

ioquake eye candy changes

- include:
 - smoke
 - blood
 - gibs
 - simple python bot basic movements

Smoke

- firstly note that in `qcommon/q_shared.h` the definition

```
#define GORE
```

- all gore related changes should be bound by:

```
#if defined(GORE)
/* modified code */
#else
/* original code */
#endif
```

changes to `cgame/cg_particles.c`

```
#if defined(GORE)
#   define PARTICLE_GRAVITY    10
#   define MAX_PARTICLES      1024 * 8 * 128
#else
#   define PARTICLE_GRAVITY    40
#   define MAX_PARTICLES      1024 * 8
#endif
```

changes to `cgame/cg_weapons.c`

- the function rocket trail is altered to yield
 - twice the density of smoke
 - to allow grenades to smoke even if stationary

```
#if defined(GORE)
    step = 25;
#else
    step = 50;
#endif
```

changes to cgame/cg_weapons.c

```

■ #if defined(GORE)
    // grenades smoke even if stationary :-)
#else
    // if object (e.g. grenade) is stationary, don't toss
    if ( es->pos.trType == TR_STATIONARY ) {
        ent->trailTime = cg.time;
        return;
    }
#endif

```

changes to cgame/cg_weapons.c

```

■ #if defined(GORE)
    if ( es->pos.trType == TR_STATIONARY ) {
        smoke = CG_SmokePuff( lastPos, up,
                               wi->trailRadius,
                               1, 1, 1, 0.33f,
                               wi->wiTrailTime,
                               t,
                               0,
                               0,
                               cgs.media.smokePuffShader );
        // use the optimized local entity add
        smoke->leType = LE_SCALE_FADE;
        return;
    }
#endif

```

cgame/cg_marks.c

■ handles particles and their dissipation

```

■ #if defined(GORE)
    # define PARTICLE_GRAVITY 10
    # define MAX_PARTICLES 1024 * 8 * 128
#else
    # define PARTICLE_GRAVITY 40
    # define MAX_PARTICLES 1024
#endif

```

function CG_ParticleDust

```

■ void CG_ParticleDust (centity_t *cent, vec3_t origin, vec3_t dir)
    etc
    #if defined(GORE)
        if (length)
            p->endtime = cg.time + (4500*10) + (crandom() * 3500);
        else
            p->endtime = cg.time + (750*10) + (crandom() * 500);
    #else
        if (length)
            p->endtime = cg.time + 4500 + (crandom() * 3500);
        else
            p->endtime = cg.time + 750 + (crandom() * 500);
    #endif
    etc

```

Adding per model gibs

- files altered
 - q3_ui/ui_local.h
 - q3_ui/ui_players.c

playerInfo_t extended in q3_ui/ui_local.h

```

■ #if 1
    qhandle_t      gibSkull;
    qhandle_t      gibBrain;
    qhandle_t      gibAbdomen;
    qhandle_t      gibArm;
    qhandle_t      gibFist;
    qhandle_t      gibFoot;
    qhandle_t      gibForearm;
    qhandle_t      gibChest;
    qhandle_t      gibIntestine;
    qhandle_t      gibLeg;
    int            nSkulls;
    int            nBrains;
    int            nAbdomens;
    int            nArms;
    int            nFists;
    int            nFeet;
    int            nForearms;
    int            nChests;
    int            nIntestines;
    int            nLegs;
#endif

```

playerInfo_t extended in q3_ui/ui_local.h

- notice that this is not switchable on/off at compile time by the GORE definition
- as it would probably mean it would be incompatible with other clients built without GORE
 - in general it is safer **not** to make data structures compile time switchable
 - any mistake could prove very very costly to debug

q3_ui/ui_players.c

```

■ /*
   =====
   UI_RegisterClientModelname
   =====
   */
   qboolean UI_RegisterClientModelname (playerInfo_t *pi,
                                       const char *modelSkin,
                                       const char *headModel,
                                       const char *teamName)
   {
     char modelName[MAX_QPATH];
     char skinName[MAX_QPATH];
     char headModelName[MAX_QPATH];
     char headSkinName[MAX_QPATH];
     char filename[MAX_QPATH];
     char *slash;

     Com_Printf ("Inside UI_RegisterClientModelname");
     pi->torsoModel = 0;
     pi->headModel = 0;

```

q3_ui/ui_players.c

```

if (! modelSkinName[0])
    return qfalse;

Q_strncpyz (modelName, modelSkinName, sizeof(modelName))

slash = strchr (modelName, '/');
if (!slash) {
    // modelName did not include a skin name
    Q_strncpyz (skinName, "default", sizeof(skinName));
} else {
    Q_strncpyz (skinName, slash+1, sizeof(skinName));
    *slash = '\0';
}

```

q3_ui/ui_players.c

```

Q_strncpyz (headModelName, headModelSkinName, sizeof (h
slash = strchr (headModelName, '/');
if (!slash)
    // modelName did not include a skin name
    Q_strncpyz (headSkinName, "default", sizeof (skinName
else {
    Q_strncpyz (headSkinName, slash + 1, sizeof (skinName
        *slash = '\0';
}

```

q3_ui/ui_players.c

```

// load cmodels before models so filecache works

pi->legsModel = UI_doModelFile ("models/players/%s/lowe
    "models/players/charact
    modelName);

if (!pi->legsModel) {
    Com_Printf ("Failed to load model file %s\n", filename
return qfalse;
}

pi->torsoModel = UI_doModelFile ("models/players/%s/upp
    "models/players/charac
    modelName);

if (!pi->torsoModel) {
    Com_Printf ("Failed to load model file %s\n", filename
return qfalse;
}

```

q3_ui/ui_players.c

```

if (headModelName[0] == '*' )
    Com_sprintf( filename, sizeof (filename),
        "models/players/heads/%s/%s.md3",
        &headModelName[1], &headModelName[1] );
else
    Com_sprintf( filename, sizeof (filename),
        "models/players/%s/head.md3", headModelName

pi->headModel = trap_R_RegisterModel( filename );
if ( !pi->headModel && headModelName[0] != '*' ) {
    Com_sprintf( filename, sizeof( filename ),
        "models/players/heads/%s/%s.md3", headModelName, h
    pi->headModel = trap_R_RegisterModel( filename );
}

if (!pi->headModel) {
    Com_Printf( "Failed to load model file %s\n", filename
return qfalse;
}

```

q3_ui/ui_players.c

```

■ #if 1
    // Gaius
    UI_ParseBodyFile ("models/players/%s/%s.body", modelN
#endif

```

new function doModelFile

```

■ static qhandle_t UI_doModelFile (const char *preferredPath,
                                const char *defaultPath,
                                const char *modelName)
{
    char filename[MAX_QPATH*2];
    qhandle_t q;

    Com_sprintf (filename, sizeof (filename), preferredPath
    q = trap_R_RegisterModel (filename);
    if (q == 0 && defaultPath != NULL) {
        Com_sprintf (filename, sizeof (filename), defaultPath
        q = trap_R_RegisterModel (filename);
    }
    return q;
}

```

new function doModelFile

```

■ /*
=====
UI_ParseBodyFile
=====
*/
void UI_ParseBodyFile (const char *fmt, const char *modelName)
{
    char *textPtr;
    int len;
    char *token;
    char text[20000];
    char filename[MAX_QPATH];
    fileHandle_t f;

    UI_set_default_body_parts (pi);
    Com_sprintf (filename, sizeof (filename), fmt, modelName);
    Com_Printf ("About to read file: %s", filename);
}

```

new function doModelFile

```

■ // load the file
len = trap_FS_FOpenFile (filename, &f, FS_READ);
if (len <= 0)
    return ;

if (len >= (sizeof (text)-1)) {
    Com_Printf("File %s too long\n", filename);
    trap_FS_FCloseFile (f);
    return;
}
trap_FS_Read (text, len, f);
text[len] = 0;
trap_FS_FCloseFile(f);

Com_Printf("About to parse file: %s", filename);

// parse the text
textPtr = &text[0];

```

new function doModelFile

```

token = COM_Parse (&textPtr);
if (UI_seen_token (token, "{") {
    token = COM_Parse (&textPtr);
    while ((token != NULL) && (! UI_seen_token (token, ")")) {
        if (UI_seen_value (&textPtr, &token, "BODY_NO_OF_SKULLS") {
            UI_seen_value (&textPtr, &token, "BODY_NO_OF_BRAINS") {
            UI_seen_value (&textPtr, &token, "BODY_NO_OF_ABDOMENS") {
            UI_seen_value (&textPtr, &token, "BODY_NO_OF_ARMS") {
            UI_seen_value (&textPtr, &token, "BODY_NO_OF_FISTS") {
            UI_seen_value (&textPtr, &token, "BODY_NO_OF_FEET") {
            UI_seen_value (&textPtr, &token, "BODY_NO_OF_FOREARMS") {
            UI_seen_value (&textPtr, &token, "BODY_NO_OF_CHESTS") {
            UI_seen_value (&textPtr, &token, "BODY_NO_OF_INTESTINES") {
            UI_seen_value (&textPtr, &token, "BODY_NO_OF_LEGS") {
        }
        else
            token = COM_Parse (&textPtr);
    }
}

```

q3_ui/ui_players.c

```

static int UI_seen_token (char *token, const char *match)
{
    return (Q_stricmp (token, match) == 0);
}

static int UI_seen_value (char **textPtr, char **token,
                          const char *match, int *value)
{
    if (UI_seen_token (*token, match)) {
        *token = COM_Parse (textPtr);
        if (token != NULL)
            if (isdigit (**token)) {
                *value = atoi (*token);
                *token = COM_Parse (textPtr);
                return qtrue;
            }
    }
    return qfalse;
}

```

q3_ui/ui_players.c

```

/*
 * UI_set_default_body_parts - sets the default for human
 */

static void UI_set_default_body_parts (playerInfo_t *pi)
{
    pi->nSkulls = 1;
    pi->nBrains = 1;
    pi->nAbdomens = 1;
    pi->nArms = 2;
    pi->nFists = 2;
    pi->nFeet = 2;
    pi->nForearms = 2;
    pi->nChests = 1;
    pi->nIntestines = 1;
    pi->nLegs = 2;
}

```