TimeSplitters: Future Perfect Mapmaking Guide

by admiralhowdy

```
                 The Mapmaker's Mapmaking Guide
                               for
                 TimeSplitters: Future Perfect



                        by admiralhowdy

                    howdyadmiral@yahoo.com

                       Version 0.66
                    December 25, 2007


                  Copyright 2007 Matt Ehinger
```

To access all pics in this guide, open a 2nd internet browser
window, and copy/paste the following line to the 2nd window's
address bar:

z13.invisionfree.com/admiralhowdy/index.php?act=Attach&type=post&id=

then immediately after the last "=", copy/paste the number of each
pic to complete the url of each pic.

Introduction

This super in-depth guide is intended as an aid in maximizing the
use and enjoyment of the Mapmaker mode of TimeSplitters: Future
Perfect. The whole, in concept, should be both a resource and a
springboard for ideas. It is written using the Nintendo Gamecube
version, but most of the information contained here should be just
as relevant to the other console versions.

Once you have the game powered up and have selected the Mapmaker
mode, most of the options and operations within the mapmaker are
self-explanatory (take the time to study the Controls page, and pay
attention to the ever-present button layout on each and every
options page -- buttons will gain/lose function depending on what
the cursor is placed over). But despite the straightforwardness of
the controls and the options that can be selected, there are many,
many things that can be chosen, created, and/or customized, and the
results of your choices can be quite difficult to predict without
rigorous experimentation--trial and error. It can be a real
challenge to take what's in your head, input it into the matrix, and
have it come out looking and acting any way near the way you
originally intended. This guide is meant to help. If you have
knowledge that can benefit other mapmakers, my wish is that it might
be compiled here to be shared by all. I've started with what I know
so far, but if you would like to share your own knowledge, please
consider submitting it for collection here (see the Random Things
section for details).

Though Future Perfect is quickly approaching 3 years out, and is
sadly forgotten and neglected by many after the loss of online play
support and the arrival of the next generation of console systems,
the FP mapmaker remains a true console-gaming gem that still offers
massive replay value, and always merits further exploration even
when you might think it may be tapped out; therefore I want to state
for the record that this guide will forever remain wide-open to
contribution, even at such a time when TS4 might eventually come out
with a superior mapmaker mode. Right now, that time is still a long
way off.

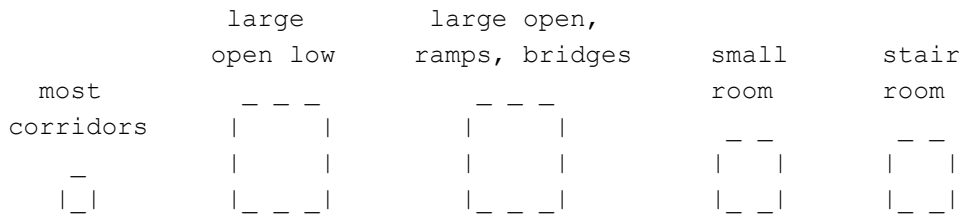Join me, fellow cartographers; this big empty grid world is ours...

```
========================================================================
                       Building Environments
========================================================================


The Basics (for beginners)
--------------------------
In order to get started here, we need to be speaking the same
language.  So first let's translate the in-game mapmaker visuals
into something that can be easily and accurately depicted here.

In the mapmaker, you must place tiles in the 40 x 40 x 5+ block grid
by looking at them in a two-dimensional view, from the top,
navigating up and down between a standard 5 levels but always
looking down over the top.  The tiles for the most part have certain
basic shapes, as seen in this Top View.

Top View (in-game shape):


                large           large open,
                open low       ramps, bridges    small       stair
    most          _ _ _          _ _ _           room        room
  corridors     |     |        |     |            _ _         _ _
      _         |     |        |     |          |    |      |    |
     |_|        |_ _ _|        |_ _ _|          |_ _|       |_ _|

After tiles are placed, press the appropriate button to bring up a
3/4 top-down view of the placement, with the placed tiles being
represented by white boxes and how they sit in relation to each
other within a three-floor area (shoulder buttons scroll through
which 3 floors of the grid, similar to the floor-scrolling within
the "placement" view).  The simplest way to illustrate tiles on
paper, however, is to think of them in side-view, and to show them
in side-view.  This view most clearly shows their basic differences.


Side View (this-guide shape):


                            large open,     small       stair
   most          large      ramps, bridges  room        room
 corridors     open low       _ _ _                      _ _
     _          _ _ _        |     |         _ _        |    |
    |_|        |_ _ _|       |_ _ _|       |_ _|        |_ _|

In this guide, the Stackable tiles will be represented by a "+" for
the bottom-most floor, so options are:


                    large
             large  ramps, bridges     spiral
  small     open(low)    _ _ _         stairs
    _        _ _ _      |     |          _ _
   |+|      |+ + +|     |+ + +|         |+ +|



To help ease you into the side-view language of this guide, here is
the simplest sort of map, made by joining 3 large open low tiles,
represented in side-view like so:

                  _ _ _ _ _ _ _ _ _
                 |_ _ _|_ _ _|_ _ _|
```
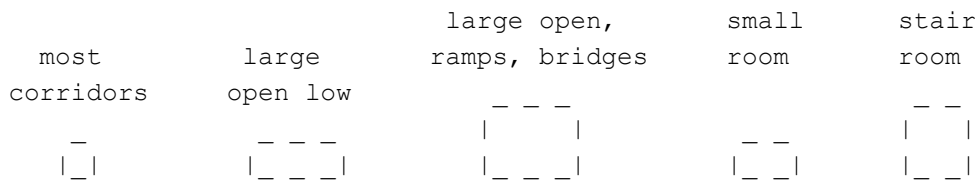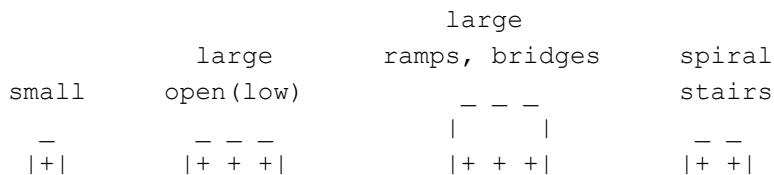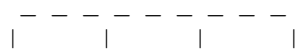
The result is represented likewise in side-view here:

```
        X|_____P_____|X
```

...with P denoting the Player standing in the middle of the map, the
open area above being the sky above the player's head (since the sky
feature is available, I like to try to utilize it). The solid line
below is the floor, and the X's represent the walls created around
the placed tiles due to unmapped empty space within the computer
grid.

Joining tiles horizontally is much easier in TS:FP than in TS2, as
there is no required matching of red or blue linkages. Here, any
wall-free edge of any tile will merge seamlessly with any wall-free
edge of any other tile; so many placement restrictions found in the
previous game have gone out the window.

Breaking out into a 3rd dimension, things start to get a little
complicated due to the sky feature. Below are two examples using
"large open low" and "large open" tiles arranged in two different
ways, to demonstrate how the sky feature works.

```
        (A)                              (B)

  _ _ _ _ _ _ _ _ _                    _ _ _
  |_ _ _|      |_ _ _|          _ _ _|      |_ _ _
       |_ _ _|                 |_ _ _|_ _ _|_ _ _|


X|_____         _____|X         XXXXXXX|       |XXXXXXX
XXXXXXX|__P__|XXXXXXX          X|_____P_____|X
```

Note how the sky -- the open area above P -- is more visible in (A)
than in (B). Think of the sky as "paint" on the ceiling of the
highest tile. In (A), the ceilings of all 3 tiles are equally high,
so all 3 get painted with sky (this analogy does not do justice to
the effect, but the mechanics are the same). In (B) however, the
ceiling of the middle tile is higher than the others, so only this
one gets the sky "paint job". The two lower, flanking ceilings
become roofed over, and the empty spaces beside the upper floor of
the "large open" tile become wall -- just like walls appear around
the bottom floor in (A), which is essentially (B) inverted.

Making changes to maps where sky already exists can result in a loss
of formerly available sky, due to the "high gets the sky" rule. For
instance, a tiny addition to (A) such as this:

```
                    _ _ _
  _ _ _ _ _ _ _ _ _|added|    will      XXXXXXXXXXXXXXXXXX|      |X
  |_ _ _|      |_ _ _|_ _ _|   result    X|_____          _____|X
       |_ _ _|               in this:    XXXXXXX|__P__|XXXXXXXXXXXXXX
```

So that's how the sky works.

TS2 players may notice the absence of the Core tiles from the TS:FP
mapmaker. The reason for there being no Core is that you can create
your own "core" areas by using the Stackable tiles. The TS2 core
tile was only 4 floors high; but here you can make a 5-floor (and
even 7-floor) core, which presents the new possibility of death by
falling. Though the map grid was 2 floors higher in TS2, at 7
"natural" floors, a plunge straight downwards was never possible

beyond a 3-floor drop in the 4-floor core.

"Stackable" essentially means "disappearing ceiling/floor," but the
ceilings and floors only disappear when stacked precisely on top of
an identically-shaped stackable tile. So stacking this:

```
  _ _ _
  |+ + +|                   XXX|_____|X
 _|+|_      will only get   XXX|_|XXXXX      (floor/ceiling
|+ + +|          you this:  X|__P__|XXX        separation
 |   |                      XXX|   |XXX      at every level)
  |+ +|                     XXX|___|XXX
```

However, when used correctly, the Stackables make possible the
construction of deep shafts, long zig-zagging valleys, or huge open
spaces.

```
 open "mine shaft"           ->valley->                     "quarry"

 _ _ _ _ _ _ _               _ _ _ _             _ _ _ _ _ _ _ _ _
 |_ _ _|+|_ _ _|             |+|+|+|+|            |+ + +|+ + +|+ + +|
      |+|                    |+|+|+|+|            |+ + +|+ + +|+ + +|
      |+|            <-etc.|+|+|+|+|etc.->        |+ + +|+ + +|+ + +|
      |+|_ _ _                |+|+|+|+|            |+ + +|+ + +|+ + +|
      |+|_ _ _|               |+|+|+|+|            |+ + +|+ + +|+ + +|

X|__P__     _____|X          <--          -->    X|                |X
XXXXXXX| |XXXXXXX            <--          -->    X|                |X
XXXXXXX| |XXXXXXX            <--          -->    X|                |X
XXXXXXX| |XXXXXXX            <--          -->    X|                |X
XXXXXXX|_____|X           <--___P_____-->     X|_____P_____|X
```

Note: a jump down the above 4-story mine shaft will kill the player.

You can gain an extra floor within the 5-story grid, and access that
floor at any time, by placing a Story AI. Put the AI in a single-
height tile on the 5th floor. Put a second single-height tile on the
4th floor. Highlight both tiles ("mark"), grab the tile on the 4th
floor (I call this tile the "tugboat") and move it up to 5. When
you do this, you are moving the highlighted 5th-floor tile to the 6th
floor -- I think of this tile as the "ship" that the "tugboat" is
moving. Go to the Story AI menu, put the cursor on the placed AI,
and choose "Show in map" to go to the 6th floor. Once on the 6th
floor you can place more tiles, items, etc. but once you scroll down
to another floor you will need to "show AI in map" again to get back
to 6.

Use of a "tugboat" to push tiles into the 7th floor or higher and
retrieve them again is the basis of "glitching." I do not consider
the 6th floor AI trick to be in any way a glitch; it's just a
lesser-known game mechanic, a trick that overcomes the problem of
not being able to scroll up to the 6th floor in the first place; see
the Glitching section for details on real glitching. When not
intentionally glitching though, be careful not to push single-height
tiles above 6. Anything left above the 6th floor will not connect,
and therefore even a Stackable on 7 will automatically have a floor,
thus cutting off the sky at the 6th floor/7th floor juncture. Player
travel between tiles above 6 can only be accomplished through
teleporter, but this can still be a useful feature if you want to
create a secret room in an indoor level that is not visible even
from the editor. Also note that pushing the bottom of a double-

height tile from 5 to 6 will place the double-height tile on 6/7,
with free travel possible to/from 7 in an up/down direction; however
the top half of the tile will not connect to other tiles beside it
on 7.

Designing outdoor levels containing tall structures of any kind is
problematic, because any feature with height will be matched in
height by the perimeter wall put up by the computer (the quarry
effect). Here B represents simple buildings:

```
                                        _ _ _ _ _ _
                                       |+ + +|_|+ + +|
                                       |+ + +|_|+ + +|
                    _ _ _ _ _ _        |+ + +|_|+ + +|
                   |+ + +|_|+ + +|     |+ + +|_|+ + +|
                   |+ + +|_|+ + +|     |+ + +|_|+ + +|


                                           _
                                    X|     |B|     |X
                                    X|     |B|     |X
                                    X|     |B|     |X
             X|     |B|     |X      X|     |B|     |X
             X|__P__|B|_____|X      X|__P__|B|_____|X
```

Note that in such a quarry though, you can fashion crude edifices
and megalithic statues. Doing so against a "cliff" wall spares some
memory, as Stackables are needed to create any empty space around
the creation, and Stackables can add up quickly and become quite
expensive to the memory. Here, N's are Null tiles (vacant grid
space) used to create an edifice in combination with Stackables and
ordinary small tiles (quarry walls are not shown in the
representation illustrations):

```
        man                  skull               sphinx
                                                (profile)

  _ _ _ _ _ _ _        _ _ _ _ _ _ _        _ _ _ _ _ _
 |+|_|_|N|_|_|+|      |+|N|N|N|N|N|+|       |N|  |+|+|+ + +|
 |+|N|N|N|N|N|+|      |+|N|_|N|_|N|+|       |N|N|+|+|+ + +|
 |+|+|_|N|_|+|+|      |+|N|N|N|N|N|+|       |N|  |+|+|+ + +|
 |+|+|N|N|N|+|+|      |+|+|N|N|N|+|+|       |N|N|+|+|+ + +|
 |+|+|N|_|N|+|+|      |+|+|_|_|_|+|+|       |N|N|N|N|+ + +|


     _
   O__|X|__O            |XXXXXXXX|          |X|O
  |XXXXXXXXX|           |X| |X| |X|         |X|X|
    _|X|_               |XXXXXXXXX|         |X|_
   |XXXXX|               |XXXXX|            |XXX|
 _P_|X|_|X|___         _P_|D|D|D|___        |XXXXXXX|__P__
```

The O's are ornamental items in the man's hands and on top of the
sphinx's head, and D's are doorways at the skull's teeth. Here's a
pic of the sphinx:

2810437

The more complicated the structure, the more difficult to visualize
and execute, especially given the restrictions of the top-down
placement visual and the 3-level-only 3/4 view in-game. Also, the
tile sets can be limiting in creating imaginative yet sensible
outdoor constructions. The best looking options for making
building-block statues would be Egyptian (take tile rotation into

consideration to avoid unwanted features), or Lab for a futuristic
sci-fi look. While Horror has some nice stonework, you have to be
careful of paintings and wallpaper being hung in the great outdoors
(everything outdoors in Horror is better covered in the stone of
tile #27, which can be expensive to the memory.)

Before you start building your outdoor level, check out the sky
before you start placing tiles. I had used the above sphinx in a
map, when I later realized it would be much more impressive with the
sun beaming over the quarry wall above it, visible from the starting
point; I had to flip it around the other way so the sun was in the
right position. If you drag a select box over all the tiles in each
level, you can reorient an entire map very quickly. If you ever
need to do this, be sure to save the map beforehand, because once
when I was doing this with a very large map, the game froze.

Stackables can be used in conjunction with ordinary tiles, or with
unmapped grid space, to create floating platforms:

```
  _ _ _ _ _ _ _ _              _ _ _ _ _ _ _ _
 |+ + +|_ _ _|+ + +|          |+ + +|+ + +|+ + +|
 |+ + +|     |+ + +|          |+ + +|+ + +|+ + +|
 |+ + +|_ _ _|+ + +|          |+ + +|N|N|N|+ + +|
 |+ + +|+ + +|+ + +|          |+ + +|+ + +|+ + +|
 |+ + +|+ + +|+ + +|          |+ + +|+ + +|+ + +|



X|          _____            |X    X|                        |X
X|                           |X    X|          _____         |X
X|          _____            |X    X|        |XXXXX|          |X
X|                           |X    X|                        |X
X|_____P_____        |X    X|_____P_____      |X
```

Using this feature in conjunction with building-block manipulation,
you may find it fun to fashion a hovering spacecraft:

```
     construction view            top view           front view
          (profile)              (ship only)         (ship only)

  _ _ _ _ _ _ _ _ _ _ _ _          _ _ _  _ _
 |+ + +|_|_|_|+|_|_|+ + +|        |XXXXX|_|X|_|           |XXXXX|
 |+ + +|N|N|N|+|N|_|+ + +|        |XXXXX|XXX|_             |X|
 |+ + +|+|+|N|N|N|+|+ + +|        |XXXXX| |X|_|
 |+ + +|+|+|+|+|+|+|+ + +|
 |+ + +|+|+|+|+|+|+|+ + +|



X|         _____   ___       |X    You could build diagonally too, for a
X|       |XXXXX| |X|_|       |X    simple delta wing or otherwise
X|           |XXXXX|         |X    "pointy" type craft.  Use platforms
X|                           |X    (floors, F) as opposed to blocks to
X|____P_____ |X    give the "wings" a sharp edge.



                               _ _ _ _
                              |FFFFFFFFF|
                              |FFFFFFF|
           "B1" top view:     |FFFFF|
                              |FFF|
                              |F|
```

The engine nacelles of the first ship are a Null tile plus a small
corridor, opening to the rear. Use of internal lighting can help

convey an engine effect. Pulsating "UFO" lights could be put on the
bottom too, especially on the second ship.

Constructs, or portions thereof, can be given a "paint job" by
manipulating the light within each tile along the surface of the
construct. Some tile sets accept color changes better than others
though.* Changing much color in Egyptian, if not a universal
change, results in the quarry walls and floor glitching out (a
discotheque effect), but not so in Military. Note also that when in
the immediate vicinity, the Player and enemies turn that same color,
since it really is "light," and not paint (which is the drawback of
trying to paint an entire floor green for grass).

To get black (or as close as you can get to it), position the cursor
over any of the colors in the light color palette, and choose Edit.
You can custom-make colors my mixing red, blue and green. Slide the
bottom brightness bar all the way to the left for the darkest color
possible. The default darkest gray (top right corner of palette) is
not the darkest possible. The tile will appear darker if it has no
"light source" within it (i.e., a light bulb or a torch as part of
the tile design). For tall structures it is possible to hide quarry
walls in darkness to simulate an open sky on a moonless, overcast
night (choose Abstract sky). Here B = Black lighting:

```
  _ _ _ _ _ _ _ _ _ _ _ _
 |     |+ + +|_|+ + +|     |      X|  B          |_|          B  |X
 |+ + +|+ + +|N|+ + +|+ + +|      X|             |X|             |X
 |     |+ + +|N|+ + +|     |      X|  B          |X|          B  |X
 |+ + +|+ + +|N|+ + +|+ + +|      X|             |X|             |X
 |+ + +|+ + +|N|+ + +|+ + +|      X|__B__        |X|        __B__|X
       |+ + +|N|+ + +|          XXXXXXX|__P__|X|_____|XXXXXXX
```

It is also possible to make "sky-walls" through glitching, but this
takes much memory due to the number of overlapped tiles required
(see the Glitching section, and Further Reading).

*Noted lighting problems may be unique to the Gamecube version, as I
haven't seen them duplicated during my limited experimentation on
XBOX. To correct a similar lighting problem in Horror on Gamecube,
resetting all the lights after the map was finished, then adding the
lighting elements as the final step eliminated any disco effects.
Also, in one instance deleting a window that separated a white and a
black light was seen to help in Horror (no solution has yet worked
for me in Gamecube's Egyptian).

Doors and Teleporters

Doors can be placed along floating Stackables, either for decorative
use, or to serve a purpose (hiding a drop-off from an unsuspecting
player, or to construct vertical ventilation shafts on a wall or
chutes in the air).

Teleporters can be used to provide the illusion of added height to
an environment, especially for indoor levels. Use of doors or
lighting can help facilitate this illusion, as darkness or doors can
hide any dissimilarity between points A and B.

Here is a small teleporter trick, with T being a single pair of
teleporters and D's being doors on either side of each:

            Bottom floor.   Top floor.

```
        Teleporter input                Teleporter output
           _ _ _                            _ _ _
      P->|_DTD_|                       |_DTD_|->P

   (left door always unlocked,      (left door always locked,
     right door always locked)      right door always unlocked)
```

The door is "unlocked" when the Player touches the glowing
teleporter orb. Message actions can help with the suspension of
disbelief in Story maps. For instance, upon reaching the 1st
teleporter tile, a message "Please submit to scanning" could be
displayed, and at the 2nd teleporter tile, "Access granted" could be
displayed.

Platforming

Add some thrills to your level by adding in some platforming
elements. Make some raised tiles join diagonally, so that the
Player on top must walk diagonally across them. At first it may
seem impossible within some tile sets, but if the aiming reticule is
placed precisely over the necessary crossing point, it is very
possible, even enabling navigation between diagonally-placed death
trap tiles.

The Player hoofing it can jump across a single grid square, but only
if the landing spot is 3 floors down. A vehicle can cross a 1-
square gap if the landing spot is only 1 floor down.

A 4-story drop will kill the Player. However, you can safely take a
6-story plunge (from a double-height stackable on 6/7) if driving a
vehicle. If a necessary drop is 4 floors or more, and there's no
vehicle, well, you'll need to jump into an inertia-dampening
teleporter. Now THAT's a thrill. OR, put a vehicle at the bottom
and try to land on those soft plush seats (hit the "enter vehicle"
button at the last second, for the regular climbing-in animation).

Due to the limited falling distance in the grid, a pedestrian will
not be able to jump a two-square gap in Story mode (in other modes
it is possible, using the Speed pickup). The military buggy (Zeep)
can jump a 3-square gap, and the turbo buggy can jump a 4-square
gap, provided the height is right. The Zeep can make it across 4
death trap tiles, though, if you nose it down and bounce over the
last one, so maybe the buggy can do that over 5 (haven't tried).

Leaping across a death trap tile is possible. Trying to jump one
with a vehicle gives inconsistent results, though. If you try to
jump multiple rows of death tiles and the result is death as soon as
you get the vehicle above the first death tile, remove the first
death tile and you should be fine to make it over the rest. You can
also try placing the problem death trap tile lastly to correct this
problem.

Progression puzzles based on platforming can be quite fun to design,
and you can make some nifty puzzles by requiring use of the cat-cam
to do stuff...

The Amazing Strudel

Unlike the vehicles, the cat-cam can jump the Ramp items you can
place within the tiles (as seen in the sample map Cat Racing

Xtreme), and can go backwards up the steep slide tile. It can go
super fast to potentially beat a timer, provided the flooring is
right and there are no bumps or snags (maybe you want the bumps and
snags for a timer challenge).

In Story and Assaults modes, Strudel counts as you during operation,
so Location Reached logics can be activated (say you want to
activate an out-of-reach pressure-plate). In any mode, unlocked
doors will be toggled by proximity (maybe an out-of-reach door needs
to be opened so that a camera can spot you, or maybe you just need
to get a clear shot at something that you can't hit without Strudel
opening the door. Make the door no-autoclose so that Strudel can
leave and do something else -- or not!).

The cat-cam can go through a death trap tile, but getting out is a
matter dependent upon tile set and tile arrangement. With enough
distance you can get up enough speed to bounce off a spike and out
of the recessed area, but note that in Story mode, Cortez can easily
toss the cam over to the other side of a death trap with the uplink,
eliminating a potential quagmire. Hitting the "operate cam" button
while holding Strudel in mid air will both operate and launch at the
same time (those of you who peeked at the Awards logic of Cat Racing
Xtreme may have figured that out). Strudel can easily navigate
diagonally-placed death trap tiles without falling into the recessed
area.

Strudel cannot touch enemies while under your control, and enemies
will pay her no attention... but she can relocate moveable items
(including other Strudels!) by pushing them, and can blow up
explosive items by ramming them at high speed, thus destroying
switches or killing an out-of-reach baddie.

Strudel is not affected by gunfire, but collectible spent ammo
(injector darts and harpoons) can be shot into her and transported
to another location for later pick-up.

She can serve as an explosive assassin by delivering remote mines
placed on her back (Ryan_the_gamer, 7/28/2006) but she is quite
blast-proof. The world will not shake in the vicinity of explosions
while controlling her, but she *can* be toppled by the flying side
of beef that might come from the unfortunate end of someone nearby.

Last but not least, she can be manipulated as a last or only-resort
weapon in Story mode, by flinging her with the temporal uplink.

Altissimus Factum: the Environmental Puzzle

Something that you might try to do in Story and Assault maps, and
even in multiplayer maps to spice up the cat-and-mouse between live
opponents, is to devise what I can only call an environmental puzzle
-- an action, or series of actions, that the player must perform in
order to progress, or in order to get the upper hand by obtaining a
coveted but hard-to-get weapon. Some brainwork on the part of the
player should be required in order to figure out the puzzle, and it
is something that can work in multiplayer because the only logic
utilized is that which the player will hopefully use. What's good
about environmental puzzles is that they do *not* require game
Logic, so they take no additional memory to set up. Even after the
player figures out the puzzle and the EUREKA! moment is gone
forever, the presence of these mandatory tasks adds variety to the

level, providing different things that the player must do.

Here is an example of a multiple-part environmental puzzle, that
might not be easy to figure out quickly while under fire in a
multiplayer mode, but it would be well suited for a quiet portion of
a lengthy Story mission: Player starts on the 5th floor and has to
jump off a cliff to the 1st floor to progress further in the level,
so a car is needed to survive the fall. The only car available is
on a ledge on the 6th floor that the player cannot reach; the only
way to get the car is to blow it off the ledge with explosives.
Explosives are on the other side of a chasm, behind an unlocked door
(maybe you can see them by operating a camera), so you just cannot
suck them over with the uplink because the door is closed. The only
way to open the door so that you can reach the explosives with the
uplink is to jump over the chasm with a cat and open up the door by
proximity of the cat to the door... So you have to do things A, B,
and C, just to get to the 1st floor.

In modes other than Story, Powerups can be used as elements of the
puzzle. These contain built-in timers (they last for exactly 25
seconds), so requiring the use of a Powerup before it wears off can
be a good part of the puzzle (say, the player needs to do a number
of things while powered up, or, a single thing to do like jump a gap
with Speed is very far away from the Powerup). Also, for non-
essential side-tasks, a limited opportunity can be given for success
(e.g., a required weapon, like a sci-fi handgun that can ricochet
around the corner to complete a secondary objective, has a re-spawn
time of 0:00 and no ammo placement). Note that anything *necessary*
for mission completion/winning (Story/Assault) should *always* be
accompanied with opportunity for re-trying (e.g., any necessary car-
jump to the exit should have a road leading back to the jump point
from the "oops" zone). A Story/Assault level that cannot be
completed due to an "oops" is a flawed level.

==
           The Mysteries of Memory, Revealed (more or less)
==
Beginners and veteran mapmakers alike are often confronted by space
limitations, as there is only so much you can do in one map.
However, the memory bar in the top left corner of the screen is
deceptive in its depiction of remaining memory. Misconceptions and
false assumptions about this bar have resulted in many a map being
"finished" prematurely, and have even resulted in a supposed
"Mapmaker Memory Glitch" being circulated, which has been mistakenly
claimed to enable the placement of more tiles and items than
normally possible.

Here is the rub of the memory bar: the one bar is used as an
indicator of at least two separate memories, not just one. There is
a TILE memory, and also an ITEM memory. The single bar only shows
WHICH of the two memories is lowest. For instance, if the TILE
memory is at half, you can then add items until the ITEM memory gets
down to half, and the single memory indicator will not move at all
beyond the halfway mark. Once you get lower than half of the ITEM
memory though, the bar will start getting shorter again, because
ITEM memory is now lower. And vice versa. If when the one bar is
threateningly empty, you try to place one more tile and get a "no
more memory" message, you still might have plenty of ITEM memory
left. And if you get the message when you are trying to place
another item, you may in fact still have plenty more TILE memory

left.

ITEM Memory

In addition to this confusion, some "items" in the item menu do not
take memory away from the bar(s) at all; these are the various start
points (start all, red team, blue team, blue assault, red assault).
32 start points can be placed (any combination of all/red/blue) and
in addition 32 assault starts can be placed (any combination of red
and blue), independently of the TILE/ITEM memory indicator. When
both the TILE memory AND the ITEM memories are empty, you can still
place a ridiculous number of start points! Separate from any start
points, 50 "real" items can be placed to take the ITEM memory bar
down to zero. Any "real" item placed, be it a vehicle or a box of
bullets, consumes 1/50 of the ITEM memory. However, placing many
different *kinds* of items will reduce this number to 44 and will
also eat greatly into the TILE memory... It is a complicated affair,
but suffice it to say that you cannot ever take the single memory
display at face value.

Although you can almost always place 50 total items (in addition to
any start points), most individual items carry a lower cap on how
many can be placed in a map. Here are the item placement caps:

                          Guns: 32
                        Health: 16
                         Armor: 16
                     *Powerups: 12
                Bags and bases: 1 bag and 1 of each base (duh)
                   Gun turrets: 8
                      Switches: 20
                      Autoguns: 8
               Ceiling cameras: 8
         Moveable objects (any): 20
                          Cars: 4
                       RC Pets: 4
               Each color key: 2 (total 8 keys)
                         Zones: 4
                Features (any): (no cap, can place 50)
                         Doors: 40
                       Windows: 30
    Collectible (from Trigger menu): 32

*It should be noted that Powerups will not appear if map is played
in Story mode :(

For Story mode maps, choosing the Drop Gun option for Story AI and
placing any keys in AI inventory will NOT detract from the ITEM
memory; it is then recommended that for strictly Story mode levels,
guns and keys be obtained in this manner so you can still place 50
other items. Note that it must literally be a "gun" for it to be
dropped (AI will not drop grenades, mines, bats, or bricks).

TILE Memory

While each item takes the same amount of ITEM memory space (2.0%),
tiles on the other hand consume varying amounts of the TILE memory.
The simplest tiles you can place the most of, at a maximum of 200
(0.50% of the TILE memory). Below is a list of the individual tiles
and the approximate memory consumption for each (enough digits are

shown to tell which is "bigger" in the memory). Maximizing map
"volume" can be accomplished by incorporating tiles of the same or
larger volume that consume less equivalent memory. For instance,
substitute a #31 where possible for any #13, and you can economize
greatly on the TILE memory.

Corridor

```
 1. Small Open....................0.50%
 2. Small Open Pillars............0.50%
 3. Small Open Alt................0.50%
 4. Small Open Alt. Pillars.......0.50%
 5. T Junction....................0.50%
 6. T Junction Pillars............0.50%
 7. Corner........................0.50%
 8. Corner Pillars................0.50%
 9. Small Corridor................0.50%
10. Double Corridor...............0.50%
11. Open Corridor.................0.64%
```

Large
```
12. Large Open....................1.55%
13. Large Open Low................1.17%
14. Large Bridge Cross...........1.54%
15. Large Bridge.................1.58%
16. Large Pit....................1.06%
17. Large Bridge Ramp.............1.58%
```

Small
```
18. T Junction....................0.59%
19. Funnel........................0.50%
20. Small Room....................0.50%
21. Small Room Mirrored...........0.50%
```

Ramp
```
22. Ramp..........................0.50%
23. Crab Ramp.....................0.90%
24. Stair Room....................0.51%
25. Stair Room Mirrored...........0.51%
26. Large Ramp....................1.92%
```

Stackable
```
27. Small Open S..................0.50%    Stairwells must be
28. Alt. Small Open S.............0.50%    stacked with matching
29. Stairwell S...................0.97% <- rotation for stairs to
30. Stairwell S Mirrored.........0.97%    appear.  Use in single as
31. Large Open Low S..............0.85%    an economical roof to
32. Large Bridge Cross S.........1.54%    20 or 24 in outdoor areas
33. Large Bridge S...............1.57%    (must be on top level)
```

Trench
```
34. Trench.......................0.99%    Extremely bad choice
35. Trench Ramp..................4.76% <- when there are far
36. Trench Corner................1.11%    more economical options
37. Trench Corner Ramp...........1.11%    for getting out of a
38. Trench Corner Ramp Mirrored...1.11%    trench
```

Bunker
```
39. Bunker Wall..................1.98%
40. Bunker Wall Gap..............1.98%
```

```
41. Bunker Wall Ramp..............1.98%
42. Bunker Corner.................2.06%
43. Bunker Corner Gap.............2.06%

Special
44. Slide*.......................0.66%
45. Death Room...................0.05%
```

*An anomaly occurs for the Slide in that if placed individually,
only 151 can be placed, but if an initial 10 are increasingly
doubled by dragging a Select box and copying, 160 can be placed,
seemingly exceeding the TILE memory; delete 9 of the 160, and they
cannot be replaced.

If all you want to make are strictly multiplayer maps, tiles and
items are all that need be worried about. But if you want to create
maps to be played in Story and Assault modes, memory issues can
start getting complicated.

LOGIC Memory

The basics here are that you can have up to 50 Triggers and up to 50
Actions*, and up to 30 Logic Operations, each one (Trigger, Action,
and the linking Logic Operation) taking away from the single memory
bar, and each type taking up varying amounts of memory, much like
the tiles. However, Logic in relation to the memory indicator is at
this point quite baffling to me. If the memory is entirely consumed
by LOGIC before placing the first tile, you will not be able to
place a tile; if you delete just enough logic to place some tiles,
you can only add so many items (or so many story AI or start
points); so it appears that LOGIC takes away from both TILE and ITEM
memories, and from the "others" too. Yet if you more realistically
max your TILE and ITEM memories first before constructing your
LOGIC, you can still create what should be an adequate amount of
Triggers, Actions, and Logic Operations.

If you are trying to create LOGIC and you get the "no more memory"
message, you may sacrifice tiles and items for more LOGIC memory,
quite unlike the situation for tiles vs. items. However, note that
when the LOGIC memory is full, not all LOGIC options will return the
"no more memory" message but will instead freeze the game (e.g.,
trying to add a Reset Action will do this).

(Further testing needed. Reader contribution extremely welcome in
explaining LOGIC relationships to memory in more detail.)

*According to a pop-up message within the Mapmaker, you can only
have 30 of either, but this erroneous message only comes upon trying
to make the 51st Trigger or Action.

Story AI Memory
----
50 story AI can be placed, on top of a full TILE memory and on top
of a full ITEM memory, but if the AI are the important thing for the
map, you may want to *not* have tile and item placements maxed out.
When memories are full, the risk of game freeze is high with large
numbers of AI, and use of the zoom function in the editor will
almost guarantee a freeze on Gamecube if tiles, items, and AI are
all at maximum.

(Further testing needed; reader contribution extremely welcome,
especially for consoles other than Gamecube.)

===
                              Tile Sets
===
Each wall-free edge of every tile actually has its own wall, which
will be erected by the computer if there is empty space beside it,
or if that edge butts up against the permanent wall of another tile.
Some of these temporary walls you may never see, depending on how
you happen to place the tile in relation to other tiles. Below are
some features of note found in each tile, including these temporary
walls. (Please reference the Memory section for the full tile name;
tile numbers are used here for brevity and consolidation of like
features.) If you want to implement the noted feature (or for that
matter exclude an unwanted temporary feature), preview the tile as a
stand-alone, so as to figure out how to keep (or exclude) any
temporary feature.

Why is this important information to include here? Aside from the
obvious use of providing varied visuals, any "set-piece" can be used
to construct solvable riddles or to advance plot points in Story
mode levels, by creating objectives and employing Logics which are a
little slyer that "destroy this" or "activate that." For example:

Simple Objective: Find the map and see where Khallos plans to use
                  his weapons of mass destruction.
   Simple Logic: Location 1 Reached (in front of the map on the
                  wall) = Message Displayed, "Found the map!"

That would be the very simplest of uses for set-piece features; uses
can get much more complicated depending on your imagination.

                              MILITARY

Default tile set. Many signs and painted numbers.

Corridor
1,2.........9
3,4.........(blocks)
5,6........15
7,8........2
9..........10
10.........1, windows, on/off switch
11.........windows, Zone A1, on/off switch, no trespassing signs
  Notes: With proper tile rotation/linkage, tiles 10 or 11 can be
  used as the outside of a nice building rather than as the inside,
  due to the windows. Using 10 results in surrounding walls though.
- -
Large
12..........12
13..........13
14..........14, map (off center), high voltage x2, level 6 clearance
15..........map, high voltage box
16..........acid warnings
17..........map, high voltage box
- -
Small
18.........level 6 clearance, security 3 x2

```
19.........19, 2, security 3
20.........security 3, high voltage box x3, floor drains
21.........same as 20 but with backwards writing (hmm... backwards
            writing...there's a story there, something involving a
            dimensional travel mishap, perhaps?)
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
Ramp
22.........3
23.........20, level 6 clearance
24.........Danger
25.........Danger backwards
26........12
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
Stackable
27.........9
28.........(blocks)
29-31.......N/A
32.........14, map (off center), high voltage x2, level 6 clearance
33.........map, high voltage box
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
Trench (has warheads and ?turbines?)
34,35.......26
36-38......8
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
Bunker
39-41......12
42.........21, caution
43.........caution
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
Special
44.........16
45.........mines with warning
-----------------------------------------------------------------------
                            LAB
-----------------------------------------------------------------------
Not much different in here.  If you want a tile set to get a Player
lost, this is it.  A few monitors hanging here and there, but other
than the pit room, it all looks basically the same.  Use to build
spaceship or space station levels (Blue DonkeyKong, 6/30/06). I hear
some pipes release steam when you shoot them...
-----------------------------------------------------------------------
                          EGYPTIAN
-----------------------------------------------------------------------
"gods?" painting too numerous to mention.  Egyptian is the only tile
set that will allow a Speed Pickup pedestrian jump of a 2-square gap
within the safe 3-floor falling distance (in other tiles sets, the
2-square gap jump is only possible if a vehicle is parked close
enough to enter, on the edge of the 3rd floor down).

Corridor
1,2.........queenless king facing left, 2-strip scene
3,4.........smallish blocks on 1 wall
5-8.........N/A
9..........vertical tablet, "gods?" squished
10.........N/A
11.........lovers, 2-strip scene (also a good example of "gods?")
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
Large
12.........dog
13.........boat
```

```
14..........dog
15..........square tablet recessed
16..........spikes
17..........square tablet recessed
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
Small
18..........1 torch, juxtaposed vertical tablets, bas relief x2
19..........mirrored "gods?" facing 2 torches
20..........queenless king facing right
21..........queenless king facing left
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
Ramp
22..........2-strip scene
23..........bas relief overhanging, lovers up high
24,25.......3 torches
26..........2-strip scene and dog up high, white god alone
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
Stackable
27..........N/A
28..........smallish blocks on 1 wall (good for crude statues)
29,30.......N/A
31..........queenless king facing right, harpist
32..........dog
33..........square tablet recessed
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
Trench
34,35.......N/A
36-38.......winged scarab
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
Bunker
39-43.......harpist, lovers, 3 figures with pets
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
Special
44..........N/A
45..........bloody spikes
----------------------------------------------------------------------
                           HORROR
----------------------------------------------------------------------
Paintings = girl, boy, sis, bro, mom, pop, granny, family, bowler,
coat; multiples listed within parentheses.

Corridor
1,2.........all stone
2,3.........half stone, half interior
5,6.........all interior, floor door
7,8.........girl
9...........all interior
10..........bookcase w/brain, bloody prints, (pop, family, bowler)
11..........girl, (sis, mom, boy)
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
Large
12..........(granny, pop, sis), (coat, bowler, boy), bookcase w/
            eyes, large bookcase, small bookcase
13..........fireplace w/cow skull, chains, floor pentagram, family,
            mom, bro(floor)
14..........bloody prints climbing wall, chains
15..........family, (mom, bro)
16..........wall pentagram
17..........family, (mom, bro)
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
```

```
Small
18..........fireplace w/altar, swords/shield x2, bloody prints
19..........figurines (1 broken), pentacle book on stand
20,21.......chains, skull, floor door
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
Ramp
22..........cellar doors
23..........swords/shield
24,25.......cow skull
26..........big cat rug, swords/shield, swords/pentacle shield,
            (boy, bro, coat), family, (sis, mom, granny)
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
Stackable
27..........all stone
28..........half stone, half interior
29,30.......stone, wood ramps
31..........all interior; 2 differing skulls, 3 femur bones
32..........bloody prints climbing wall, chains
33..........family, (mom, bro)
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
Trench
34..........casket, skull, bone
35..........casket, skull (bone is under ramp; entering under ramp
            makes the ramp an invisible wall from that direction)
36..........skull w/bone, casket
37,38.......skull w/bone (casket is under ramp; entering under ramp
            creates one-way travel through invisible wall)
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
Bunker
39-41.......mom, family, bro
42,43.......pop, granny, coat, boy, sis, bowler, cow skull
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
Special
44..........bloody prints
45..........origin of bloody prints!
----------------------------------------------------------------------
                              VIRTUAL
----------------------------------------------------------------------
...uh, no features, at all.  Good for simulating MGS VR missions for
attempted stealth play involving patrolling guards.  But where's
Captain Snow to play my Genome Soldier?

Virtual creates invisible wall effects in Trenches, same as Horror.
Another similarity between these two tile sets is a double barrel
for the exotic turret gun item.

*** Open request for any known special features, unique to a
particular tile set, that would alter gameplay by choice of the tile
set.  Like in TS2 a certain tile in one set might have a ledge you
could walk on that wasn't there when you changed tile sets, or like
the steam pipes in Lab here.  Know any? ***


======================================================================
                              Story AI
======================================================================
The Story AI are highly perceptive, in that they don't need to spot
the Player, or see another enemy attacked, in order to start
seeking/attacking the Player.  All they need to do is see some other
enemy reacting, and they will join the attack.  This makes the
```

direction they face, and their placement in relation to one other very important things to consider. If they are placed facing the same direction and in one long row, only a single AI on the very end needs to spot the Player and all in the row will react with equal timing. That's some mighty good peripheral vision and reflexes. Spreading them out and facing them in different directions will correct this "group consciousness" effect.

Though somewhat "smarter" in this respect than previous TS AI, an unarmed Story AI is unable to pick up weapons that might be lying around, and will remain unarmed until dead.

The "ancestral memory" glitch from TS2 has been fixed, so that Spawn and Wait enemies won't come gunning for you when their forefathers die.

In TS:FP you can place 50 baddies... with some restrictions. You can only have 19 of these 50 materialized in the map at 1 time (all consoles), so don't plan on having all 50 spawned at Game Start. One of the 1st 19 spawned will have to lose all of the lives assigned to it before the 20th AI will spawn on the map. In maps with large numbers of AI, this mechanic can be used as a memory-saving substitute for Logic, in that the final death of someone among 1-19 will automatically "Spawn New" a #20 (a boss or sub-boss perhaps). Someone else 1-19 dies finally, and #21 then arrives... etc. etc.

There is one simple condition that must be met within the construction of the surrounding environment, or the Story AI will not behave properly. This is that there must be NO barriers (windows, gaps, death traps, ramps, whatever) that keep the AI from doing the Player harm. If there is an AI separated from the Player by some barrier, they must have a gun to shoot with; if they don't, then they will soon freeze, and even when the barrier is subsequently eliminated (say, Player hops down to them from a higher level), the AI will stand there like an idiot and do nothing but point their gun hand. If there are multiple AI, you can get some of the others to act normally again by attacking or killing one of them, but results vary.

Placement of Feature items near hallway entrances, corners, or other bottle-neck areas in the map -- Features which the Player can easily walk around -- will impede the progress of Story AI, and become an impassable barrier for them. Rotation of the item may or may not allow a "doorway" for the AI to pass.

This "bafflement" of the Story AI caused by obstacles *can* be used to a certain advantage once you are aware of it. While any non-navigable obstacle will make the AI "turn stupid" when encountered (i.e., they stop the chase, suddenly can't aim for nothing if they even fire at all, and usually just watch you helplessly until you plug them in the face), you can exploit this behavior if you *want* them to turn stupid temporarily... You can make a Safe Room or Panic Room to intentionally "bring the stupid". Just put a barricade or other obstacle to the AI in front of a single-block wide dead-end. You can walk past the obstacle into the dead end (rotation of the obstacle may matter, depending upon the tile set), but all the AI currently hunting you will "turn stupid" as soon as you pass the obstacle. To prevent abuse of such a safe room, you could make it accessible only once through Logic use or some other means (Panic

Room reached = Panic Counter increases by 1 and reset Panic Room reached; Panic Counter reaches 2 = mission failure). Also, with some thought, a mechanism for it could be contrived into the story (a message displayed saying "Allied forces have fired the Confusion Ray from orbit," maybe "EMP discharged" for pursuing robot AI). Having a safe room can provide an emergency "out" during a frantic and overwhelming story situation (say, 19 AI are bearing down on you fast with homing missiles).

Ramp items, which are used to create one-way travel through a hallway, will snag the AI if the Player is watching. Though they will try forever, they cannot go over the top while being watched; but they will instantly go over as soon as the Player looks the other way.

In this guide, individual characters are placed into Classes based on general behavior and attributes. So that there will be no confusion between Classes and Bot Sets, I'll call the Classes Normal, Zombie, and Robot.

AI Classes
==

Normal Class

Your basic AI, which spawns standing up and on watch, regardless of Bot Set. Mannerisms and mobility are always "human," although aliens, cyborgs, and fantasy creatures abound.

When armed and aware of the Player, Normals will travel normally, and will dance around trying to get a good shot at the Player while trying to make themselves a difficult target. However, unarmed or bat-wielding Normals (essentially unarmed) can only travel in straight lines directly East-West, North-South, NW-SE, and NE-SW
(like this):
```
                    \ | /
                     \|/
                  <---X--->
                     /|\
                    / | \
```
so they often take what looks like a long way around in order to get to the Player. When unarmed and in large numbers, each Normal will take the "nearest" route, running in formation and executing precision turning that not only looks pathetically hokey, but can cause them all to get hung up on one another when converging from different directions.
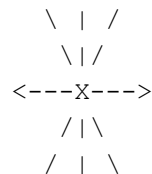
An unarmed or bat-wielding Normal behind a barrier will run a ten-mile course to get at the Player, provided that such a course exists. If there is no route to reach the Player to facilitate physical contact, they will soon blow a gasket and freeze, without approaching the barrier.

Normals utilize many weapons in a ridiculous rapid fire (grenades, mines, bricks, flares, harpoons...)

With health at the default setting, Normals die with one head shot.

Most Normals die instantly from flamethrower flame, with a few exceptions noted in the Character table.

A Normal that is armed (bat doesn't count) will run to and man a
nearby turret gun item, or will take a defensive position behind the
Large Generic feature item in Military (sandbags).

Normals will dive to avoid grenades. If remote mines are placed on
the front of a Normal, perpetual diving and somersaulting begins.

The next two classes are somewhat schizophrenic, in that they behave
like Normals (human mannerisms and mobility) if they think no one is
watching.

Zombie Class

Bot Set chosen will affect the spawning behavior of the Zombie Class
AI. In any of the pre-set Bot selections, anything other than Spawn
and Attack Zombies start out lying on the ground and will not awaken
to spot the Player until approached. If you place a Zombie Class
character in your Mapmaker Custom Bot Set, however, the Zombie
character will start out standing up and on watch (patrol possible
when acting "human"), and for a split second after they spot the
Player will act exactly like a Normal character until the
characteristic shambling Zombie behavior kicks in. Note that a
character does not have to look like a reanimated human corpse to be
in this Class.

When armed with a firing weapon, Zombies will continually advance in
a B-line towards the Player, whilst firing. If there is a barrier
in the way, they will fire but not advance. If a way exists around
the barrier, the firing Zombie will take that route to get to the
Player once the Player is no longer within their direct line of
sight.

When unarmed (or with bat), Zombies will not follow the N/S/E/W rule
of unarmed/batter Normals, but will still realistically shamble in a
B-line for the Player, even in the presence of a separating barrier.
They will advance towards the barrier but stop upon reaching it, as
long as the Player keeps an eye on them. BUT... when the Player's
back is turned, the unarmed/batter Zombie will "phase" through the
barrier. This phasing behavior of unarmed/batter Zombies happens
whether they are trapped or not at all trapped; they will walk
across gaps, through death tiles, windows, and ramp items, and even
float up to a higher level, as long as the away-facing Player
remains in their line of sight. If the Player faces them and waits
for them to reach the barrier, the trapped ones will freeze, sooner
or later. However, killing another AI may unfreeze them and they
could again potentially pull a Kitty Pryde. Although Normals are
also known to mysteriously cross barriers when trapped, it is
nowhere near as bad as in Zombies, because the unarmed/batter
Zombies do it 100% of the time, if so allowed.

Zombies (armed or not) will take an available ten-mile course around
a barrier to get to the Player, but if the Player is within their
direct line of sight, the armed Zombie will stop to fire (similar to
an armed Normal), and the unarmed/batter Zombie will abandon the
ten-mile course to B-line towards their quarry. If the Player
removes himself from their line of sight, they will resume the ten-
mile course (assuming the unarmed/batter Zombie was not given a
chance to phase).

Zombies fire weapons at a slower rate than Normals (no ridiculous rapid fire here), and though they appear to be rather clumsy about it, can still hit their target.

Head shots kill Zombies like Normals, but beheadings make them more vulnerable; i.e. the ones that can be beheaded can die with a beheading head shot from an ElectroTool, whereas Normals will not die with a headshot from that weapon. Even with health set to Tough Guy, you can get an instant kill with a beheading. The unarmed Player cannot execute an instant beheading with the fists (default AI health setting).

Zombies catch fire and burn a while before dying (one exception in Crispin).

Zombies will not use a turret gun item or Military sandbags under any circumstances.

Zombies will not dive to avoid grenades and mines, but the initial release will startle them if they are caught unawares and in their "human" state. Any time a mine is placed on the front of a Zombie, they break character and panic for a moment (pretty funny).

Robot Class

When unaware of the Player, Robots exhibit human mannerisms and mobility. When aware of the Player (and armed), they will plod slowly along like... a robot. If unarmed however, they continue to act like a Normal, and start running towards the Player as though human, conforming to the N/S/E/W rule. If armed with a bat, they think the bat is a gun, so they try to fire it, plodding slowly along to keep the Player near and in their sights, B-lining unless they have to turn with the map. They won't swing the bat, so are harmless.

Robots will not advance on the Player if the Player's back is turned (unless they are unarmed and running), so there is no Zombie-like phasing through barriers if the Player is within their line of sight. If they are trapped, they do not advance, armed or not. If there is a ten-mile course to reach the Player, the armed Robot will start the plodding trek as soon as the Player leaves their direct line of sight (unarmed ones take it immediately at a Normal's trot.)

Robots, like Normals, utilize many weapons in a ridiculous rapid fire (grenades, mines, bricks, flares, harpoons...)

With health at the default setting, Robots die with 2 head shots.

Robots are impervious to flamethrower flame.

The main mode of the ElectroTool will not hurt them, but if they are armed, the shock will paralyze them for a brief second or two. If they are unarmed, there will be no paralysis effect to slow down their chase. If they are trapped, there will be no paralysis effect to slow their firing rate. If they are in extreme close proximity with another AI there will also be no paralysis effect.

Like Zombies, Robots will not use a turret gun item or Military sandbags under any circumstances.

```
Robots will completely ignore both grenades and mines, even mines
placed on their face (the 1st release of a nearby grenade/mine will
startle them during their split second of human behavior.)


Individual Characters: Class, Availability, and Special Notes
------------------------------------------------------------------
Most of the 150 characters you can already use somehow from the
outset, as even if they are locked (*), some may appear in the pre-
set Bot selections; conditions of unlocking each character are
conveniently displayed within the gallery, in-game.  Names of the
locked are not displayed in the gallery, but you can use the lists
below as a reference (the Abilities/Punishment Table for multiplayer
use farther down is better suited for any needed cross-referencing
to the gallery).

For a Bot Set, Mapmaker Custom is obviously the best choice for your
own mix-and-match opposition, but remember that Zombies will not
spawn in their natural sleeping state.

The character stats visible when selecting your avatar for
multiplayer action (speed, fire proof, etc; see the
Abilities/Punishment Table below), are not applicable to Story AI
but there instead seems to be a whole new hidden set of stats for
Story.  For instance, in multiplayer, most Zombies are supposedly
weak against fire and strong against shock, but in Story they are
clearly the most resilient against fire, 2nd to Robots, and seem to
react to ElectroTool shocks no differently than most Normals
(beheadings not withstanding).  Also, note that while Stone Golem
has equal fire proof and shock proof rankings in multiplayer, in
Story he is impervious to flame but can be killed easily enough with
the ElectroTool; in Story the Freak and Berserker Splitter have fire
resistance that belies their stats; Jo-Barf Creepy can't possibly be
among the fleetest of foot when she shambles like a Zombie.  Many
other examples can be spotted, but in short, don't pay the stats any
attention for use in Story.

Certain Story AI have rare or unique attributes, often contrary to
class; these are listed in the following table under SPECIAL.
Attributes common to the Class grouping of a particular character
are not shown (e.g., the Fire Proof-ness of all Robots is not listed
in the table).

.--------------------------------------------------------------------.
|                Story AI Character Table Abbreviations              |
|--------------------------------------------------------------------|
|     Class:                                                         |
|        R = Robot                                                   |
|        Z = Zombie                                                  |
|       NA = Not Available as Story AI due to programming error      |
|            (Anyone without an R, Z or NA is a Normal)              |
|                                                                    |
|   SPECIAL:                                                         |
|       FP = Fire Proof (a non-Robot Character that is               |
|               invulnerable to direct flame attack)                |
|       FR = Fire Resistant (a non-Zombie Character that is          |
|               resistant to direct flame attack (burns a while      |
|               before dying)                                        |
|      nAA = No Auto-Aim on character (no red crosshairs)            |
|      nBH = No Beheading (a Zombie Class Character that cannot      |
```

```
|          be beheaded)                                       |
|      nHS = No Head Shots (any Character without the usual    |
|            noggin vulnerability)                            |
|       SW = Special Weapon; see notes for details            |
|      !!! = Character possesses additional specials or a unique |
|            attribute; see notes for details                 |
|                                                             |
|   Bot Sets:  * = Must be unlocked for use in Mapmaker Custom |
|                                                             |
|                 Mapmaker = M          Undead = U            |
|                 Assorted = A           Cyber = Cy           |
|            Femme Fatales = FF          Freaks = F           |
|                Sidekicks = S        Creatures = Cr          |
|                Henchmania = H         Baldies = B           |
|                                                             |
'-------------------------------------------------------------'


                           Available in Bot Set
                          .------------------------. Online
Character         Class SPECIAL |MC M A FF S H U Cy F Cr B|  pic
=================================|=========================|=======
Cortez-------------------nAA-----|-------------------------|
Henchman Cortez----------nAA-----|-*-----------------------|
Dr. Cortez--------------nAA-----|-*---------------------B|
Time Assassin Cortez------nAA-----|-*----------------------|3945924
Captain Ash--------------nAA-----|----------S-------------|
Harry Tipper-------------nAA-----|-----A----S-------------|
Swinging Tipper----------nAA-----|-*--------S-------------|
Jo-Beth Casey------------nAA-----|-------FF-S-------------|
Amy Chen-----------------nAA-----|-----A-FF-S-------------|
Dr. Amy------------------nAA-----|-*----------------------|
R-110----------------R---nAA-----|-----A----S-----Cy-------|
Victorian Crow----------FP------|-*----------------------|
Karma Crow--------------------|-*----------------------|
Jacob Crow--------------FP------|-*----------------------|
Mad Old Crow-----------FP------|-*----------------------|
Anya-------------------------|-*-----FF-S-------------|
Captain Fitzgerald---NA----------|-------------------------|
Nobby Peters--------------------|-*----------------------|
Sapper Johnson-------NA----------|-*--------------------B|
Tommy Jenkins--------NA----------|-*----------------------|
Ivor Baddic--------------------|-------------------------|
Pulov Yuran----------NA----------|-*----------------------|
Comrade Papadov------NA----------|-*----------------------|
Warrant Officer Cain-------------|-*---A--------------Bx2|
Warrant Officer Keely------------|-*----------------------|
Deep Diver---------------!!!-----|-*---------------------|3945941
Jungle Queen-------------nAA-----|-*--------S------------|3945946
Robot Louis Stevenson-R---nHS-SW--|-*-------------Cy-------|3945955
John Smith----------------------|-------------------------|
Jim Smith-----------NA----------|-*----------------------|
Fergal Stack--------------------|-*---------H------------|
Khallos-------------------------|-----------------------B|
Booty Guard---------------------|-*----------------------|
Kitten Celeste-----------nAA-----|-*-----FF-S-------------|
Henchwoman----------------------|-----------H------------|
Elite Henchwoman----------------|-*---------H------------|
Henchman------------------------|-----------H------------|
Elite Henchman------------------|-*---------H------------|
Vlad the Installer--------------|-*----------------------|
```

```
Leonid---------------------------|-*---------H----------|
Oleg-----------------------------|-*---------H----------|
Dr. Peabody---------------nAA-----|-*--------------------|
Nurse Gulag---------------nAA-----|----------------------|
The Deerhaunter------------------|------------------F--Cr-|
Carrion Carcass-------Z---nHS-----|-*------------U----F-----|
Headsprouter----------Z---nBH-----|---M------------F-----|
Mr. Fleshcage---------Z---nBH-----|-*------------U----------|
Clip Clamp-----------Z-----------|---M------------------|
Crispin--------------Z---nBH-FP--|----------------------|
Gideon Gout----------Z-----------|-*--------------------|
Daisy Dismay---------Z-----------|-*------------U-------|
Jed-----------------Z-----------|-*--------------------|
Arthur Aching--------Z-----------|-*--------------------|
Gilbert Gastric------Z-----------|-*------------U---------B|
Jo-Barf Creepy-------Z-----------|-*------------U----F-----|
Gladstone-----------Z-----------|--------------U---------|
Blanche Deadwood------Z-----------|--------------U---------|
Gaston Boucher-------Z-----------|-*--------------------|
Dr. Lancet---------------nAA-----|-*---A----------------|
Dr. Pustule---------Z-----------|--------------U---------|
Nurse Tourniquet----------------|----------------------|
Nurse Sputum---------Z---nBH-----|-*------------U---------|
Lenny Oldburn-------------------|-----A----------------|
Edwina-------------------------|----------------------|
Deadwina------------NA-----------|-*--------------------|
Brother Bartholomew-------nAA-----|-----------------------B|
Sister Faith-------------nAA-----|-*--------------------|
Envirosuit----------------------|---M------------------|
Neophyte Lucian-----------------|-*---------H----------|
Neophyte Constance--------nAA-----|-*---------H----------|
Security------------------------|---M------------------|
Jack Sprocket-------------------|-*---------H----------|
Inceptor------------------------|-*---------------------B|
Inceptress---------------------|-----------------------B|
The Freak--------------FR------|-----------------F-----|
Tin-Legs Tommy-----------------|-*--------------------|
SecuriDroid XP--------R---------|----------------------|
The General--------------------|-*--------------------|
Private Hicks------------------|---M-A----S------------|
Private Jones------------------|-*--------------------|
Lazarus Mumble-----------nAA-----|----------------------|
Mordecai Jones-----------nAA-----|-*---------------------B|
Ghengis Kant------------nAA-----|-*---A----------------|
Angel Forge------------nAA-----|-------FF--------------|
Prison Officer-----------------|-*------------Cy-------|
Lt. Black---------------------|-----A----------------|
INSETICK SD/12--------R---------|---M-----------Cy-------|
INSETICK SD/10--------R---------|-*------------Cy-------|
PROMETHEUS SD/7-------R---------|---M------------------|
PROMETHEUS SK/8-------R---------|-*------------Cy-------|
GOLIATH SD/9----------R---nHS-----|-*------------Cy-------|
Med-Unit 6-----------R---nHS-----|--------------Cy-------|
Time Assassin-----------------|-*--------------------|
Berserker Splitter--------FR-SW-!-|-*----------------F-----|3945968
Monkey------------------------|---M-A-------------Cr--|
Cyborg Chimp---------R---------|------------------Cr--|
Brains--------------Z-----------|-*------------U----F-Cr--|
Ninja Monkey------------------|------------------Cr--|
Renzo------------------------|----------------------|
```

```
Goddard------------------------|-*--------------------|
Schmidt------------------------|---M------------------|
Jacque de la Morte-------------|-*--------------------|
Viola--------------------------|-*-----FF-------------|
Mr. Underwood------------------|-*--------------------|
Sewer Zombie---------Z---nBH----|-*--------------------|
Undead Priest--------Z---nBH----|----------------------|
Crypt Zombie---------Z---nBH----|----------------------|
Maiden------------------------|-------FF-------------|
Changeling---------------------|-*--------------------|
The Cropolite------------------|-------------------Cr--|
Jared Slim---------------------|-*--------------------|
Venus-------------------------|-*--------------------|
Chastity----------------------|-------FF-------------|
Ghost-------------------------|----------------------|
The Master---------------------|-*--------------------|
Riot Officer-------------------|---M------------------|
Mischief----------------------|-*--------------------|
Mr. Giggles--------------------|----------------------|
Leo Krupps---------------------|-*--------------------|
Stumpy------------------------|-*--------------------|3945976
Bear-------------------------|-------------------Cr--|
Kypriss-----------------------|----------------------|
Stone Golem--------------FP------|----------------------|
Aztec Warrior------------------|-*--------------------|
High Priest--------------------|----------------------|
Dinosaur----------------------|-------------------Cr--|
Braces------------------------|-*--------------------|
Handyman----------------------|-----------------F-----|
Candi Skyler-------------------|-*--------------------|
R One-Oh-Seven-----------------|--------------Cy-------|
Calamari----------------------|-------------------Cr--|
Corporal Hart------------------|-*-----FF-------------|
Badass Cyborg------------------|-*----------------F-----|
Snowman-----------------------|-*-----------------Cr--|
Robofish-------------R----------|---------------Cy-------|
Chinese Chef-------------------|-*--------------------|
Gingerbread Man----------------|------------------F-----|
Duckman Drake------------------|-------------------Cr--|
Koozer Mox---------------------|-*--------------------|
Teeth Mummy----------Z---nBH----|----------------------|
Captain Ed Shivers-------------|-*--------------------|3945991
Gretel--------------R----------|-------FF-------------|
Arial DaVinci------------------|----------------------|
Dozer-------------------------|-*--------------------|3945980
Sheriff Skullface--------------|----------------------|3946019
The Shoal---------------------|----------------------|
Hans-------------------------|-*--------------------|
Mr. Socky---------------------|-*--------------------|
Lt. Christine Malone-----------|----------------------|3946003
Eli Scrubs--------------------|----------------------|
```

The 7 characters with Class of "NA" can be selected as the player
character in multiplayer modes with no problem, and they will play
as bots in arcade maps with no problem, but to use them as bots in
mapmaker multiplayer they must first be placed in the Mapmaker
Custom bot set. Even then, they are not available for use as Story
AI, ever:
Nobby Peters serves as a stand-in for
  Captain Fitzgerald

```
   Sapper Johnson
   Tommy Jenkins
Ivor Baddic is the stand-in for
   Pulov Yuran
   Comrade Papadov
John Smith stands in for Jim Smith
Edwina stands in for Deadwina


The Story AI of Normal Class noted as Fire-Proof (FP) will stagger
when contacting flame on others; if health is set to Weakling,
second-hand flame seems to kill these Normals eventually. The Fire-
Resistant Zombie Nurse Sputum will lose her flame very soon, but
dies afterwards at the normal FR dying time.  The Fire-Proof Robots
Cyborg Chimp and Gretel have flammable fur and clothes
(...respectively).

SW and ! : Character Notes
---------------------------
Deep Diver: Deep Diver's helmet is a little fogged up.  He can't see
anything at all unless it's within 2 squares of him (1 diagonally),
and of course he has no peripheral vision.  When he sees other AI
attacking you, he will run past them so that you are within 2
squares so he can attack too.  If you move out of his vision range,
he will then stand still, until he sees another attacking AI that is
close enough to him to be seen (oddly enough, if he is unarmed or
equipped with a bat, his vision improves greatly).  DD holds all
weapons like a shotgun (he only has one firing animation), so any 2x
weapon will not aim correctly and he misses with both guns.  One of
the many line-of-sight glitches in the game causes his aiming
problem to be rectified as soon as you turn your back on him; as
soon as you show your back, he can aim just fine with his 2x guns
...the coward. DD is the only Normal Class character who does not
use grenades (etc.) in rapid-fire.

Robot Louis Stevenson: No head shots, plus onboard machinegun
overrides Unarmed.  If hit with a Player's surprise bullet from up
high, RLS will freeze; though machinegun will fire slowly, bullets
will not connect.

Berserker Splitter: Fire resistant, plus natural cloak, plus homing
lightning overrides assigned weapon, once the AI becomes aware of
the Player.  Depending on the Drop Gun option selected, the Splitter
will drop the gun or the gun will disappear upon awareness.  Can be
forced to keep the assigned weapon if the Player hits them with a
surprise bullet from a higher level (they will stand frozen in place
and fire their assigned weapon).  Also they may become thus frozen
if the Player on a higher level "teases" their awareness by
crouching, standing, then crouching again quickly, or using certain
weapons to provoke their "search" mode. Killing a frozen one will
unfreeze any others.

*** Open request to compile here a list of individual character
special attributes in Story mode.  Know any? ***


Some Notes on Weapons Use, in regards to Story AI and Story Maps
----------------------------------------------------------------
Drop Gun means Gun only (not grenades, mines, etc.)

Standard enemy-recognition range for an AI is 3 grid-squares (2
```

diagonally; they can see farther than that once aware, but everyone
starts out daydreaming). Giving an AI a sniper rifle gives them
"scope eyes" with the ability to see across the entire map, and to
recognize you as an enemy instantly, with no daydreaming.

When the Player fires a flare or throws grenades or mines, AI out of
visual range (as opposed to enemy-recognition range) will hear and
investigate. (Hearing ranges not yet tested.) If the AI uses these
weapons against the Player, the noises fall on deaf ears (nearby
unaware AI will not notice).

Glass broken by AI in a firefight will alert other AI too distant to
see the Player; however, distant AI will not "see" glass broken by
the Player. (AI facing away seem not to "hear," so I assume it is
"see.")

AI with plasma grenades will throw them sky high if the Player is
outside a certain range; if you try to catch them there is no damage
inflicted.

The Ghost Gun is harmless in Story (to Player and AI both), so you
can give it to AI which are intended to be harmless, whom you do not
want to freeze. It is also good for spotting invisible Berserker
Splitters whom you can then promptly pistol whip. It can also push
things for use in environmental puzzles. Be aware that while
harmless, the Ghost Gun can injure indirectly by blowing up
exploding objects.

Other weapons that have lost full functionality in Story mode are
the Injector (darts cause no bloat/explosion), K-SMG (no rockets
available), and the Mag-charger (No pierce-vision.) The Mag-charger
does work, you just can't see what you are doing in pierce mode; any
search for story AI behind walls must be done with the red aiming
reticule alone. Also note that the Heatseeking Rockets that come
from both Gun Turrets and Autoguns will not seek heat (and neither
will they in multiplayer).

Story AI will never run out of ammo (while multiplayer bots do).

Autoguns will not automatically aim/fire at Story AI. Autoguns only
aim/fire at the live Story mode player.

When using a car for vehicular bot-slaughter, the vehicle does not
necessarily need to be in motion; tapping the gas on a stuck vehicle
is just as deadly. It's even deadly with the ignition off; just use
a Ghost Gun to slowly push it against the AI for a kill.

*** Know anything more? ***

==
        Map Considerations for Story AI and Multiplayer Bots
==
"Got no mates? Play against Bots!" Easier said than done, especially
in mapmaker maps. In order to make multiplayer maps that play well
against bots, you need to know some things about bot behavior; and
while bots share some characteristics with Story AI, they are really
an entirely different animal. Here are some things I have learned
about both.

Building "Bot-Friendly" Maps

Bots often get stuck in maps, and they do so for different reasons.
In many cases you can watch them and see where they get stuck, then
play around with modifying the area a bit until they don't get stuck
anymore. If they are running against a wall for no apparent reason,
or circling in one area of the floor, build them a hallway or drop-
shaft and let them go where they want to go. Let the bots help you
with the feng shui! In the worst cases, bots that want to go
somewhere that they can't *will* make a map freeze. If you are
having freezing problems with a map, you need to be a gumshoe and
watch your bots carefully; often you can catch them in the act of
making your map freeze.

You may have heard that to ensure bots don't get stuck on doors
somewhere in your map, that you should set all doors to no
autoclose. This may only help in cases when the player can see the
door, as there is another line-of-sight glitch at work here (AI and
bots do/don't do certain things, depending on whether or not you are
looking their way at the time). Bots can still get stuck on a door
that is standing wide open, when the door is far away and not within
your line of sight. You can pinpoint these problem areas by putting
up controllable cameras or autoguns nearby any suspicious spot, and
when you are wondering where your bots have disappeared to, peek
around your map using the cameras. Stuck bots will automatically
unstick when there are seen, so in this way you can keep the camera
up in the problem area, and if it is a Story or Assault map, have
the operation of this camera/autogun as part of the objectives, so
that operating it and "seeing" the stuck bots is a built-in fix for
the stuck-on-doors glitch within your map. Note that autoguns will
not automatically aim/fire at multiplayer bots on the Gamecube,
but they *will* aim/fire at multiplayer bots on XBOX (and they do
not automatically aim/fire at Story AI on any console).

In addition to the tile layout and door considerations, the 3rd
important thing when making a map bot-friendly is the placement of
certain items which the bots cannot walk past. One barricade in the
wrong place can simply kill a map for bot play. Once you know how
bots will react to these items, you can use Features (like
strategically rotated ramps) to "herd" story AI or multiplayer bots
in a particular direction, or to other ends...

The "safe room" principle (see Story AI section) works in Assault
and other multiplayer modes too, but the bots don't get stupid like
Story AI, they just patiently wait on you to exit the "safe room"
and then they resume the chasing/firing. You can use the safe room
to place items you don't want bots to pick up, but that live players
can access. You can also confine the bots inside a room that the
live player cannot access, thus restricting the player from items
that the bots can have (on the other side of a bunker or window, for
example). However, if the bots and live player are never able to
enter the same playing area (so that they can touch each other),
there is a glitch that causes multiple bots (2+) to freeze if they
are in close proximity to one another. For example, if multiple bots
are standing on top of a single spawn point or at 1 re-spawning gun,
they will freeze and be unable to shoot at the live player until the
live player enters "their space"; or, if within their confined space
the bots are not on top of each other because they have each moved
to a separate weapon pickup, and they can also see the player, they
will shoot and dodge, but as soon as 2 come in close contact with
one another during the shooting/dodging, they will also freeze. This

type of freezing problem with the multiplayer bots is reversed as
soon as no "barrier" exists between player and bots (for example,
bots that are too close to one another and frozen on a lower level
will unfreeze as soon as the player jumps down to them, quite unlike
Story AI, which will remain frozen given the same situation, and do
not need to be clustered up to freeze). You can also join two
obstacle-separated areas, or provide a way out of a "pit," by making
a long, long winding path that the bots can take to reach the
player, eliminating any possibility of the "proximity freeze." If a
possible pathway to the player exists, the bots will shoot/dodge as
soon as they see the player, and will not freeze upon coming too
close to one another; as soon as the player leaves their line of
sight, they will take the long winding path.

The Running of the Bull- , er, Bots

Story AI of the Normal class (not Zombies and not Robots) that are
armed with a firing weapon will run to and man a turret gun item
placed in the map (some rules apply). This is the only thing that
Story AI will care to access in the map other than the player, and
they can be made to run a very long way to get to the turrets. In
contrast, multiplayer bots will run to *weapons* placed in the map,
and will *not* man a turret.

Multiplayer bots have no classes... Zombie characters do not
shamble; Berserker Splitters do not gallop and shoot lightning;
Robots do not plod; all bots act exactly the same. When bots have no
weapon or are out of ammo, they will run a very long way to get to a
weapon, no matter where it is in the map, so long as they can reach
it (they will not pick up ammo placements, only weapon placements).

You can use this running behavior to several ends. One that comes to
mind is setting up a shooting range, where the goal is to take down
running bots or Story AI. Another is giving keys to runners in
Story, so that you need to chase them down in order to get the key.
Or give them a particular weapon you might have need of, which is
not itself placed within the map.

Multiplayer bots will also run to and pick up a nearby powerup, but
unlike a weapon, the powerup has to be very nearby. Powerups only
last for 25 seconds, so if you want to ensure your bots stay powered
up for a challenge (say, you want to make unarmed Dino velociraptors
with speed powerups, or unarmed Evil Dead Invisible Zombie
characters with cloaks), you can lead them back to the powerup with
a respawning weapon. Make the weapon respawn every 25 seconds or so,
so that only 1 enemy can get it at a time, but *all* go running to
the weapon when it spawns. There will be one "winner" who gets the
weapon, but the rest will remain unarmed and can get a powerup (set
it to respawn on pickup) that is placed strategically in their path
along the return journey.

Exclusivity of Weapons in Multiplayer (Team-based modes)

One thing you can do to spice up multiplayer game play against bots
is to give the opposing-team bots a selection of weapons different
from yourself. One way to do this is to put a weapon placement near
their spawn point, on a higher level which the live player can't
access (Greenpoe on Assault, Rec Room, 2005). This method can serve
its purpose, but note that like you, once the bot jumps down from
that higher level and then spends its ammunition, it can't get back

to the same weapon placement to restock ammo (unless of course it
gets killed and uses the same spawn point again). This can be
especially bad, because when an unarmed or out-of-ammo bot senses a
weapon in the map that it cannot reach... you've got yourself a
malfunctioning bot on your hands. You can, however, provide a bot-
only route back to the same weapon placement, so that the bot can
restock its ammo at the source without having to die in order to do
so, and most importantly, so that it never becomes a lobotomized,
two-stepping, harmless freak. Here's how: Bots (and Story AI, too)
can do 2 specific things that the live player can't, serving in some
ways as a balance to becoming debilitated by obstacles (see "safe
room" above). They can a.) survive a 4-story fall, and b.) travel
the wrong way through a one-way teleporter when the player isn't
watching. You can use 1 or both of these bot characteristics to
allow them access to weapons (or powerups) you the player cannot
physically reach yourself.

Adjust the spawn times of player-accessible weapon/armor/health
items (0:00, anyone?), and you can make some unique challenges
against well-equipped bots. For *absolute* exclusivity, turn off
"always start with weapon," and you can even have levels where the
live player starts unarmed and must punch out a bot and steal its
weapon in order to survive/progress, or, maybe the bots have weapons
that can't be dropped (bats, bricks, mines, grenades), so that in
addition to fisticuffs, only turrets and switchable autoguns can be
used by the player.

Note that if the *player* has unique weapons, bots too can take that
equipped, ammo-containing weapon from the player's own dead body.
Bots will also collect harpoon gun and injector dart ammo that has
been shot and peppered about the map, even if they don't posses
these weapons. While they do collect dropped weapons and collectable
spent ammo, they do this only by chance (proximity) and not by
intent; nevertheless it could be a useful feature for some unique
gameplay (player has a weapon that does not respawn; player dies and
has scant seconds to retrieve weapon before it disappears; bot picks
weapon up so now player needs to get the needed weapon back from the
bot who stole it...)

The Oft-neglected Character Abilities

Multiplayer bots don't always need to be 5 stars to present a
challenge in a bot-friendly map. If you've succeeded in making your
multiplayer map bot-friendly, try turning character abilities ON,
and use bots based on their stats. Utilize specific characters to
specific ends (fast runners, slow runners, shock- or fire-proof,
etc). Such differences can be key to the gameplay in your map. One
good example is how Goliath, a natural 5-star bot, can be killed
with 15 9mm shots to the "head" if character abilities are off and
set to 5 stars... but with character abilities ON, it takes 28 9mm
shots to the head to take him down. (Thanks Black Dragon for
pointing that out). Head armor notwithstanding, the few other
natural 5-star bots are also tougher with abilities on than when off
(the Master is tougher by eight 9mm shots to the head), and even
natural 4-star bots aren't very much of a step-down from when you
set them to 5 stars (natural Cortez at 4 stars goes down with 9
shots to the head; with 5 stars he takes 2 more), and may not be a
step down if they have a higher than average stamina. Note that
while stamina, shock- and fire-proof rankings are star-dependent (a
2-star bot with a stamina of 6 is much weaker than a 4-star bot with

a stamina of 6), the speed ranking works independently of stars (a
2-star bot with a speed of 6 will run and move at a rate equal to a
4-star bot with a speed of 6).

One final thought on bots and character selection for a map, since
the selection of bots and player character can be switched up,
independent of the map that has been made... Give your map that FRD
arcade challenge "feel" by presenting a premise, and defining
characters meant to be used, in the Description and Briefing for the
map. Remember TS2's Porridge Bust? One among many great FRD premises
made possible by player-character and bot specificity.

OK, now. Got no mates? Play against Bots! In Mapmaker!

==
            Multiplayer Bots Character Abilities Analysis
==
This information can prove especially useful to the mapmaker looking
to add that additional level of variety or challenge to gameplay
against Bots in a custom map.

Note that Star rankings and Ability values apply primarily to Bots
and not necessarily to a live player who chooses to select a
particular character for play. While relative Speed and
invulnerability to Shock and Fire correlate to live play, Stamina
and actual shock resistance (noted ElectroTool voltage) do not. In
live play, characters are about the same (except as noted), and can
even exhibit resilience opposite to what they should. Most notably,
high Star rank + high Stamina value = extremely weak live character
against normal weapons; try out Berserker Splitter for example.
There is likely a programming error which causes weakness in high-
Stamina characters when chosen as the player's avatar.

For this table, characters were tested for resilience in Bot form,
using Cortez with a 9mm pistol and ElectroTool (default mode),
against stationary teammates (mapmaker Team Deathmatch, friendly
fire on). Fire Proof less than 8 was not tested in Bots due to the
fact that once on fire, all Bots are debilitated, and therefore
there is little use of knowing if it takes a Bot 1 second to die or
20 seconds to die, they are all dead unless they have Fire Proof of
8 (Invulnerable to fire). Fire Proof was tested in characters for
live play only (as opposed to CPU/Bot play).
.--.
| Abbreviation Key for Abilities Table: |
| PUNISHMENT TEST RESULTS |
| Sp = Speed   TS = Torso Shots for kill (9mm pistol) |
| St = Stamina   HS = Head Shots for kill (9mm pistol) |
| SP = Shock Proof   ET = ElectroTool (volts to kill, or INV) |
| FP = Fire Proof   FT = Flamethrower |
| INV = Invulnerable |
| 2 = Player survives 2 flame bursts |
| 1 = Player survives 1 flame burst |
| 0 = Player survives 0 flame bursts |
| X = Player burns/dies super-fast |
| |
| (B) after name = Detachable head; head shots can be scored |
| by hitting the neck once beheaded |
'--'
Gallery Row 1   Stars*   Sp St SP FP   TS HS   ET   FT

```
------------------------------------------------------------------------
```

Name		Stars*	Sp	St	SP	FP	TS	HS	ET	FT
Cortez		4*	5	5	5	5	12	9	102	1
Henchman Cortez		4*	5	5	5	5	12	9	102	1
Dr. Cortez		4*	5	5	5	5	12	9	102	1
Time Assassin Cortez		4*	5	5	5	5	12	9	102	1
Captain Ash		4*	5	5	5	5	12	9	102	1
Harry Tipper		3*	5	5	5	5	8	6	63	1
Swinging Tipper		3*	5	5	5	5	8	6	63	1
Jo-Beth Casey		3*	5	5	5	5	8	6	63	1

Gallery Row 2	Stars*	Sp	St	SP	FP	TS	HS	ET	FT
Amy Chen	4*	6	4	5	5	11	8	92	1
Dr. Amy	4*	6	4	5	5	11	8	92	1
R-110	5*	5	5	5	8	26	19	218	INV
Victorian Crow	3*	5	5	5	8	8	6	63	INV
Karma Crow	3*	5	5	5	5	8	6	63	1
Jacob Crow	2*	6	4	5	8	5	4	39	INV
Mad Old Crow	1*	4	6	5	8	5	3	36	INV
Anya	2*	5	5	5	5	6	4	44	1
Captain Fitzgerald^	3*	5	5	5	5	8	6	63	1
Nobby Peters	3*	5	5	5	5	8	6	63	1
Sapper Johnson^	3*	5	5	5	5	8	6	63	1
Tommy Jenkins^	3*	5	5	5	5	8	6	63	1
Ivor Baddic	3*	5	5	5	5	8	6	63	1
Pulov Yuran^	3*	5	5	5	5	8	6	63	1
Comrade Papadov^	3*	5	5	5	5	8	6	63	1
Warrant Officer Cain	4*	5	5	5	5	12	9	102	1
Warrant Officer Keely	4*	5	5	5	6	12	9	102	2
Deep Diver	3*	4	6	5	(5)	9	6	69	0

Gallery Row 3	Stars*	Sp	St	SP	FP	TS	HS	ET	FT
The Jungle Queen	4*	6	4	5	2	11	8	92	X
Robot Louis Stevenson	5*	4	6	5	8	28	28	236	INV
John Smith	4*	4	6	5	(5)	14	10	111	0
Jim Smith^	4*	4	6	5	(5)	14	10	111	0
Fergal Stack	3*	5	5	5	5	8	6	63	1
Khallos	2*	4	6	5	(5)	6	4	48	0
Booty Guard	3*	5	5	5	5	8	6	63	1
Kitten Celeste	2*	5	5	5	5	6	4	44	1
Henchwoman	2*	5	5	5	5	6	4	44	1
Elite Henchwoman	3*	6	4	5	5	7	5	57	1
Henchman	2*	5	5	5	5	6	4	44	1
Elite Henchman	3*	5	5	5	5	8	6	63	1
Vlad the Installer	2*	5	5	5	5	6	4	44	1
Leonid	3*	5	5	5	5	8	6	63	1
Oleg	3*	5	5	5	5	8	6	63	1
Dr. Peabody	1*	5	5	5	5	4	3	32	1
Nurse Gulag	1*	5	5	5	5	4	3	32	1
The Deerhaunter	5*	5	5	5	2	26	19	218	X

Gallery Row 4		Stars*	Sp	St	SP	FP	TS	HS	ET	FT
Carrion Carcass		2*	2	8	8	2	7	7	INV	X
Headsprouter		2*	6	4	5	2	5	4	39	X
Mr. Fleshcage		3*	6	4	8	2	7	5	INV	X
Clip Clamp	(B)	3*	5	5	8	2	8	6	INV	X
Crispin		3*	6	4	5	8	7	5	57	INV
Gideon Gout	(B)	2*	4	6	8	2	6	4	INV	X

```
Daisy Dismay       (B)  3*    4  6  5  2      9  6      69      X
Jed                (B)  4*    4  6  5  2     14 10     111      X
Arthur Aching      (B)  3*    2  8  8  2      7  5     INV      X
Gilbert Gastric    (B)  2*    2  8  8  2      7  5     INV      X
Jo-Barf Creepy     (B)  3*    8  2  5  5      6  5      51      1
Gladstone          (B)  2*    2  8  8  2      6  4     INV      X
Blanche Deadwood   (B)  3*    2  8  8  2      9  7     INV      X
Gaston Boucher     (B)  4*    4  6  5 (5)    14 10     111      0
Dr. Lancet              1*    5  5  5  5      4  3      32      1
Dr. Pustule        (B)  1*    4  6  5  2      5  3      36      X
Nurse Tourniquet        2*    5  5  5  5      6  4      44      1
Nurse Sputum            3*    5  5  8  2      8  6     INV      X


Gallery Row 5      Stars*   Sp St SP FP    TS HS      ET      FT
------------------------------------------------------------------------
Lenny Oldburn           4*    4  6  5 (5)    14 10     111      0
Edwina                  3*    8  2  5  5      6  5      51      1
Deadwina^               3*    8  2  5  5      6  5      51      1
Brother Bartholomew     2*    5  5  5  5      6  4      44      1
Sister Faith            1*    5  5  5  5      4  3      32      1
Envirosuit              2*    4  6  5 (5)     6  4      48      0
Neophyte Lucian         2*    5  5  5  5      6  4      44      1
Neophyte Constance      2*    5  5  5  5      6  4      44      1
Security                4*    4  6  5 (5)    14 10     111      0
Jack Sprocket           2*    5  5  5  5      6  4      44      1
Inceptor                3*    5  5  5  5      8  6      63      1
Inceptress              2*    5  5  5  5      6  4      44      1
The Freak               4*    5  5  5  5     12  9     102      1
Tin-Legs Tommy          1*    4  6  5 (5)     5  3      36      0
SecuriDroid XP          2*    5  5  5  8      6  4      44     INV
The General             4*    5  5  5  5     12  9     102      1
Private Hicks           3*    5  5  5  6      8  6      63      2
Private Jones           3*    6  4  5  6      7  5      57      2


Gallery Row 6      Stars*   Sp St SP FP    TS HS      ET      FT
------------------------------------------------------------------------
Lazarus Mumble          5*    4  6  5 (5)    28 20     236      0
Mordecai Jones          3*    5  5  5  5      8  6      63      1
Ghengis Kant            2*    5  5  5  2      6  4      44      X
Angel Forge             3*    5  5  5  5      8  6      63      1
Prison Officer          4*    5  5  2  8     12  9      26     INV
Lt. Black               3*    5  5  5  5      8  6      63      1
INSETICK SD/12          2*    5  5  2  8      6  4      11     INV
INSETICK SD/10          4*    6  4  5  8     11  8      92     INV
PROMETHEUS SD/7         4*    4  6  2  8     14 10      29     INV
PROMETHEUS SK/8         4*    4  6  2  8     14 10      29     INV
GOLIATH SD/9            5*    4  6  2  8     28 28      59     INV
Med-Unit 6              1*    5  5  2  8      4  4       8     INV
Time Assassin           4*    5  5  5  5     12  9     102      1
Berserker Splitter      5*    2  8  5 (5)    31 22     255      0
Monkey                  1*    6  4  5  5      4  3      28      1
Cyborg Chimp            2*    6  4  5  5      5  4      39      1
Brains             (B)  1*    6  4  5  5      4  3      28      1
Ninja Monkey            3*    6  4  5  5      7  5      57      1


Gallery Row 7      Stars*   Sp St SP FP    TS HS      ET      FT
------------------------------------------------------------------------
Renzo                   3*    5  5  5  5      8  6      63      1
Goddard                 3*    5  5  5  5      8  6      63      1
Schmidt                 4*    5  5  5  5     12  9     102      1
```

```
Jacque de la Morte        2*      5  5  5  5      6  4      44       1
Viola                     4*      6  4  5  5     11  8      92       1
Mr. Underwood             2*      4  6  5 (5)     6  4      48       0
Sewer Zombie              3*      6  4  5  2      7  5      57       X
Undead Priest             3*      5  5  5  2      8  6      63       X
Crypt Zombie              1*      6  4  5  2      4  3      28       X
Maiden                    1*      5  5  5  5      4  3      32       1
Changeling                2*      5  5  5  5      6  4      44       1
The Cropolite             4*      5  5  5  5     12  9     102       1
Jared Slim                2*      5  5  5  5      6  4      44       1
Venus                     1*      5  5  5  5      4  3      32       1
Chastity                  2*      5  5  5  5      6  4      44       1
Ghost                     3*      5  5  5  5      8  6      63       1
The Master                5*      5  5  5  5     26 19     218       1
Riot Officer              3*      5  5  5  6      8  6      63       2


Gallery Row 8          Stars*    Sp St SP FP     TS HS      ET       FT
----------------------------------------------------------------------
Mischief                  2*      5  5  5  5      6  4      44       1
Mr. Giggles               2*      5  5  5  5      6  4      44       1
Leo Krupps                2*      5  5  5  2      6  4      44       X
Stumpy                    3*      6  4  5  5      7  5      57       1
Bear                      4*      4  6  5  2     14 10     111       X
Kypriss                   4*      5  5  5  5     12  9     102       1
Stone Golem               4*      4  6  8  8     14 10     INV      INV
Aztec Warrior             3*      6  4  5  2      7  5      57       X
High Priest               4*      5  5  5  2     12  9     102       X
Dinosaur                  2*      4  6  5 (5)     6  4      48       0
Braces                    4*      5  5  5  5     12  9     102       1
Handyman                  4*      5  5  5  5     12  9     102       1
Candi Skyler              2*      5  5  5  5      6  4      44       1
R One-Oh-Seven            5*      5  5  5  2     26 19     218       X
Calamari                  1*      5  5  5  5      4  3      32       1
Corporal Hart             3*      5  5  5  5      8  6      63       1
Badass Cyborg             4*      5  5  5  5     12  9     102       1
Snowman                   1*      5  5  5  2      4  3      32       X


Gallery Row 9          Stars*    Sp St SP FP     TS HS      ET       FT
----------------------------------------------------------------------
Robofish                  2*      5  5  5  8      6  4      44      INV
Chinese Chef              3*      5  5  5  5      8  6      63       1
Gingerbread Man           4*      5  5  8  2     12  9     INV       X
Duckman Drake             2*      5  5  5  2      6  4      44       X
Koozer Mox                2*      5  5  5  5      6  4      44       1
Teeth Mummy               3*      5  5  8  2      8  6     INV       X
Captain Ed Shivers        3*      5  5  5  5      8  6      63       1
Gretel                    5*      5  5  5  5     26 19     218       1
Arial DaVinci             2*      6  4  5  5      4  3      39       1
Dozer                     1*      4  6  5 (5)     6  4      36       0
Sheriff Skullface         3*      6  4  5  6      7  5      57       2
The Shoal                 4*      5  5  5  2     12  9     102       X
Hans                      4*      5  5  5  2     12  9     102       X
Mr. Socky                 3*      5  5  8  2      7  6     INV       X
Lt. Christine Malone      2*      5  5  5  5      6  4      44       1
Eli Scrubs                2*      5  5  5  5      6  4      44       1


Notes on Character Abilities
----------------------------
Fire Proof is inversely affected for player characters with Stamina
value over 5 (likely a programming error); any Stamina value over 5
```

results in the player with Fire Proof value of 5 not being able to survive a single flame burst, whereas other characters with Fire Proof of 5 can survive a single flame burst when selected by the player. These higher-Stamina player characters are denoted by Fire Proof of "(5)" and are not as good as those with Fire Proof of "5" when selected for play when there is fire involved.

Regarding Fire Proof values and Bots, Star rankings affect each character's individual burn time (Bot form), but anything less than a Fire Proof value of 8 is useless for a Bot. Bots on fire do not have the good sense to heal themselves like they normally do when injured, and also burn interminably regardless. However, if chosen as a character for play, characters with higher Fire Proof will give the player more time to reach a Health pickup before burning to death, and as the player, all characters in fact do stop burning.

The Speed power up will give any character top speed without regard to initial Speed value (i.e., Edwina and Carrion Carcass will run equally fast when powered up with a Speed pickup).

Shock Proof might well be viewed as the most useless Ability due to the alternate firing mode of electric weapons. The only two Shock-delivering weapons, the ElectroTool and the Turret Gun Exotic, both have an alternate firing mechanism that can quickly kill any character that is invulnerable to Shock. So even if playing with the ElectroTool and no other weapon, you can easily kill the most Shock-proof characters. Bots, however, cannot kill a player if the player chooses a Shock-invulnerable character, because the Bots will NOT use this alternate firing mode.

^The 7 misplaced characters ("NA" class in the Story AI chart) must first be placed into the Mapmaker Custom bot set in order to use them as skins for the bots in mapmaker multiplayer (making a custom multiplayer bot set at the mulitplayer options menu will only result in the same substitutions mentioned in the Story AI section). To use these as bots in mapmaker multiplayer, put them in the Mapmaker Custom bot set and choose this bot set for play at the multiplayer options menu.

When used as Story AI in mapmaker maps, character abilities are not applicable. See the Story AI section for details about characters when used as Story AI.

```
========================================================================
                              Logic
========================================================================
```
The typical use of the mapmaker is clearly custom-built multiplayer mayhem. However, single-player Story mode maps and even single-player Assaults (once you've mastered "bot-friendliness") are where the Future Perfect mapmaker really shines. These mapmaker modes are often overlooked, or maybe just not even attempted due to the added complexity involved. But if you have the patience, and a little creativity, you can create Story and Assault challenges that offer, on either end of the spectrum, quick thrills and amusement (the many in-game sample maps being prime examples), or ambitious, lengthy, plot-motivated, puzzle-filled adventures... all through use of Logic.

You can learn a lot by examining the design interfaces of the on-the-disc sample maps; doing this is quite simply the best Logic

tutorial you can get. Choose Edit/Create New Map, then load a
sample map.

The basic concept of Story Logic is that a Logic operation is made
up of the Trigger and the Action. There could be multiple Triggers
that must be tripped in order to bring about a single Action, or
there can be a single Trigger that results in multiple Actions
(maximum of 10 Triggers and Actions per Logic operation). Triggers
can be reset so that they can be used and re-used again and again
within the same Story map.

The in-game menus are very self-explanatory; take time and see what
is there to be offered. One thing I would like to bring attention
to though is the use of counters.

Counters

Counters can be utilized in Story mode to signify pretty much
anything. 1st thing you would probably think to do with one would be
to count AI kills, but they can be named accordingly and used for so
much more. They can signify anything that might be represented by
an increasing/decreasing value, be it money (Mutant1988), battery
power, toxicity exposure, stealth points, air available... use your
imagination.

To make a counter steadily increase or decrease, you should use the
principle of the Backwards-counting Timer that I first saw posted at
GameFAQs by Funkchiken, and later at the TimeSplitters Music Box.
(http://forums.tsmusicbox.com/index.php?topic=691.570)

Abbreviated description of Funkchiken's countdown:
Logic Operation 1
Trigger: Game start
Actions:
-> "Seconds left" (Counter, show) increase by whatever
-> Start "1 second" (Timer, hidden)
Logic Operation 2
Trigger: "1 second" reaches 1 second
Actions:
-> Reset the Timer "1 second"
-> Reset the Trigger: "1 second" reaches 1 second
-> "Seconds left" counter decrease by 1
Logic Operation 3
Trigger: "Seconds left" equals 0
Action -> Mission failed or whatever

With the basic logic of a Timer perpetually hitting the 1-second
mark (*Logic Operation 2* above, minus the 3rd Action there), you
can use an accompanying Counter (the 3rd Action there) to show
things that steadily increase or decrease, like air slowly leaking
from a spaceship, money accumulated by staying inside a gladiator
arena, you name it.

To stop the value loss/gain on an ever-changing counter, so that the
counter only changes in a desired area of the map (your gladiator
arena where you want to earn money, or your toxic dump where you
want to avoid toxicity exposure) use Location Reached Triggers and
reset them so that they will start/stop the counter upon
entering/leaving the desired area:

```
*Logic Operation 1*
Trigger: Location "Inside" reached
Actions:
-> Start a "Counter Movement" Timer (hidden)
-> Reset the Trigger: Location "Outside" reached
*Logic Operation 2*
Trigger: "Counter Movement" Timer Reaches 1 second
Actions:
-> Reset the "Counter Movement" Timer (so it goes back to zero)
-> Reset the Trigger: "Counter Movement" Timer Reaches 1 second
-> Counter (of whatever, show) increase (or decrease, as
   appropriate) by 1
*Logic Operation 3*
Trigger: Location "Outside" reached
Actions:
-> Reset the Trigger: Location "Inside" reached
-> Stop the "Counter Movement" Timer
```

So, the counter only moves when you are "inside" the desired area,
stops when you go back "outside," than starts again when you go back
"inside." Love that reset option.

Logic and Story AI

You can make Story AI "say" various things by making an Enemy Spots
Player trigger, and a Message Displayed action (i.e., a bunch of
ladies with baseball bats could say "Eek! There's a spider on you!"
or a shambling mummy can follow the Player around saying, "Hey!
Whazzup!" Make custom-written last gasps (Enemy Killed -> message)
or death threats... "My name is Inigo Montoya. You killed my
father. Prepare to die." That is exactly how many characters you
get (63), so be brief and to the point.

Barriers (see Story AI above) will prevent unarmed/bat possessing
Normals, and unarmed Robot characters from triggering message
actions, or any other type of "Spots Player" action for that matter.
Zombie Class characters, armed or not, will without fault trigger a
message action by spotting the Player, over and over (they can say
BRAINS... interminably), until they reach a barrier at which point
they freeze. But a Normal or Robot behind a barrier must be armed
(bat counts only for Robots) or a Spots Player action will not be
triggered.

If you want to create an untouchable friendly that will "talk to"
the Player, it must either be a Normal or Robot armed with a ghost
gun (harmless in Story mode), so they can keep ghosts off of the
Player while they talk (or some other contrived explanation for
their antics), or the untouchable character must be in the Zombie
Class, since Zombies will at least talk until the point where they
freeze; though a Normal or Robot will certainly appear to Spot you,
they will not trigger the "spots player" message action until they
are allowed to fire a shot from some kind of gun.

You can make your ghost-gun-toting or unarmed Zombie friendly say
different things when the Player passes by them on separate
occasions IF: You place identical, yet-to-be-triggered enemies (not
triggered by Game Start) in the same room; these twins will say the
different things when they in turn spot the Player. After the
Player talks to the first friendly, the Player must then go on to
arrive at an out-of-sight Location. Have that Location Reached (or

some other subsequent trigger) kill the first "friend" and spawn the
2nd "friend" (disable spawn sounds). When the Player goes back by,
the "friend" will say something else (provide additional
instructions, for instance.) They might be someone the Player is
trying to rescue. Make the level end (Objective Completed) as any
Undead friend is actually freed, unless you also want to contrive a
reason for the former friend to suddenly want to pummel the Player,
or for the Player to need to kill the freed person. Work with it!
Using message actions, you can actually build a "story" into your
Story.

If you simply MUST have a talking, unarmed, captive, Normal or Robot
friendly, with different things to say, then use a Location Reached
(near the friendly) trigger, since a "spots player" trigger won't
work. Put the friendly in a windowed cell surrounded by up to 4
"message tiles." Protect each tile with doors. Door 1, to Location
1, begins unlocked, thus enabling display of the 1st message. All
the other doors start locked. After receiving message 1, the Player
continues on to perform some trigger which locks door 1, and unlocks
door 2...etc.

Top Down View:

P = Player, (: = Friendly, D = Door, W = Window, X = Wall. Numbers
= Locations/messages


```
                X---D---X
                X       X
                X   4   X
                X       X
        XXXXXXXX|---W---|XXXXXXXX
        |       |       |       |
   P->  D   1   W   (:  W   3   D
        |       |       |       |
        XXXXXXXX|---W---|XXXXXXXX
                X       X
                X   2   X
                X       X
                X---D---X
```

So that the Player won't forget or miss what each message was, have
each Location Reached -> Reset Location Reached, so that the message
will be displayed upon returning to the tile each time.

You could also just enable communication with the friendly by
"transceiver" (i.e., messages from them displayed while far away
from them), which would be far easier.

Although you can use AI as 2 types of Triggers (AI Killed, or AI
Spots Player), there is a 3rd way of using an AI as a Trigger, which
bears mentioning since it isn't blatantly obvious from examining the
options in-game. Using the Trigger, Door:Unlock, you can make an AI
drive this Trigger, by giving the locked Door a color, and giving
the AI the Key to it. When the AI unlocks the door, there's your
3rd possible AI-responsible Trigger. AI coming for you and who hold
the right key will unlock the colored Door if it is in their way,
for a "perimeter breached" alarm, or for other purposes.

Creating Story Awards

```
---------------------
```
Awards are always a good way of giving a single-player story some
replay value.

For setting higher awards for shorter mission completion times, you
need a Timer and a Counter:
1. Start game -> Awards Counter increases by 4.
2. Awards Timer reaches A,B,C,D (any of 4 Triggers) -> Awards
   Counter decreases by 1
Platinum: Main Objective completed + Awards Counter reaches 4
    Gold: Main Objective completed + Awards Counter reaches 3
  Silver: Main Objective completed + Awards Counter reaches 2
  Bronze: Main Objective completed + Awards Counter reaches 1
(Over time D will result in no award given)

Some things to watch out for

If using a Location Reached Trigger to toggle/lock a door behind the
player that just stepped through that same particular door, it is
best to have the toggling/locking Location at least 1 square away
from the door. If the door is right up against the Location, the
player may get in the way of the door when it tries to close, thus
ruining the whole purpose of the Logic. AI can also get in the way
of doors that need to toggle closed, so keep this in mind. Their
dead bodies can also negate a door toggling, for up to 5 seconds.

If a tile that is part of a Light Logic is moved, by moving it you
have just erased that light change from your Light Logic, and you
have to add it back in again after moving the tile.

When making many changes to a map, you may find that the Locations
you have set may end up being mysteriously relocated, even possibly
winding up outside of the tiles; keep a check on them when
extensively modifying a map, to make sure they stay put.

*** Open request to compile here a list of Logic mechanics,
techniques, tricks, and tips. Know any? ***

Some Notes on Assault and Assault Logic

For anyone getting tired of coming up with adventure upon adventure
for tired old Cortez and his trusty uplink, try making an Assault
map that is character-based so you can play as somebody else for a
change. You can set it up as a story, and you get free message
space (phase start and completion messages) in order to help tell
the story in addition to the Description and Briefing. The messages
are huge on the screen, much better than the tiny print at the
bottom in Story messages, which can often go missed since they are
so unobtrusive. You can't miss the Assault message. (Note that the
phase completion message for the final phase will not be shown
onscreen; it is overridden by the Win/Lose message.) Also, you are
able to use powerups, and the Assault Starts can serve as
checkpoints; 1 death doesn't end the level like in Story. The
drawback to using Assault as "story level" is the necessary trade of
all the AI and their options to the 7-10 multiplayer bots; and you
get extremely limit Logic options (no timers, counters, etc.).
However, new player characters, character abilities, usage of the
"missing" character skins, free LARGE messages, powerup usage, full
functionality of all weapons (K-SMG rockets, Ghost Gun health-steal,
Injector bloat, and Mag-charger pierce vision), and multiple lives

make it a good trade indeed.

When making an Assault map, it is best never to use the "preview
map" option within the map editor for testing the assault, for you
will not be able to modify the multiplayer settings for proper play.
In "previewing" an Assault map, the Attacking team will be made up
of the 1st, 3rd, 5th, and 7th bots in your Bot Set; the Defenders
will be the 2nd, 4th, and 6th bots in your Bot Set roster (Bots 8-10
are not used on Gamecube/PS2 mapmaker maps, due to a glitch caused
by the Monkey Assistant mode). It is doubtful you want your assault
teams set up in this manner, so "preview Assault" is no help here.
If you want to have all bots on the Defending team with only you
Attacking, or if you want to start with weapon off for weapon
exclusivity, you must save the Assault map you are working on, quit
the mapmaker, and choose "play map" to properly test the Assault map
with the intended multiplayer settings (and to properly test other
multiplayer-mode maps properly, too, really).

You can have up to 8 Assault phases, with each phase having up to 5
triggers. Be sure to place Assault starts for each Phase so that
they can serve as logical "check-points."

Assault Awards, although a visible option, DO NOT WORK; the
necessary objectives are not available in assault. This seems to
have been an aspect of the game left unfinished by the programmers.

Assault phase Logics (limited in their options) will work while
playing the map in Story mode, but Story Logics (any option that is
not available also while setting up Assault Logic) will not work
when playing the map in Assault mode. While Assault Logics do work
in Story, Assault PHASES exist only when playing the map in Assault
mode. This can be very confusing for a beginner (was for me), so I
think it should be said.

Do NOT have your multiplayer time limit set at "no time limit," or
you will not win the Assault, even if completing all phases
flawlessly and in record time. Choose at the most a 1 hour time
limit to enable winning.

===
                            Glitching!
===
Some amazing things such as invisible bridges, one-way travel
through walk-through walls, invisible enemies, and windows to the
sky can be accomplished through merging tiles. Here are godM0d3's
concise instructions reprinted from the GameFAQs message boards, to
give the clueless a start...

godM0d3, 7/24/2006:
1: put a tile on the third floor or higher
2: put a tile directly below on the bottom floor
3: highlight both
4: grab the bottom tile and move it up until the top tile is on the
"7th" floor
5: move bottom tile back to bottom and repeat process, but put a
story ai on the new tile
6: move it the same way and use the show on map story ai function
7: use the highlight tool to highlight the overlapped tiles
8: go to the regular tile that was on the bottom, highlight it and
move it to the bottom

9: you now have a glitch tile

to make an invisible floor, put a large low on the top part of a
large open

for the mapmaker noobs when you first start doing this you will
encounter unintentional sky glitches and such. to avoid this,
whenever you put a regular tile next to a glitch tile pick the
overlapped tiles up by highlighting them (u might have to drag over
them to fully highlight) and just put them back down in the same
spot. other than that it just takes trial and error

godM0d3, 7/29/2006:
Suggested tiles to overlap:
1. Overlap a three space corridor with another one turned the other
direction
2. Overlap two funnels turned different directions
3. Overlap a single open with a t-junction (walk-through wall)
4. Overlap windows or doors with walls or each other
5. Different combinations of normal ramps and open tiles
6. Overlap tiles with items on them

...

Most everything concerning mapmaker glitches is described here by
SHARKGUN, with links to demonstrative movies that you *will* need to
pause/replay a hundred or so times in order to actually glean
anything; the movies look more like a glitching race more so than
anything intended to be educational, but keep watching and you *can*
learn something (I know I finally did, in one particular case):

http://timesplitters4.net/index.php/topic,123.0.html

Thanks to Denkriston at the Rec Room for explaining the intentional
sky window (my favorite glitch). Here's how to add a sky window
onto an existing map:

Overlap two #27s (small open stackables) and bring them back down.
Next, move the merged tiles (drag a select box over both, to pick up
both) up against an open edge of your existing map. Place 3
connecting 27's next to the merged glitch tile -- one above it, one
below it, and one behind it (Player's point of view). On either
side of it, place a #5 (small corridor T junction), with the T-
junction's wall nearest the Player. Now place a window item between
the Player's free-roam area and the glitch tile. The result will be
a window to the sky, which is simply beautiful.

Might I suggest a surprise attack by story AI, triggered by the
Player marveling at the view?

Location 1 reached (tile beside window) = Timer (new, hide) Start,
and Reset any Location 2 reached.
Location 2 reached (any of the 5 tiles around Location 1) = Timer 1
Stop, Timer 1 Reset, and Reset Location 1 reached.
Timer 1 reaches 10 seconds = spawn new AI nearby

Top view:
                        X
      Free Roam Area <--X--> No Player Access
                        X

```
        .--------.--------X--------.
        |        |        X        |
        | Loc2   | Loc2   X  (5)   |
        |        |        X        |
        |--------|--------X--------.--------.
        |        |        | sky    |        |
        | Loc2   | Loc1   W glitch |  (27)  |
        |        |        | tile   |        |
        |--------|--------X--------|--------'
        |        |        X        |
        | Loc2   | Loc2   X  (5)   |
        |        |        X        |
        '--------'--------X--------'
                         X
     Free Roam Area  <--X-->  No Player Access
                         X
```

```
=======================================================================
                          Further Reading
=======================================================================
```
SHARKGUN's guide to merging tiles and glitching:
http://timesplitters4.net/index.php/topic,123.0.html

Mutant1988's Mapmaker Advanced Tips and Tricks (many Story Logic
techniques as well as other stuff):
http://www.angelfire.com/crazy/drifting/map_logic.txt

Blakepro's Map Connection (loads of map blueprints for your re-
creation):
http://www.geocities.com/timesplittersmaps/main.html

The Rec Room's semi-active mapmaking community (ideas and
inspiration, information on glitching, map blueprints, etc.):
http://z7.invisionfree.com/Rec_Room/index.php?showforum=39

You are bound to find some mapmaking tidbits if you explore the
extensive Timesplitters links list at the Timesplitters Music Box,
especially the TSMB's own mapmaking topic:
http://forums.tsmusicbox.com/index.php?topic=710.0

EAgames may have pulled all support from TS:FP, but you can find
their helpful mapmaking guide for beginners preserved here:
http://z13.invisionfree.com/admiralhowdy/index.php?act=Attach&type=p
ost&id=8223745


```
=======================================================================
                          Random Things
=======================================================================
```
e-mail contributions to howdyadmiral@yahoo.com or just feel free to
drop me a line. If you see errors in the guide, please point them
out, or share your own knowledge/expertise.

No, you cannot play as anyone other than Cortez in Story maps. Try
making a single-player Assault-based "story."

The topmost multiplayer Bot in a Bot set will be granted a 100% ammo
compliment upon game start (always starting with weapon ON in
multiplayer). For example, instead of the default 360 charge for an
ElectroTool or 12 harpoons for the Harpoon Gun, that topmost Bot in
the set will have a full charge of 1800 volts, or the max of 48

harpoons. This can make for some nice steal-the-ammo game play,
with these top bots being prime targets for the player.

Consider using the Unlockable Cheats to add detail to a map's
premise (e.g., Spinning Heads for a Malfunctioning Robot Factory,
Slow Motion Deaths for an underwater level, Paintball for a
simulated "friendly" match where killing enemies = failure, etc.
etc.)

The on-the-disc sample map "A Little Head?" may not work if you try
to play it on Gamecube (no enemies spawn). However, after
attempting to play it, the level design will be in the console's
memory. Choose Edit/Create New Map, then Preview the map within the
mapmaker utility. The level is now playable for some reason.

Transferring saved maps between Gamecube/Wii and PC is possible with
the GameCube USB Memory Adapter. Get one (search online for
retailers) and exchange maps via the internet; submit save files
here at GameFAQs.com for download by other players. Please? With
the end of TS online, map sharing between PS2 and XBOX owners can
only be achieved in this manner as well, and similar USB memory
transfer devices are available for these systems too.

Known console differences:
  Gamecube has some problems with lighting manipulations, XBOX not.
  Gamecube doesn't have all the music available that is in other
    versions.
  Gamecube has some exclusive cheats that can be used in
    multiplayer. Both XBOX and Gamecube but not PS2 have
    Cascade (the matrix-vision), but only Gamecube has Old
    Film, 8-bit, and All Characters Cloaked. Anyone please correct
    me on the cheats exclusive to each console.
  Gamecube and PS2 autoguns do not aim/fire at multiplayer bots;
    XBOX autoguns do. XBOX also has an extra unlockable weapon, the
    Time Grenade.
  The last 3 bot slots in Gamecube and PS2 have been hijacked by the
    Monkey Assistants, so that these slots are inoperable in all
    modes for mapmaker maps; not so on XBOX, you can always use all
    10 bots in the mapmaker.

Well... Time to split!