**Design Document**

**Enemies**

* Soldier
* Sword guy
* Slow bullet guy
* Heavy soldier
* Fast dashy melee guy – 3 swings dash attack, dosh dash, fire 2x2, maintain certain distance, fast move speed: attack chance every 120, defensive every 60, some way to break stun lock

Ai – being attacked or not – first distinction

If being attacked – chance to escape stunlock and either evade or attack

If not – choose between evade or attack

* First boss who drops shield
* Fast bullet burst fire guy
* Shield guy

Where to go next – implement new shield idea – mobile; rough out skill trees: one increases length, one increases mobility, one alters to stationary shield;

**Weapons**

* Pistol
* Shotgun
* Crossbow
* Emphasizers are enemies which emphasize a certain mechanic. They encourage players to use specific attacks or abilities against them to defeat them, yet at the same time it is still possible to take them out by regular means.
* Enforcers are enemies which force the player to use a specific mechanic to defeat them. This means the player can only defeat them using these specific mechanics, with the other mechanics having little or (more often) no effect.
* Smashers are enemies which can easily be defeated and allow the player to have fun smashing them up.
* Challengers are tougher enemies which are meant to challenge the player and test their skills.

**Potential ideas to implement**

* Always mobile shield
* Shield parry mechanic
* Layered shield?
* Street blockades as bosses/barriers to next area
* Shield absorbs bullets to last longer the can expend that as blast or to continue shielding
* Gun drops goo behind to make retreat difficult
* Have empty health kit stations around

GraphicsGale?

**Themes**

* Nihilism
* Hedonism
* Poverty? Unearned wealth? Both?
* Strong light and dark, literally
* <https://pracystudios.com/blog/common-mistakes-while-writing-stories-for-games>
* Unearned immortality

**Story / World Ideas**

* Alien Planet but no alien life – mining? – business/industry/people all leaving/left – replaced by oligarchic structure
* Main character cynical/nihilistic, loss of faith in the value of life/the city. Gradual change through interactions with supporting character towards position of seeing beauty in things more than before. Supporting character – cheeky – shopkeeper? – irreverent
* First level – head to main char’s apartment? Prepares to leave city, heads to space station.
* Second level - introduction of shield half way through, rest of second level and then third elaborate on shield mechanics.
* Game shop – game items – health, ammo mixed with lore building items – magazines, artefacts, etc.
* History of city – hopeful, idealistic image of industrial modernity and wealth – idealistic 50s style imagery. Loss of idealism leads into mindless hedonism, declining industry, ideas of abandonment by main civilisation elsewhere (presumably Earth). Shuttles leave infrequently and always packed. Oligarchy dominates leadership and elite, elements of pseudocriminal corporate structures
* Next stop for main char – proceed?
* New – enemy boss guy – search for eternal life, needs main character, main character sister/brother/something else killed by bad guy.
* New – friend killed by bad guy, other corporate guy approaches to offer job to get revenge
* SIMPLE STORY, COMPLEX CHARACTERS
* Homeless on streets
* Intro scene, bouncer asks protagonist to put gun in “digisafe”, protagonist refuses and barman acquiesces. Sets up “digisafe”, friendship/respect with barman. Protagonist is drinking, phone rings, “its for you”, warned that soldiers coming, they come in at that moment, shoot bouncer, shoot barman, then protagonist kills them. Phone rings again, “Escape”.
* Perhaps intersperse bar scene with killing scenes (protagonist carried out assassination? Alternatively some other covert activity, spying, stealing, planting evidence).
* Now protagonist is in deep doo doo.
* Need to resolve voice on phone, enemy and motives, link to protagonists previous unspecified actions.
* Skill idea- “flirt with death” gain a stack for a kill, lose a certain number of stacks when damage taken, gain a certain number of stacks for near miss bullets, stacks degrade over time, stacks increase fire rate or damage.

**Links**

* <https://www.youtube.com/watch?v=UDfx0dKEQMA>
* <https://www.youtube.com/watch?v=is3DeKxPYDA>
* <https://gamedev.stackexchange.com/questions/45596/abstract-skill-talent-system-implementation>
* <https://www.youtube.com/watch?v=H6SxeobcfHg&list=PL1v3sC61W444rHwRpW8gy1CXRUwP5Z8Ml&index=6>
* [https://docs.google.com/document/d/10lWN1xFhG6p1Vn-9VYpJnL1x0TPZy6lgwJoiYt44qSY/edit#](https://docs.google.com/document/d/10lWN1xFhG6p1Vn-9VYpJnL1x0TPZy6lgwJoiYt44qSY/edit) - indie game marketing
* <https://imgur.com/gallery/tFxyX> - pixel art techniques
* **Behaviour Trees:**
* <http://magicscrollsofcode.blogspot.com/2010/12/behavior-trees-by-example-ai-in-android.html>
* <https://www.gamasutra.com/blogs/ChrisSimpson/20140717/221339/Behavior_trees_for_AI_How_they_work.php>
* <https://gamedev.stackexchange.com/questions/51738/behavior-trees-actions-that-take-longer-than-one-tick>
* <https://gamedev.stackexchange.com/questions/59549/behavior-tree-implementation-details?noredirect=1&lq=1>
* <http://www.gameaipro.com/>
* <https://old.reddit.com/r/gamedev/comments/wrc8id/input_button_prompts_pixel_art_completely_free_to/>
* **Audio**
* <https://www.zapsplat.com/sound-effect-packs>
* <https://www.youtube.com/watch?v=uNJSKNhbsgA> – reaper audio
* <https://www.reddit.com/r/SFXLibraries/comments/9b09m8/my_compilation_of_free_sfx_library/>
* Freesound
* For when the game’s finished: <https://www.youtube.com/watch?v=mAI5W7Y5H28>

**Sounds to source/create**

* Bolt impact (surface)
* Bolt impact (enemy)
* Bolt fire (improved)
* Pistol bullet impact
* Pistol bullet fire (improved)
* Shotgun pellet impact (debatable)
* Assault rifle fire
* Player footsteps
* Weapon pick up sound
* Health pickup sound
* Ammo pick up sound
* Enemy take damage (may vary for enemies)
* Enemy gun fire
* Dash enemy dash
* Shield engage
* Shield idle
* Shield end
* Shield bullet impact
* Shield bullet absorb
* Party sounds (ambient)
* Music (big decision)

Pink ninja stars stick in walls, two aiding flying robots

Bounty out on player, soldiers and mercenaries

**BEHAVIOUR TREES**

Node class, has children, has execute method, returns status, returns child status from execution; sequence node, execute children in order, any failure immediately ends execution; selector node, execute children in order, any success ends execution; inverter node, inverts child response.

Blackboard class holds pertinent information to share among entities.

Required nodes for enemies: shoot at player, move to player, find valid location, check sightline, move to retreat, move to evade; melee attack, circle player (melee), follow player;

Each enemy type has personality to inform AI, e.g. soldiers are brash but easily cowed; simple melee hesitant and seek openings, seize on weakness; strong melee kill for sport, flourish and displays, move a lot; slow shooters dependable and slow, fire mostly consistently and won’t retreat; heavies…

When aggroed: 1: check sightline, yes – find valid location – move to location – attempt shoot

No – check last sightline, move to point of, check sightline – yes(back to beginning)

no – unaggro

can attempt evade only when moving

if too long shooting in one spot - random move

if hit

city view on right of bar, make bar area much bigger

fit cutscene scripting into existing behaviour tree framework

for motivation: eyes closed, cyberpunk music

**Potential ideas to implement**

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* Street blockades as bosses/barriers to next area
* Shield absorbs bullets to last longer the can expend that as blast or to continue shielding
* Gun drops goo behind to make retreat difficult
* Have empty health kit stations around
* Game tattoo?
* Lore system – can search in directory for key words heard in NPC conversations or convos with NPCs, returns small snippets for further reading, answers related to these words become available as dialogue options in future in relevant circumstances.
* Icon above head when health or other item used.
* Animated player shadow
* Left right player sprite differences
* Weapon names – flavour text – detective’s pistol – infinite ammo pistol
* Projectiles that explode on impact, undeflectable
* *Enemy* that shoots taser wire to slow and/or damage player, electric connecting line
* Memory notes shown at beginning and visible behind menu. Slowly change as player progresses and character regains memory. Prompt player?

**Plot**

**draft 1:**

Player in bar, receives call -- it’s all true, this is the best warning I could give you, go -- then police guy enters, conflict with barman, police guy kills everyone before player shoots him (cutscene or player agency?), then player leaves, ready to kill/leave/find answers. Maybe first port of call is guy who called?

Key points – relationship to barman to fuel emotion when barman killed, perhaps include another figure close to protagonist also killed to fuel revenge. Protagonist seeking revenge learns he was mistakenly targeted. Tragic ending as protagonist exacts revenge without reprieve from grief. AI company system selected wrong person.

At the end, kill guy or don’t, talk prompt from ally afterwards.

If melee then maybe kick

Chinese gang enemies

**Draft 2:**

Protagonist is corporate spy/assassin for other character, sent on espionage/revenge mission to tower, first proper gameplay, possibly with some introduction in streets/alleys beforehand. Main levels to create – cyberpunk skyscraper. First head upwards floor by floor to main office, second head down to dingy underground floors. Top floor bossfight with other boss’s equivalent of protag (maybe save for later and have some other, lower protection-style figures for here).

**Skill Trees**

**Tank**

1 – Increase duration, decrease mvmt speed

2 – increased max health

3 – kills restore health

4 – final skill, smaller shield on back

**Assassin**

1 – bullet speed increased 12%/lvl up to 60% 5/5

2 – projectiles that impact shield have their kinetic energy absorbed, this energy can be expended as a melee hit with the shield or by shooting a projectile through the shield. 1/1

3 – kills increase mvmt speed (up to 40%) and projectile damage (up to 30%). 5/5

4 – kinetically boosted projectiles pierce through multiple enemies 1/1

5 – absorbed projectiles extend duration (0.5 secs per projectile). 1/1 or 3/3

**Operative**

1 – shield is now detached and has increased width 1/1

2 – imparts force field that slows enemies and their projectiles 3/3

3 – projectiles that impact shield have 20% chance to be absorbed as ammo 5/5

4 – regen 1% HP/s per lvl – up to 5%

5 – kills increase fire rate and decrease spread for a duration.

**Props**

* **Posh**
* Wall lights
* Ceiling lights
* Sofas
* Planters
* Tables
* Desks
* Chairs
* Benches
* Sculptures
* Room dividers
* Ceiling fans
* carpets
* **Industrial**
* Industrial units – aircon, etc
* Storage units / crates

**Current bugs**

* Wire fence rendered over outside bar.
* Mobs not correctly looking over gaps, ideally need 3 classes of vision: can move, can shoot, can see but not move or shoot.
* Soldier ai movement timer too long.