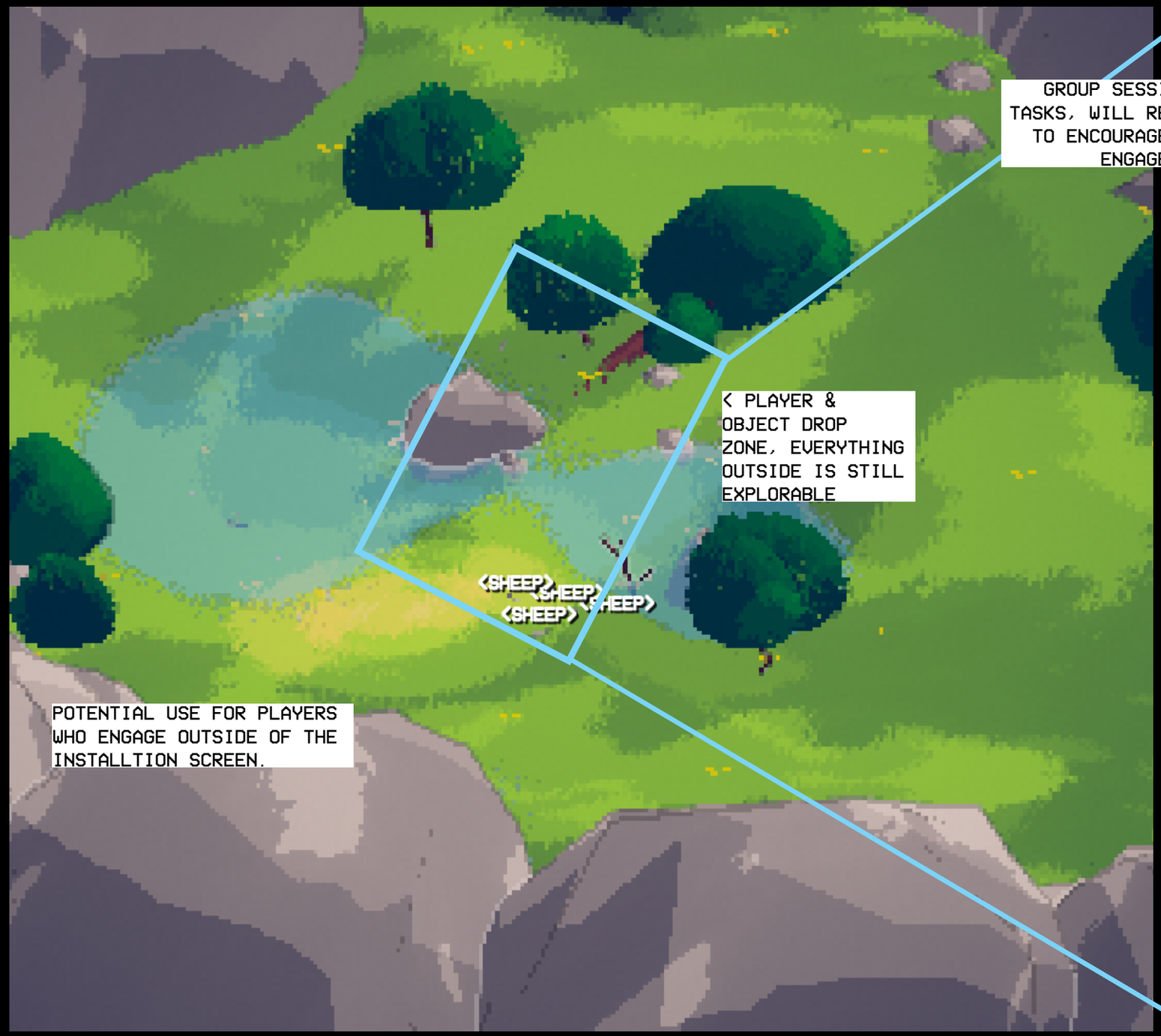


A WebRTC stream is sent to the user's phone that streams a camera from within the envrionment.(players are controlling the critters on their phone and moving around in the environment which you can also see on the installation screen).



Similarly, placing wildflowers activates a joystick that allows players to place it on the installation screen. with real-time object tracker mini-map

UNITY ENVIRONMENT & UI



POTENTIAL USE FOR PLAYERS WHO ENGAGE OUTSIDE OF THE INSTALLTION SCREEN.

GROUP SESSION > TASKS, WILL REVAMP TO ENCOURAGE P2P ENGAGEMENT



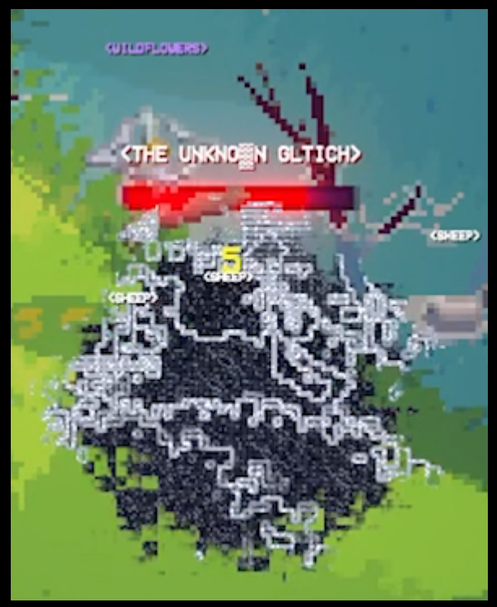
ONBOARDING QR > CODE, THE FIRST STAGE OF PLAYER INTERACTION.

LIVE EVENT LOG FOR EXTRA MAIN SCREEN ENGAGEMENT >

NPC'S OF PACK MENTALITY

(so far)

ENEMIES



The first implementation of action engagement in the installation. This event triggers when a user reaches the second phase (more on that later).

Player's are able to deal damage to this boss using their interactions. A sheep's bite, a duck's flap or placing objects around the boss will all do damage.



Smaller enemies, usually able to be taken down within one damage blow.

The only second-phase inhabitable NPC, called Blind Box. You can't actually see in it's POV. But you can see where you're going on the installation screen.



Mechanics: open up to spawn 3 smaller enemy npc's making it harder for phase 1 people to survive.

FRIENDLIES











All of the established first-phase NPCs so far, they all vary in rarity, the rarer they are, the more intricate their mechanics are.

USER FRONT-END

developed on iOS, WIP optimisation for Android)



< PACKS, STARS AND SHOP ICONS (REMAINED FROM PREV. ITERATION)

< TASK ONBOARDING, INCENTIVE TO OPEN PACKS AND CONTRIBUTE TO ENVIRONMENT

THREE.JS > INTERACTIVE CARD OPEN SYSTEM. (CLICK TO OPEN)

SIMPLE > WEB DOMAIN , EASY TO REMEMBER + IS INSTALLATION TITLE.

< PACK CATEGORIES, TO KEEP GAMEPLAY INTERESTING. PRIMARY LEVEL OF INTERACTION.









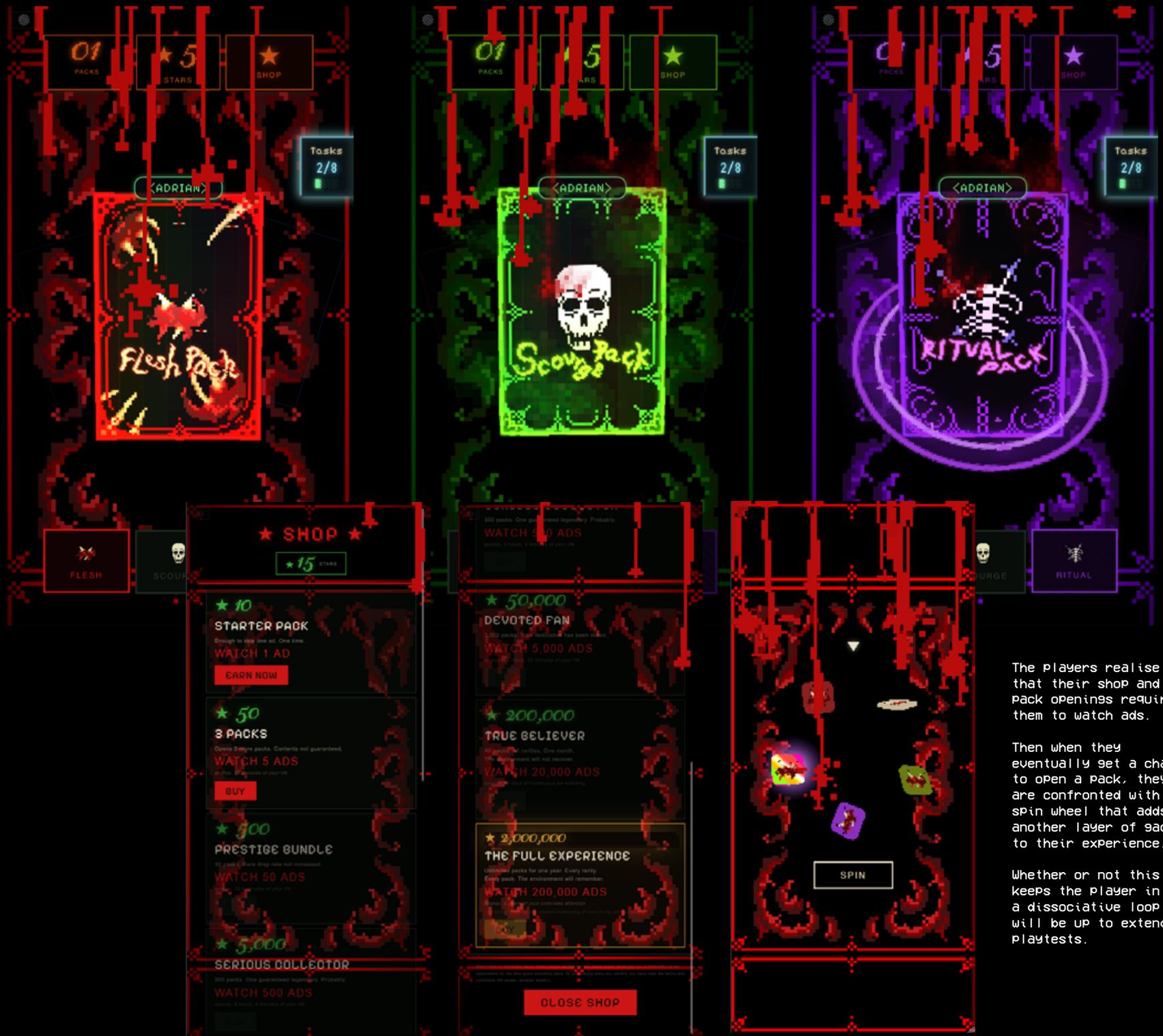
SECOND PHASE UI

still in heavy development as we speak, probably

this is the event trigger that happens when a player pulls exactly 15 packs, a player entering this phase will also trigger a boss event in the Unity environment.

The concept goes: that the first phase of the game, players are introduced to good UX patterns in games, free rewards, generous shop items & incentives “seduce” the player to keep in the loop.

Eventually, the script flips. Suddemtly the UX patterns turn dark, more extractive and predatory.



As a feature, you can wipe and smear the blood around the screen.

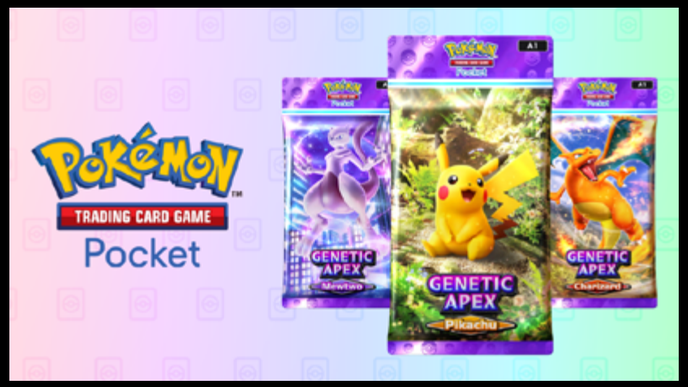
The players realise that their shop and pack openings require them to watch ads.

Then when they eventually get a chance to open a pack, they are confronted with a spin wheel that adds another layer of gacha to their experience.

Whether or not this keeps the player in a dissociative loop will be up to extended playtests.

REFERENCES & STYLING

Pokemon TCG Pocket (2024)



Pokemon TCG Pocket, is a kid's gambling game. It's what kickstarted this project, meant to parody it's mechanics.

Jackbox.tv (2014)



jackbox.tv uses a website for their game interactions. It is mainly a UI controller rather than a game experience in itself.

A lot of the first phase UI adopt elements from Animal Crossing to mimic "friendly" UI.



Animal Crossing: New Horizons (2020)



World of Warcraft's dungeon system and social aspect inspired PACK MENTALITY's gameplay. It adopts bosses' phase mechanics and damage system.

World of Warcraft (2004)



Balatro's pack opening sequence and mechanic inspired the pack system in PACK MENTALITY.

Balatro (2024)



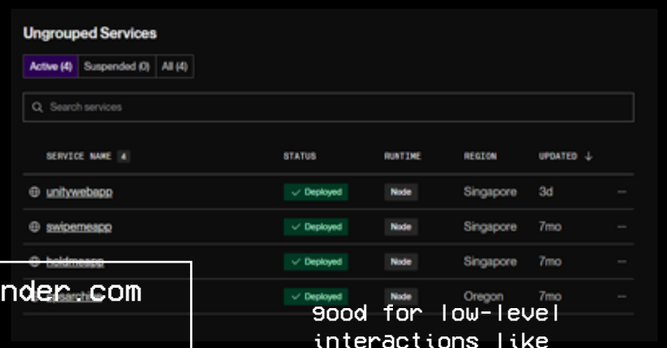
Princess Mononoke's monster design (Tatari Gami) inspired the glitch shader present in PACK MENTALITY's enemy npc boss.

Princess Mononoke (1997)

BACK-END STACK

(if anyone is interested)

PHONE > UNITY
(needed re-
al-time link)



PHASE 1 - render.com

node websocket to
relay on Render
wss://unitywebapp.
onrender.com

good for low-level
interactions like
spawning objects in
Unity via web.

Pros: free domain

Render free server
instances in
SINGAPORT. -150ms
RTT. Interactions
felt laggy and
rubber-banded

FIX: self-host to
closer region

PHASE 2 - DigitalOcean Droplet

- Ubuntu droplet in the Sydney
region (back-end 24/7 server).
- SSH + Node.js + PM2 stack
+ firewall 80/443 (required
components needed to run server)



Browsers require a
secure WSS. But WSS
needs a domain +
certificate.

DECISION: get a free
hostname from DuckDNS

PHASE 3 - Dynamic DNS

DuckDNS dynamic
DNS packmentality.
duckdns.org (free
certificate & domain)

PROBLEM: Worked at home but
failed on RMIT uni wifi.

The campus DNS wouldn't
resolve the duckdns
subdomain at the
installation site

DECISION: Buy a real domain

REAL DOMAIN:
packmentality.cc

Caddy auto-TLS

established backend wss
with onrender as backup.

ESTABLISHED BACK-END





PHONE USERS

Players, on Phone network or venue wi-fi

web app front-end, onboarded via QR code in environment

Interactions: Joystick, Cards, Name Tags, WebRTC Stream

wss://packmentality.cc

ALWAYS ON:

DigitalOcean droplet, 209.38.22.49, Sydney

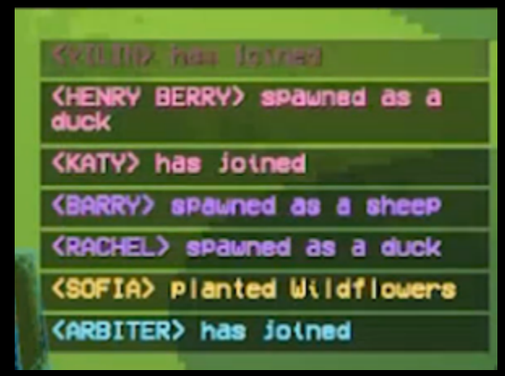
Caddy auto-TLS reverse proxy packmentality.cc:443

broadcast / relay

VENUE DEPENDENT

Installation, Projector or Screen

Unity environment, WS_Client.cs, spawns objects, Player lists and QR, Chat Logs.



What this means for dissemination:

- Scalable server architecture, if a venue requires more player interactions then the venue will fund server costs.

- Flexible and minimal setup required. All you need is a network, PC and screen to run the project.

- potential “take home” elements. Maybe not as it defeats the purpose of the concept but good to think about. This element is malleable

Website will persist even without installation.

SOUND PLAN

System	Event	C# Trigger	Character / Brief	Done?
Card Pulls & Spawns	Object spawn – pristine	PlaySpawnSound (nature/critter/fungi)	Bright organic pop	YES
Card Pulls & Spawns	Object spawn – horror	PlaySpawnSound (flesh/scourge/ritual)	Wet, low rumble	YES
Card Pulls & Spawns	Plant grow from soil	PlantObject → GrowIn (0.9 s scale-up)	Earth crackle + rising rustle	
Card Pulls & Spawns	Nature triad (×3 seeds)	SpawnNatureTriad, staggered	Triple seed scatter + soft thuds	
Card Pulls & Spawns	Falling leaf spawn	SpawnLeaf drop path	Air whoosh → soft leaf land	
Card Pulls & Spawns	Duck drop onto water	SpawnDuck at water	Splash + quack hint	
Card Pulls & Spawns	Fox drop onto ground	SpawnFox from dropHeight	Thud + skitter	
Card Pulls & Spawns	Seagull air spawn	SpawnSeagull (+5 m Y)	Wing flap + cry	
Card Pulls & Spawns	Blind Box spawn	SpawnBlindBox / rare flesh pull	Hollow cube settle, milky rattle	
Card Pulls & Spawns	Boss spawn	FleshBoss.Spawn + chat critical	Deep sub-bass manifest + glitch sting	
Card Pulls & Spawns	Fleshling spawn	Horror uncommon/rare paths	Small wet birth pop	
Card Pulls & Spawns	Emerald Serpent spawn	SpawnEmeraldSerpent + chat critical	Prismatic shimmer + long ascending tone	
Card Pulls & Spawns	God-pack queued	spawn_godpack	Ominous fanfare + slot-machine cascade	
Card Pulls & Spawns	Fungi triad (×3 spore puffs)	SpawnFungiTriad	Dry puff / spore release ×3	
Card Pulls & Spawns	Scourge triad (×3 tendrils)	SpawnScourgeTriad	Sick squelch cluster	
Card Pulls & Spawns	Ritual triad (×3 shards)	SpawnRitualTriad	Glassy curse chime ×3	
Card Pulls & Spawns	Placeholder / unknown card	SpawnPlaceholderBox	Muted error thud	
Placement	Placement granted	StartPlacement → placement_granted	Soft modal open + nature hum	
Placement	Placement denied	placement_denied (busy)	UI buzz / deny	
Placement	Preview drag	_moveInput while active	Low carrying rustle	
Placement	Floor halo appears	CreateHalo CommandBuffer ring	Ethereal zone hum at feet	
Placement	Placement confirm (PLACE tap)	ConfirmPlacement	Commit stamp	
Placement	Plop drop + squash landing	PlopAnimation ease-in + sin squish	Soft thud → rubbery squash	
Placement	Petal burst + shockwave ring	PlayPlacementBurst / ExpandingRing	Bright floral pop + ring whoosh	
Placement	Purification pulse ring	CleansePulseRoutine (~0.7 s)	Rising green chime + particle shimmer	
Placement	Auto-place on timeout	_timer ≤ 0 → ConfirmPlacement	Same as confirm + soft urgency tick	
Placement	Placement done (modal close)	placement_done	UI close + settle	
Sheep Possession	Possession start on critter	BeginPossession	Ethereal 'inhabit' + cyan shimmer	
Sheep Possession	Possession end / release	EndPossession	Release whoosh	
Sheep Possession	Movement (possessed)	DoPossessed accel/decel	Hoof scuff + grass, speed-modulated	
Sheep Possession	Swimming (possessed)	SnapToSurface + water flag	Gentle water lap	
Sheep Possession	EAT button – initial burst	TryEat → SpawnEatParticles	Chunky munch burst	
Sheep Possession	Chew particles during eat	EatAnimation interval puffs	Rhythmic nibble (Minecraft-style)	
Sheep Possession	Eat nature resource	EatAnimation + Destroy	Crunch + swallow	
Sheep Possession	Horror eat escalation	ApplyPossessionAggression per eat	Rising heartbeat / strain, one per eat	
Sheep Possession	Pre-explosion swell	ExplodeRoutine first 0.32 s	Strained inflate, muffled	
Sheep Possession	Sheep explosion	Blood pixel burst + sheep_exploded	Wet pop + splatter	
Sheep Possession	Mood shift (calm → agitated → aggress	UpdateMood	Layered tension sting per tier	
Sheep Possession	Oil drip while NPC eats horror garbage	WaterDirtiness.RegisterImpact every 1.8 s	Oily plop	
Duck Possession	Duck possession start / end	BeginPossession / EndPossession	Splash tint + quack hint	
Duck Possession	Swim move	FixedUpdate horizontal lerp	Paddle / ripple	
Duck Possession	Float descent between flaps	possessGravity	Gentle sink bubble	
Duck Possession	FLAP tap	TryFlap → velocity snap	Sharp wing slap + water drip	
Duck Possession	Wing down/up stroke animation	WingFlapAnim	Two-phase flap	
Duck Possession	Feather burst on flap	SpawnFeathers	Light flutter scatter	

Duck Possession	Flap shockwave damage	DamageNearbyHorror	Low thump under boss/fleshling	
Blind Box Possession	Box spawn idle	Init → blind_box_spawned	Cube settle, faint eye squeak	
Blind Box Possession	Other clients locked out	box_locked broadcast	UI dismiss thud (web-side)	
Blind Box Possession	Rolling on ground (possessed)	AddForce + torque	Heavy cardboard roll	
Blind Box Possession	Brake (stick centered)	brakeDrag applied	Scrape stop	
Blind Box Possession	Enter water	HandleWater _inWater = true	Splash + muffled bob	
Blind Box Possession	Autonomous wander drift	Post-session roll toward target	Slow, eerie cube drift	
Blind Box Possession	Wander idle pause	StartWanderIdle	Creaking stillness	
Blind Box Possession	Lid open (release glitchlings)	LidAnimRoutine to −108°	Creaky hinge + lid slap	
Blind Box Possession	Glitchling ghost fountain launch	GhostRoutine staggered ×3	Wet squirt + arc whistle ×3	
Blind Box Possession	Ghost converts to Fleshling	SpawnGhostBurst + Fleshling.Spawn	Pop + birth squelch	
Blind Box Possession	Lid close	LidAnimRoutine back to 0°	Slower hinge thud	
Blind Box Possession	Box hit / HP loss	TakeDamage + particles	Pale flesh thud	
Blind Box Possession	Box death burst	DieRoutine 28 cubes	Shatter + wet chunks	
Flesh Boss	Boss spawn manifest	Start → boss_spawned, chat critical	Manifest roar + glitch tear	
Flesh Boss	Body pulse idle	Orb scale sine in Update	Wet heartbeat / breathing	
Flesh Boss	Hunt / wander drift	DoWander / chase toward target	Slow sliding meat drag	
Flesh Boss	Consume resource	Consume + 10 dark cubes	Wet gulp + dissolve spray	
Flesh Boss	Glitch trail scar	TriggerGlitch every 0.5 s while moving	ASCII/static tear bloom	
Flesh Boss	Boss take damage	TakeDamage + flash + boss_damaged	Meat slap + white flash crack	
Flesh Boss	Phase 2 (HP ≤50%)	boss_phase|2	Tempo up, strained harmonic	
Flesh Boss	Phase 3 glitch-hop (HP ≤15%)	boss_phase|3	Reality tear scream	
Flesh Boss	Glitch hop teleport depart	GlitchHopRoutine white-out	Digital snap + tear	
Flesh Boss	Glitch hop teleport arrive	Teleport + red burst	Impact squelch + scatter	
Flesh Boss	Boss slain	DieRoutine 50 cubes + cleanse	Massive wet explosion + relief wash	
Flesh Boss	Death world cleanse (30 m radius)	GlitchManager/WaterDirtiness on boss death	Wide purification swell	
Fleshlings	Fleshling spawn	Fleshling.Spawn	Small glitch birth pop	
Fleshlings	Body pulse twitch	ApplyPulse sin scale	Fast twitchy throb	
Fleshlings	Hunt stalk movement	huntSpeed toward prey	Slither / shuffle	
Fleshlings	Consume nature object	ConsumeTarget mini burst	Wet bite + glitch pop	
Fleshlings	Fleshling hit / death	TakeDamage / DieRoutine 24 cubes	Soft meat chip → pop + fizzle	
Environmental — Water	Object enters water (first splash)	Buoyancy _inWater + RegisterImpact	Splash + muddy bloom	
Environmental — Water	Dirty zone active (pollution spreading)	Update radius → maxRadius	Low underwater gurgle per zone	
Environmental — Water	Pollution zone merge	RegisterImpact merge branch	Extra bloop	
Environmental — Water	Water cleanse	WaterDirtiness.Cleanse → intensity 0	Clear sparkle + drain	
Environmental — Glitch	New reality tear spawns	TriggerGlitch ring expand	Digital tear + ASCII hiss	
Environmental — Glitch	Settled glitch zone hold	After ring done, until cleansed	Low static bed	
Environmental — Glitch	Glitch zone cleanse fade	cleansing flag → intensity 0	Purifying reverse-static + fizzle	
Environmental — Glitch	Boss tracker aura	TrackTransform (follows boss)	Corruption drone	
Fungi	Fungi poison burst on eat	OnEaten + SpawnPoisonBurst	Toxic pop + green shards	
Fungi	Spore cloud activate	TrySporeCloud → fungi_spore_activated	Hiss + billowing gas	
Fungi	Spore cloud active (20 s, tick damage)	SporeCloudRoutine	Toxic ambience + periodic tick thumps	
Fungi	Spore ground ring expand	SporeRingRoutine	Gas ring whoosh	
Fungi	Spore on cooldown	fungi_spore_cooldown	UI deny drip	
Fungi	Mushroom destroyed	fungi_destroyed	Wither pop	
Wild Creatures	Fox pounce launch	RedFoxController.TryPounce claw swipe	Air rake whoosh	

Wild Creatures	Fox pounce land + AOE	SpawnDustBurst + damage	Heavy thud + dust burst	
Wild Creatures	Seagull wing flap / glide	AnimateWings	Wing beats vs glide wind	
Wild Creatures	Seagull dive impact	TryDive → DamageBelow arc midpoint	Kamikaze screech + impact	
Wild Creatures	Serpent BLOOM attack	TryBloom + BloomBurst + cleanse	Prismatic petal explosion	
Wild Creatures	Serpent contact damage	ContactDamage (cooldown per target)	Electric scrape	
Wild Creatures	Serpent fly-away on session end	UpdateFlyOff	Ascending shimmer + fade	
Ambient & Passive	Wildflower wind sway	WildflowerSway sin pitch/roll (per-plant)	Light leaf rustle, per-plant phase offset	
Ambient & Passive	Wildflower petal glow	PaintBloom emission on bloom geometry	Optional faint shimmer resonance	
Ambient & Passive	Player join	set_name → chat announce	Social ping	
Ambient & Passive	Possession pixel-V indicator bob	Indicator bob + billboard Update	Very subtle hover hum (optional)	

PRIORITY MAP
SEM 2, 2026

HIGH PRIORITY

- Sound effects collection established

- Second Phase (rupture moment) consolidated.

- Gameplay loop, consolidated.

- Make rupture moment really obvious.

- Establish all visual, aesthetic elements

MEDIUM PRIORITY

- Take to exhibitions to keep stress-testing and iterating + gathering reserach.

- Technical capabilites pushed, can we have more than 15+ players at the same time, running smooth latency?

LOW PRIORITY (FOR NOW)

- Open up collaborative channel work, 3D asset creation, visuals, theme, marketing etc.

- Seek funding, maybe even earlier, to hire creatives for collaboration.

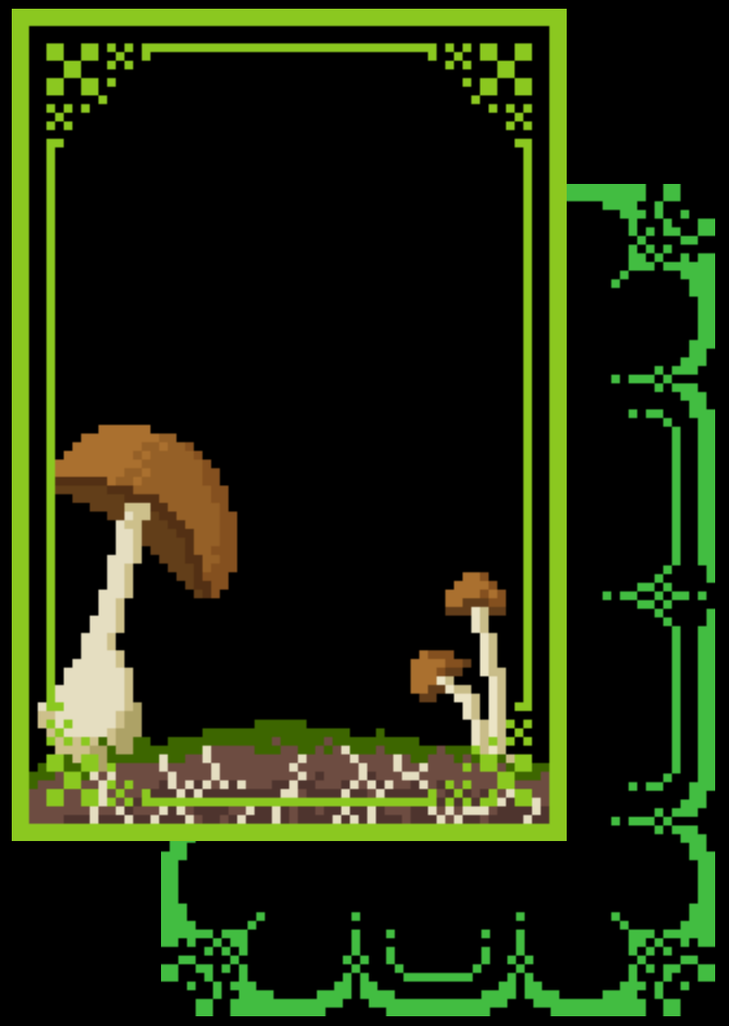
- Work on this for the forseeable future or start a new series using Web + Unity.

ESTABLISHED ASSETS



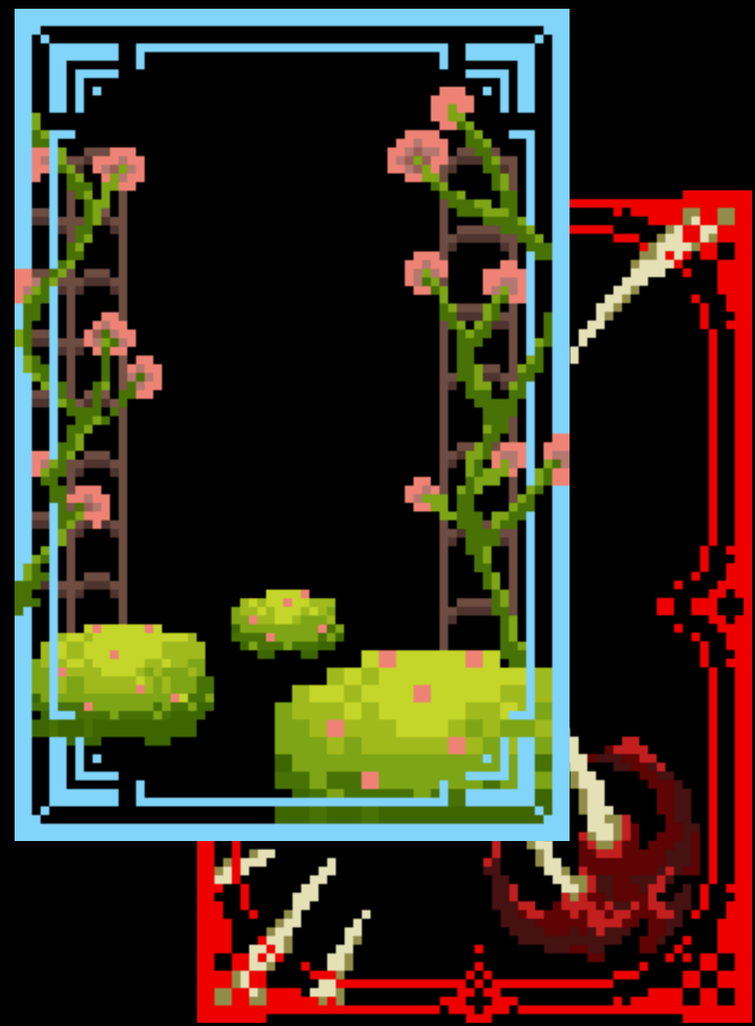
Fauna Pack

RITUAL PACK



Fungi Pack

Scourge Pack



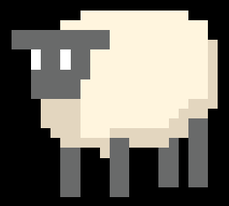
Flora Pack

Flesh Pack

SPRITE DESIGN

CARD SPRITES

All handcrafted sprites in Aseprite. I would be making pixel-art on my down-time.





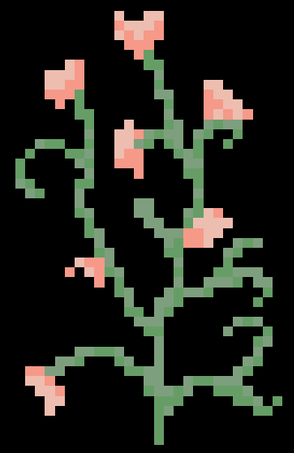








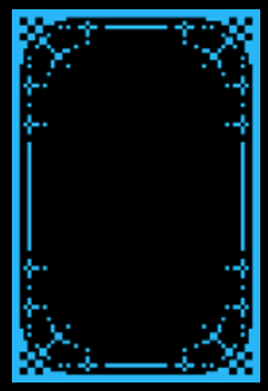


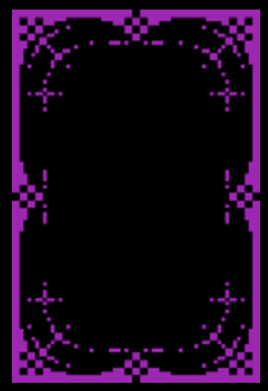


I plan to make these assets even more cohesive in due time. IOL will facilitate that.

CARD BORDERS



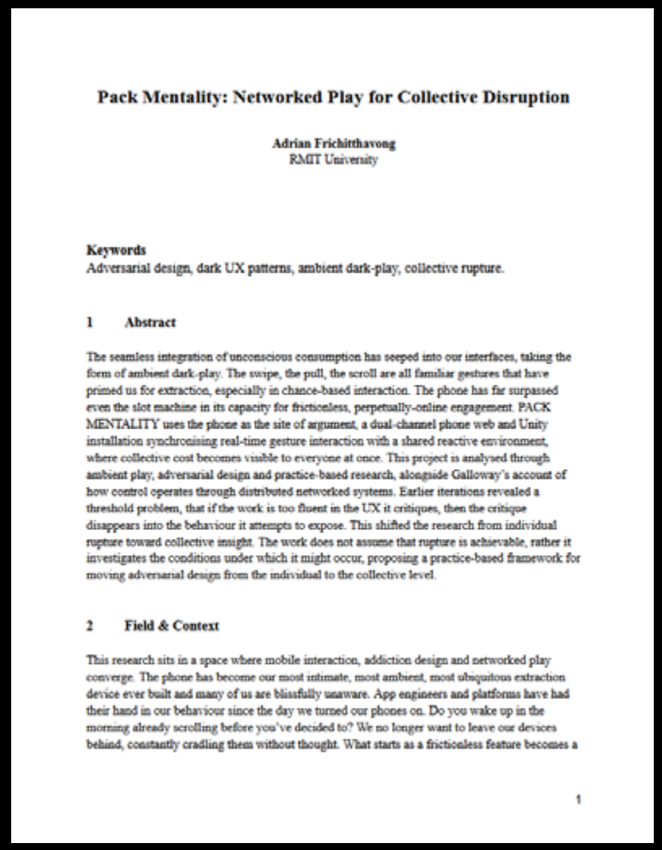




FONTS USED:

PIXELIFY SANS
VCR OSD MONO

HAND IN HAND W/ RESEARCH METHODS & FINAL THOUGHTS



Pack Mentality: Networked Play for Collective Disruption

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Keywords
Adversarial design, dark UX patterns, ambient dark-play, collective rupture.

1 Abstract

The seamless integration of unconscious consumption has seeped into our interfaces, taking the form of ambient dark-play. The swipe, the pull, the scroll are all familiar gestures that have primed us for extraction, especially in chance-based interaction. The phone has far surpassed even the slot machine in its capacity for frictionless, perpetually-online engagement. PACK MENTALITY uses the phone as the site of argument, a dual-channel phone web and Unity installation synchronising real-time gesture interaction with a shared reactive environment, where collective cost becomes visible to everyone at once. This project is analysed through ambient play, adversarial design and practice-based research, alongside Galloway's account of how control operates through distributed networked systems. Earlier iterations revealed a threshold problem, that if the work is too fluent in the UX it critiques, then the critique disappears into the behaviour it attempts to expose. This shifted the research from individual rupture toward collective insight. The work does not assume that rupture is achievable, rather it investigates the conditions under which it might occur, proposing a practice-based framework for moving adversarial design from the individual to the collective level.

2 Field & Context

This research sits in a space where mobile interaction, addiction design and networked play converge. The phone has become our most intimate, most ambient, most ubiquitous extraction device ever built and many of us are blissfully unaware. App engineers and platforms have had their hand in our behaviour since the day we turned our phones on. Do you wake up in the morning already scrolling before you've decided to? We no longer want to leave our devices behind, constantly cradling them without thought. What starts as a frictionless feature becomes a

Some serious, academic thought has been put behind this project and as a way to use this project as a means of research. The question has shifted from whether individual rupture can be felt to whether networked protocol play and shared experience can rupture hijacked habitual gesturial behaviour instead. This paper highlights recent findings through playtests using PACK MENTALITY as a method.

DISSEMINATION EFFORTS:

This all leads to the end of year MAGI exhibition which provides the ideal incubation conditions for large-scale multiplayer. Right now the lobby is capped at 6 players. I plan to expand that, pushing the server to it's ideal latency limit.

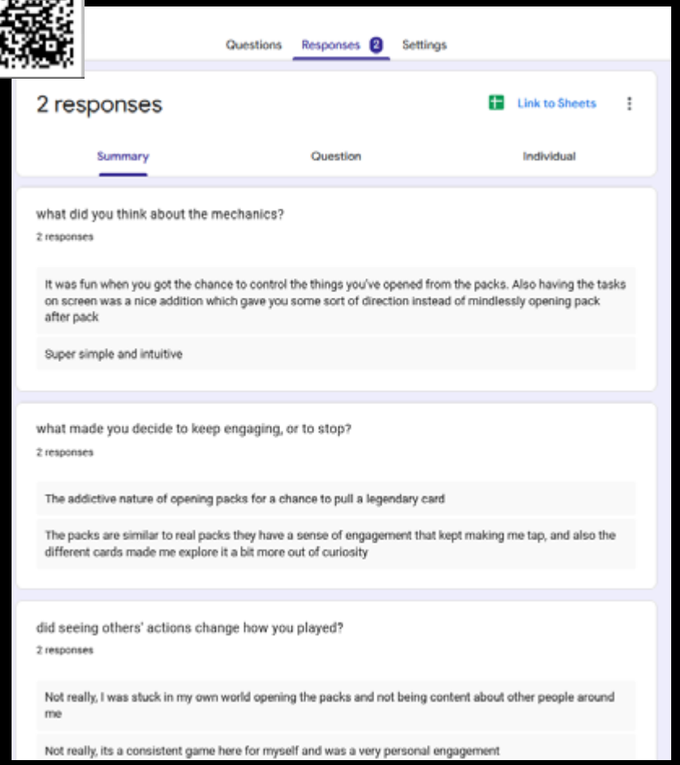
LAST SEM AT MAGI:

Because I withheld IOL until next sem. I am able to continue to develop actual artistic assets to further refine it's style instead of borrowing assets from other artists.

Stress tests and playtesting sessions will be abundant. Finding the balance between what keeps the player engaged, what fulfills a multiplayer session and observing certain behaviours such as why gacha pulls and unpredictable gameplay keep a player engaged rather than a fixed reward-based one.

Feedback

FEEDBACK FOCUSED PLAYTESTS



Thank you mentors!