**METANACT – Modifying the Game**

*Seb Holzapfel*

**Overview**

Most of Metanact is completely modifiable without changing the program’s source-code: as the game’s entities & conditions are all loaded from files at runtime. This document will outline how to make changes to the game.

**Game Loot**

In /media/entity/loot are the game’s definitions of possible loot that can be collected. For example, here is the definition text for the ‘railgun’ weapon inside railgun.json:

{

"Category": "Weapon",

"Name": "Railgun",

"FireRate": 2.0,

"ProjectileType": "rail",

"ProjectionDistance":101,

"NumRailProjectiles": 9,

"DoesCharge": true,

"Description": "Good for taking out multiple targets in a line"

}

Most of these attributes are pretty self-explanatory. ProjectileType is the name of the entity to spawn as a ‘projectile’ when the weapon is fired. In this case, 9 (NumRailProjectiles) will be spawned in a line, or ‘rail’. For other loot types, you change the loot ‘category’ (check out the other loot type examples in the directory for info on other loot types). To add a new type of loot, add it to the list of loot files in ‘!lootindex.json’.

**Cinematics**

In the game’s /media/entity/ directory, there are a couple of cinematic files ‘\*.cnm’; which within, define action that’ll take place within the game’s cutscenes. Heres an example of one such cinematic file:

0.01:NAMED\_ENTITY cprewarpship derp1

0.01:SET\_POSITION mainstructure 2100 0

0.01:CAMERA\_FOLLOW derp1

0.01:SET\_POSITION derp1 0 0

0.01:MOVE\_LINEAR derp1 18000 0 140

0.01:SET\_PARTICLETYPE Stars

0.05:DIALOGUE navigation1.ogg

7.27:DIALOGUE captain1.ogg

10:DIALOGUE navigation2.ogg

12:PLAY\_SOUND warpsoundfull.ogg

14.3:SET\_PARTICLETYPE WarpLines

14.3:DIALOGUE captain2.ogg

16.0:NAMED\_ENTITY cwhitefader fader1

16:DELETE mainstructure

16.0:COPY\_POSITION derp1 fader1

17.0:PLAY\_MUSIC byteparsec.ogg

18:CREDIT SCHNOMMUS PRESENTS...

24:CREDIT A GAME BY SEB HOLZAPFEL

The time on the left is when the described event takes place. After the event type (‘SET\_POSITION’, ‘PLAY\_MUSIC’ etc) are some parameters specific to that event. For this example, you can see an entity called derp1 is created of type cwarpship, the camera set to it and then the derp1 moved across the screen. Dialogue, music, and sounds + credits also occur.

**Game Entities**

Also in the game’s /media/entity/ directory are a large number of entity definition files ‘\*.edef’. This includes such game objects as scrap, enemies, the player, bullets, area details, warpers etc. As an example, here is the definition for an enemy:

NAME grunt

IMAGE grunt.png

HAS\_VELOCITY

AFFECTED\_BY\_GRAVITY 30

VELOCITY\_CLAMP -30 30

HAS\_HEALTH 40

PROJECTILE\_ON\_DESTROY explosion 0 1

PROJECTILE\_ON\_DESTROY scrap 60 0.8

IS\_ENEMY

APPROACH\_PLAYER 200 800 90

REMEMBER\_DESTRUCTION

EMIT\_SMOKE

SHOOT\_AT\_PLAYER 400 2 b

Above, you can see that each entity consists of a number of ‘tags’ defining its looks and in-game logic. In this case, it will APPROACH\_PLAYER, SHOOT\_AT\_PLAYER, be AFFECTED\_BY\_GRAVITY, HAS\_HEALTH & uses ‘grunt.png’ as its image.

**Referring to Entities**

If, say, we’d like to create a new entity: we add it to the ‘enemytypes.json’ file; alongside the filesize of files we’d like it to spawn as. Bullets are referred to in projectile definitions (in the loot folder).

**Dialogue & Subtitles**

When a sound-file should display text at the bottom of the screen as it’s displayed, you add an entry to the game’s subtitle file, which looks like this:

lchange1.ogg=Gah it's just more random characters on the nav-panel...

lchange2.ogg=Man, this place sure does look different.

lchange3.ogg=What the hell have we gotten ourselves into...

**Fonts**

/media/fonts contains the fonts used by the game; these can be replaced to change the look & feel of the game textually.